



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

March 3, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11280A**
Crown Castle#876326
440 Hayden Station Road, Windsor, CT 06095
Latitude: 41° 53' 52.20" / Longitude: -72° 38' 38.70"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 75-foot mount on the existing 96-foot monopole tower located at 440 Hayden Station Road, Windsor, CT. The property is owned by CB Baggs LLP and the tower is owned by Crown Castle. T-Mobile now intends to replace nine (9) antennas and ancillary equipment at the 75ft level. 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.

Panned Modification:

Tower:

Installed New:

- (3) Ericsson – AIR6419 B41 Antennas
- (3) RFS-APXVAALL24_43-U-NA20 Antennas
- (3) Commscope-W-65A-R1 Antennas
- (3) Ericsson- 4460 B25+B66
- (3) Ericsson- Radio 4449 B71+B85
- (3) Hybrid Cables (1-5/8")
- (1) Mount Modification

Remove:

- (3) Ericsson – AIR21 KRC118023-1_B2A_B4P Antennas
- (3) Ericsson – AIR21 KRC118023-1_B2P_B4P Antennas
- (3) Andrew – LNX-6515DS-A1M Antennas
- (3) Ericsson-RRUS11 B12
- (3) Ericsson KRY-112-144/1 TMA's
- (12) Coaxial Cables 7/8"
- (1) Hybrid Cable 1-5/8"

Ground:

Install New:

- (1) 6160 V1 Cabinet
- (1) B160 Battery Cabinet
 - H Frame
- (1) CSR IXRE V2 (Gen2) Router
- (1) PSU 4813 Voltage Booster
- (2) BB 6648 In New RBS 6160 Cabinet
- (2) RBS 6601 In New RBS 6160 Cabinet
- (1) AAV Cabinet
- (2) PSU 4813 VR2A Voltage Booster
- (1.) CSR IXRE V2 (GEN2) Router

Remove:

- (1) Nortel Cabinet
- (1) 6131 Cabinet
- (6) RU22 Radios
- (1) DUW30

The facility was approved by the Windsor Zoning Board of Appeals on September 18, 1996. This approval included no conditional statements.

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, Mr. Eric Barz, Town Planner, CB Baggs LLP as the property owner and Crown Castle is the tower owner.

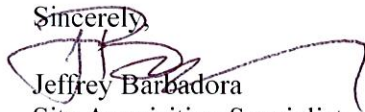
1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed 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.

Melanie A. Bachman

Page 3

For the foregoing reasons, T-Mobile 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). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,



Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments

cc:

Peter Souza, Town Manager (via FedEx)
Town Manager's Office
275 Broad Street
Windsor, CT 06095
(860) 285-1800

Eric Barz, AICP, Town Planner (Via FedEx)
Planning Department
275 Broad Street
Windsor, CT 06095
(860) 285-1981

CB Baggs LLP Landowner (via FedEx)
4 Hickory Hill
West Springfield, MA 01089

Crown Castle, Tower Owner

SITE 065 ZONING Hayden Station



TOWN OF WINDSOR • CONNECTICUT
FIRST IN STATE • FIRST IN SERVICE • FIRST IN VALUE

October 3, 1996

Sprint Spectrum L.P.
C/O John Stevens
450 Murdock Road
Meriden, Connecticut 06450

Subject: 440 Hayden Station Road
Variance Request

Dear Mr. Stevens,

The Windsor Zoning Board of Appeals at it's business meeting following the public hearing held at 7:00 P.M. on Wednesday September 18, 1996, approved your request for a variance of Section 3.4.2F(I).

In accordance with Public Act 75-317 of the Connecticut General Statutes, the enclosed form must be **filed with the Town Clerk** of Windsor before said grant becomes effective. There is a filing fee of \$10.00. The paperwork must be filed by the record owner of the property within six months, according to Section 6.6 of the Zoning Board of Appeals By Laws, or the grant is null and void.

Very truly yours,

Helene H. Shay
Secretary
WINDSOR ZONING BOARD OF APPEALS

Encl.

Certified Mail No. P 433 581 779

WINDSOR ZONING BOARD OF APPEALS

I, Helene H. Shay, Secretary of the Windsor Zoning Board of Appeals, hereby certify that on Wednesday, September 18, 1996, the Zoning Board of Appeals of the Town of Windsor granted to:

Owner of Record: Jeffrey R. Wannamaker
(The Coast Distribution System, Inc.)

Located at: 440 Hayden Station Road

and more particularly bounded and described as follows:

Map No. 49, Block No. 471, Lot No. 109
in Volume 998, Page 108

the following variances to the Windsor Zoning Regulations:

Section 3.4.2F(1) - Parking Reduction
for Erection of Tower Antenna

Dated at Windsor, Connecticut, this 3rd day of October, 1996.



Helene H. Shay, Secretary
Windsor Zoning Board of Appeals

Received for the Record:

TOP SECTION TO BE FILLED IN BY Z.B.A. CLERK:

clerk's name Hahn

within 500' of other town? No

date submitted 8.27.96

fee amount \$ 110.00.

date sign given 8.27.96

receipt number # 1874

official date rec'd 8.27.96

(APPLICANT, DO NOT WRITE ABOVE THIS LINE)

Z O N I N G V A R I A N C E A P P L I C A T I O N

1.1)) PROPERTY INFORMATION ((

<u>79 Lamberton Road, Windsor</u>			<u>I-1</u>	
Street Address			Zone	
<u>43</u>	<u>108</u>	<u>5</u>	<u>642</u>	<u>151</u>
Map No.	Block No.	Lot No.	Volume No.	Page No.

1.2)) OWNER INFORMATION ((

Jerome M. Scharr

Name(s) as they appear on the deed of record

<u>40 East Newberry Road</u>	<u>Bloomfield</u>	<u>CT</u>	<u>06002</u>
Street Address	City	State	Zip

1.3)) APPLICANT INFORMATION ((

Sprint Spectrum, L.P. c/o John Stevens

Name of applicant

<u>450 Murdock Ave.</u>	<u>Meriden</u>	<u>CT</u>	<u>06450</u>
Street Address	City	State	Zip

1.4 Applicant's interest in the subject parcel? Lessee
(such as owner, agent, lessee, optionee, tenant)

1.5 Phone no. where applicant can be reached in the daytime 203-238-6910

1.6 Were any variances ever requested for this parcel in the past? No

1.7 Does the subject parcel have any existing non-conformities? No
(if so, describe them briefly)

1.8 Is the subject parcel vacant? No
(if not vacant, what is the parcel's existing use? Business Use -
golfing range currently operating on the parcel.)

2.1 Complete the following table only for "SIZE VARIANCES", or "DISTANCE VARIANCES", or "LOCATION VARIANCES"...

ZONING REGULATION SECTION NO.	DISTANCE REQUIRED BY REGULATIONS	LOCATION OF VARIANCE (side?, front?, rear?)	DISTANCE REQUESTED BY APPLICANT	NET AMOUNT OF VARIANCE (#2 - #4 = #5)
#1	#2	#3	#4	#5
10.5.10C	240'	side	10'	230'
10.5.10C	240"	rear	5' approx.	235' approx.

2.2 For all other types of variances, state the Section Number of the Zoning Regulations and describe precisely what is being requested...

2.3 (FIRST TEST) How is this request in HARMONY with the intent of the Zoning Regulations?...

The requested set back variances will permit reasonable development of industrially zoned land with a compatible use which recognizes and promotes the public health, safety and welfare purposes of the regulations.

2.4 (SECOND TEST) How are the Zoning Regulations restricting the use of the subject parcel in a manner different than similarly-zoned parcels throughout Town? (In other words: What is the LEGAL HARDSHIP?)

The purpose of the distance requirements is to provide a safety area should the tower fall. Although current construction techniques make such fall zones unnecessary, this parcel's unique characteristics make the imposition of the regulations a hardship.

Wetlands and water courses to the west of the site make development within the fall zone a highly regulated activity while the Terry Steam complex to the north precludes development there.

3.1 List the names and addresses of ALL abutting landowners.

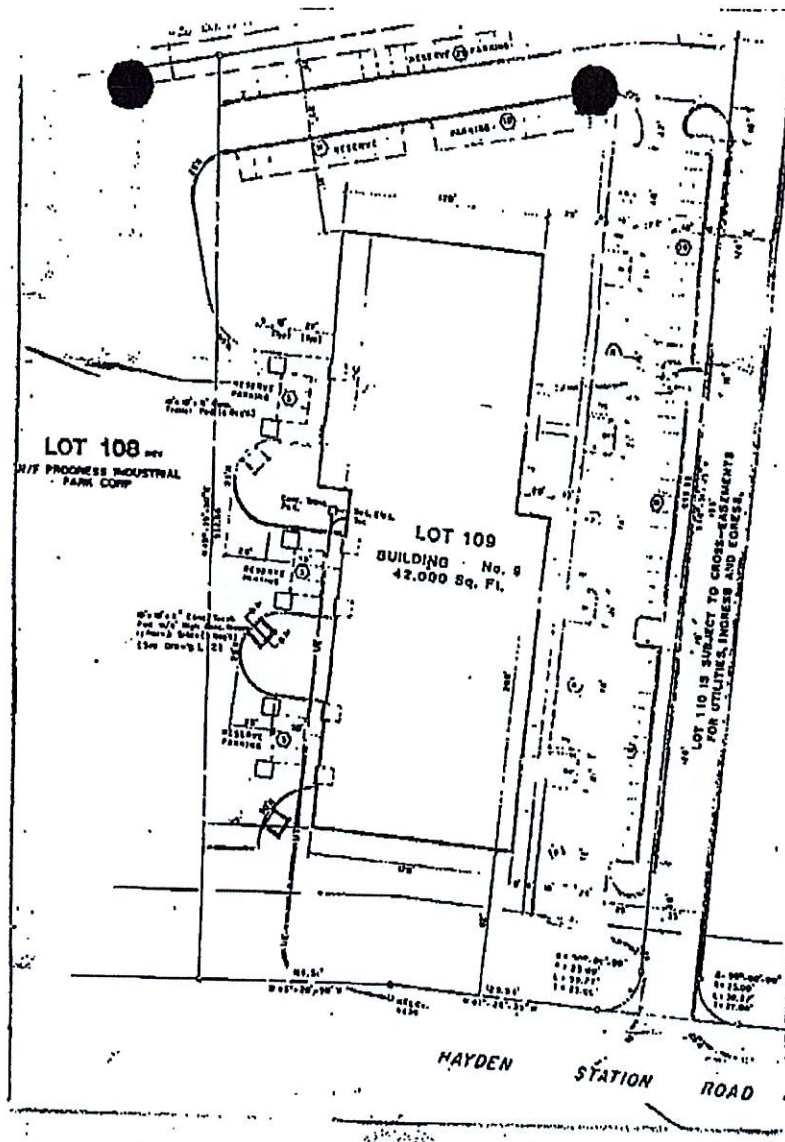
You MUST include ANY parcel which has ANY part of it within 100 feet of the subject parcel.

You MUST include these parcels even if they are separated from the subject parcel by streets, roads, rights-of-way, rivers, streams, buildings, railroad tracks, or anything else.

NAME	ADDRESS
ALL ON MAP 43	
Wilkos, Walter Block-106 Lot-4	295 Pigeon Hill Rd.
Wilkos, Theodore Block 106 Lot-4A	337 Pigeon Hill Rd.
Caesar, Carolyn Block-106 Lot-5	321 Pigeon Hill Rd.
Dresser-Rand Co. Block-108 Lot 1A	Baron Stenben Place, Corning, NY 14830
Dudack Ignatz Block-108 Lot 6	400 Pigeon Hill Rd.
80 and 82 Lambertson Rd. LP	100 Pearl St. Hartford, CT 06103
c/o Farley Co. Block-109 Lot 43B	
Caesar, Carolyn Block-109 Lot 45	280 Pigeon Hill Rd.

29A application - revised 03/12/87 - PAGE 4 OF 5

4.1 USE THIS PAGE TO INCLUDE ANY OTHER INFORMATION WHICH CAN NOT FIT ANYWHERE ELSE ON THIS APPLICATION.



- 5.1 (PLOT PLAN) YOU MUST SUBMIT 10 COPIES OF A SURVEYOR'S PLOT PLAN OF THE SUBJECT PARCEL. THE PLOT PLAN MUST SHOW:
 - ...ALL PROPOSED ADDITIONS OR CHANGES WITH DOTTED LINES
 - ...ALL RELEVANT DIMENSIONS
 - ...A NORTH ARROW
 - ...THE SCALE OF THE DRAWING
 - ...A PROPER LABEL WITH THE STREET ADDRESS

IF YOUR VARIANCE REQUEST IS FOR ANY DIMENSIONAL REQUIREMENT, SUCH AS A SET-BACK FROM A PROPERTY LINE, THE SURVEYOR'S PLOT PLAN MUST BE CERTIFIED TO BE ACCURATE TO AT LEAST AN "A-2" QUALITY STANDARD.

READ THE FOLLOWING STATEMENTS BEFORE SIGNING:

- 5.2 IT IS THE APPLICANT'S RESPONSIBILITY TO BE AWARE OF THE HEARING DATE.
- 5.3 THE APPLICANT MAY WITHDRAW THIS APPLICATION AT ANY TIME. IF EXPENSES HAVE BEEN INCURRED THE FEE WILL NOT BE REFUNDED.
- 5.4 IF A VARIANCE IS GRANTED, IT WILL NOT BECOME EFFECTIVE UNTIL THE APPLICANT FILES A CERTIFIED COPY OF THE VARIANCE WITH THE TOWN CLERK.
- 5.5 THE APPLICANT MUST POST THE SUPPLIED PLACARD SIGN ON THE SUBJECT PARCEL (not on a public utility pole!) AT LEAST 10 DAYS PRIOR TO THE HEARING...AND...MUST REMOVE IT 5 DAYS AFTER THE HEARING (or else the variance may be nullified).
- 5.6 THIS IS THE APPLICANT'S APPLICATION ONLY. THE STAFF IS NOT PERMITTED TO HELP COMPLETE THE APPLICATION. THE APPLICANT ASSUMES SOLE RESPONSIBILITY FOR ITS COMPLETENESS AND ACCURACY.

----- (COMPLETE EVERYTHING BELOW THIS LINE IN THE PRESENCE OF A NOTARY) -----

The undersigned applicant assumes sole responsibility for the completeness and accuracy of this application and, further, acknowledges that he/she has read and understands the above statements numbered 5.2 through 5.6:

(Applicant's Signature) *John J. [Signature]*

(To be filled in by Notary) On this date August 22 1996, the above-signed applicant did personally appear before me and proved to my satisfaction to be the person who is herein referred to as the applicant; in witness whereof I hereunto set my hand and seal:

(Notary's Signature) _____
(And Seal)

[Signature]

THOMAS F. FLYNN III
Commissioner of
The Superior Court

My Commission Expires: _____

CURRENT OWNER		TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT		Assessed
CB BAGGS LLP C/O SPRINT SPECTRUM LLP TAX DEPT PO BOX 8430		6739				Code	Appraised	6164
KANSAS CITY MO 64114		6739	SUPPLEMENTAL DATA CTRACT 4735.02 CBLOCK 916 DIST HEART GL YEAR			3-1	139,400	97,580
						3-2	5,700	3,990
						3-3	114,500	80,150
GIS ID 6739						Total	259,600	181,720

RECORD OF OWNERSHIP					BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)						
Year	Code	Description	Amount	Comm Int	1243	0531	U	V	0		Year	Code	Assessed				
2019	3-1										107,338	2018	3-1	97,580	2017	3-1	97,580
	3-2										4,389		3-2	3,990		3-2	51,240
	3-3										88,165		3-3	80,150		3-3	28,910
Total		199892		Total	181720	Total	181720			Total			177730				

EXEMPTIONS					OTHER ASSESSMENTS		
Description	Code	Description	Number	Amount	Code	Description	Amount
				0.00			
ASSESSING NEIGHBORHOOD							
Nbhd	Sub	Nbhd Name	Tracing	Batch			
0001	A						
NOTES							

BUILDING PERMIT RECORD							VISIT / CHANGE HISTORY									
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	Date	Id	Type	Is	Cd	Purpose/Result		
E-183101	12-15-2018	EL	Electric	12,500	08-18-2017	100	10-01-2017	DIESEL GENERATOR FOR T-	12-04-2019	LL			64	I & E PENALTY		
E-170415	03-01-2017	EL	Electric	7,500	08-18-2017	100	10-01-2017	REPLACE 3 RRU'S - AT&T	06-17-2015	LL			20	Bldg Permit Insp		
E-162925	11-08-2016	EL	Electric	20,000	08-19-2016	100	10-01-2016	REPLACE 3 ANTENNA & 3 R	11-17-2003	SK			00	Measur+Listed		
E-121307	08-19-2016	EL	Electric	20,000	08-19-2016	100	10-01-2016	REPLACE 3 ANTENNA & 3 R								
E-160448	03-02-2016	EL	Electric	20,000	08-19-2016	100	10-01-2016	CELL TOWER CHANGES C/								
B-140692	04-14-2014	RE	Renovation	20,000	10-01-2014	100	10-01-2014	CELL EQUIPMENT BUILDING								
B-992651	10-01-2000	LCM	Commercial	0		0		CELL EQUIPMENT BUILDING								
LAND LINE VALUATION SECTION																
B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes		Location Adjustment	Adj Unit P	Land Value
1	4340	Cell Tower	I		0.050	AC	82,000	40.0000	0	0.85	1.000	1.000	CELL TOWER SITE	1.0000		139,400
		Total Card Land Units 0.050 AC												Parcel Total Land Area 0.0500	Total Land Value 139,400	

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)					
Element	Description	Element	Description				
94 00	Outbuildings Vacant						
CONDO DATA Parcel Id: C Owne: S Adjust Type: Code Description B S Factor% Condo Fir: _____ Condo Unit: _____							
COST / MARKET VALUATION Building Value New Year Built: _____ Effective Year Built: _____ Depreciation Code: _____ Remodel Rating: _____ Year Remodeled: _____ Depreciation %: _____ Functional Obsol: _____ External Obsol: _____ Trend Factor: _____ 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	Sub	Yr Blt	Cond. C	% Gd	Grade	Grade A	Appr. V
CB3	L	425	2000	77		0.00	114,50
PerCast							
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

CURRENT OWNER		TOPO	UTILITIES	STRY / ROAD	LOCATION	CURRENT ASSESSMENT	
1 Level	1 Paved					Code	Assessed
CB BAGGS LLP						3-1	351,500
4 HICKORY HILL						3-2	1,121,600
WEST SPRINGF MA 01089						3-3	31,500
SUPPLEMENTAL DATA		Alt Pct ID 6739	CTRACT 4735.02				
RETURNED		INC: GH	CBLOCK 916				
		2007	DIST HEART GL YEAR				
GIS ID 6739		Assoc Pld#					

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	QU	VI	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)	
Year	Code	Amount	Description	Number	Amount	Comm Int	Year	Code	Assessed
		1243 0531	10-06-2000	Q	1,500,000	00	2019	3-1	246,050
		1243 0522	10-06-2000	U	666,483	25	2017	3-1	246,050
		0998 0108	04-15-1994	U	0	4		3-2	785,120
		0758 0213	08-31-1989	U	0	0		3-3	22,050
Total							Total	1053220	1,504,600

EXEMPTIONS		OTHER ASSESSMENTS	
Description	Code	Description	Amount
			0.00
ASSESSING NEIGHBORHOOD			
Nbhd	Sub	Tracing	
200	A		

BUILDING PERMIT RECORD		LAND LINE VALUATION SECTION	
Permit Id	Issue Date	Type	Description
H-022011	10-01-2003	HA	HVAC Commercial
B-021026	10-01-2002	CM	Commercial

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
H-022011	10-01-2003	HA	HVAC Commercial					CENTRAL A/C VAULT

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
B-021026	10-01-2002	CM	Commercial					

B Use Code	Description	Zone	Land Type	Land Units	Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj	Notes	Location Adjustment	Adj Unit Price	Land Value
1	4010 Ind Whses	I		2,900 AC	82,000	1.00000	1	1.00	200	1,400		0	0	332,900
1	4010 Ind Whses	AA		0.810 AC	82,000	1.00000	0	0.20	200	1,400		0	0	18,600
1	4340 Cell Tower			0.000 SF	0	1.00000	0	1.00		1,000		0	0	0
Total Card Land Units 3.710 AC Parcel Total Land Area: 3.7100														

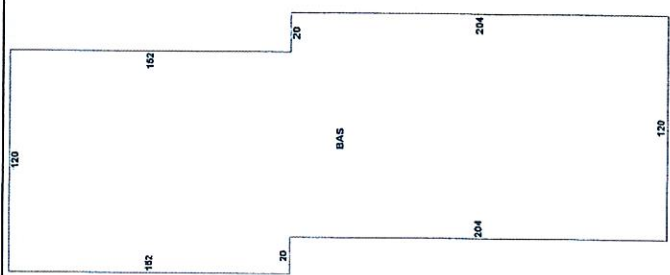
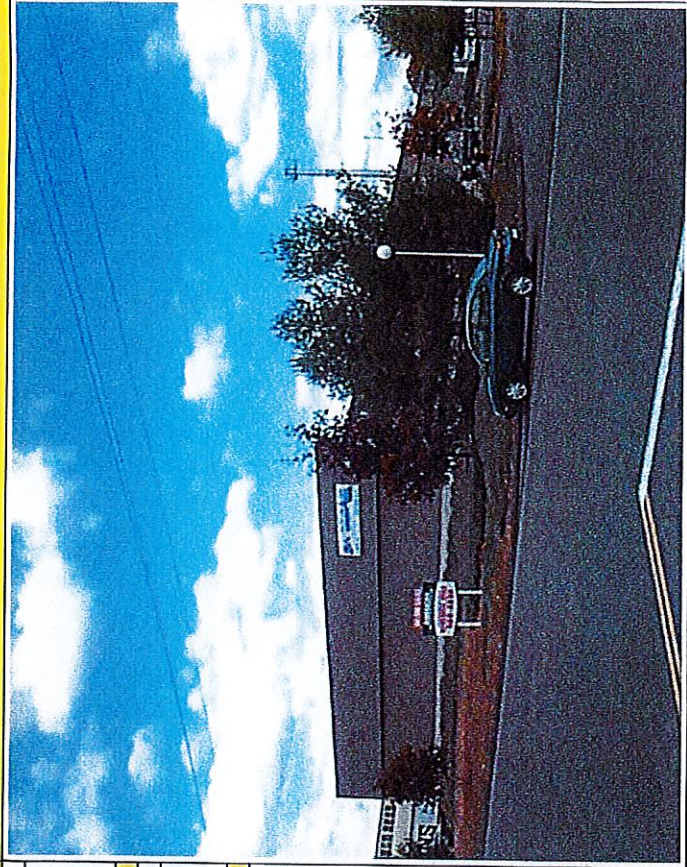
APPRaised VALUE SUMMARY	
Appraised Bldg. Value (Card)	991,800
Appraised Xf (B) Value (Bldg)	129,800
Appraised Ob (B) Value (Bldg)	31,500
Appraised Land Value (Bldg)	351,500
Special Land Value	0
Total Appraised Parcel Value	1,504,600
Valuation Method	1

VISIT / CHANGE HISTORY					
Date	Id	Type	Is	Cd	Purpose/Result
01-03-2019	LL			40	No change
11-06-2003	SK			00	Measur+Listed
10-01-2002	SK			00	Measur+Listed
09-28-2000	SK			00	Measur+Listed
12-20-1989	JM			43	Change - Reinspection
04-19-1988	GH			00	Reinspection

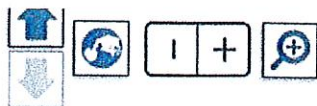
VISION

6164
WINDSOR, CT

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)	
Element	Cd	Description	Description
Style:	48	Warehouse	
Model	96	Ind/Comm	
Grade	03	Average	
Stories:	1		
Occupancy	27	Pre-finish Metl	
Exterior Wall 1	01	Flat	Percentage 100
Exterior Wall 2	09	Enam Mill Shing	0
Roof Structure	01	Minim/Masonry	0
Roof Cover	03	Concrete	
Interior Wall 1	03	Gas	
Interior Wall 2	03	Hot Air-no Duc	
Interior Floor 1	03	Central	
Interior Floor 2	03	Ind Whses	
Heating Fuel	4010		
Heating Type	00		
AC Type	2		
Bldg Use	01	Heat/AC Pkgs	
Total Rooms	05	Steel	
Total Bedrms	02	Average	
Total Baths	03	Sus-Cell/Mn Wl	
Heat/AC	02	Average	
Frame Type	16.00		
Baths/Plumbing	0.00		
Ceiling/Wall	4010		
Rooms/Ptrns			
Wall Height			
% Comm Wall			
1st Floor Use:			



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)													
Code	Description	Sub	Sub TY	L/B	Units	Unit Price	Yr Bilt	Cond.	Cd	% Gd	Grade	Grade Ad	Appr. V
PAV1	PAVING-			L	21.00	2.50	2003			60		0.00	31,500
LDL1	LOAD L			B	7	3000.00	1997			64		0.00	13,400
SPR1	SPRINK			B	42.72	2.50	1997			64		0.00	68,400
VLT2	VAULT-			B	600	125.00	1997			64		0.00	48,000
BUILDING SUB-AREA SUMMARY SECTION													
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprac Value							
BAS	First Floor	42,720	42,720	42,720	36.19	1,546,037							
Totl Gross Liv / Lease Area					42,720	42,720	42,720	1,546,037					



440 HAYDEN STATION RD

PARCEL ID: 6739

OWNER NAME: CB BAGGS LLP

PROPERTY LOCATION: 440 HAYDEN STATION RD

CO-OWNER: C/O SPRINT SPECTRUM LLP

OWNER ADDRESS: TAX DEPT PO BOX 8420

CSZ: KANSAS CITY, MO 64114

ACCOUNT NUMBER: 08739.01

OWNER ASSESSMENT SALES LINKS

ADD TO SELECTION **GET ABUTTERS**

Basemaps

Base Map

Imagery

ESRI

054

12204

High Path Road

12201

72.1857482 -41.900285

6052

6053

6728

676

10821

10076

6731

6732

6733

10076

10076

Rt-20

161

Kennedy Road

6726

Hayden Station Road

6743

6742

6741

6740

6739

6736

6737

6738

Rt-20

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, March 4, 2022 9:24 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776197099553: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 03/04/2022 at
9:19am.



Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by M.MILLER

[OBTAIN PROOF OF DELIVERY](#)

TRACKING NUMBER [776197099553](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of Windsor
Peter Souza Town Manager
275 Broad Street
WINDSOR, CT, US, 06095

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 3/03/2022 06:46 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

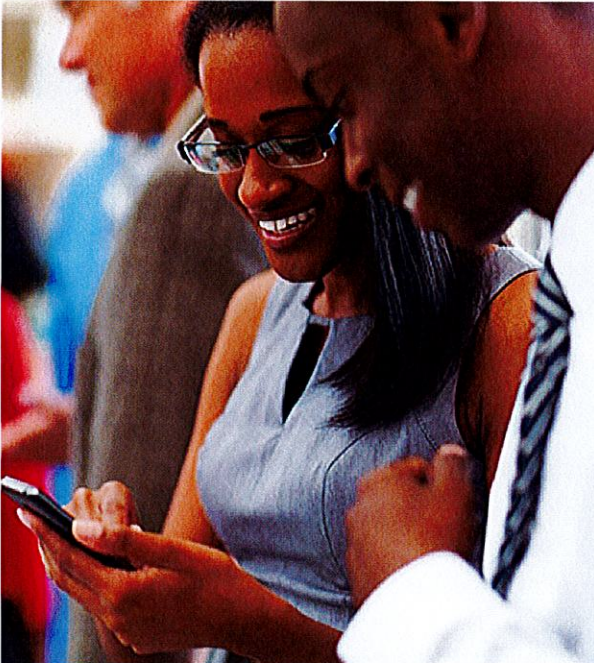
DESTINATION WINDSOR, CT, US, 06095

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, March 4, 2022 9:24 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776197128900: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 03/04/2022 at
9:19am.



Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by M.MILLER

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [776197128900](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of Windsor
Eric Barz Town Planner
275 Broad Street
WINDSOR, CT, US, 06095

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 3/03/2022 06:46 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

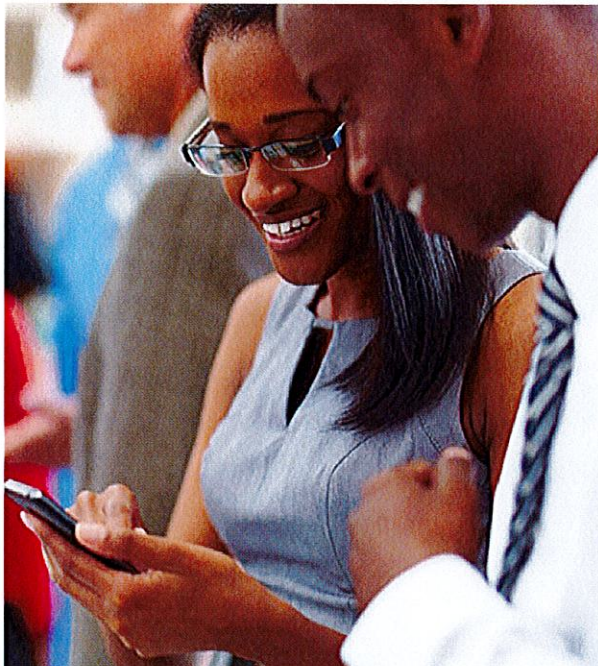
DESTINATION WINDSOR, CT, US, 06095

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, March 4, 2022 10:36 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776197445050: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 03/04/2022 at
10:35am.



Delivered to 4 HICKORY HL, WEST SPRINGFIELD, MA 01089

[OBTAIN PROOF OF DELIVERY](#)

TRACKING NUMBER [776197445050](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Property Owner
CB Baggs LLP
4 Hickory Hill
WEST SPRINGFIELD, MA, US, 01089

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 3/03/2022 06:46 PM

DELIVERED TO Residence

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

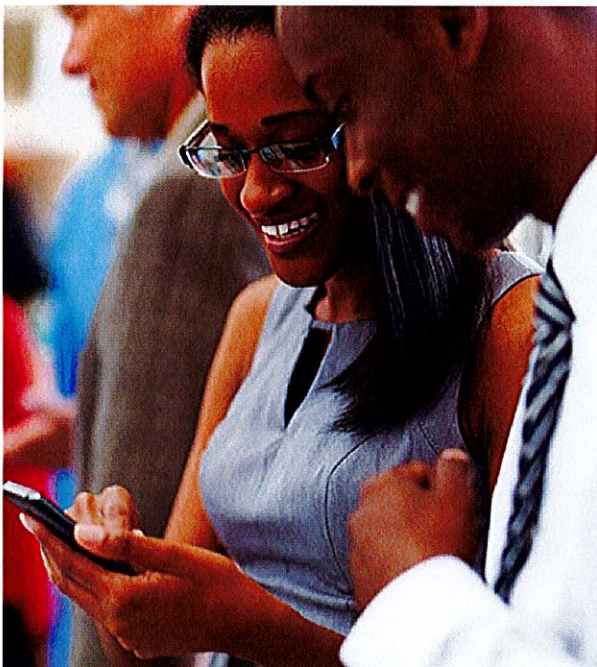
DESTINATION WEST SPRINGFIELD, MA, US, 01089

SPECIAL HANDLING Deliver Weekday
Residential Delivery

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**





Date: February 16, 2022

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

Subject: Structural Analysis Report

Carrier Designation: T-Mobile Co-Locate
Site Number: CT11280A
Site Name: Windsor Locks/Airport

Crown Castle Designation: BU Number: 876326
Site Name: HAYDEN STATION
JDE Job Number: 704585
Work Order Number: 2076246
Order Number: 603528 Rev. 0

Engineering Firm Designation: B+T Group Project Number: 136354.009.01

Site Data: 440 Hayden Station Road, Windsor, Hartford County, CT
Latitude 41° 53' 52.2", Longitude -72° 38' 38.7"
96 Foot - Monopole Tower

B+T Group 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-58.3%**

This analysis utilizes an ultimate 3-second gust wind speed of 116 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: Massood Sattari

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



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity - LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 96 ft Monopole tower designed by Rohn in January of 1997.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	116 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

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)
73.0	76.0	3	--	Pipe 2.0 Std. x 16'-0" long Support Rail Pipes w/ X-AHCP	3	1-5/8
	75.0	3	Commscope	VV-65A-R1_TMO		
		3	Ericsson	AIR 6419 B41_TMO		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	Ericsson	Radio 4480_TMOV2		
		3	Rfs Celwave	APXVAALL24_43-U-NA20_TMO		
73.0	1	--	Platform Mount [LP 304-1] (16')			

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)
92.0	94.0	3	Cci Antennas	DMP65R-BU8D	6 2 4 2	1-5/8 7/8 3/4 3/8
		3	Cci Antennas	OPA65R-BU8D		
		3	Cci Antennas	TPA-65R-LCUUUU-H8		
		3	Ericsson	RRUS 32 B30		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Ericsson	RRUS E2 B29		
		3	Kathrein	800 10121		
		1	Raycap	DC6-48-60-0-8F		
	2	Raycap	DC6-48-60-18-8F			
	92.0	6	Kathrein	860 10025		
		6	Powerwave Tech.	LGP21401		
		1	--	Sector Mount [SM 503-3]		
1		--	Pipe Mount [PM 601-3]			
83.0	86.0	1	Andrew	VHLP2-180	3	1-1/4

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		2	Dragonwave	A-ANT-11G-4-C	1	5/8
		3	Dragonwave	HORIZON DUO	4	1/2
		3	Alcatel Lucent	TD-RRH8X20-25	6	5/16
	83.0	3	Rfs Celwave	APXVSP18-C-A20		
		3	Rfs Celwave	APXVTM14-C-120		
		3	Samsung Telecom.	WIMAX DAP HEAD		
		1	--	Platform Mount [LP 502-1]		
82.0	3	Kathrein	840 10045			
79.0	81.0	3	Alcatel Lucent	PCS 1900MHZ 4x45W-65MHZ	--	--
	79.0	3	Alcatel Lucent	800MHZ 2X50W RRH W/FILTER		
		1	--	Side Arm Mount [SO 104-3]		
65.0	65.0	3	Fujitsu	TA08025-B604	1	1-3/8
		3	Fujitsu	TA08025-B605		
		3	Jma Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
		1	Commscope	MC-PK8-DSH Platform		
57.0	57.0	1	Gps	GPS_A	1	1/2

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	1639483	CCI Sites
Mount Analysis Report	10199042	CCI Sites
Foundation Drawing	1640630	CCI Sites
Geotech Report	1530918	CCI Sites
Crown CAD Package	Date: 02/04/2022	CCI Sites

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) The 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.
- 3) Base and flange plate design methodology of the manufacturer has been reviewed and found to be an acceptable means of designing to resist the full capacity of the bolts and shaft.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	96 - 85	Pole	P12x3/8	1	-6.324	482.199	43.2	Pass
L2	85 - 65	Pole	P42x3/8	2	-18.526	1752.313	19.9	Pass
L3	65 - 32.5	Pole	P48x3/8	3	-30.747	1939.864	45.2	Pass
L4	32.5 - 0	Pole	P48x1/2	4	-42.388	2781.513	57.2	Pass
							Summary	
						Pole (L4)	57.2	Pass
						Rating =	57.2	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2,4	Flange Bolts	85	43.2	Pass
1,2,4	Flange Bolts	65	19.9	Pass
1,2,4	Flange Bolts	32.5	45.2	Pass
1,2	Anchor Rods	Base	58.3	Pass
1,2,3	Base Plate	Base	58.3	Pass
1,2	Base Foundation (Structure)	Base	39.7	Pass
1,2	Base Foundation (Soil Interaction)	Base	29.4	Pass

Structure Rating (max from all components) =	58.3%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5.
- 3) Base plate has the same capacity as its respective bolts.
- 4) Flange plates have the same capacity as their respective shaft.

4.1) Recommendations

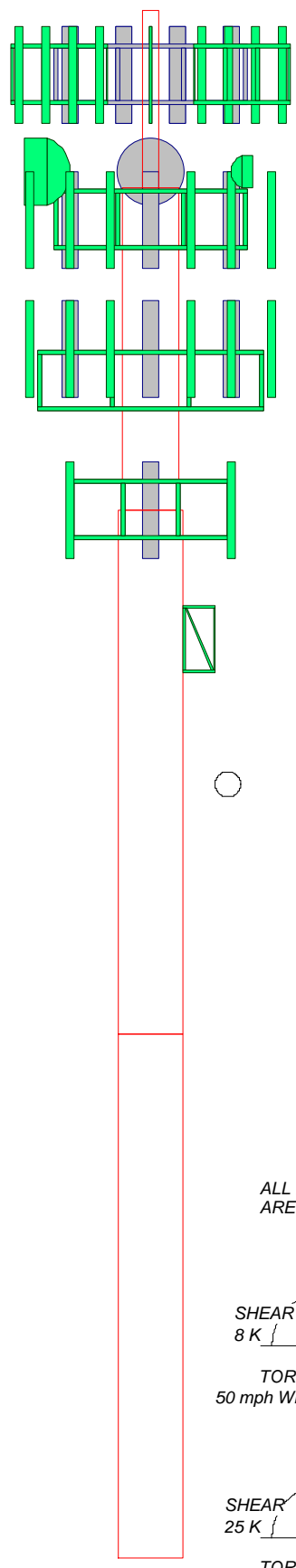
The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1				
Size	P12x3/8				
Length (ft)	11,000				
Grade	A53-B-35				
Weight (K)	0.5				
Section	2				
Size	P42x3/8				
Length (ft)	20,000				
Grade	A53-B-42				
Weight (K)	3.3				
Section	3				
Size	P48x3/8				
Length (ft)	32,500				
Grade	A53-B-42				
Weight (K)	6.2				
Section	4				
Size	P48x1/2				
Length (ft)	32,500				
Grade	A53-B-42				
Weight (K)	8.3				

96.0 ft
85.0 ft
65.0 ft
32.5 ft
0.0 ft



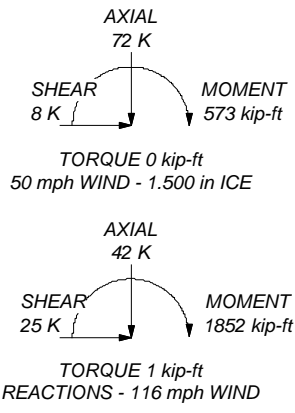
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A53-B-42	42 ksi	63 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 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 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 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 57.2%

ALL REACTIONS ARE FACTORED



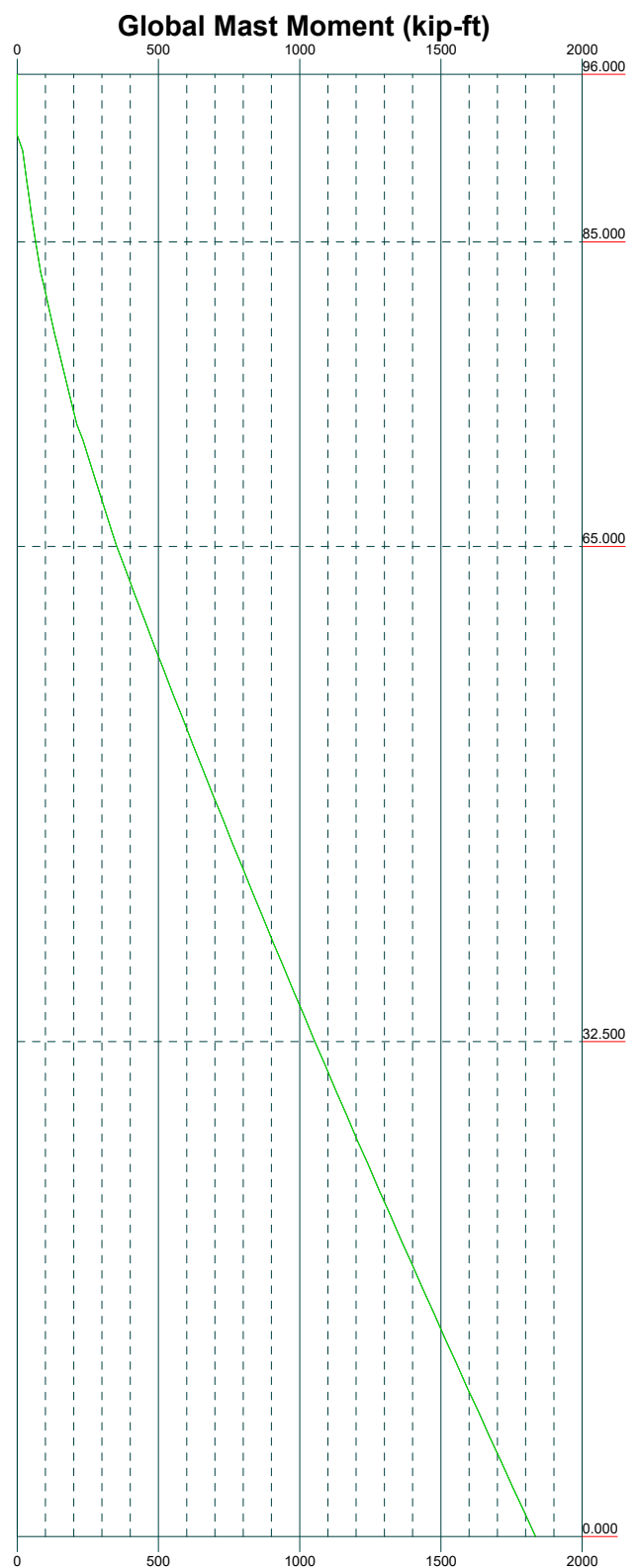
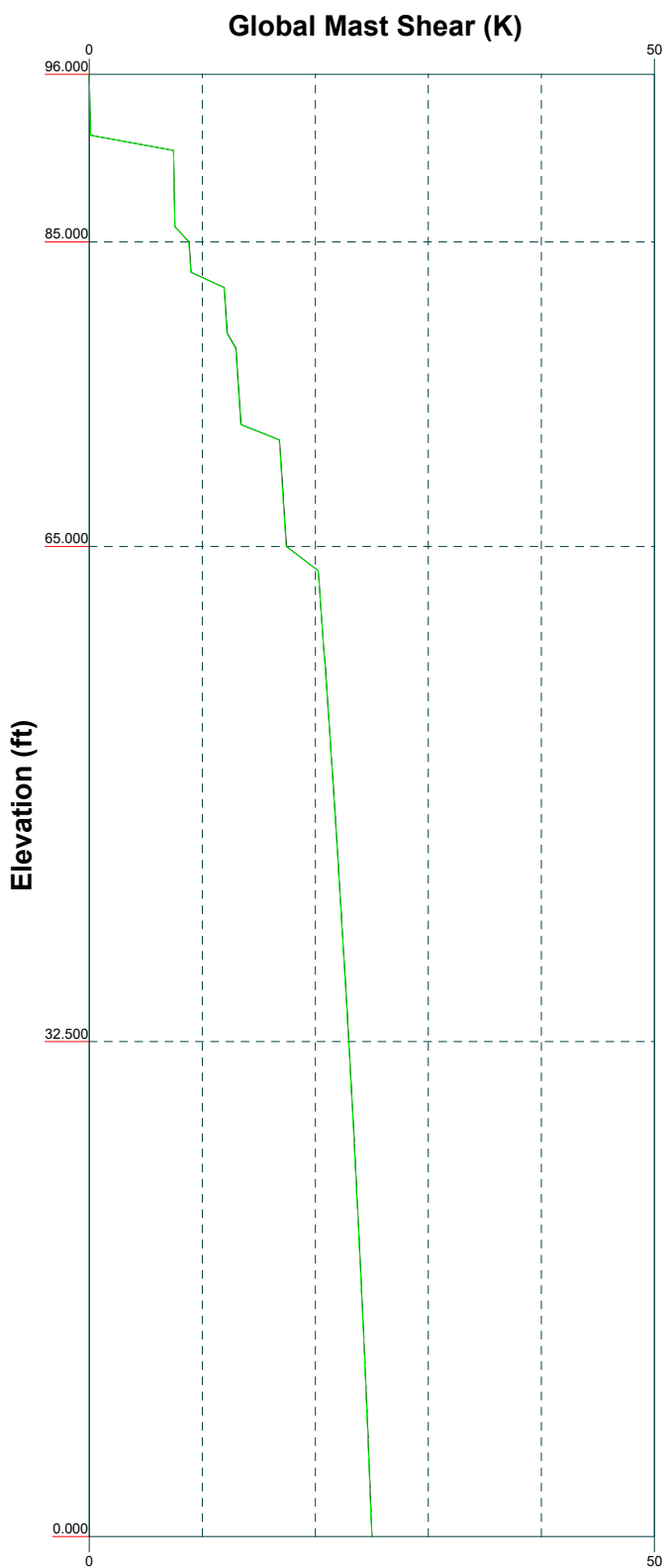
B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.009.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 02/16/22	Scale: NTS
Path:	Dwg No. E-1	

C:\Users\BPC201\Desktop\136354_876326 Hayden Station--Suppl--Ramed\Twp_009_01\136354_009_01 HAYDEN STATION.ctb

