



July 9, 2022

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

Re: Exempt Modification Request – AT&T Site 14089799  
AT&T Wireless Telecommunications Facility @ 99 Christian Hill Road, Cromwell, CT 06416  
AKA 100 Berlin Road

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T was initially approved by the Siting Council in case number TS-AT&T-033-010213. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove six (6) antennas, (3) RRHs, six (6) TMAs, and six (6) diplexers;
- Install mount modifications, one (1) platform, twelve (12) antennas, nine (9) RRHs, one (1) squid, three (3) DC trunks, and one (1) fiber trunk cable.
- Ground work includes removing six (6) RRUW; and installing one (1) 6630, four (4) rectifiers, one (1) battery cabinet, five (5) 170AH 48V battery strings one (1) DC12 and IDLe cable.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2), and as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of AT&T's intent to modify a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; M360 BERLIN LAND HOLDINGS LLC as Property Owner; the Honorable Allan Spotts, Mayor of Cromwell and Stuart B. Popper, the Director of Planning and Development.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an extension of the site boundary.
3. The proposed modifications will NOT increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard.

Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144  
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379




5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 99 Christian Hill Road, Cromwell, CT 06416 (AKA 100 Berlin Road).

If you have any questions, please feel free to contact me.

Respectfully Submitted,

  
Jack Andrews  
Zoning Manager, Centerline Communications  
443-677-0144

Enclosures: Exhibit 1 – Letter of Authorization from tower owner  
Exhibit 2 – Property Card and GIS  
Exhibit 3 – Construction and Mount Modification Drawings  
Exhibit 4 – Structural Analysis Report  
Exhibit 5 – Antenna Mount Analysis Report (failing)  
Exhibit 6 – EME Study Report  
Exhibit 7 – Four (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner  
M360 BERLIN LAND HOLDINGS LLC - Property Owner  
The Honorable Allan Spotts - Mayor of Cromwell  
Stuart B. Popper - Director of Planning and Development, Town of Cromwell



**AMERICAN TOWER®**  
CORPORATION  
**LETTER OF AUTHORIZATION**

CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower\*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

\*American Tower includes all affiliates and subsidiaries of American Tower Corporation.


ATC Asset #	Site Name	Project Number	Site Address
283420	STONEBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut



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CORPORATION

88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Branford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: \_\_\_\_\_

  
Margaret Robinson, Vice President  
US Tower Legal Division

**See attached Notary Block**



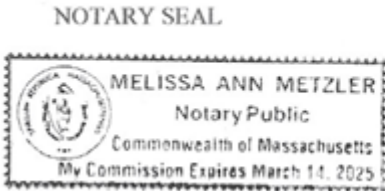
**LETTER OF AUTHORIZATION  
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY**

**NOTARY BLOCK**

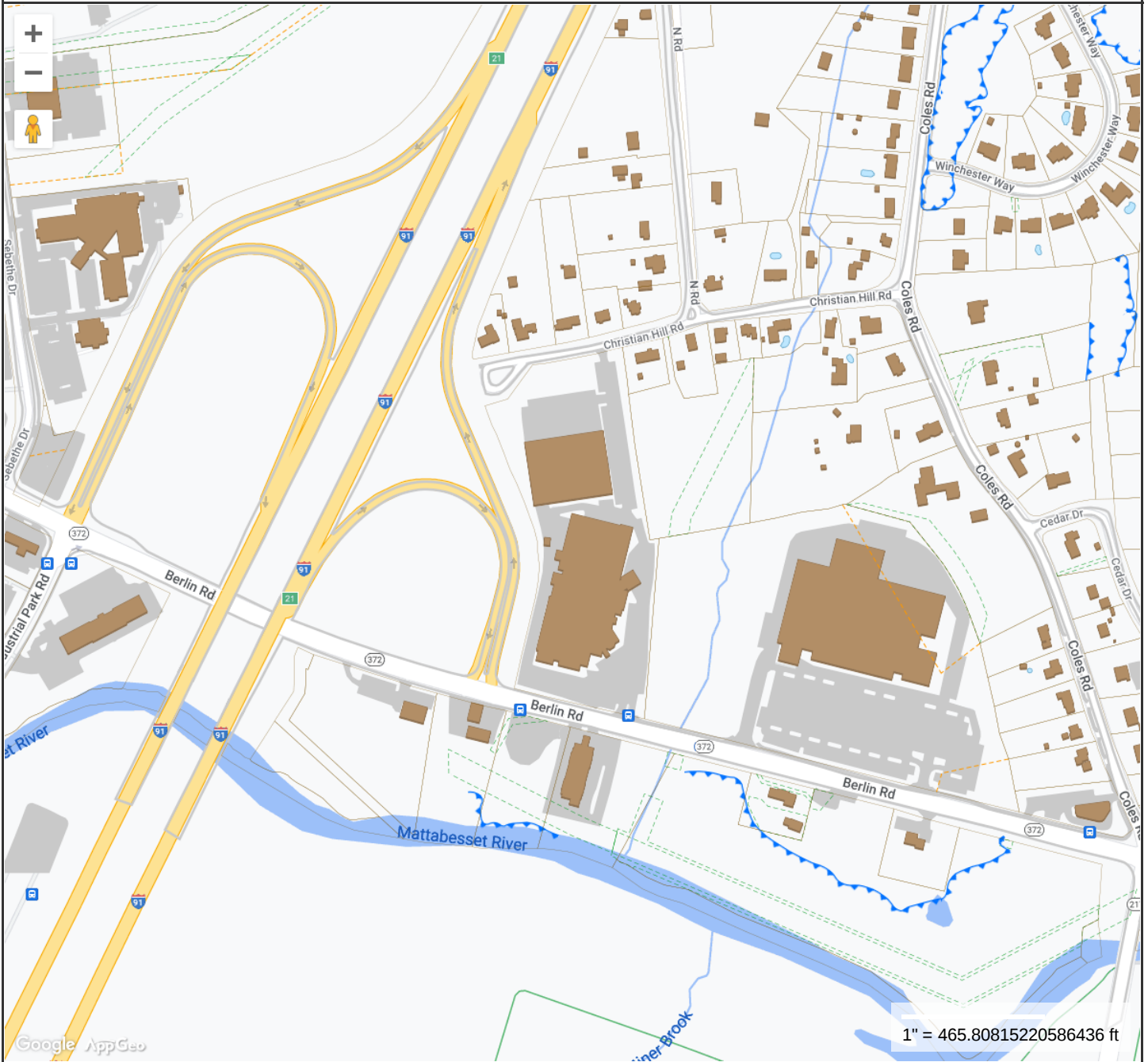
COMMONWEALTH OF MASSACHUSETTS  
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30<sup>th</sup> day of June, 2022.



Notary Public   
My Commission Expires: March 14, 2025



**MAP FOR REFERENCE ONLY  
NOT A LEGAL DOCUMENT**

Town of Cromwell, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 6/25/2021  
Data updated on a daily basis

Print map scale is approximate.  
Critical layout or measurement  
activities should not be done using  
this resource.



**Patriot Properties Inc.**

Parcel ID: **00459100** Location: **100 BERLIN ROAD** Map-Lot **07-21** Last Revaluation - **October 1, 2022**

**Current Owner**  
 M360 BERLIN LAND HOLDINGS LLC  
 Percent 0  
 999 CORPORATE DRIVE  
 LADERA RANCH CA 92694

**Current Value Information**

Use Code	Land Value	PA 490 Value	Building Value	Outbuildings	Total Value	Total Assessed
201	1,882,600	0	4,687,100	1,314,200	7,883,900	5,518,730
<b>TOTAL</b>	<b>1,882,600</b>	<b>0</b>	<b>4,269,100</b>	<b>998,000</b>	<b>7,149,700</b>	<b>5,004,790</b>

**Previous Value Information**

Tax Yr	Land Value	Bldg Value	Outbuildings	Total Value	Total Assessment
2021	1,882,600	4,687,100	1,314,200	7,883,900	5,518,730
2020	1,882,600	4,687,100	1,314,200	7,883,900	5,518,730
2019	1,882,600	4,687,100	1,314,200	7,883,900	5,518,730
2018	1,882,600	4,687,100	1,314,200	7,883,900	5,518,730
2017	1,882,600	4,587,100	1,314,200	7,783,900	5,448,730
2016	2,035,080	8,364,210	632,930	11,032,220	7,722,560

**Previous Owner(s)**  
 100 BERLIN LAND LLC

**General Notes**

CROWNE PLAZA/(1) 117 SF FREEZER  
 FUNC-OBSOL  
 50/50 SPLIT BETWEEN DOUBLE/SINGLE ROOMS  
 POOL/JACUZZI/FITNESS CENTER/BIZ CENTER  
 RESTAURANT = 104 PERSON CAPACITY  
 LOUNGE = 32 PERSON CAPACITY  
 21 FUNCTION ROOMS = 2420 PERSON CAPACITY  
 2 STORY PARKING GARAGE

**Sales Information**

Grantee	Vol-Page	Type	SaleDate	SalePrice	Sale Verif	GeneralNotes
M360 BERLIN LAND HOLDING	1743-66	SW	10/18/2021	2,550,000	Other	
100 BERLIN LAND LLC	1598-217	W	07/28/2017	6,720,000	Family Members	
100 BERLIN HOLDINGS LLC	1520-134		04/07/2015	7,500,000	Other	
SHANER SPE ASSOCIATES LI	1114-112		09/26/2005	0	No Consideration	
SHANER HOTEL GROUP PRO	623-284		12/06/1996	0		

**Property Factors**

Census 5701  
 Flood: YES  
 Topo:  
 Street: Paved  
 Dev. Map  
 Dev. Map

**Zoning Data**

Desc. %  
 HB 100.00

**Utilities**

2 Public Water

**BAA**

15K;12K,08K;07K

**Activity Information**

Date	Results	Visited By
04/09/2018	Court Stip	Shawna Baron
09/04/2017	Change - Value Change Company	John Valente
05/18/2017	No Change - Field Review	Dave Stannard
08/31/2016	Permit- Miscellaneous	Assessor Office
08/09/2016	Permit- Miscellaneous	Assessor Office
05/20/2016	Permit- Miscellaneous	Assessor Office
11/29/2012	Change - Value Change Company	
01/27/2010	Permit- Miscellaneous	Assessor Office
06/24/2009	Permit- Miscellaneous	Assessor Office
02/03/2009	Permit- Miscellaneous	Assessor Office

**Building Permit Information**

Date	Permit #	Description	Amount	% Comp	Visit Date	CO Date	GeneralNotes
07/20/2018	25515	Sign	13,000	100			Signage rebranding
05/01/2018	25357	Oil Tank	49,920	100			REPLACEMENT OF UNDERGROUND OIL TANK
01/02/2018	25810	HVAC	5,000	100			HOOD
08/31/2016	24262	Other	19,000	100	31-Aug-2016		Alterations to Existing R
08/09/2016	24228	Electric	26,528	100	09-Aug-2016		Replace Fire Alarm Contro
05/20/2016	24042	Sign	19,995	100	20-May-2016		Replace Existing Signs
06/29/2009	18460	Electric	3,500	100	24-Jun-2009		
06/01/2009	18397	Other	26,000	100	27-Jan-2010	27-Jan-2010	swap antennas on existing

**Land Data**

Use	Description	Units	Unit Type	Neigh	Land Adjustments	Special Land Calc	Appraised Value	PA 490 Asmt	Neigh Order	Notes
201	Commercial	393,778	SF	CL	Shape -30% Access -40%		1,882,600	0	1500	
<b>Total Area: 9.04</b>		<b>PA 490 Use Asmt: 0</b>		<b>Total Appraised: 1,882,600</b>		<b>Assessed Value: 1,317,820</b>				

Bldg Seq 1 Of 1

**Exterior Information**

Building Type: Hotel - FS  
 Story Ht: 5 Story  
 Living Units: 0  
 Foundation:  
 Prim. Ext. Wall: Concrete 50%  
 Sec. Ext. Wall: Brick/Masonr 50%  
 Roof Type: Flat  
 Roof Cover: T&G/Rubber  
 Avg. Wall Ht: 10.00  
 Color:

**Interior Information**

Prime Wall: Drywall  
 Sec. Wall:  
 Floor Type: Carpet 50%  
 Sec. Floor: Ceram Clay T 50%  
 Heat Fuel: Gas  
 Heat Type: Forced Air  
 Sec. Ht Type:  
 % A/C: 100  
 % Sprinkled: 100  
 Bsmt. Gar: 0  
 Kitchens: 0 Add. Kit: 0  
 Fireplaces: 0 Gas: 0  
 Int. Condition: Typical

**Room Count**

Total Rooms:  
 Bedrooms:

**Bath Features**

Full Baths: 0  
 Addl. Full Baths: 0  
 Half Baths: 0  
 Addl. Half Baths: 0  
 Full Bths Below: 0  
 Half Bths Below: 0  
 Other Fixtures: 0  
 Total Baths: 0.0



**Condo Information**

Name:  
 Style:  
 Location:  
 Tot Units:

**General Information**

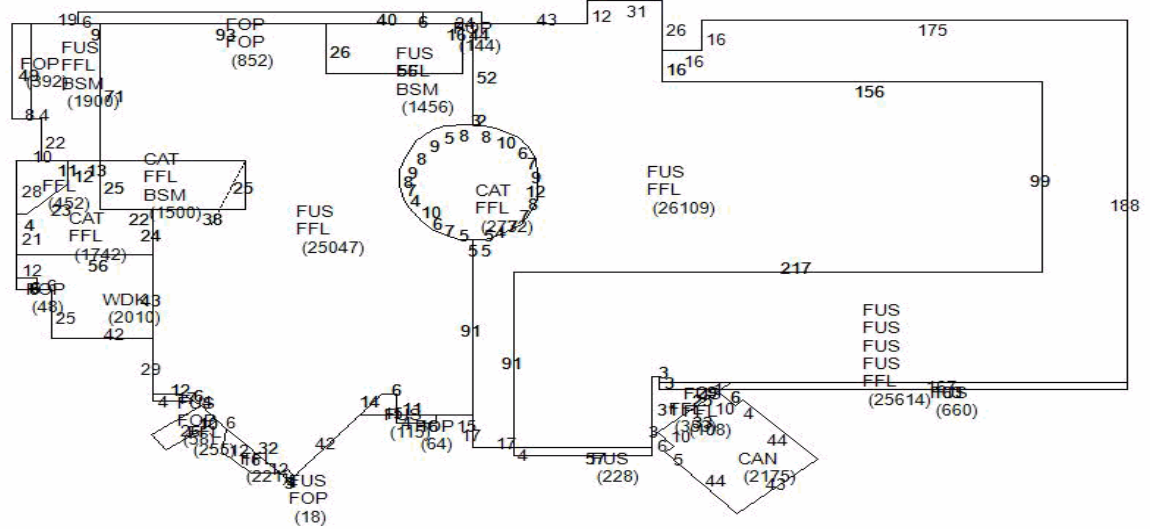
Year Blt: 1968  
 Grade: B-  
 Remodeled Yr:  
 Rem. Kitchen Yr:  
 Rem. Bath Yr:

**Depreciation**

	%
Phys Cond	Average 38.25
Func	50.00
Econ	40.00
Spec	
OV	
<b>Total %Dep:</b>	<b>81.48</b>

**Calculation**

Basic \$/SQ	101.00
Replacement Cost	22,619,464
Depreciation	18,430,339
Depreciated Value	4,189,125
<b>Final Total (Rounded)</b>	<b>4,269,100</b>



**Extra Features / Yard Items (1st 10 Lines Displayed)**

Code	Description	Qty	Size	Cond.	Year	Unit Price	Dep%	UndepValue	Appraised Value	Assessment
ELEV	Elevator	1	4	VG	1984	180,000.00	82	720,000	133,200	93,240
LNFR	Lean-To Fram	1	390	AV	2006	12.00	14	4,680	4,000	2,800
LT1	Light 1	1	20	AV	2006	1,200.00	14	24,000	20,600	14,420
LT2	Light 2	1	4	AV	2006	1,800.00	14	7,200	6,200	4,340
LT3	Light 3	1	2	AV	2006	2,520.00	14	5,040	4,300	3,010
LT4	Light 4	1	4	AV	2006	3,240.00	14	12,960	11,100	7,770
PAV1	Paving Asph.	1	30,000	AV	1983	3.60	30	108,000	75,600	52,920
PAV1	Paving Asph.	1	63,400	AV	1983	3.60	30	228,240	159,800	111,860
PGAR	Parking Gara	1	46,754	PR	1983	42.00	65	1,963,668	687,300	481,110
SH1C	Shed CindBk/	1	320	AV	2006	21.60	14	6,912	5,900	4,130

**Sub Area Detail**

Code	Desc.	Living	Gross Area
FUS	Finished Upp	158,155	158,155
FFL	First Floor	87,489	87,489
FOP	Framed Open	0	2,428
WDK	Wood Deck	0	2,010
BSM	Basement	0	4,856
CAN	Canopy	0	2,175
CAT	Cath Ceil	0	5,974
<b>Total</b>		<b>245,644</b>	<b>263,087</b>



**Total Sp. Features: 133,200    Total Yard Items: 974,800    Total Appraised: 1,108,000    Total Assessed Value: 775,600**



# Radio Frequency Exposure Analysis Report

July 7, 2022

American Tower on behalf of AT&T  
Centerline Communications Project Number: 950035-008

AT&T Site Name: CROMWELLSOUTH  
Site Number: CTL05144 / 411261  
FA#: 10070987  
USID: 14490

Site Address: 100 Christian Hill Road, Cromwell, CT 06416

## Site Compliance Summary

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AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	28.01175 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	2.80201%



July 7, 2022

American Tower Corporation  
Attn: John Luca, Associate Project Manager  
3500 Regency Parkway  
Cary, NC 27518

#### RF Exposure Analysis for Site: **CROMWELLSOUTH**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **100 Christian Hill Road, Cromwell, CT 06416** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ) or microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in  $\text{mW}/\text{cm}^2$ ) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ( $f_{\text{MHz}}/1500$ ). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of  $1 \text{ mW}/\text{cm}^2$  ( $1000 \mu\text{W}/\text{cm}^2$ ). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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, 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.



## **Calculation Methodology**

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



## **Data & Results**

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the Ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



**Maximum Calculated Cumulative Power Density (Location: approximately 103' SE of site)**

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
AT&T A 1	CCI TPA65R-BU6D	700	11.75	98.00	4.00	30.00	1795.48	0.00000	466.67	0.00000
AT&T A 1	CCI TPA65R-BU6D	1900	15.05	98.00	2.00	30.00	1919.34	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU6D	1900	15.45	98.00	2.00	30.00	2104.51	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00000	1000.00	0.00000
AT&T A 2	Ericsson AIR6449	3700	23.45	100.00	1.00	108.40	23989.95	0.00018	1000.00	0.00002
AT&T A 3	Ericsson AIR6419	3450	23.45	96.00	1.00	108.40	23989.95	0.00013	1000.00	0.00001
AT&T A 4	CCI DMP65R-BU6D	700	11.35	98.00	2.00	30.00	818.75	0.00000	466.67	0.00000
AT&T A 4	CCI DMP65R-BU6D	850	11.45	98.00	2.00	30.00	837.82	0.00000	566.67	0.00000
AT&T A 4	CCI DMP65R-BU6D	2300	15.25	98.00	4.00	18.75	2512.24	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU6D	700	11.75	98.00	4.00	30.00	1795.48	0.00124	466.67	0.00027
AT&T B 5	CCI TPA65R-BU6D	1900	15.05	98.00	2.00	30.00	1919.34	0.00066	1000.00	0.00007
AT&T B 5	CCI TPA65R-BU6D	1900	15.45	98.00	2.00	30.00	2104.51	0.00075	1000.00	0.00008
AT&T B 5	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00113	1000.00	0.00011
AT&T B 5	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00113	1000.00	0.00011
AT&T B 6	Ericsson AIR6449	3700	23.45	100.00	1.00	108.40	23989.95	0.00773	1000.00	0.00077
AT&T B 7	Ericsson AIR6419	3450	23.45	96.00	1.00	108.40	23989.95	0.00691	1000.00	0.00069
AT&T B 8	CCI DMP65R-BU6D	700	11.35	98.00	2.00	30.00	818.75	0.00087	466.67	0.00019
AT&T B 8	CCI DMP65R-BU6D	850	11.45	98.00	2.00	30.00	837.82	0.00061	566.67	0.00011
AT&T B 8	CCI DMP65R-BU6D	2300	15.25	98.00	4.00	18.75	2512.24	0.00101	1000.00	0.00010
AT&T C 9	CCI TPA65R-BU6D	700	11.75	98.00	4.00	30.00	1795.48	0.00000	466.67	0.00000
AT&T C 9	CCI TPA65R-BU6D	1900	15.05	98.00	2.00	30.00	1919.34	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU6D	1900	15.45	98.00	2.00	30.00	2104.51	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU6D	2100	15.95	98.00	2.00	45.00	3541.95	0.00000	1000.00	0.00000
AT&T C 10	Ericsson AIR6449	3700	23.45	100.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T C 11	Ericsson AIR6419	3450	23.45	96.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T C 12	CCI DMP65R-BU6D	700	11.35	98.00	2.00	30.00	818.75	0.00000	466.67	0.00000
AT&T C 12	CCI DMP65R-BU6D	850	11.45	98.00	2.00	30.00	837.82	0.00000	566.67	0.00000
AT&T C 12	CCI DMP65R-BU6D	2300	15.25	98.00	4.00	18.75	2512.24	0.00000	1000.00	0.00000
Unknown A 13	GENERIC PANEL 6FT	850	12.62	108.00	4.00	40.00	2924.96	0.00001	566.67	0.00000
Unknown A 14	GENERIC PANEL 6FT	1900	15.84	108.00	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Unknown A 15	GENERIC PANEL 6FT	2100	16.39	108.00	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Unknown A 16	GENERIC PANEL 6FT	700	12.33	108.00	4.00	40.00	2736.02	0.00001	466.67	0.00000



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
Unknown B 17	GENERIC PANEL 6FT	850	12.62	108.00	4.00	40.00	2924.96	0.00104	566.67	0.00018
Unknown B 18	GENERIC PANEL 6FT	1900	15.84	108.00	4.00	40.00	6139.32	0.00107	1000.00	0.00011
Unknown B 19	GENERIC PANEL 6FT	2100	16.39	108.00	4.00	40.00	6968.19	0.00110	1000.00	0.00011
Unknown B 20	GENERIC PANEL 6FT	700	12.33	108.00	4.00	40.00	2736.02	0.00102	466.67	0.00022
Unknown C 21	GENERIC PANEL 6FT	850	12.62	108.00	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown C 22	GENERIC PANEL 6FT	1900	15.84	108.00	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Unknown C 23	GENERIC PANEL 6FT	2100	16.39	108.00	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Unknown C 24	GENERIC PANEL 6FT	700	12.33	108.00	4.00	40.00	2736.02	0.00000	466.67	0.00000
Unknown A 25	GENERIC PANEL 6FT	1900	15.84	84.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown A 26	GENERIC PANEL 6FT	600	12.33	84.00	2.00	60.00	2052.02	0.00001	400.00	0.00000
Unknown A 27	GENERIC PANEL 6FT	700	12.33	84.00	2.00	60.00	2052.02	0.00001	466.67	0.00000
Unknown A 28	GENERIC PANEL 6FT	2100	15.84	84.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown B 29	GENERIC PANEL 6FT	1900	15.84	84.00	2.00	60.00	4604.49	0.00137	1000.00	0.00014
Unknown B 30	GENERIC PANEL 6FT	600	12.33	84.00	2.00	60.00	2052.02	0.00131	400.00	0.00033
Unknown B 31	GENERIC PANEL 6FT	700	12.33	84.00	2.00	60.00	2052.02	0.00131	466.67	0.00028
Unknown B 32	GENERIC PANEL 6FT	2100	15.84	84.00	2.00	60.00	4604.49	0.00137	1000.00	0.00014
Unknown C 33	GENERIC PANEL 6FT	1900	15.84	84.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown C 34	GENERIC PANEL 6FT	600	12.33	84.00	2.00	60.00	2052.02	0.00000	400.00	0.00000
Unknown C 35	GENERIC PANEL 6FT	700	12.33	84.00	2.00	60.00	2052.02	0.00000	466.67	0.00000
Unknown C 36	GENERIC PANEL 6FT	2100	15.84	84.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
							<b>Cumulative Power Density:</b>	<b>28.01175 <math>\mu\text{W}/\text{cm}^2</math></b>	<b>Cumulative % MPE:</b>	<b>2.80201%</b>



## Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at Ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

*Michelle Stone*

Michelle Stone

RF EME Technical Writer II

Centerline Communications, LLC





**AMERICAN TOWER®**  
CORPORATION

This report was prepared for American Tower Corporation by



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## Structural Analysis Report

**Structure** : 111 ft Self Support Tower

**ATC Site Name** : CROMWELLSW CT,CT

**ATC Site Number** : 411261

**Engineering Number** : 14089799\_C3\_03

**Proposed Carrier** : AT&T MOBILITY

**Carrier Site Name** : MRCTB054996

**Carrier Site Number** : N/A

**Site Location** : 99 Christian Hill Road  
CROMWELL, CT 06416-2612  
41.6057, -72.7014

**County** : Middlesex

**Date** : April 5, 2022

**Max Usage** : 99%

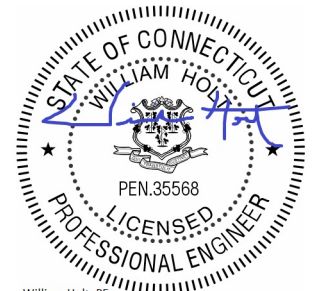
**Result** : Pass

Prepared By:

Sean Rock, E.I.  
CLS

Reviewed By:

Digitally signed by  
William Holt  
Date: 2022.04.06  
11:02:58 -04'00'



William Holt, PE  
Director of Engineering  
License No. 35568 Expires: 01/31/2023

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## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 111 ft Self Support tower to reflect the change in loading by AT&T MOBILITY.

## Supporting Documents

<b>Tower Drawings</b>	Mapping by ETS, Job #150929.01, dated August 21, 2015
<b>Foundation Drawing</b>	Mapping by ETS, Job #150929.01, dated August 21, 2015 Mapping by ETS, Job #150929.01, dated June 13, 2016
<b>Geotechnical Report</b>	FDH Velocitel, Project #15BWZR1600, dated August 18, 2015
<b>Mount Analysis</b>	Telamon CLS, Engineering #14089799_C8_01, dated March 25, 2022

## Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

<b>Basic Wind Speed:</b>	119 mph (3-second gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-second gust) w/ 1.00" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 1
<b>Topographic Category:</b>	1
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.20$ , $S_i = 0.06$
<b>Site Class:</b>	D - Stiff Soil - Default

**\*\*Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, Annex S.**

## Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at [Engineering@americantower.com](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

**Existing and Reserved Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
108.0	3	Ericsson Radio 4449 B71 B85A	Triangular Platform with Handrails	(4) 1 5/8" (1.63"-41.3mm) Fiber (2) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson 4460 BAND 2/25			
	3	Ericsson Air6449 B41			
	3	Commscope VV-65A-R1			
	3	RFS APXVAALL24 43-U-NA20			
98.0	1	Raycap DC6-48-60-18-8F(32.8 lbs)	Triangular Low Profile Platform	(2) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax	AT&T MOBILITY
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 32 B2			
88.0	1	Generic GPS			
84.0	4	Decibel DB846F65ZAXY	Triangular Platform with Handrails	(1) 1/2" Coax (12) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	2	Antel LPA-80080/6CF			
	6	JMA Wireless MX06FRO660-02			
	3	Samsung MT6407-77A			
	3	Samsung B5/B13 RRH-BR04C			
83.0	1	Raycap RCMDC-6627-PF-48			

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
98.0	3	Powerwave Allgon 7020.00 Dual Band RET	-	(2) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (1) 1 5/8" Hybriflex	AT&T MOBILITY
	3	Powerwave Allgon 7770.00			
	3	Quintel QS66512-2			
	3	CCI OPA-65R-LCUU-H6			
	3	Ericsson RRUS-32 (77 lbs)			
	12	Powerwave Allgon LGP21401			
	3	Ericsson RRUS 11 B2			

**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
100.0	3	Ericsson AIR 6419 B77G	Triangular Low Profile Platform	(3) 0.41" (10.3mm) Fiber (5) 0.92" (23.4mm) Cable (1) 2" conduit (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
98.0	3	Ericsson RRUS 4426 B66			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 32 B30			
	1	Raycap DC9-48-60-24-8C-EV			
	3	CCI DMP65R-BU6DA			
96.0	3	CCI TPA-65R-BU6DA-K			
96.0	3	Ericsson AIR 6449 B77D/ C-Band			

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing AT&T MOBILITY lines.

### **Structure Usage**

Structural Component	Controlling Usage	Pass/Fail
Legs	99%	Pass
Diagonals	70%	Pass
Horizontals	58%	Pass

### **Foundations**

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,315.6	92%
Axial (Kips)	217.9	47%
Total Shear (Kips)	37.9	9%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

## **Standard Conditions**

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

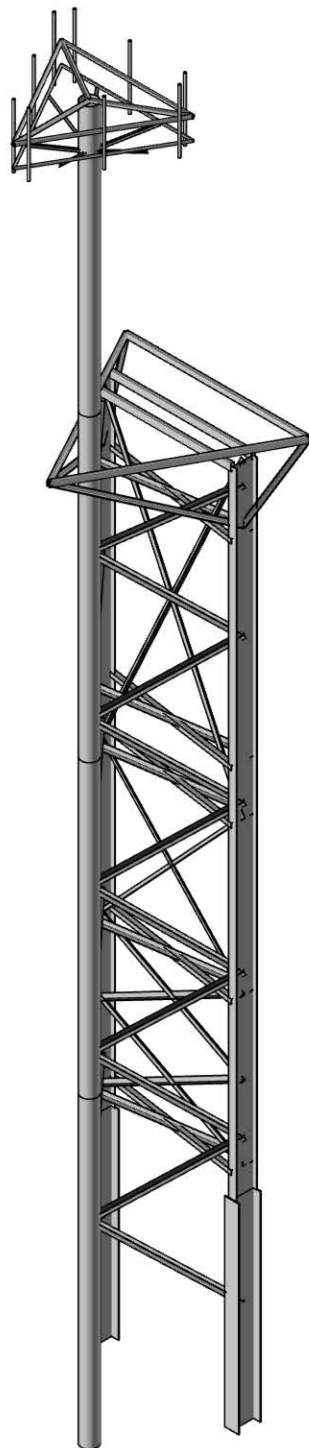
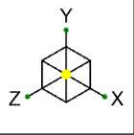
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

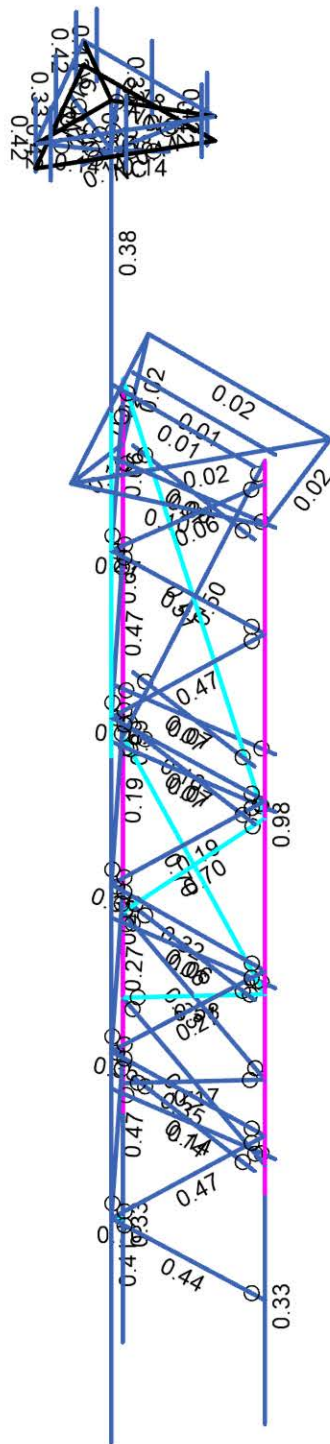
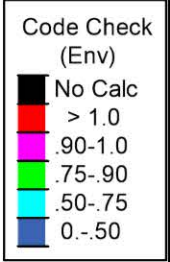
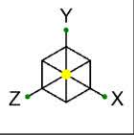
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Envelope Only Solution

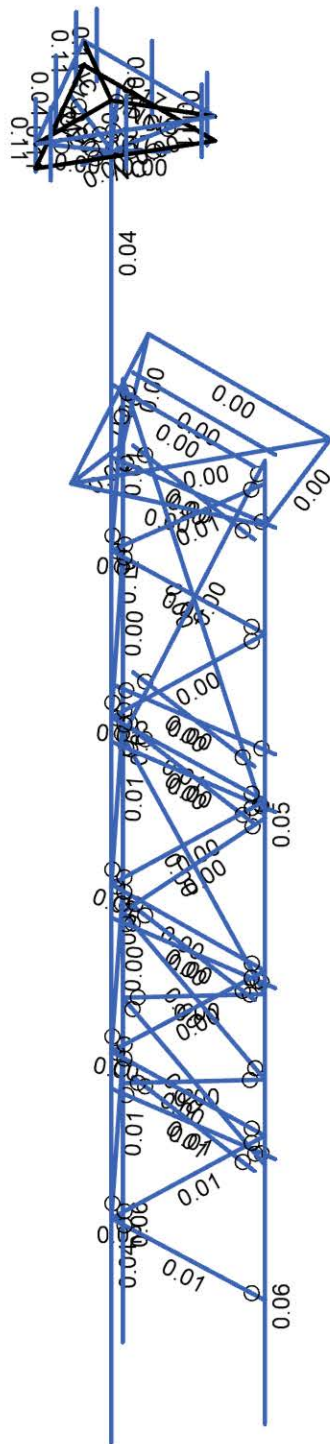
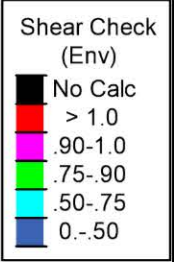
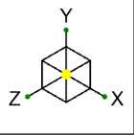
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14089799_C3_03		411261 CROMWELLSW CT, CT (...)
	Rendered	



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

CLS	CromwellSW CT, CT (411261)	SK-2
NGN		Apr 05, 2022
14089799_C3_03	Envelope Member Unity Check Results - Bending	411261 CROMWELLSW CT, CT (...)





Member Shear Checks Displayed (Enveloped)  
Envelope Only Solution

CLS  
NGN  
14089799\_C3\_03

CromwellSW CT, CT (411261)  
Envelope Member Check Results - Shear

SK-3  
Apr 05, 2022  
411261 CROMWELLSW CT, CT (...)