Vx Vz

Mx Mz

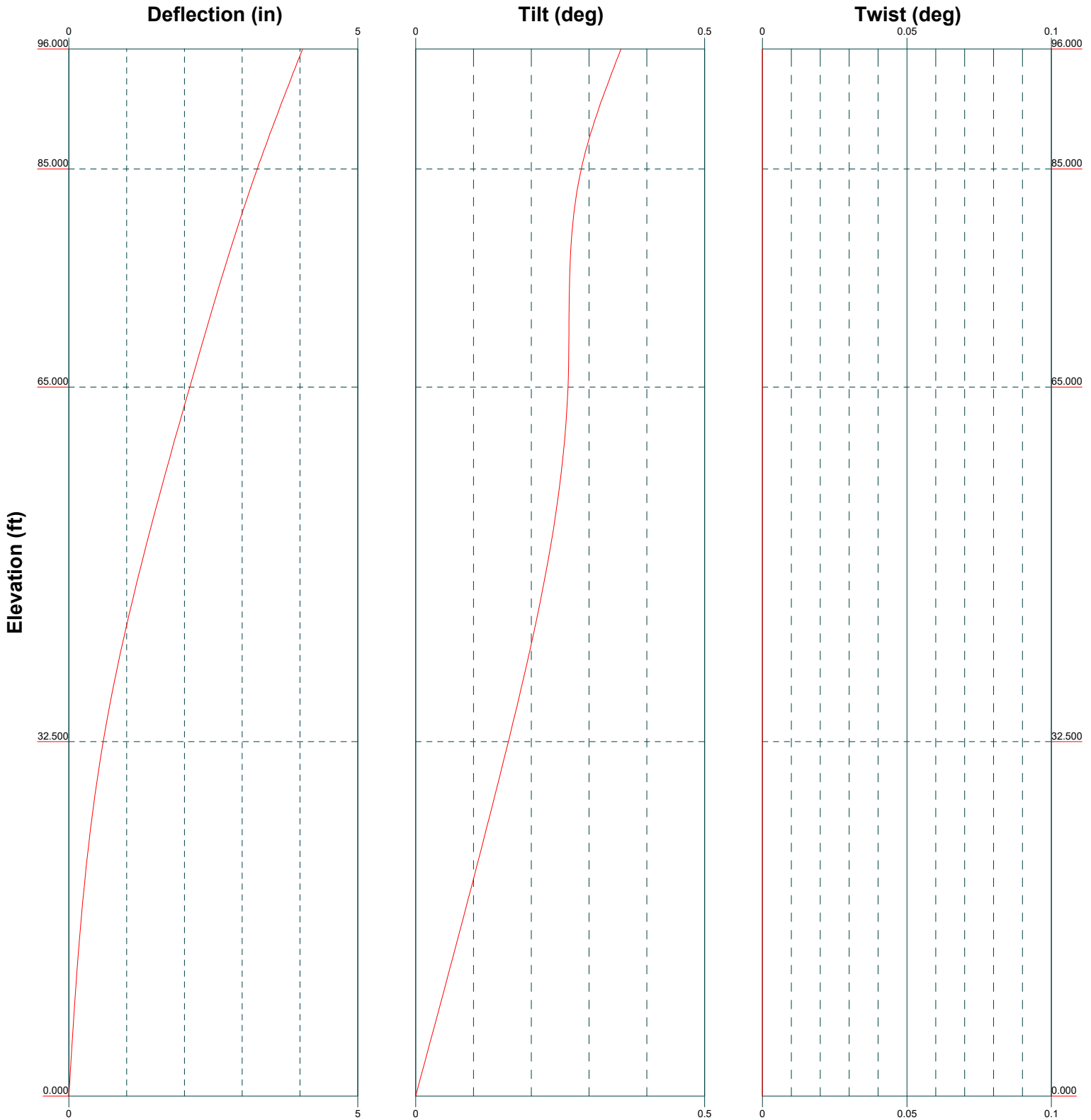


Elevation (ft)

B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.009.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 02/16/22	Scale: NTS
Path:	Dwg No. E-4	

C:\Users\BGP201\Desktop\136354_876326_Hayden Station--Suppl--Ramed\Tmx_009_01\136354_009_01_HAYDEN STATION.ctb



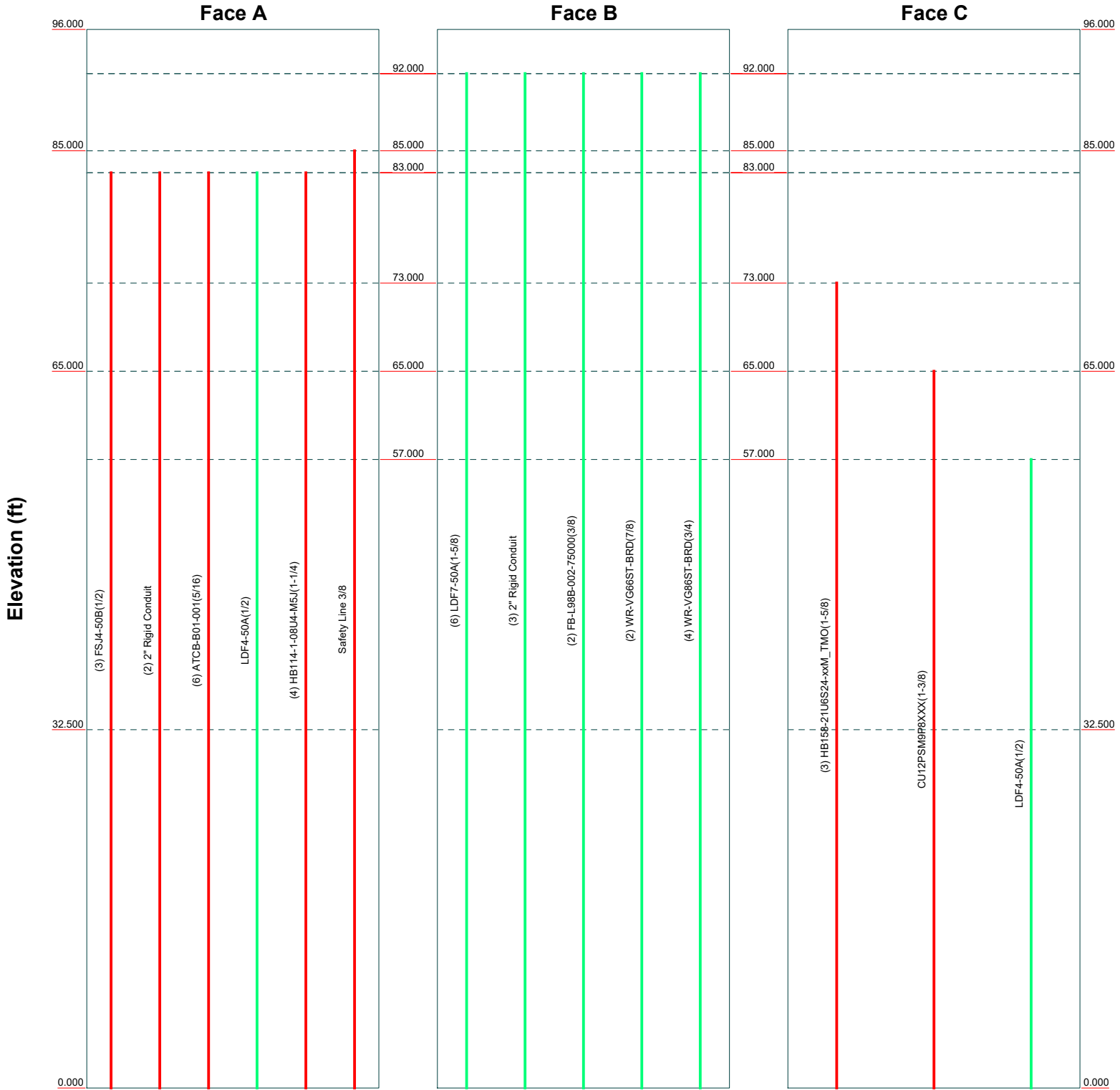
B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.009.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 02/16/22	Scale: NTS
Path:	Dwg No: E-5	

Feed Line Distribution Chart

0' - 96'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.009.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 02/16/22	Scale: NTS
Path:		Dwg No. E-7

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 1 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

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: 141.000 ft.
- Basic wind speed of 116 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.500 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S.
- 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

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 <li style="text-align: center;">Poles √ 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 |
|--|---|---|

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 3 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight klf
LDF7-50A(1-5/8)	B	No	No	Inside Pole	92.000 - 0.000	6	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
2" Rigid Conduit	B	No	No	Inside Pole	92.000 - 0.000	3	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
							2" Ice	0.000	0.003
FB-L98B-002-75000 (3/8)	B	No	No	Inside Pole	92.000 - 0.000	2	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
WR-VG66ST-BRD(7/8)	B	No	No	Inside Pole	92.000 - 0.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	92.000 - 0.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
* LDF4-50A(1/2)	A	No	No	Inside Pole	83.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
* LDF4-50A(1/2)	C	No	No	Inside Pole	57.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	96.000-85.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.123
		C	0.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	A	0.000	0.000	19.128	0.000	0.201
		B	0.000	0.000	0.000	0.000	0.352
		C	0.000	0.000	4.790	0.000	0.060
L3	65.000-32.500	A	0.000	0.000	34.401	0.000	0.363
		B	0.000	0.000	0.000	0.000	0.572
		C	0.000	0.000	24.047	0.000	0.301
L4	32.500-0.000	A	0.000	0.000	34.401	0.000	0.363
		B	0.000	0.000	0.000	0.000	0.572
		C	0.000	0.000	24.047	0.000	0.303

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 4 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	96.000-85.000	A	1.410	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.123
		C		0.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	A	1.384	0.000	0.000	54.173	0.000	0.713
		B		0.000	0.000	0.000	0.000	0.352
		C		0.000	0.000	8.756	0.000	0.145
L3	65.000-32.500	A	1.327	0.000	0.000	94.431	0.000	1.224
		B		0.000	0.000	0.000	0.000	0.572
		C		0.000	0.000	48.312	0.000	0.776
L4	32.500-0.000	A	1.191	0.000	0.000	89.137	0.000	1.107
		B		0.000	0.000	0.000	0.000	0.572
		C		0.000	0.000	46.327	0.000	0.718

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	96.000-85.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	-3.253	-3.307	-3.507	-3.432
L3	65.000-32.500	-2.324	-1.106	-3.027	-1.754
L4	32.500-0.000	-2.324	-1.106	-2.920	-1.691

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L2	7	FSJ4-50B(1/2)	65.00 - 83.00	1.0000	1.0000
L2	8	2" Rigid Conduit	65.00 - 83.00	1.0000	1.0000
L2	9	ATCB-B01-001(5/16)	65.00 - 83.00	1.0000	1.0000
L2	12	HB114-1-08U4-M5J(1-1/4)	65.00 - 83.00	1.0000	1.0000
L2	18	HB158-21U6S24-xxM_TMO (1-5/8)	65.00 - 73.00	1.0000	1.0000
L2	24	Safety Line 3/8	65.00 - 85.00	1.0000	1.0000
L3	7	FSJ4-50B(1/2)	32.50 - 65.00	1.0000	1.0000
L3	8	2" Rigid Conduit	32.50 - 65.00	1.0000	1.0000
L3	9	ATCB-B01-001(5/16)	32.50 - 65.00	1.0000	1.0000
L3	12	HB114-1-08U4-M5J(1-1/4)	32.50 - 65.00	1.0000	1.0000
L3	18	HB158-21U6S24-xxM_TMO (1-5/8)	32.50 - 65.00	1.0000	1.0000
L3	20	CU12PSM9P8XXX(1-3/8)	32.50 - 65.00	1.0000	1.0000
L3	24	Safety Line 3/8	32.50 - 65.00	1.0000	1.0000
L4	7	FSJ4-50B(1/2)	0.00 - 32.50	1.0000	1.0000

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 5 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L4	8	2" Rigid Conduit	0.00 - 32.50	1.0000	1.0000
L4	9	ATCB-B01-001(5/16)	0.00 - 32.50	1.0000	1.0000
L4	12	HB114-1-08U4-M5J(1-1/4)	0.00 - 32.50	1.0000	1.0000
L4	18	HB158-21U6S24-xxM_TMO (1-5/8)	0.00 - 32.50	1.0000	1.0000
L4	20	CU12PSM9P8XXX(1-3/8)	0.00 - 32.50	1.0000	1.0000
L4	24	Safety Line 3/8	0.00 - 32.50	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
800 10121 w/ Mount Pipe	A	From Leg	4.000	0.000	92.000	No Ice	3.600	2.950	0.072
			0.000			1/2" Ice	4.000	3.340	0.115
			2.000			1" Ice	4.420	3.740	0.166
						2" Ice	5.290	4.590	0.297
800 10121 w/ Mount Pipe	B	From Leg	4.000	0.000	92.000	No Ice	3.600	2.950	0.072
			0.000			1/2" Ice	4.000	3.340	0.115
			2.000			1" Ice	4.420	3.740	0.166
						2" Ice	5.290	4.590	0.297
800 10121 w/ Mount Pipe	C	From Leg	4.000	0.000	92.000	No Ice	3.600	2.950	0.072
			0.000			1/2" Ice	4.000	3.340	0.115
			2.000			1" Ice	4.420	3.740	0.166
						2" Ice	5.290	4.590	0.297
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000			1/2" Ice	16.810	8.740	0.252
			2.000			1" Ice	17.760	9.600	0.380
						2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000			1/2" Ice	16.810	8.740	0.252
			2.000			1" Ice	17.760	9.600	0.380
						2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000			1/2" Ice	16.810	8.740	0.252
			2.000			1" Ice	17.760	9.600	0.380
						2" Ice	19.700	11.370	0.679
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000			1/2" Ice	18.460	9.490	0.224
			2.000			1" Ice	19.480	10.420	0.353
						2" Ice	21.580	12.330	0.656
OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000			1/2" Ice	18.460	9.490	0.224
			2.000			1" Ice	19.480	10.420	0.353
						2" Ice	21.580	12.330	0.656
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000			1/2" Ice	18.460	9.490	0.224
			2.000			1" Ice	19.480	10.420	0.353
						2" Ice	21.580	12.330	0.656
TPA-65R-LCUUUU-H8 w/ Mount Pipe	A	From Leg	4.000	0.000	92.000	No Ice	11.850	8.990	0.115
			0.000			1/2" Ice	12.770	9.880	0.210

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.009.01- HAYDEN STATION, CT (BU# 876326)		Page		6 of 21	
	Project				Date		15:23:15 02/16/22	
	Client		Crown Castle		Designed by		S Shetty	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft					
			2.000				1" Ice 13.710	10.790	0.319
							2" Ice 15.640	12.660	0.580
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Leg	4.000	0.000	92.000	No Ice 11.850	8.990	0.115	
			0.000			1/2" Ice 12.770	9.880	0.210	
			2.000			1" Ice 13.710	10.790	0.319	
TPA-65R-LCUUUU-H8 w/ Mount Pipe	C	From Leg	4.000	0.000	92.000	2" Ice 15.640	12.660	0.580	
			0.000			No Ice 11.850	8.990	0.115	
			0.000			1/2" Ice 12.770	9.880	0.210	
			2.000			1" Ice 13.710	10.790	0.319	
(2) LGP21401	A	From Leg	4.000	0.000	92.000	2" Ice 15.640	12.660	0.580	
			0.000			No Ice 1.104	0.207	0.014	
			0.000			1/2" Ice 1.239	0.274	0.021	
			0.000			1" Ice 1.381	0.348	0.030	
(2) LGP21401	B	From Leg	4.000	0.000	92.000	2" Ice 1.688	0.521	0.055	
			0.000			No Ice 1.104	0.207	0.014	
			0.000			1/2" Ice 1.239	0.274	0.021	
			0.000			1" Ice 1.381	0.348	0.030	
(2) LGP21401	C	From Leg	4.000	0.000	92.000	2" Ice 1.688	0.521	0.055	
			0.000			No Ice 1.104	0.207	0.014	
			0.000			1/2" Ice 1.239	0.274	0.021	
			0.000			1" Ice 1.381	0.348	0.030	
(2) 860 10025	A	From Leg	4.000	0.000	92.000	2" Ice 1.688	0.521	0.055	
			0.000			No Ice 0.142	0.121	0.001	
			0.000			1/2" Ice 0.196	0.173	0.003	
			0.000			1" Ice 0.259	0.231	0.005	
(2) 860 10025	B	From Leg	4.000	0.000	92.000	2" Ice 0.408	0.376	0.014	
			0.000			No Ice 0.142	0.121	0.001	
			0.000			1/2" Ice 0.196	0.173	0.003	
			0.000			1" Ice 0.259	0.231	0.005	
(2) 860 10025	C	From Leg	4.000	0.000	92.000	2" Ice 0.408	0.376	0.014	
			0.000			No Ice 0.142	0.121	0.001	
			0.000			1/2" Ice 0.196	0.173	0.003	
			0.000			1" Ice 0.259	0.231	0.005	
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	92.000	2" Ice 0.408	0.376	0.014	
			0.000			No Ice 1.968	1.408	0.071	
			2.000			1/2" Ice 2.144	1.564	0.090	
						1" Ice 2.328	1.727	0.111	
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	92.000	2" Ice 2.718	2.075	0.163	
			0.000			No Ice 1.968	1.408	0.071	
			2.000			1/2" Ice 2.144	1.564	0.090	
						1" Ice 2.328	1.727	0.111	
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	92.000	2" Ice 2.718	2.075	0.163	
			0.000			No Ice 1.968	1.408	0.071	
			2.000			1/2" Ice 2.144	1.564	0.090	
						1" Ice 2.328	1.727	0.111	
RRUS 8843 B2/B66A	A	From Leg	4.000	0.000	92.000	2" Ice 2.718	2.075	0.163	
			0.000			No Ice 1.639	1.353	0.072	
			2.000			1/2" Ice 1.799	1.500	0.090	
						1" Ice 1.966	1.655	0.110	
RRUS 8843 B2/B66A	B	From Leg	4.000	0.000	92.000	2" Ice 2.323	1.986	0.159	
			0.000			No Ice 1.639	1.353	0.072	
			2.000			1/2" Ice 1.799	1.500	0.090	
						1" Ice 1.966	1.655	0.110	
RRUS 8843 B2/B66A	C	From Leg	4.000	0.000	92.000	2" Ice 2.323	1.986	0.159	
			0.000			No Ice 1.639	1.353	0.072	
			2.000			1/2" Ice 1.799	1.500	0.090	
						1" Ice 1.966	1.655	0.110	

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.009.01- HAYDEN STATION, CT (BU# 876326)		Page		7 of 21	
	Project				Date		15:23:15 02/16/22	
	Client		Crown Castle		Designed by		S Shetty	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
RRUS 4478 B14	A	From Leg	4.000	0.000	92.000	2" Ice	2.323	1.986	0.159
			0.000	0.000		No Ice	1.843	1.059	0.060
			2.000	0.000		1/2" Ice	2.012	1.197	0.076
				0.000		1" Ice	2.190	1.342	0.094
RRUS 4478 B14	B	From Leg	4.000	0.000	92.000	2" Ice	2.566	1.656	0.140
			0.000	0.000		No Ice	1.843	1.059	0.060
			2.000	0.000		1/2" Ice	2.012	1.197	0.076
				0.000		1" Ice	2.190	1.342	0.094
RRUS 4478 B14	C	From Leg	4.000	0.000	92.000	2" Ice	2.566	1.656	0.140
			0.000	0.000		No Ice	1.843	1.059	0.060
			2.000	0.000		1/2" Ice	2.012	1.197	0.076
				0.000		1" Ice	2.190	1.342	0.094
RRUS 32 B30	A	From Leg	4.000	0.000	92.000	2" Ice	2.566	1.656	0.140
			0.000	0.000		No Ice	2.692	1.573	0.060
			2.000	0.000		1/2" Ice	2.912	1.756	0.080
				0.000		1" Ice	3.138	1.945	0.104
RRUS 32 B30	B	From Leg	4.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000	0.000		No Ice	2.692	1.573	0.060
			2.000	0.000		1/2" Ice	2.912	1.756	0.080
				0.000		1" Ice	3.138	1.945	0.104
RRUS 32 B30	C	From Leg	4.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000	0.000		No Ice	2.692	1.573	0.060
			2.000	0.000		1/2" Ice	2.912	1.756	0.080
				0.000		1" Ice	3.138	1.945	0.104
RRUS E2 B29	A	From Leg	4.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000	0.000		No Ice	3.145	1.285	0.060
			2.000	0.000		1/2" Ice	3.365	1.438	0.083
				0.000		1" Ice	3.592	1.600	0.110
RRUS E2 B29	B	From Leg	4.000	0.000	92.000	2" Ice	4.069	1.954	0.173
			0.000	0.000		No Ice	3.145	1.285	0.060
			2.000	0.000		1/2" Ice	3.365	1.438	0.083
				0.000		1" Ice	3.592	1.600	0.110
RRUS E2 B29	C	From Leg	4.000	0.000	92.000	2" Ice	4.069	1.954	0.173
			0.000	0.000		No Ice	3.145	1.285	0.060
			2.000	0.000		1/2" Ice	3.365	1.438	0.083
				0.000		1" Ice	3.592	1.600	0.110
DC6-48-60-18-8F	A	From Leg	2.000	0.000	92.000	2" Ice	4.069	1.954	0.173
			0.000	0.000		No Ice	1.212	1.212	0.033
			2.000	0.000		1/2" Ice	1.892	1.892	0.055
				0.000		1" Ice	2.105	2.105	0.080
DC6-48-60-18-8F	B	From Leg	2.000	0.000	92.000	2" Ice	2.570	2.570	0.138
			0.000	0.000		No Ice	1.212	1.212	0.033
			2.000	0.000		1/2" Ice	1.892	1.892	0.055
				0.000		1" Ice	2.105	2.105	0.080
DC6-48-60-0-8F	C	From Leg	2.000	0.000	92.000	2" Ice	2.570	2.570	0.138
			0.000	0.000		No Ice	0.917	0.917	0.033
			2.000	0.000		1/2" Ice	1.458	1.458	0.051
				0.000		1" Ice	1.643	1.643	0.071
4' x 2" Pipe Mount	A	From Leg	2.000	0.000	92.000	2" Ice	2.042	2.042	0.119
			0.000	0.000		No Ice	0.785	0.785	0.029
			1.000	0.000		1/2" Ice	1.028	1.028	0.035
				0.000		1" Ice	1.281	1.281	0.044
4' x 2" Pipe Mount	B	From Leg	2.000	0.000	92.000	2" Ice	1.814	1.814	0.072
			0.000	0.000		No Ice	0.785	0.785	0.029
			1.000	0.000		1/2" Ice	1.028	1.028	0.035
				0.000		1" Ice	1.281	1.281	0.044
					2" Ice	1.814	1.814	0.072	

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.009.01- HAYDEN STATION, CT (BU# 876326)		Page		8 of 21	
	Project				Date		15:23:15 02/16/22	
	Client		Crown Castle		Designed by		S Shetty	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						°
4' x 2" Pipe Mount	C	From Leg	2.000		0.000	92.000	No Ice	0.785	0.785	0.029
			0.000				1/2" Ice	1.028	1.028	0.035
			1.000				1" Ice	1.281	1.281	0.044
							2" Ice	1.814	1.814	0.072
6' x 2" Horizontal Mount Pipe	A	From Leg	4.000		0.000	92.000	No Ice	1.140	0.010	0.016
			0.000				1/2" Ice	1.760	0.040	0.025
			2.000				1" Ice	2.140	0.090	0.038
							2" Ice	2.900	0.210	0.077
6' x 2" Horizontal Mount Pipe	B	From Leg	4.000		0.000	92.000	No Ice	1.140	0.010	0.016
			0.000				1/2" Ice	1.760	0.040	0.025
			2.000				1" Ice	2.140	0.090	0.038
							2" Ice	2.900	0.210	0.077
6' x 2" Horizontal Mount Pipe	C	From Leg	4.000		0.000	92.000	No Ice	1.140	0.010	0.016
			0.000				1/2" Ice	1.760	0.040	0.025
			2.000				1" Ice	2.140	0.090	0.038
							2" Ice	2.900	0.210	0.077
Sector Mount [SM 503-3]	C	None			0.000	92.000	No Ice	30.430	30.430	1.690
							1/2" Ice	43.020	43.020	2.296
							1" Ice	55.430	55.430	3.097
							2" Ice	79.890	79.890	5.269
Pipe Mount [PM 601-3]	C	None			0.000	92.000	No Ice	3.170	3.170	0.195
							1/2" Ice	3.790	3.790	0.232
							1" Ice	4.420	4.420	0.279
							2" Ice	5.760	5.760	0.401
* 840 10045	A	From Leg	4.000		0.000	83.000	No Ice	4.578	1.361	0.035
			0.000				1/2" Ice	4.874	1.620	0.059
			-1.000				1" Ice	5.178	1.886	0.087
							2" Ice	5.806	2.440	0.156
840 10045	B	From Leg	4.000		0.000	83.000	No Ice	4.578	1.361	0.035
			0.000				1/2" Ice	4.874	1.620	0.059
			-1.000				1" Ice	5.178	1.886	0.087
							2" Ice	5.806	2.440	0.156
840 10045	C	From Leg	4.000		0.000	83.000	No Ice	4.578	1.361	0.035
			0.000				1/2" Ice	4.874	1.620	0.059
			-1.000				1" Ice	5.178	1.886	0.087
							2" Ice	5.806	2.440	0.156
WIMAX DAP HEAD	A	From Leg	4.000		0.000	83.000	No Ice	1.547	0.684	0.033
			0.000				1/2" Ice	1.704	0.800	0.045
			0.000				1" Ice	1.868	0.923	0.058
							2" Ice	2.219	1.193	0.094
WIMAX DAP HEAD	B	From Leg	4.000		0.000	83.000	No Ice	1.547	0.684	0.033
			0.000				1/2" Ice	1.704	0.800	0.045
			0.000				1" Ice	1.868	0.923	0.058
							2" Ice	2.219	1.193	0.094
WIMAX DAP HEAD	C	From Leg	4.000		0.000	83.000	No Ice	1.547	0.684	0.033
			0.000				1/2" Ice	1.704	0.800	0.045
			0.000				1" Ice	1.868	0.923	0.058
							2" Ice	2.219	1.193	0.094
HORIZON DUO	A	From Leg	4.000		0.000	83.000	No Ice	0.469	0.294	0.007
			0.000				1/2" Ice	0.556	0.365	0.012
			3.000				1" Ice	0.650	0.444	0.018
							2" Ice	0.861	0.624	0.036
HORIZON DUO	B	From Leg	4.000		0.000	83.000	No Ice	0.469	0.294	0.007
			0.000				1/2" Ice	0.556	0.365	0.012
			3.000				1" Ice	0.650	0.444	0.018
							2" Ice	0.861	0.624	0.036

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page	9 of 21
	Project		Date	15:23:15 02/16/22
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front	CAAA Side	Weight K
HORIZON DUO	C	From Leg	4.000 0.000 3.000	0.000	83.000	No Ice 0.469 1/2" Ice 0.556 1" Ice 0.650 2" Ice 0.861	0.294 0.365 0.444 0.624	0.007 0.012 0.018 0.036
10' x 3" Pipe Mount	A	From Leg	4.000 0.000 2.000	0.000	83.000	No Ice 3.000 1/2" Ice 4.033 1" Ice 5.027 2" Ice 6.257	3.000 4.033 5.027 6.257	0.080 0.102 0.130 0.207
10' x 3" Pipe Mount	B	From Leg	4.000 0.000 2.000	0.000	83.000	No Ice 3.000 1/2" Ice 4.033 1" Ice 5.027 2" Ice 6.257	3.000 4.033 5.027 6.257	0.080 0.102 0.130 0.207
10' x 3" Pipe Mount	C	From Leg	4.000 0.000 2.000	0.000	83.000	No Ice 3.000 1/2" Ice 4.033 1" Ice 5.027 2" Ice 6.257	3.000 4.033 5.027 6.257	0.080 0.102 0.130 0.207
* APXVSP18-C-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.600 1/2" Ice 5.050 1" Ice 5.500 2" Ice 6.440	4.010 4.450 4.890 5.820	0.095 0.160 0.235 0.419
APXVSP18-C-A20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.600 1/2" Ice 5.050 1" Ice 5.500 2" Ice 6.440	4.010 4.450 4.890 5.820	0.095 0.160 0.235 0.419
APXVSP18-C-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.600 1/2" Ice 5.050 1" Ice 5.500 2" Ice 6.440	4.010 4.450 4.890 5.820	0.095 0.160 0.235 0.419
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.090 1/2" Ice 4.480 1" Ice 4.880 2" Ice 5.710	2.860 3.230 3.610 4.400	0.077 0.127 0.185 0.331
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.090 1/2" Ice 4.480 1" Ice 4.880 2" Ice 5.710	2.860 3.230 3.610 4.400	0.077 0.127 0.185 0.331
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 4.090 1/2" Ice 4.480 1" Ice 4.880 2" Ice 5.710	2.860 3.230 3.610 4.400	0.077 0.127 0.185 0.331
TD-RRH8X20-25	A	From Leg	4.000 0.000 3.000	0.000	83.000	No Ice 4.045 1/2" Ice 4.298 1" Ice 4.557 2" Ice 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
TD-RRH8X20-25	B	From Leg	4.000 0.000 3.000	0.000	83.000	No Ice 4.045 1/2" Ice 4.298 1" Ice 4.557 2" Ice 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
TD-RRH8X20-25	C	From Leg	4.000 0.000 3.000	0.000	83.000	No Ice 4.045 1/2" Ice 4.298 1" Ice 4.557 2" Ice 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
(2) 5' x 2" Pipe Mount	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1.188 1/2" Ice 1.496 1" Ice 1.807 2" Ice 2.458	1.188 1.496 1.807 2.458	0.018 0.027 0.040 0.076

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page	10 of 21
	Project		Date	15:23:15 02/16/22
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
(2) 5' x 2" Pipe Mount	B	From Leg	4.000	0.000	0.000	83.000	No Ice	1.188	1.188	0.018
			0.000				1/2" Ice	1.496	1.496	0.027
			0.000				1" Ice	1.807	1.807	0.040
							2" Ice	2.458	2.458	0.076
(2) 5' x 2" Pipe Mount	C	From Leg	4.000	0.000	0.000	83.000	No Ice	1.188	1.188	0.018
			0.000				1/2" Ice	1.496	1.496	0.027
			0.000				1" Ice	1.807	1.807	0.040
							2" Ice	2.458	2.458	0.076
Platform Mount [LP 502-1]	C	None		0.000	0.000	83.000	No Ice	18.280	18.280	0.925
							1/2" Ice	23.540	23.540	1.435
							1" Ice	28.530	28.530	2.070
							2" Ice	38.850	38.850	3.714
* PCS 1900MHZ 4x45W-65MHZ	A	From Leg	1.000	0.000	0.000	79.000	No Ice	2.322	2.238	0.060
			0.000				1/2" Ice	2.527	2.441	0.083
			2.000				1" Ice	2.739	2.651	0.110
							2" Ice	3.185	3.093	0.173
PCS 1900MHZ 4x45W-65MHZ	B	From Leg	1.000	0.000	0.000	79.000	No Ice	2.322	2.238	0.060
			0.000				1/2" Ice	2.527	2.441	0.083
			2.000				1" Ice	2.739	2.651	0.110
							2" Ice	3.185	3.093	0.173
PCS 1900MHZ 4x45W-65MHZ	C	From Leg	1.000	0.000	0.000	79.000	No Ice	2.322	2.238	0.060
			0.000				1/2" Ice	2.527	2.441	0.083
			2.000				1" Ice	2.739	2.651	0.110
							2" Ice	3.185	3.093	0.173
800MHZ 2X50W RRH W/FILTER	A	From Leg	1.000	0.000	0.000	79.000	No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			0.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
800MHZ 2X50W RRH W/FILTER	B	From Leg	1.000	0.000	0.000	79.000	No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			0.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
800MHZ 2X50W RRH W/FILTER	C	From Leg	1.000	0.000	0.000	79.000	No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			0.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
6' x 2" Mount Pipe	A	From Leg	1.000	0.000	0.000	79.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	B	From Leg	1.000	0.000	0.000	79.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	C	From Leg	1.000	0.000	0.000	79.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
Side Arm Mount [SO 104-3]	C	None		0.000	0.000	79.000	No Ice	2.620	2.620	0.288
							1/2" Ice	3.300	3.300	0.408
							1" Ice	3.980	3.980	0.528
							2" Ice	5.350	5.350	0.768
* AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	73.000	No Ice	6.533	3.750	0.111
			0.000				1/2" Ice	6.916	4.243	0.165
			2.000				1" Ice	7.308	4.752	0.225

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.009.01- HAYDEN STATION, CT (BU# 876326)		Page		11 of 21	
	Project				Date		15:23:15 02/16/22	
	Client		Crown Castle		Designed by		S Shetty	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight		
			Horz Lateral	Vert						°	ft
AIR 6419 B41_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	73.000	2" Ice	8.122	5.819	0.365	
			0.000					No Ice	6.533	3.750	0.111
			2.000					1/2" Ice	6.916	4.243	0.165
								1" Ice	7.308	4.752	0.225
AIR 6419 B41_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	73.000	2" Ice	8.122	5.819	0.365	
			0.000					No Ice	6.533	3.750	0.111
			2.000					1/2" Ice	6.916	4.243	0.165
								1" Ice	7.308	4.752	0.225
VV-65A-R1_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	73.000	2" Ice	8.122	5.819	0.365	
			0.000					No Ice	4.460	2.690	0.054
			2.000					1/2" Ice	4.910	3.100	0.097
								1" Ice	5.360	3.520	0.149
VV-65A-R1_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	73.000	2" Ice	6.320	4.410	0.281	
			0.000					No Ice	4.460	2.690	0.054
			2.000					1/2" Ice	4.910	3.100	0.097
								1" Ice	5.360	3.520	0.149
VV-65A-R1_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	73.000	2" Ice	6.320	4.410	0.281	
			0.000					No Ice	4.460	2.690	0.054
			2.000					1/2" Ice	4.910	3.100	0.097
								1" Ice	5.360	3.520	0.149
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	73.000	2" Ice	6.320	4.410	0.281	
			0.000					No Ice	14.690	6.870	0.183
			2.000					1/2" Ice	15.460	7.550	0.311
								1" Ice	16.230	8.250	0.453
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	73.000	2" Ice	17.820	9.670	0.782	
			0.000					No Ice	14.690	6.870	0.183
			2.000					1/2" Ice	15.460	7.550	0.311
								1" Ice	16.230	8.250	0.453
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	73.000	2" Ice	17.820	9.670	0.782	
			0.000					No Ice	14.690	6.870	0.183
			2.000					1/2" Ice	15.460	7.550	0.311
								1" Ice	16.230	8.250	0.453
Radio 4480_TMOV2	A	From Leg	4.000	0.000	0.000	73.000	2" Ice	17.820	9.670	0.782	
			0.000					No Ice	2.878	1.397	0.081
			2.000					1/2" Ice	3.091	1.558	0.103
								1" Ice	3.312	1.727	0.128
Radio 4480_TMOV2	B	From Leg	4.000	0.000	0.000	73.000	2" Ice	3.775	2.090	0.188	
			0.000					No Ice	2.878	1.397	0.081
			2.000					1/2" Ice	3.091	1.558	0.103
								1" Ice	3.312	1.727	0.128
Radio 4480_TMOV2	C	From Leg	4.000	0.000	0.000	73.000	2" Ice	3.775	2.090	0.188	
			0.000					No Ice	2.878	1.397	0.081
			2.000					1/2" Ice	3.091	1.558	0.103
								1" Ice	3.312	1.727	0.128
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000	0.000	0.000	73.000	2" Ice	3.775	2.090	0.188	
			0.000					No Ice	2.139	1.686	0.109
			2.000					1/2" Ice	2.321	1.850	0.131
								1" Ice	2.511	2.022	0.156
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.000	0.000	0.000	73.000	2" Ice	2.912	2.387	0.217	
			0.000					No Ice	2.139	1.686	0.109
			2.000					1/2" Ice	2.321	1.850	0.131
								1" Ice	2.511	2.022	0.156
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.000	0.000	0.000	73.000	2" Ice	2.912	2.387	0.217	
			0.000					No Ice	2.139	1.686	0.109
			2.000					1/2" Ice	2.321	1.850	0.131
								1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217		

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	Page
	136354.009.01- HAYDEN STATION, CT (BU# 876326)	12 of 21
	Project	Date
		15:23:15 02/16/22
Client	Designed by	
	Crown Castle	S Shetty

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
Platform Mount [LP 304-1_HR-1] (16')	C	None			0.000	73.000	No Ice 23.625 1/2" Ice 29.374 1" Ice 34.935 2" Ice 45.661	23.625 29.374 34.935 45.661	1.771 2.268 2.866 4.368
* MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040 2" Ice 10.110	4.230 4.690 5.160 6.120	0.108 0.194 0.292 0.522
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040 2" Ice 10.110	4.230 4.690 5.160 6.120	0.108 0.194 0.292 0.522
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040 2" Ice 10.110	4.230 4.690 5.160 6.120	0.108 0.194 0.292 0.522
TA08025-B604	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
TA08025-B604	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
TA08025-B604	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
TA08025-B605	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
TA08025-B605	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
TA08025-B605	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320 2" Ice 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
RDIDC-9181-PF-48	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 2.012 1/2" Ice 2.189 1" Ice 2.373 2" Ice 2.763	1.168 1.311 1.461 1.784	0.022 0.040 0.060 0.110
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 13 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A		Weight	
			Horz Lateral	Vert			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
Commscope MC-PK8-DSH	C	None			0.000	65.000	No Ice	34.240	34.240	1.749
							1/2" Ice	62.950	62.950	2.099
							1" Ice	91.660	91.660	2.450
							2" Ice	149.080	149.080	3.151
* GPS_A	B	From Leg	3.000		0.000	57.000	No Ice	0.255	0.255	0.001
			0.000				1/2" Ice	0.320	0.320	0.005
			0.000				1" Ice	0.393	0.393	0.010
							2" Ice	0.561	0.561	0.025
4.5' x 2" horizontal mount pipe	B	From Leg	1.500		0.000	57.000	No Ice	0.860	0.010	0.012
			0.000				1/2" Ice	1.180	0.040	0.019
			0.000				1" Ice	1.460	0.090	0.029
							2" Ice	2.050	0.210	0.058
*										

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz Lateral	Vert							
				ft	°	°	ft	ft	ft ²	K		
Dragonwave A-ANT-11G-4-C	A	Paraboloid w/Shroud (HP)	From Leg	4.000		-10.000		83.000	4.222	No Ice	14.000	0.121
				0.000						1/2" Ice	14.558	0.150
				3.000						1" Ice	15.116	0.179
										2" Ice	16.232	0.237
Andrew VHLP2-180	B	Paraboloid w/Shroud (HP)	From Leg	4.000		-40.000		83.000	2.000	No Ice	3.142	0.025
				0.000						1/2" Ice	3.409	0.042
				3.000						1" Ice	3.676	0.060
										2" Ice	4.211	0.095
Dragonwave A-ANT-11G-4-C	C	Paraboloid w/Shroud (HP)	From Leg	4.000		20.000		83.000	4.222	No Ice	14.000	0.121
				0.000						1/2" Ice	14.558	0.150
				3.000						1" Ice	15.116	0.179
										2" Ice	16.232	0.237
*												

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

<p>tnxTower</p> <p>B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)</p>	<p>Page 14 of 21</p>
	<p>Project</p>	<p>Date 15:23:15 02/16/22</p>
	<p>Client Crown Castle</p>	<p>Designed by S Shetty</p>

<i>Comb. No.</i>	<i>Description</i>
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
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

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Axial K</i>	<i>Major Axis Moment kip-ft</i>	<i>Minor Axis Moment kip-ft</i>
L1	96 - 85	Pole	Max Tension	36	0.000	-0.000	-0.000
			Max. Compression	26	-14.561	0.550	0.351
			Max. Mx	20	-6.324	65.536	0.335
			Max. My	2	-6.327	0.353	65.241
			Max. Vy	8	8.836	-64.733	0.241
			Max. Vx	14	8.805	0.533	-64.893
L2	85 - 65	Pole	Max. Torque	24			1.160
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.152	1.739	0.749
			Max. Mx	8	-18.528	-352.356	-0.001
			Max. My	14	-18.528	2.686	-352.188

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 15 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	65 - 32.5	Pole	Max. Vy	8	17.446	-352.356	-0.001
			Max. Vx	14	17.415	2.686	-352.188
			Max. Torque	24			1.160
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-56.770	3.874	0.728
			Max. Mx	8	-30.753	-1053.551	-1.062
			Max. My	14	-30.753	5.974	-1053.739
			Max. Vy	8	22.975	-1053.551	-1.062
L4	32.5 - 0	Pole	Max. Vx	14	22.955	5.974	-1053.739
			Max. Torque	24			1.053
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-71.642	5.992	0.346
			Max. Mx	8	-42.388	-1834.527	-2.353
			Max. My	14	-42.388	9.156	-1835.113
			Max. Vy	8	25.017	-1834.527	-2.353
			Max. Vx	14	24.996	9.156	-1835.113
		Max. Torque	24			1.026	

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	71.642	7.996	0.020
	Max. H _x	20	42.396	24.902	0.090
	Max. H _z	2	42.396	-0.070	24.814
	Max. M _x	2	1820.316	-0.070	24.814
	Max. M _z	8	1834.527	-25.002	-0.030
	Max. Torsion	24	1.026	12.544	21.446
	Min. Vert	25	31.797	12.544	21.446
	Min. H _x	8	42.396	-25.002	-0.030
	Min. H _z	14	42.396	0.073	-24.981
	Min. M _x	14	-1835.113	0.073	-24.981
	Min. M _z	20	-1830.545	24.902	0.090
	Min. Torsion	12	-0.712	-12.643	-21.567

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	35.330	0.000	0.000	0.095	1.951	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	42.396	0.070	-24.814	-1820.316	-4.148	-0.734
0.9 Dead+1.0 Wind 0 deg - No Ice	31.797	0.070	-24.814	-1813.854	-4.724	-0.732
1.2 Dead+1.0 Wind 30 deg - No Ice	42.396	12.610	-21.496	-1577.146	-925.927	0.379
0.9 Dead+1.0 Wind 30 deg - No Ice	31.797	12.610	-21.496	-1571.550	-923.215	0.382
1.2 Dead+1.0 Wind 60 deg - No Ice	42.396	22.027	-12.727	-927.816	-1602.996	-0.312
0.9 Dead+1.0 Wind 60 deg - No Ice	31.797	22.027	-12.727	-924.541	-1597.886	-0.309

<p>tnxTower</p> <p>B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)</p>	<p>Page 16 of 21</p>
	<p>Project</p>	<p>Date 15:23:15 02/16/22</p>
	<p>Client Crown Castle</p>	<p>Designed by S Shetty</p>

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
Ice						
1.2 Dead+1.0 Wind 90 deg - No Ice	42.396	25.002	0.030	2.353	-1834.527	-0.376
0.9 Dead+1.0 Wind 90 deg - No Ice	31.797	25.002	0.030	2.318	-1828.577	-0.374
1.2 Dead+1.0 Wind 120 deg - No Ice	42.396	21.700	12.551	922.485	-1592.363	0.435
0.9 Dead+1.0 Wind 120 deg - No Ice	31.797	21.700	12.551	919.168	-1587.276	0.436
1.2 Dead+1.0 Wind 150 deg - No Ice	42.396	12.643	21.567	1583.221	-928.113	0.712
0.9 Dead+1.0 Wind 150 deg - No Ice	31.797	12.643	21.567	1577.550	-925.394	0.711
1.2 Dead+1.0 Wind 180 deg - No Ice	42.396	-0.073	24.981	1835.113	9.156	0.621
0.9 Dead+1.0 Wind 180 deg - No Ice	31.797	-0.073	24.981	1828.541	8.529	0.619
1.2 Dead+1.0 Wind 210 deg - No Ice	42.396	-12.515	21.614	1587.742	922.387	-0.182
0.9 Dead+1.0 Wind 210 deg - No Ice	31.797	-12.515	21.614	1582.053	918.503	-0.185
1.2 Dead+1.0 Wind 240 deg - No Ice	42.396	-21.860	12.764	931.253	1593.223	0.193
0.9 Dead+1.0 Wind 240 deg - No Ice	31.797	-21.860	12.764	927.912	1586.964	0.190
1.2 Dead+1.0 Wind 270 deg - No Ice	42.396	-24.902	-0.090	-7.312	1830.545	0.562
0.9 Dead+1.0 Wind 270 deg - No Ice	31.797	-24.902	-0.090	-7.312	1823.425	0.560
1.2 Dead+1.0 Wind 300 deg - No Ice	42.396	-21.578	-12.414	-910.374	1586.490	-0.290
0.9 Dead+1.0 Wind 300 deg - No Ice	31.797	-21.578	-12.414	-907.156	1580.240	-0.291
1.2 Dead+1.0 Wind 330 deg - No Ice	42.396	-12.544	-21.446	-1572.362	924.247	-1.026
0.9 Dead+1.0 Wind 330 deg - No Ice	31.797	-12.544	-21.446	-1566.785	920.357	-1.026
1.2 Dead+1.0 Ice+1.0 Temp	71.642	0.000	0.000	-0.346	5.992	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	71.642	0.013	-7.974	-565.140	4.848	-0.132
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	71.642	4.030	-6.906	-489.545	-280.096	0.094
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	71.642	6.942	-4.007	-284.669	-486.167	-0.057
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	71.642	8.016	0.008	0.178	-562.260	-0.079
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	71.642	6.953	4.018	284.574	-487.007	0.083
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	71.642	4.039	6.923	490.118	-280.690	0.133
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	71.642	-0.014	8.009	567.434	7.536	0.110
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	71.642	-4.011	6.931	490.976	290.768	-0.054
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	71.642	-6.909	4.015	284.611	495.544	0.030
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	71.642	-7.996	-0.020	-2.002	572.849	0.115
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	71.642	-6.929	-3.989	-282.837	497.191	-0.055
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	71.642	-4.019	-6.897	-488.619	291.265	-0.201

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 17 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

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
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	35.330	0.018	-6.264	-458.587	0.337	-0.184
Dead+Wind 30 deg - Service	35.330	3.183	-5.426	-397.317	-231.911	0.097
Dead+Wind 60 deg - Service	35.330	5.560	-3.213	-233.702	-402.504	-0.078
Dead+Wind 90 deg - Service	35.330	6.311	0.008	0.656	-460.845	-0.095
Dead+Wind 120 deg - Service	35.330	5.477	3.168	232.490	-399.828	0.109
Dead+Wind 150 deg - Service	35.330	3.191	5.444	398.974	-232.460	0.178
Dead+Wind 180 deg - Service	35.330	-0.018	6.306	462.437	3.681	0.156
Dead+Wind 210 deg - Service	35.330	-3.159	5.456	400.111	233.779	-0.047
Dead+Wind 240 deg - Service	35.330	-5.518	3.222	234.695	-402.805	0.048
Dead+Wind 270 deg - Service	35.330	-6.286	-0.023	-1.773	462.603	0.142
Dead+Wind 300 deg - Service	35.330	-5.447	-3.134	-229.315	401.110	-0.073
Dead+Wind 330 deg - Service	35.330	-3.166	-5.413	-396.114	234.247	-0.258

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	0.000	-35.330	0.000	0.000	35.330	0.000	0.000%
2	0.070	-42.396	-24.814	-0.070	42.396	24.814	0.000%
3	0.070	-31.797	-24.814	-0.070	31.797	24.814	0.000%
4	12.610	-42.396	-21.496	-12.610	42.396	21.496	0.000%
5	12.610	-31.797	-21.496	-12.610	31.797	21.496	0.000%
6	22.027	-42.396	-12.727	-22.027	42.396	12.727	0.000%
7	22.027	-31.797	-12.727	-22.027	31.797	12.727	0.000%
8	25.002	-42.396	0.030	-25.002	42.396	-0.030	0.000%
9	25.002	-31.797	0.030	-25.002	31.797	-0.030	0.000%
10	21.700	-42.396	12.551	-21.700	42.396	-12.551	0.000%
11	21.700	-31.797	12.551	-21.700	31.797	-12.551	0.000%
12	12.643	-42.396	21.567	-12.643	42.396	-21.567	0.000%
13	12.643	-31.797	21.567	-12.643	31.797	-21.567	0.000%
14	-0.073	-42.396	24.981	0.073	42.396	-24.981	0.000%
15	-0.073	-31.797	24.981	0.073	31.797	-24.981	0.000%
16	-12.515	-42.396	21.614	12.515	42.396	-21.614	0.000%
17	-12.515	-31.797	21.614	12.515	31.797	-21.614	0.000%
18	-21.860	-42.396	12.764	21.860	42.396	-12.764	0.000%
19	-21.860	-31.797	12.764	21.860	31.797	-12.764	0.000%
20	-24.902	-42.396	-0.090	24.902	42.396	0.090	0.000%
21	-24.902	-31.797	-0.090	24.902	31.797	0.090	0.000%
22	-21.578	-42.396	-12.414	21.578	42.396	12.414	0.000%
23	-21.578	-31.797	-12.414	21.578	31.797	12.414	0.000%
24	-12.544	-42.396	-21.446	12.544	42.396	21.446	0.000%
25	-12.544	-31.797	-21.446	12.544	31.797	21.446	0.000%
26	0.000	-71.642	0.000	0.000	71.642	0.000	0.000%
27	0.013	-71.642	-7.974	-0.013	71.642	7.974	0.000%
28	4.030	-71.642	-6.906	-4.030	71.642	6.906	0.000%
29	6.942	-71.642	-4.007	-6.942	71.642	4.007	0.000%
30	8.016	-71.642	0.008	-8.016	71.642	-0.008	0.000%
31	6.953	-71.642	4.018	-6.953	71.642	-4.018	0.000%
32	4.039	-71.642	6.923	-4.039	71.642	-6.923	0.000%
33	-0.014	-71.642	8.009	0.014	71.642	-8.009	0.000%
34	-4.011	-71.642	6.931	4.011	71.642	-6.931	0.000%
35	-6.909	-71.642	4.015	6.909	71.642	-4.015	0.000%
36	-7.996	-71.642	-0.020	7.996	71.642	0.020	0.000%
37	-6.929	-71.642	-3.989	6.929	71.642	3.989	0.000%
38	-4.019	-71.642	-6.897	4.019	71.642	6.897	0.000%
39	0.018	-35.330	-6.264	-0.018	35.330	6.264	0.000%

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	Page
	136354.009.01- HAYDEN STATION, CT (BU# 876326)	18 of 21
	Project	Date
		15:23:15 02/16/22
Client	Crown Castle	Designed by
		S Shetty

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
40	3.183	-35.330	-5.426	-3.183	35.330	5.426	0.000%
41	5.560	-35.330	-3.213	-5.560	35.330	3.213	0.000%
42	6.311	-35.330	0.008	-6.311	35.330	-0.008	0.000%
43	5.477	-35.330	3.168	-5.477	35.330	-3.168	0.000%
44	3.191	-35.330	5.444	-3.191	35.330	-5.444	0.000%
45	-0.018	-35.330	6.306	0.018	35.330	-6.306	0.000%
46	-3.159	-35.330	5.456	3.159	35.330	-5.456	0.000%
47	-5.518	-35.330	3.222	5.518	35.330	-3.222	0.000%
48	-6.286	-35.330	-0.023	6.286	35.330	0.023	0.000%
49	-5.447	-35.330	-3.134	5.447	35.330	3.134	0.000%
50	-3.166	-35.330	-5.413	3.166	35.330	5.413	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	4	0.0000001	0.00005581
3	Yes	4	0.0000001	0.00003502
4	Yes	4	0.0000001	0.00040978
5	Yes	4	0.0000001	0.00026611
6	Yes	4	0.0000001	0.00041273
7	Yes	4	0.0000001	0.00026731
8	Yes	4	0.0000001	0.00003435
9	Yes	4	0.0000001	0.00001967
10	Yes	4	0.0000001	0.00041648
11	Yes	4	0.0000001	0.00027031
12	Yes	4	0.0000001	0.00037825
13	Yes	4	0.0000001	0.00024471
14	Yes	4	0.0000001	0.00005517
15	Yes	4	0.0000001	0.00003448
16	Yes	4	0.0000001	0.00039286
17	Yes	4	0.0000001	0.00025403
18	Yes	4	0.0000001	0.00039570
19	Yes	4	0.0000001	0.00025586
20	Yes	4	0.0000001	0.00004776
21	Yes	4	0.0000001	0.00002947
22	Yes	4	0.0000001	0.00038208
23	Yes	4	0.0000001	0.00024713
24	Yes	4	0.0000001	0.00043288
25	Yes	4	0.0000001	0.00028143
26	Yes	4	0.0000001	0.00000001
27	Yes	4	0.0000001	0.00067514
28	Yes	4	0.0000001	0.00069524
29	Yes	4	0.0000001	0.00069439
30	Yes	4	0.0000001	0.00066988
31	Yes	4	0.0000001	0.00069380
32	Yes	4	0.0000001	0.00069401
33	Yes	4	0.0000001	0.00067600
34	Yes	4	0.0000001	0.00070377
35	Yes	4	0.0000001	0.00070464
36	Yes	4	0.0000001	0.00068426
37	Yes	4	0.0000001	0.00070629
38	Yes	4	0.0000001	0.00070353
39	Yes	4	0.0000001	0.00000658
40	Yes	4	0.0000001	0.00001177

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 19 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

41	Yes	4	0.00000001	0.00001176
42	Yes	4	0.00000001	0.00000587
43	Yes	4	0.00000001	0.00001200
44	Yes	4	0.00000001	0.00001078
45	Yes	4	0.00000001	0.00000643
46	Yes	4	0.00000001	0.00001113
47	Yes	4	0.00000001	0.00001119
48	Yes	4	0.00000001	0.00000621
49	Yes	4	0.00000001	0.00001087
50	Yes	4	0.00000001	0.00001333

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96 - 85	4.044	47	0.357	0.001
L2	85 - 65	3.260	47	0.289	0.000
L3	65 - 32.5	2.092	47	0.262	0.000
L4	32.5 - 0	0.595	47	0.160	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
92.000	800 10121 w/ Mount Pipe	47	3.751	0.329	0.001	21601
86.000	Dragonwave A-ANT-11G-4-C	47	3.328	0.293	0.001	11546
83.000	840 10045	47	3.129	0.281	0.001	11131
79.000	PCS 1900MHZ 4x45W-65MHZ	47	2.880	0.272	0.000	13626
73.000	AIR 6419 B41 TMO w/ Mount Pipe	47	2.530	0.266	0.000	22255
65.000	MX08FRO665-21 w/ Mount Pipe	47	2.092	0.262	0.000	74268
57.000	GPS_A	47	1.668	0.250	0.000	32174

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96 - 85	16.066	6	1.415	0.002
L2	85 - 65	12.956	6	1.147	0.002
L3	65 - 32.5	8.316	6	1.043	0.001
L4	32.5 - 0	2.366	6	0.637	0.000

Critical Deflections and Radius of Curvature - Design Wind

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 20 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
92.000	800 10121 w/ Mount Pipe	6	14.905	1.304	0.003	5496
86.000	Dragonwave A-ANT-11G-4-C	6	13.224	1.165	0.002	2937
83.000	840 10045	6	12.435	1.118	0.002	2832
79.000	PCS 1900MHZ 4x45W-65MHZ	6	11.444	1.080	0.002	3466
73.000	AIR 6419 B41_TMO w/ Mount Pipe	6	10.056	1.057	0.002	5659
65.000	MX08FRO665-21 w/ Mount Pipe	6	8.316	1.043	0.001	18644
57.000	GPS A	6	6.628	0.993	0.001	8085

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	96 - 85 (1)	P12x3/8	11.000	0.000	0.0	14.579	-6.324	459.237	0.014
L2	85 - 65 (2)	P42x3/8	20.000	0.000	0.0	49.038	-18.526	1668.870	0.011
L3	65 - 32.5 (3)	P48x3/8	32.500	0.000	0.0	56.107	-30.747	1847.490	0.017
L4	32.5 - 0 (4)	P48x1/2	32.500	0.000	0.0	74.613	-42.388	2649.060	0.016

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	96 - 85 (1)	P12x3/8	65.583	150.794	0.435	0.000	150.794	0.000
L2	85 - 65 (2)	P42x3/8	353.386	1796.558	0.197	0.000	1796.558	0.000
L3	65 - 32.5 (3)	P48x3/8	1059.767	2321.108	0.457	0.000	2321.108	0.000
L4	32.5 - 0 (4)	P48x1/2	1852.142	3173.467	0.584	0.000	3173.467	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio V _u / φV _n	Actual T _u kip-ft	φT _n kip-ft	Ratio T _u / φT _n
L1	96 - 85 (1)	P12x3/8	8.713	137.771	0.063	0.476	149.893	0.003
L2	85 - 65 (2)	P42x3/8	17.499	536.589	0.033	0.621	1509.600	0.000
L3	65 - 32.5 (3)	P48x3/8	23.237	555.429	0.042	0.312	1787.842	0.000
L4	32.5 - 0 (4)	P48x1/2	25.454	846.109	0.030	0.312	3397.483	0.000

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.009.01- HAYDEN STATION, CT (BU# 876326)	Page 21 of 21
	Project	Date 15:23:15 02/16/22
	Client Crown Castle	Designed by S Shetty

Pole Interaction Design Data

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
L1	96 - 85 (1)	0.014	0.435	0.000	0.063	0.003	0.453	1.050	4.8.2 ✓
L2	85 - 65 (2)	0.011	0.197	0.000	0.033	0.000	0.209	1.050	4.8.2 ✓
L3	65 - 32.5 (3)	0.017	0.457	0.000	0.042	0.000	0.475	1.050	4.8.2 ✓
L4	32.5 - 0 (4)	0.016	0.584	0.000	0.030	0.000	0.601	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	96 - 85	Pole	P12x3/8	1	-6.324	482.199	43.2	Pass	
L2	85 - 65	Pole	P42x3/8	2	-18.526	1752.313	19.9	Pass	
L3	65 - 32.5	Pole	P48x3/8	3	-30.747	1939.864	45.2	Pass	
L4	32.5 - 0	Pole	P48x1/2	4	-42.388	2781.513	57.2	Pass	
							Summary		
							Pole (L4)	57.2	Pass
							RATING =	57.2	Pass

APPENDIX B
BASE LEVEL DRAWING

(OTHER CONSIDERED EQUIPMENT—IN (3) 2" CONDUITS)
(2) 3/8" TO 92 FT LEVEL
(4) 3/4" TO 92 FT LEVEL
(2) 7/8" TO 92 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 92 FT LEVEL

(OTHER CONSIDERED EQUIPMENT—IN CONDUITS)
(6) 5/16" TO 83 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 1/2" TO 83 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 83 FT LEVEL
(1) 5/8" TO 83 FT LEVEL
(3) 1 1/4" TO 83 FT LEVEL

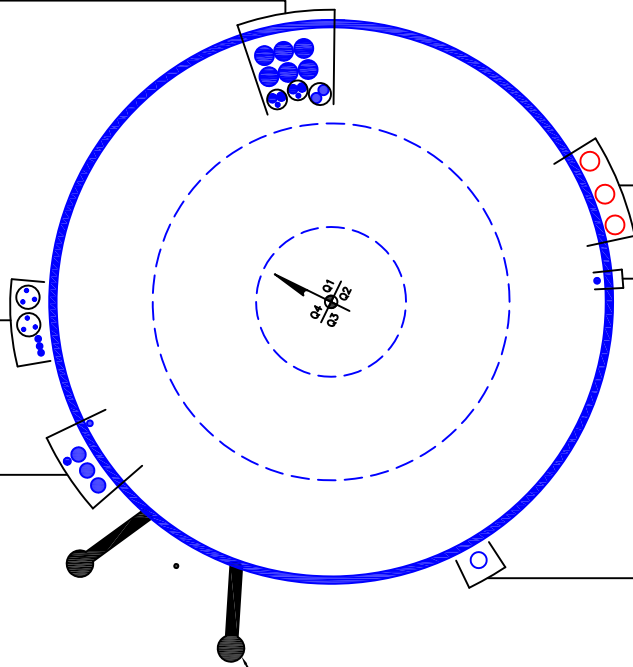
(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-5/8" TO 73 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 57 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1-3/8" TO 65 FT LEVEL

CLIMBING PEGS
W/SAFETY CLIMB

BUSINESS UNIT: 876326



APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Flange Plate Connection

Elevation = 85 ft.



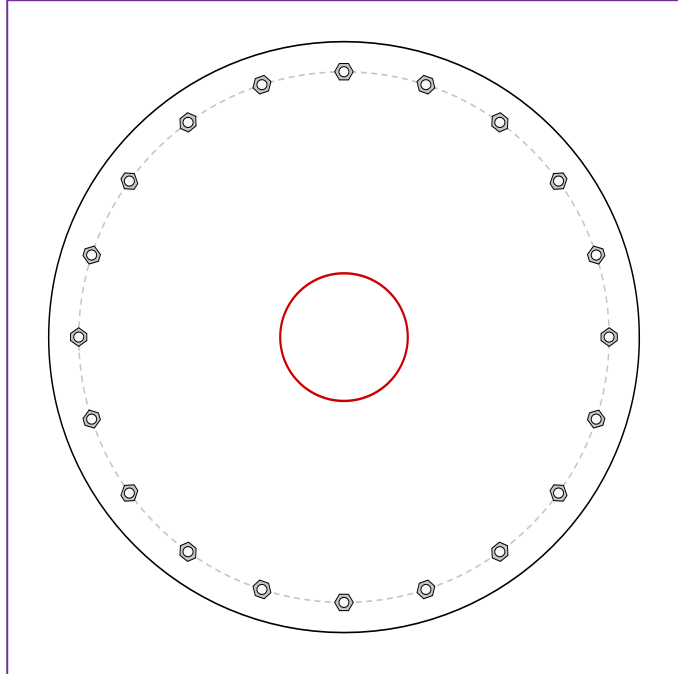
BU #	876326
Site Name	HAYDEN STATION, CT
Order #	603528 Rev# 0

TIA-222 Revision	H
------------------	---

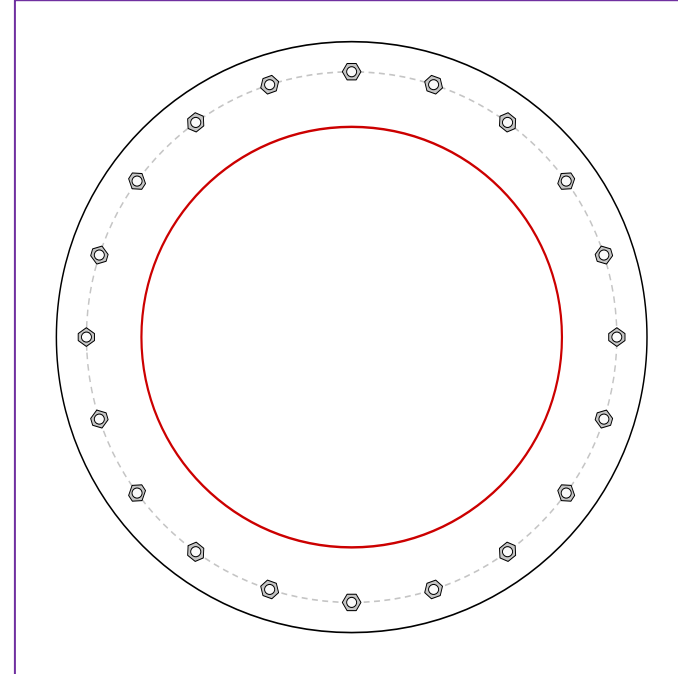
Applied Loads	
Moment (kip-ft)	65.58
Axial Force (kips)	6.32
Shear Force (kips)	8.71

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 53" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

12.75" x 0.375" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Plate Data

59" OD x 1" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	2.65
Allowable (kips)	54.54
Stress Rating:	4.6% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Flange Plate Connection

Elevation = 65 ft.



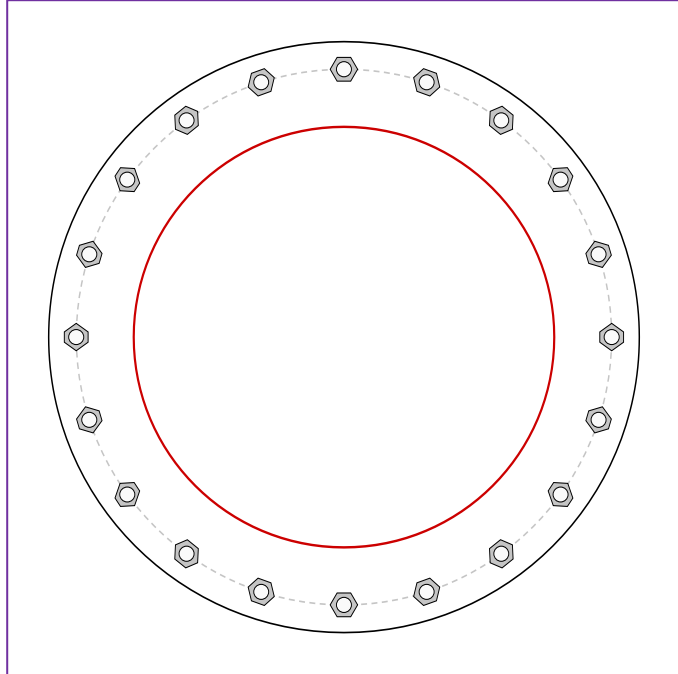
BU #	876326
Site Name	HAYDEN STATION, CT
Order #	603528 Rev# 0

Applied Loads	
Moment (kip-ft)	353.47
Axial Force (kips)	21.75
Shear Force (kips)	20.11

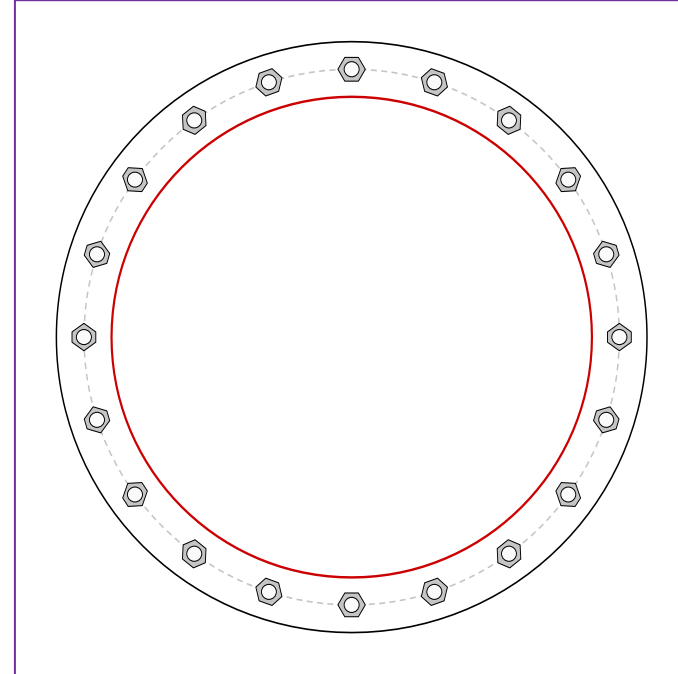
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1-1/2" ϕ bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 53.5" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	14.76
Allowable (kips)	126.89
Stress Rating:	11.1% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Flange Plate Connection

Elevation = 32.5 ft.



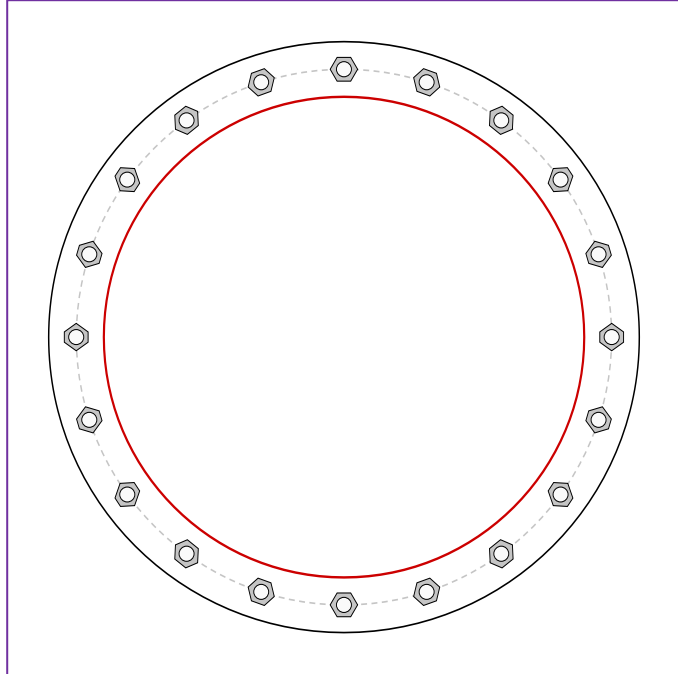
BU #	876326
Site Name	HAYDEN STATION, CT
Order #	603528 Rev# 0

Applied Loads	
Moment (kip-ft)	1059.77
Axial Force (kips)	30.75
Shear Force (kips)	23.24

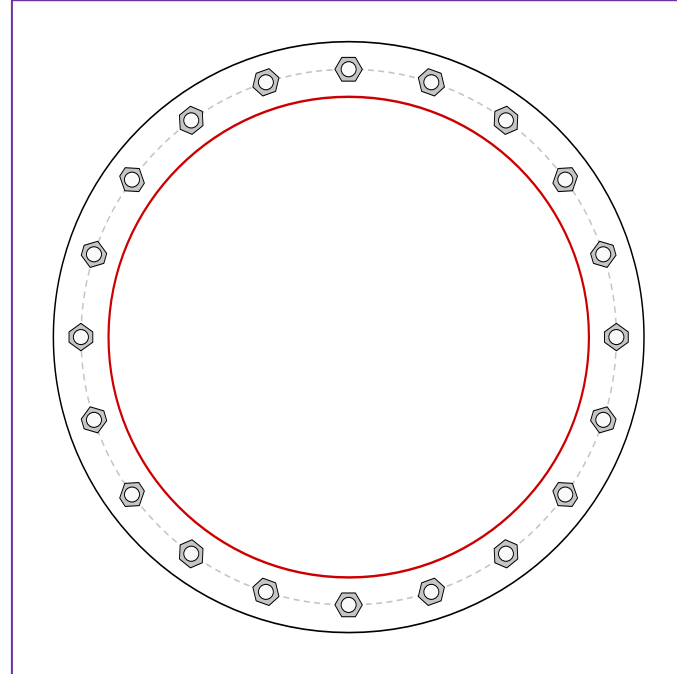
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1-1/2" ϕ bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 53.5" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

48" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	45.99
Allowable (kips)	126.89
Stress Rating:	34.5% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Base Plate Connection

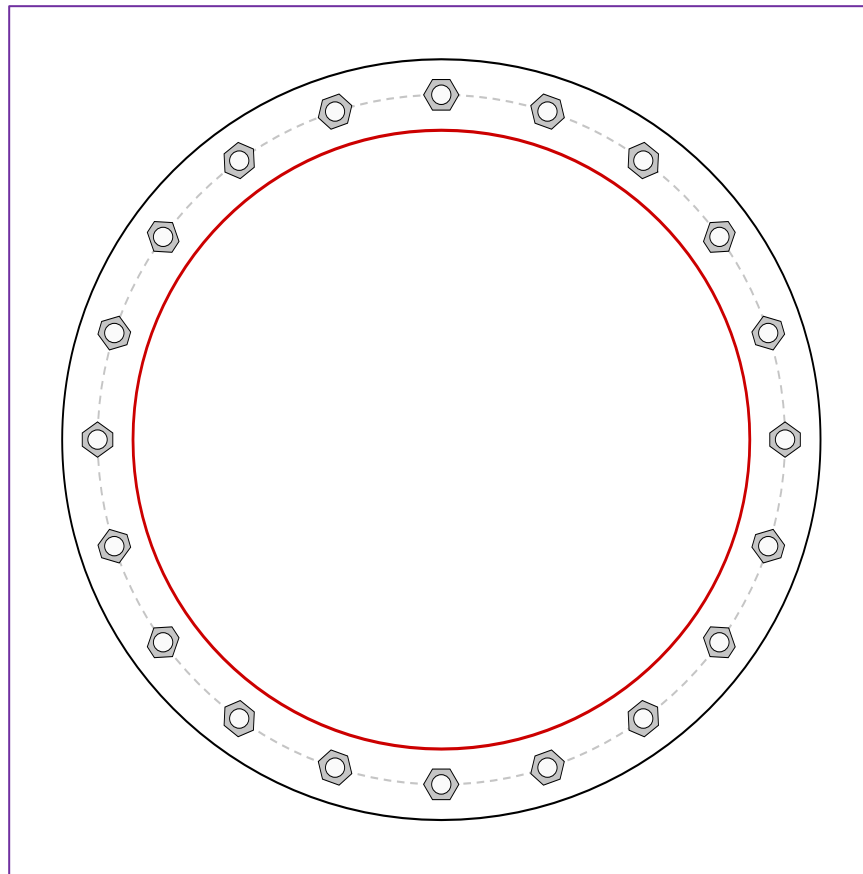


Site Info	
BU #	876326
Site Name	HAYDEN STATION, CT
Order #	603528 Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	1852.14
Axial Force (kips)	42.39
Shear Force (kips)	25.45

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(20) 1-1/2" ϕ bolts (A354-BC N; $F_y=109$ ksi, $F_u=125$ ksi) on 53.5" BC
Base Plate Data
59" OD x 2" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)
Stiffener Data
N/A
Pole Data
48" x 0.5" round pole (A53-B-42; $F_y=42$ ksi, $F_u=63$ ksi)

Anchor Rod Summary			<i>(units of kips, kip-in)</i>
$P_{u_t} = 80.94$	$\phi P_{n_t} = 132.19$	Stress Rating	
$V_u = 1.27$	$\phi V_n = 82.83$	58.3%	
$M_u = n/a$	$\phi M_n = n/a$	Pass	
Base Plate Summary			
Max Stress (ksi):	-		
Allowable Stress (ksi):	-		
Stress Rating:	Rohn OK		

Drilled Pier Foundation

BU # :	876326
Site Name:	HAYDEN STATION,CT
Order Number:	603528 Rev#0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	1852	
Axial Force (kips)	42	
Shear Force (kips)	25	

Material Properties			Rebar 2, Fy Override (ksi)
Concrete Strength, f'c:	3	ksi	
Rebar Strength, Fy:	60	ksi	
Tie Yield Strength, Fyt:	60	ksi	

Pier Design Data		
Depth	30	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 30' below grade</i>		
Pier Diameter	7	ft
Rebar Quantity	24	
Rebar Size	10	
Rebar Cage Diameter	72	in
Tie Size	5	
Tie Spacing	12	in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	8.56	-
Soil Safety Factor	8.58	-
Max Moment (kip-ft)	2017.34	-
Rating*	14.8%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	647.02	-
End Bearing (kips)	173.18	-
Weight of Concrete (kips)	211.28	-
Total Capacity (kips)	820.20	-
Axial (kips)	253.28	-
Rating*	29.4%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	8.46	-
Critical Moment (kip-ft)	2017.31	-
Critical Moment Capacity	4835.59	-
Rating*	39.7%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	22.46	-
Critical Shear (kip)	198.36	-
Critical Shear Capacity	621.33	-
Rating*	30.4%	-

Structural Foundation Rating*	39.7%
Soil Interaction Rating*	29.4%

*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 type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile			
Groundwater Depth	31	# of Layers	3

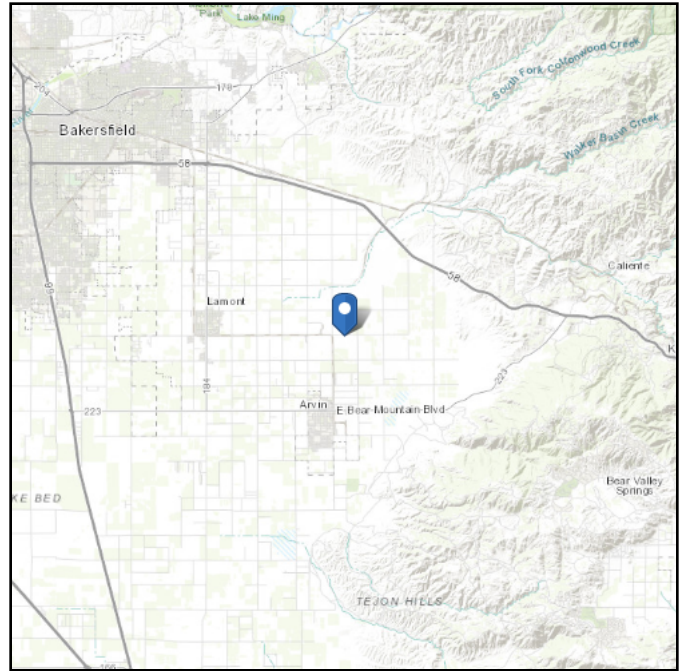
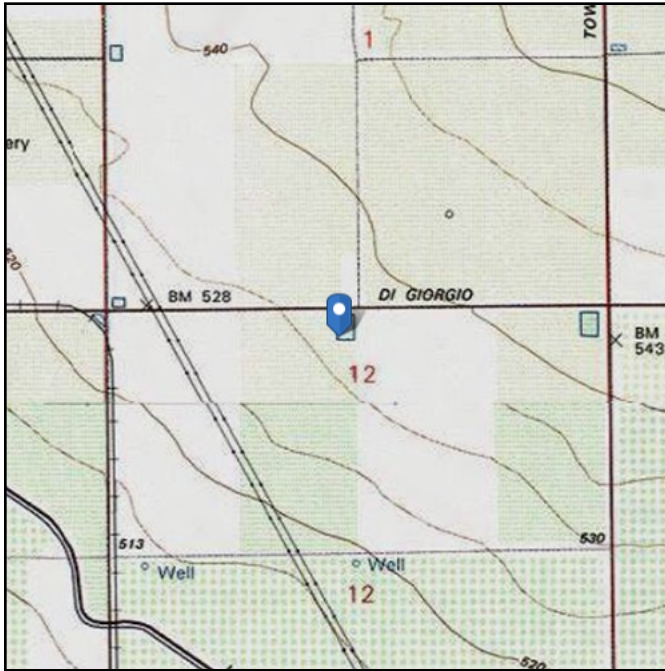
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	120	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	20	16.5	120	150	0	32	0.878	0.878				9	Cohesionless
3	20	30	10	120	150	0	32	2.475	2.475			6	25	Cohesionless

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: 141.24 ft (NAVD 88)
Latitude: 41.897833
Longitude: -72.644083



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	83 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: Mon Feb 14 2022

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).

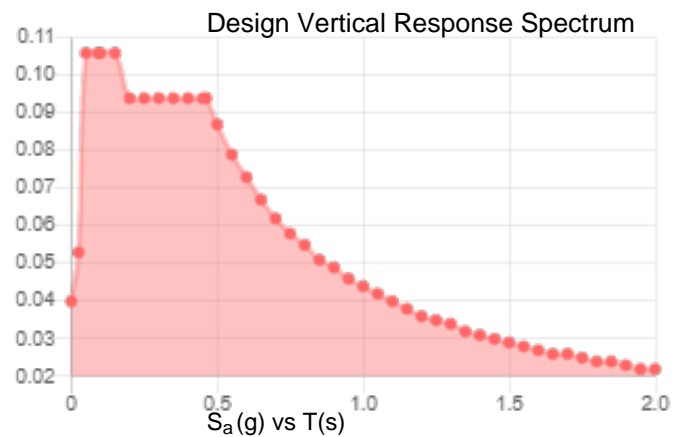
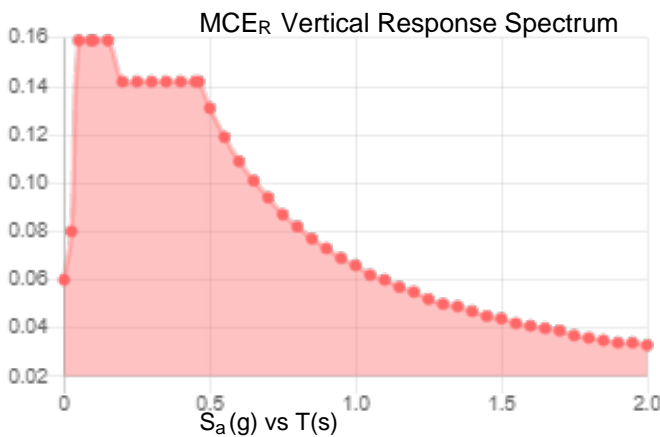
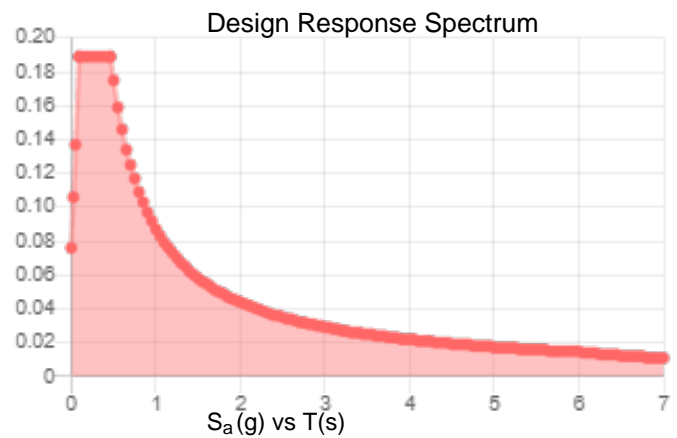
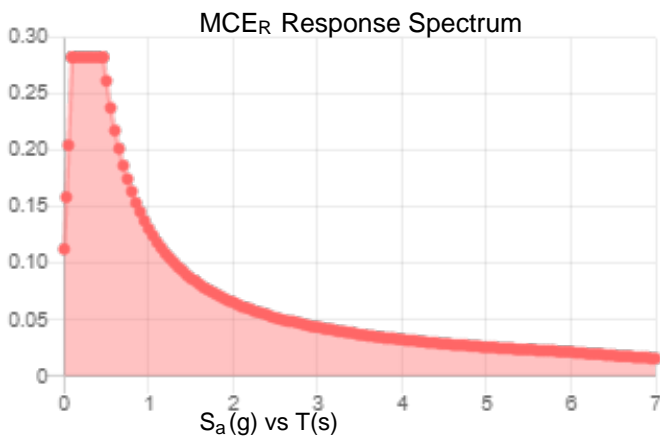
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.177	S_{D1} :	0.087
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.094
F_v :	2.4	PGA _M :	0.15
S_{MS} :	0.283	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.189	C_v :	0.7

Seismic Design Category B



Data Accessed: Mon Feb 14 2022

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: Mon Feb 14 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 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

February 10, 2022



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

Subject: Mount Analysis Report – Conditional Passing

Carrier Designation: T-Mobile Equipment Change-Out
Carrier Site Number: CT11280A
Carrier Site Name: Windsor Locks/Airport

Crown Castle Designation: BU Number: 876326
Site Name: Hayden Station
JDE Job Number: 704585
Order Number: 603528, Rev. 0

Engineering Firm Designation: B+T Group Report Designation: 136354.008.01

Site Data: 440 Hayden Station Road, Windsor, CT, Hartford County, 06095
Latitude 41° 53' 52.20" Longitude -72° 38' 38.70"

Structure Information: Tower Height & Type: 96 ft. Monopole
Mount Elevation: 73 ft.
Mount Type: 16 ft. Platform Mount

B+T Group is pleased to submit this “Mount Analysis – Conditional Passing Report” to determine the structural integrity of T-Mobile’s antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned 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.

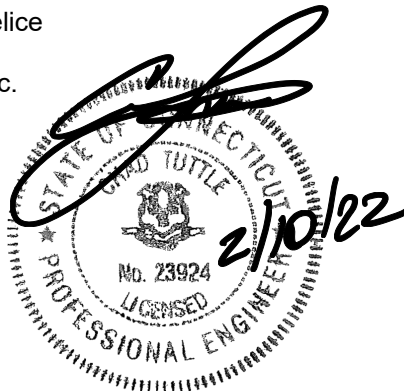
The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level to be:

Platform Mount **Sufficient**
*See Section 4.1 of this report for structural modifications required in order for the results to be valid.

"This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria."

Mount structural analysis prepared by: Anne Delice

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



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Documents Provided

3) ANALYSIS PROCEDURE

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

1) INTRODUCTION

This is an existing 3 - Sector 16' Platform Mount, mapped & analyzed by B+T Group.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	116 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 :	0.177
Seismic S ₁ :	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
73	75	3	Ericsson	VV-65A-R1_TMO	16' Platform Mount
		3	RFS/Celwave	AIR 6419 B41_TMO	
		3	RFS/Celwave	APXVAALL24_43-U-NA20_TMO	
		3	Commscope	RADIO 4460 B2/B25 B66_TMO	
		3	Ericsson	Radio 4480_TMOV2	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 02/03/2022	Crown Castle
RFDS		Date: 01/21/2022	
Mount Mapping	B+T Group	Date: 06/25/2019	On File
Previous MA		Date: 07/13/2021	

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).

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 (Platform Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1	Main Horizontals	73	26	29.0	Pass
	Support Tubes	73	41	55.2	Pass
	Support Angles	73	36	19.9	Pass
	Mount Pipes	73	78	66.5	Pass
	Connection Plates	73	7	69.5	Pass
	Support Rails	73	66	43.4	Pass
	Connection Angles	73	73	40.5	Pass
2	Connection Bolts	73	-	56.4	Pass

Structure Rating with Recommendations (max from all components) =	69.5%
--	--------------

Notes:

- 1) Capacities listed are based on recommendations listed in Sec.4.1 being installed
- 2) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 3) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

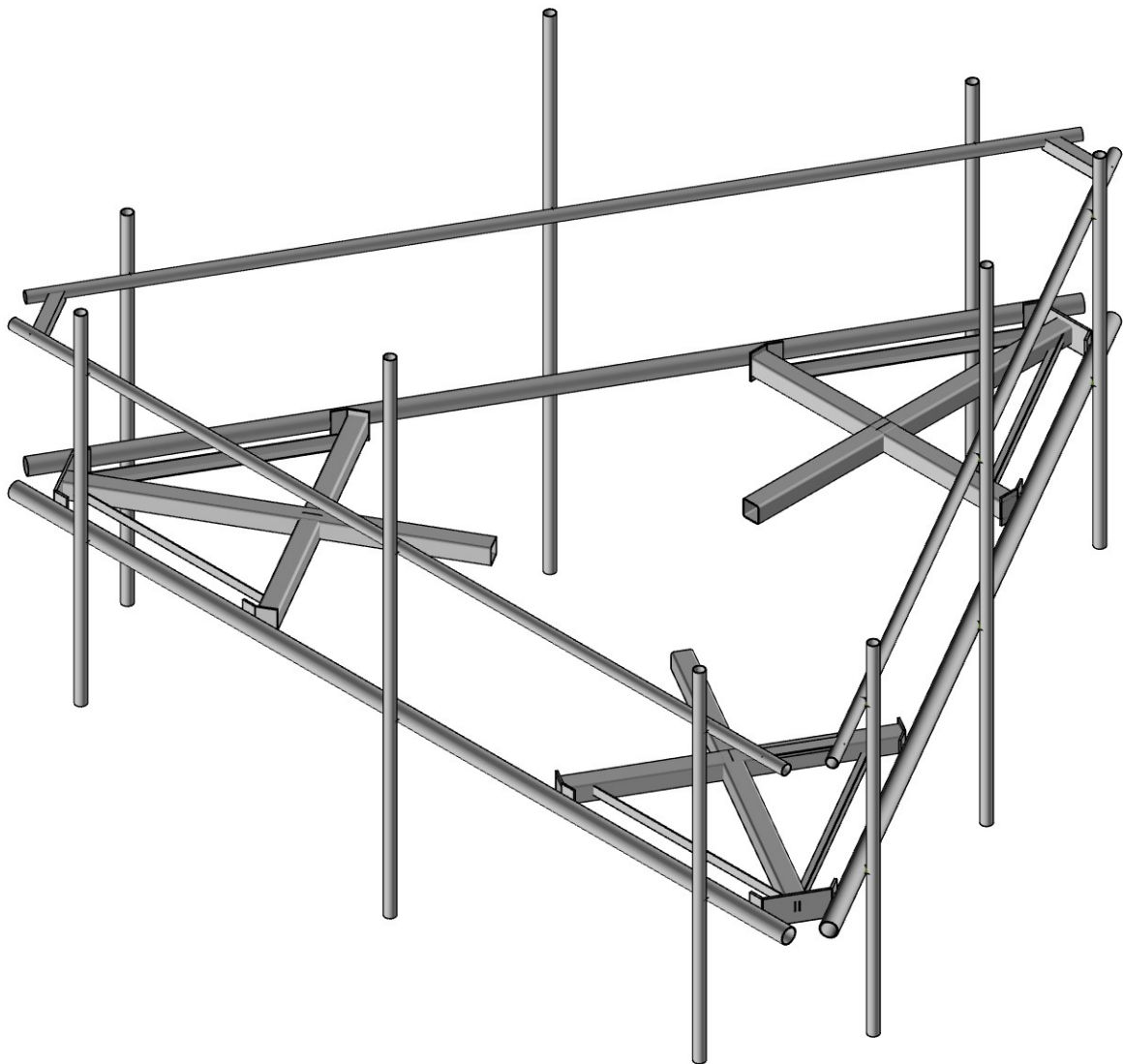
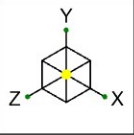
4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the loading modification listed below must be completed.