**Hot Rolled Steel Properties**

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [ $1e^{-5}F^{-1}$ ]	Density [k/ft <sup>3</sup> ]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	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	0.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2

**Hot Rolled Steel Section Sets**

	Label	Shape	Type	Design List	Material	Design Rule	Area [in <sup>2</sup> ]	Iyy [in <sup>4</sup> ]	Izz [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	W24x68 w16x1 PL	W24x68 w16x1 PL	None	None	A572 Gr.50	Typical	51.845	753.17	6681.05	27.435
2	L3.5x3.5x0.3125	L3.5X3.5X5	None	None	A36 Gr.36	Typical	2.1	2.44	2.44	0.073
3	L5x5x3/8 wHSS2x2x1/4	L5x5x3/8 wHSS2x2x1/4	None	None	A36 Gr.36	Typical	5.256	9.617	9.617	3.099
4	L3x3x5/16	L3X3X5	None	None	A36 Gr.36	Typical	1.78	1.5	1.5	0.06
5	18"x0.5"	HSS18x0.500	None	None	A53 Gr.B	Typical	25.6	985	985	1970
6	WT6x15	WT6X15	None	None	A36 Gr.36	Typical	4.4	10.2	13.5	0.228
7	HSS6x4x1/4	HSS6X4X4	None	None	A36 Gr.36	Typical	4.3	11.1	20.9	23.6
8	HSS8x4x1/4	HSS8X4X4	None	None	A36 Gr.36	Typical	5.24	14.4	42.5	35.3
9	L5x5x3/4	L5X5X12	None	None	A36 Gr.36	Typical	6.98	15.7	15.7	1.33
10	SFS	L2.5x2.5x3	VBrace	None	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
11	2.0"Pipe	PIPE 2.0	VBrace	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
12	3.5" Pipe	PIPE 3.0	None	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
13	W24x68	W24X68	None	None	A572 Gr.50	Typical	20.1	70.4	1830	1.87
14	L5x5x3/8	L5X5X6	None	None	A36 Gr.36	Typical	3.65	8.76	8.76	0.183
15	L4x4x5/16 w2" Pipe	L4x4x5/16 w2.4" pipe	None	None	A36 Gr.36	Typical	3.79	4.63	4.63	2.166
16	HSS4x4x1/4	HSS4x0.250	None	None	A36 Gr.36	Typical	2.76	4.91	4.91	9.82

**Member Primary Data**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N2	N7	90	W24x68 w16x1 PL	None	None	A572 Gr.50	Typical
2	M2	N1	N6	90	W24x68 w16x1 PL	None	None	A572 Gr.50	Typical
3	M3	N7	N31	90	W24x68	None	None	A572 Gr.50	Typical
4	M4	N6	N30	90	W24x68	None	None	A572 Gr.50	Typical
5	M5	N3	N33		18"x0.5"	None	None	A53 Gr.B	Typical
6	M6	N33	N36		18"x0.5"	None	None	A53 Gr.B	Typical
7	M7	N36	N39		18"x0.5"	None	None	A53 Gr.B	Typical
8	M8	N39	N40		18"x0.5"	None	None	A53 Gr.B	Typical
9	M9	N44	N9		RIGID	Beam	None	RIGID	DR1
10	M10	N9	N42		RIGID	Beam	None	RIGID	DR1
11	M11	N43	N8		RIGID	Beam	None	RIGID	DR1
12	M12	N8	N41		RIGID	Beam	None	RIGID	DR1
13	M13	N48	N15		RIGID	Beam	None	RIGID	DR1
14	M14	N15	N46		RIGID	Beam	None	RIGID	DR1
15	M15	N47	N14		RIGID	Beam	None	RIGID	DR1
16	M16	N14	N45		RIGID	Beam	None	RIGID	DR1
17	M17	N52	N19		RIGID	Beam	None	RIGID	DR1
18	M18	N19	N50		RIGID	Beam	None	RIGID	DR1
19	M19	N51	N18		RIGID	Beam	None	RIGID	DR1
20	M20	N18	N49		RIGID	Beam	None	RIGID	DR1
21	M21	N56	N23		RIGID	Beam	None	RIGID	DR1
22	M22	N23	N54		RIGID	Beam	None	RIGID	DR1
23	M23	N55	N22		RIGID	Beam	None	RIGID	DR1
24	M24	N22	N53		RIGID	Beam	None	RIGID	DR1

**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
25	M25	N60	N27		RIGID	Beam	None	RIGID	DR1
26	M26	N27	N58		RIGID	Beam	None	RIGID	DR1
27	M27	N59	N26		RIGID	Beam	None	RIGID	DR1
28	M28	N26	N57		RIGID	Beam	None	RIGID	DR1
29	M29	N43	N42		L5x5x3/8	None	None	A36 Gr.36	Typical
30	M30	N44	N41	90	L5x5x3/8	None	None	A36 Gr.36	Typical
31	M31	N47	N46		L5x5x3/8	None	None	A36 Gr.36	Typical
32	M32	N48	N45	90	L5x5x3/8	None	None	A36 Gr.36	Typical
33	M33	N51	N50		L5x5x3/8	None	None	A36 Gr.36	Typical
34	M34	N52	N49	90	L5x5x3/8	None	None	A36 Gr.36	Typical
35	M35	N55	N54		L5x5x3/8	None	None	A36 Gr.36	Typical
36	M36	N56	N53	90	L5x5x3/8	None	None	A36 Gr.36	Typical
37	M37	N59	N58		L5x5x3/8	None	None	A36 Gr.36	Typical
38	M38	N60	N57	90	L5x5x3/8	None	None	A36 Gr.36	Typical
39	M39	N8	N13		L5x5x3/8	None	None	A36 Gr.36	Typical
40	M40	N9	N12		L5x5x3/8	None	None	A36 Gr.36	Typical
41	M41	N12	N15		L5x5x3/8	None	None	A36 Gr.36	Typical
42	M42	N13	N14		L5x5x3/8	None	None	A36 Gr.36	Typical
43	M43	N15	N18		L3.5x3.5x0.3125	None	None	A36 Gr.36	Typical
44	M44	N14	N19		L3.5x3.5x0.3125	None	None	A36 Gr.36	Typical
45	M45	N19	N30		L5x5x3/8 wHSS2x2x1/4	None	None	A36 Gr.36	Typical
46	M46	N18	N31		L5x5x3/8 wHSS2x2x1/4	None	None	A36 Gr.36	Typical
47	M47	N5	N32		WT6x15	None	None	A36 Gr.36	Typical
48	M48	N4	N32		WT6x15	None	None	A36 Gr.36	Typical
49	M49	N32	N11		WT6x15	None	None	A36 Gr.36	Typical
50	M50	N32	N10		WT6x15	None	None	A36 Gr.36	Typical
51	M51	N11	N34		WT6x15	None	None	A36 Gr.36	Typical
52	M52	N10	N34		WT6x15	None	None	A36 Gr.36	Typical
53	M53	N34	N17		WT6x15	None	None	A36 Gr.36	Typical
54	M54	N34	N16		WT6x15	None	None	A36 Gr.36	Typical
55	M55	N17	N35		WT6x15	None	None	A36 Gr.36	Typical
56	M56	N16	N35		WT6x15	None	None	A36 Gr.36	Typical
57	M57	N35	N21		WT6x15	None	None	A36 Gr.36	Typical
58	M58	N35	N20		WT6x15	None	None	A36 Gr.36	Typical
59	M59	N21	N37		WT6x15	None	None	A36 Gr.36	Typical
60	M60	N20	N37		WT6x15	None	None	A36 Gr.36	Typical
61	M61	N37	N25		WT6x15	None	None	A36 Gr.36	Typical
62	M62	N37	N24		WT6x15	None	None	A36 Gr.36	Typical
63	M63	N25	N38		WT6x15	None	None	A36 Gr.36	Typical
64	M64	N24	N38		WT6x15	None	None	A36 Gr.36	Typical
65	M65	N38	N29		WT6x15	None	None	A36 Gr.36	Typical
66	M66	N38	N28		WT6x15	None	None	A36 Gr.36	Typical
67	M67	N31	N62		RIGID	Beam	None	RIGID	DR1
68	M68	N31	N64		RIGID	Beam	None	RIGID	DR1
69	M69	N30	N61		RIGID	Beam	None	RIGID	DR1
70	M70	N30	N63		RIGID	Beam	None	RIGID	DR1
71	M71	N61	N62		HSS8x4x1/4	None	None	A36 Gr.36	Typical
72	M72	N64	N63		HSS8x4x1/4	None	None	A36 Gr.36	Typical
73	M75	N68	N69		HSS6x4x1/4	None	None	A36 Gr.36	Typical
74	M76	N69	N67		HSS6x4x1/4	None	None	A36 Gr.36	Typical
75	M77	N67	N68		HSS6x4x1/4	None	None	A36 Gr.36	Typical
76	M76A	N68A	N67		L4x4x5/16 w/2" Pipe	None	None	A36 Gr.36	Typical
77	M77A	N69A	N68		L4x4x5/16 w/2" Pipe	None	None	A36 Gr.36	Typical
78	M78	N69	N69A		L4x4x5/16 w/2" Pipe	None	None	A36 Gr.36	Typical
79	M79	N69	N68A		L4x4x5/16 w/2" Pipe	None	None	A36 Gr.36	Typical

**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
80	M80	N62	N68		RIGID	Beam	None	RIGID	DR1
81	M81	N61	N67		RIGID	Beam	None	RIGID	DR1
82	M82	N64	N69		RIGID	Beam	None	RIGID	DR1
83	M83	N63	N69		RIGID	Beam	None	RIGID	DR1
84	M84	N93	N95		3.5" Pipe	None	None	A53 Gr.B	Typical
85	M85	N95	N94		3.5" Pipe	None	None	A53 Gr.B	Typical
86	M86	N94	N93		3.5" Pipe	None	None	A53 Gr.B	Typical
87	M87	N40	N94		HSS4x4x1/4	None	None	A36 Gr.36	Typical
88	M88	N40	N95		HSS4x4x1/4	None	None	A36 Gr.36	Typical
89	M89	N40	N93		HSS4x4x1/4	None	None	A36 Gr.36	Typical
90	M90	N3	N79		RIGID	Beam	None	RIGID	DR1
91	M91	N79	N1		RIGID	Beam	None	RIGID	DR1
92	M92	N79	N2		RIGID	Beam	None	RIGID	DR1
93	M93	N91	N96		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
94	M94	N97	N91		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
95	M95	N96	N97		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
96	M96	N102	N109		RIGID	Beam	None	RIGID	DR1
97	M97	N99	N107		RIGID	Beam	None	RIGID	DR1
98	M98	N103	N105		RIGID	Beam	None	RIGID	DR1
99	M99	N100	N108		RIGID	Beam	None	RIGID	DR1
100	M100	N101	N104		RIGID	Beam	None	RIGID	DR1
101	M101	N98	N106		RIGID	Beam	None	RIGID	DR1
102	M102	N110	N111		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
103	M103	N112	N113		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
104	M104	N114	N115		2.0"Pipe	VBrace	None	A53 Gr.B	Typical
105	M105	N117	N119		RIGID	Beam	None	RIGID	DR1
106	M106	N116	N118		RIGID	Beam	None	RIGID	DR1
107	M107	N120	N121		RIGID	Beam	None	RIGID	DR1
108	M108	N123	N122		RIGID	Beam	None	RIGID	DR1
109	M109	N119	N123	180	SFS	VBrace	None	A36 Gr.36	Typical
110	M110	N118	N122	90	SFS	VBrace	None	A36 Gr.36	Typical
111	M111	N152	N153	240	2.0"Pipe	VBrace	None	A53 Gr.B	Typical
112	M112	N154	N155	240	2.0"Pipe	VBrace	None	A53 Gr.B	Typical
113	M113	N141	N145		RIGID	Beam	None	RIGID	DR1
114	M114	N139	N144		RIGID	Beam	None	RIGID	DR1
115	M115	N137	N142		RIGID	Beam	None	RIGID	DR1
116	M116	N140	N133		RIGID	Beam	None	RIGID	DR1
117	M117	N136	N135		RIGID	Beam	None	RIGID	DR1
118	M118	N138	N143		RIGID	Beam	None	RIGID	DR1
119	M119	N156	N157	240	2.0"Pipe	VBrace	None	A53 Gr.B	Typical
120	M120	N120	N146		RIGID	Beam	None	RIGID	DR1
121	M121	N147	N134		RIGID	Beam	None	RIGID	DR1
122	M122	N148	N149		RIGID	Beam	None	RIGID	DR1
123	M123	N149	N147	180	SFS	VBrace	None	A36 Gr.36	Typical
124	M124	N150	N151		RIGID	Beam	None	RIGID	DR1
125	M125	N151	N134	90	SFS	VBrace	None	A36 Gr.36	Typical
126	M126	N177	N178	120	2.0"Pipe	VBrace	None	A53 Gr.B	Typical
127	M127	N179	N180	120	2.0"Pipe	VBrace	None	A53 Gr.B	Typical
128	M128	N166	N170		RIGID	Beam	None	RIGID	DR1
129	M129	N164	N169		RIGID	Beam	None	RIGID	DR1
130	M130	N162	N167		RIGID	Beam	None	RIGID	DR1
131	M131	N165	N158		RIGID	Beam	None	RIGID	DR1
132	M132	N161	N160		RIGID	Beam	None	RIGID	DR1
133	M133	N163	N168		RIGID	Beam	None	RIGID	DR1
134	M134	N181	N182	120	2.0"Pipe	VBrace	None	A53 Gr.B	Typical

**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
135	M135	N120	N171		RIGID	Beam	None	RIGID	DR1
136	M136	N172	N159		RIGID	Beam	None	RIGID	DR1
137	M137	N173	N174		RIGID	Beam	None	RIGID	DR1
138	M138	N174	N172	180	SFS	VBrace	None	A36 Gr.36	Typical
139	M139	N175	N176		RIGID	Beam	None	RIGID	DR1
140	M140	N176	N159	90	SFS	VBrace	None	A36 Gr.36	Typical
141	M141	N183	N188		RIGID	Beam	None	RIGID	DR1
142	M142	N185	N184		RIGID	Beam	None	RIGID	DR1
143	M143	N187	N186		RIGID	Beam	None	RIGID	DR1

**Member Advanced Data**

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	M1			Yes	** NA **		None
2	M2			Yes	** NA **		None
3	M3			Yes	** NA **		None
4	M4			Yes	** NA **		None
5	M5			Yes	** NA **		None
6	M6			Yes	** NA **		None
7	M7			Yes	** NA **		None
8	M8			Yes	** NA **		None
9	M9			Yes	N/A		None
10	M10			Yes	N/A		None
11	M11			Yes	N/A		None
12	M12			Yes	N/A		None
13	M13			Yes	N/A		None
14	M14			Yes	N/A		None
15	M15			Yes	N/A		None
16	M16			Yes	N/A		None
17	M17			Yes	N/A		None
18	M18			Yes	N/A		None
19	M19			Yes	N/A		None
20	M20			Yes	N/A		None
21	M21			Yes	N/A		None
22	M22			Yes	N/A		None
23	M23			Yes	N/A		None
24	M24			Yes	N/A		None
25	M25			Yes	N/A		None
26	M26			Yes	N/A		None
27	M27			Yes	N/A		None
28	M28			Yes	N/A		None
29	M29	BenPIN	BenPIN	Yes	** NA **		None
30	M30	BenPIN	BenPIN	Yes	** NA **		None
31	M31	BenPIN	BenPIN	Yes	** NA **		None
32	M32	BenPIN	BenPIN	Yes	** NA **		None
33	M33	BenPIN	BenPIN	Yes	** NA **		None
34	M34	BenPIN	BenPIN	Yes	** NA **		None
35	M35	BenPIN	BenPIN	Yes	** NA **		None
36	M36	BenPIN	BenPIN	Yes	** NA **		None
37	M37	BenPIN	BenPIN	Yes	** NA **		None
38	M38	BenPIN	BenPIN	Yes	** NA **		None
39	M39	BenPIN	BenPIN	Yes	** NA **		None
40	M40	BenPIN	BenPIN	Yes	** NA **		None
41	M41	BenPIN	BenPIN	Yes	** NA **		None
42	M42	BenPIN	BenPIN	Yes	** NA **		None
43	M43	BenPIN	BenPIN	Yes	** NA **		None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
44	M44	BenPIN	BenPIN	Yes	** NA **		None
45	M45	BenPIN	BenPIN	Yes	** NA **		None
46	M46	BenPIN	BenPIN	Yes	** NA **		None
47	M47	BenPIN	BenPIN	Yes	** NA **		None
48	M48			Yes	** NA **		None
49	M49	BenPIN	BenPIN	Yes	** NA **		None
50	M50	BenPIN	BenPIN	Yes	** NA **		None
51	M51	BenPIN	BenPIN	Yes	** NA **		None
52	M52	BenPIN	BenPIN	Yes	** NA **		None
53	M53	BenPIN	BenPIN	Yes	** NA **		None
54	M54	BenPIN	BenPIN	Yes	** NA **		None
55	M55	BenPIN	BenPIN	Yes	** NA **		None
56	M56	BenPIN	BenPIN	Yes	** NA **		None
57	M57	BenPIN	BenPIN	Yes	** NA **		None
58	M58	BenPIN	BenPIN	Yes	** NA **		None
59	M59	BenPIN	BenPIN	Yes	** NA **		None
60	M60	BenPIN	BenPIN	Yes	** NA **		None
61	M61	BenPIN	BenPIN	Yes	** NA **		None
62	M62	BenPIN	BenPIN	Yes	** NA **		None
63	M63	BenPIN	BenPIN	Yes	** NA **		None
64	M64	BenPIN	BenPIN	Yes	** NA **		None
65	M65	BenPIN	BenPIN	Yes	** NA **		None
66	M66	BenPIN	BenPIN	Yes	** NA **		None
67	M67			Yes	N/A		None
68	M68			Yes	N/A		None
69	M69			Yes	N/A		None
70	M70			Yes	N/A		None
71	M71			Yes	** NA **		None
72	M72			Yes	** NA **		None
73	M75			Yes	** NA **		None
74	M76			Yes	** NA **		None
75	M77			Yes	** NA **		None
76	M76A			Yes	** NA **		None
77	M77A			Yes	** NA **		None
78	M78			Yes	** NA **		None
79	M79			Yes	** NA **		None
80	M80			Yes	N/A		None
81	M81			Yes	N/A		None
82	M82			Yes	N/A		None
83	M83			Yes	N/A		None
84	M84			Yes	** NA **		None
85	M85			Yes	** NA **		None
86	M86			Yes	** NA **		None
87	M87			Yes	** NA **	Exclude	None
88	M88			Yes	** NA **	Exclude	None
89	M89			Yes	** NA **	Exclude	None
90	M90			Yes	N/A	Inactive	None
91	M91			Yes	N/A	Inactive	None
92	M92			Yes	N/A	Inactive	None
93	M93			Yes	** NA **	Exclude	None
94	M94			Yes	** NA **	Exclude	None
95	M95			Yes	** NA **	Exclude	None
96	M96			Yes	Default		None
97	M97			Yes	Default		None
98	M98			Yes	Default		None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
99	M99			Yes	Default		None
100	M100			Yes	Default		None
101	M101			Yes	Default		None
102	M102			Yes	** NA **		None
103	M103			Yes	** NA **		None
104	M104			Yes	** NA **		None
105	M105			Yes	Default		None
106	M106			Yes	Default		None
107	M107			Yes	Default		None
108	M108			Yes	Default		None
109	M109	BenPIN	BenPIN	Yes	** NA **		None
110	M110	BenPIN	BenPIN	Yes	** NA **		None
111	M111			Yes	** NA **		None
112	M112			Yes	** NA **		None
113	M113			Yes	Default		None
114	M114			Yes	Default		None
115	M115			Yes	Default		None
116	M116			Yes	Default		None
117	M117			Yes	Default		None
118	M118			Yes	Default		None
119	M119			Yes	** NA **		None
120	M120			Yes	Default		None
121	M121			Yes	Default		None
122	M122			Yes	Default		None
123	M123	BenPIN	BenPIN	Yes	** NA **		None
124	M124			Yes	Default		None
125	M125	BenPIN	BenPIN	Yes	** NA **		None
126	M126			Yes	** NA **		None
127	M127			Yes	** NA **		None
128	M128			Yes	Default		None
129	M129			Yes	Default		None
130	M130			Yes	Default		None
131	M131			Yes	Default		None
132	M132			Yes	Default		None
133	M133			Yes	Default		None
134	M134			Yes	** NA **		None
135	M135			Yes	Default		None
136	M136			Yes	Default		None
137	M137			Yes	Default		None
138	M138	BenPIN	BenPIN	Yes	** NA **		None
139	M139			Yes	Default		None
140	M140	BenPIN	BenPIN	Yes	** NA **		None
141	M141			Yes	Default		None
142	M142			Yes	Default		None
143	M143			Yes	Default		None

**Hot Rolled Steel Design Parameters**

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	K y-y	K z-z	Function
1	M1	W24x68 w16x1 PL	19			Lbyy				Lateral
2	M2	W24x68 w16x1 PL	19			Lbyy				Lateral
3	M3	W24x68	60.337	14	14	18	18			Lateral
4	M4	W24x68	60.337	14	14	18	18			Lateral
5	M5	18"x0.5"	28.833			Lbyy				Lateral
6	M6	18"x0.5"	27.708			Lbyy				Lateral
7	M7	18"x0.5"	28.479			Lbyy				Lateral

**Hot Rolled Steel Design Parameters (Continued)**

Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	K y-y	K z-z	Function
8	M8	18"x0.5"	25.542			Lbyy			Lateral
9	M29	L5x5x3/8	13.644			Lbyy			Lateral
10	M30	L5x5x3/8	13.644			Lbyy			Lateral
11	M31	L5x5x3/8	13.644			Lbyy			Lateral
12	M32	L5x5x3/8	13.644			Lbyy			Lateral
13	M33	L5x5x3/8	13.644			Lbyy			Lateral
14	M34	L5x5x3/8	13.644			Lbyy			Lateral
15	M35	L5x5x3/8	13.644			Lbyy			Lateral
16	M36	L5x5x3/8	13.644			Lbyy			Lateral
17	M37	L5x5x3/8	13.644			Lbyy			Lateral
18	M38	L5x5x3/8	13.644			Lbyy			Lateral
19	M39	L5x5x3/8	15.226			Lbyy	0.5	0.5	Lateral
20	M40	L5x5x3/8	15.226			Lbyy	0.5	0.5	Lateral
21	M41	L5x5x3/8	15.226			Lbyy			Lateral
22	M42	L5x5x3/8	15.226			Lbyy	0.5	0.5	Lateral
23	M43	L3.5x3.5x0.3125	19.812			Lbyy	0.5	0.5	Lateral
24	M44	L3.5x3.5x0.3125	19.812			Lbyy	0.5	0.5	Lateral
25	M45	L5x5x3/8 wHSS2x2x1/4	32.37			Lbyy	0.5	0.5	Lateral
26	M46	L5x5x3/8 wHSS2x2x1/4	32.37			Lbyy	0.5	0.5	Lateral
27	M47	WT6x15	12.666			Lbyy			Lateral
28	M48	WT6x15	12.666			Lbyy			Lateral
29	M49	WT6x15	12.096			Lbyy			Lateral
30	M50	WT6x15	12.096			Lbyy			Lateral
31	M51	WT6x15	12.787			Lbyy			Lateral
32	M52	WT6x15	12.787			Lbyy			Lateral
33	M53	WT6x15	12.011			Lbyy			Lateral
34	M54	WT6x15	12.011			Lbyy			Lateral
35	M55	WT6x15	12.885			Lbyy			Lateral
36	M56	WT6x15	12.885			Lbyy			Lateral
37	M57	WT6x15	12.139			Lbyy			Lateral
38	M58	WT6x15	12.139			Lbyy			Lateral
39	M59	WT6x15	12.738			Lbyy			Lateral
40	M60	WT6x15	12.738			Lbyy			Lateral
41	M61	WT6x15	12.139			Lbyy			Lateral
42	M62	WT6x15	12.139			Lbyy			Lateral
43	M63	WT6x15	12.738			Lbyy			Lateral
44	M64	WT6x15	12.738			Lbyy			Lateral
45	M65	WT6x15	11.482			Lbyy			Lateral
46	M66	WT6x15	11.482			Lbyy			Lateral
47	M71	HSS8x4x1/4	13.5			Lbyy			Lateral
48	M72	HSS8x4x1/4	13.5			Lbyy			Lateral
49	M75	HSS6x4x1/4	18.182			Lbyy			Lateral
50	M76	HSS6x4x1/4	18.182			Lbyy			Lateral
51	M77	HSS6x4x1/4	17.321			Lbyy			Lateral
52	M76A	L4x4x5/16 w/2" Pipe	7.571			Lbyy			Lateral
53	M77A	L4x4x5/16 w/2" Pipe	7.571			Lbyy			Lateral
54	M78	L4x4x5/16 w/2" Pipe	14.72			Lbyy			Lateral
55	M79	L4x4x5/16 w/2" Pipe	14.72			Lbyy			Lateral
56	M84	3.5" Pipe	12.5			Lbyy			Lateral
57	M85	3.5" Pipe	12.5			Lbyy			Lateral
58	M86	3.5" Pipe	12.5			Lbyy			Lateral
59	M87	HSS4x4x1/4	7.217			Lbyy			Lateral
60	M88	HSS4x4x1/4	7.217			Lbyy			Lateral
61	M89	HSS4x4x1/4	7.217			Lbyy			Lateral
62	M93	2.0"Pipe	12.5			Lbyy			Lateral



**Hot Rolled Steel Design Parameters (Continued)**

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	K y-y	K z-z	Function
63	M94	2.0"Pipe	12.5			Lbyy				Lateral
64	M95	2.0"Pipe	12.5			Lbyy				Lateral
65	M102	2.0"Pipe	6			Lbyy				Lateral
66	M103	2.0"Pipe	6			Lbyy				Lateral
67	M104	2.0"Pipe	6			Lbyy				Lateral
68	M109	SFS	4.748			Lbyy				Lateral
69	M110	SFS	4.748			Lbyy				Lateral
70	M111	2.0"Pipe	6			Lbyy				Lateral
71	M112	2.0"Pipe	6			Lbyy				Lateral
72	M119	2.0"Pipe	6			Lbyy				Lateral
73	M123	SFS	4.748			Lbyy				Lateral
74	M125	SFS	4.748			Lbyy				Lateral
75	M126	2.0"Pipe	6			Lbyy				Lateral
76	M127	2.0"Pipe	6			Lbyy				Lateral
77	M134	2.0"Pipe	6			Lbyy				Lateral
78	M138	SFS	4.748			Lbyy				Lateral
79	M140	SFS	4.748			Lbyy				Lateral

**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	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N79						

**Basic Load Cases**

	BLC Description	Category	Y Gravity	Nodal	Distributed
1	Dead	DL	-1	7	6
2	Structure - Wind Z	WLZ			22
3	Structure - Wind X	WLX			22
4	Ice Dead	OL1	-0.16	7	6
5	Structure - Wind Ice Z	OL2			22
6	Structure - Wind Ice X	OL3			22
7	APP - Wind Z	WLZ		7	
8	APP - Wind X	WLX		7	16
9	APP - Wind Ice Z	OL2		7	
10	APP - Wind Ice X	OL3		7	16
11	Earthquake Load Z	ELZ		1	
12	Earthquake Load X	ELX		1	
13	Earthquake Load Z Plus X Eccentr	ELZ+X		1	
14	Earthquake Load Z Minus X Eccent	ELZ-X		1	
15	Earthquake Load X Plus Z Eccentr	ELX+Z		1	
16	Earthquake Load X Minus Z Eccent	ELX-Z		1	

**Load Combinations**

	Description	SolveP-Delta	BLCFactor	BLC Factor	BLC Factor	BLC Factor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor
1	DL only	Y	DL	1											
2	1.2D + 1.0W - 0 deg	Yes	Y	DL	1.2	WLZ	1	WLX							
3	1.2D + 1.0W - 30 deg	Yes	Y	DL	1.2	WLZ	0.87	WLX	0.5						
4	1.2D + 1.0W - 60 deg	Yes	Y	DL	1.2	WLZ	0.5	WLX	0.87						
5	1.2D + 1.0W - 90 deg	Yes	Y	DL	1.2	WLZ		WLX	1						
6	1.2D + 1.0W - 120 deg	Yes	Y	DL	1.2	WLZ	-0.5	WLX	0.87						

**Load Combinations (Continued)**

Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
7 1.2D + 1.0W - 150 deg	Yes	Y	DL	1.2	WLZ	-0.87	WLX	0.5										
8 1.2D + 1.0W - 180 deg	Yes	Y	DL	1.2	WLZ	-1	WLX											
9 1.2D + 1.0W - 210 deg	Yes	Y	DL	1.2	WLZ	-0.87	WLX	-0.5										
10 1.2D + 1.0W - 240 deg	Yes	Y	DL	1.2	WLZ	-0.5	WLX	-0.87										
11 1.2D + 1.0W - 270 deg	Yes	Y	DL	1.2	WLZ		WLX	-1										
12 1.2D + 1.0W - 300 deg	Yes	Y	DL	1.2	WLZ	0.5	WLX	-0.87										
13 1.2D + 1.0W - 330 deg	Yes	Y	DL	1.2	WLZ	0.87	WLX	-0.5										
14 1.2D + 1.0Di + 1.0Wi - 0 deg	Yes	Y	DL	1.2	OL2	1	OL3		OL1	1								
15 1.2D + 1.0Di + 1.0Wi - 30 deg	Yes	Y	DL	1.2	OL2	0.87	OL3	0.5	OL1	1								
16 1.2D + 1.0Di + 1.0Wi - 60 deg	Yes	Y	DL	1.2	OL2	0.5	OL3	0.87	OL1	1								
17 1.2D + 1.0Di + 1.0Wi - 90 deg	Yes	Y	DL	1.2	OL2		OL3	1	OL1	1								
18 1.2D + 1.0Di + 1.0Wi - 120 deg	Yes	Y	DL	1.2	OL2	-0.5	OL3	0.87	OL1	1								
19 1.2D + 1.0Di + 1.0Wi - 150 deg	Yes	Y	DL	1.2	OL2	-0.87	OL3	0.5	OL1	1								
20 1.2D + 1.0Di + 1.0Wi - 180 deg	Yes	Y	DL	1.2	OL2	-1	OL3		OL1	1								
21 1.2D + 1.0Di + 1.0Wi - 210 deg	Yes	Y	DL	1.2	OL2	-0.87	OL3	-0.5	OL1	1								
22 1.2D + 1.0Di + 1.0Wi - 240 deg	Yes	Y	DL	1.2	OL2	-0.5	OL3	-0.87	OL1	1								
23 1.2D + 1.0Di + 1.0Wi - 270 deg	Yes	Y	DL	1.2	OL2		OL3	-1	OL1	1								
24 1.2D + 1.0Di + 1.0Wi - 300 deg	Yes	Y	DL	1.2	OL2	0.5	OL3	-0.87	OL1	1								
25 1.2D + 1.0Di + 1.0Wi - 330 deg	Yes	Y	DL	1.2	OL2	0.87	OL3	-0.5	OL1	1								
26 IBC 16-5 (a)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	1	SZ*SF	0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
27 IBC 16-5 (b)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	1	SX*SF	0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
28 IBC 16-5 (c)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	1	SZ*SF	-0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
29 IBC 16-5 (d)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	1	SX*SF	-0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
30 IBC 16-5 (e)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	-1	SZ*SF	-0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
31 IBC 16-5 (f)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	-1	SX*SF	-0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
32 IBC 16-5 (g)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	-1	SZ*SF	0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
33 IBC 16-5 (h)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	-1	SX*SF	0.3	LL	0.5	LLS	1	SL	0.2	SLN	0.7
34 IBC 16-7 (a)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	1	SZ*SF	0.3								
35 IBC 16-7 (b)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	1	SX*SF	0.3								
36 IBC 16-7 (c)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	1	SZ*SF	-0.3								
37 IBC 16-7 (d)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	1	SX*SF	-0.3								
38 IBC 16-7 (e)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	-1	SZ*SF	-0.3								
39 IBC 16-7 (f)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	-1	SX*SF	-0.3								
40 IBC 16-7 (g)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	-1	SZ*SF	0.3								
41 IBC 16-7 (h)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	-1	SX*SF	0.3								

**Envelope Node Reactions**

Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1 N1 max	16114.721	4	190407.934	4	16912.66	3	225.465	2	0.459	10	132.625	11
2 N1 min	-16917.91	10	-153721.398	10	-17500.219	9	-231.568	8	-0.478	4	-133.424	5
3 N2 max	17048.021	6	186212.39	12	16761.098	13	222.567	2	0.085	11	134.243	12
4 N2 min	-16227.278	12	-157586.996	6	-17367.738	7	-228.88	8	-0.084	5	-133.413	5
5 N3 max	6508.394	5	217935.099	8	2924.501	2	36.441	2	2.998	11	74.746	11
6 N3 min	-6522.786	11	-170440.089	2	-2414.523	8	-37.35	8	-3.001	5	-74.698	5
7 Totals: max	37903.588	5	85517.656	21	34288.264	2						
8 Totals: min	-37903.583	11	13714.647	35	-34288.057	8						

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

Member	Shape	Code Check	Loc [ft]	LC	Shear	Check	Loc [ft]	LC	DirL	Cphi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1 M4	W24X68	0.994	0	4	0.049	0.635	y	12	196002.108	904500	91.875	422.839	1	H1-1a	
2 M3	W24X68	0.981	0	12	0.049	2.223	y	11	196002.108	904500	91.875	422.839	1	H1-1a	
3 M43	L3.5X3.5X5	0.704	9.802	12	0.003	19.812	y	16	15754.264	68040	2.882	3.693	1.136	H2-1	
4 M44	L3.5X3.5X5	0.699	9.802	4	0.003	19.812	y	16	15754.264	68040	2.882	3.693	1.136	H2-1	

**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 [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
5	M48	WT6X15	0.696	0	4	0.015	0	y	481203.651	142560	12.906	7.439	2.454	H1-1a
6	M7	HSS18x0.500	0.652	16.938	11	0.097	16.938	11	690364.728	806400	375.375	375.375	1.478	H1-1b
7	M41	L5X5X6	0.584	7.453	5	0.003	15.226	y	424012.917	118260	7.418	11.488	1.136	H2-1
8	M45	L5x5x3/8 w/HSS2x2x1/4	0.507	15.674	12	0.005	32.37	y	1730839.58	170301.528	10.651	9.607	1.136	H2-1
9	M46	L5x5x3/8 w/HSS2x2x1/4	0.503	15.674	4	0.005	32.37	y	2330839.58	170301.528	10.651	9.607	1.136	H2-1
10	M64	WT6X15	0.473	6.235	4	0.01	12.738	y	680727.368	142560	12.906	11.514	1.136	H1-1a
11	M63	WT6X15	0.471	6.235	12	0.01	12.738	y	1080727.368	142560	12.906	11.514	1.136	H1-1a
12	M49	WT6X15	0.47	5.984	6	0.005	12.096	y	584941.477	142560	12.906	11.553	1.136	H1-1a
13	M50	WT6X15	0.469	5.984	10	0.006	12.096	y	1184941.477	142560	12.906	11.553	1.136	H1-1a
14	M62	WT6X15	0.466	6.006	10	0.004	12.139	y	384658.541	142560	12.906	11.55	1.136	H1-1a
15	M61	WT6X15	0.466	6.006	6	0.004	12.139	y	884658.541	142560	12.906	11.55	1.136	H1-1a
16	M47	WT6X15	0.437	6.2	12	0.006	12.666	y	1281203.651	142560	12.906	11.519	1.136	H1-1a
17	M104	PIPE 2.0	0.419	3	19	0.109	4.989	21	20866.733	32130	1.872	1.872	1.741	H1-1b
18	M102	PIPE 2.0	0.419	3	21	0.109	4.989	19	20866.733	32130	1.872	1.872	1.741	H1-1b
19	M134	PIPE 2.0	0.419	3	15	0.108	4.989	16	20866.733	32130	1.872	1.872	1.741	H1-1b
20	M112	PIPE 2.0	0.419	3	25	0.108	4.989	24	20866.733	32130	1.872	1.872	1.741	H1-1b
21	M127	PIPE 2.0	0.419	3	17	0.109	4.989	16	20866.733	32130	1.872	1.872	1.741	H1-1b
22	M119	PIPE 2.0	0.419	3	23	0.109	4.989	24	20866.733	32130	1.872	1.872	1.741	H1-1b
23	M5	HSS18x0.500	0.405	0	8	0.036	0	11	687685.708	806400	375.375	375.375	1.588	H1-1a
24	M8	HSS18x0.500	0.378	0	5	0.043	0	5	711671.576	806400	375.375	375.375	2.168	H1-1b
25	M52	WT6X15	0.347	6.259	3	0.005	12.787	y	1180406.776	142560	12.906	11.511	1.136	H1-1a
26	M51	WT6X15	0.345	6.259	13	0.004	12.787	y	1280406.776	142560	12.906	11.511	1.136	H1-1a
27	M2	W24x68 w16x1 PL	0.332	0	4	0.062	9.8	y	91.72273e+6	2.33302e+6	564.878	2134.343	1.689	H1-1b
28	M126	PIPE 2.0	0.332	3	23	0.039	4.989	23	20866.733	32130	1.872	1.872	1.834	H1-1b
29	M111	PIPE 2.0	0.332	3	25	0.039	4.989	23	20866.733	32130	1.872	1.872	1.833	H1-1b
30	M103	PIPE 2.0	0.332	3	20	0.039	4.989	23	20866.733	32130	1.872	1.872	1.851	H1-1b
31	M56	WT6X15	0.328	6.307	3	0.005	12.885	y	579758.393	142560	12.906	11.505	1.136	H1-1a
32	M1	W24x68 w16x1 PL	0.326	0	12	0.06	0	y	71.72273e+6	2.33302e+6	564.878	2134.343	1.685	H1-1b
33	M55	WT6X15	0.325	6.307	13	0.005	12.885	y	1279758.393	142560	12.906	11.505	1.136	H1-1a
34	M6	HSS18x0.500	0.28	3.354	8	0.029	17.208	5	696116.025	806400	375.375	375.375	1.485	H1-1a
35	M54	WT6X15	0.272	5.942	9	0.004	12.011	y	485498.452	142560	12.906	11.558	1.136	H1-1a
36	M53	WT6X15	0.269	5.942	7	0.004	12.011	y	1285498.452	142560	12.906	11.558	1.136	H1-1a
37	M42	L5X5X6	0.227	7.533	11	0.003	15.226	y	2275259.8	118260	7.418	11.488	1.136	H2-1
38	M58	WT6X15	0.194	0	9	0.005	12.139	y	584658.541	142560	12.906	11.55	1.136	H1-1b*
39	M57	WT6X15	0.192	0	7	0.005	12.139	y	1184658.541	142560	12.906	11.55	1.136	H1-1b*
40	M85	PIPE 3.0	0.182	11.513	22	0.167	0.987	14	28250.611	65205	5.749	5.749	1.999	H1-1b
41	M84	PIPE 3.0	0.182	0.987	18	0.167	11.513	14	28250.611	65205	5.749	5.749	1.998	H1-1b
42	M86	PIPE 3.0	0.181	0.987	14	0.168	11.513	23	28250.554	65205	5.749	5.749	1.995	H1-1b
43	M39	L5X5X6	0.175	7.533	5	0.004	15.226	y	1175259.8	118260	7.418	11.488	1.136	H2-1
44	M40	L5X5X6	0.174	7.533	11	0.004	15.226	y	675259.8	118260	7.418	11.488	1.136	H2-1
45	M60	WT6X15	0.164	0	3	0.006	12.738	y	1280727.368	142560	12.906	11.514	1.136	H1-1b*
46	M59	WT6X15	0.163	0	13	0.006	12.738	y	480727.368	142560	12.906	11.514	1.136	H1-1b*
47	M123	L2.5x2.5x3	0.144	2.399	24	0.004	4.748	y	2313991.59	29192.4	0.873	1.641	1.136	H2-1
48	M140	L2.5x2.5x3	0.144	2.399	16	0.004	4.748	z	1713991.59	29192.4	0.873	1.641	1.136	H2-1
49	M110	L2.5x2.5x3	0.144	2.399	19	0.004	4.748	z	1913991.59	29192.4	0.873	1.641	1.136	H2-1
50	M109	L2.5x2.5x3	0.144	2.399	21	0.004	4.748	y	2113991.59	29192.4	0.873	1.641	1.136	H2-1
51	M138	L2.5x2.5x3	0.144	2.399	16	0.004	4.748	y	1413991.59	29192.4	0.873	1.641	1.136	H2-1
52	M125	L2.5x2.5x3	0.144	2.399	24	0.004	4.748	z	1413991.59	29192.4	0.873	1.641	1.136	H2-1
53	M30	L5X5X6	0.137	6.822	8	0.005	13.644	z	1129906.084	118260	7.418	11.968	1.136	H2-1
54	M29	L5X5X6	0.136	6.822	8	0.005	13.644	y	529906.084	118260	7.418	11.968	1.136	H2-1
55	M79	L4x4x5/16 w2.4" pipe	0.104	14.72	19	0.003	14.72	y	516644.398	122790.816	5.57	9.593	1.5	H2-1
56	M78	L4x4x5/16 w2.4" pipe	0.102	14.72	22	0.003	14.72	y	1116644.398	122790.816	5.57	9.593	1.5	H2-1
57	M35	L5X5X6	0.067	6.822	2	0.003	13.644	y	2329906.084	118260	7.418	11.968	1.136	H2-1
58	M36	L5X5X6	0.067	6.822	2	0.003	13.644	z	1729906.084	118260	7.418	11.968	1.136	H2-1
59	M34	L5X5X6	0.066	6.822	14	0.003	13.644	z	1729906.084	118260	7.418	11.968	1.136	H2-1