1. Install Pipe 2" Std. x 16'-0" long support rail pipe connected with SitePro1 #X-AHCP.

No modifications are required at this time provided that the above-listed changes are completed.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group

APK

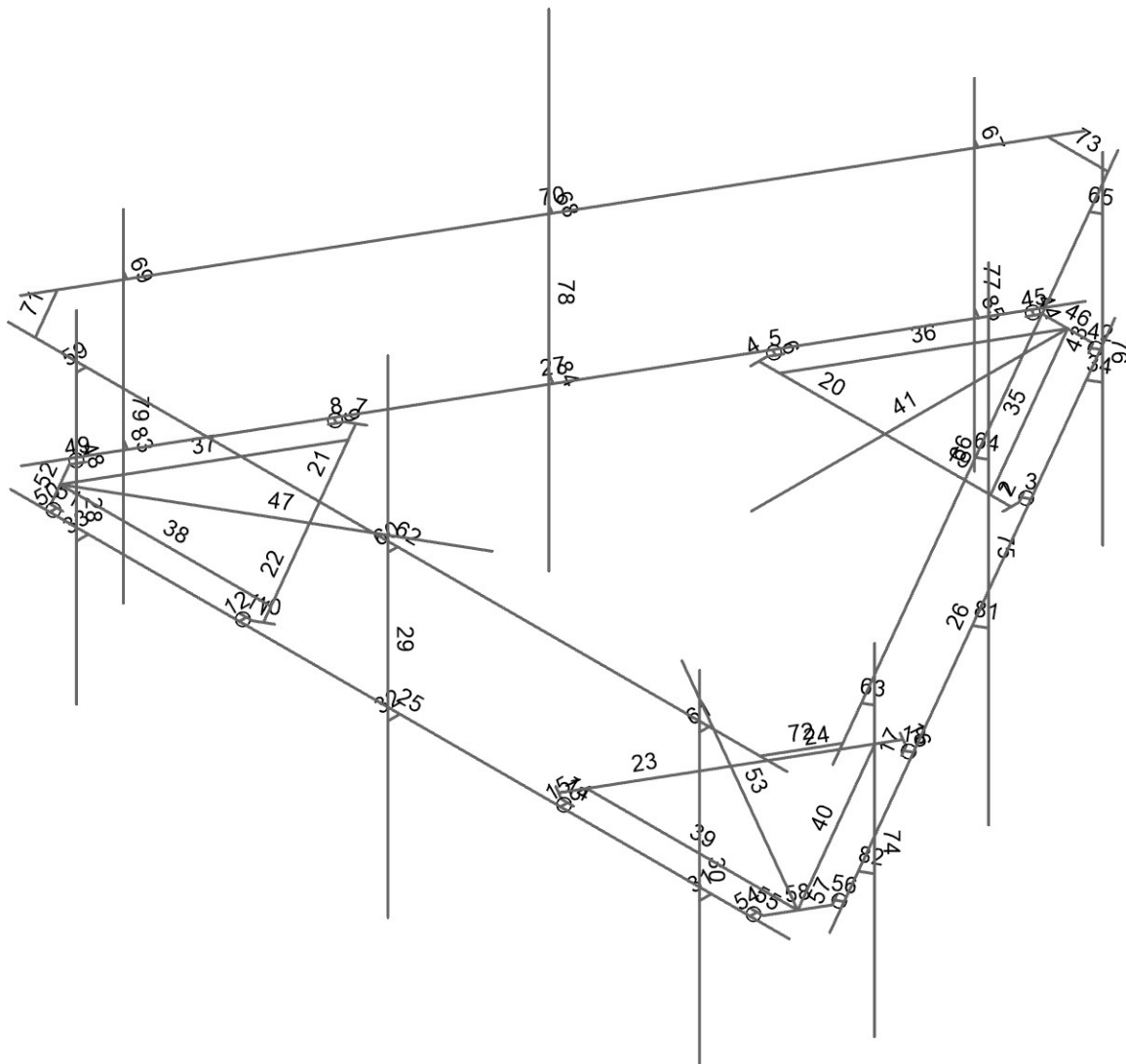
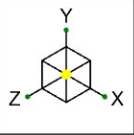
136354.008.01

876326 - Hayden Station

SK-1

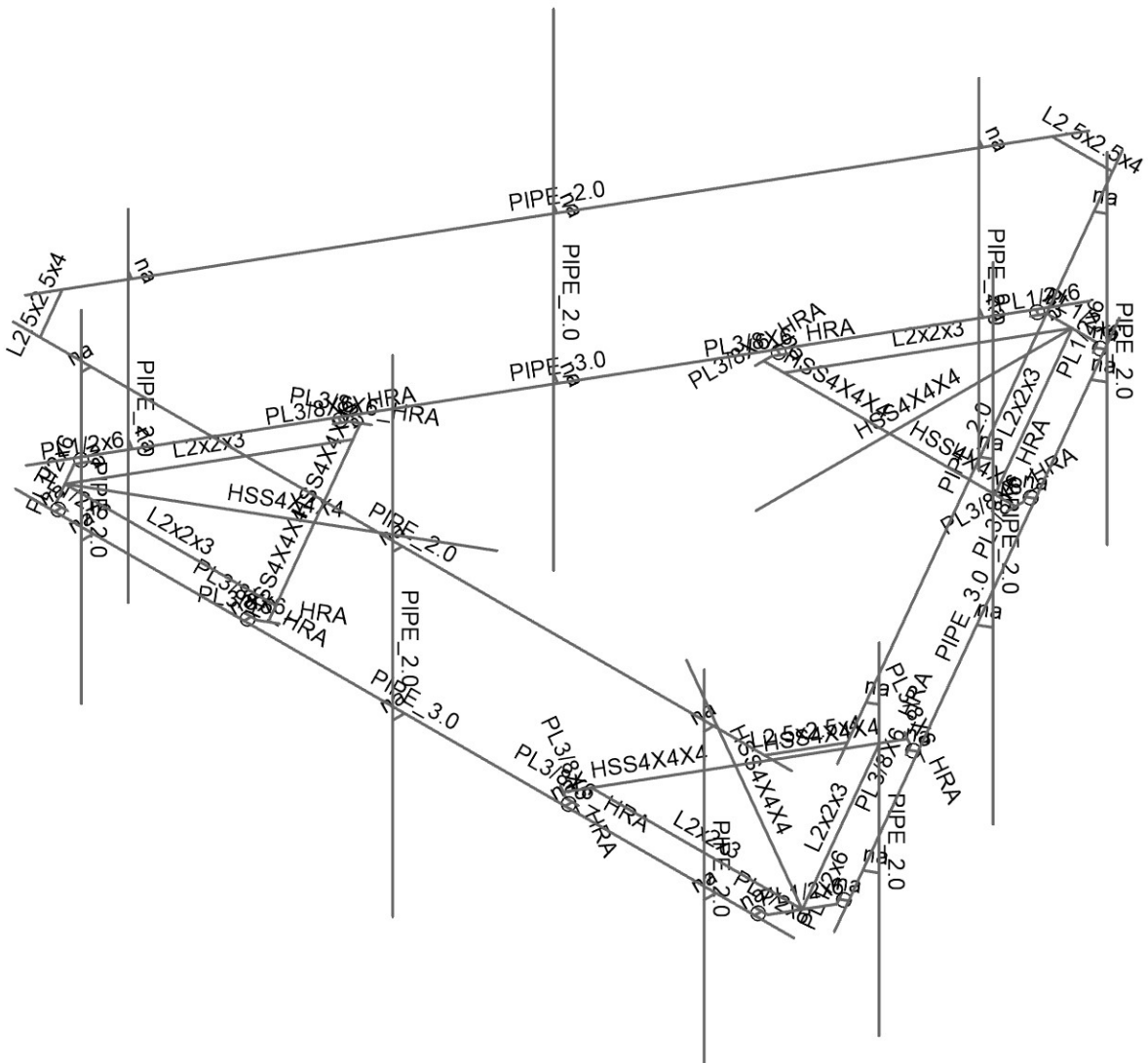
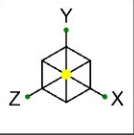
Feb 09, 2022

136354_008_01_Hayden Station_...



Envelope Only Solution

B+T Group	876326 - Hayden Station	SK-2
APK		Feb 09, 2022
136354.008.01		136354_008_01_Hayden Station_...

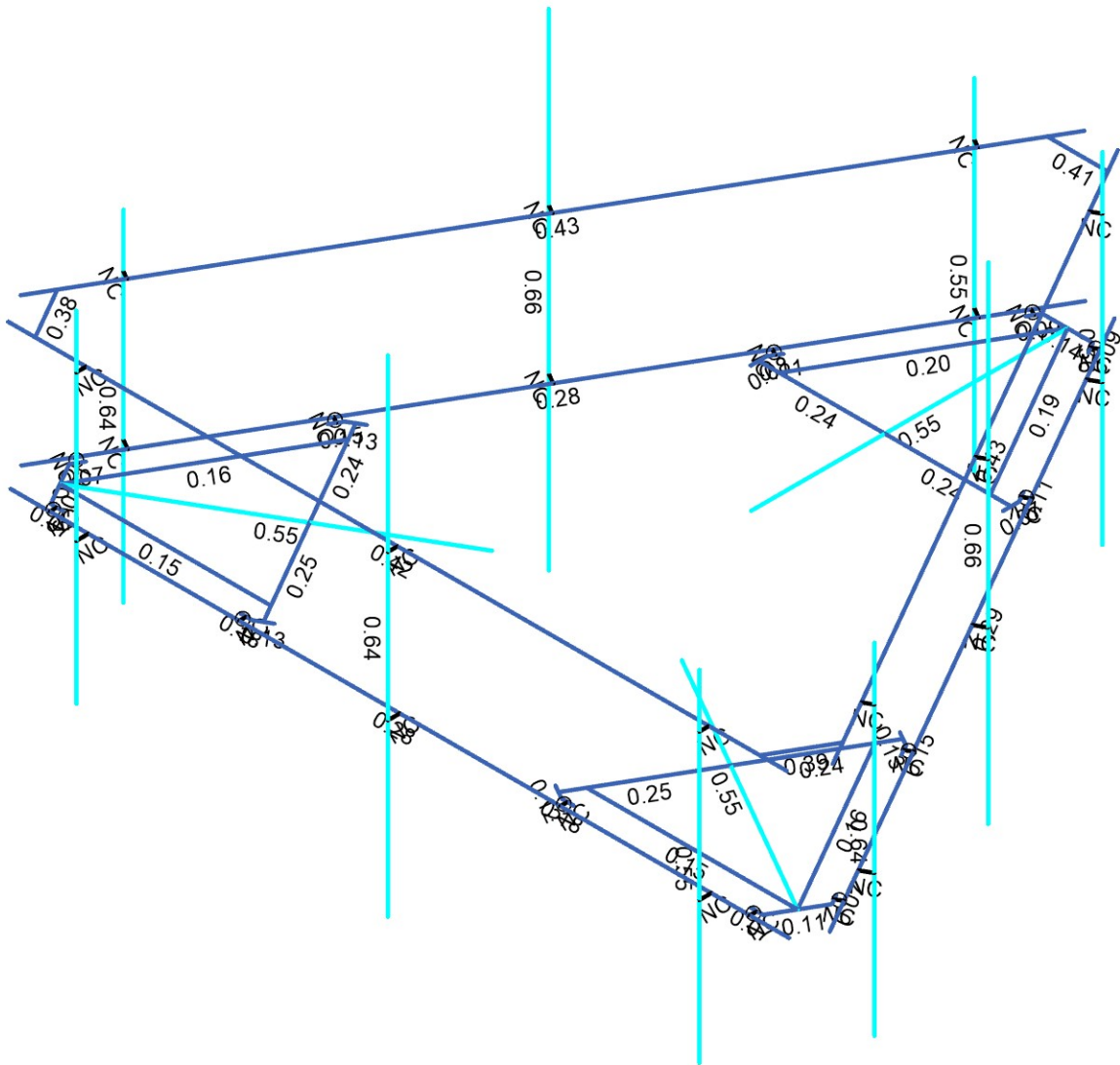
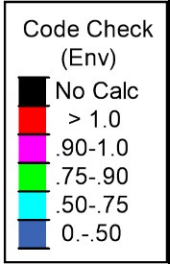


Envelope Only Solution

B+T Group
 APK
 136354.008.01

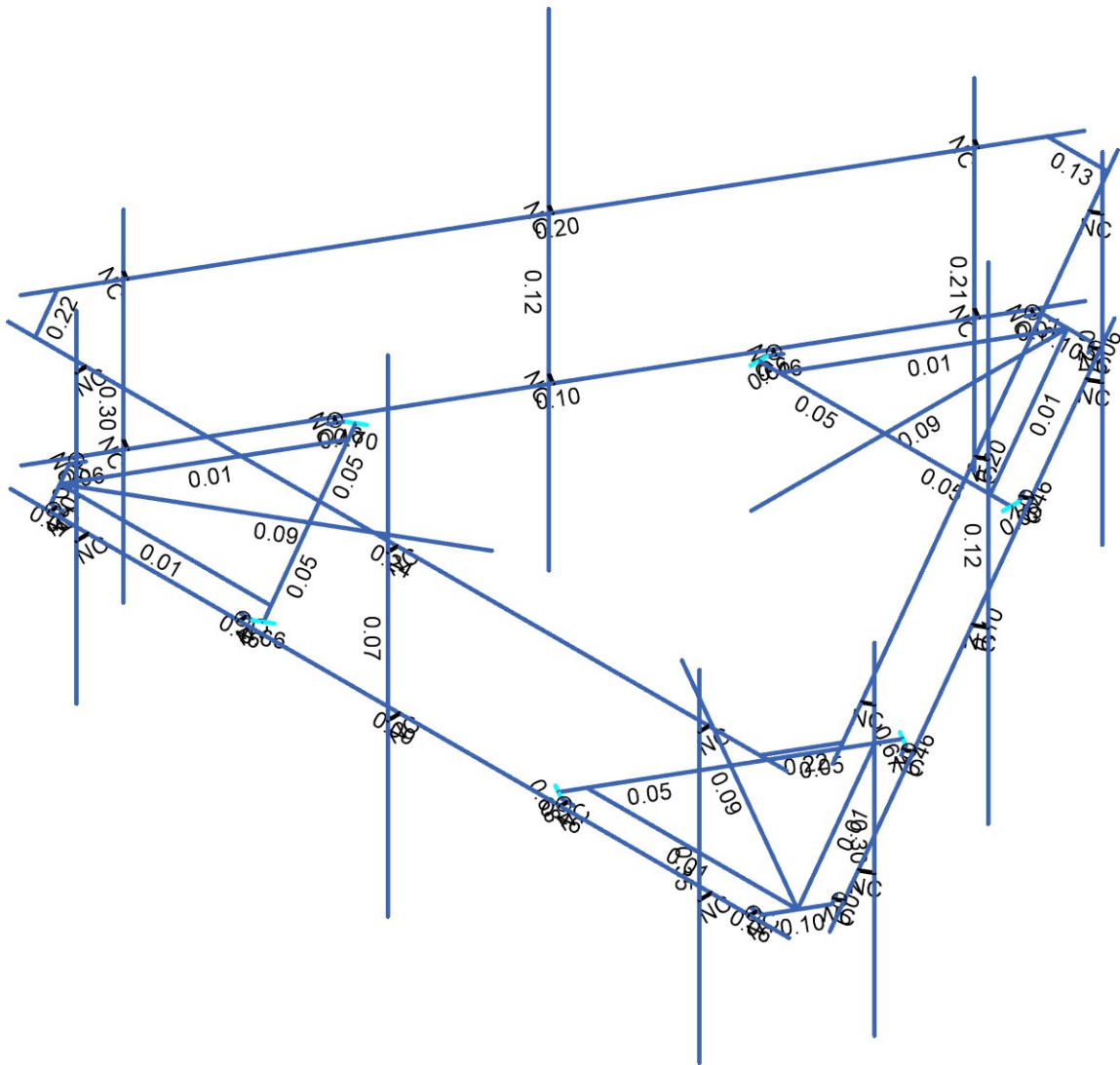
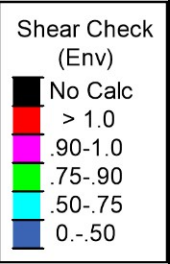
876326 - Hayden Station

SK-3
 Feb 09, 2022
 136354_008_01_Hayden Station_...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	876326 - Hayden Station	SK-4
APK		Feb 09, 2022
136354.008.01		136354_008_01_Hayden Station_...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	876326 - Hayden Station	SK-5
APK		Feb 09, 2022
136354.008.01		136354_008_01_Hayden Station_...

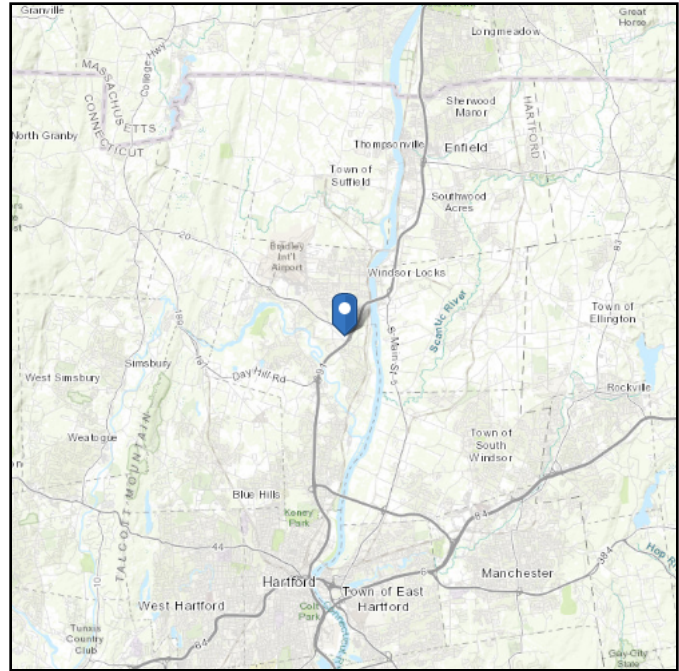
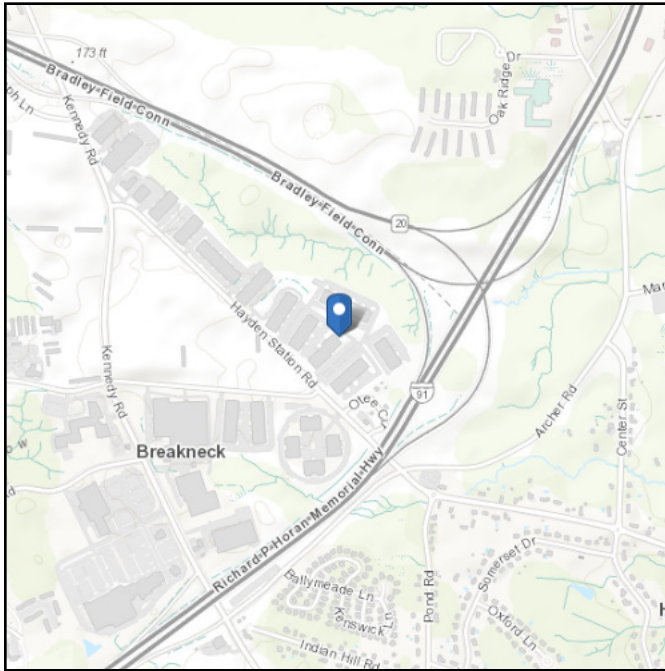
APPENDIX B
SOFTWARE INPUT CALCULATIONS

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: 141.24 ft (NAVD 88)
Latitude: 41.897833
Longitude: -72.644083



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	83 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: Tue Feb 08 2022

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).

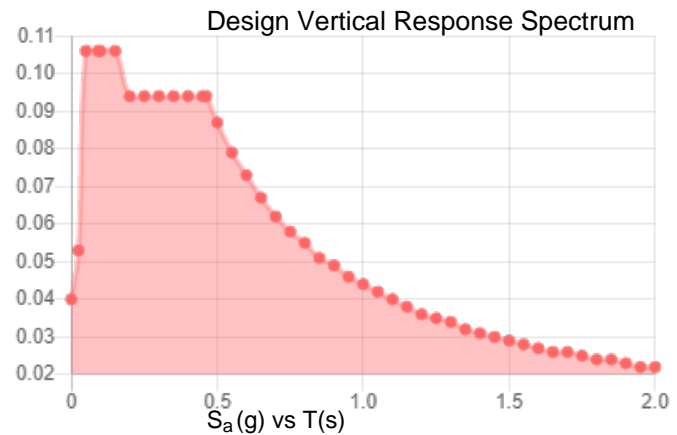
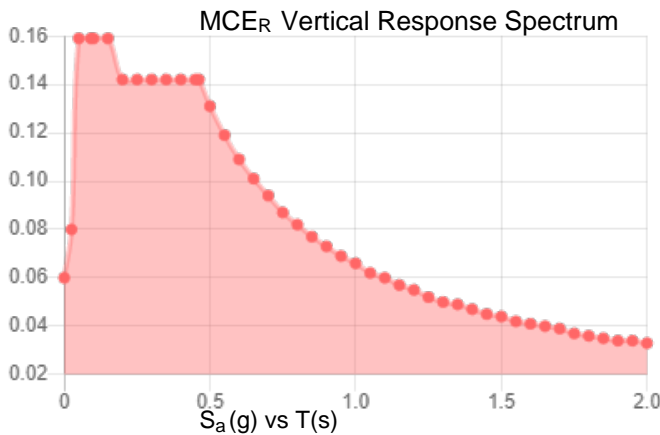
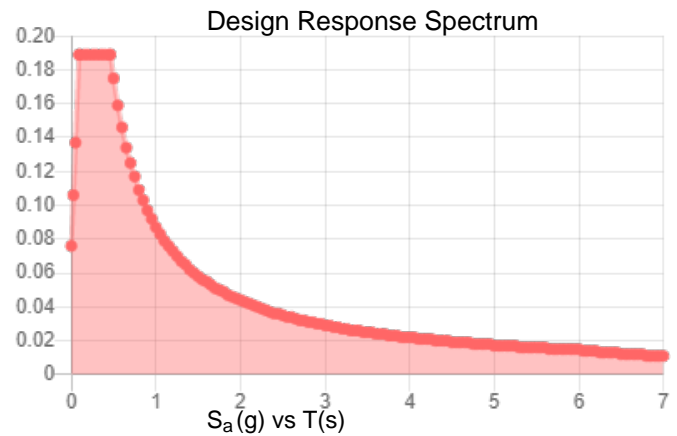
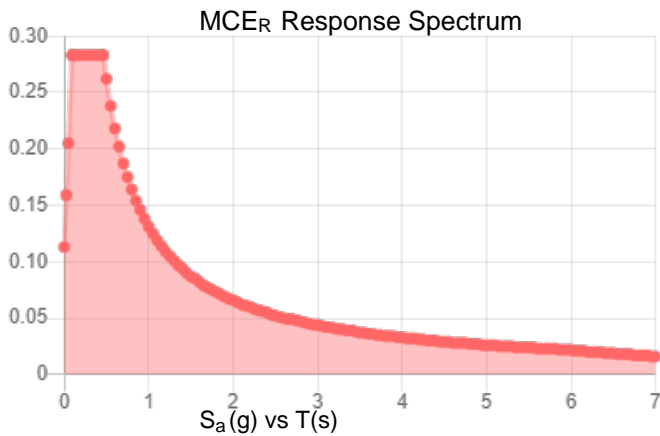
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_S :	0.177	S_{D1} :	0.087
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.094
F_v :	2.4	PGA _M :	0.15
S_{MS} :	0.283	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.189	C_v :	0.7

Seismic Design Category B



Data Accessed: Tue Feb 08 2022

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: Tue Feb 08 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 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

PROJECT	136354.008.01 - Hayden Stat		KSC
SUBJECT	Platform Mount Analysis		
DATE	02-09-22	PAGE	OF



Tower Type	:	Monopole	
Ground Elevation	z_s :	141 ft	[ASCE7 Hazard Tool]
Tower Height	:	96.00 ft	
Mount Elevation	:	73.00 ft	
Antenna Elevation	:	75.00 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 :	116 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} :	0.19	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.19	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	0.99	[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} :	1.63 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.095	[Sec. 2.7.7.1]
Amplification	A_s :	2.041667	[Sec. 16.7]
	q_z :	38.56 psf	

PROJECT	136354.008.01 - Hayden Stat		KSC
SUBJECT	Platform Mount Analysis		
DATE	02-09-22	PAGE	OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	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)
ERICSSON	AIR 6419 B41_TMO	0.5	1.73	1.20	2.63	1.14	3.31	1.68	0.11	0.05	0.02	0.01
ERICSSON	AIR 6419 B41_TMO	0.5	1.73	1.20	2.63	1.14	3.31	1.68	0.11	0.05	0.02	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.28	0.10	0.06	0.03
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.28	0.10	0.06	0.03
ERICSSON	Radio 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.32	1.88	0.10	0.05	0.02	0.01
COMMSCOPE	VV-65A-R1_TMO	0.5	4.56	1.29	2.28	0.87	3.07	1.58	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1_TMO	0.5	4.56	1.29	2.28	0.87	3.07	1.58	0.10	0.04	0.02	0.01
ERICSSON	ADIO 4460B2/B25 B66_TMO	1	1.13	1.20	1.78	1.40	2.58	2.13	0.07	0.06	0.01	0.01
ERICSSON	AIR 6419 B41_TMO	0.5	1.73	1.20	2.63	1.14	3.31	1.68	0.11	0.05	0.02	0.01
ERICSSON	AIR 6419 B41_TMO	0.5	1.73	1.20	2.63	1.14	3.31	1.68	0.11	0.05	0.02	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.28	0.10	0.06	0.03
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.28	0.10	0.06	0.03
ERICSSON	Radio 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.32	1.88	0.10	0.05	0.02	0.01
COMMSCOPE	VV-65A-R1_TMO	0.5	4.56	1.29	2.28	0.87	3.07	1.58	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1_TMO	0.5	4.56	1.29	2.28	0.87	3.07	1.58	0.10	0.04	0.02	0.01
ERICSSON	ADIO 4460B2/B25 B66_TMO	1	1.13	1.20	1.78	1.40	2.58	2.13	0.07	0.06	0.01	0.01

APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	0	
2	2	2.590881	0	-4.830717	
3	3	2.590881	0	-5.162027	
4	4	2.465881	0	-5.378527	
5	5	2.528381	0	-5.270277	
6	6	2.654671	0	-5.343187	
7	7	-2.590881	0	-4.830717	
8	8	-2.590881	0	-5.162027	
9	9	-2.465881	0	-5.378527	
10	10	-2.528381	0	-5.270277	
11	11	-2.654671	0	-5.343187	
12	12	-5.478964	0	0.17159	
13	13	-5.765887	0	0.337245	
14	14	-5.890881	0	0.553748	
15	15	-5.828384	0	0.445496	
16	16	-5.954671	0	0.372581	
17	17	-2.888083	0	4.659127	
18	18	-3.175006	0	4.824782	
19	19	-3.425	0	4.824779	
20	20	-3.300003	0	4.824782	
21	21	-3.300003	0	4.970606	
22	22	2.888083	0	4.659127	
23	23	3.175006	0	4.824782	
24	24	3.425	0	4.824779	
25	25	3.300003	0	4.824782	
26	26	3.300003	0	4.970606	
27	27	5.478964	0	0.17159	
28	28	5.765887	0	0.337245	
29	29	5.890881	0	0.553748	
30	30	5.828384	0	0.445496	
31	31	5.954671	0	0.372581	
32	32	2.590881	0	-4.996372	
33	33	0	0	-4.996372	
34	34	-2.590881	0	-4.996372	
35	35	-5.622425	0	0.254417	
36	36	-4.326985	0	2.498186	
37	37	-3.031544	0	4.741955	
38	38	3.031544	0	4.741955	
39	39	4.326985	0	2.498186	
40	40	5.622425	0	0.254417	
41	41	-8	0	4.970606	
42	42	8	0	4.970606	
43	43	8.304671	0	4.4429	
44	44	0.304671	0	-9.413506	
45	45	-0.304671	0	-9.413506	
46	46	-8.304671	0	4.4429	
47	47	-6.4	4.1	5.215606	
48	48	-6.4	-2.9	5.215606	
49	49	0	6.5	5.215606	
50	50	0	-3.5	5.215606	
51	51	6.4	4.1	5.215606	
52	52	6.4	-2.9	5.215606	
53	53	6.4	0	4.970606	
54	54	6.4	0	5.215606	
55	55	0	0	4.970606	



Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	0	0	5.215606	
57	57	-6.4	0	4.970606	
58	58	-6.4	0	5.215606	
59	59	1.104671	0	-8.027866	
60	60	1.316847	0	-8.150366	
61	61	2.167158	0	-4.996372	
62	62	-2.167158	0	-4.996372	
63	63	-5.410564	0	0.621372	
64	64	-3.243406	0	4.375	
65	65	3.243406	0	4.375	
66	66	5.410564	0	0.621372	
67	67	0	0	-2.25	
68	68	0	0	-8.75	
69	69	0.70815	0	-8.71466	
70	70	0.58186	0	-8.641741	
71	71	0.644358	0	-8.53349	
72	72	-0.70815	0	-8.71466	
73	73	-0.58186	0	-8.641741	
74	74	-0.644358	0	-8.53349	
75	75	-0.519358	0	-8.75	
76	76	0.519358	0	-8.75	
77	77	-1.948557	0	1.125	
78	78	-7.577722	0	4.375	
79	79	-7.901192	0	3.744054	
80	80	-7.774898	0	3.816965	
81	81	-7.712398	0	3.708715	
82	82	-7.193042	0	4.970606	
83	83	-7.193042	0	4.824775	
84	84	-7.06804	0	4.824775	
85	85	-7.318043	0	4.824777	
86	86	-7.837401	0	3.925223	
87	87	1.948557	0	1.125	
88	88	7.577722	0	4.375	
89	89	7.193042	0	4.970606	
90	90	7.193042	0	4.824775	
91	91	7.06804	0	4.824775	
92	92	7.901192	0	3.744054	
93	93	7.774898	0	3.816965	
94	94	7.712398	0	3.708715	
95	95	7.837401	0	3.925223	
96	96	7.318043	0	4.824777	
97	97	-6.4	3	5.215606	
98	98	-6.4	3	5.017689	
99	99	0	3	5.215606	
100	100	0	3	5.017689	
101	101	6.4	3	5.215606	
102	102	6.4	3	5.017689	
103	103	-8	3	5.017689	
104	104	8	3	5.017689	
105	105	7.716847	3	2.93476	
106	106	7.545446	3	3.033718	
107	107	4.516847	3	-2.607803	
108	108	4.345446	3	-2.508845	
109	109	1.316847	3	-8.150366	
110	110	1.145446	3	-8.051407	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	8.345446	3	4.419359	
112	112	0.345446	3	-9.437048	
113	113	-1.316847	3	-8.150366	
114	114	-1.145446	3	-8.051407	
115	115	-4.516847	3	-2.607803	
116	116	-4.345446	3	-2.508845	
117	117	-7.716847	3	2.93476	
118	118	-7.545446	3	3.033718	
119	119	-0.345446	3	-9.437048	
120	120	-8.345446	3	4.419359	
121	121	-7.445893	3	5.017689	
122	122	7.445893	3	5.017689	
123	123	8.068393	3	3.939488	
124	124	0.6225	3	-8.957177	
125	125	-0.6225	3	-8.957177	
126	126	-8.068393	3	3.939488	
127	127	7.716847	4.1	2.93476	
128	128	7.716847	-2.9	2.93476	
129	129	4.516847	6.5	-2.607803	
130	130	4.516847	-3.5	-2.607803	
131	131	1.316847	4.1	-8.150366	
132	132	1.316847	-2.9	-8.150366	
133	133	-1.316847	4.1	-8.150366	
134	134	-1.316847	-2.9	-8.150366	
135	135	-4.516847	6.5	-2.607803	
136	136	-4.516847	-3.5	-2.607803	
137	137	-7.716847	4.1	2.93476	
138	138	-7.716847	-2.9	2.93476	
139	141	4.304671	0	-2.485303	
140	142	4.516847	0	-2.607803	
141	143	7.504671	0	3.05726	
142	144	7.716847	0	2.93476	
143	145	-7.504671	0	3.05726	
144	146	-7.716847	0	2.93476	
145	147	-4.304671	0	-2.485303	
146	148	-4.516847	0	-2.607803	
147	149	-1.104671	0	-8.027866	
148	150	-1.316847	0	-8.150366	

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	77	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	87	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	67	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁶ 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



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

Hot Rolled Steel Properties (Continued)

Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
7 A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

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	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2 F1-ST1	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
3 F1-SA1	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
4 MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5 F1-C1	PL1/2x6	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
6 F1-C2	PL3/8X6 HRA	Beam	RECT	A36 Gr.36	Typical	2.28	0.027	6.84	0.105
7 Support rails	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
8 F1-CA1	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026

Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule	
1	1	2	3	F1-C2	Beam	RECT	A36 Gr.36	Typical	
2	2	3	4	F1-C2	Beam	RECT	A36 Gr.36	Typical	
3	3	5	6	RIGID	None	None	RIGID	Typical	
4	4	7	8	F1-C2	Beam	RECT	A36 Gr.36	Typical	
5	5	8	9	F1-C2	Beam	RECT	A36 Gr.36	Typical	
6	6	10	11	RIGID	None	None	RIGID	Typical	
7	7	12	13	F1-C2	Beam	RECT	A36 Gr.36	Typical	
8	8	13	14	F1-C2	Beam	RECT	A36 Gr.36	Typical	
9	9	15	16	RIGID	None	None	RIGID	Typical	
10	10	17	18	F1-C2	Beam	RECT	A36 Gr.36	Typical	
11	11	18	19	F1-C2	Beam	RECT	A36 Gr.36	Typical	
12	12	20	21	RIGID	None	None	RIGID	Typical	
13	13	22	23	F1-C2	Beam	RECT	A36 Gr.36	Typical	
14	14	23	24	F1-C2	Beam	RECT	A36 Gr.36	Typical	
15	15	25	26	RIGID	None	None	RIGID	Typical	
16	16	27	28	F1-C2	Beam	RECT	A36 Gr.36	Typical	
17	17	28	29	F1-C2	Beam	RECT	A36 Gr.36	Typical	
18	18	30	31	RIGID	None	None	RIGID	Typical	
19	19	33	32	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
20	20	33	34	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
21	21	36	35	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
22	22	36	37	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
23	23	39	38	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
24	24	39	40	F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical	
25	25	41	42	MF-H1	Beam	Pipe	A53 Gr.B	Typical	
26	26	43	44	MF-H1	Beam	Pipe	A53 Gr.B	Typical	
27	27	45	46	MF-H1	Beam	Pipe	A53 Gr.B	Typical	
28	28	47	48	MF-P1	Column	Pipe	A53 Gr.B	Typical	
29	29	49	50	MF-P1	Column	Pipe	A53 Gr.B	Typical	
30	30	51	52	MF-P1	Column	Pipe	A53 Gr.B	Typical	
31	31	53	54	RIGID	None	None	RIGID	Typical	
32	32	55	56	RIGID	None	None	RIGID	Typical	
33	33	57	58	RIGID	None	None	RIGID	Typical	
34	34	59	60	RIGID	None	None	RIGID	Typical	
35	35	68	61	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical	
36	36	68	62	270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
37	37	78	63	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical	
38	38	78	64	270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
39	39	88	65		F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
40	40	88	66	270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
41	41	67	68		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
42	42	69	70		RIGID	None	None	RIGID	Typical
43	43	71	76		F1-C1	Beam	RECT	A36 Gr.36	Typical
44	44	72	73		RIGID	None	None	RIGID	Typical
45	45	74	75		F1-C1	Beam	RECT	A36 Gr.36	Typical
46	46	75	76		F1-C1	Beam	RECT	A36 Gr.36	Typical
47	47	77	78		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
48	48	79	80		RIGID	None	None	RIGID	Typical
49	49	81	86		F1-C1	Beam	RECT	A36 Gr.36	Typical
50	50	82	83		RIGID	None	None	RIGID	Typical
51	51	84	85		F1-C1	Beam	RECT	A36 Gr.36	Typical
52	52	85	86		F1-C1	Beam	RECT	A36 Gr.36	Typical
53	53	87	88		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
54	54	89	90		RIGID	None	None	RIGID	Typical
55	55	91	96		F1-C1	Beam	RECT	A36 Gr.36	Typical
56	56	92	93		RIGID	None	None	RIGID	Typical
57	57	94	95		F1-C1	Beam	RECT	A36 Gr.36	Typical
58	58	95	96		F1-C1	Beam	RECT	A36 Gr.36	Typical
59	59	97	98		RIGID	None	None	RIGID	Typical
60	60	99	100		RIGID	None	None	RIGID	Typical
61	61	101	102		RIGID	None	None	RIGID	Typical
62	62	103	104		Support rails	Beam	Pipe	A53 Gr.B	Typical
63	63	105	106		RIGID	None	None	RIGID	Typical
64	64	107	108		RIGID	None	None	RIGID	Typical
65	65	109	110		RIGID	None	None	RIGID	Typical
66	66	111	112		Support rails	Beam	Pipe	A53 Gr.B	Typical
67	67	113	114		RIGID	None	None	RIGID	Typical
68	68	115	116		RIGID	None	None	RIGID	Typical
69	69	117	118		RIGID	None	None	RIGID	Typical
70	70	119	120		Support rails	Beam	Pipe	A53 Gr.B	Typical
71	71	121	126	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
72	72	123	122	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
73	73	125	124	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
74	74	127	128		MF-P1	Column	Pipe	A53 Gr.B	Typical
75	75	129	130		MF-P1	Column	Pipe	A53 Gr.B	Typical
76	76	131	132		MF-P1	Column	Pipe	A53 Gr.B	Typical
77	77	133	134		MF-P1	Column	Pipe	A53 Gr.B	Typical
78	78	135	136		MF-P1	Column	Pipe	A53 Gr.B	Typical
79	79	137	138		MF-P1	Column	Pipe	A53 Gr.B	Typical
80	81	141	142		RIGID	None	None	RIGID	Typical
81	82	143	144		RIGID	None	None	RIGID	Typical
82	83	145	146		RIGID	None	None	RIGID	Typical
83	84	147	148		RIGID	None	None	RIGID	Typical
84	85	149	150		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		O O O O O X	Yes	** NA **	None
4	4			Yes	N/A	None
5	5			Yes	N/A	None
6	6		O O O O O X	Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
7	7			Yes	N/A	None
8	8			Yes	N/A	None
9	9		O O O O O X	Yes	** NA **	None
10	10			Yes	N/A	None
11	11			Yes	N/A	None
12	12		O O O O O X	Yes	** NA **	None
13	13			Yes	N/A	None
14	14			Yes	N/A	None
15	15		O O O O O X	Yes	** NA **	None
16	16			Yes	N/A	None
17	17			Yes	N/A	None
18	18		O O O O O X	Yes	** NA **	None
19	19			Yes	N/A	None
20	20			Yes	N/A	None
21	21			Yes	N/A	None
22	22			Yes	N/A	None
23	23			Yes	N/A	None
24	24			Yes	N/A	None
25	25			Yes	Default	None
26	26			Yes	N/A	None
27	27			Yes	N/A	None
28	28			Yes	** NA **	None
29	29			Yes	** NA **	None
30	30			Yes	** NA **	None
31	31			Yes	** NA **	None
32	32			Yes	** NA **	None
33	33			Yes	** NA **	None
34	34			Yes	** NA **	None
35	35			Yes	N/A	None
36	36			Yes	N/A	None
37	37			Yes	N/A	None
38	38			Yes	N/A	None
39	39			Yes	N/A	None
40	40			Yes	N/A	None
41	41			Yes	N/A	None
42	42	O O O O O X		Yes	** NA **	None
43	43			Yes	N/A	None
44	44	O O O O O X		Yes	** NA **	None
45	45			Yes	N/A	None
46	46			Yes	N/A	None
47	47			Yes	N/A	None
48	48	O O O O O X		Yes	** NA **	None
49	49			Yes	N/A	None
50	50	O O O O O X		Yes	** NA **	None
51	51			Yes	N/A	None
52	52			Yes	N/A	None
53	53			Yes	N/A	None
54	54	O O O O O X		Yes	** NA **	None
55	55			Yes	N/A	None
56	56	O O O O O X		Yes	** NA **	None
57	57			Yes	N/A	None
58	58			Yes	N/A	None
59	59			Yes	** NA **	None
60	60			Yes	** NA **	None
61	61			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
62	62			Yes	N/A	None
63	63			Yes	** NA **	None
64	64			Yes	** NA **	None
65	65			Yes	** NA **	None
66	66			Yes	N/A	None
67	67			Yes	** NA **	None
68	68			Yes	** NA **	None
69	69			Yes	** NA **	None
70	70			Yes	N/A	None
71	71			Yes	N/A	None
72	72			Yes	N/A	None
73	73			Yes	N/A	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	81			Yes	** NA **	None
81	82			Yes	** NA **	None
82	83			Yes	** NA **	None
83	84			Yes	** NA **	None
84	85			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	F1-C2	0.331	Lbyy	Lateral
2	2	F1-C2	0.25	Lbyy	Lateral
3	4	F1-C2	0.331	Lbyy	Lateral
4	5	F1-C2	0.25	Lbyy	Lateral
5	7	F1-C2	0.331	Lbyy	Lateral
6	8	F1-C2	0.25	Lbyy	Lateral
7	10	F1-C2	0.331	Lbyy	Lateral
8	11	F1-C2	0.25	Lbyy	Lateral
9	13	F1-C2	0.331	Lbyy	Lateral
10	14	F1-C2	0.25	Lbyy	Lateral
11	16	F1-C2	0.331	Lbyy	Lateral
12	17	F1-C2	0.25	Lbyy	Lateral
13	19	F1-ST1	2.591	Lbyy	Lateral
14	20	F1-ST1	2.591	Lbyy	Lateral
15	21	F1-ST1	2.591	Lbyy	Lateral
16	22	F1-ST1	2.591	Lbyy	Lateral
17	23	F1-ST1	2.591	Lbyy	Lateral
18	24	F1-ST1	2.591	Lbyy	Lateral
19	25	MF-H1	16	Lbyy	Lateral
20	26	MF-H1	16	Lbyy	Lateral
21	27	MF-H1	16	Lbyy	Lateral
22	28	MF-P1	7	Lbyy	Lateral
23	29	MF-P1	10	Lbyy	Lateral
24	30	MF-P1	7	Lbyy	Lateral
25	35	F1-SA1	4.334	Lbyy	Lateral
26	36	F1-SA1	4.334	Lbyy	Lateral
27	37	F1-SA1	4.334	Lbyy	Lateral
28	38	F1-SA1	4.334	Lbyy	Lateral
29	39	F1-SA1	4.334	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
30	40	F1-SA1	4.334	Lbyy	Lateral
31	41	F1-ST1	6.5	Lbyy	Lateral
32	43	F1-C1	0.25	Lbyy	Lateral
33	45	F1-C1	0.25	Lbyy	Lateral
34	46	F1-C1	1.039	Lbyy	Lateral
35	47	F1-ST1	6.5	Lbyy	Lateral
36	49	F1-C1	0.25	Lbyy	Lateral
37	51	F1-C1	0.25	Lbyy	Lateral
38	52	F1-C1	1.039	Lbyy	Lateral
39	53	F1-ST1	6.5	Lbyy	Lateral
40	55	F1-C1	0.25	Lbyy	Lateral
41	57	F1-C1	0.25	Lbyy	Lateral
42	58	F1-C1	1.039	Lbyy	Lateral
43	62	Support rails	16	Lbyy	Lateral
44	66	Support rails	16	Lbyy	Lateral
45	70	Support rails	16	Lbyy	Lateral
46	71	F1-CA1	1.245	Lbyy	Lateral
47	72	F1-CA1	1.245	Lbyy	Lateral
48	73	F1-CA1	1.245	Lbyy	Lateral
49	74	MF-P1	7	Lbyy	Lateral
50	75	MF-P1	10	Lbyy	Lateral
51	76	MF-P1	7	Lbyy	Lateral
52	77	MF-P1	7	Lbyy	Lateral
53	78	MF-P1	10	Lbyy	Lateral
54	79	MF-P1	7	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Y	-0.048	%5
2	30	Y	-0.048	%45
3	30	Y	0	0
4	30	Y	0	0
5	30	Y	0	0
6	29	Y	-0.075	%5
7	29	Y	-0.075	%85
8	29	Y	-0.081	%50
9	29	Y	0	0
10	29	Y	0	0
11	28	Y	-0.017	%5
12	28	Y	-0.017	%65
13	28	Y	-0.109	%40
14	28	Y	0	0
15	28	Y	0	0
16	79	Y	-0.048	%5
17	79	Y	-0.048	%45
18	79	Y	0	0
19	79	Y	0	0
20	79	Y	0	0
21	78	Y	-0.075	%5
22	78	Y	-0.075	%85
23	78	Y	-0.081	%50
24	78	Y	0	0
25	78	Y	0	0
26	77	Y	-0.017	%5
27	77	Y	-0.017	%65

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	77	Y	-0.109	%40
29	77	Y	0	0
30	77	Y	0	0
31	76	Y	-0.048	%5
32	76	Y	-0.048	%45
33	76	Y	0	0
34	76	Y	0	0
35	76	Y	0	0
36	75	Y	-0.075	%5
37	75	Y	-0.075	%85
38	75	Y	-0.081	%50
39	75	Y	0	0
40	75	Y	0	0
41	74	Y	-0.017	%5
42	74	Y	-0.017	%65
43	74	Y	-0.109	%40
44	74	Y	0	0
45	74	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Z	-0.11	%5
2	30	Z	-0.11	%45
3	30	Z	0	0
4	30	Z	0	0
5	30	Z	0	0
6	29	Z	-0.285	%5
7	29	Z	-0.285	%85
8	29	Z	-0.101	%50
9	29	Z	0	0
10	29	Z	0	0
11	28	Z	-0.103	%5
12	28	Z	-0.103	%65
13	28	Z	-0.075	%40
14	28	Z	0	0
15	28	Z	0	0
16	79	Z	-0.11	%5
17	79	Z	-0.11	%45
18	79	Z	0	0
19	79	Z	0	0
20	79	Z	0	0
21	78	Z	-0.285	%5
22	78	Z	-0.285	%85
23	78	Z	-0.101	%50
24	78	Z	0	0
25	78	Z	0	0
26	77	Z	-0.103	%5
27	77	Z	-0.103	%65
28	77	Z	-0.075	%40
29	77	Z	0	0
30	77	Z	0	0
31	76	Z	-0.11	%5
32	76	Z	-0.11	%45
33	76	Z	0	0
34	76	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	76	Z	0	0
36	75	Z	-0.285	%5
37	75	Z	-0.285	%85
38	75	Z	-0.101	%50
39	75	Z	0	0
40	75	Z	0	0
41	74	Z	-0.103	%5
42	74	Z	-0.103	%65
43	74	Z	-0.075	%40
44	74	Z	0	0
45	74	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	X	-0.048	%5
2	30	X	-0.048	%45
3	30	X	0	0
4	30	X	0	0
5	30	X	0	0
6	29	X	-0.103	%5
7	29	X	-0.103	%85
8	29	X	-0.048	%50
9	29	X	0	0
10	29	X	0	0
11	28	X	-0.039	%5
12	28	X	-0.039	%65
13	28	X	-0.059	%40
14	28	X	0	0
15	28	X	0	0
16	79	X	-0.048	%5
17	79	X	-0.048	%45
18	79	X	0	0
19	79	X	0	0
20	79	X	0	0
21	78	X	-0.103	%5
22	78	X	-0.103	%85
23	78	X	-0.048	%50
24	78	X	0	0
25	78	X	0	0
26	77	X	-0.039	%5
27	77	X	-0.039	%65
28	77	X	-0.059	%40
29	77	X	0	0
30	77	X	0	0
31	76	X	-0.048	%5
32	76	X	-0.048	%45
33	76	X	0	0
34	76	X	0	0
35	76	X	0	0
36	75	X	-0.103	%5
37	75	X	-0.103	%85
38	75	X	-0.048	%50
39	75	X	0	0
40	75	X	0	0
41	74	X	-0.039	%5



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
42	74	X	-0.039	%65
43	74	X	-0.059	%40
44	74	X	0	0
45	74	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Z	-0.021	%5
2	30	Z	-0.021	%45
3	30	Z	0	0
4	30	Z	0	0
5	30	Z	0	0
6	29	Z	-0.061	%5
7	29	Z	-0.061	%85
8	29	Z	-0.019	%50
9	29	Z	0	0
10	29	Z	0	0
11	28	Z	-0.019	%5
12	28	Z	-0.019	%65
13	28	Z	-0.014	%40
14	28	Z	0	0
15	28	Z	0	0
16	79	Z	-0.021	%5
17	79	Z	-0.021	%45
18	79	Z	0	0
19	79	Z	0	0
20	79	Z	0	0
21	78	Z	-0.061	%5
22	78	Z	-0.061	%85
23	78	Z	-0.019	%50
24	78	Z	0	0
25	78	Z	0	0
26	77	Z	-0.019	%5
27	77	Z	-0.019	%65
28	77	Z	-0.014	%40
29	77	Z	0	0
30	77	Z	0	0
31	76	Z	-0.021	%5
32	76	Z	-0.021	%45
33	76	Z	0	0
34	76	Z	0	0
35	76	Z	0	0
36	75	Z	-0.061	%5
37	75	Z	-0.061	%85
38	75	Z	-0.019	%50
39	75	Z	0	0
40	75	Z	0	0
41	74	Z	-0.019	%5
42	74	Z	-0.019	%65
43	74	Z	-0.014	%40
44	74	Z	0	0
45	74	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	X	-0.009	%5
2	30	X	-0.009	%45
3	30	X	0	0
4	30	X	0	0
5	30	X	0	0
6	29	X	-0.027	%5
7	29	X	-0.027	%85
8	29	X	-0.009	%50
9	29	X	0	0
10	29	X	0	0
11	28	X	-0.007	%5
12	28	X	-0.007	%65
13	28	X	-0.011	%40
14	28	X	0	0
15	28	X	0	0
16	79	X	-0.009	%5
17	79	X	-0.009	%45
18	79	X	0	0
19	79	X	0	0
20	79	X	0	0
21	78	X	-0.027	%5
22	78	X	-0.027	%85
23	78	X	-0.009	%50
24	78	X	0	0
25	78	X	0	0
26	77	X	-0.007	%5
27	77	X	-0.007	%65
28	77	X	-0.011	%40
29	77	X	0	0
30	77	X	0	0
31	76	X	-0.009	%5
32	76	X	-0.009	%45
33	76	X	0	0
34	76	X	0	0
35	76	X	0	0
36	75	X	-0.027	%5
37	75	X	-0.027	%85
38	75	X	-0.009	%50
39	75	X	0	0
40	75	X	0	0
41	74	X	-0.007	%5
42	74	X	-0.007	%65
43	74	X	-0.011	%40
44	74	X	0	0
45	74	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Z	-0.007	%5
2	30	Z	-0.007	%45
3	30	Z	0	0
4	30	Z	0	0
5	30	Z	0	0
6	29	Z	-0.019	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	29	Z	-0.019	%85
8	29	Z	-0.007	%50
9	29	Z	0	0
10	29	Z	0	0
11	28	Z	-0.007	%5
12	28	Z	-0.007	%65
13	28	Z	-0.005	%40
14	28	Z	0	0
15	28	Z	0	0
16	79	Z	-0.007	%5
17	79	Z	-0.007	%45
18	79	Z	0	0
19	79	Z	0	0
20	79	Z	0	0
21	78	Z	-0.019	%5
22	78	Z	-0.019	%85
23	78	Z	-0.007	%50
24	78	Z	0	0
25	78	Z	0	0
26	77	Z	-0.007	%5
27	77	Z	-0.007	%65
28	77	Z	-0.005	%40
29	77	Z	0	0
30	77	Z	0	0
31	76	Z	-0.007	%5
32	76	Z	-0.007	%45
33	76	Z	0	0
34	76	Z	0	0
35	76	Z	0	0
36	75	Z	-0.019	%5
37	75	Z	-0.019	%85
38	75	Z	-0.007	%50
39	75	Z	0	0
40	75	Z	0	0
41	74	Z	-0.007	%5
42	74	Z	-0.007	%65
43	74	Z	-0.005	%40
44	74	Z	0	0
45	74	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	X	-0.003	%5
2	30	X	-0.003	%45
3	30	X	0	0
4	30	X	0	0
5	30	X	0	0
6	29	X	-0.007	%5
7	29	X	-0.007	%85
8	29	X	-0.003	%50
9	29	X	0	0
10	29	X	0	0
11	28	X	-0.003	%5
12	28	X	-0.003	%65
13	28	X	-0.004	%40

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	28	X	0	0
15	28	X	0	0
16	79	X	-0.003	%5
17	79	X	-0.003	%45
18	79	X	0	0
19	79	X	0	0
20	79	X	0	0
21	78	X	-0.007	%5
22	78	X	-0.007	%85
23	78	X	-0.003	%50
24	78	X	0	0
25	78	X	0	0
26	77	X	-0.003	%5
27	77	X	-0.003	%65
28	77	X	-0.004	%40
29	77	X	0	0
30	77	X	0	0
31	76	X	-0.003	%5
32	76	X	-0.003	%45
33	76	X	0	0
34	76	X	0	0
35	76	X	0	0
36	75	X	-0.007	%5
37	75	X	-0.007	%85
38	75	X	-0.003	%50
39	75	X	0	0
40	75	X	0	0
41	74	X	-0.003	%5
42	74	X	-0.003	%65
43	74	X	-0.004	%40
44	74	X	0	0
45	74	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Y	-0.073	%5
2	30	Y	-0.073	%45
3	30	Y	0	0
4	30	Y	0	0
5	30	Y	0	0
6	29	Y	-0.258	%5
7	29	Y	-0.258	%85
8	29	Y	-0.069	%50
9	29	Y	0	0
10	29	Y	0	0
11	28	Y	-0.066	%5
12	28	Y	-0.066	%65
13	28	Y	-0.059	%40
14	28	Y	0	0
15	28	Y	0	0
16	79	Y	-0.073	%5
17	79	Y	-0.073	%45
18	79	Y	0	0
19	79	Y	0	0
20	79	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	78	Y	-0.258	%5
22	78	Y	-0.258	%85
23	78	Y	-0.069	%50
24	78	Y	0	0
25	78	Y	0	0
26	77	Y	-0.066	%5
27	77	Y	-0.066	%65
28	77	Y	-0.059	%40
29	77	Y	0	0
30	77	Y	0	0
31	76	Y	-0.073	%5
32	76	Y	-0.073	%45
33	76	Y	0	0
34	76	Y	0	0
35	76	Y	0	0
36	75	Y	-0.258	%5
37	75	Y	-0.258	%85
38	75	Y	-0.069	%50
39	75	Y	0	0
40	75	Y	0	0
41	74	Y	-0.066	%5
42	74	Y	-0.066	%65
43	74	Y	-0.059	%40
44	74	Y	0	0
45	74	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Z	-0.019	%5
2	30	Z	-0.019	%45
3	30	Z	0	0
4	30	Z	0	0
5	30	Z	0	0
6	29	Z	-0.029	%5
7	29	Z	-0.029	%85
8	29	Z	-0.016	%50
9	29	Z	0	0
10	29	Z	0	0
11	28	Z	-0.006	%5
12	28	Z	-0.006	%65
13	28	Z	-0.021	%40
14	28	Z	0	0
15	28	Z	0	0
16	79	Z	-0.019	%5
17	79	Z	-0.019	%45
18	79	Z	0	0
19	79	Z	0	0
20	79	Z	0	0
21	78	Z	-0.029	%5
22	78	Z	-0.029	%85
23	78	Z	-0.016	%50
24	78	Z	0	0
25	78	Z	0	0
26	77	Z	-0.006	%5
27	77	Z	-0.006	%65

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	77	Z	-0.021	%40
29	77	Z	0	0
30	77	Z	0	0
31	76	Z	-0.019	%5
32	76	Z	-0.019	%45
33	76	Z	0	0
34	76	Z	0	0
35	76	Z	0	0
36	75	Z	-0.029	%5
37	75	Z	-0.029	%85
38	75	Z	-0.016	%50
39	75	Z	0	0
40	75	Z	0	0
41	74	Z	-0.006	%5
42	74	Z	-0.006	%65
43	74	Z	-0.021	%40
44	74	Z	0	0
45	74	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	X	-0.019	%5
2	30	X	-0.019	%45
3	30	X	0	0
4	30	X	0	0
5	30	X	0	0
6	29	X	-0.029	%5
7	29	X	-0.029	%85
8	29	X	-0.016	%50
9	29	X	0	0
10	29	X	0	0
11	28	X	-0.006	%5
12	28	X	-0.006	%65
13	28	X	-0.021	%40
14	28	X	0	0
15	28	X	0	0
16	79	X	-0.019	%5
17	79	X	-0.019	%45
18	79	X	0	0
19	79	X	0	0
20	79	X	0	0
21	78	X	-0.029	%5
22	78	X	-0.029	%85
23	78	X	-0.016	%50
24	78	X	0	0
25	78	X	0	0
26	77	X	-0.006	%5
27	77	X	-0.006	%65
28	77	X	-0.021	%40
29	77	X	0	0
30	77	X	0	0
31	76	X	-0.019	%5
32	76	X	-0.019	%45
33	76	X	0	0
34	76	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	76	X	0	0
36	75	X	-0.029	%5
37	75	X	-0.029	%85
38	75	X	-0.016	%50
39	75	X	0	0
40	75	X	0	0
41	74	X	-0.006	%5
42	74	X	-0.006	%65
43	74	X	-0.021	%40
44	74	X	0	0
45	74	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	62	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	62	Y	-0.25	%95

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Y	-0.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	70	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	27	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	70	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	27	Y	-0.25	%95



Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.25	%5

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	26	Y	-0.25	%5

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	26	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	47	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	41	Y	-0.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	53	Y	-0.25	%95

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	-0.021	-0.021	0	%100
2	2	Z	-0.021	-0.021	0	%100
3	4	Z	-0.021	-0.021	0	%100
4	5	Z	-0.021	-0.021	0	%100
5	7	Z	-0.021	-0.021	0	%100
6	8	Z	-0.021	-0.021	0	%100
7	10	Z	-0.021	-0.021	0	%100
8	11	Z	-0.021	-0.021	0	%100
9	13	Z	-0.021	-0.021	0	%100
10	14	Z	-0.021	-0.021	0	%100
11	16	Z	-0.021	-0.021	0	%100
12	17	Z	-0.021	-0.021	0	%100
13	19	Z	-0.016	-0.016	0	%100
14	20	Z	-0.016	-0.016	0	%100
15	21	Z	-0.016	-0.016	0	%100
16	22	Z	-0.016	-0.016	0	%100
17	23	Z	-0.016	-0.016	0	%100



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

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, %)]
18	24	Z	-0.016	-0.016	0	%100
19	25	Z	-0.012	-0.012	0	%100
20	26	Z	-0.012	-0.012	0	%100
21	27	Z	-0.012	-0.012	0	%100
22	28	Z	-0.008	-0.008	0	%100
23	29	Z	-0.008	-0.008	0	%100
24	30	Z	-0.008	-0.008	0	%100
25	35	Z	-0.012	-0.012	0	%100
26	36	Z	-0.012	-0.012	0	%100
27	37	Z	-0.012	-0.012	0	%100
28	38	Z	-0.012	-0.012	0	%100
29	39	Z	-0.012	-0.012	0	%100
30	40	Z	-0.012	-0.012	0	%100
31	41	Z	-0.021	-0.021	0	%100
32	43	Z	-0.021	-0.021	0	%100
33	45	Z	-0.021	-0.021	0	%100
34	46	Z	-0.021	-0.021	0	%100
35	47	Z	-0.021	-0.021	0	%100
36	49	Z	-0.021	-0.021	0	%100
37	51	Z	-0.021	-0.021	0	%100
38	52	Z	-0.021	-0.021	0	%100
39	53	Z	-0.021	-0.021	0	%100
40	55	Z	-0.021	-0.021	0	%100
41	57	Z	-0.021	-0.021	0	%100
42	58	Z	-0.021	-0.021	0	%100
43	62	Z	-0.008	-0.008	0	%100
44	66	Z	-0.008	-0.008	0	%100
45	70	Z	-0.008	-0.008	0	%100
46	71	Z	-0.01	-0.01	0	%100
47	72	Z	-0.01	-0.01	0	%100
48	73	Z	-0.01	-0.01	0	%100
49	74	Z	-0.008	-0.008	0	%100
50	75	Z	-0.008	-0.008	0	%100
51	76	Z	-0.008	-0.008	0	%100
52	77	Z	-0.008	-0.008	0	%100
53	78	Z	-0.008	-0.008	0	%100
54	79	Z	-0.008	-0.008	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	-0.021	-0.021	0	%100
2	2	X	-0.021	-0.021	0	%100
3	4	X	-0.021	-0.021	0	%100
4	5	X	-0.021	-0.021	0	%100
5	7	X	-0.021	-0.021	0	%100
6	8	X	-0.021	-0.021	0	%100
7	10	X	-0.021	-0.021	0	%100
8	11	X	-0.021	-0.021	0	%100
9	13	X	-0.021	-0.021	0	%100
10	14	X	-0.021	-0.021	0	%100
11	16	X	-0.021	-0.021	0	%100
12	17	X	-0.021	-0.021	0	%100
13	19	X	-0.016	-0.016	0	%100
14	20	X	-0.016	-0.016	0	%100
15	21	X	-0.016	-0.016	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, %)]
16	22	X	-0.016	-0.016	0	%100
17	23	X	-0.016	-0.016	0	%100
18	24	X	-0.016	-0.016	0	%100
19	25	X	-0.012	-0.012	0	%100
20	26	X	-0.012	-0.012	0	%100
21	27	X	-0.012	-0.012	0	%100
22	28	X	-0.008	-0.008	0	%100
23	29	X	-0.008	-0.008	0	%100
24	30	X	-0.008	-0.008	0	%100
25	35	X	-0.012	-0.012	0	%100
26	36	X	-0.012	-0.012	0	%100
27	37	X	-0.012	-0.012	0	%100
28	38	X	-0.012	-0.012	0	%100
29	39	X	-0.012	-0.012	0	%100
30	40	X	-0.012	-0.012	0	%100
31	41	X	-0.021	-0.021	0	%100
32	43	X	-0.021	-0.021	0	%100
33	45	X	-0.021	-0.021	0	%100
34	46	X	-0.021	-0.021	0	%100
35	47	X	-0.021	-0.021	0	%100
36	49	X	-0.021	-0.021	0	%100
37	51	X	-0.021	-0.021	0	%100
38	52	X	-0.021	-0.021	0	%100
39	53	X	-0.021	-0.021	0	%100
40	55	X	-0.021	-0.021	0	%100
41	57	X	-0.021	-0.021	0	%100
42	58	X	-0.021	-0.021	0	%100
43	62	X	-0.008	-0.008	0	%100
44	66	X	-0.008	-0.008	0	%100
45	70	X	-0.008	-0.008	0	%100
46	71	X	-0.01	-0.01	0	%100
47	72	X	-0.01	-0.01	0	%100
48	73	X	-0.01	-0.01	0	%100
49	74	X	-0.008	-0.008	0	%100
50	75	X	-0.008	-0.008	0	%100
51	76	X	-0.008	-0.008	0	%100
52	77	X	-0.008	-0.008	0	%100
53	78	X	-0.008	-0.008	0	%100
54	79	X	-0.008	-0.008	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	-0.011	-0.011	0	%100
2	2	Z	-0.013	-0.013	0	%100
3	4	Z	-0.011	-0.011	0	%100
4	5	Z	-0.013	-0.013	0	%100
5	7	Z	-0.011	-0.011	0	%100
6	8	Z	-0.013	-0.013	0	%100
7	10	Z	-0.011	-0.011	0	%100
8	11	Z	-0.013	-0.013	0	%100
9	13	Z	-0.011	-0.011	0	%100
10	14	Z	-0.013	-0.013	0	%100
11	16	Z	-0.011	-0.011	0	%100
12	17	Z	-0.013	-0.013	0	%100
13	19	Z	-0.006	-0.006	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, %)]
14	20	Z	-0.006	-0.006	0	%100
15	21	Z	-0.006	-0.006	0	%100
16	22	Z	-0.006	-0.006	0	%100
17	23	Z	-0.006	-0.006	0	%100
18	24	Z	-0.006	-0.006	0	%100
19	25	Z	-0.002	-0.002	0	%100
20	26	Z	-0.002	-0.002	0	%100
21	27	Z	-0.002	-0.002	0	%100
22	28	Z	-0.002	-0.002	0	%100
23	29	Z	-0.002	-0.002	0	%100
24	30	Z	-0.002	-0.002	0	%100
25	35	Z	-0.006	-0.006	0	%100
26	36	Z	-0.006	-0.006	0	%100
27	37	Z	-0.006	-0.006	0	%100
28	38	Z	-0.006	-0.006	0	%100
29	39	Z	-0.006	-0.006	0	%100
30	40	Z	-0.006	-0.006	0	%100
31	41	Z	-0.007	-0.007	0	%100
32	43	Z	-0.013	-0.013	0	%100
33	45	Z	-0.013	-0.013	0	%100
34	46	Z	-0.008	-0.008	0	%100
35	47	Z	-0.007	-0.007	0	%100
36	49	Z	-0.013	-0.013	0	%100
37	51	Z	-0.013	-0.013	0	%100
38	52	Z	-0.008	-0.008	0	%100
39	53	Z	-0.007	-0.007	0	%100
40	55	Z	-0.013	-0.013	0	%100
41	57	Z	-0.013	-0.013	0	%100
42	58	Z	-0.008	-0.008	0	%100
43	62	Z	-0.002	-0.002	0	%100
44	66	Z	-0.002	-0.002	0	%100
45	70	Z	-0.002	-0.002	0	%100
46	71	Z	-0.005	-0.005	0	%100
47	72	Z	-0.005	-0.005	0	%100
48	73	Z	-0.005	-0.005	0	%100
49	74	Z	-0.002	-0.002	0	%100
50	75	Z	-0.002	-0.002	0	%100
51	76	Z	-0.002	-0.002	0	%100
52	77	Z	-0.002	-0.002	0	%100
53	78	Z	-0.002	-0.002	0	%100
54	79	Z	-0.002	-0.002	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	-0.011	-0.011	0	%100
2	2	X	-0.013	-0.013	0	%100
3	4	X	-0.011	-0.011	0	%100
4	5	X	-0.013	-0.013	0	%100
5	7	X	-0.011	-0.011	0	%100
6	8	X	-0.013	-0.013	0	%100
7	10	X	-0.011	-0.011	0	%100
8	11	X	-0.013	-0.013	0	%100
9	13	X	-0.011	-0.011	0	%100
10	14	X	-0.013	-0.013	0	%100
11	16	X	-0.011	-0.011	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, %)]
12	17	X	-0.013	-0.013	0	%100
13	19	X	-0.006	-0.006	0	%100
14	20	X	-0.006	-0.006	0	%100
15	21	X	-0.006	-0.006	0	%100
16	22	X	-0.006	-0.006	0	%100
17	23	X	-0.006	-0.006	0	%100
18	24	X	-0.006	-0.006	0	%100
19	25	X	-0.002	-0.002	0	%100
20	26	X	-0.002	-0.002	0	%100
21	27	X	-0.002	-0.002	0	%100
22	28	X	-0.002	-0.002	0	%100
23	29	X	-0.002	-0.002	0	%100
24	30	X	-0.002	-0.002	0	%100
25	35	X	-0.006	-0.006	0	%100
26	36	X	-0.006	-0.006	0	%100
27	37	X	-0.006	-0.006	0	%100
28	38	X	-0.006	-0.006	0	%100
29	39	X	-0.006	-0.006	0	%100
30	40	X	-0.006	-0.006	0	%100
31	41	X	-0.007	-0.007	0	%100
32	43	X	-0.013	-0.013	0	%100
33	45	X	-0.013	-0.013	0	%100
34	46	X	-0.008	-0.008	0	%100
35	47	X	-0.007	-0.007	0	%100
36	49	X	-0.013	-0.013	0	%100
37	51	X	-0.013	-0.013	0	%100
38	52	X	-0.008	-0.008	0	%100
39	53	X	-0.007	-0.007	0	%100
40	55	X	-0.013	-0.013	0	%100
41	57	X	-0.013	-0.013	0	%100
42	58	X	-0.008	-0.008	0	%100
43	62	X	-0.002	-0.002	0	%100
44	66	X	-0.002	-0.002	0	%100
45	70	X	-0.002	-0.002	0	%100
46	71	X	-0.005	-0.005	0	%100
47	72	X	-0.005	-0.005	0	%100
48	73	X	-0.005	-0.005	0	%100
49	74	X	-0.002	-0.002	0	%100
50	75	X	-0.002	-0.002	0	%100
51	76	X	-0.002	-0.002	0	%100
52	77	X	-0.002	-0.002	0	%100
53	78	X	-0.002	-0.002	0	%100
54	79	X	-0.002	-0.002	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	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	4	Z	-0.001	-0.001	0	%100
4	5	Z	-0.001	-0.001	0	%100
5	7	Z	-0.001	-0.001	0	%100
6	8	Z	-0.001	-0.001	0	%100
7	10	Z	-0.001	-0.001	0	%100
8	11	Z	-0.001	-0.001	0	%100
9	13	Z	-0.001	-0.001	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, %)]
10	14	Z	-0.001	-0.001	0	%100
11	16	Z	-0.001	-0.001	0	%100
12	17	Z	-0.001	-0.001	0	%100
13	19	Z	-0.001	-0.001	0	%100
14	20	Z	-0.001	-0.001	0	%100
15	21	Z	-0.001	-0.001	0	%100
16	22	Z	-0.001	-0.001	0	%100
17	23	Z	-0.001	-0.001	0	%100
18	24	Z	-0.001	-0.001	0	%100
19	25	Z	-0.0004	-0.0004	0	%100
20	26	Z	-0.0004	-0.0004	0	%100
21	27	Z	-0.0004	-0.0004	0	%100
22	28	Z	-0.0003	-0.0003	0	%100
23	29	Z	-0.0003	-0.0003	0	%100
24	30	Z	-0.0003	-0.0003	0	%100
25	35	Z	-0.0008	-0.0008	0	%100
26	36	Z	-0.0008	-0.0008	0	%100
27	37	Z	-0.0008	-0.0008	0	%100
28	38	Z	-0.0008	-0.0008	0	%100
29	39	Z	-0.0008	-0.0008	0	%100
30	40	Z	-0.0008	-0.0008	0	%100
31	41	Z	-0.001	-0.001	0	%100
32	43	Z	-0.001	-0.001	0	%100
33	45	Z	-0.001	-0.001	0	%100
34	46	Z	-0.001	-0.001	0	%100
35	47	Z	-0.001	-0.001	0	%100
36	49	Z	-0.001	-0.001	0	%100
37	51	Z	-0.001	-0.001	0	%100
38	52	Z	-0.001	-0.001	0	%100
39	53	Z	-0.001	-0.001	0	%100
40	55	Z	-0.001	-0.001	0	%100
41	57	Z	-0.001	-0.001	0	%100
42	58	Z	-0.001	-0.001	0	%100
43	62	Z	-0.0003	-0.0003	0	%100
44	66	Z	-0.0003	-0.0003	0	%100
45	70	Z	-0.0003	-0.0003	0	%100
46	71	Z	-0.0006	-0.0006	0	%100
47	72	Z	-0.0006	-0.0006	0	%100
48	73	Z	-0.0006	-0.0006	0	%100
49	74	Z	-0.0003	-0.0003	0	%100
50	75	Z	-0.0003	-0.0003	0	%100
51	76	Z	-0.0003	-0.0003	0	%100
52	77	Z	-0.0003	-0.0003	0	%100
53	78	Z	-0.0003	-0.0003	0	%100
54	79	Z	-0.0003	-0.0003	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	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	4	X	-0.001	-0.001	0	%100
4	5	X	-0.001	-0.001	0	%100
5	7	X	-0.001	-0.001	0	%100
6	8	X	-0.001	-0.001	0	%100
7	10	X	-0.001	-0.001	0	%100



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

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, %)]
8	11	X	-0.001	-0.001	0	%100
9	13	X	-0.001	-0.001	0	%100
10	14	X	-0.001	-0.001	0	%100
11	16	X	-0.001	-0.001	0	%100
12	17	X	-0.001	-0.001	0	%100
13	19	X	-0.001	-0.001	0	%100
14	20	X	-0.001	-0.001	0	%100
15	21	X	-0.001	-0.001	0	%100
16	22	X	-0.001	-0.001	0	%100
17	23	X	-0.001	-0.001	0	%100
18	24	X	-0.001	-0.001	0	%100
19	25	X	-0.0004	-0.0004	0	%100
20	26	X	-0.0004	-0.0004	0	%100
21	27	X	-0.0004	-0.0004	0	%100
22	28	X	-0.0003	-0.0003	0	%100
23	29	X	-0.0003	-0.0003	0	%100
24	30	X	-0.0003	-0.0003	0	%100
25	35	X	-0.0008	-0.0008	0	%100
26	36	X	-0.0008	-0.0008	0	%100
27	37	X	-0.0008	-0.0008	0	%100
28	38	X	-0.0008	-0.0008	0	%100
29	39	X	-0.0008	-0.0008	0	%100
30	40	X	-0.0008	-0.0008	0	%100
31	41	X	-0.001	-0.001	0	%100
32	43	X	-0.001	-0.001	0	%100
33	45	X	-0.001	-0.001	0	%100
34	46	X	-0.001	-0.001	0	%100
35	47	X	-0.001	-0.001	0	%100
36	49	X	-0.001	-0.001	0	%100
37	51	X	-0.001	-0.001	0	%100
38	52	X	-0.001	-0.001	0	%100
39	53	X	-0.001	-0.001	0	%100
40	55	X	-0.001	-0.001	0	%100
41	57	X	-0.001	-0.001	0	%100
42	58	X	-0.001	-0.001	0	%100
43	62	X	-0.0003	-0.0003	0	%100
44	66	X	-0.0003	-0.0003	0	%100
45	70	X	-0.0003	-0.0003	0	%100
46	71	X	-0.0006	-0.0006	0	%100
47	72	X	-0.0006	-0.0006	0	%100
48	73	X	-0.0006	-0.0006	0	%100
49	74	X	-0.0003	-0.0003	0	%100
50	75	X	-0.0003	-0.0003	0	%100
51	76	X	-0.0003	-0.0003	0	%100
52	77	X	-0.0003	-0.0003	0	%100
53	78	X	-0.0003	-0.0003	0	%100
54	79	X	-0.0003	-0.0003	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	-0.015	-0.015	0	%100
2	2	Y	-0.015	-0.015	0	%100
3	4	Y	-0.015	-0.015	0	%100
4	5	Y	-0.015	-0.015	0	%100
5	7	Y	-0.015	-0.015	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, %)]
6	8	Y	-0.015	-0.015	0	%100
7	10	Y	-0.015	-0.015	0	%100
8	11	Y	-0.015	-0.015	0	%100
9	13	Y	-0.015	-0.015	0	%100
10	14	Y	-0.015	-0.015	0	%100
11	16	Y	-0.015	-0.015	0	%100
12	17	Y	-0.015	-0.015	0	%100
13	19	Y	-0.014	-0.014	0	%100
14	20	Y	-0.014	-0.014	0	%100
15	21	Y	-0.014	-0.014	0	%100
16	22	Y	-0.014	-0.014	0	%100
17	23	Y	-0.014	-0.014	0	%100
18	24	Y	-0.014	-0.014	0	%100
19	25	Y	-0.01	-0.01	0	%100
20	26	Y	-0.01	-0.01	0	%100
21	27	Y	-0.01	-0.01	0	%100
22	28	Y	-0.008	-0.008	0	%100
23	29	Y	-0.008	-0.008	0	%100
24	30	Y	-0.008	-0.008	0	%100
25	35	Y	-0.009	-0.009	0	%100
26	36	Y	-0.009	-0.009	0	%100
27	37	Y	-0.009	-0.009	0	%100
28	38	Y	-0.009	-0.009	0	%100
29	39	Y	-0.009	-0.009	0	%100
30	40	Y	-0.009	-0.009	0	%100
31	41	Y	-0.014	-0.014	0	%100
32	43	Y	-0.016	-0.016	0	%100
33	45	Y	-0.016	-0.016	0	%100
34	46	Y	-0.016	-0.016	0	%100
35	47	Y	-0.014	-0.014	0	%100
36	49	Y	-0.016	-0.016	0	%100
37	51	Y	-0.016	-0.016	0	%100
38	52	Y	-0.016	-0.016	0	%100
39	53	Y	-0.014	-0.014	0	%100
40	55	Y	-0.016	-0.016	0	%100
41	57	Y	-0.016	-0.016	0	%100
42	58	Y	-0.016	-0.016	0	%100
43	62	Y	-0.008	-0.008	0	%100
44	66	Y	-0.008	-0.008	0	%100
45	70	Y	-0.008	-0.008	0	%100
46	71	Y	-0.01	-0.01	0	%100
47	72	Y	-0.01	-0.01	0	%100
48	73	Y	-0.01	-0.01	0	%100
49	74	Y	-0.008	-0.008	0	%100
50	75	Y	-0.008	-0.008	0	%100
51	76	Y	-0.008	-0.008	0	%100
52	77	Y	-0.008	-0.008	0	%100
53	78	Y	-0.008	-0.008	0	%100
54	79	Y	-0.008	-0.008	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	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	4	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, %)]
4	5	Z	-0.001	-0.001	0	%100
5	7	Z	-0.001	-0.001	0	%100
6	8	Z	-0.001	-0.001	0	%100
7	10	Z	-0.001	-0.001	0	%100
8	11	Z	-0.001	-0.001	0	%100
9	13	Z	-0.001	-0.001	0	%100
10	14	Z	-0.001	-0.001	0	%100
11	16	Z	-0.001	-0.001	0	%100
12	17	Z	-0.001	-0.001	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	20	Z	-0.002	-0.002	0	%100
15	21	Z	-0.002	-0.002	0	%100
16	22	Z	-0.002	-0.002	0	%100
17	23	Z	-0.002	-0.002	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	25	Z	-0.002	-0.002	0	%100
20	26	Z	-0.002	-0.002	0	%100
21	27	Z	-0.002	-0.002	0	%100
22	28	Z	-0.0007	-0.0007	0	%100
23	29	Z	-0.0007	-0.0007	0	%100
24	30	Z	-0.0007	-0.0007	0	%100
25	35	Z	-0.0005	-0.0005	0	%100
26	36	Z	-0.0005	-0.0005	0	%100
27	37	Z	-0.0005	-0.0005	0	%100
28	38	Z	-0.0005	-0.0005	0	%100
29	39	Z	-0.0005	-0.0005	0	%100
30	40	Z	-0.0005	-0.0005	0	%100
31	41	Z	-0.002	-0.002	0	%100
32	43	Z	-0.002	-0.002	0	%100
33	45	Z	-0.002	-0.002	0	%100
34	46	Z	-0.002	-0.002	0	%100
35	47	Z	-0.002	-0.002	0	%100
36	49	Z	-0.002	-0.002	0	%100
37	51	Z	-0.002	-0.002	0	%100
38	52	Z	-0.002	-0.002	0	%100
39	53	Z	-0.002	-0.002	0	%100
40	55	Z	-0.002	-0.002	0	%100
41	57	Z	-0.002	-0.002	0	%100
42	58	Z	-0.002	-0.002	0	%100
43	62	Z	-0.0007	-0.0007	0	%100
44	66	Z	-0.0007	-0.0007	0	%100
45	70	Z	-0.0007	-0.0007	0	%100
46	71	Z	-0.0008	-0.0008	0	%100
47	72	Z	-0.0008	-0.0008	0	%100
48	73	Z	-0.0008	-0.0008	0	%100
49	74	Z	-0.0007	-0.0007	0	%100
50	75	Z	-0.0007	-0.0007	0	%100
51	76	Z	-0.0007	-0.0007	0	%100
52	77	Z	-0.0007	-0.0007	0	%100
53	78	Z	-0.0007	-0.0007	0	%100
54	79	Z	-0.0007	-0.0007	0	%100



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

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	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	4	X	-0.001	-0.001	0	%100
4	5	X	-0.001	-0.001	0	%100
5	7	X	-0.001	-0.001	0	%100
6	8	X	-0.001	-0.001	0	%100
7	10	X	-0.001	-0.001	0	%100
8	11	X	-0.001	-0.001	0	%100
9	13	X	-0.001	-0.001	0	%100
10	14	X	-0.001	-0.001	0	%100
11	16	X	-0.001	-0.001	0	%100
12	17	X	-0.001	-0.001	0	%100
13	19	X	-0.002	-0.002	0	%100
14	20	X	-0.002	-0.002	0	%100
15	21	X	-0.002	-0.002	0	%100
16	22	X	-0.002	-0.002	0	%100
17	23	X	-0.002	-0.002	0	%100
18	24	X	-0.002	-0.002	0	%100
19	25	X	-0.002	-0.002	0	%100
20	26	X	-0.002	-0.002	0	%100
21	27	X	-0.002	-0.002	0	%100
22	28	X	-0.0007	-0.0007	0	%100
23	29	X	-0.0007	-0.0007	0	%100
24	30	X	-0.0007	-0.0007	0	%100
25	35	X	-0.0005	-0.0005	0	%100
26	36	X	-0.0005	-0.0005	0	%100
27	37	X	-0.0005	-0.0005	0	%100
28	38	X	-0.0005	-0.0005	0	%100
29	39	X	-0.0005	-0.0005	0	%100
30	40	X	-0.0005	-0.0005	0	%100
31	41	X	-0.002	-0.002	0	%100
32	43	X	-0.002	-0.002	0	%100
33	45	X	-0.002	-0.002	0	%100
34	46	X	-0.002	-0.002	0	%100
35	47	X	-0.002	-0.002	0	%100
36	49	X	-0.002	-0.002	0	%100
37	51	X	-0.002	-0.002	0	%100
38	52	X	-0.002	-0.002	0	%100
39	53	X	-0.002	-0.002	0	%100
40	55	X	-0.002	-0.002	0	%100
41	57	X	-0.002	-0.002	0	%100
42	58	X	-0.002	-0.002	0	%100
43	62	X	-0.0007	-0.0007	0	%100
44	66	X	-0.0007	-0.0007	0	%100
45	70	X	-0.0007	-0.0007	0	%100
46	71	X	-0.0008	-0.0008	0	%100
47	72	X	-0.0008	-0.0008	0	%100
48	73	X	-0.0008	-0.0008	0	%100
49	74	X	-0.0007	-0.0007	0	%100
50	75	X	-0.0007	-0.0007	0	%100
51	76	X	-0.0007	-0.0007	0	%100
52	77	X	-0.0007	-0.0007	0	%100
53	78	X	-0.0007	-0.0007	0	%100
54	79	X	-0.0007	-0.0007	0	%100



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

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	35	Y	-0.005	-0.009	2.167	4.334
2	36	Y	-0.001	-0.005	0	2.167
3	36	Y	-0.005	-0.009	2.167	4.334
4	41	Y	-0.011	-0.011	3.701	5.424
5	23	Y	-0.009	-0.009	0	0.979
6	24	Y	-0.009	-0.009	0	0.978
7	39	Y	-0.001	-0.005	0	2.167
8	39	Y	-0.005	-0.009	2.167	4.334
9	40	Y	-0.001	-0.005	0	2.167
10	40	Y	-0.005	-0.009	2.167	4.334
11	53	Y	-0.011	-0.011	3.7	5.427
12	21	Y	-0.009	-0.009	0	0.979
13	22	Y	-0.009	-0.009	0	0.978
14	37	Y	-0.001	-0.005	0	2.167
15	37	Y	-0.005	-0.009	2.167	4.334
16	38	Y	-0.001	-0.005	0	2.167
17	38	Y	-0.005	-0.009	2.167	4.334
18	47	Y	-0.011	-0.011	3.7	5.427
19	19	Y	-0.009	-0.009	0	0.979
20	20	Y	-0.009	-0.009	0	0.979
21	35	Y	-0.001	-0.005	0	2.167

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

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	53	Y	-0.009	-0.009	3.7	5.427
2	21	Y	-0.007	-0.007	0	0.979
3	22	Y	-0.007	-0.007	0	0.979
4	37	Y	-0.001	-0.004	0	2.167
5	37	Y	-0.004	-0.007	2.167	4.334
6	38	Y	-0.001	-0.004	0	2.167
7	38	Y	-0.004	-0.007	2.167	4.334
8	47	Y	-0.009	-0.009	3.701	5.424
9	19	Y	-0.007	-0.007	0	0.979
10	20	Y	-0.007	-0.007	0	0.978
11	35	Y	-0.001	-0.004	0	2.167
12	35	Y	-0.004	-0.007	2.167	4.334
13	36	Y	-0.001	-0.004	0	2.167
14	36	Y	-0.004	-0.007	2.167	4.334
15	41	Y	-0.009	-0.009	3.7	5.427
16	23	Y	-0.007	-0.007	0	0.979
17	24	Y	-0.007	-0.007	0	0.978
18	39	Y	-0.001	-0.004	0	2.167
19	39	Y	-0.004	-0.007	2.167	4.334
20	40	Y	-0.001	-0.004	0	2.167
21	40	Y	-0.004	-0.007	2.167	4.334

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	78	63	64	78	Y	Two Way	-0.01
2	62	68	61	62	Y	Two Way	-0.01
3	65	66	88	65	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Direction	Load Direction	Magnitude [ksf]
1	78	63	64	Y	Two Way	-0.008
2	62	68	61	Y	Two Way	-0.008
3	65	66	88	Y	Two Way	-0.008

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	57	L	Y	-0.5
2	143	L	Y	-0.5
3	149	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	55	L	Y	-0.5
2	141	L	Y	-0.5
3	147	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	53	L	Y	-0.5
2	59	L	Y	-0.5
3	145	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		45		3
2	0 Wind - No Ice	WLZ			45	54	
3	90 Wind - No Ice	WLX			45	54	
4	0 Wind - Ice	WLZ			45	54	
5	90 Wind - Ice	WLX			45	54	
6	0 Wind - Service	WLZ			45	54	
7	90 Wind - Service	WLX			45	54	
8	Ice	OL1			45	54	3
9	0 Seismic	ELZ			45	54	
10	90 Seismic	ELX			45	54	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
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		

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
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	BLC 1 Transient Area Loads	None				21	
31	BLC 8 Transient Area Loads	None				21	

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		
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



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

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	77	max	1.829	6	3.072	18	1.722	13	-0.161	13	1.576	3	-1.083	12
2		min	-1.892	12	0.687	13	-1.685	7	-4.419	19	-1.574	9	-7.423	18
3	87	max	1.899	4	3.074	22	1.694	3	-0.148	3	1.567	7	7.46	22
4		min	-1.836	10	0.686	3	-1.657	9	-4.362	21	-1.57	13	1.103	4
5	67	max	0.789	5	3.124	14	2.933	2	8.832	14	1.126	11	0.359	11
6		min	-0.789	11	0.435	8	-3.007	8	0.01	8	-1.126	5	-0.395	5
7	Totals:	max	4.21	5	8.879	20	6.258	2						
8		min	-4.21	11	3.593	2	-6.258	8						

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

Member	Shape	Code Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	PL3/8X6_HRA	0.073	0.166	11	0.689	0.166	y	15	68.936	73.872	0.585	9.234	1.477	H1-1b
2	2	PL3/8X6_HRA	0.111	0.125	6	0.461	0	y	25	71.02	73.872	0.585	9.234	1.367	H1-1b
3	4	PL3/8X6_HRA	0.075	0.166	5	0.664	0.166	y	25	68.936	73.872	0.585	9.234	1.463	H1-1b
4	5	PL3/8X6_HRA	0.11	0.125	10	0.462	0	y	15	71.02	73.872	0.585	9.234	1.37	H1-1b
5	7	PL3/8X6_HRA	0.128	0.166	2	0.695	0.166	y	20	68.936	73.872	0.585	9.234	1.405	H1-1b
6	8	PL3/8X6_HRA	0.155	0.125	9	0.456	0	y	17	71.02	73.872	0.585	9.234	1.352	H1-1b
7	10	PL3/8X6_HRA	0.128	0.166	9	0.655	0.166	y	16	68.936	73.872	0.585	9.234	1.433	H1-1b
8	11	PL3/8X6_HRA	0.177	0.125	2	0.462	0	y	19	71.02	73.872	0.585	9.234	1.348	H1-1b
9	13	PL3/8X6_HRA	0.124	0.166	7	0.68	0.166	y	24	68.936	73.872	0.585	9.234	1.441	H1-1b
10	14	PL3/8X6_HRA	0.176	0.125	2	0.462	0	y	21	71.02	73.872	0.585	9.234	1.346	H1-1b
11	16	PL3/8X6_HRA	0.13	0.166	2	0.671	0.166	y	20	68.936	73.872	0.585	9.234	1.401	H1-1b
12	17	PL3/8X6_HRA	0.154	0.125	7	0.456	0	y	23	71.02	73.872	0.585	9.234	1.354	H1-1b
13	19	HSS4X4X4	0.243	0	25	0.047	0	y	24	135.653	139.518	16.181	16.181	1.611	H1-1b
14	20	HSS4X4X4	0.243	0	15	0.049	0	y	16	135.653	139.518	16.181	16.181	1.614	H1-1b
15	21	HSS4X4X4	0.241	0	16	0.048	0	y	15	135.653	139.518	16.181	16.181	1.614	H1-1b
16	22	HSS4X4X4	0.245	0	20	0.05	0	y	20	135.653	139.518	16.181	16.181	1.617	H1-1b
17	23	HSS4X4X4	0.246	0	20	0.048	0	y	20	135.653	139.518	16.181	16.181	1.614	H1-1b
18	24	HSS4X4X4	0.241	0	24	0.049	0	y	25	135.653	139.518	16.181	16.181	1.617	H1-1b
19	25	PIPE 3.0	0.283	11.167	21	0.09	4.667		7	17.466	65.205	5.749	5.749	1.747	H1-1b
20	26	PIPE 3.0	0.29	11.167	14	0.101	11.167		2	17.466	65.205	5.749	5.749	1.757	H1-1b
21	27	PIPE 3.0	0.285	4.833	14	0.102	4.833		2	17.466	65.205	5.749	5.749	1.747	H1-1b
22	28	PIPE 2.0	0.549	4.083	9	0.344	1.167		8	17.855	32.13	1.872	1.872	1.895	H3-6
23	29	PIPE 2.0	0.642	6.458	2	0.071	6.458		11	9.837	32.13	1.872	1.872	3	H1-1b
24	30	PIPE 2.0	0.548	4.083	7	0.348	1.167		8	17.855	32.13	1.872	1.872	1.894	H3-6
25	35	L2x2x3	0.194	4.334	2	0.014	0	y	20	9.124	23.393	0.558	1.115	1.4	H2-1
26	36	L2x2x3	0.199	4.334	2	0.013	0	z	20	9.124	23.393	0.558	1.119	1.421	H2-1
27	37	L2x2x3	0.16	0	6	0.014	0	y	23	9.124	23.393	0.558	1.131	1.5	H2-1
28	38	L2x2x3	0.151	4.334	7	0.013	0	z	25	9.124	23.393	0.558	1.131	1.5	H2-1
29	39	L2x2x3	0.146	0	10	0.014	0	y	15	9.124	23.393	0.558	1.131	1.5	H2-1
30	40	L2x2x3	0.159	0	10	0.013	0	z	17	9.124	23.393	0.558	1.131	1.5	H2-1
31	41	HSS4X4X4	0.552	0	15	0.088	0	y	16	116.906	139.518	16.181	16.181	3	H1-1b
32	43	PL1/2x6	0.094	0.25	2	0.059	0.25	y	73	95.031	97.2	1.012	12.15	2.097	H1-1b
33	45	PL1/2x6	0.093	0.25	2	0.067	0.25	y	39	95.031	97.2	1.012	12.15	2.145	H1-1b
34	46	PL1/2x6	0.138	0.519	8	0.102	0.519	y	46	65.844	97.2	1.012	12.15	1.326	H1-1b
35	47	HSS4X4X4	0.549	0	19	0.092	0	y	20	116.906	139.518	16.181	16.181	3	H1-1b
36	49	PL1/2x6	0.068	0.25	6	0.058	0.25	y	64	95.031	97.2	1.012	12.15	1.486	H1-1b
37	51	PL1/2x6	0.067	0.25	7	0.067	0.25	y	44	95.031	97.2	1.012	12.15	1.731	H1-1b
38	52	PL1/2x6	0.107	0.519	7	0.103	0.519	y	38	65.844	97.2	1.012	12.15	1.415	H1-1b
39	53	HSS4X4X4	0.548	0	21	0.09	0	y	25	116.906	139.518	16.181	16.181	3	H1-1b
40	55	PL1/2x6	0.07	0.25	9	0.059	0.25	y	68	95.031	97.2	1.012	12.15	1.653	H1-1b
41	57	PL1/2x6	0.068	0.25	10	0.066	0.25	y	48	95.031	97.2	1.012	12.15	1.727	H1-1b
42	58	PL1/2x6	0.109	0.519	3	0.102	0.519	y	43	65.844	97.2	1.012	12.15	1.441	H1-1b
43	62	PIPE 2.0	0.42	14.5	7	0.245	14.333		8	3.842	32.13	1.872	1.872	2.328	H1-1b



Company : B+T Group
 Designer : APK
 Job Number : 136354.008.01
 Model Name : 876326 - Hayden Station

2/9/2022
 3:01:17 PM
 Checked By : _____

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

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
44	66	PIPE	2.0	0.434	8	2	0.204	0.667	7		3.842	32.13	1.872	1.872	1.778	H1-1b
45	70	PIPE	2.0	0.431	14.5	2	0.199	15.333	9		3.842	32.13	1.872	1.872	1.782	H1-1b
46	71	L2.5x2.5x4		0.383	1.245	7	0.221	1.245	y	3	36.654	38.556	1.114	2.537	1.5	H2-1
47	72	L2.5x2.5x4		0.386	0	9	0.222	1.245	y	7	36.654	38.556	1.114	2.537	1.5	H2-1
48	73	L2.5x2.5x4		0.405	0	2	0.13	1.245	y	11	36.654	38.556	1.114	2.537	1.015	H2-1
49	74	PIPE	2.0	0.635	4.083	13	0.298	4.083	13		17.855	32.13	1.872	1.872	2.008	H3-6
50	75	PIPE	2.0	0.657	6.458	8	0.116	6.458	2		9.837	32.13	1.872	1.872	2.721	H1-1b
51	76	PIPE	2.0	0.555	4.083	9	0.215	1.167	12		17.855	32.13	1.872	1.872	2.001	H1-1b
52	77	PIPE	2.0	0.555	4.083	7	0.212	1.167	4		17.855	32.13	1.872	1.872	1.994	H1-1b
53	78	PIPE	2.0	0.665	6.458	8	0.117	6.458	8		9.837	32.13	1.872	1.872	2.769	H1-1b
54	79	PIPE	2.0	0.637	4.083	3	0.3	4.083	3		17.855	32.13	1.872	1.872	2.01	H3-6

APPENDIX D
ADDITIONAL CALCUATIONS

PROJECT	136354.008.01 - Hayden Station, CT			KSC
SUBJECT	Platform Mount Analysis			
DATE	02/10/22	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	:	2.933	k
Vertical Shear	:	3.124	k
Horizontal Shear	:	0.789	k
Torsion	:	0.359	k.ft
Moment from Horizontal Forces	:	1.126	k.ft
Moment from Vertical Forces	:	8.832	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	:	3.22	k
Force from Horz. Moment	:	2.04	k
Force from Vert. Moment	:	16.00	k
Shear Load / Bolt	:	0.81	k
Tension Load / Bolt	:	0.73	k
Resultant from Moments / Bolt	:	8.06	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	:	42.45%		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	:	13.92%		OKAY
Unity Check, Combined	:	56.37%		OKAY
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	2.32%		OKAY

PROJECT	136354.008.01 - Hayden Station, CT			KSC	
SUBJECT	Platform Mount Analysis				
DATE	02/10/22	PAGE	1	OF	1



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

[REF: AISC 360-05]

Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	9.00	in	
Plate Width	:	9.00	in	
Plate Thickness	:	0.50	in	
Edge Distance	:	1.06	in	
Gross Tension Area, A_{gt}	:	4.50	in ²	
Gross Shear Area, A_{gv}	:	0.75	in ²	
Net Area for tension, A_{nt}	:	4.16	in ²	
Net Area for shear, A_{nt}	:	3.00	in ²	

Plate Check

Available Tensile Yield	:	145.80	k	[Eq. J4-1]
Available Tensile Rupture	:	180.80	k	[Eq. J4-2]
Unity Check, Plate Tension	:	6.03%		OKAY
Available Shear Yield	:	16.20	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	19.89%		OKAY
Available Block Shear, ΦR_n	:	77.40	k	[Eq. J4-5]
Unity Check, Block Shear	:	4.16%		OKAY



Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CT11280A

Windsor Locks / Airport
440 Hayden Station Road
Windsor, CT 06095

March 2, 2022

Fox Hill Project Number: 220516

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	55.49 %



March 2, 2022

T-MOBILE

Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CT11280A – Windsor Locks / Airport**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **440 Hayden Station Road, Windsor, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE 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.