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

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	Cphi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
60	M33	L5X5X6	0.066	6.822	14	0.003	13.644	y	2329906.084	118260	7.418	11.968	1.136 H2-1
61	M38	L5X5X6	0.065	6.822	2	0.003	13.644	z	1129906.084	118260	7.418	11.968	1.136 H2-1
62	M37	L5X5X6	0.065	6.822	2	0.003	13.644	y	529906.084	118260	7.418	11.968	1.136 H2-1
63	M32	L5X5X6	0.065	6.822	8	0.003	13.644	z	1729906.084	118260	7.418	11.968	1.136 H2-1
64	M31	L5X5X6	0.065	6.822	8	0.003	13.644	y	2429906.084	118260	7.418	11.968	1.136 H2-1
65	M66	WT6X15	0.058	0	7	0.013	11.482	y	1288929.501	142560	12.906	11.59	1.136 H1-1b*
66	M65	WT6X15	0.057	0	9	0.013	11.482	y	488929.501	142560	12.906	11.59	1.136 H1-1b*
67	M77A	L4x4x5/16 w2.4" pipe	0.024	0	4	0.002	7.571	y	1159982.319	122790.816	5.57	9.968	1.5 H2-1
68	M76A	L4x4x5/16 w2.4" pipe	0.024	7.571	5	0.002	0	y	559982.319	122790.816	5.57	9.968	1.393 H2-1
69	M76	HSS6X4X4	0.024	0	17	0.004	18.182	y	1752673.992	139320	17.415	23.031	2.381 H1-1b
70	M75	HSS6X4X4	0.024	0	22	0.004	18.182	y	2352673.992	139320	17.415	23.031	2.381 H1-1b
71	M77	HSS6X4X4	0.022	17.321	18	0.004	17.321	y	1757728.58	139320	17.415	23.031	2.381 H1-1b
72	M71	HSS8X4X4	0.01	13.5	18	0.002	13.5	y	17102691.653	169776	22.14	35.91	2.381 H1-1b
73	M72	HSS8X4X4	0.01	0	18	0.002	0	y	17102691.653	169776	22.14	35.91	2.381 H1-1b

**Site Name:** CROMWELLSW CT, CT  
**Site Number:** 411261  
**Tower Type:** SST w/3 Legs  
**Design Loads (Factored) - Analysis per TIA-222-H Standards**

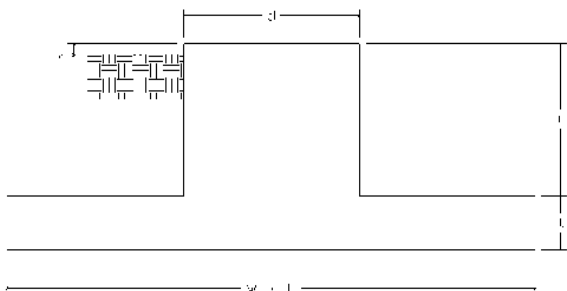
## Monolithic Mat & Pier Foundation Analysis

Foundation Analysis Parameters		
Design / Analysis / Mapping:	Mapping	-
Compression/Leg:	217.9	k
Uplift/Leg:	170.4	k
Total Shear:	37.9	k
Moment:	2,315.6	k-ft
Tower + Appurtenance Weight:	50.0	k
Depth to Base of Foundation (l + t - h):	4.115566	ft
Diameter of Pier (d):	0.75	ft
Length of Pier (l):	1.615566	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	16	ft
Length of Pad (L):	26.5	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	13	ft
Number of Tower Legs:	3	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	137	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	74.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.30	-
Ultimate Compressive Bearing Pressure:	59,044	psf
Ultimate Passive Pressure on Pad Face:	7,449	psf
$f_{\text{Soil and Concrete Weight}}$ :	0.9	-
$f_{\text{Soil}}$ :	0.75	-

Overturning Moment Usage		
Design OTM:	2490.6	k-ft
OTM Resistance:	2712.0	k-ft
Design OTM / OTM Resistance:	92%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	20939	psf
Factored Nominal Bearing Pressure:	44283	psf
Factored Nominal (Net) Bearing Pressure:	47%	Pass
Load Direction Controlling Design Bearing Pressure:	<i>Diagonal to Pad Edge</i>	

Sliding Factor of Safety		
Ultimate Friction Resistance:	89.2	k
Ultimate Passive Pressure Resistance:	444.1	k
Total Factored Sliding Resistance:	400.0	k
Sliding Design / Sliding Resistance:	9%	Pass





**AMERICAN TOWER®**  
CORPORATION

This report was prepared for American Tower Corporation by



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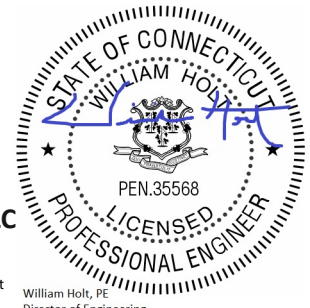
## Antenna Mount Analysis Report

**ATC Site Name** : Cromwellsw CT  
**ATC Asset Number** : 411261  
**Engineering Number** : 14089799\_C8\_01  
**Mount Elevation** : 98 ft  
**Carrier** : AT&T Mobility  
**Carrier Site Name** : MRCTB054996  
**Carrier Site Number** : NA  
**Site Location** : 99 Christian Hill Road  
Cromwell, CT 06416-2612  
41.6057, -72.7014  
**County** : Middlesex  
**Date** : March 25, 2022  
**Max Usage** : 45%  
**Result** : Contingent Pass\*  
\*See conclusion for requirements

Prepared By:  
**Kowsalya V**  
Telamon Tower Engineering, PLLC

Reviewed By:  
**William Holt, P.E.**  
Telamon Tower Engineering, PLLC

Digitally signed by William Holt  
Date: 2022.03.25 16:04:32  
-04'00'



William Holt, PE  
Director of Engineering  
License No. 35568 Expires: 01/31/2023

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Standard Conditions ..... 7

Calculations ..... Attached

## Introduction

The proposed equipment is to be mounted to the proposed Site Pro 1 RMQLP-4120-H10 Platform w/ Reinforced Support Rail Kit & Cable. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

## Supporting Documents

<b>Structural Data</b>	Tower Mapping Report by ETS, ETS #150929.01, dated August 21, 2015 Site Photos dated July 08, 2021 Spec Sheet by Site Pro 1, Part #RMQLP-4120-H10, dated October 18, 2019 Spec Sheet by Site Pro 1, Part #SQCX4-K, dated November 12, 2018
<b>Previous Analyses</b>	Tower SA by Telamon for ATC, Engineering #13764584_C3_05, dated March 21, 2022
<b>Loading Data</b>	ATC Application, Project #14089799, March 21, 2022 AT&T RFDS ID: 4872608, Ver. 2.00, dated February 19, 2022

## Analysis

<b>Codes</b>	TIA-222-H
<b>Basic Wind Speed</b>	119 mph, $V_{ult}$ (3-Second Gust)
<b>Basic Wind Speed w/ Ice</b>	50 mph (3-Second Gust) w/ 1" Radial Ice (Escalating)
<b>Exposure Category</b>	C
<b>Topographic Factor Procedure:</b>	Method 2
<b>Feature:</b>	Flat
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Risk Category</b>	II
<b>Maintenance Live Load</b>	$L_M$ : 500 lb
<b>Spectral Response</b>	$S_s$ : 0.20; $S_1$ : 0.06; Site Class: D



## **Conclusion**

Based on the analysis, the antenna mount meets the requirements per the applicable codes listed above. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

**AT&T CONMAT does not have parts which connect HSS tube to pipe. Hence proposing modifications parts which are not listed in the CONMAT list.**

- **Install (1) Site Pro 1 RMQLP-4120-H10 (ANT.44987) Platform w/ Reinforced Support Rail and Cable at 98 ft elevation.**
- **Install (1) 5ft. long, Pipe 2 STD, A53 Gr. B, mount pipes at each sector of the platform mount (3 total) as shown. Connect to stand-off horizontal HSS tubes with (1) Site Pro 1 SQCX4-K crossover plate kits at each sector (3 total).**
- **All mount pipes are to be installed from each other as shown in the following sketches.**
- **Install all proposed antennas such that they are vertically centered between the support rails and face horizontal member.**

If you have any questions or require additional information, please contact American Tower via email at [Engineering@americantower.com](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

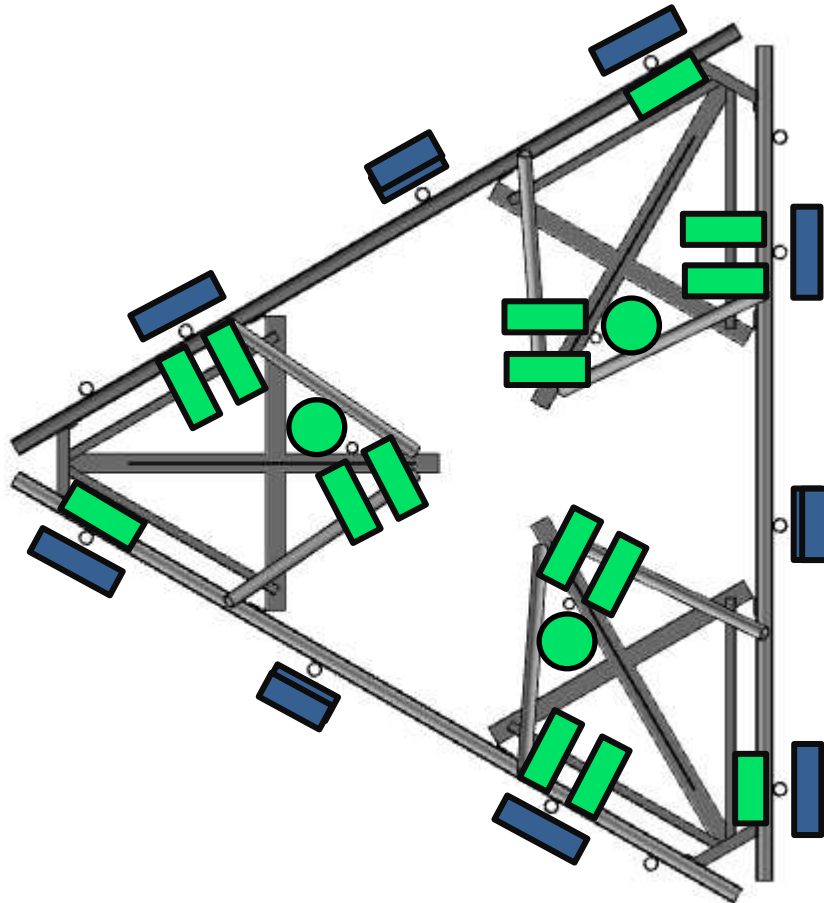
**Antenna Loading**

Elevation (ft)		Antennas	
Mount	Rad.	#	Name
98.0	100.0	3	Ericsson AIR 6419 B77G
	98.0	3	CCI DMP65R-BU6DA
		3	CCI TPA-65R-BU6DA-K
		1	Raycap DC9-48-60-24-8C-EV
		3	Ericsson RRUS 32 B2
		3	Ericsson RRUS 32 B30
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 4426 B66
		2	Raycap DC6-48-60-18-8F
	96.0	3	Ericsson AIR 6449 B77D/ C-Band

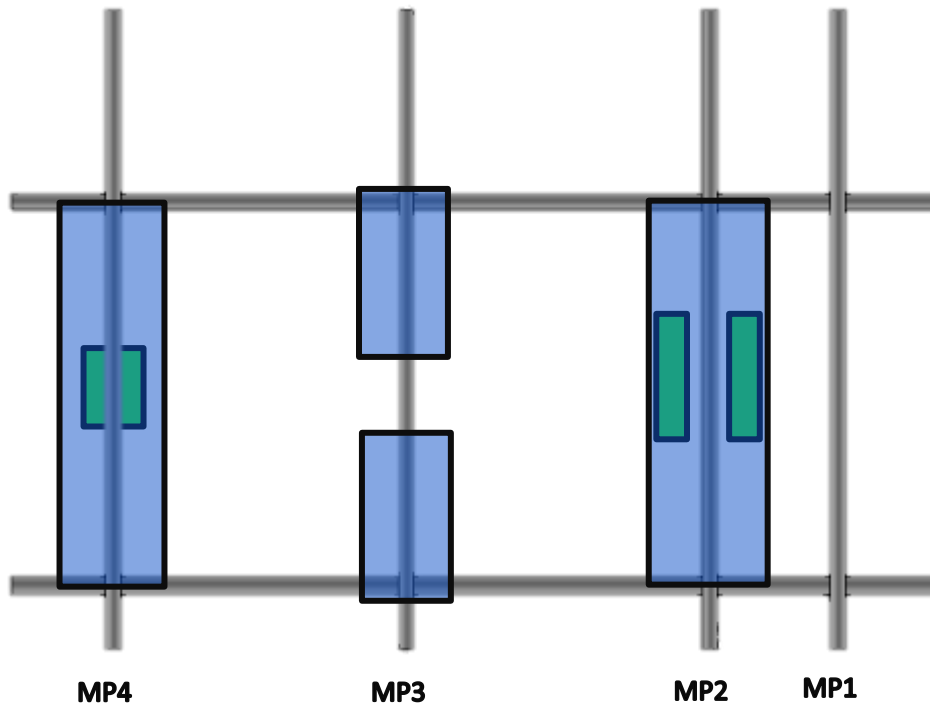
**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Corner Plates	45%	Pass
Bracing Members	43%	Pass
Tower Mount Plate Connection	34%	Pass
Mount Pipes	32%	Pass
Stand-Off Horizontals	32%	Pass
Support Rail	28%	Pass
Platform Base	11%	Pass

Equipment Layout Plan View



**Equipment Layout Front Elevation View**



Total #	Equipment	Mount Pipe Position
3	CCI TPA-65R-BU6DA-K	P2
3	Ericsson AIR 6419 B77G	P3 (Stacked)
3	Ericsson AIR 6449 B77D/C-Band	P3 (Stacked)
3	CCI DMP65R-BU6D	P4
1	Raycap DC9-48-60-24-8C-EV	Stand-off
2	Raycap DC6-48-60-18-8F	Stand-off
3	Ericsson RRUS 32 B2	P2
3	Ericsson RRUS 4426 B66	P2
3	Ericsson RRUS 32 B30	P4
3	Ericsson RRUS 4478 B14	Stand-off
3	Ericsson RRUS 4449 B5, B12	Stand-off

### **Standard Conditions**

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, Telamon Tower Engineering, PLLC should be notified immediately to revise results.

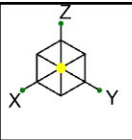
This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.
7. Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

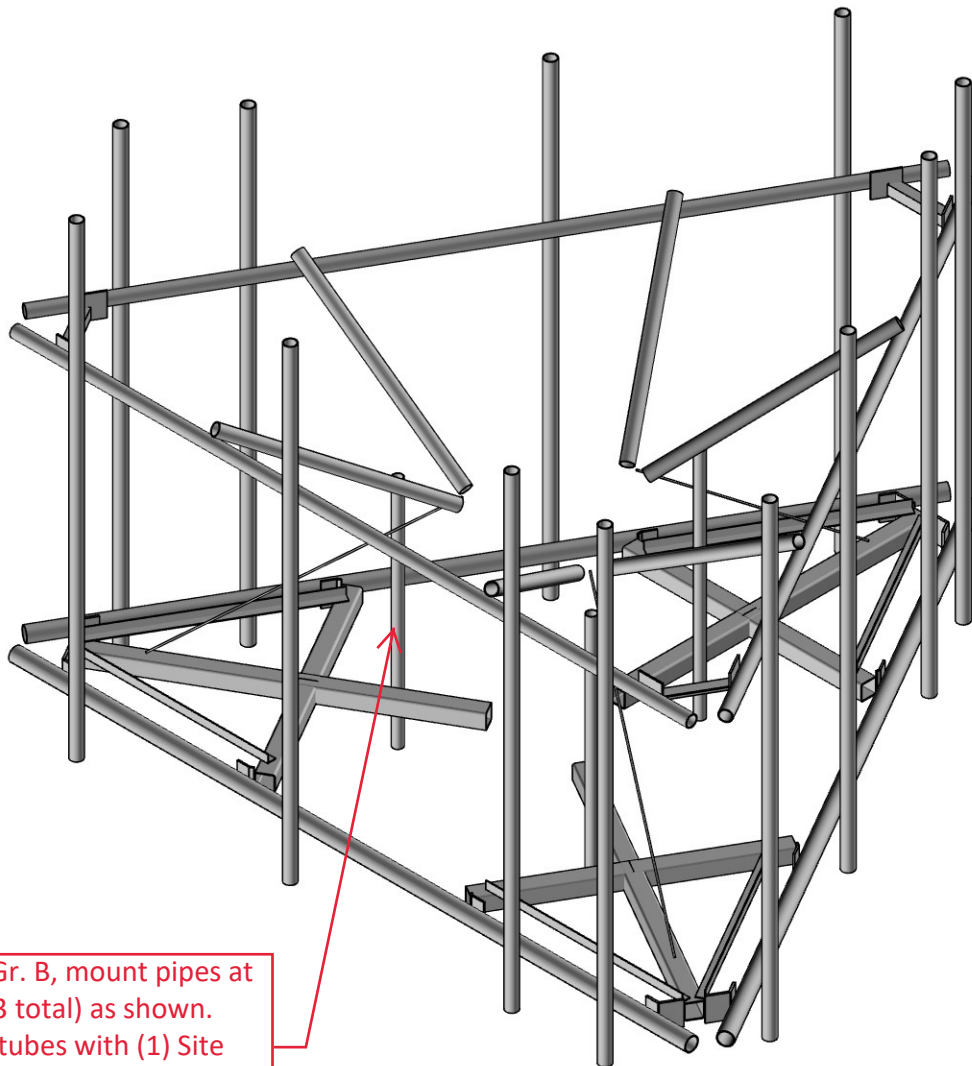
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from Telamon Tower Engineering, PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. Telamon Tower Engineering, PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by Telamon Tower Engineering, PLLC verifies the adequacy of the primary members of the structure. Telamon Tower Engineering, PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.



Install (1) Site Pro 1 RMQLP-4120-H10 (ANT.44987) Platform w/ Reinforced Support Rail and Cable at 98 ft elevation



Install (1) 5ft. long, Pipe 2 STD, A53 Gr. B, mount pipes at each sector of the platform mount (3 total) as shown. Connect to stand-off horizontal HSS tubes with (1) Site Pro 1 SQCX4-K crossover plate kits at each sector (3 total)

Telamon CLS

KV

41124-14089799-01-MA

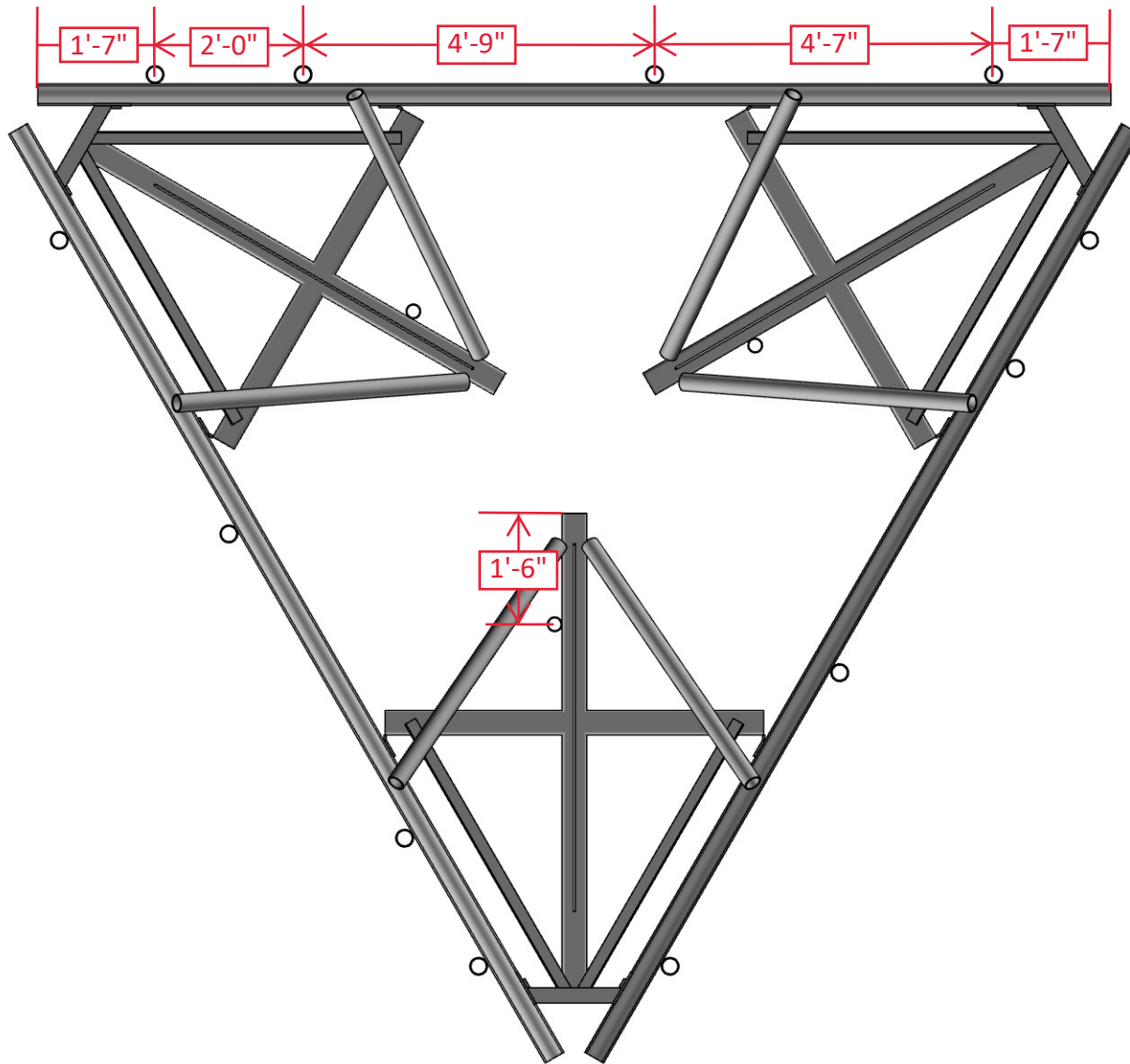
41124-14089799-Cromwellsw CT

Installation Sketch - Rendered

IN-1

Mar 25, 2022

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Telamon CLS

KV

41124-14089799-01-MA

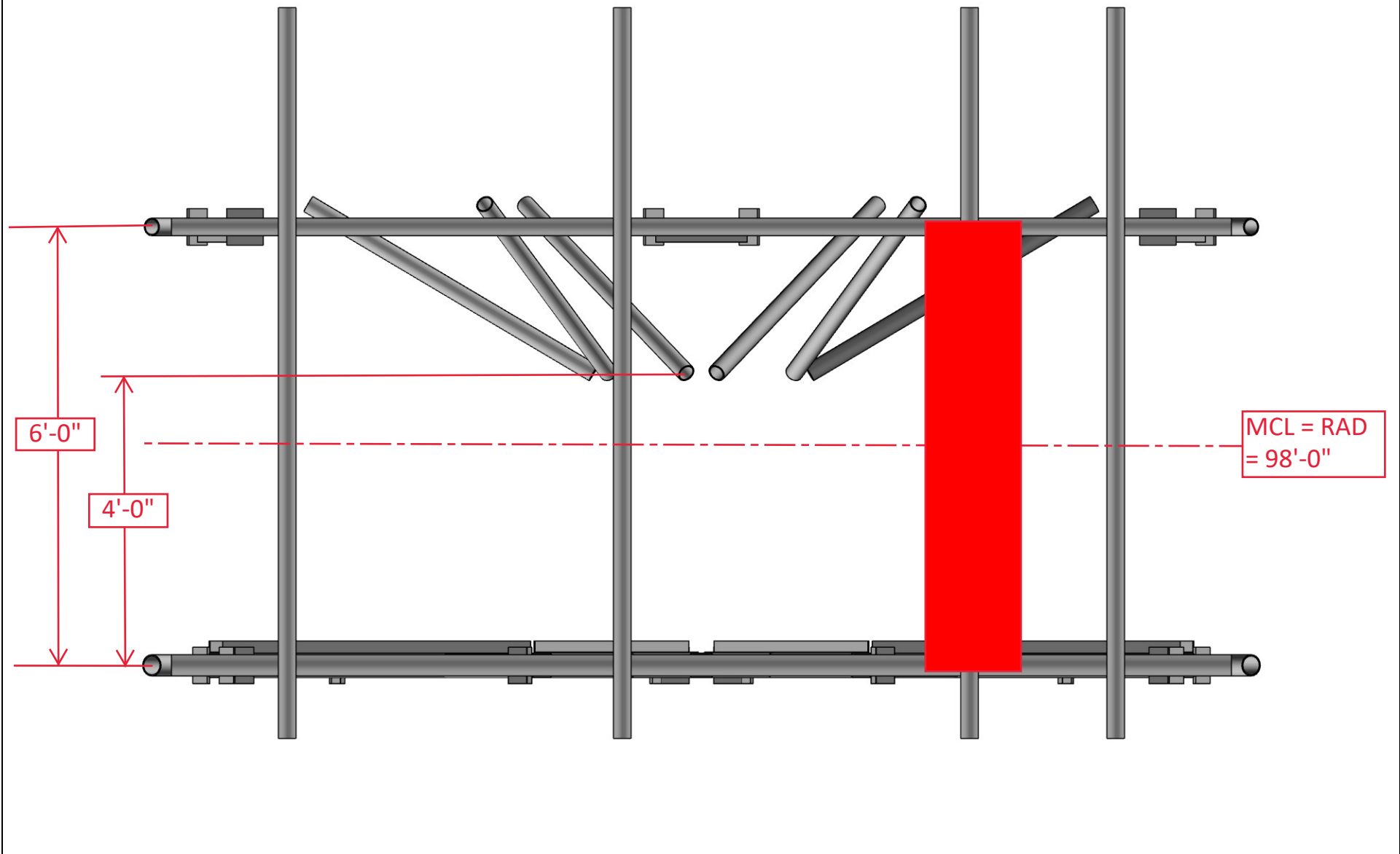
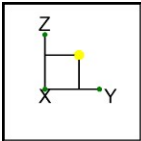
41124-14089799-Cromwellsw CT

Installation Sketch - Plan View

IN-2

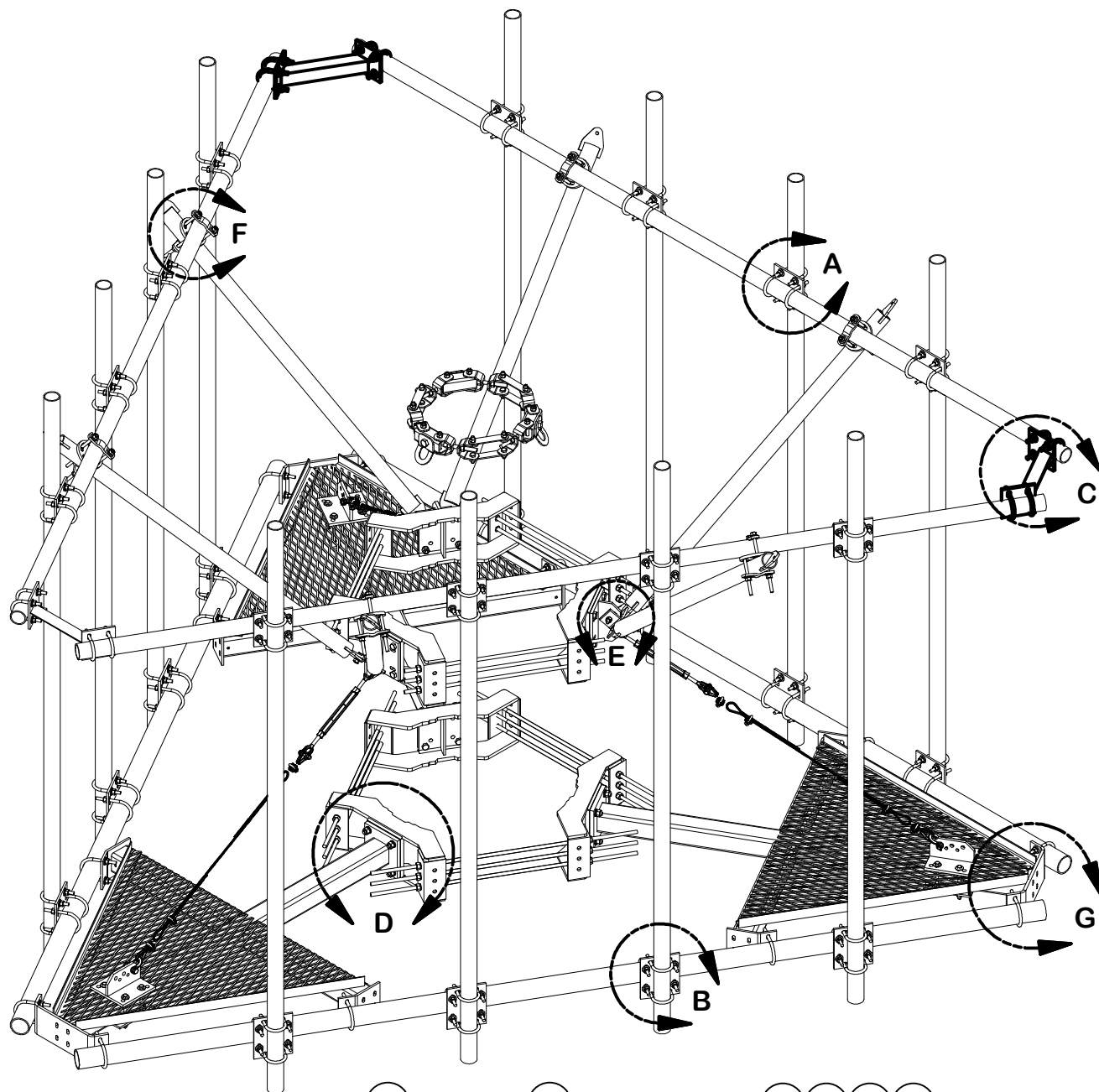
Mar 25, 2022

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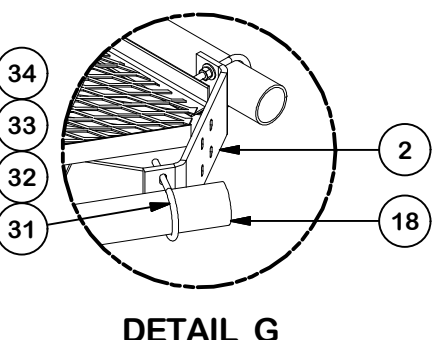
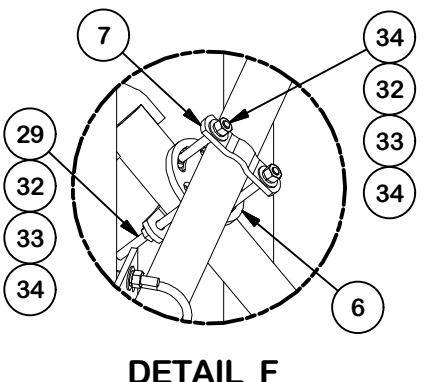
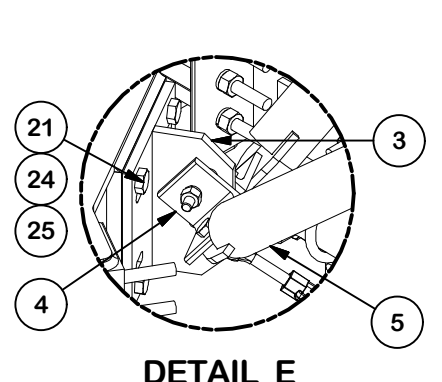
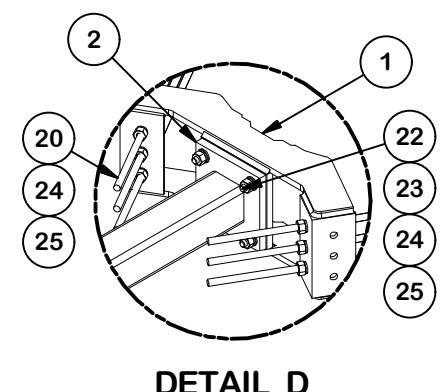
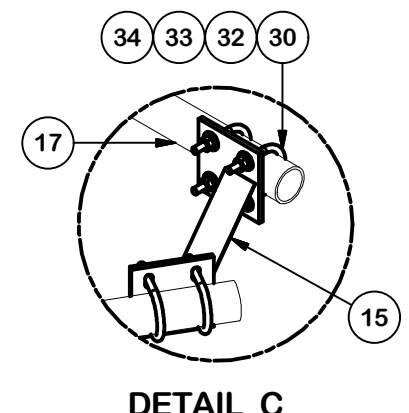
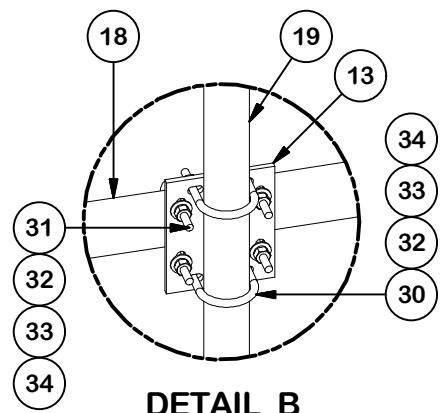
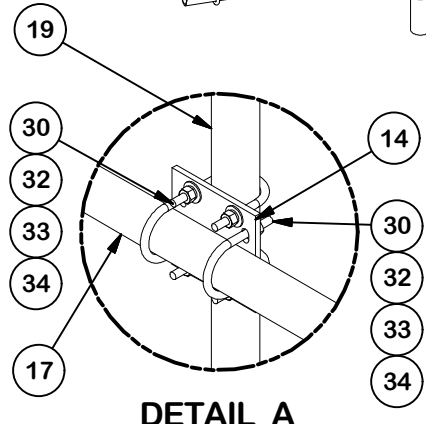


Telamon CLS	41124-14089799-Cromwellsw CT	IN-3
KV		Mar 25, 2022
41124-14089799-01-MA	Installation Sketch - Front View	411261_14089799_AT&T MOBILITY - Images.r...





PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	3	X-SV196L	LONG PLATFORM WELDMENT		230.94	692.81
3	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
4	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
5	6	X-VSKL	LONG SUPPORT WELDMENT FOR VSK REINFORCEMENTS		37.05	222.33
6	6	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.51	15.04
7	12	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.92	11.06
8	3	320751-I	1/2" CHAIN SHACKLE		0.76	2.29
9	3	320601-I	5/8" TURNBUCKLE		2.63	7.89
10	6	320777-I	5/16" THIMBLE		0.06	0.36
11	12	320152-I	5/16" WIRE ROPE CLIP		1.32	15.78
12	3	AC516-10	5/16" AIRECRAFT CABLE		1.25	3.76
13	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
14	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
15	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
17	3	P30174	2-7/8" O.D. x 174" SCH. 40 PIPE	174 in	84.20	252.59
18	3	P3174	3-1/2" X 174" SCH 40 GALVANIZED PIPE	174 in	109.97	329.90
19	12	P30120	2-7/8" x 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	696.79
20	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
20	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
21	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
22	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	4.27
23	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
24	60	G58LW	5/8" HDG LOCKWASHER		0.03	1.57
25	60	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	7.79
26	6	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	0.89
27	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
28	12	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	3.24
29	24	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	9.83
30	84	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.70	58.53
31	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
32	288	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.82
33	285	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.96
34	285	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	20.41
35	1	HALO40	5,000 LB. MAINTENANCE TIE-OFF POINT		41.12	41.12
					TOTAL WT. #	3249.41



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES (± 0.030")  
 DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES  
 BENDS AND ANGLES ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING (± 0.030")  
 ALL OTHER ASSEMBLY (± 0.060")

PROPRIETARY NOTE:  
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DESCRIPTION  
**14' 6" LOW PROFILE PLATFORM  
 WITH TWELVE 2-7/8" ANTENNA MOUTING  
 PIPES, REINFORCED HANDRAIL, AND CABLE**

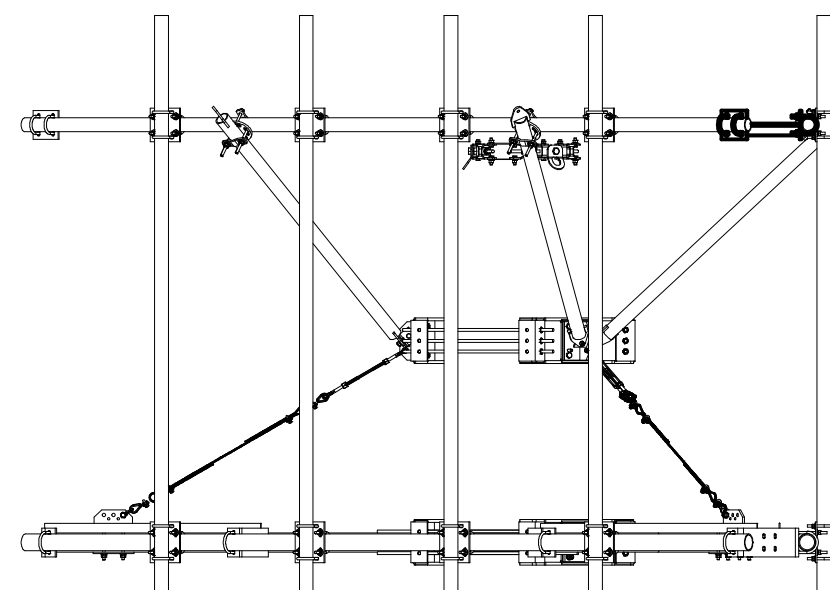
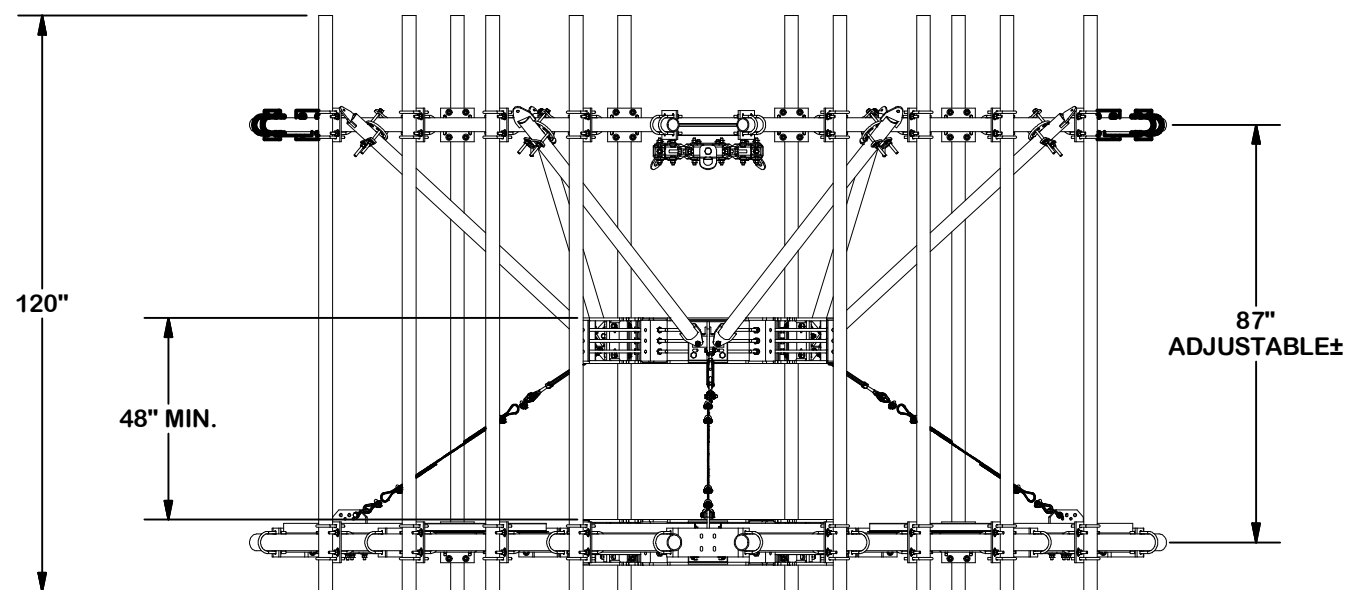
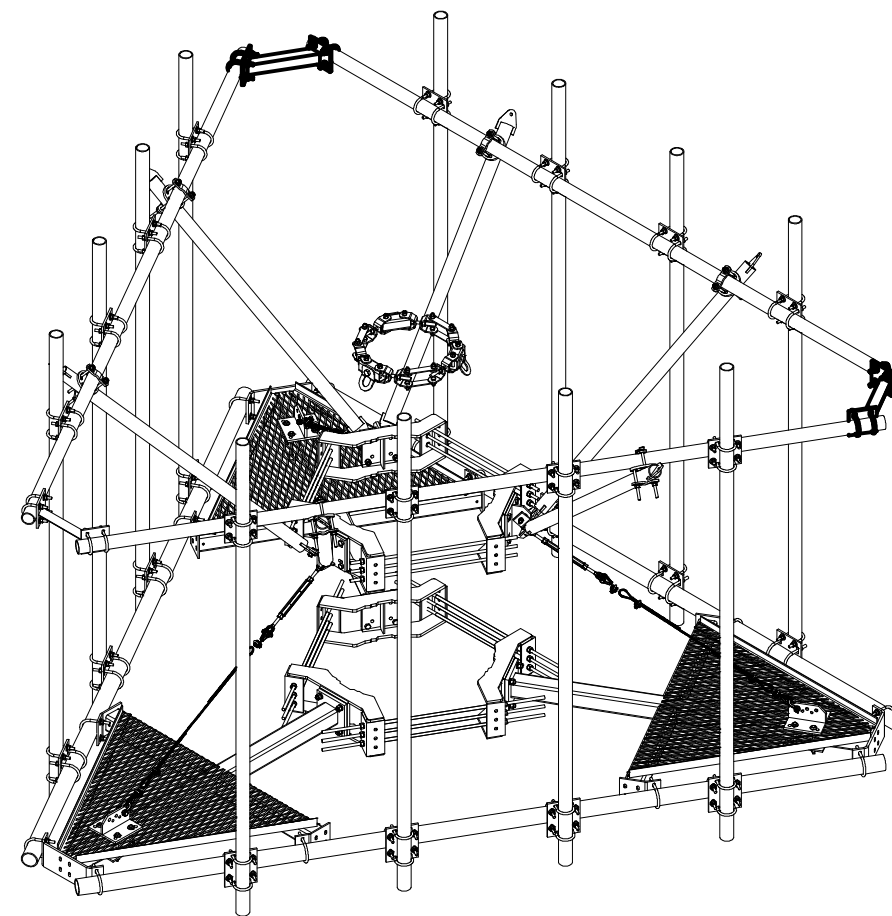
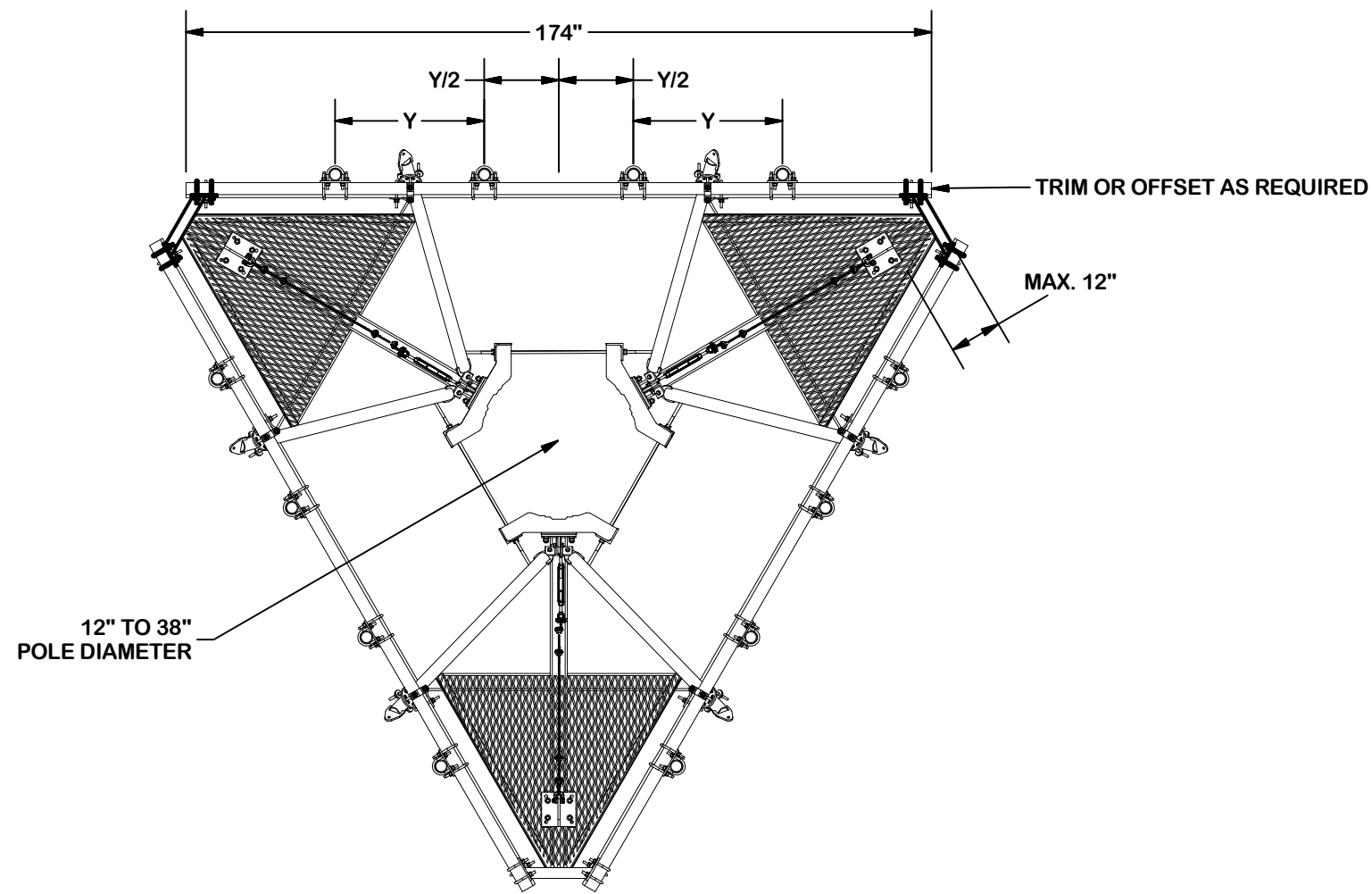
**SITE PRO 1**  
 Engineering Support Team:  
 1-888-753-7446

Locations:  
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 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX  
 Tampa, FL

A valmont COMPANY

CPD NO.	DRAWN BY	ENG. APPROVAL
	CSL 10/17/2019	10/18/2019
CLASS	DRAWING USAGE	CHECKED BY
87	CUSTOMER	BMC 10/18/2019

PART NO.	RMQLP-4120-H10
DWG. NO.	RMQLP-4120-H10



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 DRILLED AND GAS CUT HOLES ( $\pm 0.030''$ ) - NO CONING OF HOLES  
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 ALL OTHER ASSEMBLY ( $\pm 0.060''$ )

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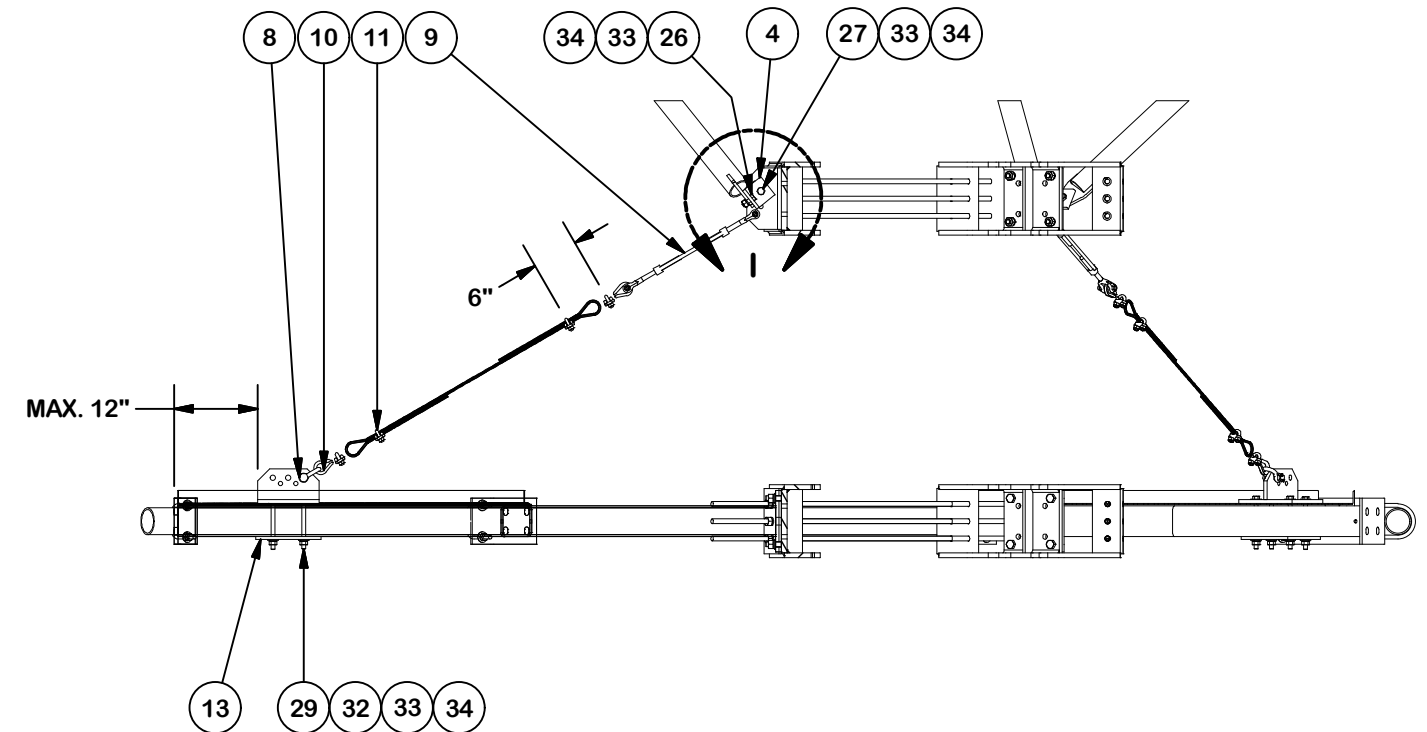
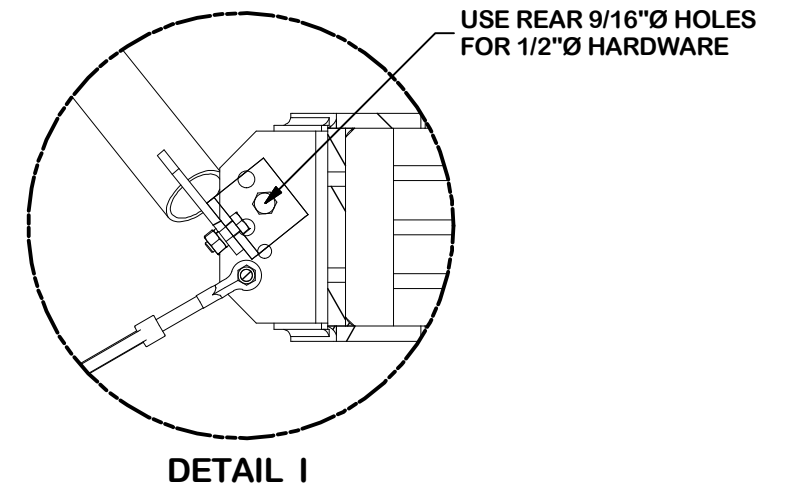
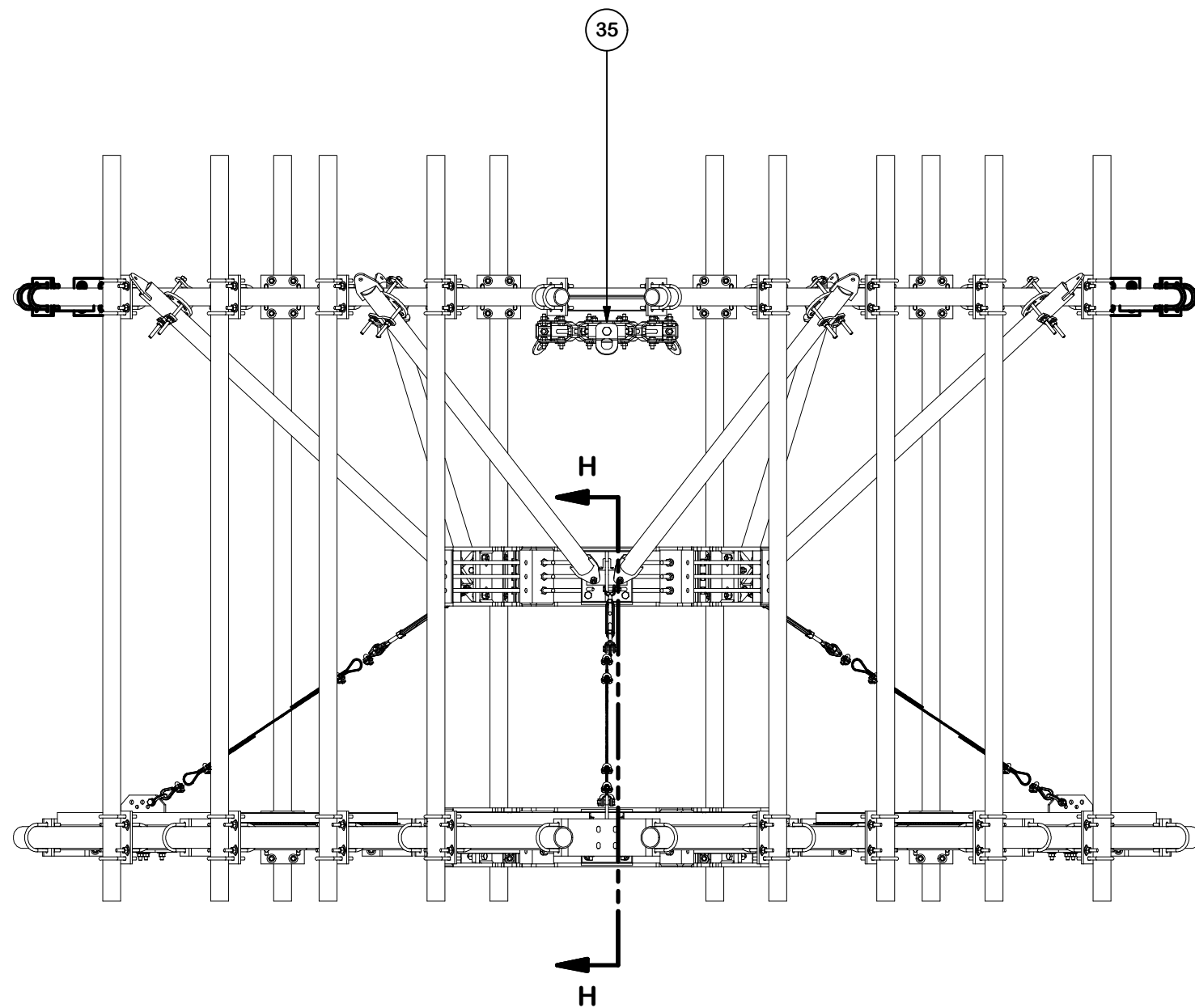
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CLASS 87	SUB 02	DRAWING USAGE CUSTOMER
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 Plymouth, IN  
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Engineering  
 Support Team:  
 1-888-753-7446

PART NO.	RMQLP-4120-H10
DWG. NO.	RMQLP-4120-H10



SECTION H-H

**NOTE:**  
SOME OBJECTS ARE TRANSPARENT FOR CLARITY

**TOLERANCE NOTES**

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 ALL OTHER MACHINING ( $\pm 0.030''$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060''$ )

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DESCRIPTION  
**14' 6" LOW PROFILE PLATFORM  
 WITH TWELVE 2-7/8" ANTENNA MOUTING  
 PIPES, REINFORCED HANDRAIL, AND CABLE**

CPD NO.	DRAWN BY CSL 10/17/2019	ENG. APPROVAL 10/18/2019
CLASS 87	SUB 02	DRAWING USAGE CUSTOMER
	CHECKED BY BMC 10/18/2019	

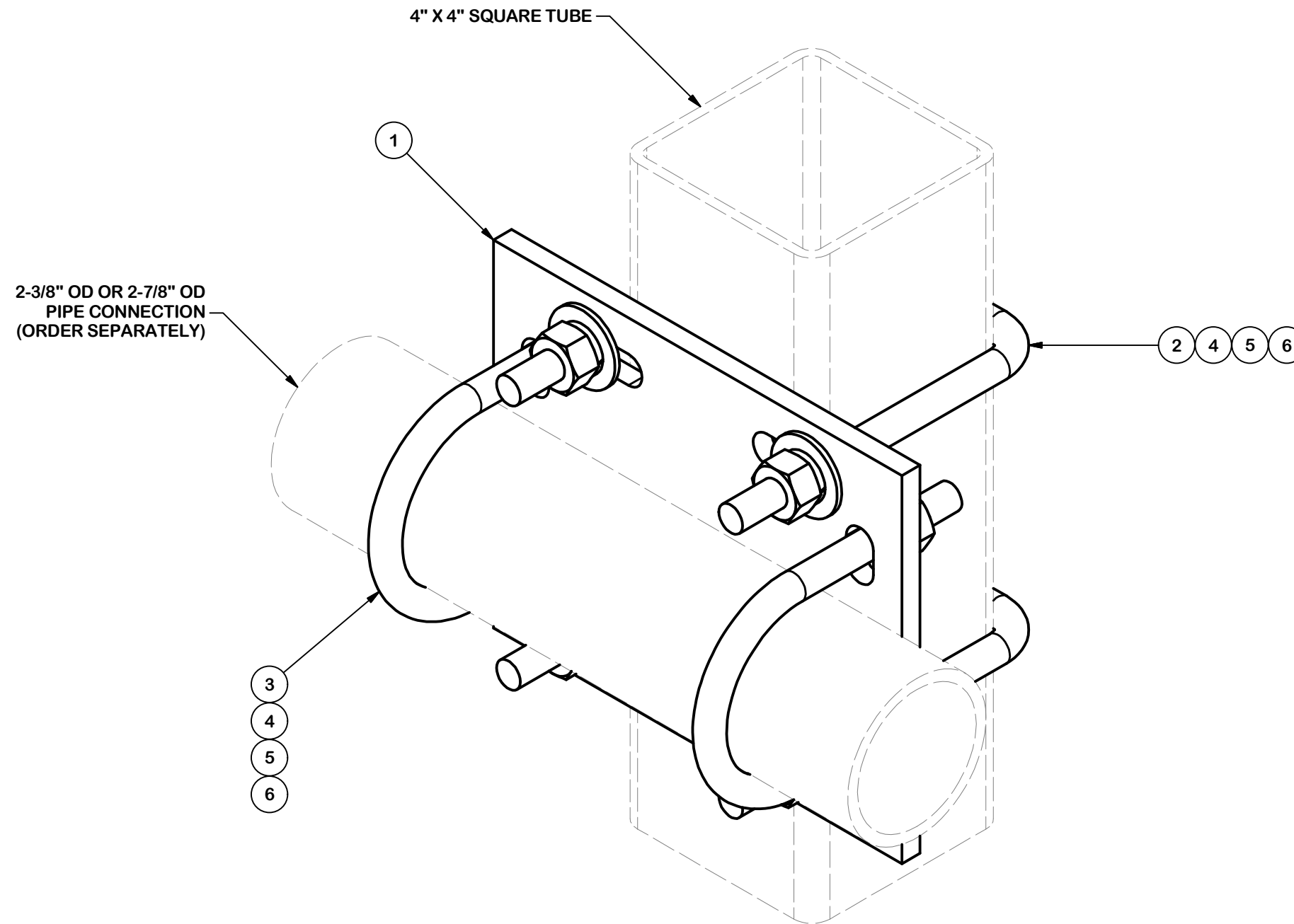


Engineering  
 Support Team:  
 1-888-753-7446

Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX  
 Tampa, FL

PART NO.	<b>RMQLP-4120-H10</b>
DWG. NO.	<b>RMQLP-4120-H10</b>

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	6.02
2	2	X-SUB1418	SQUARE U-BOLT 0.5" DIA. X 4.125" IW X 6" IL X 3" TR		0.98	1.95
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	1.19
3	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.67	1.34
4	8	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					<b>TOTAL WT. #</b>	<b>11.35</b>



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030''$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030''$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010''$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030''$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060''$ )

PROPRIETARY NOTE:  
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION  
**CROSSOVER PLATE KIT  
 W/ SQUARE U-BOLTS AND STD. U-BOLTS**

CPD NO.	DRAWN BY	ENG. APPROVAL
	CSL 9/18/2018	3RD PARTY
CLASS	DRAWING USAGE	CHECKED BY
87	CUSTOMER	BMC 11/12/2018

**SITE PRO 1**  
 A valmont COMPANY

Engineering Support Team:  
 1-888-753-7446

Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX

PART NO.	<b>SQCX4-K</b>
DWG. NO.	<b>SQCX4-K</b>

Wind & Ice Loading			
Nominal Mount Elevation (AGL), $z_{mount}$	98 ft	$K_a$	0.90
Nominal Rad Elevation (AGL), $z_{rad}$	98 ft	$K_d$	0.95
Elevation AMSL (ft)	77 ft	$K_s$	1.00
TIA Standard	H	$K_z$	1.26
Basic Wind Speed, $V_{ult}$ (bare)	119 mph	$K_{zt}$	1.00
Basic Wind Speed, $V$ (ice)	50 mph	$K_s$	1.00
Design Ice Thickness, $t_i$	1 in	$t_{iz}$	1.11 in
Exposure Category	C	$G_h$	1.00
Risk Category	II	$q_z$ (bare)	43.3 psf
Seismic Response Coeff., $C_s$	0.11	$q_z$ (ice)	7.6 psf

Live Loading	
At Mount Pipes, $L_M$	500 lb
Joint Labels Considered	1_M1
	1_M2
	1_M3
	1_M4

Member Distributed Loading				
Section Set Label	Shape Label	$F_A$ (lb/ft)		Ice Wt. (lb/ft)
		Bare	Ice	
Offset Tube	HSS4X4X4	25.97	1.88	8.46
Offset End Plate	0.5 x 6 Plate	38.95	5.67	7.16
Offset Side Plate	0.38 X 6 Plate	38.95	5.67	7.05
Grating Angle	L2x2x3	12.98	1.71	4.88
Platform Horizontal Pipe	PIPE_3.0	13.63	3.94	6.29
Support Rail	PIPE_2.5	11.20	3.51	5.44
SR Conn Plate	PL6x0.375	38.95	5.67	7.05
SR Conn Angle	L2.5x2.5x4	16.23	1.75	5.75
SR Bracing Pipe	PIPE_2.5	11.20	3.51	5.44
Cable	5/16"	1.22	1.75	1.94
Mount Pipe 1	PIPE_2.5	11.20	3.51	5.44
Mount Pipe 2	PIPE_2.0	9.25	3.17	4.75

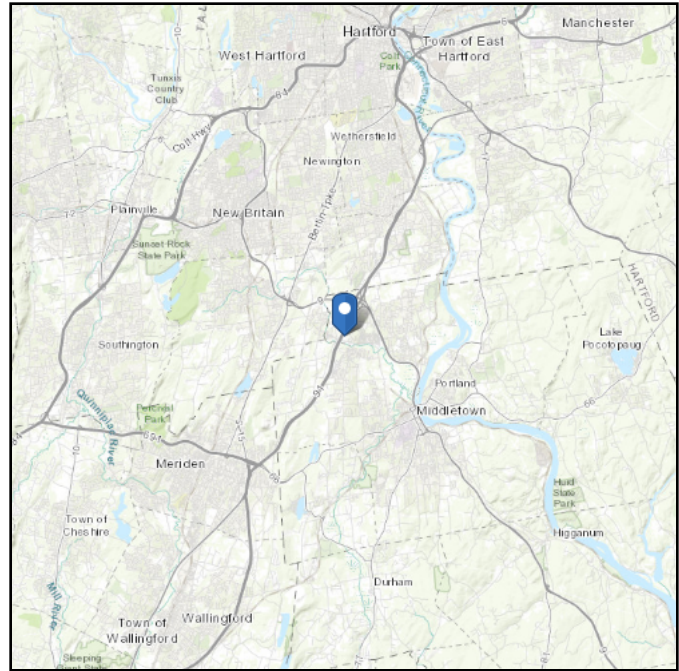
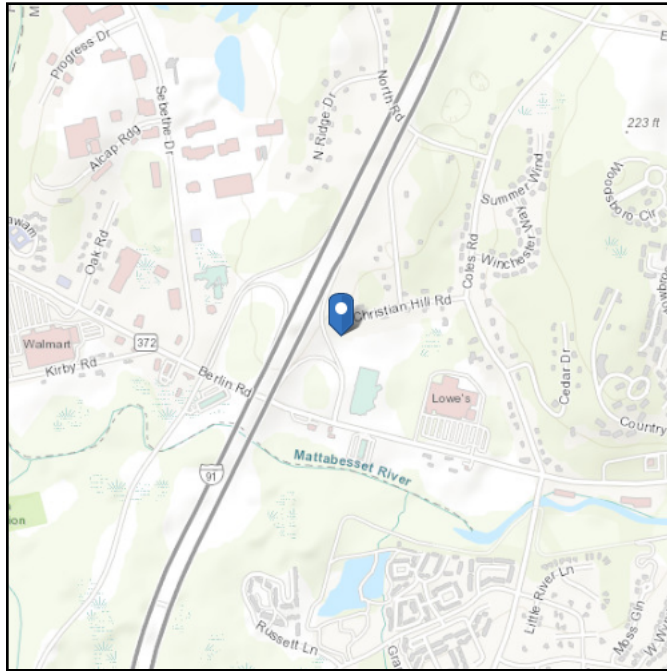
Appurtenances																														
Appurtenance Model	Status	Azimuth Offset ( $^{\circ}$ , $\cup$ )	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty. per Azimuth			Total Qty. Override	0° Joints		110° Joints		240° Joints		Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	$EPA_A$ (Bare) (ft $^2$ )		$EPA_A$ (Ice) (ft $^2$ )		$F_A$ (Bare) (lb)		$F_A$ (Ice) (lb)	
					Front	Side	0°	110°	240°		1	2	1	2	1	2							N	T	N	T	N	T	N	T
TPA-65R-BU6DA-K				<input type="checkbox"/>			1	1	1	3	1_A2T	1_A2B	2_A2T	2_A2B	3_A2T	3_A2B	71.1	25.5	7.6	79.6	Flat	191.68	15.27	5.55	17.04	7.08	594.82	216.12	117.15	48.72
AIR 6419 B77G			100	<input type="checkbox"/>			1	1	1	3	1_A3T	1_A3B	2_A3T	2_A3B	3_A3T	3_A3B	28.3	16.1	7.9	66.1	Flat	62.25	3.80	1.94	4.67	2.63	148.53	75.80	32.22	18.15
AIR 6449 B77D			96	<input type="checkbox"/>			1	1	1	3	1_A3TB	1_A3BB	2_A3TB	2_A3BB	3_A3TB	3_A3BB	30.4	15.9	10.6	81.6	Flat	74.43	4.03	2.72	4.93	3.49	156.22	105.57	33.74	23.91
DMP65R-BU6D				<input type="checkbox"/>			1	1	1	3	1_A4T	1_A4B	2_A4T	2_A4B	3_A4T	3_A4B	71.2	20.7	7.7	89.3	Generic	164.93	11.93	4.48	13.60	5.91	464.71	174.51	93.54	40.62
DC9-48-60-24-8C-EV				<input type="checkbox"/>			1			1	3_M						31.41	10.24	18.28	26.2	Flat	82.67	2.74	4.78	3.52	5.75	106.60	186.38	24.22	39.54
DC6-48-60-18-8F				<input type="checkbox"/>			1			1	1_M						24	11	11	18.9	Round	39.50	1.28	1.28	1.69	1.69	49.99	49.99	11.60	11.60
DC6-48-60-18-8F				<input type="checkbox"/>			1			1	2_M						24	11	11	18.9	Round	39.50	1.28	1.28	1.69	1.69	49.99	49.99	11.60	11.60
RRUS 32 B2				<input checked="" type="checkbox"/>		0.5	1	1	1	3	1_R2BT		2_R2BT		3_R2BT		27.2	12.05	7	52.9	Flat	46.96	1.67	1.37	2.32	1.75	64.98	53.20	15.96	12.04
RRUS 4426 B66				<input checked="" type="checkbox"/>		0.5	1	1	1	3	1_R2BT		2_R2BT		3_R2BT		14.96	13.19	5.8	48.4	Flat	28.59	0.73	0.82	1.15	1.10	28.25	32.03	7.91	7.60
RRUS 32 B30				<input type="checkbox"/>	0		1	1	1	3	1_R4BN		2_R4BN		3_R4BN		26.7	12.1	6.7	60	Flat	45.49	0.00	1.57	0.00	2.21	0.00	61.26	0.00	15.21
RRUS 4478 B14				<input checked="" type="checkbox"/>		0.5	1	1	1	3	1_R7BT		2_R7BT		3_R7BT		16.5	13.4	7.7	59.9	Flat	35.41	1.06	0.92	1.55	1.22	41.24	35.89	10.66	8.39
RRUS 4449 B5/B12				<input checked="" type="checkbox"/>		0.5	1	1	1	3	1_R7BT		2_R7BT		3_R7BT		17.9	13.19	9.44	71	Flat	41.27	1.41	0.98	1.96	1.29	54.85	38.32	13.46	8.89

# 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:** 77.17 ft (NAVD 88)  
**Latitude:** 41.6057  
**Longitude:** -72.7014



## Wind

### Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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: Fri Mar 25 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).

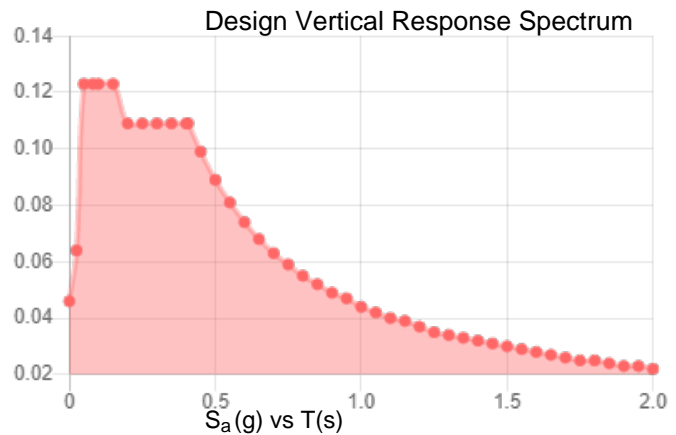
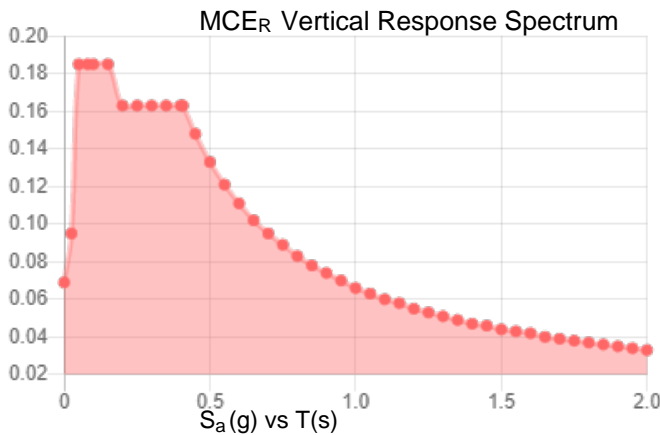
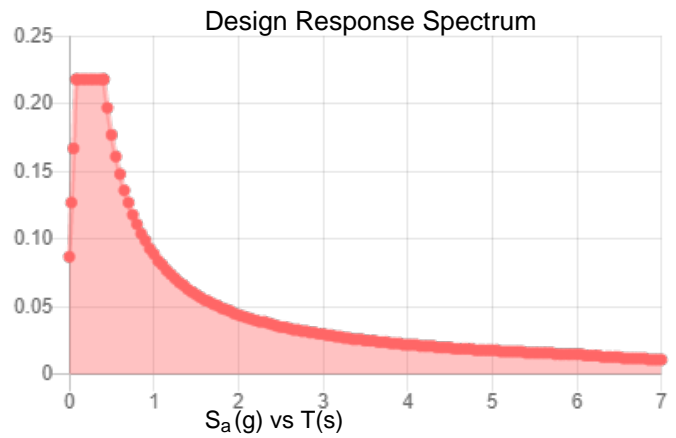
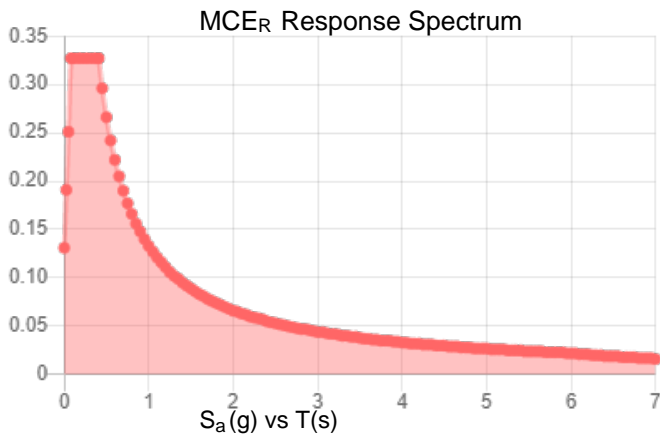
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

**Results:**

$S_s$ :	0.204	$S_{D1}$ :	0.089
$S_1$ :	0.055	$T_L$ :	6
$F_a$ :	1.6	PGA :	0.113
$F_v$ :	2.4	PGA <sub>M</sub> :	0.178
$S_{MS}$ :	0.327	$F_{PGA}$ :	1.574
$S_{M1}$ :	0.133	$I_e$ :	1
$S_{DS}$ :	0.218	$C_v$ :	0.708

**Seismic Design Category** B



**Data Accessed:** Fri Mar 25 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

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**Results:**

Ice Thickness: 1.00 in.  
Concurrent Temperature: 15 F  
Gust Speed 50 mph

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

**Date Accessed:** Fri Mar 25 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.

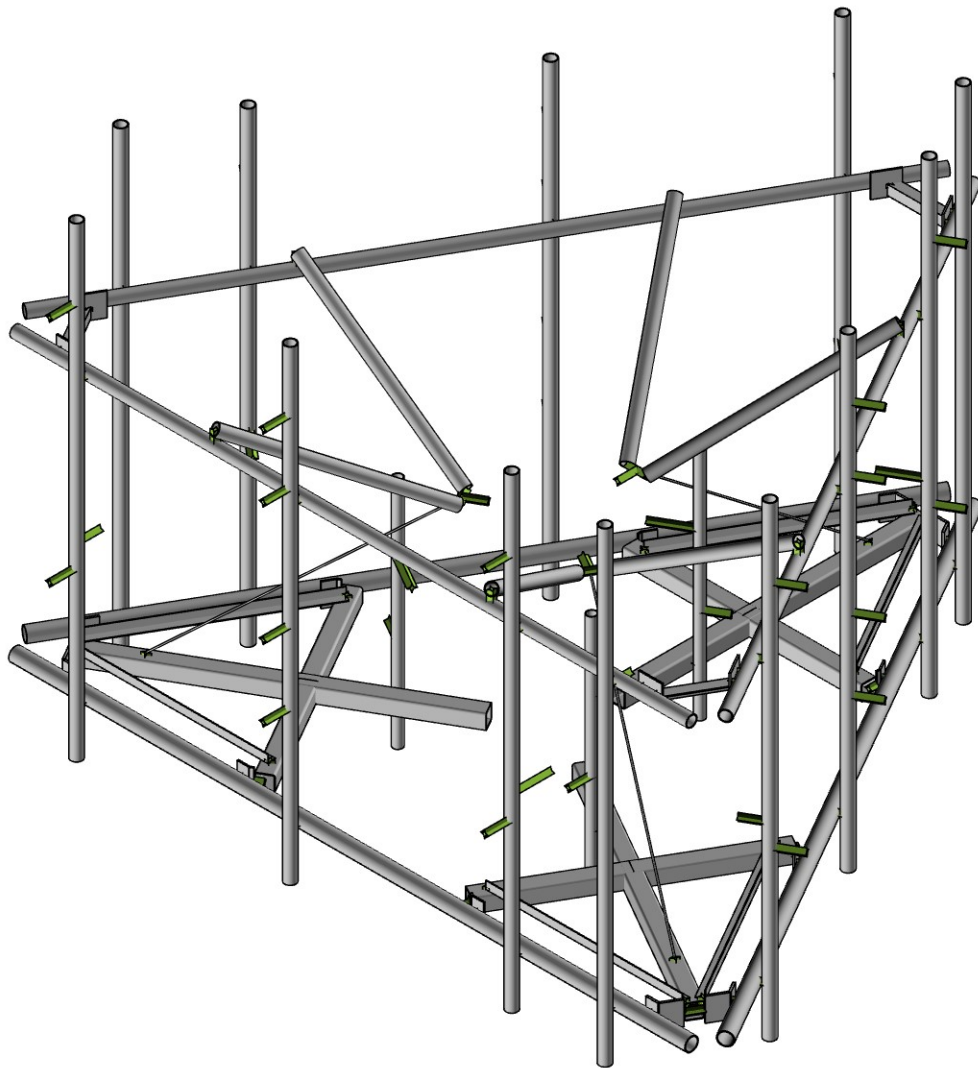
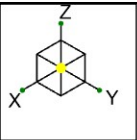
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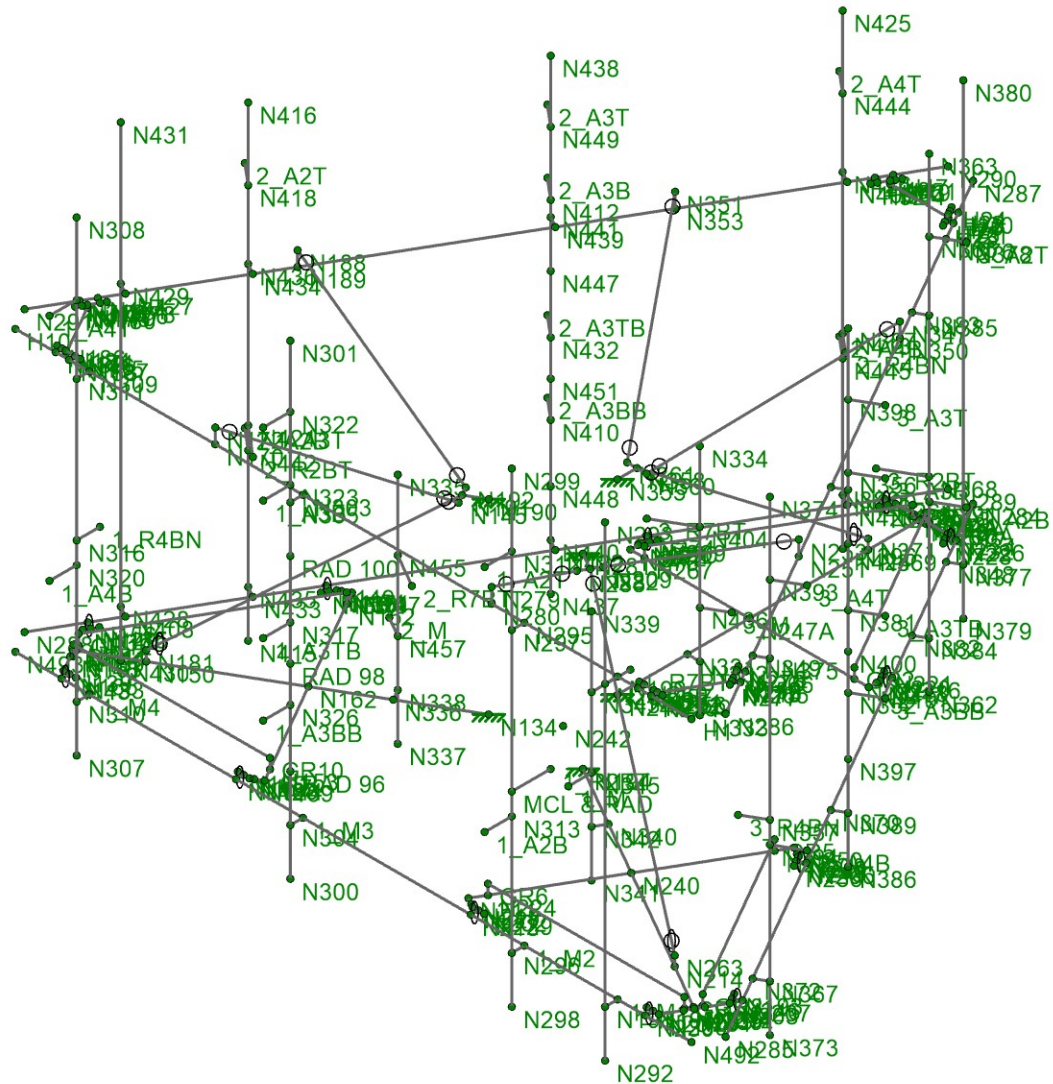
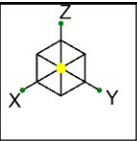
41124-14089799-Cromwellsw CT

Rendered

SK-1

Mar 25, 2022

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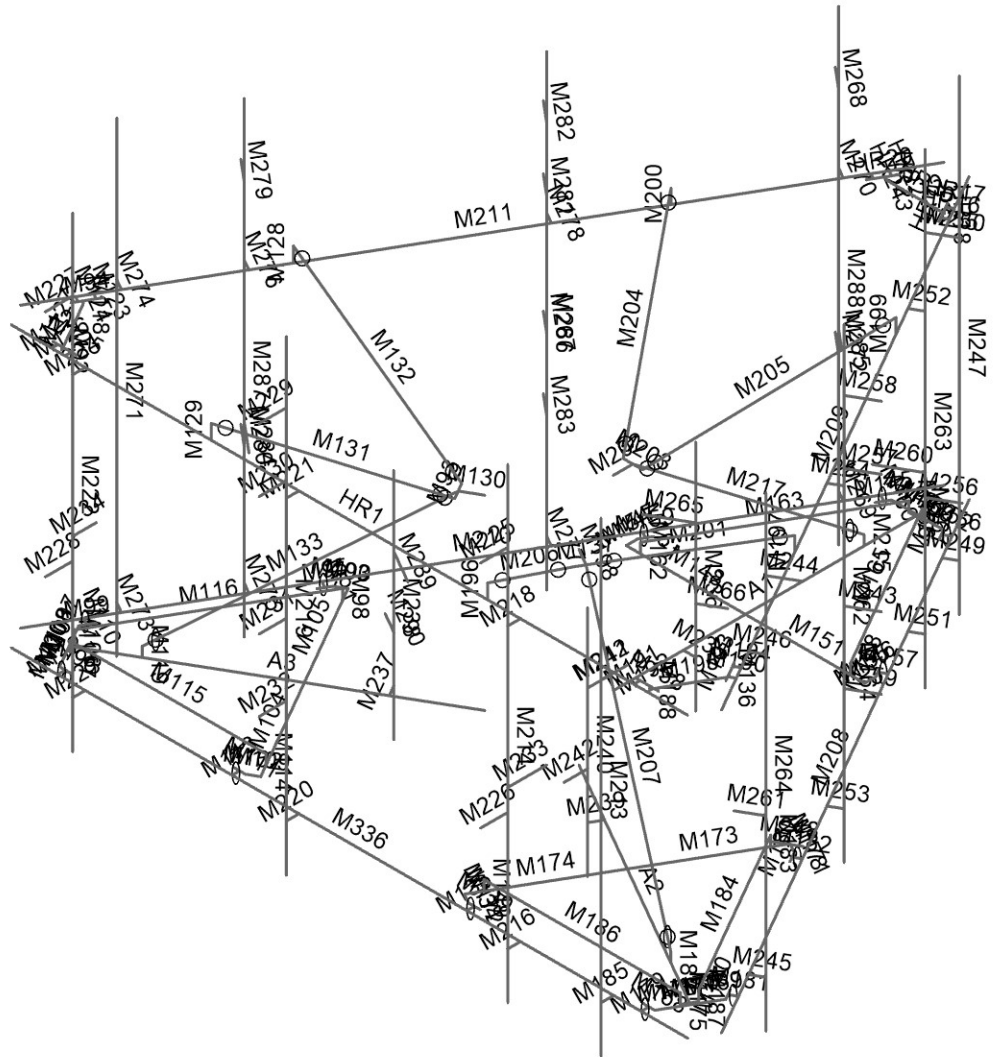
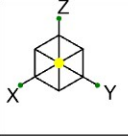


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 41124-14089799-01-MA

41124-14089799-Cromwellsw CT  
 Joint Labels

SK-2  
 Mar 25, 2022  
 411261\_14089799\_AT&T MOBILITY.r3d

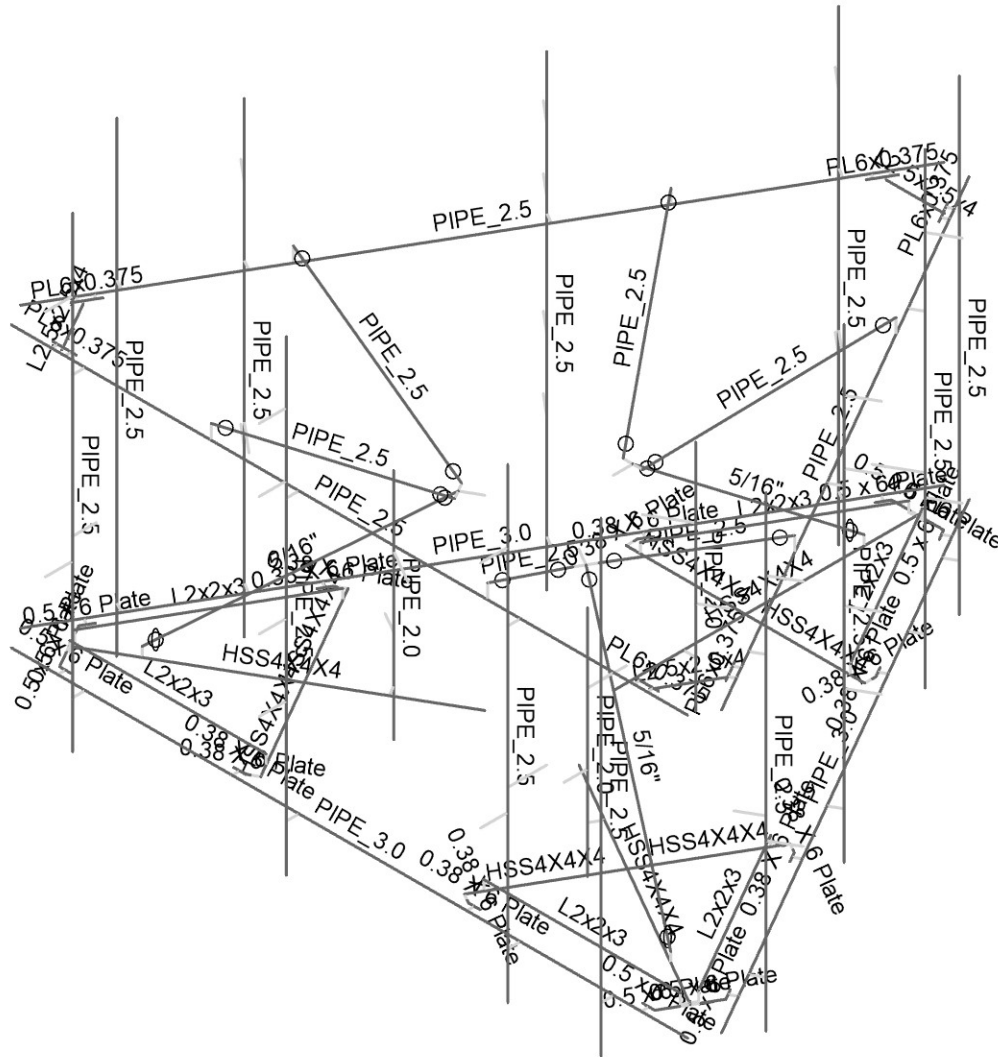
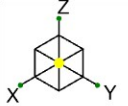


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 Member Labels

SK-3  
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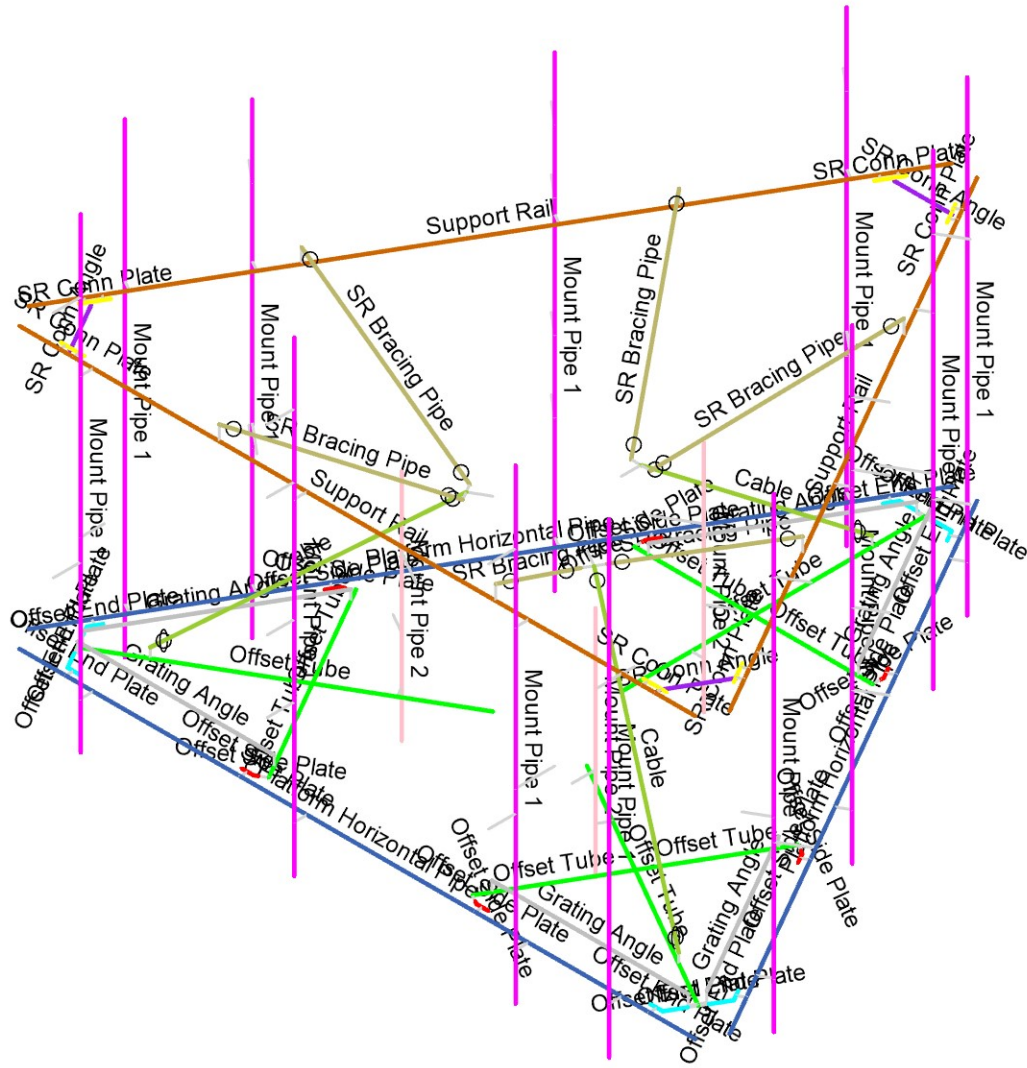
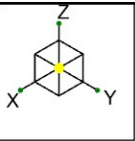
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Member Shapes

SK-3.1  
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Section Sets	
<span style="color: blue;">█</span>	Platform Horizontal Pipe
<span style="color: green;">█</span>	Offset Tube
<span style="color: red;">█</span>	Offset Side Plate
<span style="color: gray;">█</span>	Grating Angle
<span style="color: magenta;">█</span>	Mount Pipe 1
<span style="color: cyan;">█</span>	Offset End Plate
<span style="color: brown;">█</span>	Support Rail
<span style="color: yellow;">█</span>	SR Conn Plate
<span style="color: purple;">█</span>	SR Conn Angle
<span style="color: olive;">█</span>	SR Bracing Pipe
<span style="color: lightgreen;">█</span>	Cable
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<span style="color: teal;">█</span>	RIGID

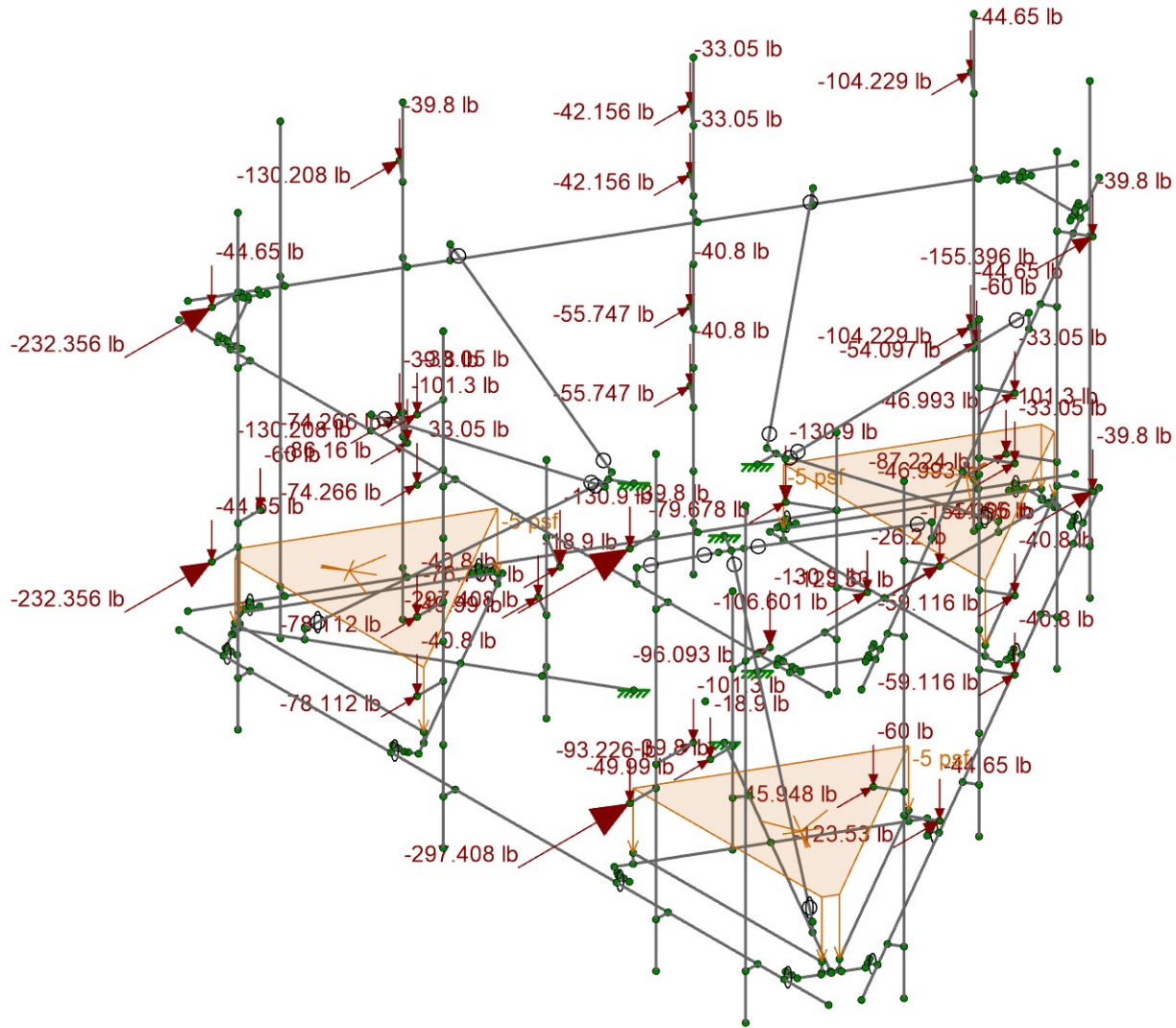
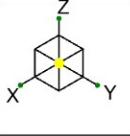
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Section Sets

SK-4  
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Loads: LC 1, DISPLAY (1.0D + 1.0W\_0)  
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Joint Loads - Dead and Normal Wind

SK-5

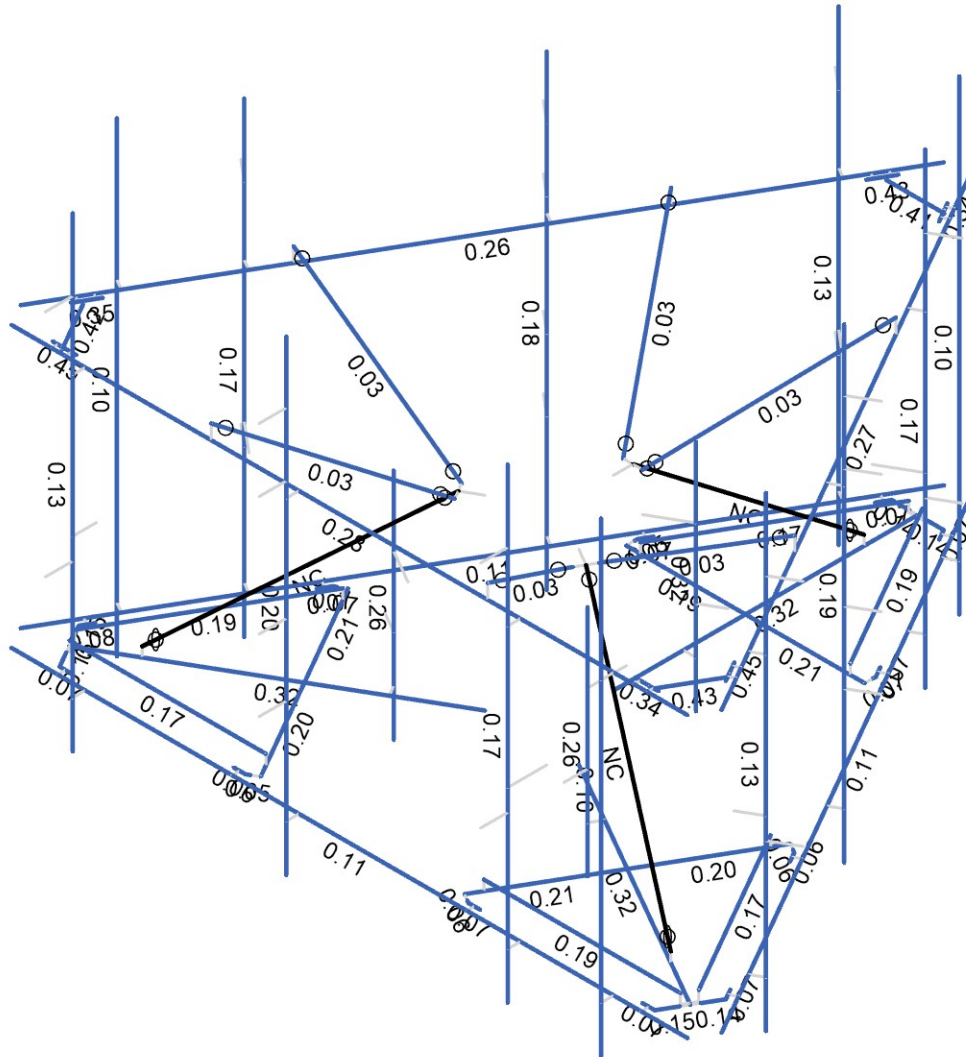
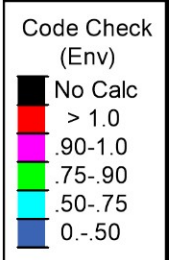
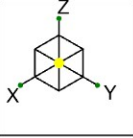
Mar 25, 2022

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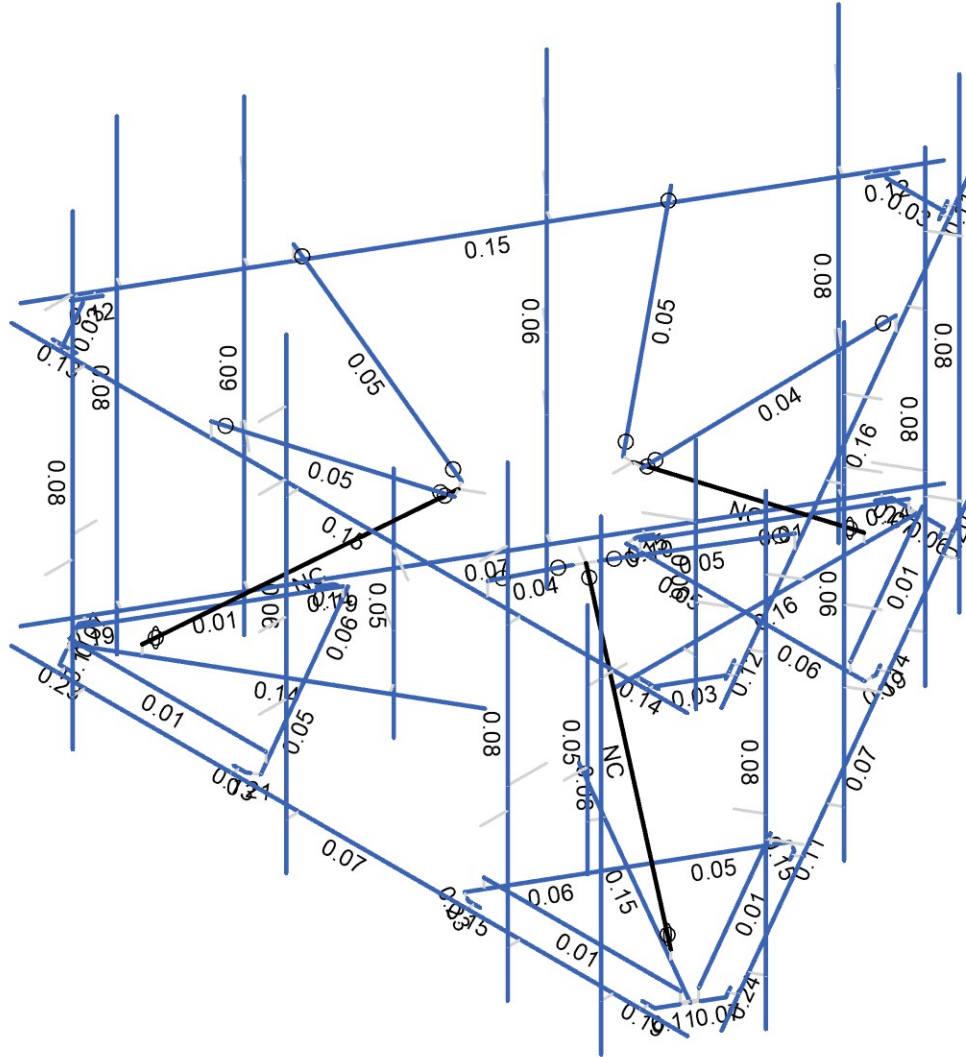
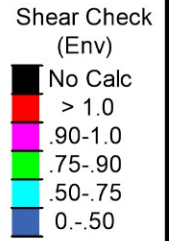
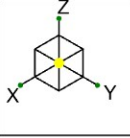






Member Code Checks Displayed (Enveloped)  
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KV		Mar 25, 2022
41124-14089799-01-MA	Envelope Member Unity Check Results - Bending	411261_14089799_AT&T MOBILITY.r3d



Member Shear Checks Displayed (Enveloped)  
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41124-14089799-Cromwellsw CT

Envelope Member Check Results - Shear

SK-9

Mar 25, 2022

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**Basic Load Cases**

	BLC Description	Category	Z Gravity	Nodal	Distributed	Area(Member)
1	Dead	DL	-1	42		3
2	Ice Dead	RL		42	78	3
3	BLC 1 Transient Area Loads	None			30	
4	BLC 2 Transient Area Loads	None			30	
5	Structure Wind 0°	None			76	
6	Structure Wind 30°	None			126	
7	Structure Wind 45°	None			156	
8	Structure Wind 60°	None			152	
9	Structure Wind 90°	None			64	
10	Structure Wind 120°	None			152	
11	Structure Wind 135°	None			156	
12	Structure Wind 150°	None			126	
13	Structure Wind 180°	None			76	
14	Structure Wind 210°	None			126	
15	Structure Wind 225°	None			156	
16	Structure Wind 240°	None			152	
17	Structure Wind 270°	None			64	
18	Structure Wind 300°	None			152	
19	Structure Wind 315°	None			156	
20	Structure Wind 330°	None			126	
21	Structure Wind w/ Ice 0°	None			76	
22	Structure Wind w/ Ice 30°	None			130	
23	Structure Wind w/ Ice 45°	None			156	
24	Structure Wind w/ Ice 60°	None			152	
25	Structure Wind w/ Ice 90°	None			65	
26	Structure Wind w/ Ice 120°	None			152	
27	Structure Wind w/ Ice 135°	None			156	
28	Structure Wind w/ Ice 150°	None			130	
29	Structure Wind w/ Ice 180°	None			76	
30	Structure Wind w/ Ice 210°	None			130	
31	Structure Wind w/ Ice 225°	None			156	
32	Structure Wind w/ Ice 240°	None			152	
33	Structure Wind w/ Ice 270°	None			65	
34	Structure Wind w/ Ice 300°	None			152	
35	Structure Wind w/ Ice 315°	None			156	
36	Structure Wind w/ Ice 330°	None			130	
37	Antenna Wind 0°	None		41		
38	Antenna Wind 30°	None		84		
39	Antenna Wind 45°	None		84		
40	Antenna Wind 60°	None		82		
41	Antenna Wind 90°	None		42		
42	Antenna Wind 120°	None		84		
43	Antenna Wind 135°	None		84		
44	Antenna Wind 150°	None		84		
45	Antenna Wind 180°	None		41		
46	Antenna Wind 210°	None		84		
47	Antenna Wind 225°	None		84		
48	Antenna Wind 240°	None		82		
49	Antenna Wind 270°	None		42		
50	Antenna Wind 300°	None		84		
51	Antenna Wind 315°	None		84		
52	Antenna Wind 330°	None		84		
53	Antenna Wind w/ Ice 0°	None		41		
54	Antenna Wind w/ Ice 30°	None		84		
55	Antenna Wind w/ Ice 45°	None		84		