Population 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 & 700 MHz 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 2500 MHz (BRS) 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.



Fox Hill Telecom

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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **440 Hayden Station Road, Windsor, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
UMTS	2100 MHz (AWS)	1	40
LTE / 5G NR	2500 MHz (BRS)	8	20

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	75
A	2	Commscope VV-65A-R1	75
A	3	Ericsson AIR6419 B41	75
B	1	RFS APXVAALL24_43-U-NA20	75
B	2	Commscope VV-65A-R1	75
B	3	Ericsson AIR6419 B41	75
C	1	RFS APXVAALL24_43-U-NA20	75
C	2	Commscope VV-65A-R1	75
C	3	Ericsson AIR6419 B41	75

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	5.07
Antenna A2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	10.84
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	17.07
Sector A Composite MPE%							32.98
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	5.07
Antenna B2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	10.84
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	17.07
Sector B Composite MPE%							32.98
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	5.07
Antenna C2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	10.84
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	17.07
Sector C Composite MPE%							32.98

Table 3: T-MOBILE Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	32.98 %
AT&T	20.47 %
Clearwire	0.31 %
Sprint	1.73 %
Site Total MPE %:	55.49 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	32.98 %
T-MOBILE Sector B Total:	32.98 %
T-MOBILE Sector C Total:	32.98 %
<hr/>	
Site Total:	55.49 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# 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
T-Mobile 600 MHz LTE / 5G NR	2	926.96	75	14.00	600 MHz	400	3.50%
T-Mobile 700 MHz LTE	2	485.32	75	7.33	700 MHz	467	1.57%
T-Mobile 1900 MHz (PCS) LTE	4	1,435.69	75	43.36	1900 MHz (PCS)	1000	4.34%
T-Mobile 1900 MHz (PCS) GSM	1	538.38	75	4.07	1900 MHz (PCS)	1000	0.41%
T-Mobile 2100 MHz (AWS) LTE	4	1,610.87	75	48.66	2100 MHz (AWS)	1000	4.87%
T-Mobile 2100 MHz (AWS) UMTS	1	1,610.87	75	12.16	2100 MHz (AWS)	1000	1.22%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	75	170.66	2500 MHz (BRS)	1000	17.07%
						Total:	32.98%

Table 6: T-MOBILE Maximum Sector MPE Power Values



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 T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	32.98 %
Sector B:	32.98 %
Sector C:	32.98 %
T-MOBILE Maximum Total (per sector):	32.98 %
Site Total:	55.49 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **55.49 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

T-Mobile

T-MOBILE SITE NUMBER: CT11280A

T-MOBILE SITE NAME: WINDSOR LOCKS/AIRPORT

SITE TYPE: MONOPOLE

TOWER HEIGHT: 96'-0"

BUSINESS UNIT #: 876326

SITE ADDRESS: 440 HAYDEN STATION ROAD WINDSOR, CT 06095

COUNTY: HARTFORD

JURISDICTION: CONNECTICUT SITING COUNCIL

T-MOBILE ANCHOR SITE CONFIGURATION: 67E5D998E 6160

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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

B+T GRP

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

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

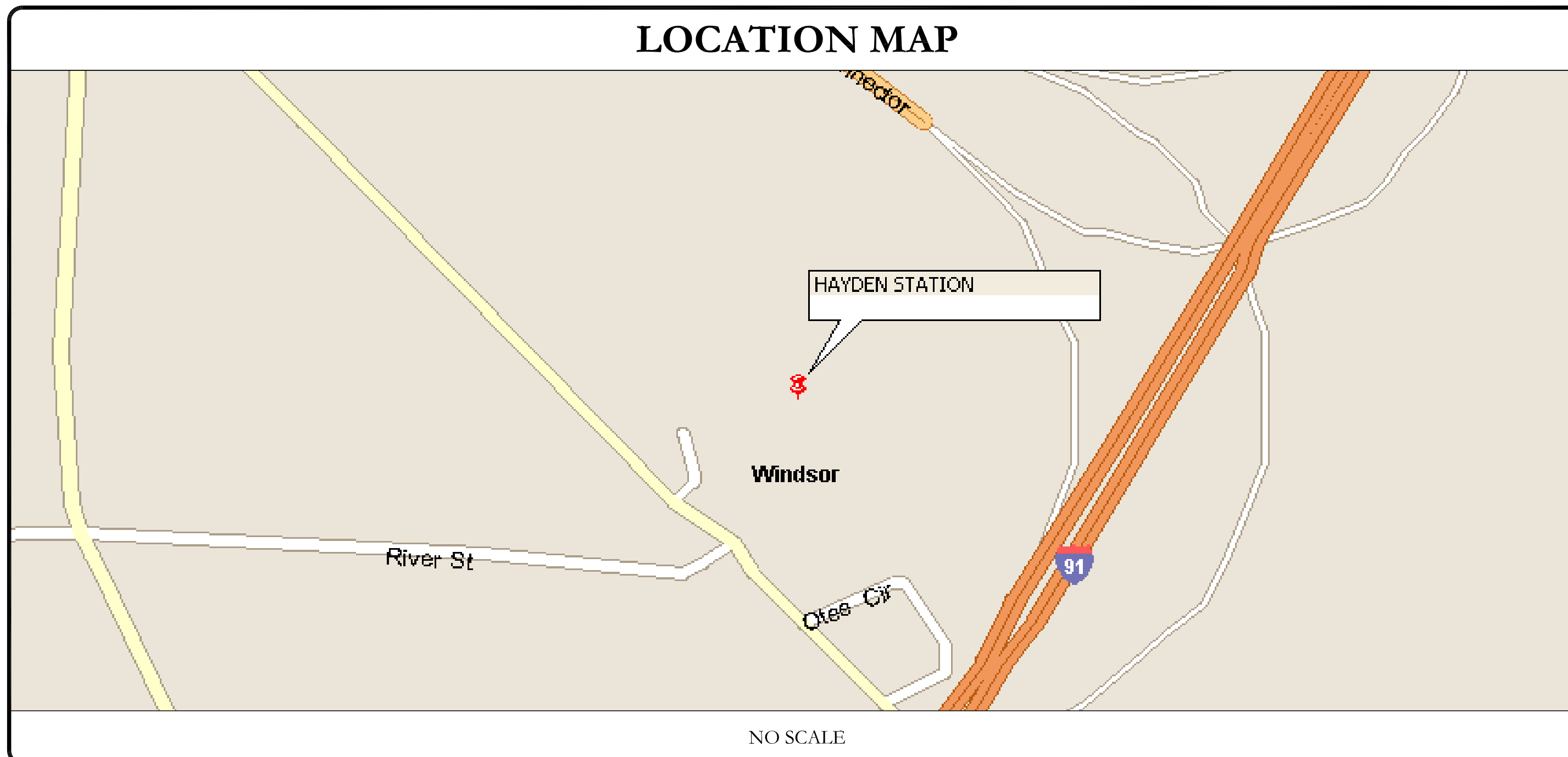
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	HAYDEN STATION
SITE ADDRESS:	440 HAYDEN STATION ROAD WINDSOR, CT 06095
COUNTY:	HARTFORD
MAP/PARCEL #:	6739
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.89784200
LONGITUDE:	-72.64400100
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	144 FT
CURRENT ZONING:	I
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:	CB BAGGS LLP TAX DEPT PO BOX 8430 KANSAS CITY, MO 64114
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	NOT PROVIDED
TELCO PROVIDER:	NOT PROVIDED

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5.1 & C-5.2	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS

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.



PROJECT DESCRIPTION	
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.	
TOWER SCOPE OF WORK:	
<ul style="list-style-type: none"> REMOVE (9) ANTENNAS REMOVE (3) RRUS REMOVE (3) TMAS REMOVE (12) COAX CABLES (7/8") REMOVE (1) HYBRID CABLE (1-5/8") INSTALL (9) ANTENNAS INSTALL (6) RRUS INSTALL (3) HYBRID CABLES (1-5/8") INSTALL MOUNT MODIFICATIONS PER MOUNT ANALYSIS BY B+T GROUP DATED 2/10/22 	
GROUND SCOPE OF WORK:	
<ul style="list-style-type: none"> REMOVE (1) RBS 6131 CABINET REMOVE (1) NORTEL CABINET REMOVE (1) DUW 30 & (6) RU22 RELOCATE (1) DUW 30, (1) DUG 20, & (1) BB 6630 RELOCATE EXISTING BATTERIES INSTALL (1) 6160 V1 CABINET INSTALL (1) B160 BATTERY CABINET INSTALL (1) AAV CABINET INSTALL H-FRAME INSTALL (1) BB 6648, (2) RP 6651, (2) RBS 6601, (2) PSU 4813 VR2A VOLTAGE BOOSTERS, (1) CSR IXRE V2 (GEN2) ROUTER 	
NOTE: PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.	

PROJECT TEAM	
A&E FIRM:	B+T GROUP 1717 S BOULDER AVE, SUITE 300 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
	TRICIA PELON - PROJECT MANAGER TRICIA.PELON@CROWNCastle.COM (518) 373-3507
	JASON DAMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCastle.COM (860) 209-0104

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:	B+T GROUP DATED: 2/16/22
MOUNT ANALYSIS:	B+T GROUP DATED: 2/10/22
RFDS REVISION:	6 DATED: 1/21/22
ORDER ID:	603528
REVISION:	0

APPROVALS		
APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.	_____	_____
LAND USE PLANNER	_____	_____
T-MOBILE	_____	_____
OPERATIONS	_____	_____
RF	_____	_____
NETWORK	_____	_____
BACKHAUL	_____	_____
CONSTRUCTION MANAGER	_____	_____

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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: 2
-----------------------------	-----------------------

1:36:35.4 006.01_Hayden_Station_ETC_T-Mobile_2.9.2022.dwg - Sheet1-1 - User: mjonas - Feb 27, 2022 - 10:07am

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: T--MOBILE
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 AIC 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 WORK 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 (WIREMOLD 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 LOCKOUT 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 "T--MOBILE".
- 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
	A PHASE	BROWN
DC VOLTAGE	POS (+)	RED**
	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



35 GRIFFIN ROAD
BLOOMFIELD, CT 06002



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



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

T-MOBILE SITE NUMBER:
CT11280A


BU #: 876326
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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-2 **REVISION:** 2

SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM JURISDICTIONAL GIS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET.

T-Mobile
 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

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

B+T GRP
 1717 S. BOULDER
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-MOBILE SITE NUMBER:
CT11280A


BU #: 876326
HAYDEN STATION

440 HAYDEN STATION ROAD
 WINDSOR, CT 06095

EXISTING
 96'-0" MONOPOLE

ISSUED FOR:

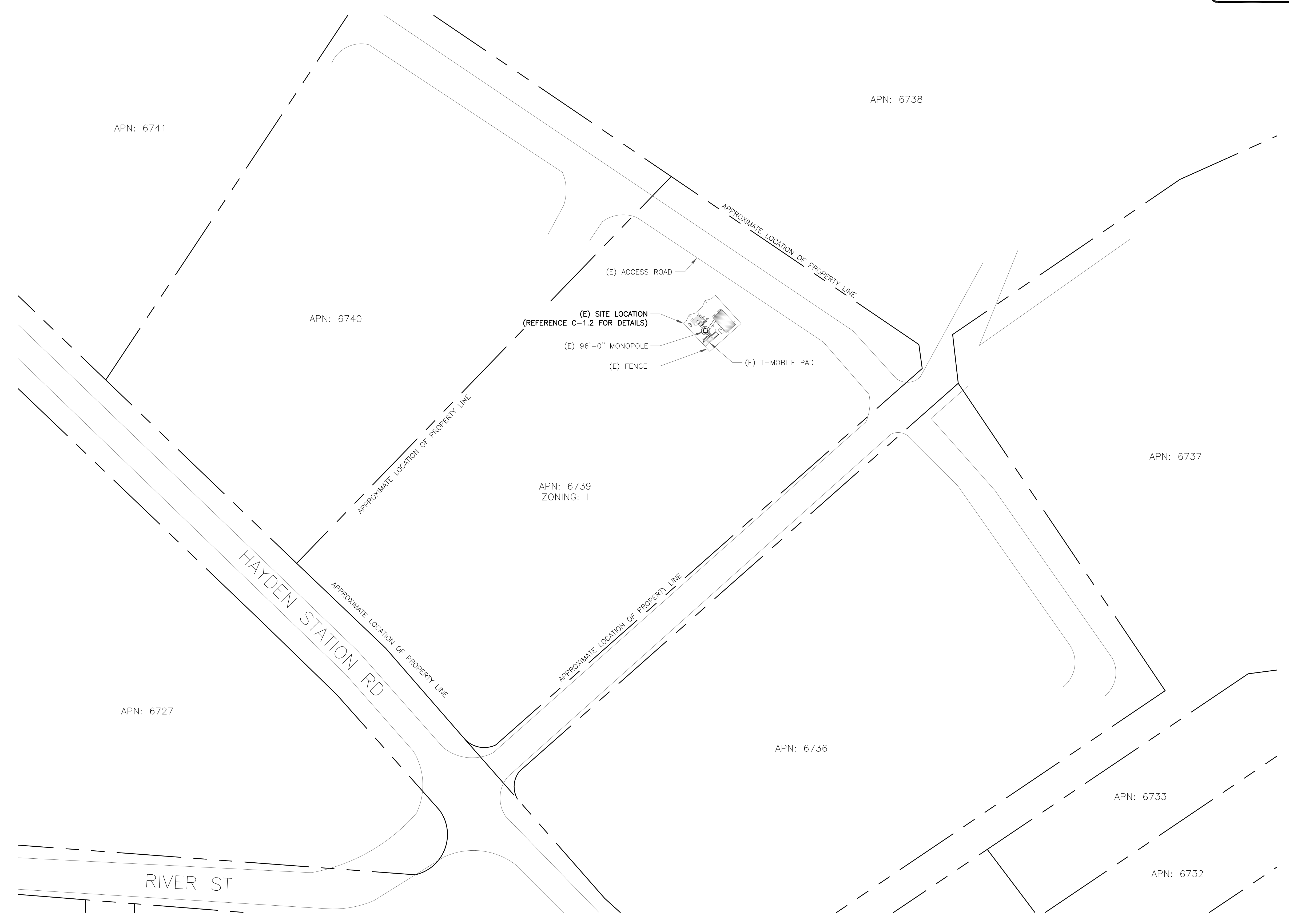
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/23

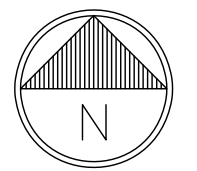
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: C-1.1 **REVISION:** 2



1 OVERALL SITE PLAN

SCALE: 1" = 50'-0" (FULL SIZE)
 1" = 100'-0" (11x17)



1:36354.006.01_Hayden_Station_ETA_T-Mobile_2.9.2022.dwg - Sheet: C-1.1 - User: mjones - Feb 27, 2022 - 10:09am

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

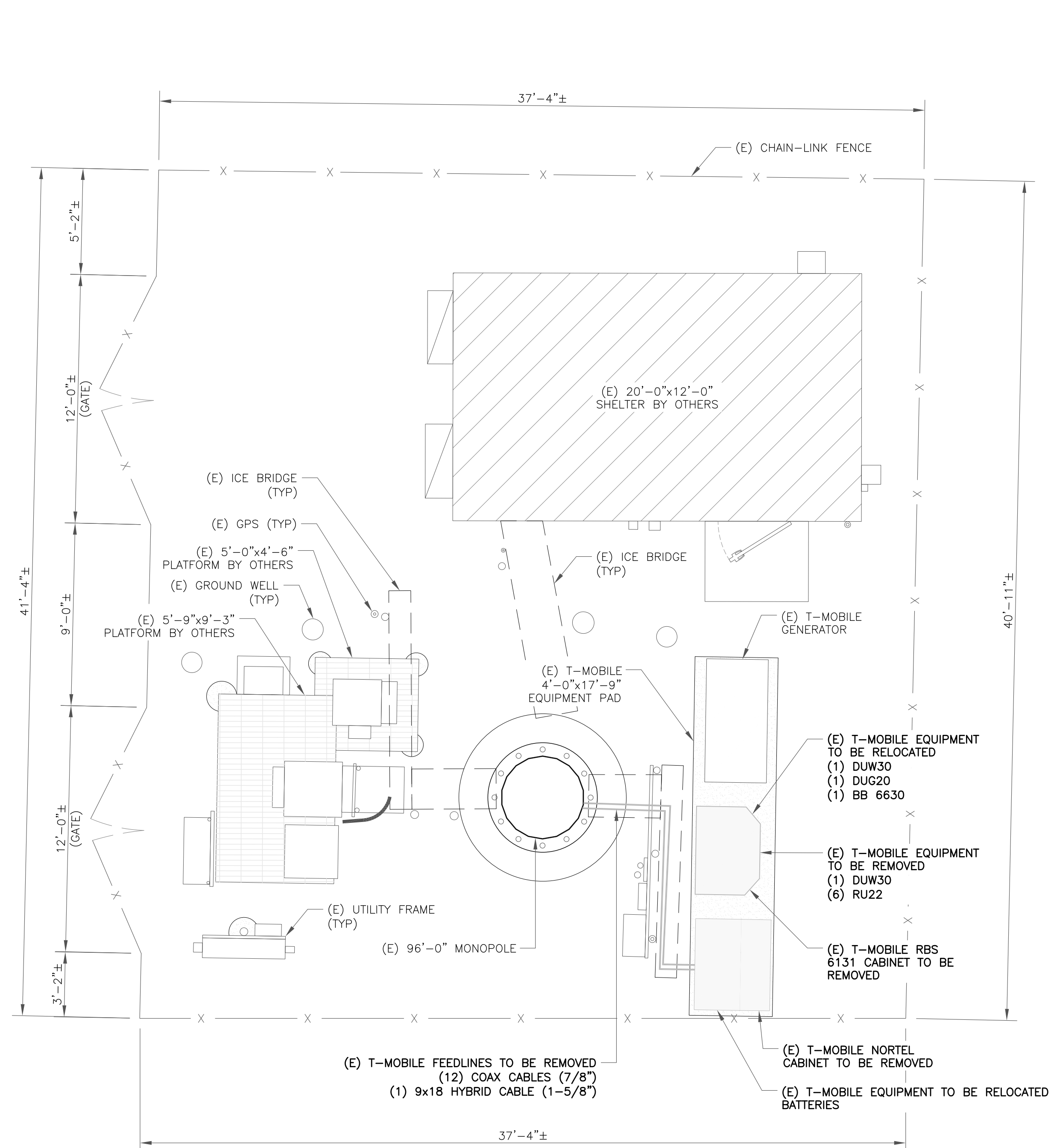
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-1.2

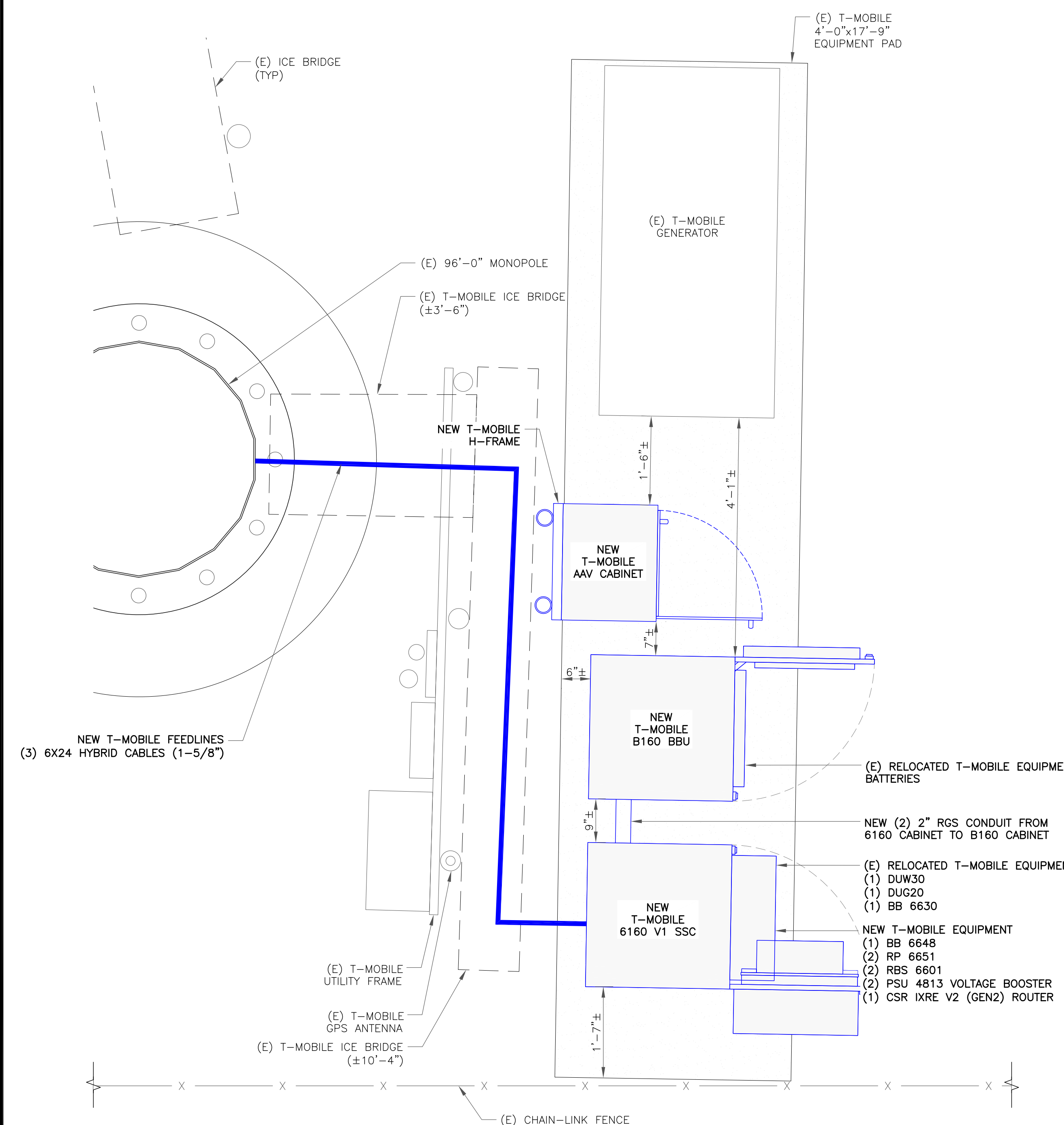
REVISION:

2



1 SITE PLAN

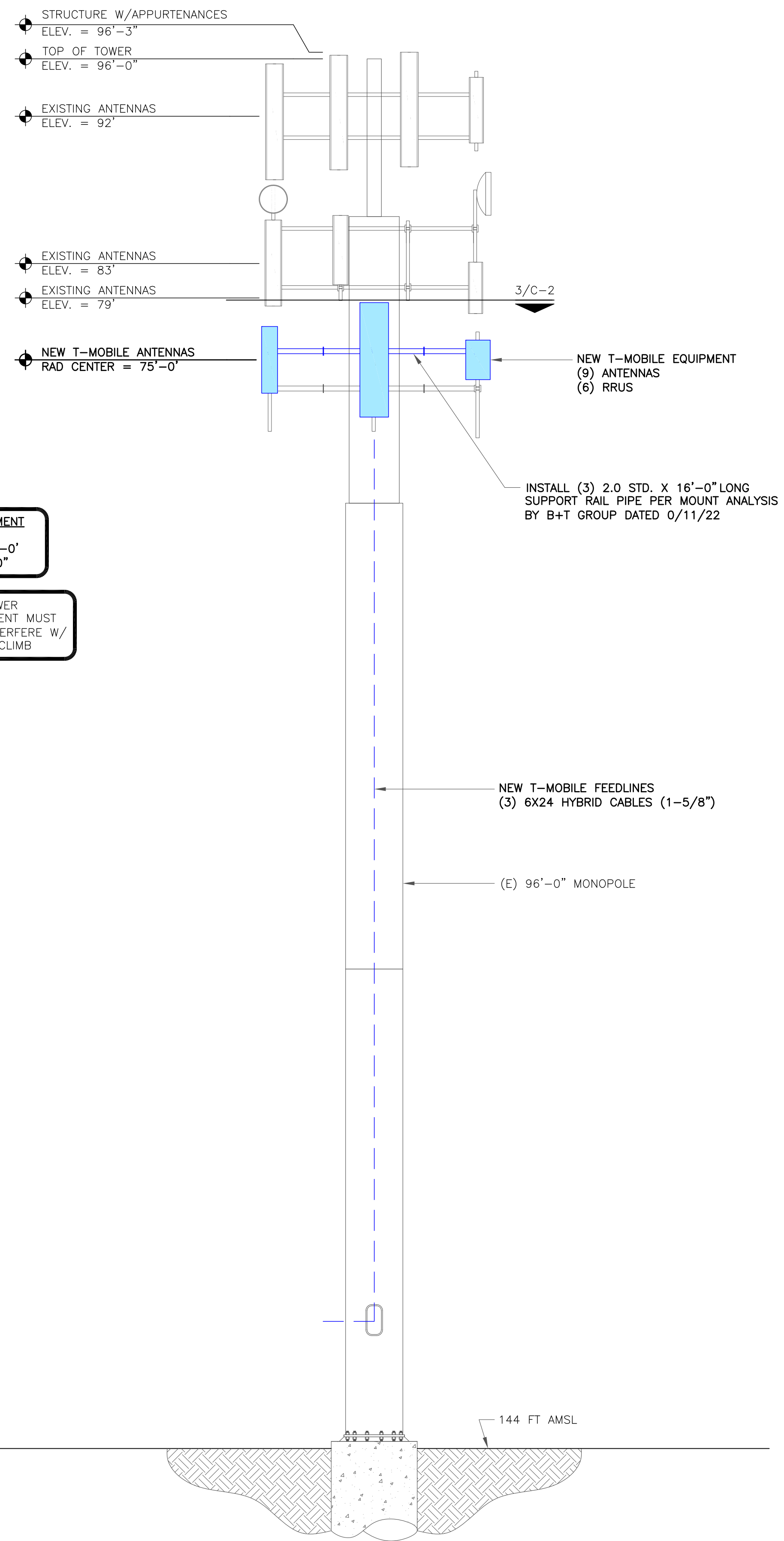
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)



2 ENLARGED SITE PLAN

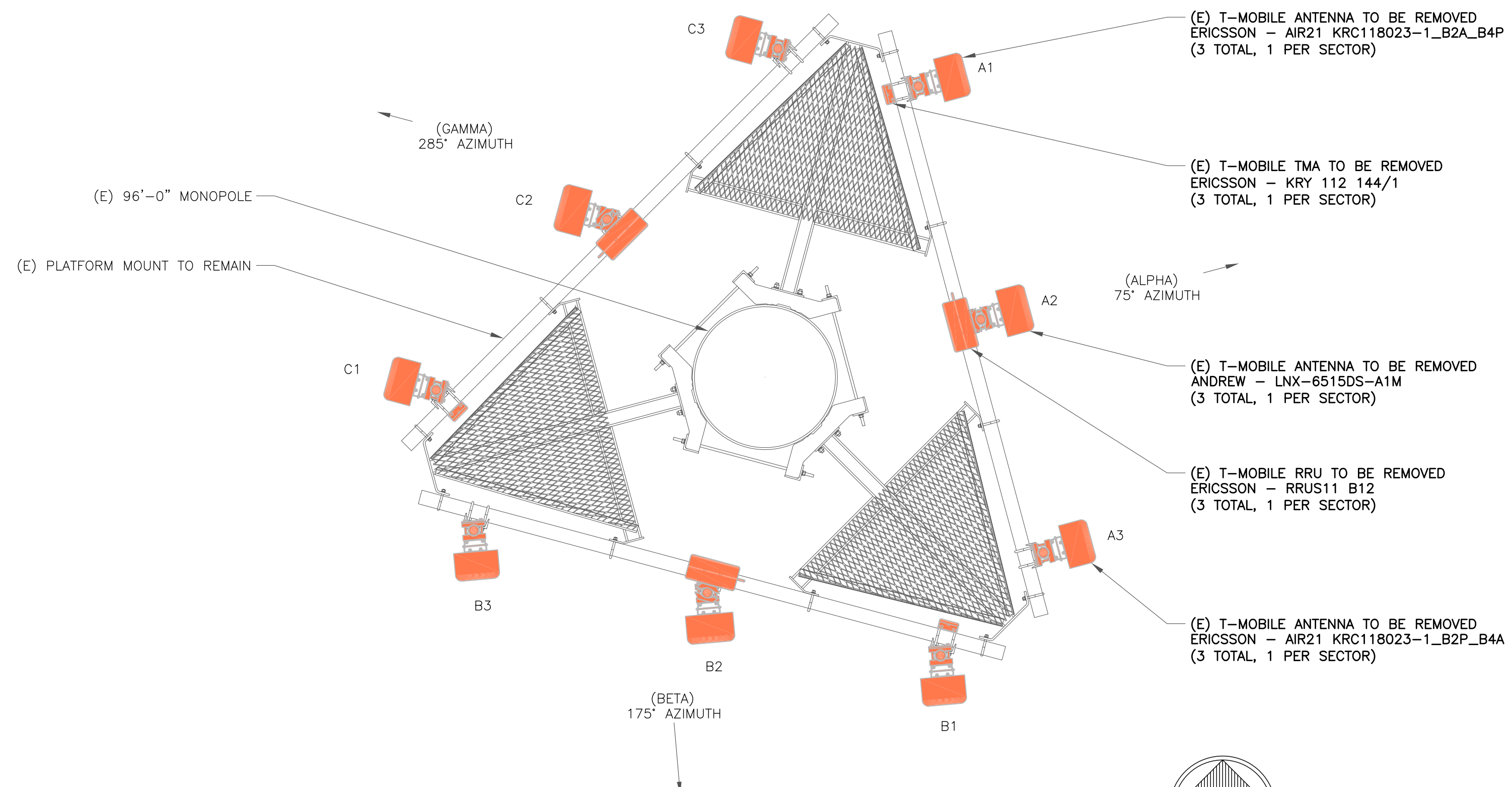
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)



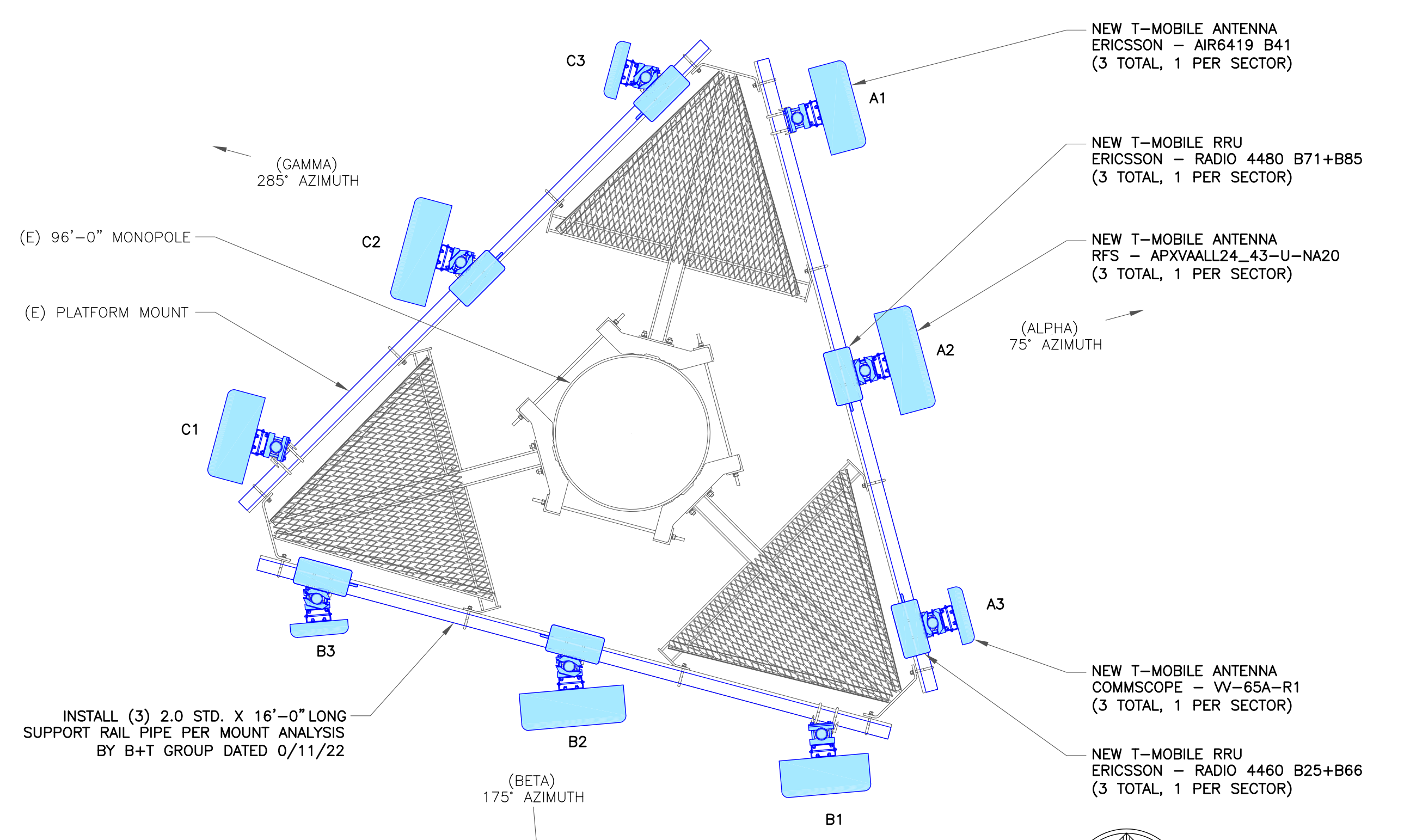


1 FINAL ELEVATION
SCALE: NOT TO SCALE

T-MOBILE EQUIPMENT
 ANTENNA CL: 75'-0"
 MOUNT CL: 73'-0"
 ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB



2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE



3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

T-Mobile
 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

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

B+T GRP
 1717 S. BOULDER
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-MOBILE SITE NUMBER:
CT11280A
 BU #: **876326**
HAYDEN STATION
 440 HAYDEN STATION ROAD
 WINDSOR, CT 06095
 EXISTING
 96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/23
 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: **C-2** REVISION: **2**

1:36354.006.01_Hayden_Station_ETA_T-Mobile_2.9.2022.dwg - User: mjonas - Feb 27, 2022 - 10:09am

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

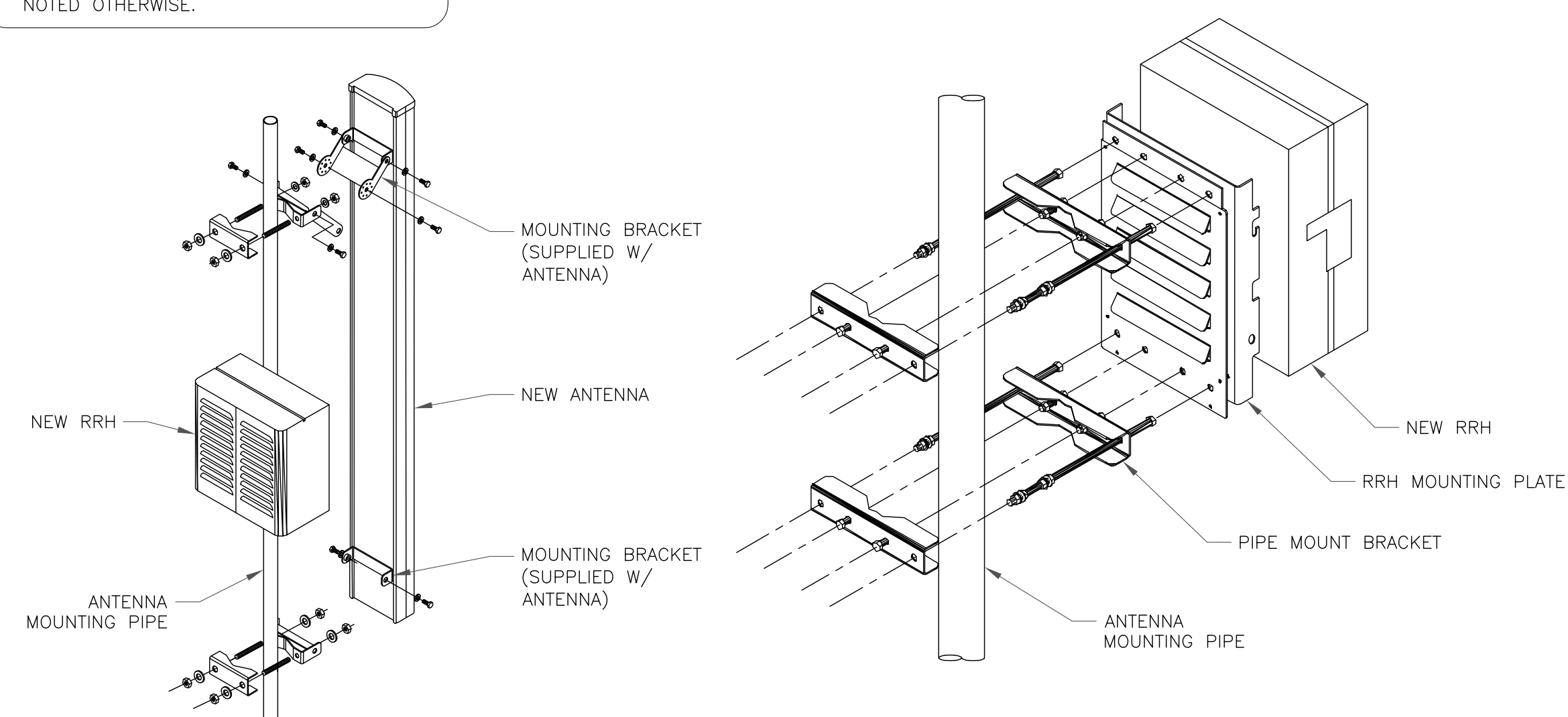
EXISTING
96'-0" MONOPOLE

RF SYSTEM SCHEDULE										
SECTOR	ANTENNA	TECH	MANUFACTURER	ANTENNA MODEL	AZIMUTH	M-TILT	E-TILT	RAD CENTER	TMA/RRU	FEEDLINE TYPE
ALPHA	A1	L2500/N2500	ERICSSON	AIR6419 B41	75°	0°	2°/2'	75'-0"	-	(1) 6X24 HYBRID (1-5/8")
	A2	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	75°	0°	2°/2'	75'-0"	(1) ERICSSON - RADIO 4480 B71+B85	
	A3	L2100/L1900/G1900/U2100	COMMSCOPE	VV-65A-R1	75°	0°	5°/5'	75'-0"	(1) ERICSSON - RADIO 4460 B25+B66	
BETA	B1	L2500/N2500	ERICSSON	AIR6419 B41	175°	0°	2°/2'	75'-0"	-	(1) 6X24 HYBRID (1-5/8")
	B2	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	175°	0°	2°/2'	75'-0"	(1) ERICSSON - RADIO 4480 B71+B85	
	B3	L2100/L1900/G1900/U2100	COMMSCOPE	VV-65A-R1	175°	0°	2°/2'	75'-0"	(1) ERICSSON - RADIO 4460 B25+B66	
GAMMA	C1	L2500/N2500	ERICSSON	AIR6419 B41	285°	0°	2°/2'	75'-0"	-	(1) 6X24 HYBRID (1-5/8")
	C2	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	285°	0°	2°/2'	75'-0"	(1) ERICSSON - RADIO 4480 B71+B85	
	C3	L2100/L1900/G1900/U2100	COMMSCOPE	VV-65A-R1	285°	0°	2°/2'	75'-0"	(1) ERICSSON - RADIO 4460 B25+B66	

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

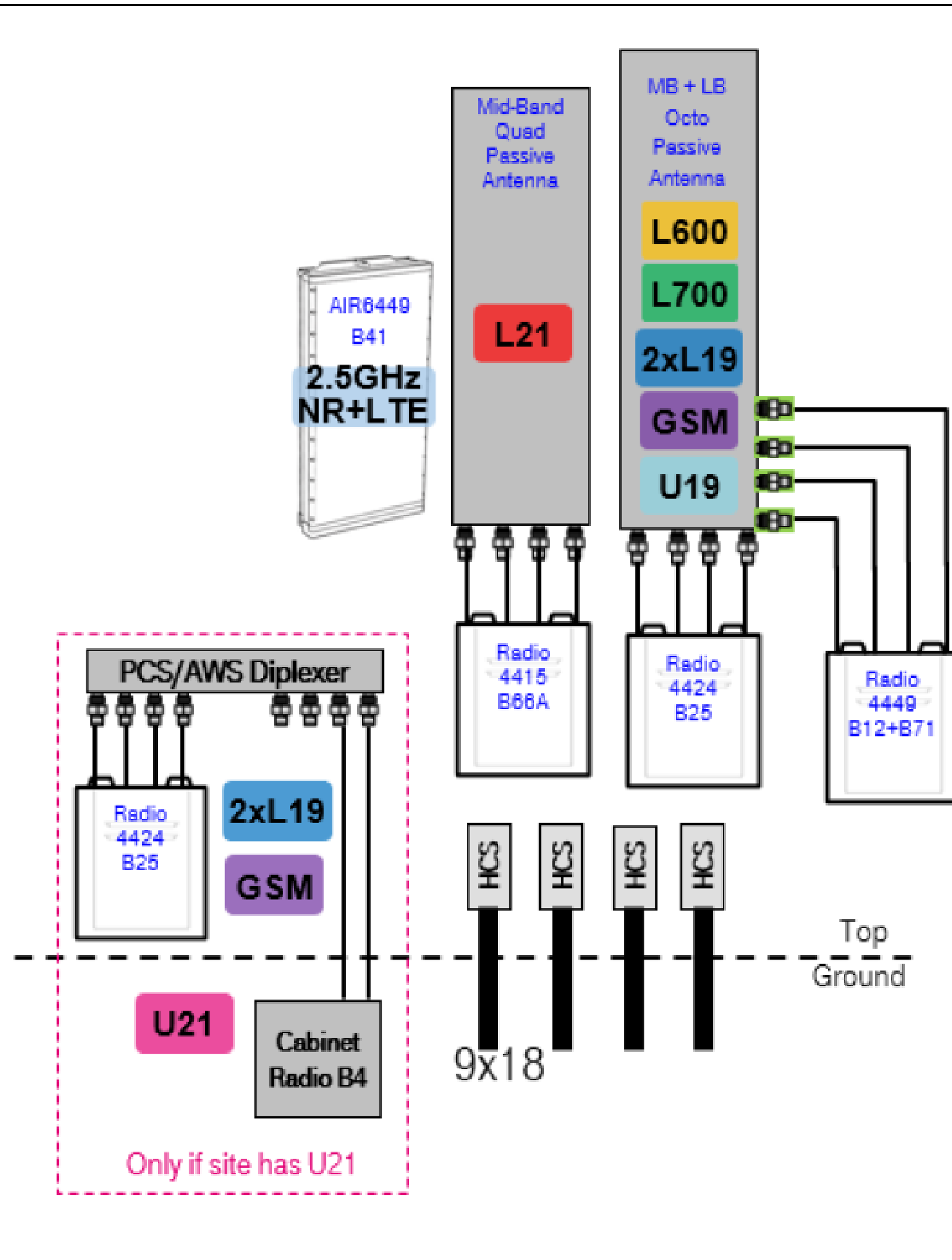
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-3

REVISION:

2



Notes:

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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

B+T GRP

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

T-MOBILE SITE NUMBER:
CT11280A

BU #: 876326
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

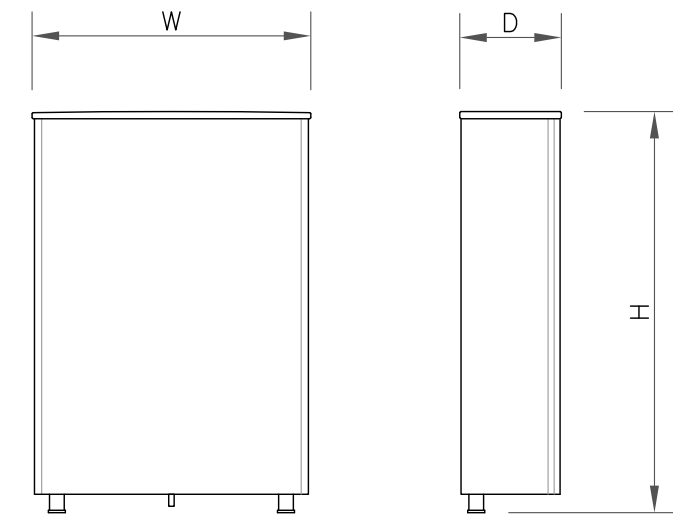
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-4

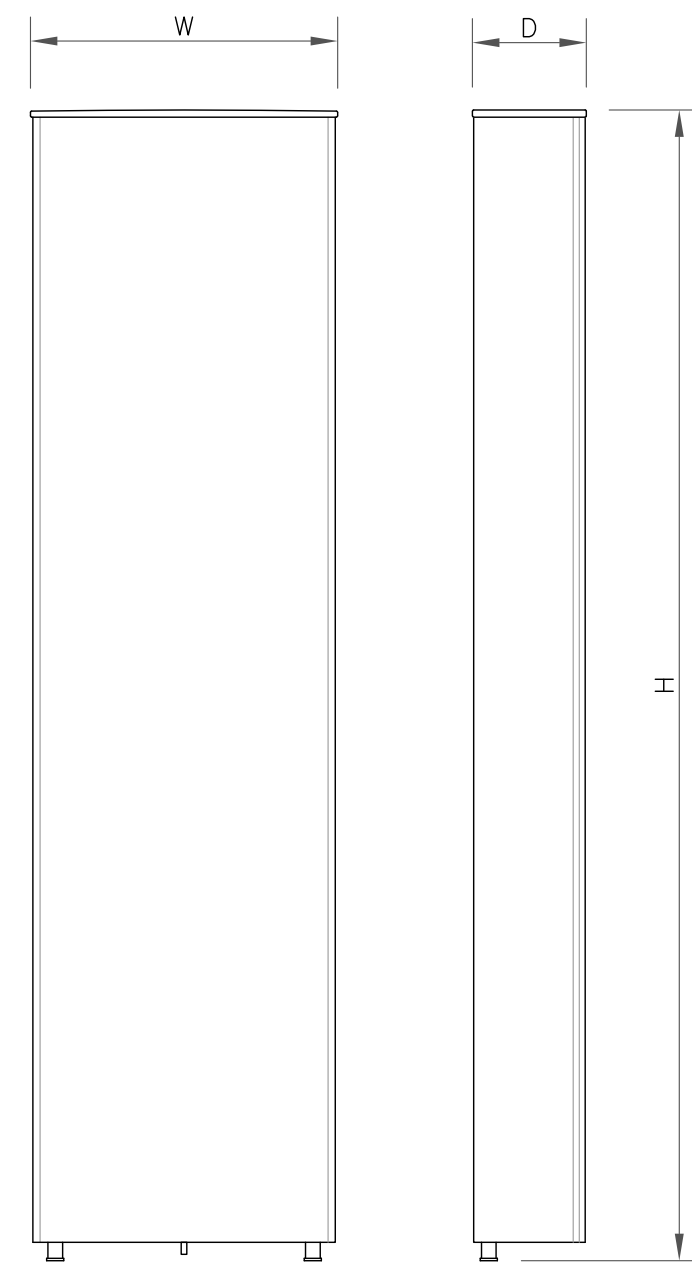
REVISION:

2



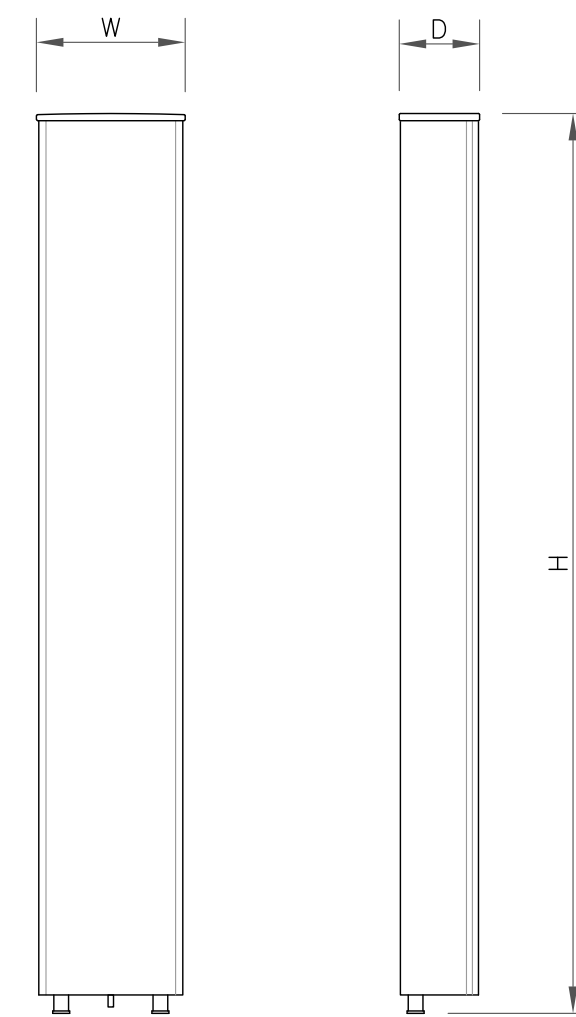
ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR6419 B41
WIDTH	20.91"
DEPTH	9.02"
HEIGHT	36.25"
WEIGHT	96.50 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



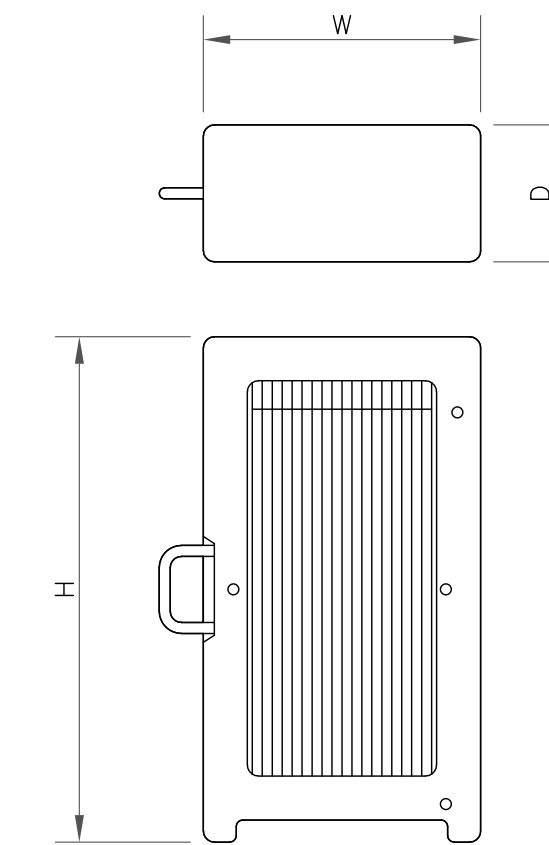
ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAALL24_43-U-NA20
WIDTH	24.00"
DEPTH	8.50"
HEIGHT	95.90"
WEIGHT	149.90 LBS

2 ANTENNA SPECS
SCALE: NOT TO SCALE



ANTENNA SPECS	
MANUFACTURER	COMMSCOPE
MODEL #	VV-65A-R1
WIDTH	12.00"
DEPTH	4.60"
HEIGHT	54.70"
WEIGHT	33.30 LBS

3 ANTENNA SPECS
SCALE: NOT TO SCALE



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	RADIO 4480 B71+B85
WIDTH	15.70"
DEPTH	7.50"
HEIGHT	22.00"
WEIGHT	81.00 LBS

4 RRU SPECS
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

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

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11280A

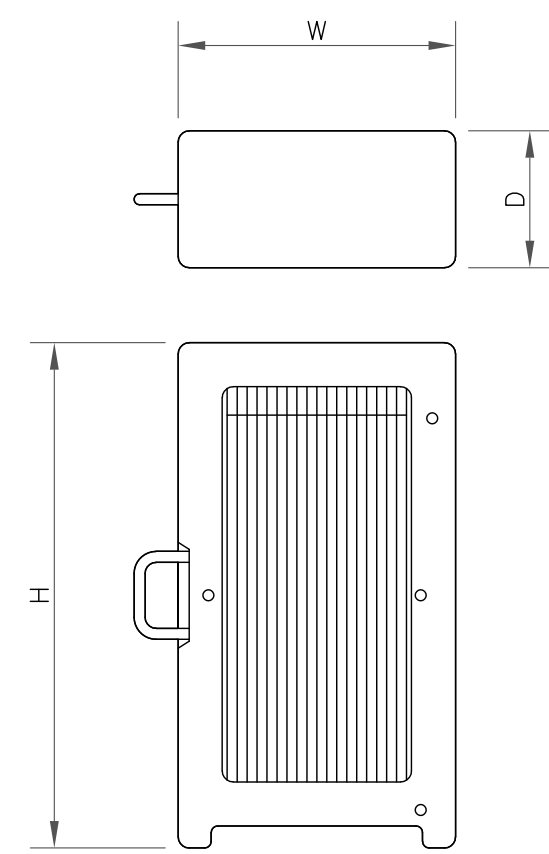
BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

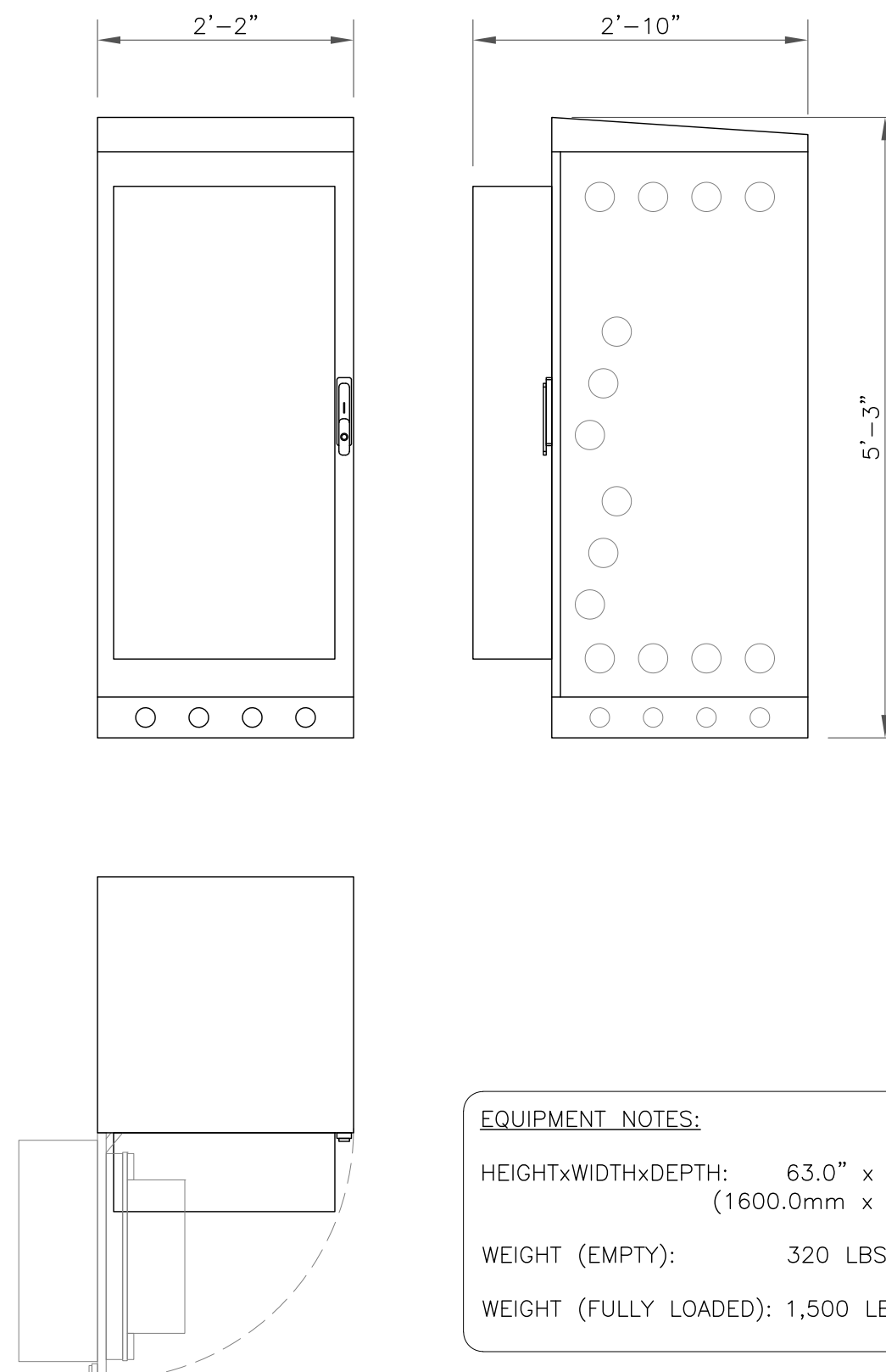
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



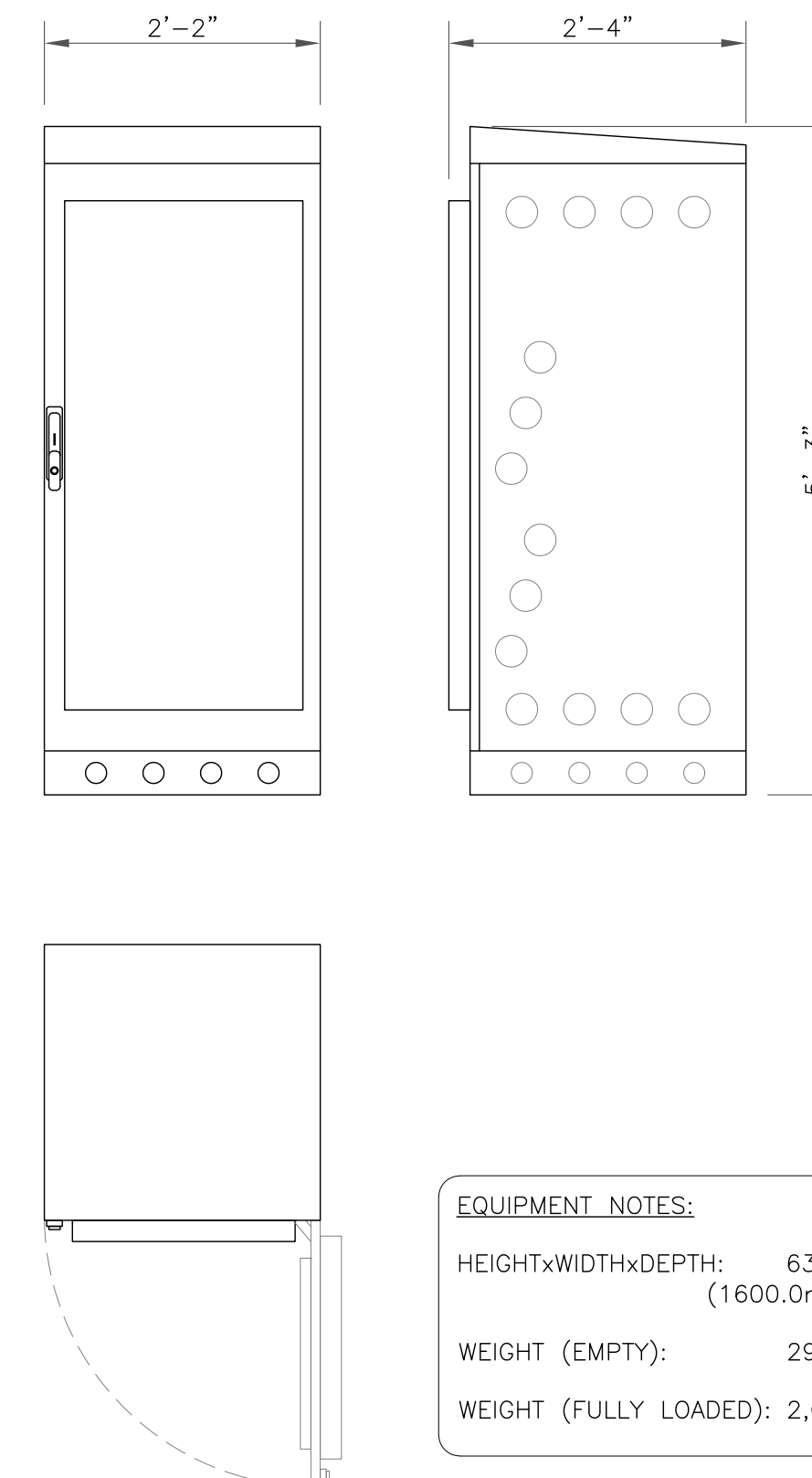
RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	RADIO 4460 B25+B66
WIDTH	15.10"
DEPTH	11.90"
HEIGHT	17.00"
WEIGHT	109.00 LBS

5 RRU SPECS
SCALE: NOT TO SCALE



EQUIPMENT NOTES:
HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 34.0"
(1600.0mm x 660.0mm x 864.0mm)
WEIGHT (EMPTY): 320 LBS (145 kg)
WEIGHT (FULLY LOADED): 1,500 LBS (681 kg)

6 ERICSSON - 6160 V1
SCALE: NOT TO SCALE



EQUIPMENT NOTES:
HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 28.0"
(1600.0mm x 660.0mm x 711.0mm)
WEIGHT (EMPTY): 295 LBS (134 kg)
WEIGHT (FULLY LOADED): 2,000 LBS (908 kg)

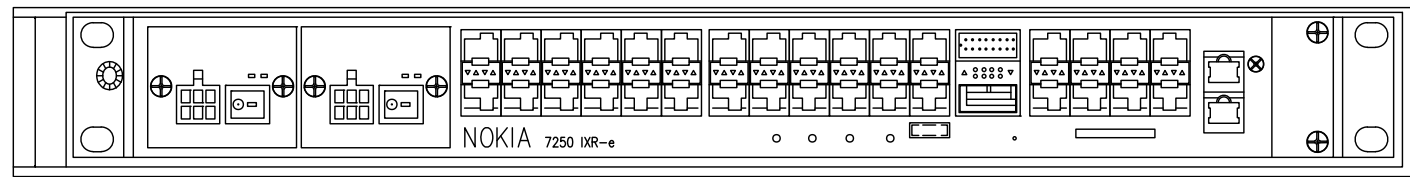
7 ERICSSON - B160
SCALE: NOT TO SCALE



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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: **C-5.1** REVISION: **2**



NOKIA – CSR IXRE V2 ROUTER
WEIGHT: 11.2 LBS.
SIZE (HxWxD): 1.75x17.25x10.0 IN.

1 TRANSPORT SYSTEM SPECS
SCALE: NOT TO SCALE

2 General Product Overview



Figure 1

A	Mounting bracket	Bracket for 19" rack installations. Bracket can be reversed.
B	DC input terminals	Covered interface for connecting power cables from the power distribution.
C	External alarm port	Interface for connecting alarm cable to site external alarms.

T-Mobile Ericsson PSU 48 13 Voltage Booster Design Specification

The general specifications for the PSU 48 13 are as follows:

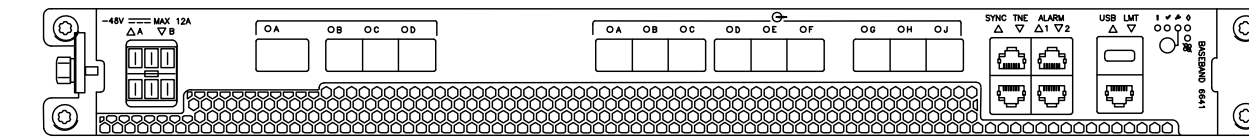
Electrical Operating Limits	
Input Voltage	-38.0 – -38.5 VDC
Input Voltage, nominal	-48 VDC
Input Current, max.	100 A, 30 A total for all four -48V inputs
Output Voltage, fixed	-58 VDC
Output Power, max.	2000 watts each
Environmental Operating Limits	
Temperature, operation	-40 – +60 °C
Temperature, storage	-40 – +55 °C
Temperature, transport	-40 – +70 °C
Humidity, operation and storage	5% – 95%
Altitude, operation and storage	0 – 4500 m
Cooling	Internal fans
Vibration	ETS300019-2
Shock	ETS300019-2
Drop	ETS300019-2
EMC	FCC Part 15
Safety	UL 62368-1
Noise	< 6.8 bel sound power
Lightning Protection	4 kA, 10/350 µs, 20 kA, 8/20 µs
Fuse Options	30 A, 40 A, 50 A
Mechanical Specification	
Weight	< 7.8 kg (17.2 lb)
Dimensions (H x W x D)	44 x 483 x 363 mm (1.7" x 19.0" x 14.3") (include brackets, cover)

PSU Unit Kit: SKU 34132

Part Number	Part Description	Qty	Comments
1	BMR 911 93/1 D.C. CONVERTER/PSU 48 13	1	
2	5MG 818 12/1 CABLE LUG/Power dual lug 6 awg Right angled	6	3 DC ports, facing hybrid cable
3	5MG 818 13/1 CABLE LUG/Power dual lug 4 awg Right angled	6	3 DC ports, facing hybrid cable
4.1	NFN95021/30 FUSE HOLDER/30A, 80V, UL	1	3 fuses in each kit
4.2	NFN95021/40 FUSE HOLDER/40A, 80V, UL	1	3 fuses in each kit
4.3	NFN95021/50 FUSE HOLDER/50A, 80V, UL	1	3 fuses in each kit

PSU 4813 VR2A VOLTAGE BOOSTER
WEIGHT : 17.2 LBS.
SIZE (HxWxD): 1.7x19.0x14.4 IN.

2 VOLTAGE BOOSTER SPECS
SCALE: NOT TO SCALE



ERICSSON – 6648
WEIGHT: 16.54 LBS.
SIZE (HxWxD): 1.75x17.25x13.85 IN.

3 ERICSSON – 6648
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

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

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23
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: **C-5.2** REVISION: **2**



AAV CABINET

MANUF.	EMERSON
WIDTH	24"
DEPTH	16"
HEIGHT	24"
WEIGHT	64 LBS



ERICSSON RBS 6601
WEIGHT: 19.8 LBS.
SIZE (HxWxD): 2.6x18.9x13.7 IN.

5 ERICSSON – RBS 6601
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

7 NOT USED
SCALE: NOT TO SCALE

4 AAV CABINET
SCALE: NOT TO SCALE

1:36354.006.01_Hayden_Station_ETA_T-Mobile_2.9.2022.dwg - Sheet: C-5.2 - User: mjpjones - Feb 27, 2022 - 10:09am

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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:

E-1

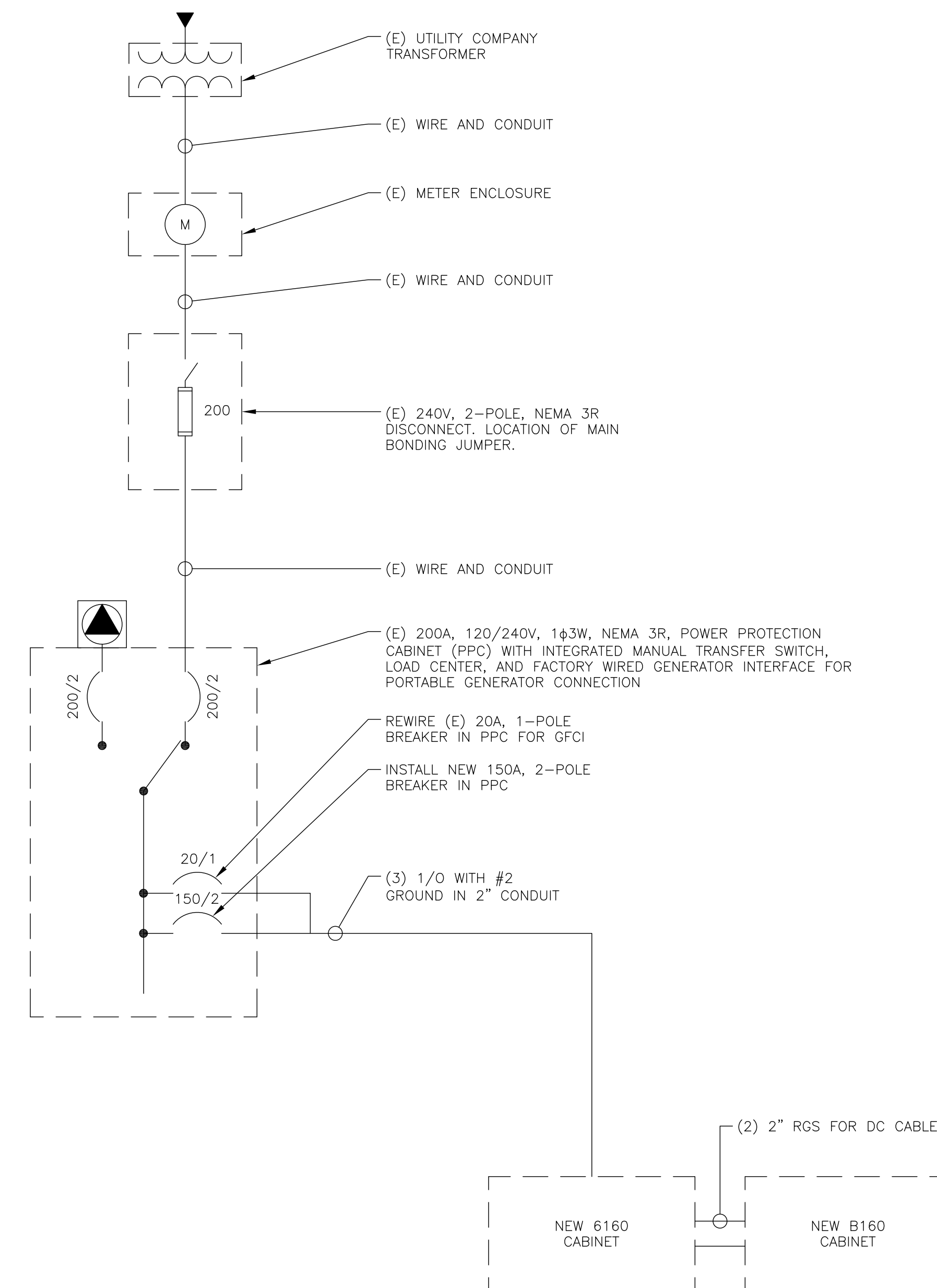
REVISION:

2

FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS		AMPS	POLES	LOAD
			L1	L2			
BTS	2	30A	1	2	20A	1	GFI
6160	2	150A	3	4	40A	2	BTS (VOICESTREAM)
			5	6	70A	2	BTS (VOICESTREAM)
LED LIGHT	1	20A	7	8			
			9	10			
			11	12			
			13	14			
			15	16			

RATED VOLTAGE: 120/240 1 PHASE, 3 WIRE BRANCH POLES: 16 24 30 42 APPROVED MFR'S
 RATED AMPS: 100 200 400 CABINET: SURFACE FLUSH NEMA 1 3R 4X
 MAIN LUGS ONLY MAIN 200 AMPS BREAKER FUSED SWITCH HINGED DOOR KEYED DOOR LATCH
 FUSED CIRCUIT BREAKER BRANCH DEVICES TO BE GFCI BREAKERS FULL NEUTRAL BUS GROUND BAR
 ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL

INSTALL NEW BREAKER IN POSITION 5 AND 7 WITH A 2P 150A BREAKER FOR NEW 6160 CABINET
 REUSE EXISTING BREAKER AND WIRES IN POSITION 2 FOR B160 CABINET
 INSTALL WIRES FOR NEW 6160 CABINET WITH (3) 1/0 AWG THWN (COPPER) AND (1) #6G AWG. MINIMUM CONDUIT SIZE TO BE 2".
 IF 150A OR 20A BREAKERS WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL Q012040M200RB (OR APPROVED EQUAL).
 UPGRADE FEEDER WIRES TO MEET AMPACITY IF NEW PANEL IS REQUIRED.
 FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING DOCUMENTS AND PHOTOS



NOTES:

- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 UNLESS NOTED OTHERWISE.
- CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL GROUNDING AND BONDING PER THE NEC.

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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

B+T GRP

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

T-MOBILE SITE NUMBER:
CT11280A

BU #: **876326**
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

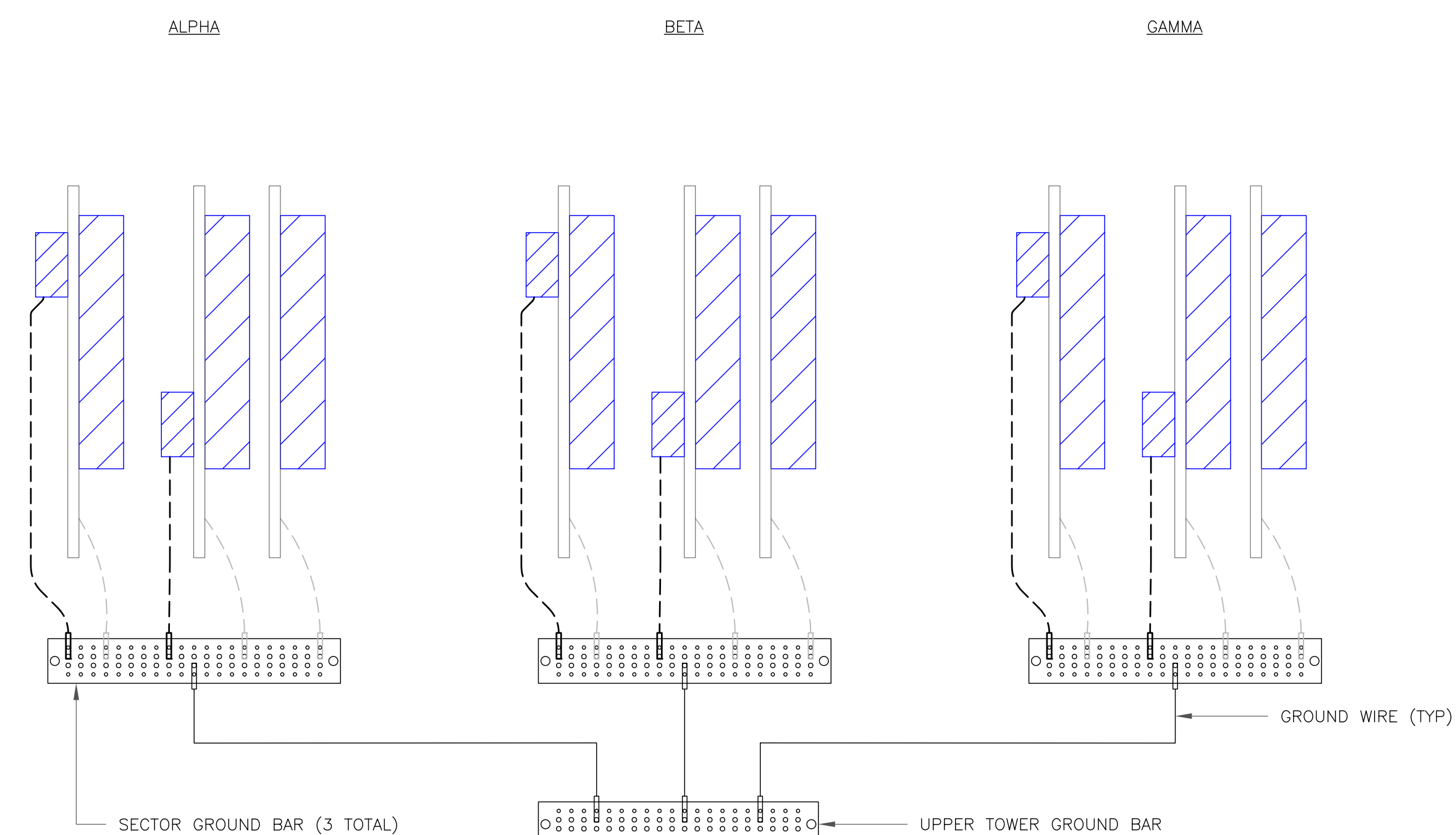
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-1

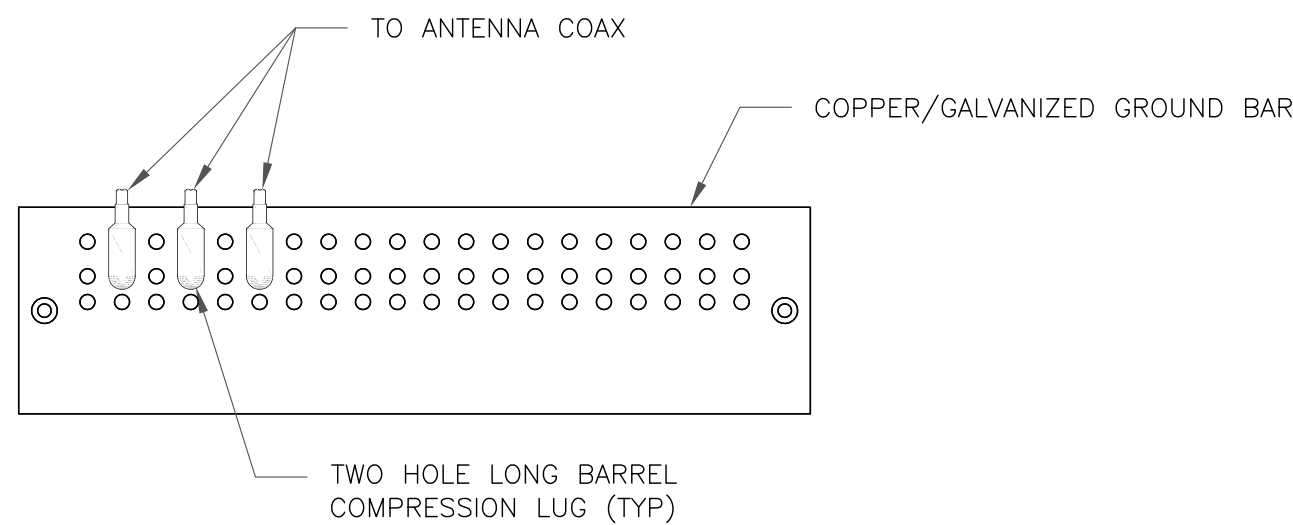
REVISION:

2



NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

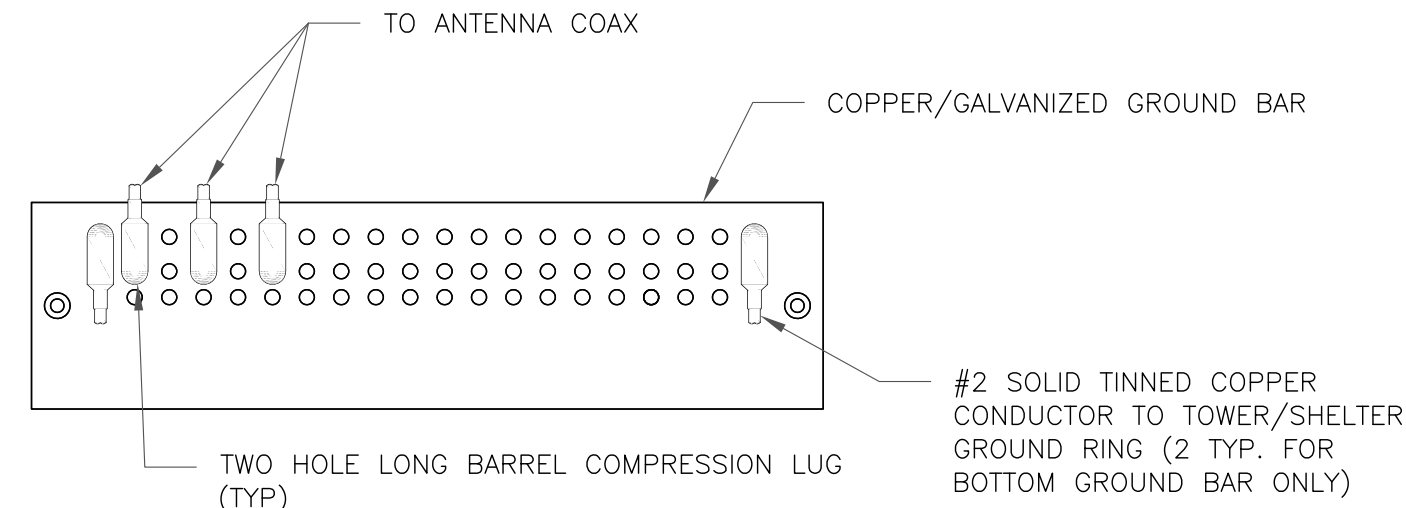
1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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.