**Basic Load Cases (Continued)**

	BLC Description	Category	Z Gravity	Nodal	Distributed	Area(Member)
56	Antenna Wind w/ Ice 60°	None		82		
57	Antenna Wind w/ Ice 90°	None		42		
58	Antenna Wind w/ Ice 120°	None		84		
59	Antenna Wind w/ Ice 135°	None		84		
60	Antenna Wind w/ Ice 150°	None		84		
61	Antenna Wind w/ Ice 180°	None		41		
62	Antenna Wind w/ Ice 210°	None		84		
63	Antenna Wind w/ Ice 225°	None		84		
64	Antenna Wind w/ Ice 240°	None		82		
65	Antenna Wind w/ Ice 270°	None		42		
66	Antenna Wind w/ Ice 300°	None		84		
67	Antenna Wind w/ Ice 315°	None		84		
68	Antenna Wind w/ Ice 330°	None		84		
69	Seismic X	ELX		42	78	
70	Seismic Y	ELY		42	78	
71	Seismic Z	ELZ		42	78	
72	Maintenance Live 500 (1)	OL1		1		
73	Maintenance Live 500 (2)	OL2		1		
74	Maintenance Live 500 (3)	OL3		1		
75	Maintenance Live 500 (4)	OL4		1		

**Load Combinations**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DISPLAY (1.0D + 1.0W_0°)	Yes	Y	DL	1	37	1				
2	1.4D	Yes	Y	DL	1.4						
3	1.2D + 1.0W_0°	Yes	Y	DL	1.2	5	1	37	1		
4	1.2D + 1.0W_30°	Yes	Y	DL	1.2	6	1	38	1		
5	1.2D + 1.0W_45°	Yes	Y	DL	1.2	7	1	39	1		
6	1.2D + 1.0W_60°	Yes	Y	DL	1.2	8	1	40	1		
7	1.2D + 1.0W_90°	Yes	Y	DL	1.2	9	1	41	1		
8	1.2D + 1.0W_120°	Yes	Y	DL	1.2	10	1	42	1		
9	1.2D + 1.0W_135°	Yes	Y	DL	1.2	11	1	43	1		
10	1.2D + 1.0W_150°	Yes	Y	DL	1.2	12	1	44	1		
11	1.2D + 1.0W_180°	Yes	Y	DL	1.2	13	-1	45	-1		
12	1.2D + 1.0W_210°	Yes	Y	DL	1.2	14	-1	46	-1		
13	1.2D + 1.0W_225°	Yes	Y	DL	1.2	15	-1	47	-1		
14	1.2D + 1.0W_240°	Yes	Y	DL	1.2	16	-1	48	-1		
15	1.2D + 1.0W_270°	Yes	Y	DL	1.2	17	-1	49	-1		
16	1.2D + 1.0W_300°	Yes	Y	DL	1.2	18	-1	50	-1		
17	1.2D + 1.0W_315°	Yes	Y	DL	1.2	19	-1	51	-1		
18	1.2D + 1.0W_330°	Yes	Y	DL	1.2	20	-1	52	-1		
19	1.2D + 1.0Di + 1.0Wi_0°	Yes	Y	DL	1.2	21	1	53	1	RL	1
20	1.2D + 1.0Di + 1.0Wi_30°	Yes	Y	DL	1.2	22	1	54	1	RL	1
21	1.2D + 1.0Di + 1.0Wi_45°	Yes	Y	DL	1.2	23	1	55	1	RL	1
22	1.2D + 1.0Di + 1.0Wi_60°	Yes	Y	DL	1.2	24	1	56	1	RL	1
23	1.2D + 1.0Di + 1.0Wi_90°	Yes	Y	DL	1.2	25	1	57	1	RL	1
24	1.2D + 1.0Di + 1.0Wi_120°	Yes	Y	DL	1.2	26	1	58	1	RL	1
25	1.2D + 1.0Di + 1.0Wi_135°	Yes	Y	DL	1.2	27	1	59	1	RL	1
26	1.2D + 1.0Di + 1.0Wi_150°	Yes	Y	DL	1.2	28	1	60	1	RL	1
27	1.2D + 1.0Di + 1.0Wi_180°	Yes	Y	DL	1.2	29	-1	61	-1	RL	1
28	1.2D + 1.0Di + 1.0Wi_210°	Yes	Y	DL	1.2	30	-1	62	-1	RL	1
29	1.2D + 1.0Di + 1.0Wi_225°	Yes	Y	DL	1.2	31	-1	63	-1	RL	1
30	1.2D + 1.0Di + 1.0Wi_240°	Yes	Y	DL	1.2	32	-1	64	-1	RL	1
31	1.2D + 1.0Di + 1.0Wi_270°	Yes	Y	DL	1.2	33	-1	65	-1	RL	1
32	1.2D + 1.0Di + 1.0Wi_300°	Yes	Y	DL	1.2	34	-1	66	-1	RL	1

**Load Combinations (Continued)**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
33	1.2D + 1.0Di + 1.0Wi 315°	Yes	Y	DL	1.2	35	-1	67	-1	RL	1
34	1.2D + 1.0Di + 1.0Wj 330°	Yes	Y	DL	1.2	36	-1	68	-1	RL	1
35	1.2D + 1.0Ev + 1.0Eh 0°	Yes	Y	DL	1.244	ELX	-1	ELY			
36	1.2D + 1.0Ev + 1.0Eh 30°	Yes	Y	DL	1.244	ELX	-0.866	ELY	0.5		
37	1.2D + 1.0Ev + 1.0Eh 45°	Yes	Y	DL	1.244	ELX	-0.707	ELY	0.707		
38	1.2D + 1.0Ev + 1.0Eh 60°	Yes	Y	DL	1.244	ELX	-0.5	ELY	0.866		
39	1.2D + 1.0Ev + 1.0Eh 90°	Yes	Y	DL	1.244	ELX		ELY	1		
40	1.2D + 1.0Ev + 1.0Eh 120°	Yes	Y	DL	1.244	ELX	0.5	ELY	0.866		
41	1.2D + 1.0Ev + 1.0Eh 135°	Yes	Y	DL	1.244	ELX	0.707	ELY	0.707		
42	1.2D + 1.0Ev + 1.0Eh 150°	Yes	Y	DL	1.244	ELX	0.866	ELY	0.5		
43	1.2D + 1.0Ev + 1.0Eh 180°	Yes	Y	DL	1.244	ELX	1	ELY			
44	1.2D + 1.0Ev + 1.0Eh 210°	Yes	Y	DL	1.244	ELX	0.866	ELY	-0.5		
45	1.2D + 1.0Ev + 1.0Eh 225°	Yes	Y	DL	1.244	ELX	0.707	ELY	-0.707		
46	1.2D + 1.0Ev + 1.0Eh 240°	Yes	Y	DL	1.244	ELX	0.5	ELY	-0.866		
47	1.2D + 1.0Ev + 1.0Eh 270°	Yes	Y	DL	1.244	ELX		ELY	-1		
48	1.2D + 1.0Ev + 1.0Eh 300°	Yes	Y	DL	1.244	ELX	-0.5	ELY	-0.866		
49	1.2D + 1.0Ev + 1.0Eh 315°	Yes	Y	DL	1.244	ELX	-0.707	ELY	-0.707		
50	1.2D + 1.0Ev + 1.0Eh 330°	Yes	Y	DL	1.244	ELX	-0.866	ELY	-0.5		
51	0.9D - 1.0Ev + 1.0Eh 0°	Yes	Y	DL	0.856	ELX	-1	ELY			
52	0.9D - 1.0Ev + 1.0Eh 30°	Yes	Y	DL	0.856	ELX	-0.866	ELY	0.5		
53	0.9D - 1.0Ev + 1.0Eh 45°	Yes	Y	DL	0.856	ELX	-0.707	ELY	0.707		
54	0.9D - 1.0Ev + 1.0Eh 60°	Yes	Y	DL	0.856	ELX	-0.5	ELY	0.866		
55	0.9D - 1.0Ev + 1.0Eh 90°	Yes	Y	DL	0.856	ELX		ELY	1		
56	0.9D - 1.0Ev + 1.0Eh 120°	Yes	Y	DL	0.856	ELX	0.5	ELY	0.866		
57	0.9D - 1.0Ev + 1.0Eh 135°	Yes	Y	DL	0.856	ELX	0.707	ELY	0.707		
58	0.9D - 1.0Ev + 1.0Eh 150°	Yes	Y	DL	0.856	ELX	0.866	ELY	0.5		
59	0.9D - 1.0Ev + 1.0Eh 180°	Yes	Y	DL	0.856	ELX	1	ELY			
60	0.9D - 1.0Ev + 1.0Eh 210°	Yes	Y	DL	0.856	ELX	0.866	ELY	-0.5		
61	0.9D - 1.0Ev + 1.0Eh 225°	Yes	Y	DL	0.856	ELX	0.707	ELY	-0.707		
62	0.9D - 1.0Ev + 1.0Eh 240°	Yes	Y	DL	0.856	ELX	0.5	ELY	-0.866		
63	0.9D - 1.0Ev + 1.0Eh 270°	Yes	Y	DL	0.856	ELX		ELY	-1		
64	0.9D - 1.0Ev + 1.0Eh 300°	Yes	Y	DL	0.856	ELX	-0.5	ELY	-0.866		
65	0.9D - 1.0Ev + 1.0Eh 315°	Yes	Y	DL	0.856	ELX	-0.707	ELY	-0.707		
66	0.9D - 1.0Ev + 1.0Eh 330°	Yes	Y	DL	0.856	ELX	-0.866	ELY	-0.5		
67	1.2D + 1.5Lm 1 + 1.0Wm 0°	Yes	Y	DL	1.2	5	0.067	37	0.067	OL1	1.5
68	1.2D + 1.5Lm 1 + 1.0Wm 30°	Yes	Y	DL	1.2	6	0.067	38	0.067	OL1	1.5
69	1.2D + 1.5Lm 1 + 1.0Wm 45°	Yes	Y	DL	1.2	7	0.067	39	0.067	OL1	1.5
70	1.2D + 1.5Lm 1 + 1.0Wm 60°	Yes	Y	DL	1.2	8	0.067	40	0.067	OL1	1.5
71	1.2D + 1.5Lm 1 + 1.0Wm 90°	Yes	Y	DL	1.2	9	0.067	41	0.067	OL1	1.5
72	1.2D + 1.5Lm 1 + 1.0Wm 120°	Yes	Y	DL	1.2	10	0.067	42	0.067	OL1	1.5
73	1.2D + 1.5Lm 1 + 1.0Wm 135°	Yes	Y	DL	1.2	11	0.067	43	0.067	OL1	1.5
74	1.2D + 1.5Lm 1 + 1.0Wm 150°	Yes	Y	DL	1.2	12	0.067	44	0.067	OL1	1.5
75	1.2D + 1.5Lm 1 + 1.0Wm 180°	Yes	Y	DL	1.2	13	-0.067	45	-0.067	OL1	1.5
76	1.2D + 1.5Lm 1 + 1.0Wm 210°	Yes	Y	DL	1.2	14	-0.067	46	-0.067	OL1	1.5
77	1.2D + 1.5Lm 1 + 1.0Wm 225°	Yes	Y	DL	1.2	15	-0.067	47	-0.067	OL1	1.5
78	1.2D + 1.5Lm 1 + 1.0Wm 240°	Yes	Y	DL	1.2	16	-0.067	48	-0.067	OL1	1.5
79	1.2D + 1.5Lm 1 + 1.0Wm 270°	Yes	Y	DL	1.2	17	-0.067	49	-0.067	OL1	1.5
80	1.2D + 1.5Lm 1 + 1.0Wm 300°	Yes	Y	DL	1.2	18	-0.067	50	-0.067	OL1	1.5
81	1.2D + 1.5Lm 1 + 1.0Wm 315°	Yes	Y	DL	1.2	19	-0.067	51	-0.067	OL1	1.5
82	1.2D + 1.5Lm 1 + 1.0Wm 330°	Yes	Y	DL	1.2	20	-0.067	52	-0.067	OL1	1.5
83	1.2D + 1.5Lm 2 + 1.0Wm 0°	Yes	Y	DL	1.2	5	0.067	37	0.067	OL2	1.5
84	1.2D + 1.5Lm 2 + 1.0Wm 30°	Yes	Y	DL	1.2	6	0.067	38	0.067	OL2	1.5
85	1.2D + 1.5Lm 2 + 1.0Wm 45°	Yes	Y	DL	1.2	7	0.067	39	0.067	OL2	1.5
86	1.2D + 1.5Lm 2 + 1.0Wm 60°	Yes	Y	DL	1.2	8	0.067	40	0.067	OL2	1.5
87	1.2D + 1.5Lm 2 + 1.0Wm 90°	Yes	Y	DL	1.2	9	0.067	41	0.067	OL2	1.5

**Load Combinations (Continued)**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
88	1.2D + 1.5Lm 2 + 1.0Wm 120°	Yes	Y	DL	1.2	10	0.067	42	0.067	OL2	1.5
89	1.2D + 1.5Lm 2 + 1.0Wm 135°	Yes	Y	DL	1.2	11	0.067	43	0.067	OL2	1.5
90	1.2D + 1.5Lm 2 + 1.0Wm 150°	Yes	Y	DL	1.2	12	0.067	44	0.067	OL2	1.5
91	1.2D + 1.5Lm 2 + 1.0Wm 180°	Yes	Y	DL	1.2	13	-0.067	45	-0.067	OL2	1.5
92	1.2D + 1.5Lm 2 + 1.0Wm 210°	Yes	Y	DL	1.2	14	-0.067	46	-0.067	OL2	1.5
93	1.2D + 1.5Lm 2 + 1.0Wm 225°	Yes	Y	DL	1.2	15	-0.067	47	-0.067	OL2	1.5
94	1.2D + 1.5Lm 2 + 1.0Wm 240°	Yes	Y	DL	1.2	16	-0.067	48	-0.067	OL2	1.5
95	1.2D + 1.5Lm 2 + 1.0Wm 270°	Yes	Y	DL	1.2	17	-0.067	49	-0.067	OL2	1.5
96	1.2D + 1.5Lm 2 + 1.0Wm 300°	Yes	Y	DL	1.2	18	-0.067	50	-0.067	OL2	1.5
97	1.2D + 1.5Lm 2 + 1.0Wm 315°	Yes	Y	DL	1.2	19	-0.067	51	-0.067	OL2	1.5
98	1.2D + 1.5Lm 2 + 1.0Wm 330°	Yes	Y	DL	1.2	20	-0.067	52	-0.067	OL2	1.5
99	1.2D + 1.5Lm 3 + 1.0Wm 0°	Yes	Y	DL	1.2	5	0.067	37	0.067	OL3	1.5
100	1.2D + 1.5Lm 3 + 1.0Wm 30°	Yes	Y	DL	1.2	6	0.067	38	0.067	OL3	1.5
101	1.2D + 1.5Lm 3 + 1.0Wm 45°	Yes	Y	DL	1.2	7	0.067	39	0.067	OL3	1.5
102	1.2D + 1.5Lm 3 + 1.0Wm 60°	Yes	Y	DL	1.2	8	0.067	40	0.067	OL3	1.5
103	1.2D + 1.5Lm 3 + 1.0Wm 90°	Yes	Y	DL	1.2	9	0.067	41	0.067	OL3	1.5
104	1.2D + 1.5Lm 3 + 1.0Wm 120°	Yes	Y	DL	1.2	10	0.067	42	0.067	OL3	1.5
105	1.2D + 1.5Lm 3 + 1.0Wm 135°	Yes	Y	DL	1.2	11	0.067	43	0.067	OL3	1.5
106	1.2D + 1.5Lm 3 + 1.0Wm 150°	Yes	Y	DL	1.2	12	0.067	44	0.067	OL3	1.5
107	1.2D + 1.5Lm 3 + 1.0Wm 180°	Yes	Y	DL	1.2	13	-0.067	45	-0.067	OL3	1.5
108	1.2D + 1.5Lm 3 + 1.0Wm 210°	Yes	Y	DL	1.2	14	-0.067	46	-0.067	OL3	1.5
109	1.2D + 1.5Lm 3 + 1.0Wm 225°	Yes	Y	DL	1.2	15	-0.067	47	-0.067	OL3	1.5
110	1.2D + 1.5Lm 3 + 1.0Wm 240°	Yes	Y	DL	1.2	16	-0.067	48	-0.067	OL3	1.5
111	1.2D + 1.5Lm 3 + 1.0Wm 270°	Yes	Y	DL	1.2	17	-0.067	49	-0.067	OL3	1.5
112	1.2D + 1.5Lm 3 + 1.0Wm 300°	Yes	Y	DL	1.2	18	-0.067	50	-0.067	OL3	1.5
113	1.2D + 1.5Lm 3 + 1.0Wm 315°	Yes	Y	DL	1.2	19	-0.067	51	-0.067	OL3	1.5
114	1.2D + 1.5Lm 3 + 1.0Wm 330°	Yes	Y	DL	1.2	20	-0.067	52	-0.067	OL3	1.5
115	1.2D + 1.5Lm 4 + 1.0Wm 0°	Yes	Y	DL	1.2	5	0.067	37	0.067	OL4	1.5
116	1.2D + 1.5Lm 4 + 1.0Wm 30°	Yes	Y	DL	1.2	6	0.067	38	0.067	OL4	1.5
117	1.2D + 1.5Lm 4 + 1.0Wm 45°	Yes	Y	DL	1.2	7	0.067	39	0.067	OL4	1.5
118	1.2D + 1.5Lm 4 + 1.0Wm 60°	Yes	Y	DL	1.2	8	0.067	40	0.067	OL4	1.5
119	1.2D + 1.5Lm 4 + 1.0Wm 90°	Yes	Y	DL	1.2	9	0.067	41	0.067	OL4	1.5
120	1.2D + 1.5Lm 4 + 1.0Wm 120°	Yes	Y	DL	1.2	10	0.067	42	0.067	OL4	1.5
121	1.2D + 1.5Lm 4 + 1.0Wm 135°	Yes	Y	DL	1.2	11	0.067	43	0.067	OL4	1.5
122	1.2D + 1.5Lm 4 + 1.0Wm 150°	Yes	Y	DL	1.2	12	0.067	44	0.067	OL4	1.5
123	1.2D + 1.5Lm 4 + 1.0Wm 180°	Yes	Y	DL	1.2	13	-0.067	45	-0.067	OL4	1.5
124	1.2D + 1.5Lm 4 + 1.0Wm 210°	Yes	Y	DL	1.2	14	-0.067	46	-0.067	OL4	1.5
125	1.2D + 1.5Lm 4 + 1.0Wm 225°	Yes	Y	DL	1.2	15	-0.067	47	-0.067	OL4	1.5
126	1.2D + 1.5Lm 4 + 1.0Wm 240°	Yes	Y	DL	1.2	16	-0.067	48	-0.067	OL4	1.5
127	1.2D + 1.5Lm 4 + 1.0Wm 270°	Yes	Y	DL	1.2	17	-0.067	49	-0.067	OL4	1.5
128	1.2D + 1.5Lm 4 + 1.0Wm 300°	Yes	Y	DL	1.2	18	-0.067	50	-0.067	OL4	1.5
129	1.2D + 1.5Lm 4 + 1.0Wm 315°	Yes	Y	DL	1.2	19	-0.067	51	-0.067	OL4	1.5
130	1.2D + 1.5Lm 4 + 1.0Wm 330°	Yes	Y	DL	1.2	20	-0.067	52	-0.067	OL4	1.5

**Hot Rolled Steel Properties**

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

**Hot Rolled Steel Section Sets**

	Label	Shape	Type	Design List	Material	Design Rule	Area [in <sup>2</sup> ]	I <sub>yy</sub> [in <sup>4</sup> ]	I <sub>zz</sub> [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	Platform Horizontal Pipe	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Offset Tube	HSS4X4X4	Beam	SquareTube	A36 Gr.36	Typical	3.37	7.8	7.8	12.8
3	Offset Side Plate	0.38 X 6 Plate	Beam	RECT	A36 Gr.36	Typical	2.28	0.027	6.84	0.105
4	Grating Angle	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
5	Mount Pipe 1	PIPE 2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	Offset End Plate	0.5 x 6 Plate	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
7	Support Rail	PIPE 2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
8	SR Conn Plate	PL6x0.375	Beam	None	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9	SR Conn Angle	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
10	SR Bracing Pipe	PIPE 2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
11	Cable	5/16"	None	None	A36 Gr.36	Typical	0.076	0.000465	0.000465	0.00093
12	Mount Pipe 2	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25

**Hot Rolled Steel Design Parameters**

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Function
1	A1	Offset Tube	78.3			Lateral
2	M143	Offset End Plate	3.122			Lateral
3	M144	Offset End Plate	4.688			Lateral
4	M145	Offset End Plate	3.122			Lateral
5	M146	Offset Side Plate	0.875			Lateral
6	M147	Offset Side Plate	0.875			Lateral
7	M148	Offset Tube	30.688			Lateral
8	M151	Offset Tube	30.687			Lateral
9	M152	Offset End Plate	4.688			Lateral
10	M158	Offset Side Plate	3			Lateral
11	M159	Offset Side Plate	3			Lateral
12	M163	Grating Angle	50.542			Lateral
13	M165	Grating Angle	50.542			Lateral
14	M336	Platform Horizontal Pipe	174	60.397	57	Lateral
15	HR1	Support Rail	174	71.134	57	Lateral
16	HR12	SR Conn Plate	6			Lateral
17	HR20	SR Conn Plate	6			Lateral
18	HR30	SR Conn Angle	14.975			Lateral
19	M204	SR Bracing Pipe	54.516			Lateral
20	M205	SR Bracing Pipe	54.516			Lateral
21	M217	Cable	74.93			Lateral
22	M94	SR Conn Plate	6			Lateral
23	M95	Offset Side Plate	3			Lateral
24	M96	Offset End Plate	3.122			Lateral
25	A3	Offset Tube	78.3			Lateral
26	M99	Offset End Plate	3.122			Lateral
27	M100	Offset End Plate	4.688			Lateral
28	M102	Offset Side Plate	0.875			Lateral
29	M103	Offset Side Plate	0.875			Lateral
30	M104	Offset Tube	30.688			Lateral
31	M105	Offset Tube	30.687			Lateral
32	M107	Offset End Plate	4.688			Lateral
33	M111	Offset Side Plate	3			Lateral
34	M115	Grating Angle	50.542			Lateral
35	M116	Grating Angle	50.542			Lateral
36	M125	SR Conn Plate	6			Lateral
37	M127	SR Conn Angle	14.975			Lateral
38	M131	SR Bracing Pipe	54.516			Lateral
39	M132	SR Bracing Pipe	54.516			Lateral

**Hot Rolled Steel Design Parameters (Continued)**

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Function
40	M133	Cable	74.93			Lateral
41	M138	SR Conn Plate	6			Lateral
42	M139	Offset Side Plate	3			Lateral
43	M140	Offset End Plate	3.122			Lateral
44	A2	Offset Tube	78.3			Lateral
45	M168	Offset End Plate	3.122			Lateral
46	M169	Offset End Plate	4.688			Lateral
47	M171	Offset Side Plate	0.875			Lateral
48	M172	Offset Side Plate	0.875			Lateral
49	M173	Offset Tube	30.688			Lateral
50	M174	Offset Tube	30.687			Lateral
51	M176	Offset End Plate	4.688			Lateral
52	M180	Offset Side Plate	3			Lateral
53	M184	Grating Angle	50.542			Lateral
54	M186	Grating Angle	50.542			Lateral
55	M193	SR Conn Plate	6			Lateral
56	M195	SR Conn Angle	14.975			Lateral
57	M201	SR Bracing Pipe	54.516			Lateral
58	M206	SR Bracing Pipe	54.516			Lateral
59	M207	Cable	74.93			Lateral
60	M208	Platform Horizontal Pipe	174	60.397	57	Lateral
61	M209	Support Rail	174	71.134	57	Lateral
62	M210	Platform Horizontal Pipe	174	60.397	57	Lateral
63	M211	Support Rail	174	71.134	57	Lateral
64	M213	Mount Pipe 1	120			Lateral
65	M214	Mount Pipe 1	120			Lateral
66	M219	Mount Pipe 1	120			Lateral
67	M222	Mount Pipe 1	120			Lateral
68	M236	Mount Pipe 2	60			Lateral
69	M238	Mount Pipe 2	60			Lateral
70	M240	Mount Pipe 2	60			Lateral
71	M247	Mount Pipe 1	120			Lateral
72	M262	Mount Pipe 1	120			Lateral
73	M263	Mount Pipe 1	120			Lateral
74	M264	Mount Pipe 1	120			Lateral
75	M271	Mount Pipe 1	120			Lateral
76	M286	Mount Pipe 1	120			Lateral
77	M287	Mount Pipe 1	120			Lateral
78	M288	Mount Pipe 1	120			Lateral

**Member Advanced Data**

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
1	A1				Yes	Default		None
2	M143				Yes	N/A		None
3	M144				Yes	N/A		None
4	M145				Yes	N/A		None
5	M146				Yes	N/A		None
6	M147				Yes	N/A		None
7	M148				Yes	N/A		None
8	M150				Yes	** NA **		None
9	M151				Yes	N/A		None
10	M152				Yes	N/A		None
11	M153				Yes	** NA **		None
12	M154				Yes	** NA **		None
13	M155				Yes	** NA **		None



**Member Advanced Data (Continued)**

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
14	M156		OOOXOO		Yes	** NA **		None
15	M157		OOOXOO		Yes	** NA **		None
16	M158				Yes	N/A		None
17	M159				Yes	N/A		None
18	M160		OOOXOO		Yes	** NA **		None
19	M161		OOOXOO		Yes	** NA **		None
20	M162				Yes	** NA **		None
21	M163				Yes	N/A		None
22	M164				Yes	** NA **		None
23	M165				Yes	N/A		None
24	M166				Yes	** NA **		None
25	M167				Yes	** NA **		None
26	M336				Yes	Default		None
27	HR1				Yes	Default		None
28	HR12				Yes	N/A		None
29	HR16				Yes	** NA **		None
30	HR17				Yes	** NA **		None
31	HR18				Yes	** NA **		None
32	HR20				Yes	N/A		None
33	HR22				Yes	** NA **		None
34	HR23				Yes	** NA **		None
35	HR24				Yes	** NA **		None
36	HR30				Yes	N/A		None
37	M199				Yes	** NA **		None
38	M200				Yes	** NA **		None
39	M202				Yes	** NA **		None
40	M203				Yes	** NA **		None
41	M204	BenPIN	BenPIN		Yes	** NA **		None
42	M205	BenPIN	BenPIN		Yes	** NA **		None
43	M215				Yes	** NA **		None
44	M217	BenPIN	AllPIN	Tension Only	Yes	** NA **	Exclude	None
45	M90				Yes	** NA **		None
46	M91		OOOXOO		Yes	** NA **		None
47	M92				Yes	** NA **		None
48	M93				Yes	** NA **		None
49	M94				Yes	N/A		None
50	M95				Yes	N/A		None
51	M96				Yes	N/A		None
52	A3				Yes	Default		None
53	M98				Yes	** NA **		None
54	M99				Yes	N/A		None
55	M100				Yes	N/A		None
56	M101				Yes	** NA **		None
57	M102				Yes	N/A		None
58	M103				Yes	N/A		None
59	M104				Yes	N/A		None
60	M105				Yes	N/A		None
61	M106				Yes	** NA **		None
62	M107				Yes	N/A		None
63	M108				Yes	** NA **		None
64	M109				Yes	** NA **		None
65	M110		OOOXOO		Yes	** NA **		None
66	M111				Yes	N/A		None
67	M112		OOOXOO		Yes	** NA **		None
68	M113		OOOXOO		Yes	** NA **		None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
69	M114				Yes	** NA **		None
70	M115				Yes	N/A		None
71	M116				Yes	N/A		None
72	M117				Yes	** NA **		None
73	M118				Yes	** NA **		None
74	M119				Yes	** NA **		None
75	M122				Yes	** NA **		None
76	M123				Yes	** NA **		None
77	M124				Yes	** NA **		None
78	M125				Yes	N/A		None
79	M126				Yes	** NA **		None
80	M127				Yes	N/A		None
81	M128				Yes	** NA **		None
82	M129				Yes	** NA **		None
83	M130				Yes	** NA **		None
84	M131	BenPIN	BenPIN		Yes	** NA **		None
85	M132	BenPIN	BenPIN		Yes	** NA **		None
86	M133	BenPIN	AllPIN	Tension Only	Yes	** NA **	Exclude	None
87	M134				Yes	** NA **		None
88	M135		OOOXOO		Yes	** NA **		None
89	M136				Yes	** NA **		None
90	M137				Yes	** NA **		None
91	M138				Yes	N/A		None
92	M139				Yes	N/A		None
93	M140				Yes	N/A		None
94	A2				Yes	Default		None
95	M149				Yes	** NA **		None
96	M168				Yes	N/A		None
97	M169				Yes	N/A		None
98	M170				Yes	** NA **		None
99	M171				Yes	N/A		None
100	M172				Yes	N/A		None
101	M173				Yes	N/A		None
102	M174				Yes	N/A		None
103	M175				Yes	** NA **		None
104	M176				Yes	N/A		None
105	M177				Yes	** NA **		None
106	M178				Yes	** NA **		None
107	M179		OOOXOO		Yes	** NA **		None
108	M180				Yes	N/A		None
109	M181		OOOXOO		Yes	** NA **		None
110	M182		OOOXOO		Yes	** NA **		None
111	M183				Yes	** NA **		None
112	M184				Yes	N/A		None
113	M186				Yes	N/A		None
114	M187				Yes	** NA **		None
115	M188				Yes	** NA **		None
116	M189				Yes	** NA **		None
117	M190				Yes	** NA **		None
118	M191				Yes	** NA **		None
119	M192				Yes	** NA **		None
120	M193				Yes	N/A		None
121	M194				Yes	** NA **		None
122	M195				Yes	N/A		None
123	M196				Yes	** NA **		None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
124	M197				Yes	** NA **		None
125	M198				Yes	** NA **		None
126	M201	BenPIN	BenPIN		Yes	** NA **		None
127	M206	BenPIN	BenPIN		Yes	** NA **		None
128	M207	BenPIN	AllPIN	Tension Only	Yes	** NA **	Exclude	None
129	M208				Yes	Default		None
130	M209				Yes	Default		None
131	M210				Yes	Default		None
132	M211				Yes	Default		None
133	M185				Yes	** NA **		None
134	M212				Yes	** NA **		None
135	M213				Yes	** NA **		None
136	M214				Yes	** NA **		None
137	M216				Yes	** NA **		None
138	M218				Yes	** NA **		None
139	M219				Yes	** NA **		None
140	M220				Yes	** NA **		None
141	M221				Yes	** NA **		None
142	M222				Yes	** NA **		None
143	M223				Yes	** NA **		None
144	M224				Yes	** NA **		None
145	M225				Yes	** NA **		None
146	M226				Yes	** NA **		None
147	M227				Yes	** NA **		None
148	M228				Yes	** NA **		None
149	M229				Yes	** NA **		None
150	M230				Yes	** NA **		None
151	M231				Yes	** NA **		None
152	M232				Yes	** NA **		None
153	M233				Yes	** NA **		None
154	M234				Yes	** NA **		None
155	M235				Yes	** NA **		None
156	M236				Yes	Default		None
157	M237				Yes	** NA **		None
158	M238				Yes	Default		None
159	M239				Yes	** NA **		None
160	M240				Yes	Default		None
161	M241				Yes	** NA **		None
162	M242				Yes	** NA **		None
163	M243				Yes	** NA **		None
164	M244				Yes	** NA **		None
165	M245				Yes	** NA **		None
166	M246				Yes	** NA **		None
167	M247				Yes	** NA **		None
168	M248				Yes	** NA **		None
169	M249				Yes	** NA **		None
170	M250				Yes	** NA **		None
171	M251				Yes	** NA **		None
172	M252				Yes	** NA **		None
173	M253				Yes	** NA **		None
174	M254				Yes	** NA **		None
175	M255				Yes	** NA **		None
176	M256				Yes	** NA **		None
177	M257				Yes	** NA **		None
178	M258				Yes	** NA **		None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
179	M259				Yes	** NA **		None
180	M260				Yes	** NA **		None
181	M261				Yes	** NA **		None
182	M262				Yes	** NA **		None
183	M263				Yes	** NA **		None
184	M264				Yes	** NA **		None
185	M265				Yes	** NA **		None
186	M266				Yes	** NA **		None
187	M267				Yes	** NA **		None
188	M268				Yes	** NA **		None
189	M269				Yes	** NA **		None
190	M270				Yes	** NA **		None
191	M271				Yes	** NA **		None
192	M272				Yes	** NA **		None
193	M273				Yes	** NA **		None
194	M274				Yes	** NA **		None
195	M275				Yes	** NA **		None
196	M276				Yes	** NA **		None
197	M277				Yes	** NA **		None
198	M278				Yes	** NA **		None
199	M279				Yes	** NA **		None
200	M280				Yes	** NA **		None
201	M281				Yes	** NA **		None
202	M282				Yes	** NA **		None
203	M283				Yes	** NA **		None
204	M284				Yes	** NA **		None
205	M285				Yes	** NA **		None
206	M286				Yes	** NA **		None
207	M287				Yes	** NA **		None
208	M288				Yes	** NA **		None
209	M289				Yes	** NA **		None
210	M290				Yes	** NA **		None

**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	N241	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N355	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N134	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N190	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N194	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N281	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

**Envelope Node Reactions**

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N241	max	-113.7328	3	1144.4198	15	1728.1125	19	1318.237	7	3744.3546	19	2208.4822	7
2		min	-1592.2598	11	-1166.7977	7	100.2084	11	-1338.0815	15	-877.4472	11	-2202.8044	15
3	N355	max	3311.1165	3	592.4039	15	1475.186	30	185.147	15	585.4617	19	117.4347	7
4		min	-1460.2143	11	-567.9315	7	530.4261	57	-170.7791	7	201.7453	59	-125.6421	15
5	N134	max	1174.6449	18	-60.4423	17	1689.9122	30	1009.8366	6	733.4212	5	1828.9774	18
6		min	-428.1772	10	-1360.0606	6	-9.3869	6	-3231.9386	31	-2214.705	11	-1821.5659	10
7	N190	max	863.5188	4	3040.1221	15	1465.9909	24	-149.4673	18	-20.6733	10	106.7212	18
8		min	-1793.8158	12	-1450.1138	7	528.3269	52	-519.6259	26	-300.2413	34	-115.2683	10
9	N194	max	1231.8929	4	1350.6063	17	1689.6127	24	3218.9211	23	681.9605	18	1923.9411	12