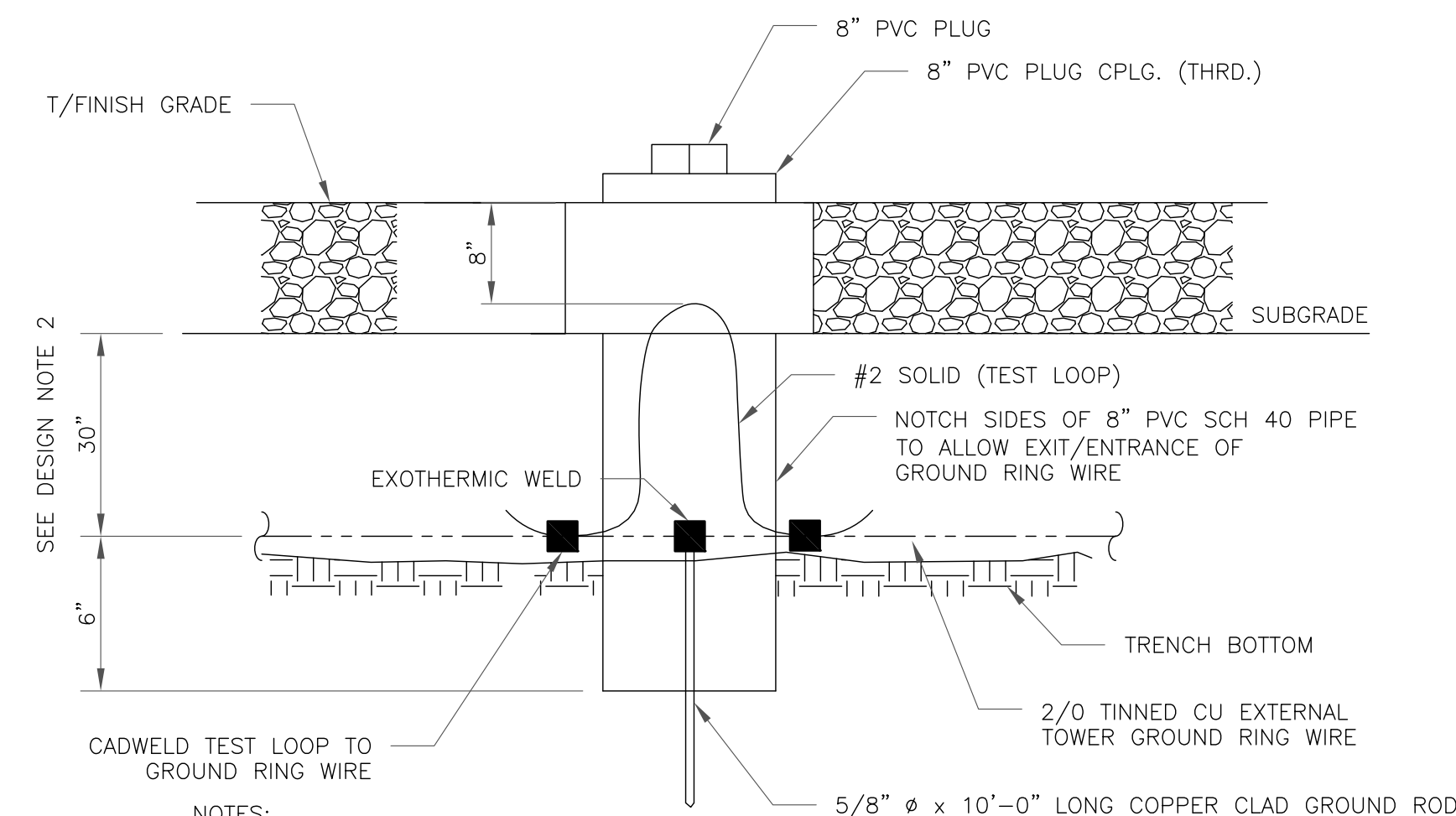
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

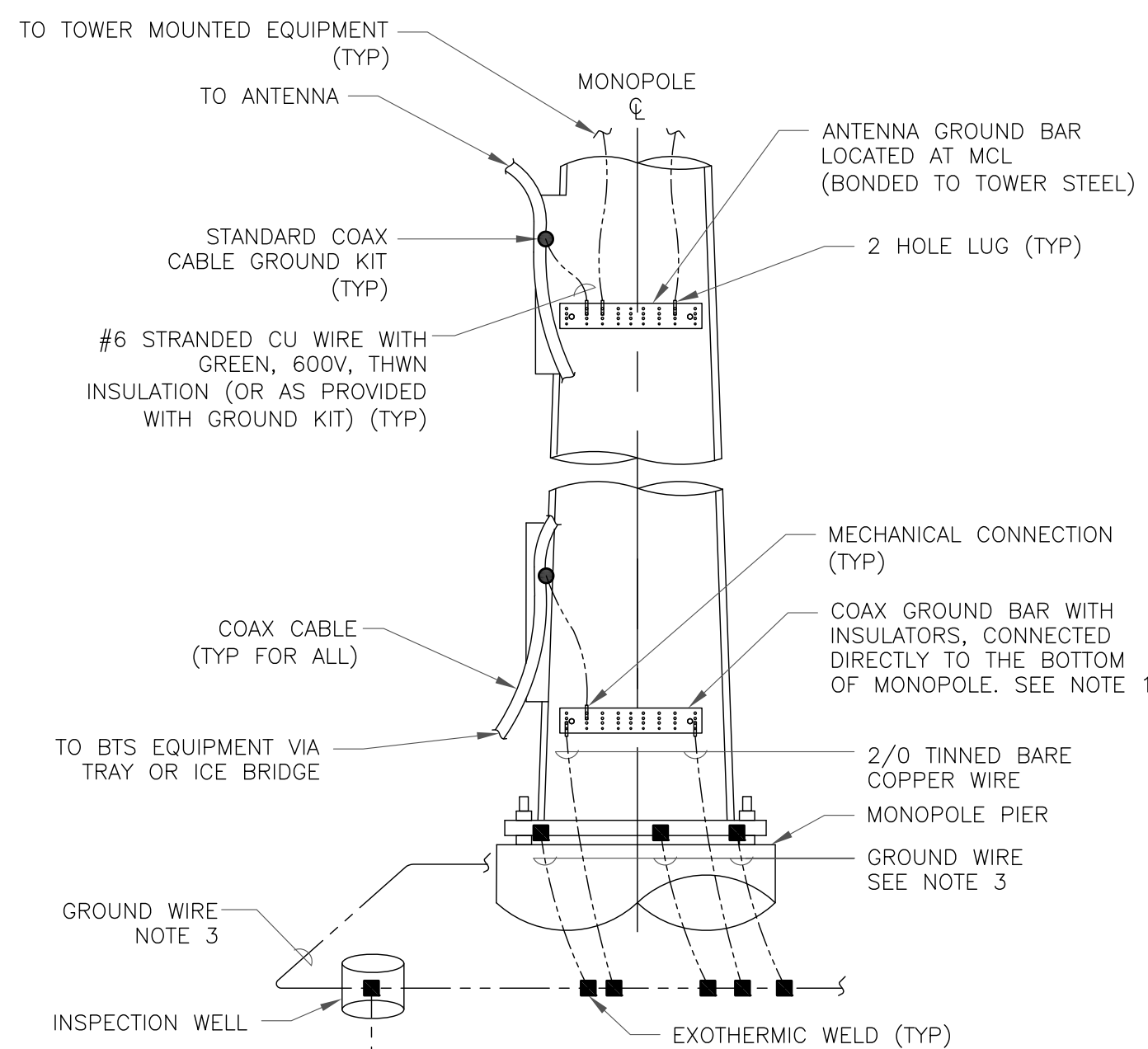
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D).

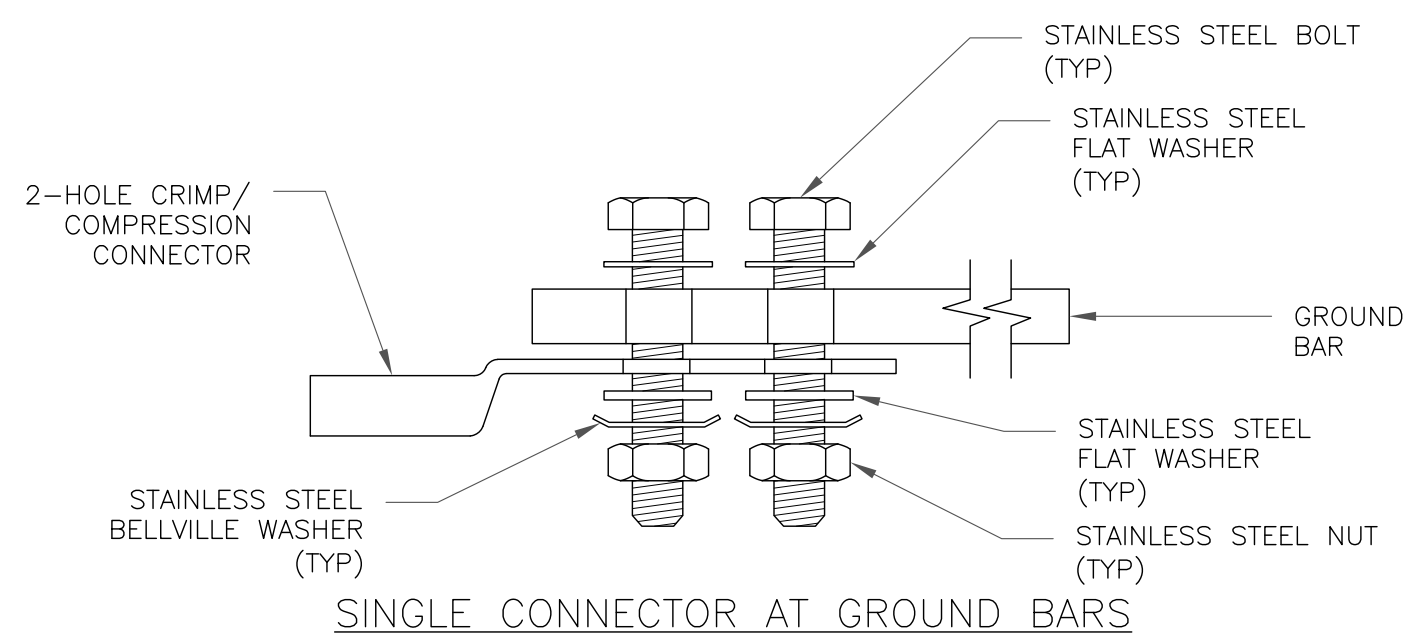
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



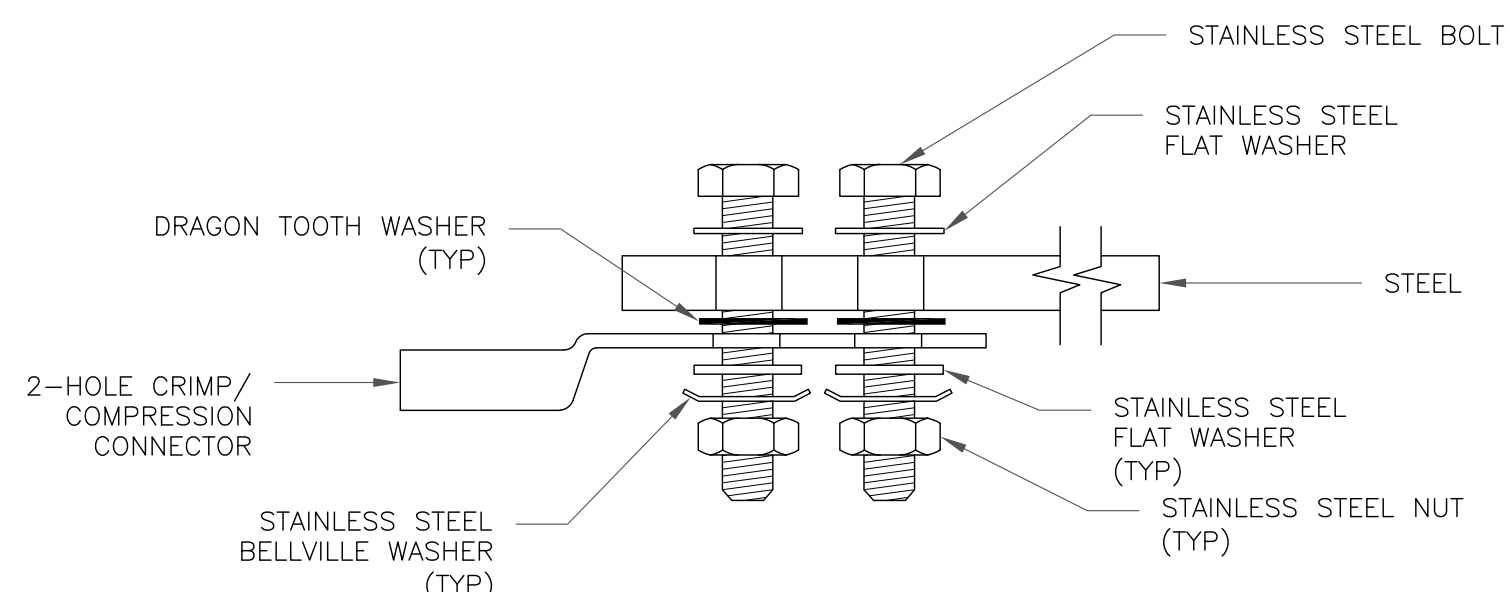
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

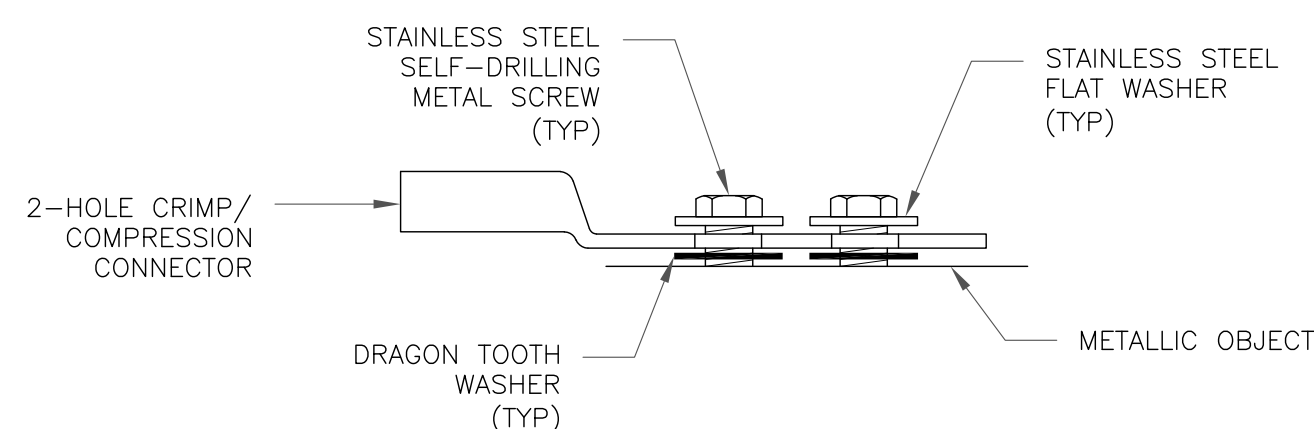
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

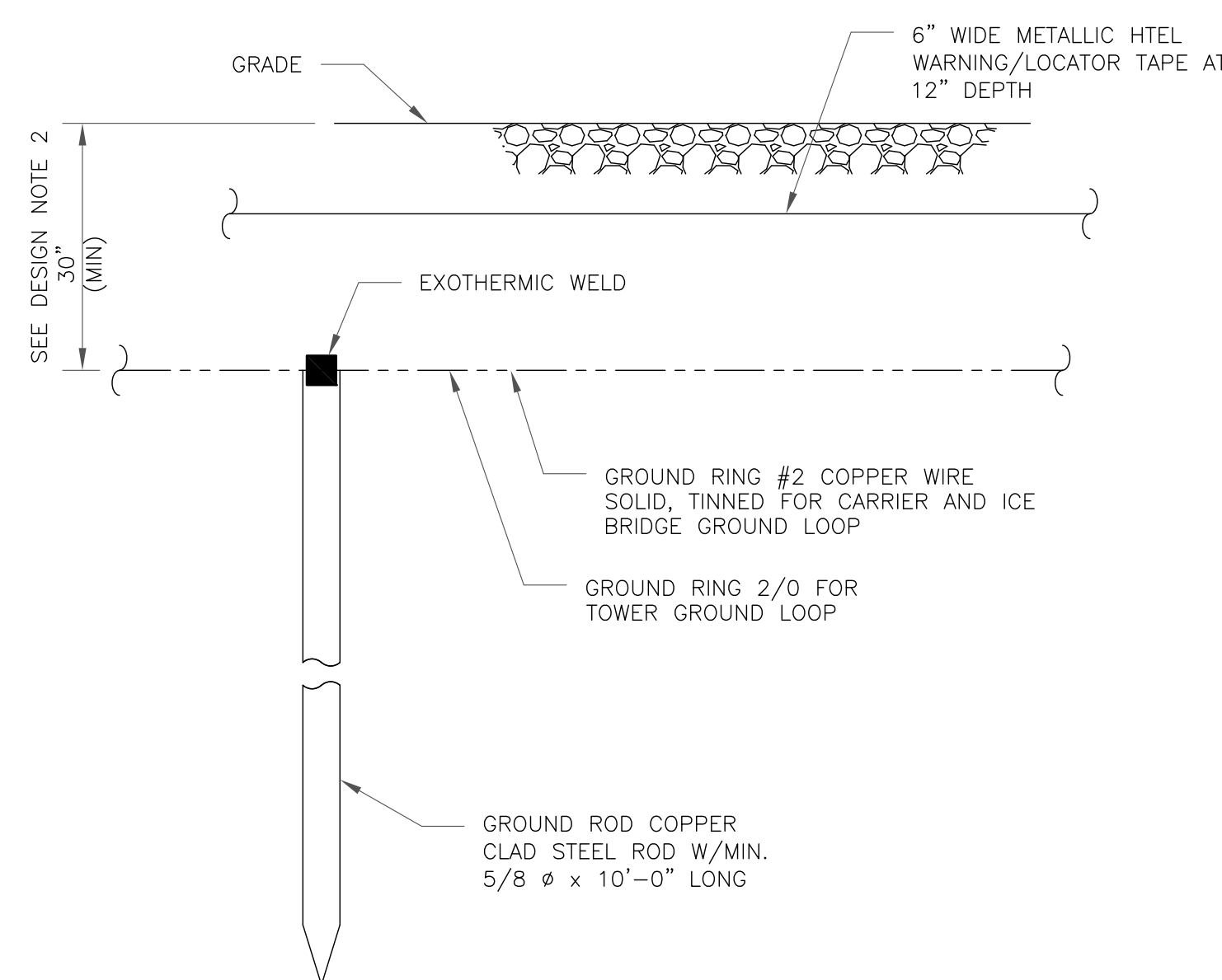


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D).

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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

B+T GRP

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

T-MOBILE SITE NUMBER:
CT11280A

BU #: 876326
HAYDEN STATION

440 HAYDEN STATION ROAD
WINDSOR, CT 06095

EXISTING
96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

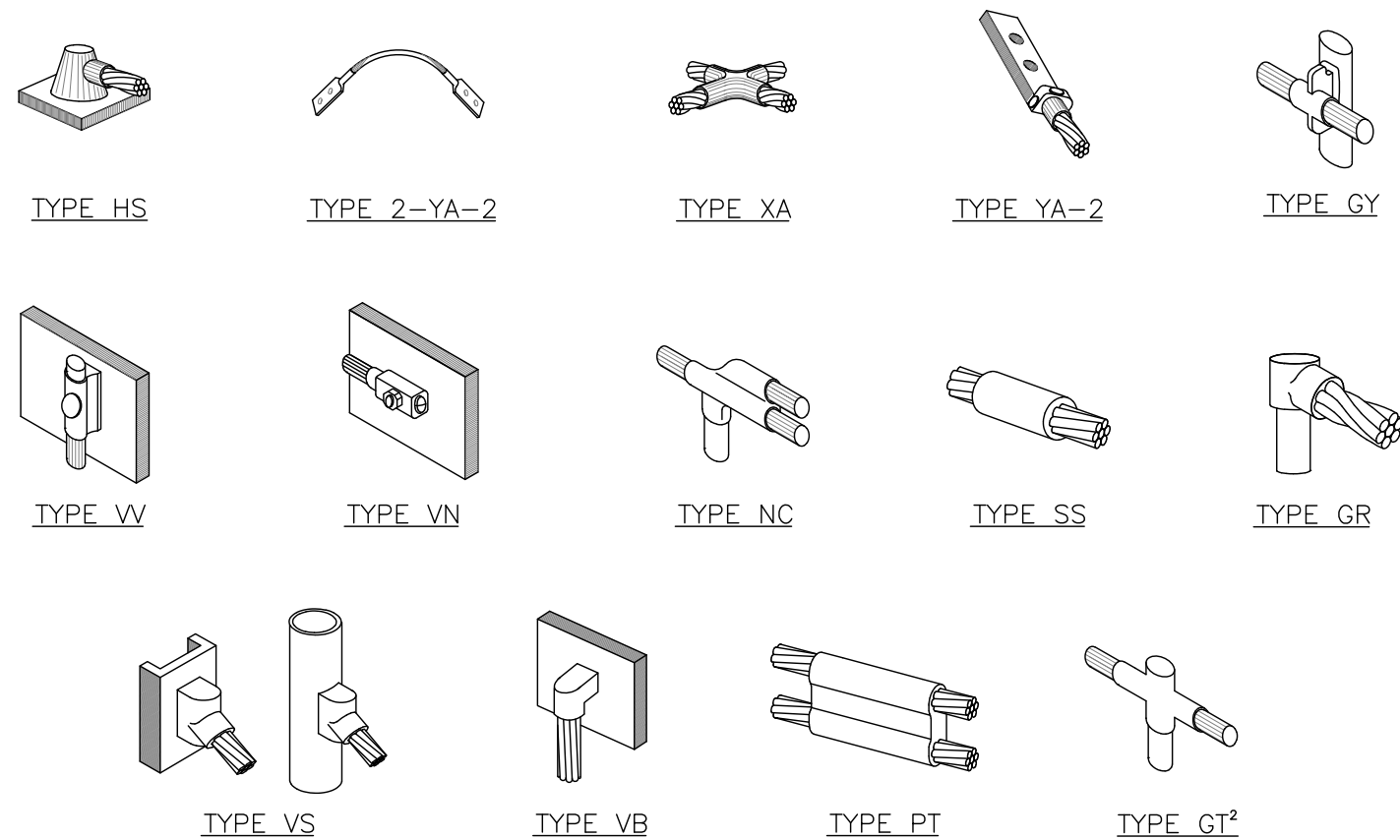
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-2

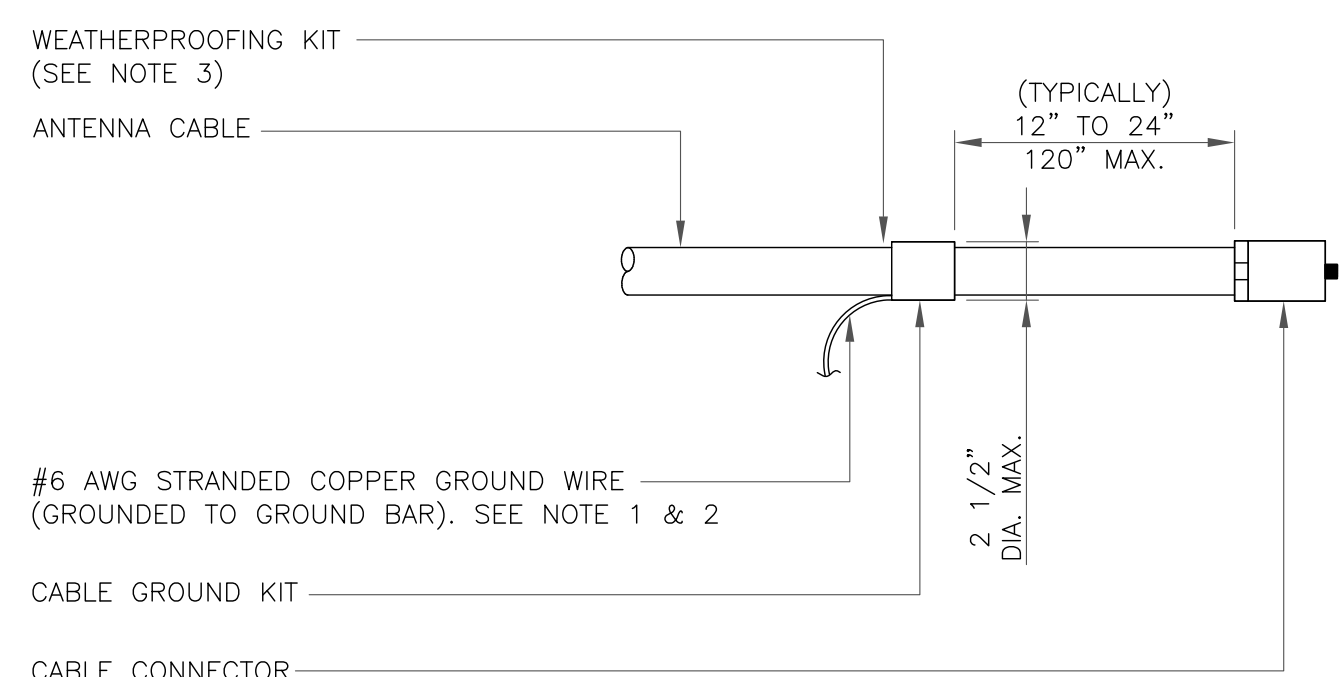
REVISION:

2



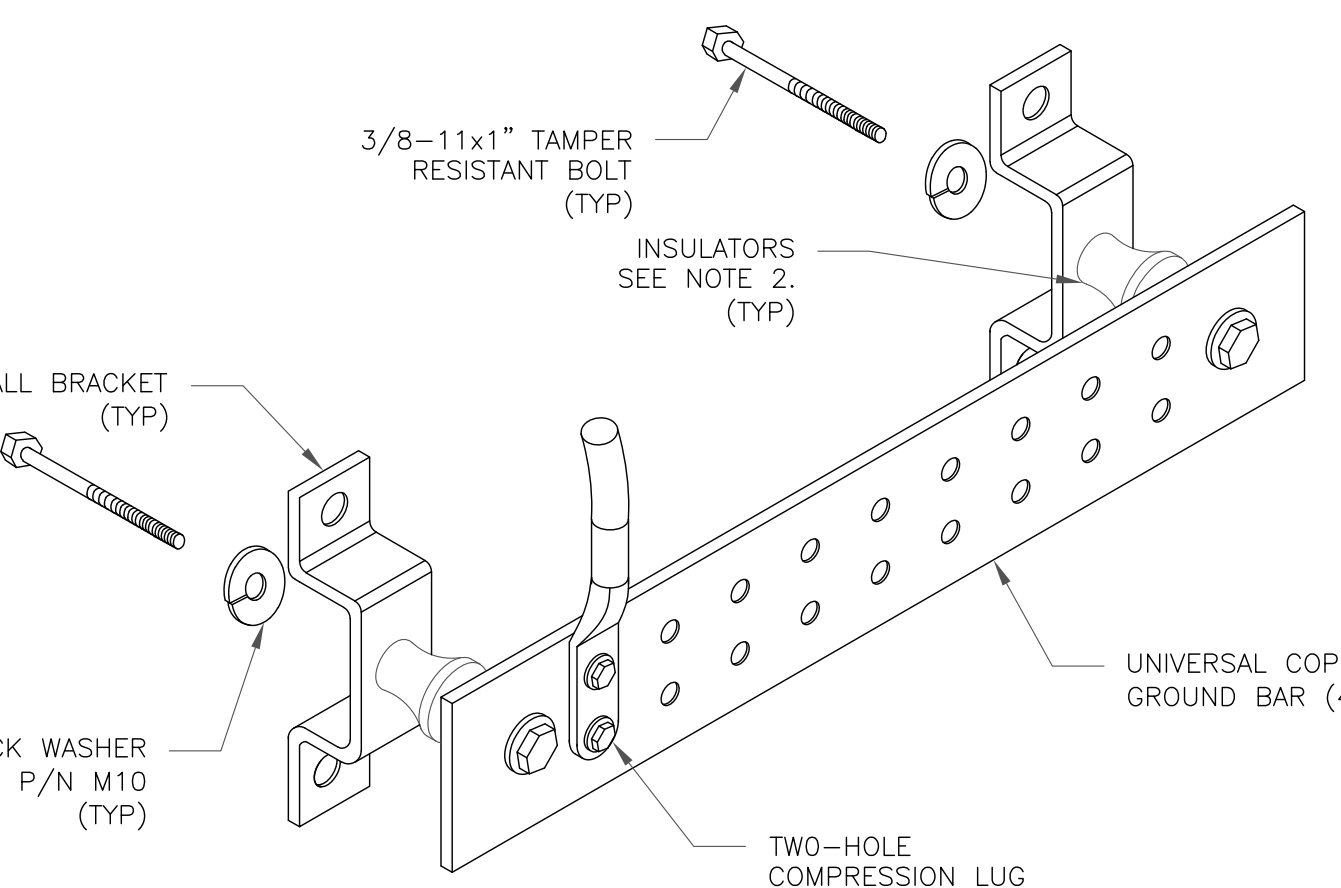
NOTE:
 1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
 2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
 SCALE: NOT TO SCALE



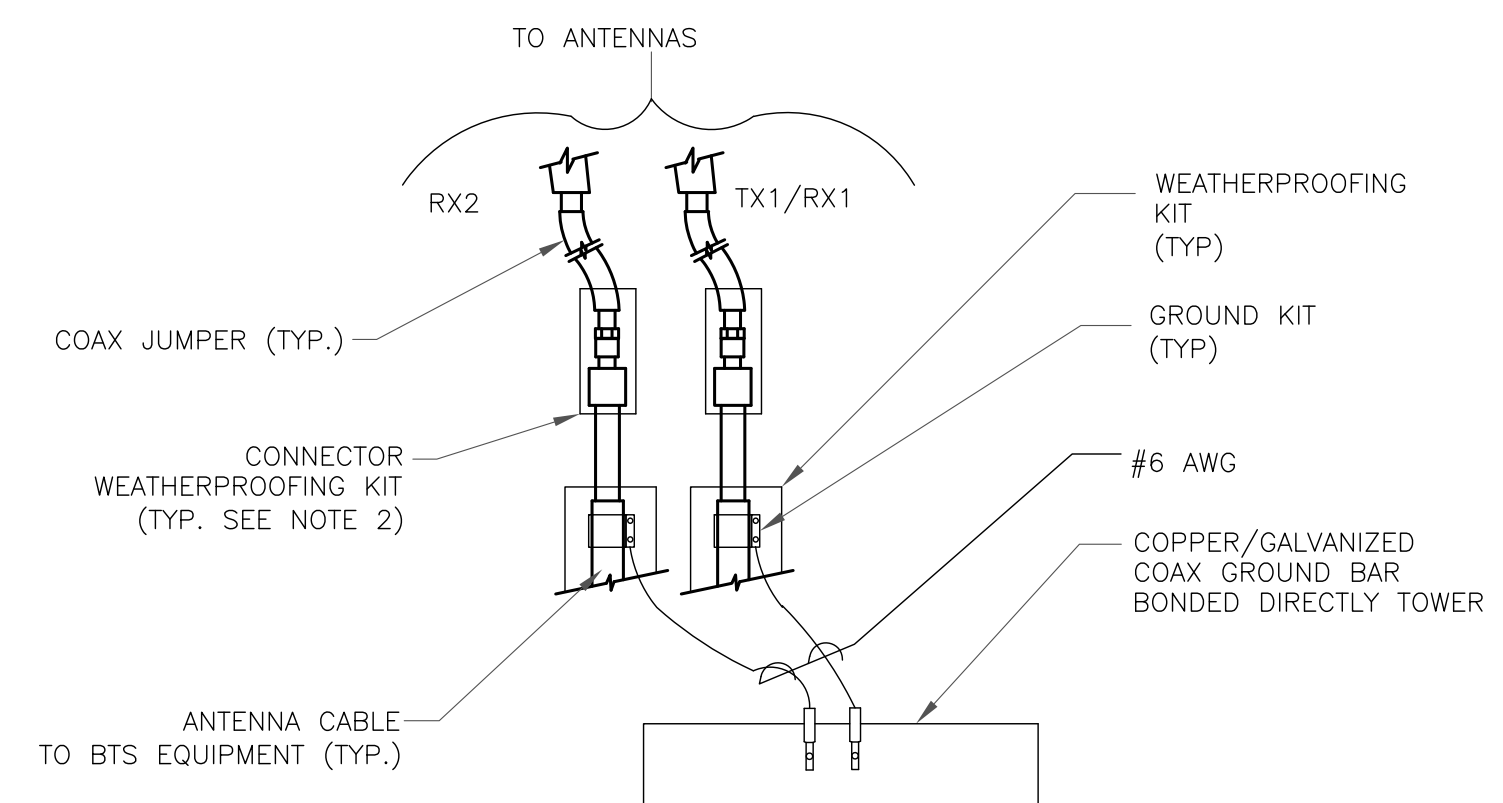
WEATHERPROOFING KIT (SEE NOTE 3)
 ANTENNA CABLE
 (TYPICALLY) 12" TO 24" 120" MAX.
 #6 AWG STRANDED COPPER GROUND WIRE (GROUNDED TO GROUND BAR). SEE NOTE 1 & 2
 2 1/2" DIA. MAX.
 CABLE GROUND KIT
 CABLE CONNECTOR

3 CABLE GROUND KIT CONNECTION
 SCALE: NOT TO SCALE



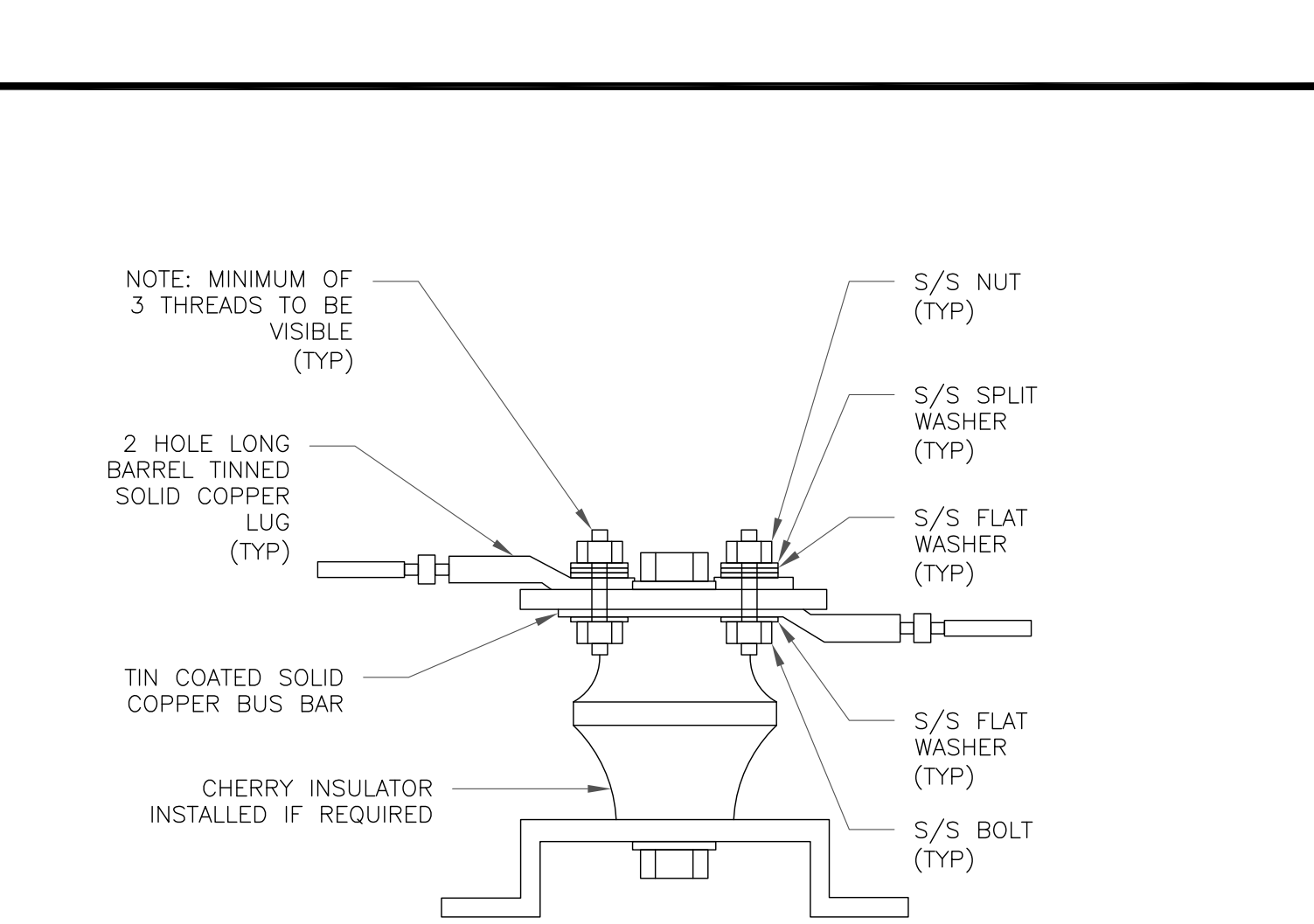
NOTES:
 1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
 2. OMIT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

6 GROUND BAR DETAIL
 SCALE: NOT TO SCALE



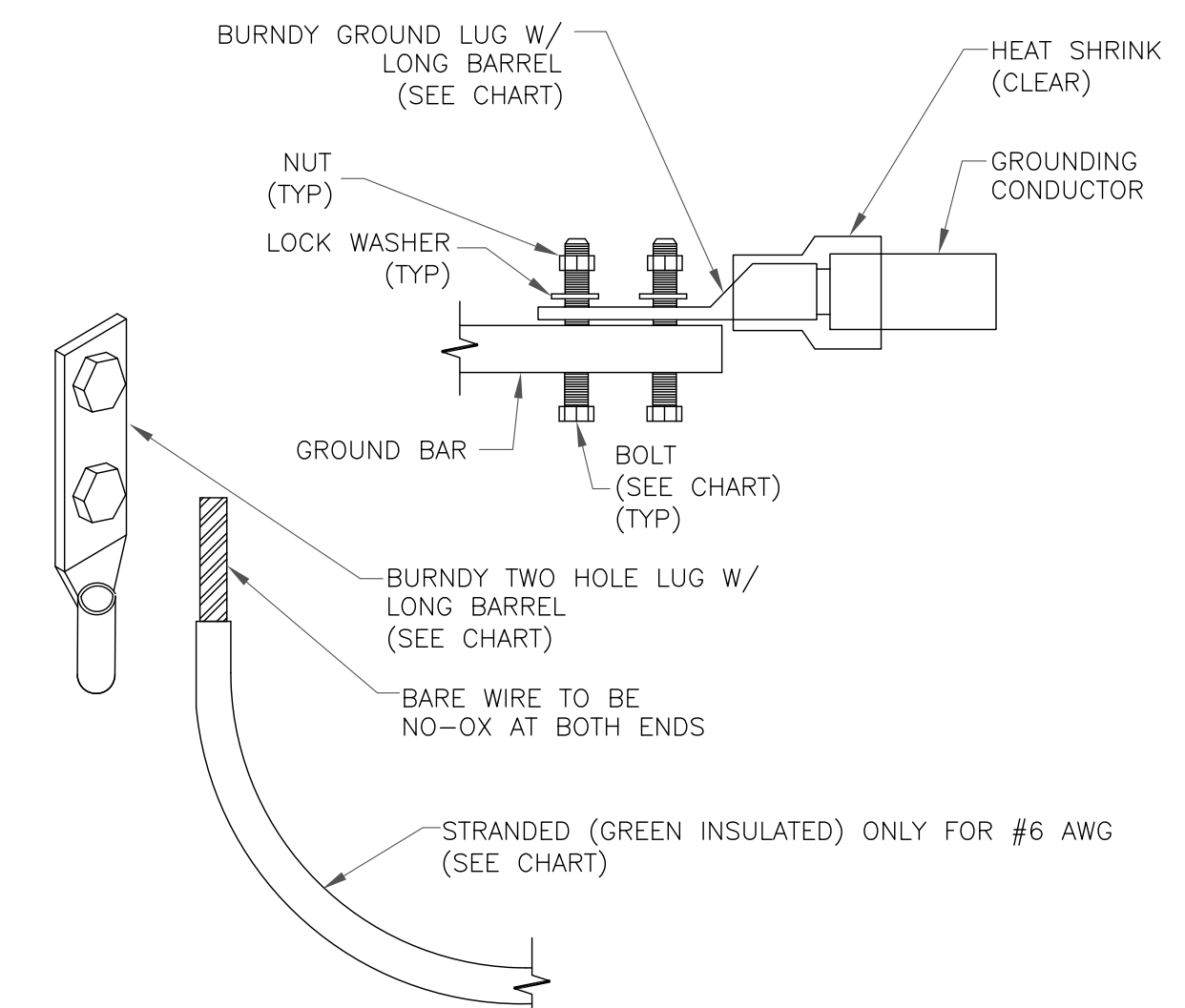
TO ANTENNAS
 RX2 TX1/RX1
 WEATHERPROOFING KIT (TYP)
 GROUND KIT (TYP)
 #6 AWG
 COPPER/GALVANIZED COAX GROUND BAR BONDED DIRECTLY TOWER
 COAX JUMPER (TYP.)
 CONNECTOR WEATHERPROOFING KIT (TYP. SEE NOTE 2)
 ANTENNA CABLE TO BTS EQUIPMENT (TYP.)

4 GROUND CABLE CONNECTION
 SCALE: NOT TO SCALE



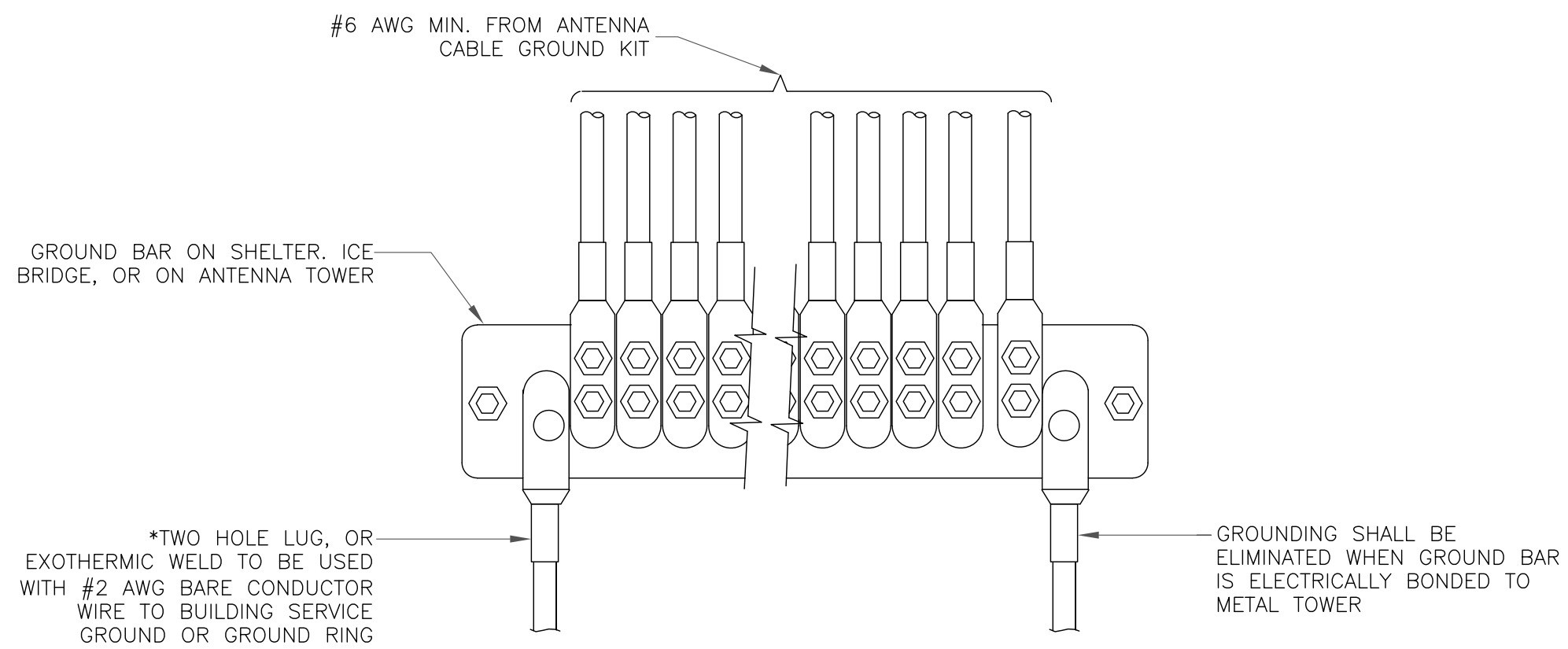
7 LUG DETAIL
 SCALE: NOT TO SCALE

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

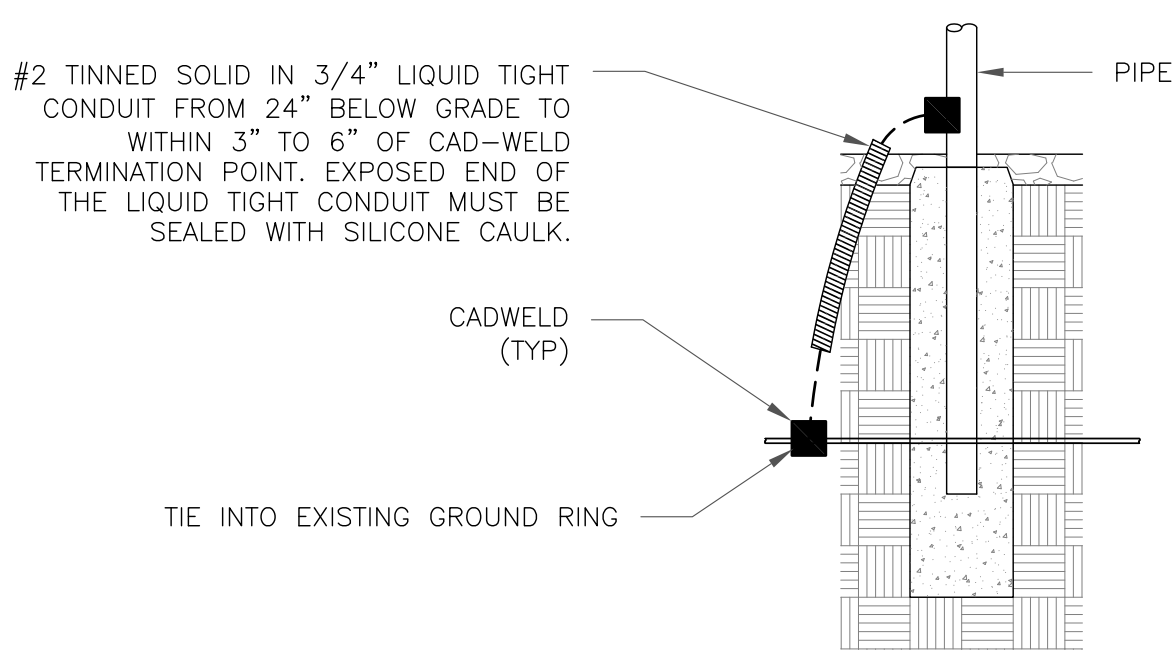


NOTES:
 1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

2 MECHANICAL LUG CONNECTION
 SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
 SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
 SCALE: NOT TO SCALE

T-Mobile
 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

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

B+T GRP
 1717 S. BOULDER
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-MOBILE SITE NUMBER:
CT11280A
 BU #: 876326
HAYDEN STATION
 440 HAYDEN STATION ROAD
 WINDSOR, CT 06095
 EXISTING
 96'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/9/21	JHW	CONSTRUCTION	MTJ
1	2/9/22	JHW	CONSTRUCTION	MTJ
2	2/27/21	JHW	CONSTRUCTION	MTJ

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/23
 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: **G-3** REVISION: **2**

1:36354.006.01_Hayden_Station_ETC_T-Mobile_2.9.2022.dwg - User: mjones - Feb 27, 2022 - 10:09am