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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
48	M210	PIPE 3.0	0.1109	99.8213	15	0.0666	56.7791	31	56936.2154	65205	5748.75	5748.75	2.8097	H1-1b	
49	M271	PIPE 2.5	0.1024	108	15	0.0785	108	6	22373.407	50715	3596.25	3596.25	2.4309	H1-1b	
50	M213	PIPE 2.5	0.0968	108	9	0.078	108	16	22373.407	50715	3596.25	3596.25	2.4418	H1-1b	
51	M247	PIPE 2.5	0.0963	108	4	0.0756	108	11	22373.407	50715	3596.25	3596.25	2.435	H1-1b	
52	M99	0.5 x 6 Plate	0.077	0	13	0.1894	0	y	16	94834.571	97200	1012.5	12150	3	H1-1b
53	M158	0.38 X 6 Plate	0.0744	1.4999	15	0.137	2.9998	y	15	71020.2581	73872	584.82	9234	3	H1-1b
54	M168	0.5 x 6 Plate	0.0743	0	7	0.1909	0	y	11	94834.571	97200	1012.5	12150	3	H1-1b
55	M96	0.5 x 6 Plate	0.071	0	14	0.2328	0	y	11	94834.571	97200	1012.5	12150	3	H1-1b
56	M95	0.38 X 6 Plate	0.0704	2.9998	15	0.1397	2.9998	y	9	71020.2581	73872	584.82	9234	3	H1-1b
57	M140	0.5 x 6 Plate	0.0703	0	9	0.2388	0	y	6	94834.571	97200	1012.5	12150	3	H1-1b
58	M103	0.38 X 6 Plate	0.0696	0	15	0.1941	0.875	y	27	73624.9781	73872	584.82	9234	1.1763	H1-1b
59	M143	0.5 x 6 Plate	0.0695	0	18	0.1964	0	y	6	94834.571	97200	1012.5	12150	3	H1-1b
60	M139	0.38 X 6 Plate	0.0693	1.4999	4	0.1503	2.9998	y	83	71020.2581	73872	584.82	9234	3	H1-1b
61	M145	0.5 x 6 Plate	0.0683	1.4955	16	0.2356	0	y	16	94834.571	97200	1012.5	12150	3	H1-1b
62	M159	0.38 X 6 Plate	0.067	1.5	7	0.1033	3	y	7	71019.8853	73872	584.82	9234	3	H1-1b
63	M146	0.38 X 6 Plate	0.0659	0	4	0.1946	0.875	y	32	73624.9781	73872	584.82	9234	1.1766	H1-1b
64	M172	0.38 X 6 Plate	0.0645	0	10	0.2294	0.875	y	85	73624.9781	73872	584.82	9234	1.1762	H1-1b
65	M180	0.38 X 6 Plate	0.0616	1.5	12	0.1063	3	y	13	71019.8853	73872	584.82	9234	3	H1-1b
66	M111	0.38 X 6 Plate	0.0611	1.5	7	0.1273	3	y	99	71019.8853	73872	584.82	9234	3	H1-1b
67	M171	0.38 X 6 Plate	0.0552	0	7	0.1498	0.875	y	27	73624.9782	73872	584.82	9234	1.176	H1-1b
68	M102	0.38 X 6 Plate	0.0529	0	12	0.2125	0.875	y	113	73624.9782	73872	584.82	9234	1.1753	H1-1b
69	M147	0.38 X 6 Plate	0.0508	0	18	0.1494	0.875	y	22	73624.9782	73872	584.82	9234	1.1757	H1-1b
70	M132	PIPE 2.5	0.0319	54.5159	7	0.0456	54.5159	5	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	
71	M205	PIPE 2.5	0.0311	54.5159	13	0.0413	54.5159	10	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	
72	M206	PIPE 2.5	0.0305	54.5159	18	0.0449	54.5159	15	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	
73	M131	PIPE 2.5	0.0271	54.5159	4	0.0489	54.5159	7	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	
74	M201	PIPE 2.5	0.027	54.5159	15	0.0483	54.5159	17	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	
75	M204	PIPE 2.5	0.0257	54.5159	10	0.0464	54.5159	12	42833.6693	50715	3596.25	3596.25	1.1364	H1-1b*	

# TOWER-MOUNT CONNECTION ANALYSIS

v.1.0.0

SITE INFORMATION	
Site ID	411261
Site Name	Cromwellsw CT
Project ID	41124-14089799-01-MA

ANALYSIS PARAMETERS	
TIA Revision	H

APPLIED FORCES FROM R3D		
Member Label		A1
Member End Label		I
Force-X	Fx, lbs	113.7
Force-Y	Fy, lbs	1730.4
Force-Z	Fz, lbs	-1167.5
Moment X-X	Mx, lbs-ft	1338.1
Moment Y-Y	My, lbs-ft	2208.5
Moment Z-Z	Mz, lbs-ft	3744.4

STANDOFF MEMBER PROPERTIES	
Standoff Member Type	Square/Rect. HSS
Standoff Member Shape	HSS4X4X1/4
Standoff Member Grade	A36
Member to Plate Weld Size, in	3/16

BOLT & PLATE PROPERTIES	
Bolt Quantity	4
Bolt Edge Distance (e), in	1.00
Nominal Bolt Diameter ( $\varnothing$ Db), in	0.625
Bolt Grade	A325
Plate Height (H), in	8.00
Plate Width (W), in	8.00
Plate Thickness (T), in	0.75
Plate Grade	A36

BOLT ANALYSIS	
Shear Demand (Vu), k	0.76
Shear Capacity ( $\Phi$ Rnv), k	13.81
Tension Demand (Tu), k	6.12
Tension Capacity ( $\Phi$ Rnt), k	20.34
Shear Utilization	5.5%
Tension Utilization	30.1%
Interaction Utilization	9.4%

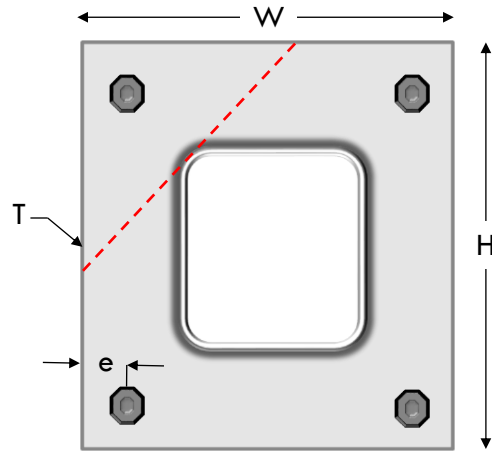
PASS

PLATE ANALYSIS	
Moment Demand (Mu), k-in	8.65
Flexural Capacity ( $\Phi$ Mn), k-in	25.77
Plate Utilization	33.6%

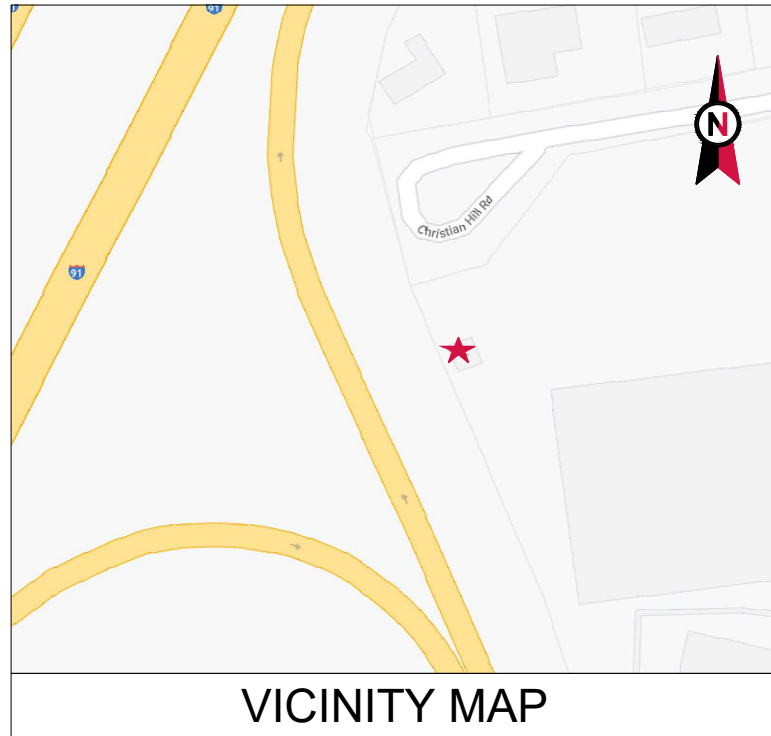
PASS



319 Chapanoke Road, Suite 118  
 Raleigh, NC 27603  
 Office: (405) 348-5460  
 Fax: (405) 341-6334



MATERIAL PROPERTIES	
Standoff Member - Yield Strength (Fy), ksi	36
Standoff Member - Ultimate Strength (Fu), ksi	58
Bolt - Yield Strength (Fy), ksi	92
Bolt - Tensile Strength (Fu), ksi	120
Plate - Yield Strength (Fy), ksi	36
Plate - Ultimate Strength (Fu), ksi	58



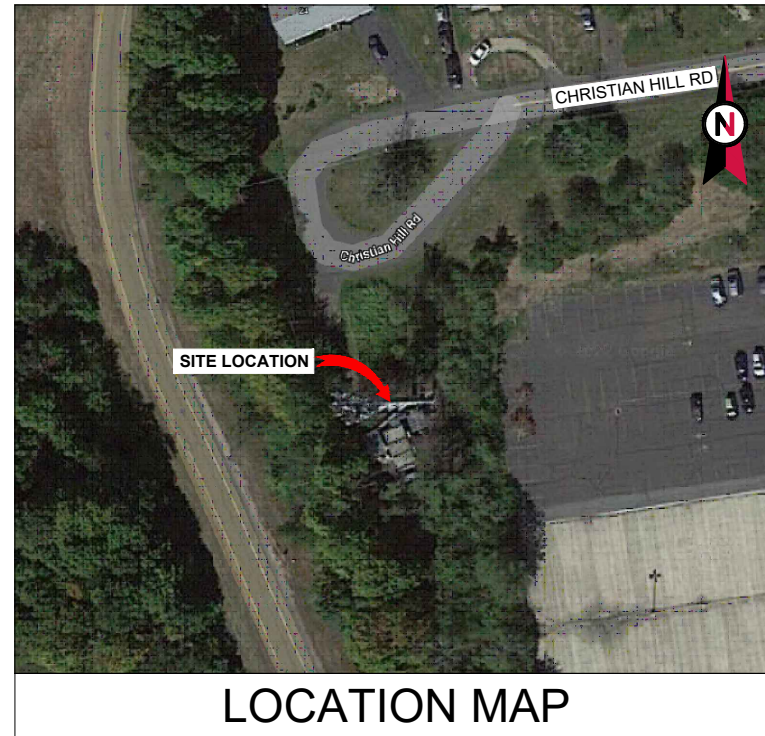
VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: CROMWELLSW CT  
 ATC SITE NUMBER: 411261  
 AT&T PACE NUMBERS: MRCTB054138/ MRCTB054646/  
 MRCTB053567/ MRCTB055037/  
 MRCTB054399/ MRCTB054891/  
 MRCTB054996/ MRCTB054638

AT&T SITE ID: CTL05144  
 AT&T FA CODE: 10070987  
 AT&T SITE NAME: CROMWELLSOUTH  
 SITE ADDRESS: 100 CHRISTIAN HILL ROAD  
 CROMWELL, CT 06416-2612  
**AT&T 5G NR 1SR CBAND AMENDMENT PLAN**



LOCATION MAP



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
411261  
 ATC SITE NAME:  
CROMWELLSW CT  
 AT&T SITE NAME:  
CROMWELLSOUTH  
 SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:  
**PRELIMINARY:  
 NOT FOR  
 CONSTRUCTION**



DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

TITLE SHEET

SHEET NUMBER: <b>G-001</b>	REVISION: <b>A</b>
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COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX						
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 100 CHRISTIAN HILL ROAD CROMWELL, CT 06416-2612 COUNTY: MIDDLESEX  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.60571766 LONGITUDE: -72.70138574 GROUND ELEVATION: 82' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (9) ANTENNA(S), (3) RRH(S), (6) TMA(S) AND (6) DIPLEXER(S)  INSTALL MOUNT MODIFICATIONS, (1) PLATFORM, (12) ANTENNA(S), (9) RRH(S), (1) SQUID(S), (3) 0.92" DC TRUNKS AND (1) 0.405" FIBER TRUNK CABLES  EXISTING (6) RRH(S), (2) SQUID(S), (6) 1-5/8" COAX, (1) 3/8" RET CABLE, (2) 0.774" DC TRUNKS, (1) 2" CONDUIT, (2) 0.92" DC TRUNKS AND (2) 0.405" FIBER TRUNK CABLES TO REMAIN <u>GROUND WORK:</u> REMOVE (6) RRUW INSTALL (1) 6630, (4) RECTIFIERS, (1) BATTERY CABINET, (5) 170AH 48V BATTERY STRINGS, (1) DC12 AND IDLE XCEDE CABLE	SHEET NO: G-001 G-002 C-101 C-102 C-201 C-401 C-501 E-501 R-601 R-602 R-603 R-604 R-605	DESCRIPTION: TITLE SHEET GENERAL NOTES DETAILED SITE PLAN DETAILED EQUIPMENT LAYOUT TOWER ELEVATION RF SCHEDULE AND ANTENNA INSTALLATION CONSTRUCTION DETAILS GROUNDING DETAILS SUPPLEMENTAL SUPPLEMENTAL SUPPLEMENTAL SUPPLEMENTAL MOUNT MODIFICATIONS	REV: A A A A A A A A A A A A	DATE: 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22 04/15/22	BY: SS SS SS SS SS SS SS SS SS SS SS SS		
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> HUDSON DESIGN GROUP, LLC 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845  <u>PROPERTY OWNER:</u> --- 99 CHRISTIAN HILL ROAD CROMWELL, CT 06416-2612	<u>APPLICANT:</u> AT&T MOBILITY	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	<u>PROJECT LOCATION DIRECTIONS</u>  TAKE I-91 NORTH TOWARDS HARTFORD. TAKE EXIT 21. TAKE A LEFT AT THE END OF EXIT. ( RT. 372) TAKE A LEFT ONTO COLES RD. TAKE YOUR FIRST LEFT ONTO CHRISTIAN HILL RD. FOLLOW TO THE TOP OF THIS DEAD END ROAD. SITE TO THE LEFT UNDER THE SIGN POST. GATE COMBO IS 4667.	<u>AT&amp;T RAN SCOPING NOTES:</u> (0) DC UP CONVERTERS REQUIRED INSTALL 2ND 6630 INSTALL (4) RECTIFIERS REMOVE EXISTING BATTERIES INSTALL (1) BATTERY CABINET INSTALL (5) 170AH 48V BATTERY STRINGS INSTALL (1) OUTDOOR DC12				
	<u>UTILITY COMPANIES</u>  POWER COMPANY: UTILITY COMPANY DIRECT PHONE: UNKNOWN  TELEPHONE COMPANY: UNKNOWN PHONE: UNKNOWN								





**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
  - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
  - B. AC/TELCO INTERFACE BOX (PPC)
  - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
  - D. TOWERS, MONOPOLES
  - E. TOWER LIGHTING
  - F. GENERATORS & LIQUID PROPANE TANK
  - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
  - H. ANTENNAS (INSTALLED BY OTHERS)
  - I. TRANSMISSION LINE
  - J. TRANSMISSION LINE JUMPERS
  - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
  - L. TRANSMISSION LINE GROUND KITS
  - M. HANGERS
  - N. HOISTING GRIPS
  - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEIA/ITIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO

- DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
  24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
  25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
  26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
  27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.

30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.

31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

32. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.

33. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

**STRUCTURAL STEEL NOTES:**

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
  - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
  - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
  - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
  - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
  - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123, EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
  - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
  - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE

- INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
  - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
  - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
  - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
  - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/4" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
  - H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
  - I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T- MOBILE PROJECT MANAGER IN WRITING

**SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
  - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
  - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
  - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
  - G. ANTENNA AND COAXIAL CABLE GROUNDING:
    2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
    3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
**CROMWELLSW CT**

AT&T SITE NAME:  
**CROMWELLSOUTH**

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:

PRELIMINARY:  
NOT FOR  
CONSTRUCTION



DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

**GENERAL NOTES**

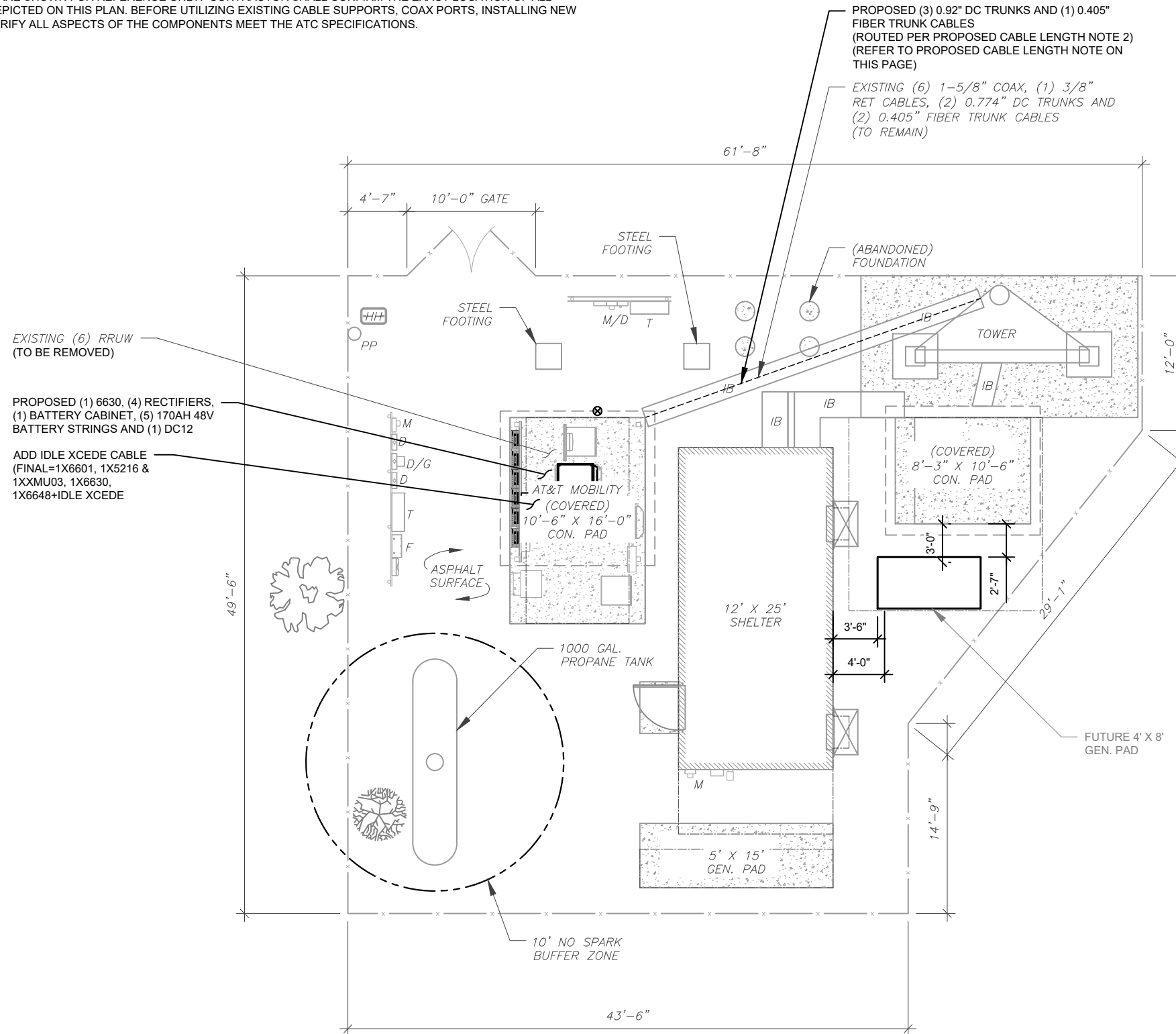
SHEET NUMBER: <b>G-002</b>	REVISION: <b>A</b>
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**SITE PLAN NOTES:**

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

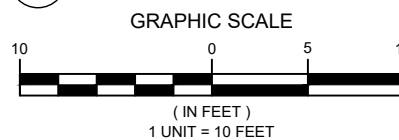
LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—x—	CHAINLINK FENCE



**PROPOSED CABLE LENGTH:**

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **175'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

**1 DETAILED SITE PLAN**



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A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
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AT&T SITE NAME:  
**CROMWELLSOUTH**

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

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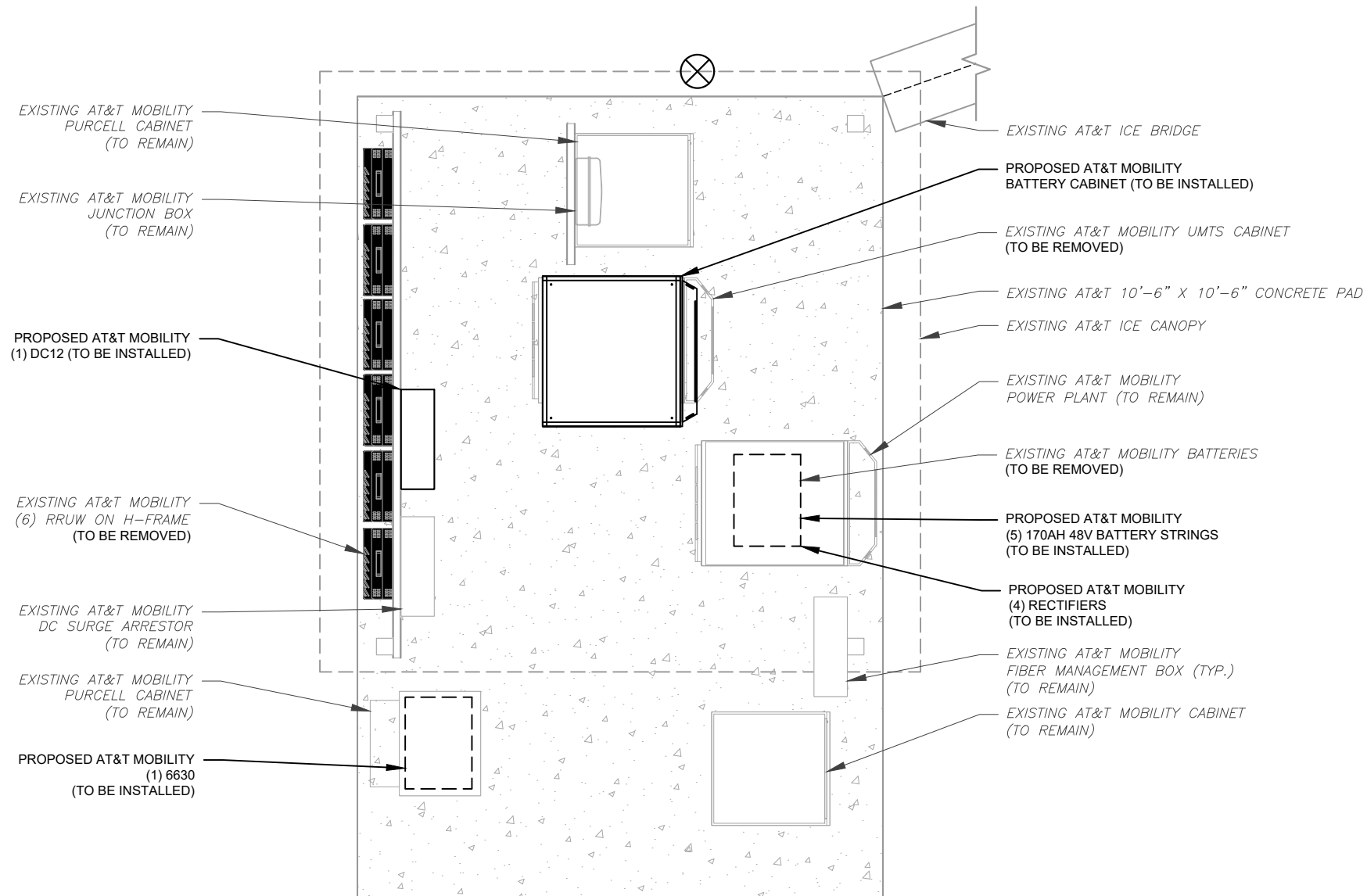
DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

DETAILED SITE PLAN

SHEET NUMBER: <b>C-101</b>	REVISION: <b>A</b>
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AT&T RAN SCOPING NOTES:

- (0) DC UPCONVERTERS REQUIRED
- INSTALL 2ND 6630
- INSTALL (4) RECTIFIERS
- REMOVE EXISTING BATTERIES
- INSTALL (1) BATTERY CABINET
- INSTALL (5) 170AH 48V BATTERY STRINGS
- INSTALL (1) OUTDOOR DC12



1 DETAILED EQUIPMENT PLAN



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
**CROMWELLSW CT**

AT&T SITE NAME:  
**CROMWELLSOUTH**

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:

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CONSTRUCTION

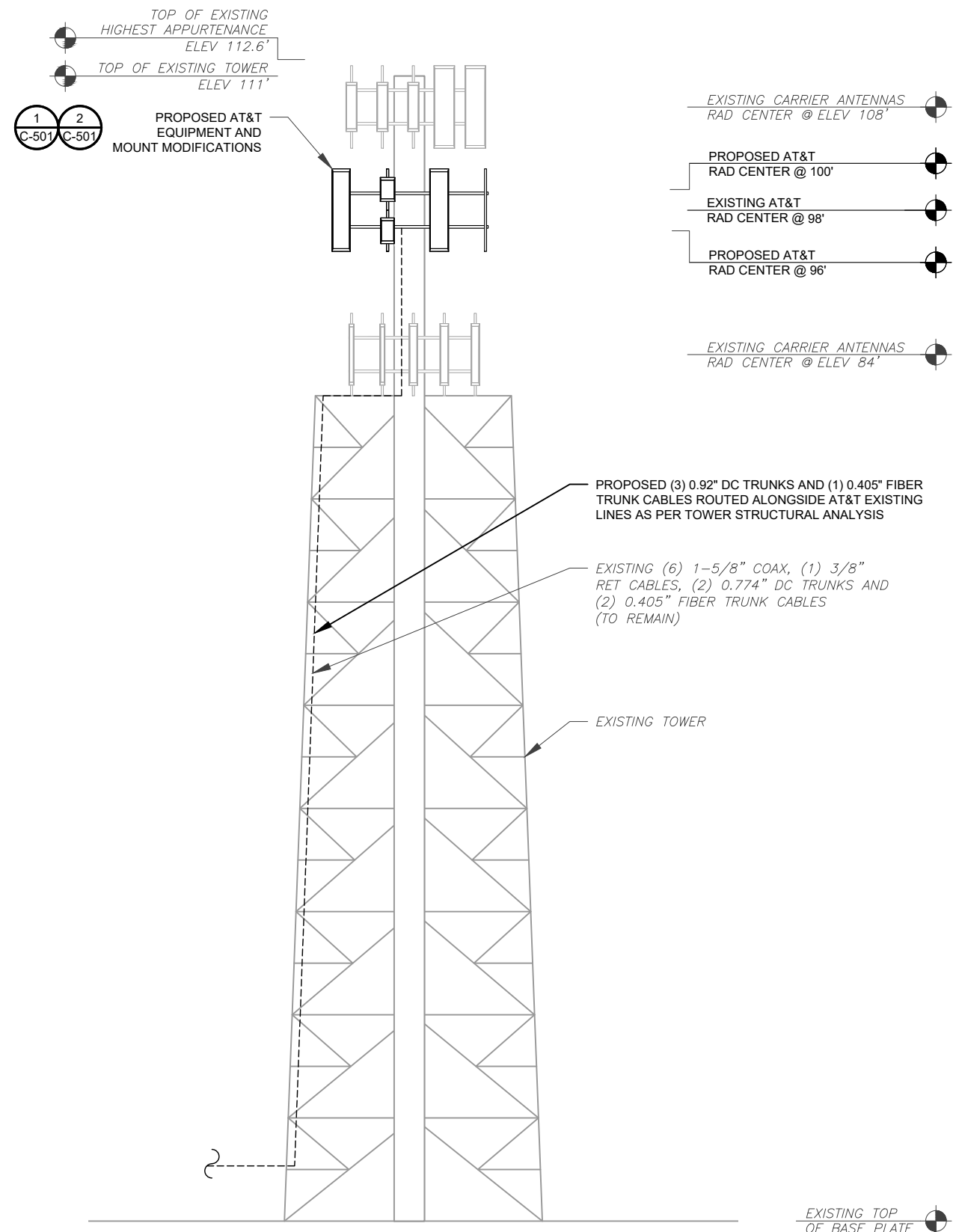


DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

DETAILED EQUIPMENT LAYOUT

SHEET NUMBER:	REVISION:
<b>C-102</b>	<b>A</b>

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1 TOWER ELEVATION  
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY TELAMON TOWER ENGINEERING PLLC, DATED 03/25/22, THE PROPOSED MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
  - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
  - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
  - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
  - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
**CROMWELLSW CT**

AT&T SITE NAME:  
**CROMWELLSOUTH**

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:

PRELIMINARY:  
NOT FOR  
CONSTRUCTION

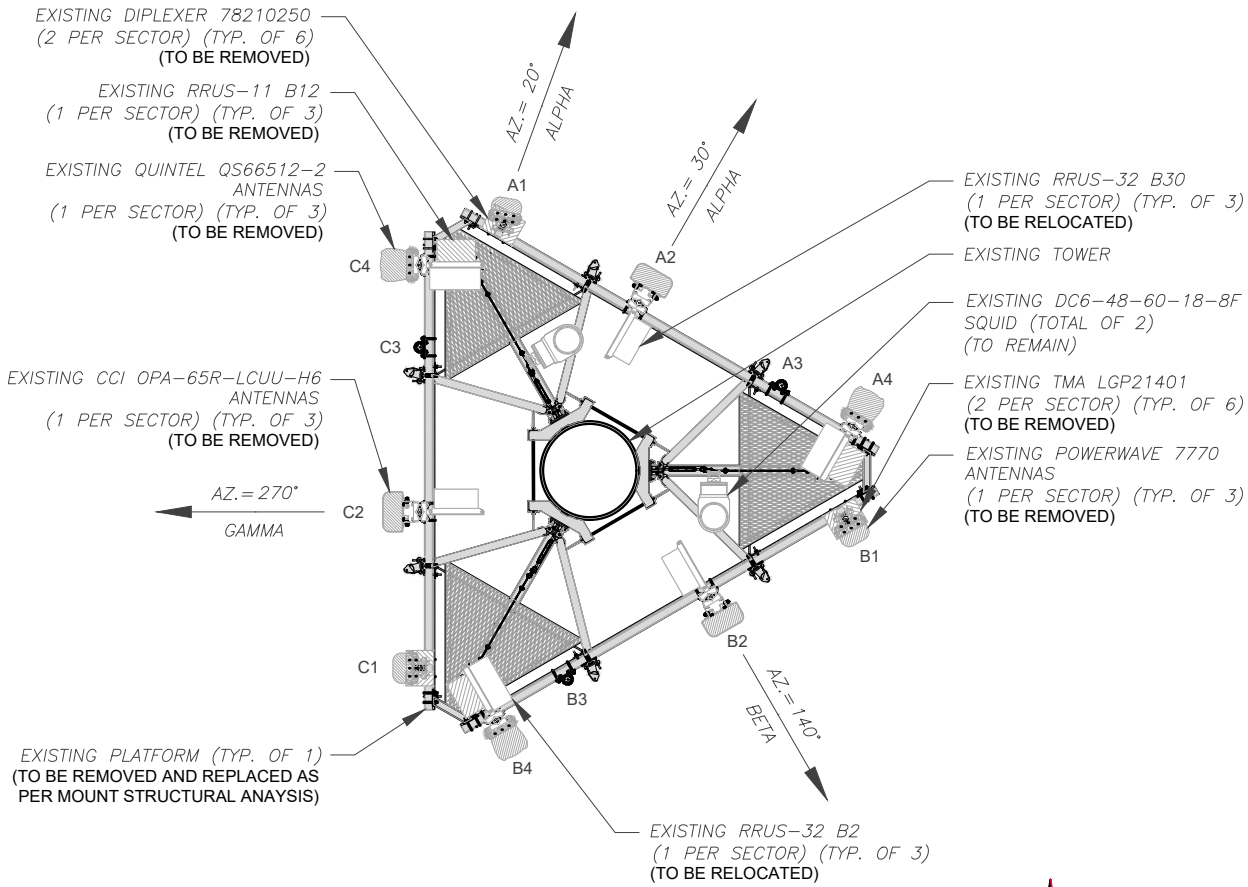


DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

<b>TOWER ELEVATION</b>	
SHEET NUMBER: <b>C-201</b>	REVISION: <b>A</b>

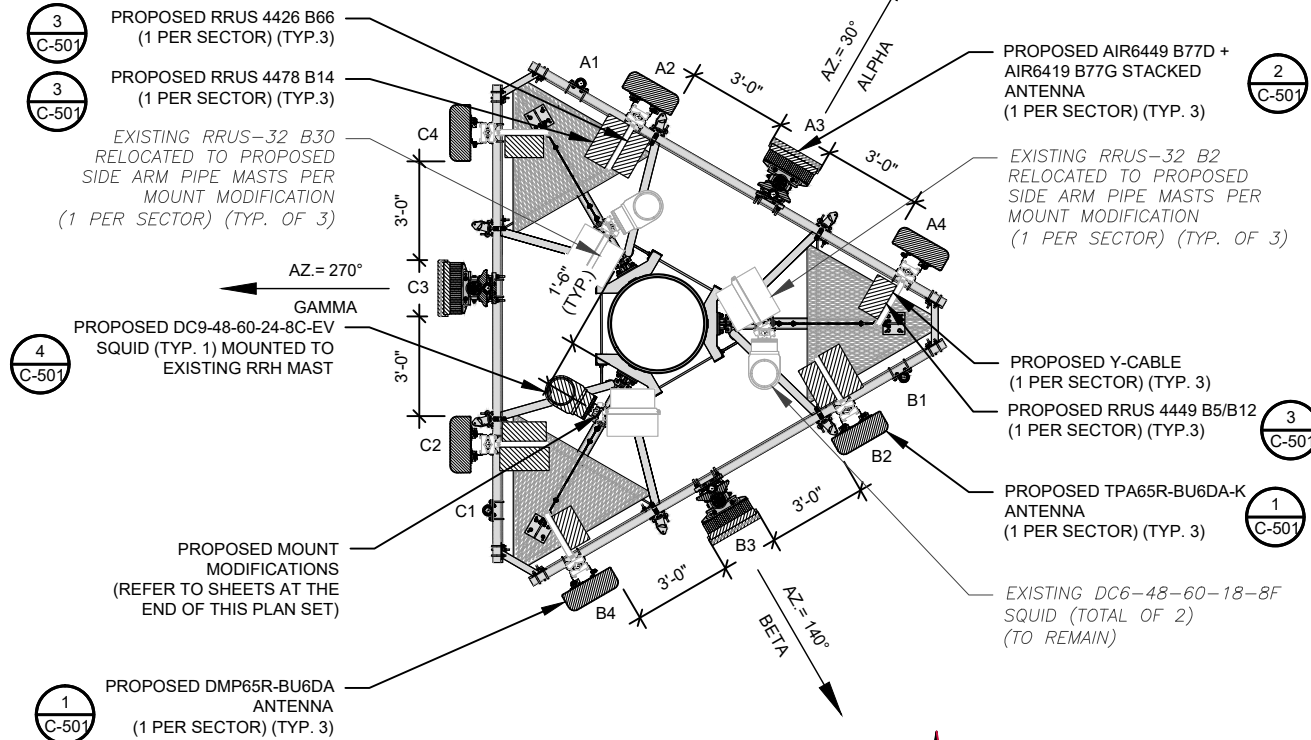
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EXISTING CONFIGURATIONS ARE BASED ON RFDS. CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 CURRENT ANTENNA PLAN  
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY TELAMON TOWER ENGINEERING PLLC, DATED 03/25/22, THE PROPOSED MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN  
SCALE: N.T.S.

PROPOSED RRUS MUST BE INSTALLED A MINIMUM OF 8" AWAY FROM ALL ANTENNAS

EXISTING ANTENNA SCHEDULE							
LOCATION		ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	98'	20°	A1	7770	UMTS 850, UMTS 1900	RMV	LGP21401 782 10250
			A2	OPA-65R-LCUU-H6	LTE WCS	RMV	RRUS-32 B30
		30°	A3	-	-	EMPTY	-
			A4	QS66512-2	LTE 700, 1900	RMV	RRUS-11 B12 RRUS-32 B2
BETA	98'	140°	B1	7770	UMTS 850, UMTS 1900	RMV	LGP21401 782 10250
			B2	OPA-65R-LCUU-H6	LTE WCS	RMV	RRUS-32 B30
			B3	-	-	EMPTY	-
			B4	QS66512-2	LTE 700, 1900	RMV	RRUS-11 B12 RRUS-32 B2
GAMMA	98'	270°	C1	7770	UMTS 850, UMTS 1900	RMV	LGP21401 782 10250
			C2	OPA-65R-LCUU-H6	LTE WCS	RMV	RRUS-32 B30
			C3	-	-	EMPTY	-
			C4	QS66512-2	LTE 700, 1900	RMV	RRUS-11 B12 RRUS-32 B2

NOTES

- CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
- THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
- CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

FINAL ANTENNA SCHEDULE							
LOCATION		ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	98'	30°	A1	-	-	EMPTY	-
			A2	TPA65R-BU6DA-K	LTE B14 / PCS / AWS	ADD	4478 B14 4426 B66 RRUS-32 B2
			A3UP	AIR 6419 B77G	DOD	ADD	-
			A3DN	AIR 6449 B77D	C-BAND	ADD	-
BETA	98'	140°	B1	-	-	EMPTY	-
			B2	TPA65R-BU6DA-K	LTE B14 / PCS / AWS	ADD	4478 B14 4426 B66 RRUS-32 B2
			B3UP	AIR 6419 B77G	DOD	ADD	-
			B3DN	AIR 6449 B77D	C-BAND	ADD	-
GAMMA	98'	270°	C1	-	-	EMPTY	-
			C2	TPA65R-BU6DA-K	LTE B14 / PCS / AWS	ADD	4478 B14 4426 B66 RRUS-32 B2
			C3UP	AIR 6419 B77G	DOD	ADD	-
			C3DN	AIR 6449 B77D	C-BAND	ADD	-
GAMMA	98'	270°	C4	DMP65R-BU6DA	LTE 700 BC / 850 / WCS	ADD	4449 B5/B12 RRUS-32 B30
			C4	DMP65R-BU6DA	LTE 700 BC / 850 / WCS	ADD	-

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F	RMN	(6) 1-5/8" & (1) 3/8" RET CABLES	(2) 0.774" 8 AWG 6 (2) 0.92"	(2) 0.405"	RMN

STATUS ABBREVIATIONS  
 RMV: TO BE REMOVED  
 RMN: TO REMAIN  
 REL: TO BE RELOCATED  
 ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS  
 JUNCTION BOX TO RRU: 15'  
 RRU TO ANTENNA: 10'

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F	RMN	(6) 1-5/8" & (1) 3/8" RET CABLES	(2) 0.774" 8 AWG 6 (2) 0.92"	(2) 0.405"	RMN
(1) DC9-48-60-24-8C-EV	ADD	-	(3) 0.92"	(1) 0.405"	ADD



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER: 411261  
 ATC SITE NAME: CROMWELLSW CT  
 AT&T SITE NAME: CROMWELLSOUTH  
 SITE ADDRESS: 100 CHRISTIAN HILL ROAD CROMWELL, CT 06416-2612

SEAL:  
**PRELIMINARY:  
 NOT FOR  
 CONSTRUCTION**

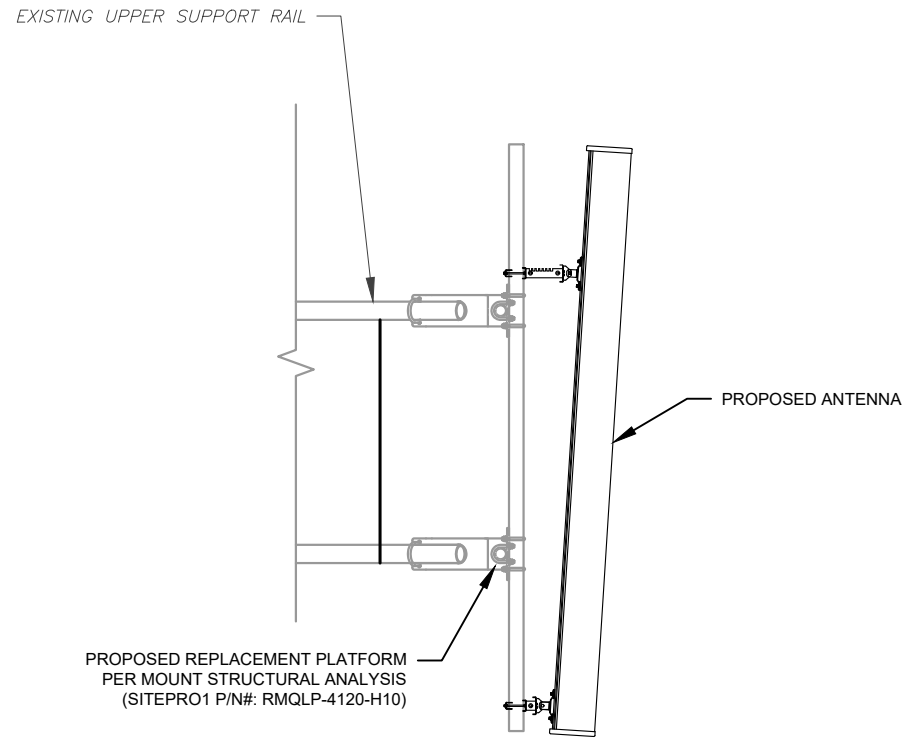


DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

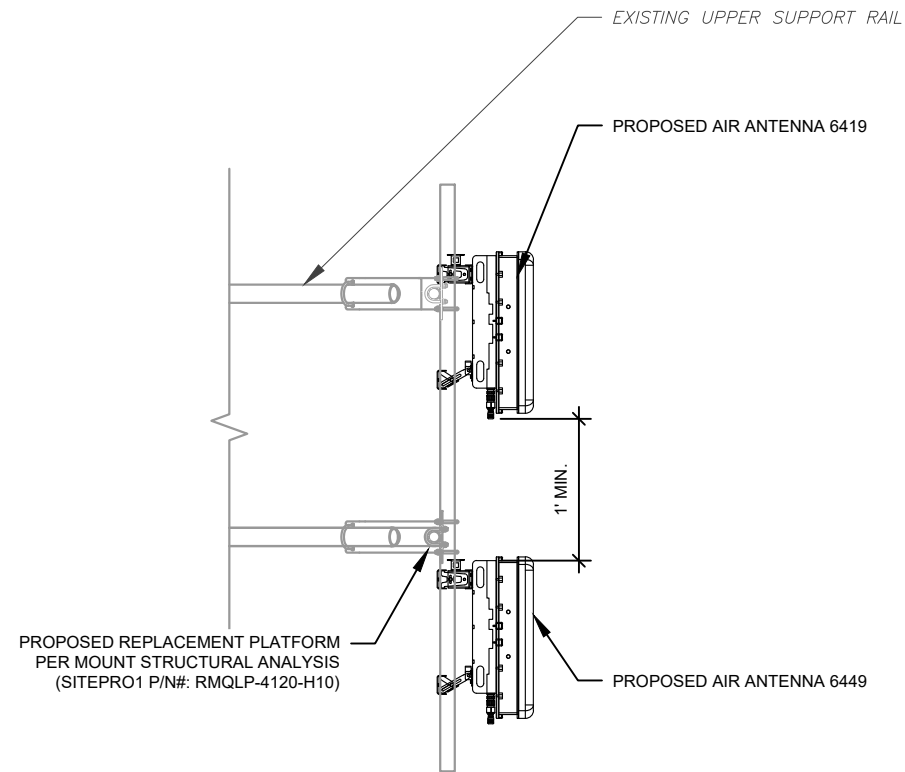
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER: C-401  
 REVISION: A

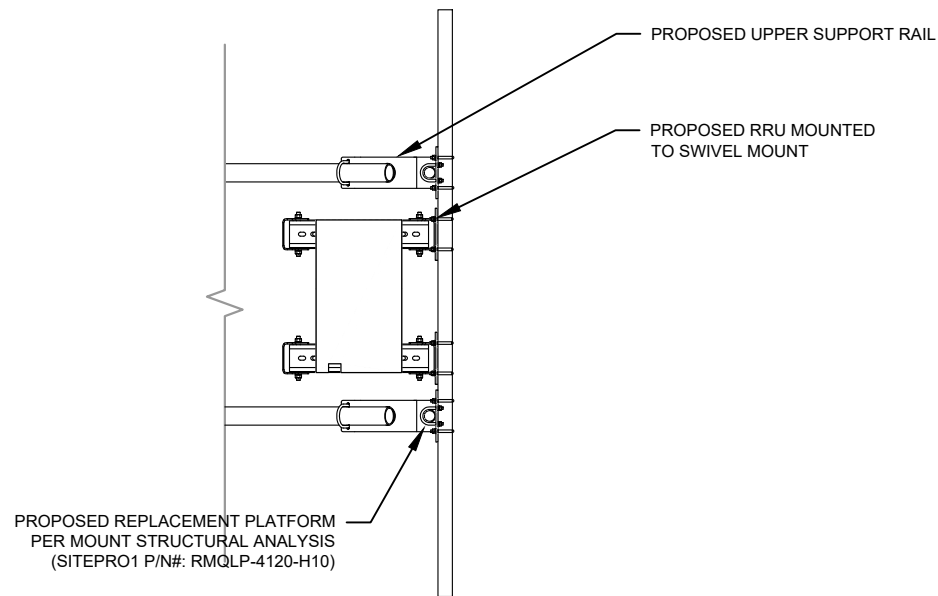
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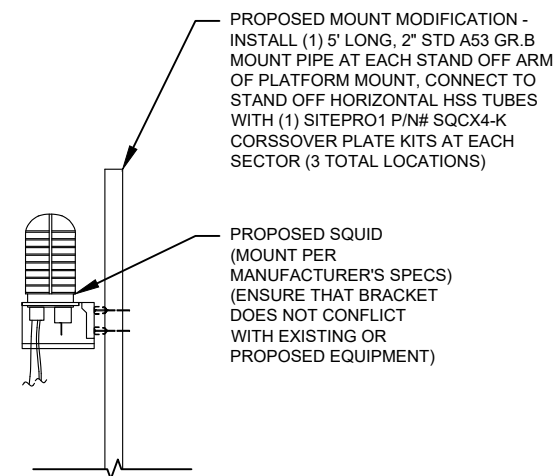
1 ANTENNA DETAIL  
SCALE: N.T.S.



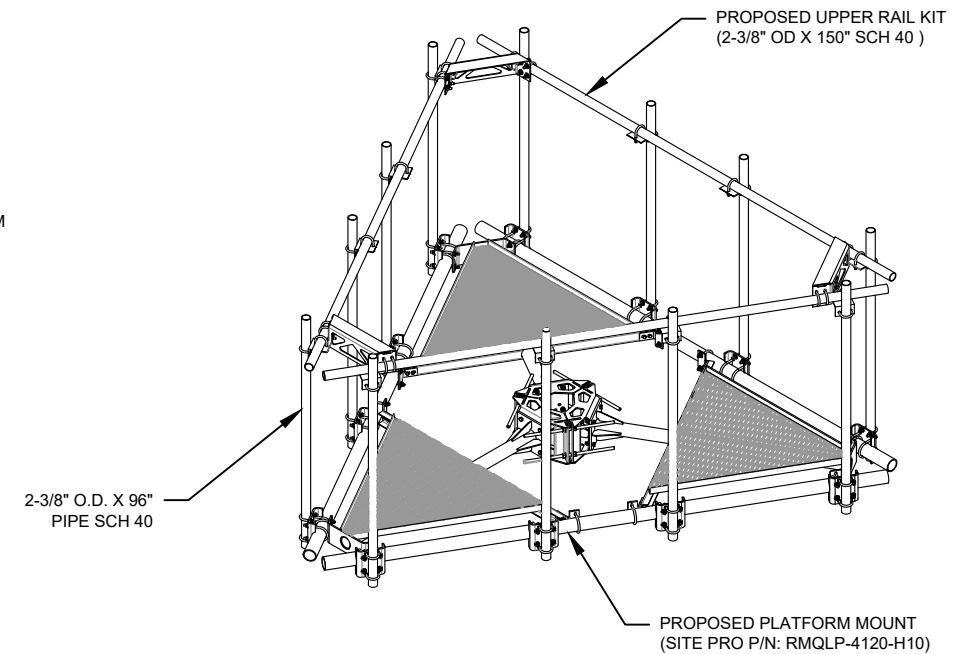
2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



4 PROPOSED SQUID MOUNTING  
SCALE: N.T.S.



5 ISOMETRIC PLATFORM DETAIL  
SCALE: N.T.S.



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N. ANDOVER, MA 01845 FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
411261

ATC SITE NAME:  
CROMWELLSW CT

AT&T SITE NAME:  
CROMWELLSOUTH

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:

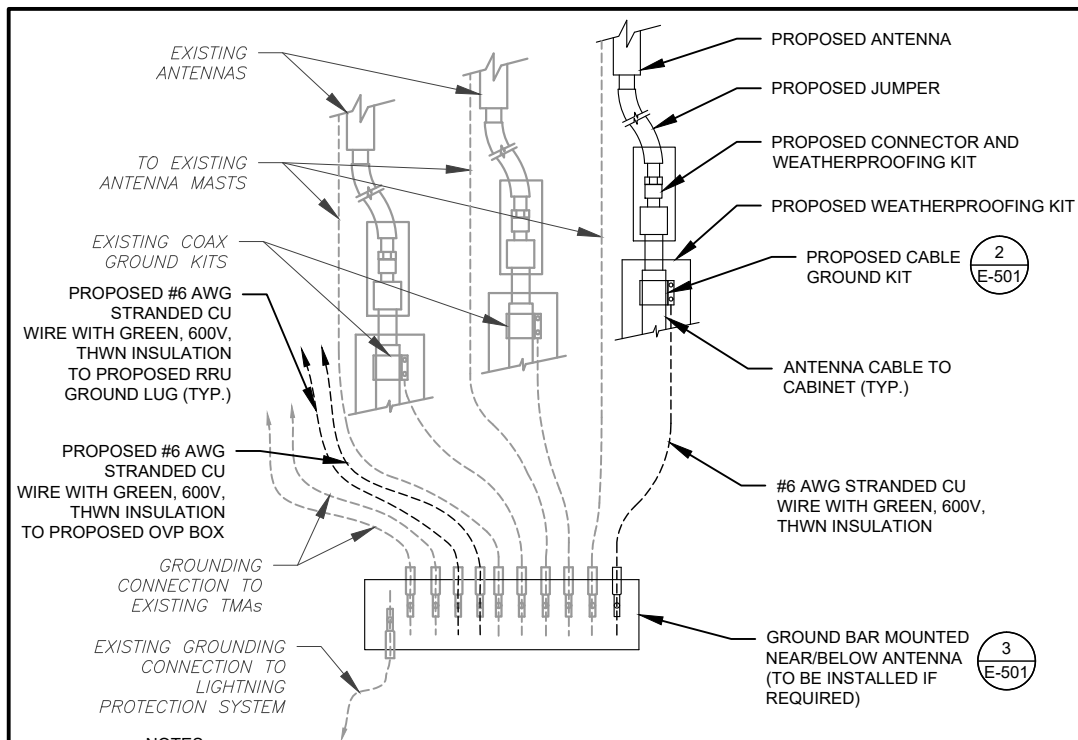
**PRELIMINARY:  
NOT FOR  
CONSTRUCTION**



DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

CONSTRUCTION  
DETAILS

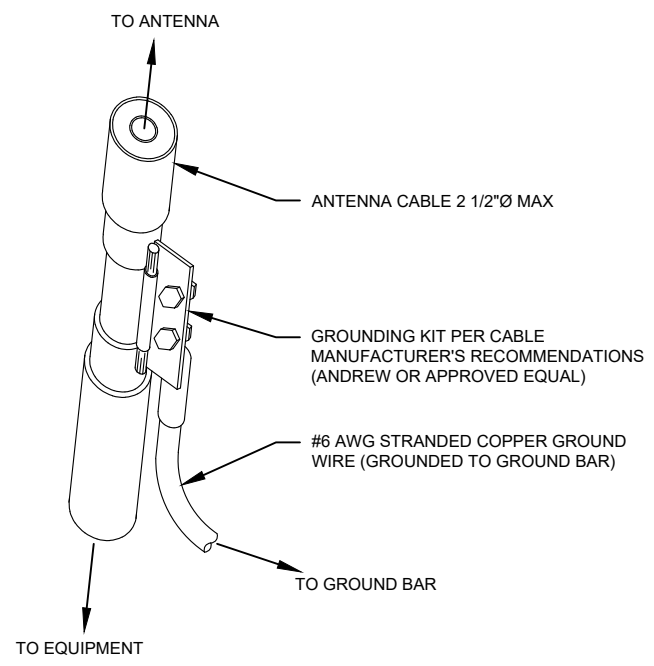
SHEET NUMBER: <b>C-501</b>	REVISION: <b>A</b>
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**NOTES:**

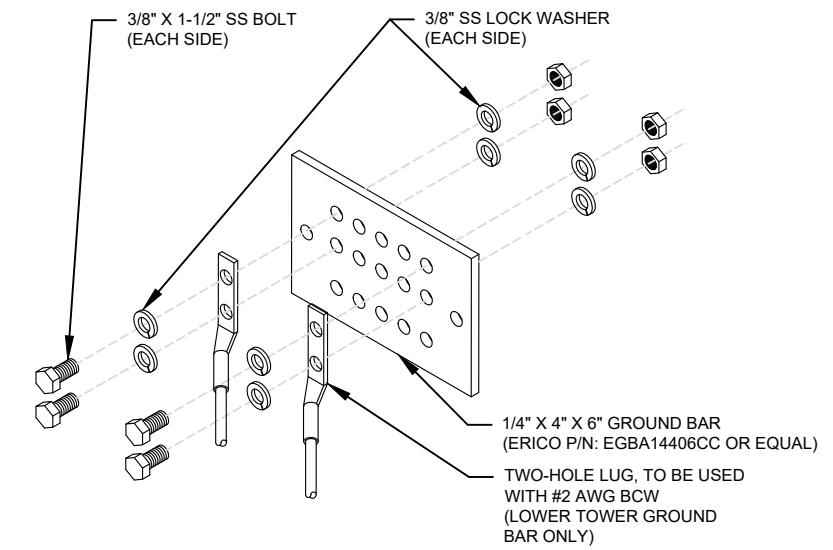
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

**1 TYPICAL ANTENNA GROUNDING DIAGRAM**  
SCALE: N.T.S.



- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
  2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

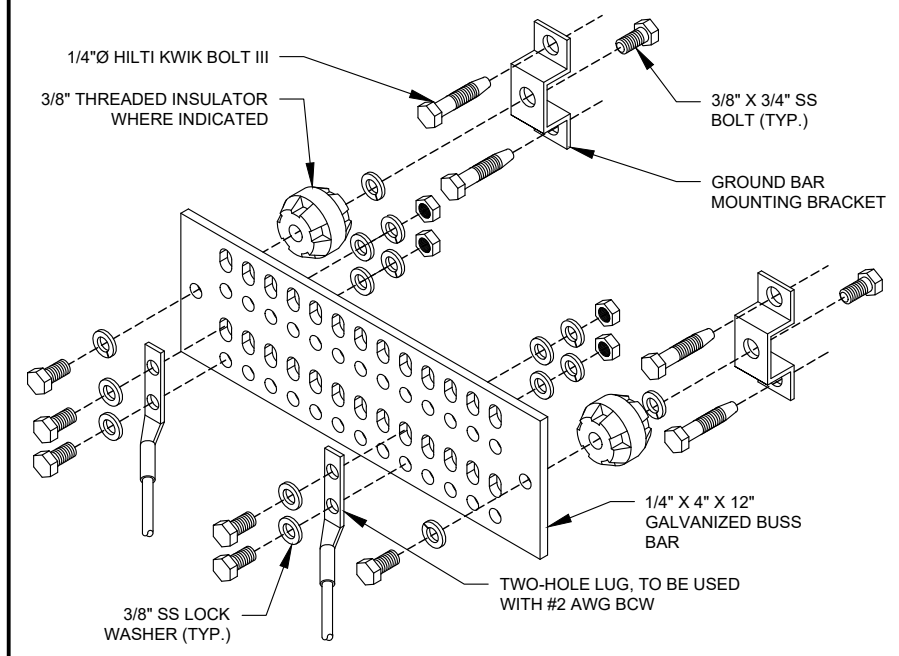
**2 CABLE GROUND KIT CONNECTION DETAIL**  
SCALE: N.T.S.



**GROUND BAR NOTES:**

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

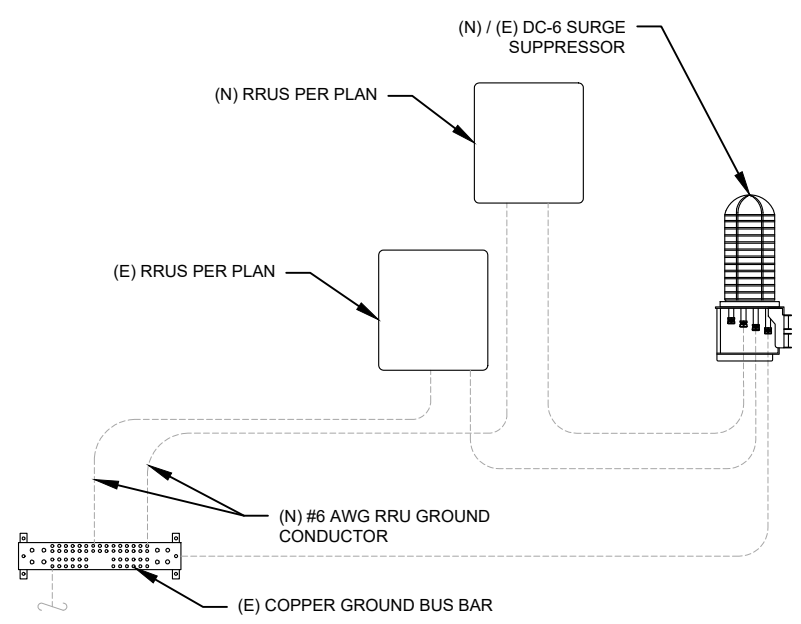
**3 TOWER GROUND BAR DETAIL**  
SCALE: N.T.S.



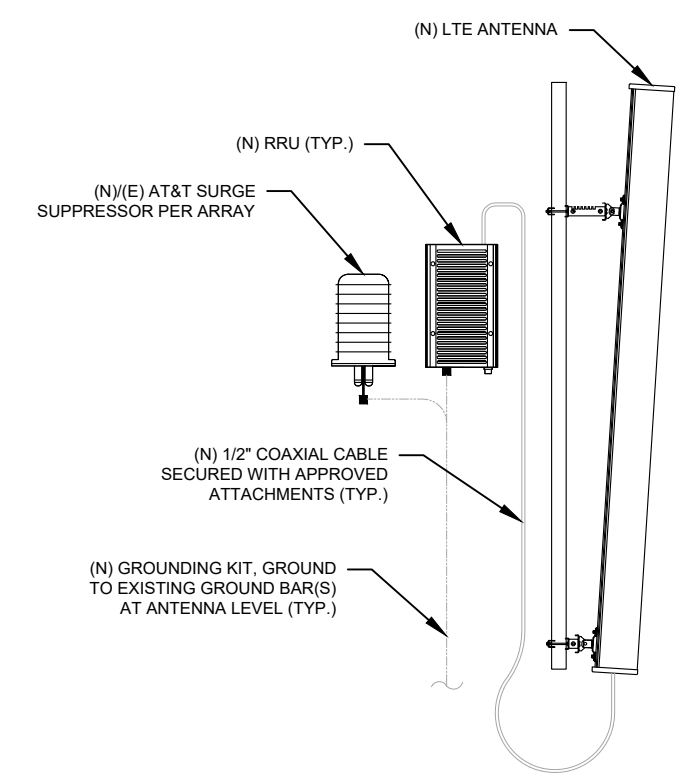
**GROUND BAR NOTES**

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

**4 MAIN GROUND BAR DETAIL**  
SCALE: N.T.S.



**5 RRU GROUNDING**  
SCALE: N.T.S.



**6 ANTENNA/RRU GROUNDING**  
SCALE: N.T.S.



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TEL: (978) 557-5553 FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/15/22

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
**CROMWELLSW CT**

AT&T SITE NAME:  
**CROMWELLSOUTH**

SITE ADDRESS:  
100 CHRISTIAN HILL ROAD  
CROMWELL, CT 06416-2612

SEAL:

PRELIMINARY:  
NOT FOR  
CONSTRUCTION

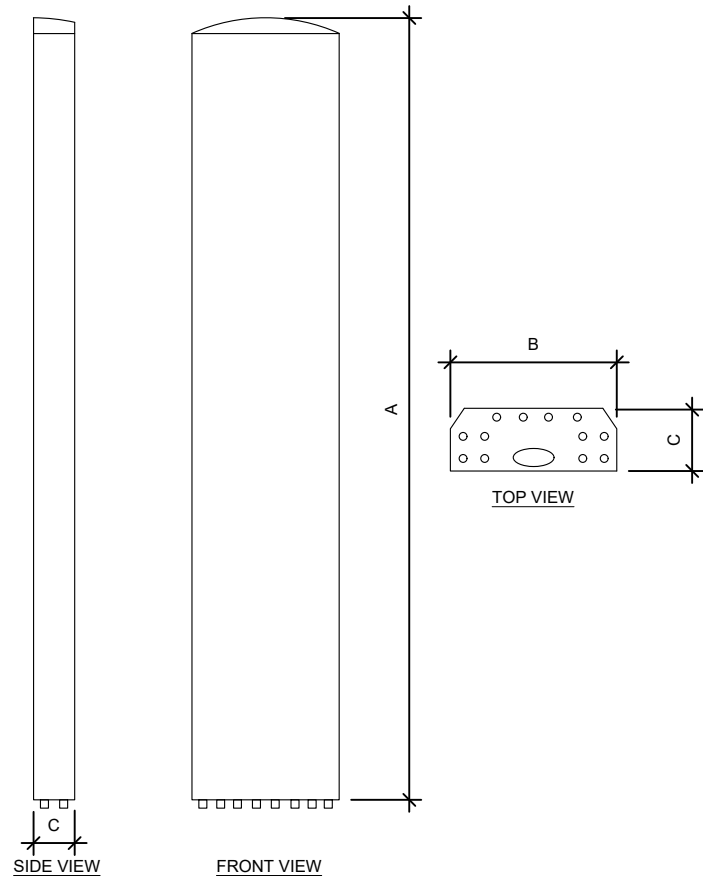


DATE DRAWN:	04/12/22
ATC JOB NO:	14089799_G5
CUSTOMER ID:	CTL05144
CUSTOMER #:	10070987

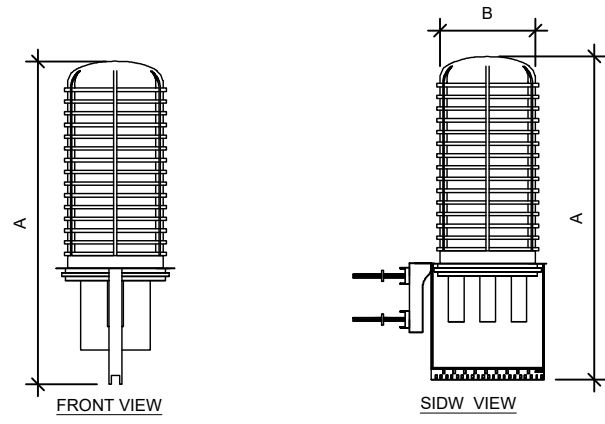
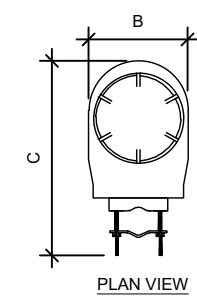
**GROUNDING DETAILS**

SHEET NUMBER: <b>E-501</b>	REVISION: <b>A</b>
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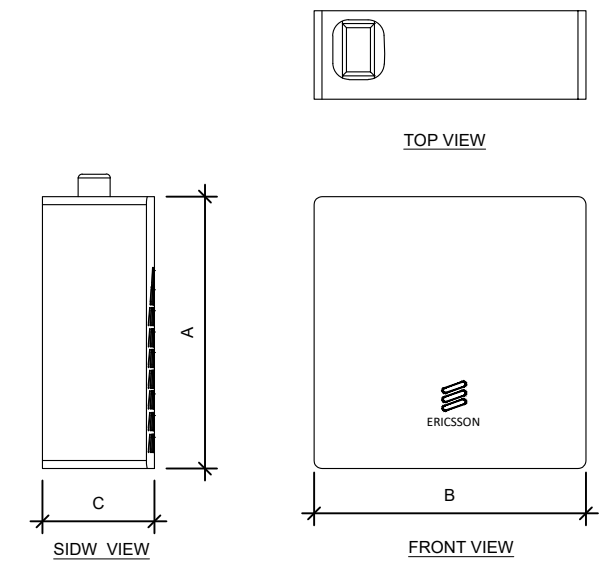
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ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
TPA65R-BU6DA-K	71.2"	20.7"	7.7"	69.0
AIR 6419 B77G	15.7"	30.0"	6.7"	66.1
AIR 6449 B77D	15.9"	30.4"	8.1"	81.6
DMP65R-BU6DA	71.2"	20.7"	7.7"	79.4



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC9-48-60-24-8C-EV	31.4"	18.3"	10.2"	16.0

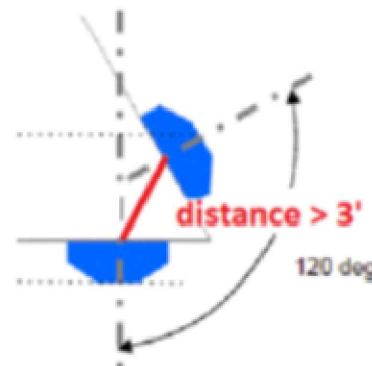


RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4478 B14	18.1"	13.4"	8.3"	59.4
4449 B5, B12	17.9"	13.2"	9.4"	71.0
4426 B66	14.9"	13.2"	5.8"	48.4



## RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ❑ Horizontal separation (side to side of antenna):  $\geq 3'$
- ❑ Vertical separation (between the tips of the antennas):  $> 3'$
- ❑ Inter-sector separation:  $> 4'$  between the center of the antenna backplanes.



- ❑ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ❑ Typical 3' horizontal separation can tolerate skew angle up to  $6^\circ$ .



NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

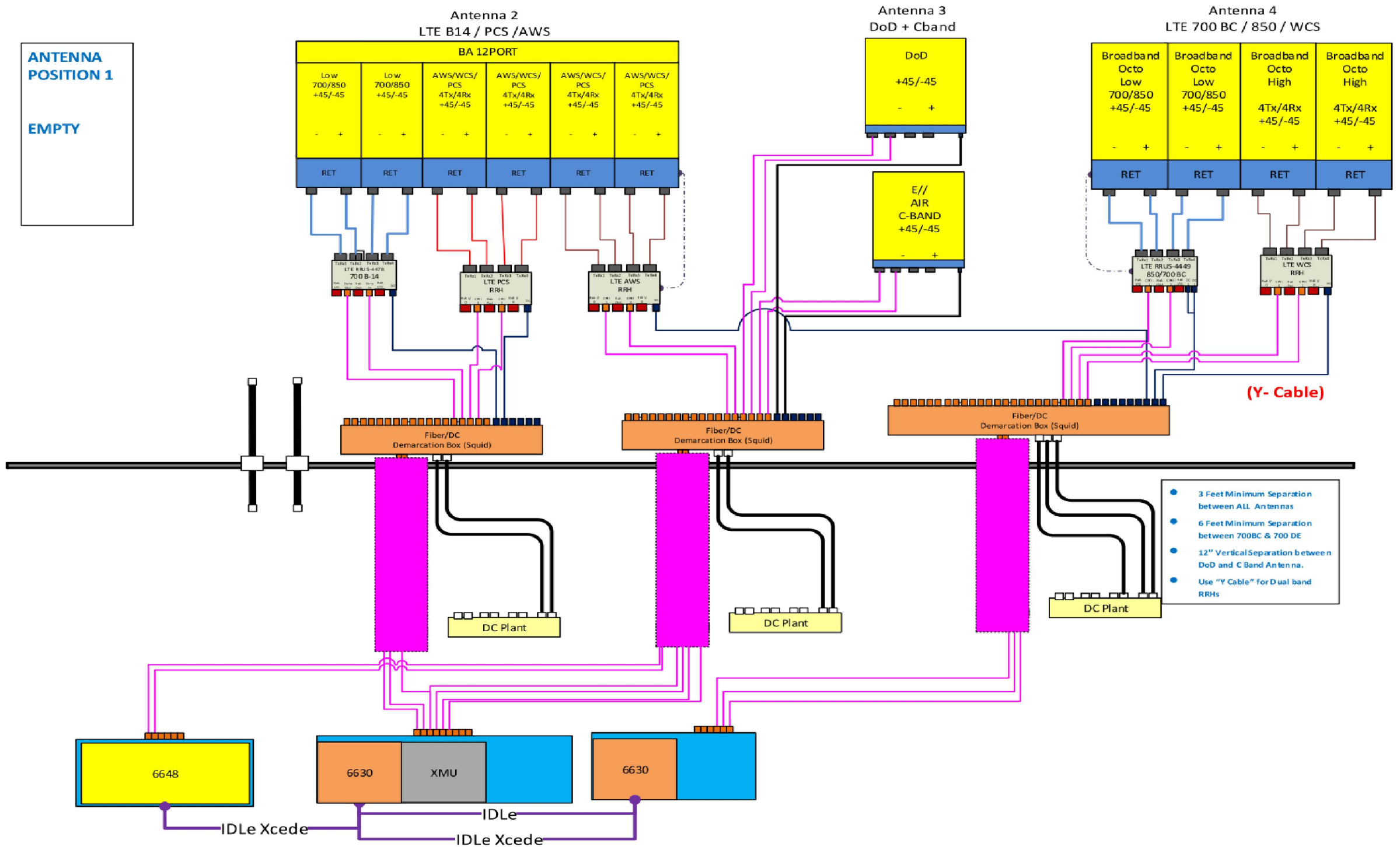
SUPPLEMENTAL

SHEET NUMBER:  
R-602

REVISION:  
A

**ANTENNA POSITION 1**

EMPTY



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.



This report was prepared for American Tower Corporation by

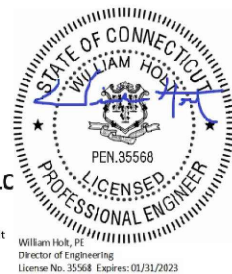


## Antenna Mount Analysis Report

ATC Site Name : Cromwellsw CT  
ATC Asset Number : 411261  
Engineering Number : 14089799\_C8\_01  
Mount Elevation : 98 ft  
Carrier : AT&T Mobility  
Carrier Site Name : MRCTB054996  
Carrier Site Number : NA  
Site Location : 99 Christian Hill Road  
Cromwell, CT 06416-2612  
41.6057, -72.7014  
County : Middlesex  
Date : March 25, 2022  
Max Usage : 45%  
Result : Contingent Pass\*  
\*See conclusion for requirements

Prepared By:  
Kowsalya V  
Telamon Tower Engineering, PLLC

Reviewed By:  
William Holt, P.E.  
Telamon Tower Engineering, PLLC



Digitally signed by William Holt  
Date: 2022.03.25 16:04:32  
-0400'

William Holt, P.E.  
Director of Engineering  
License No. 35568 Expires: 01/31/2023

Mount Analysis for American Tower  
411261 - Cromwellsw CT

March 25, 2022  
Telamon Tower Engineering, PLLC Project #41124-14089799\_C8\_01-01-MA

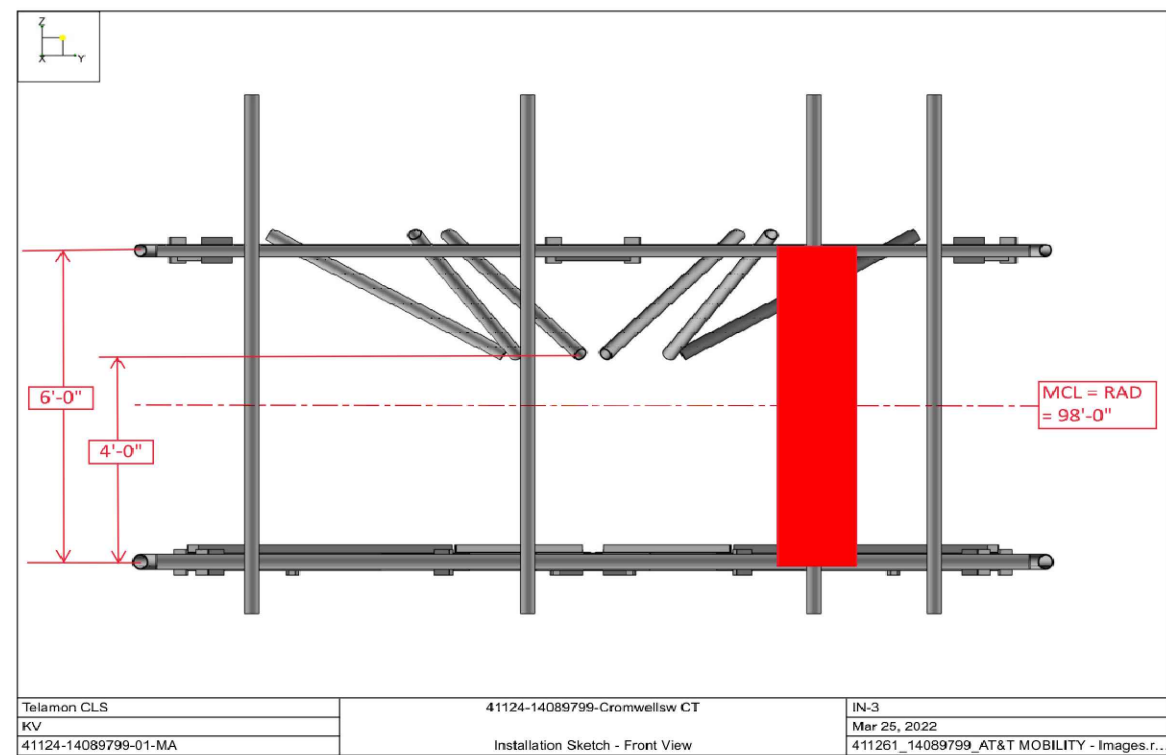
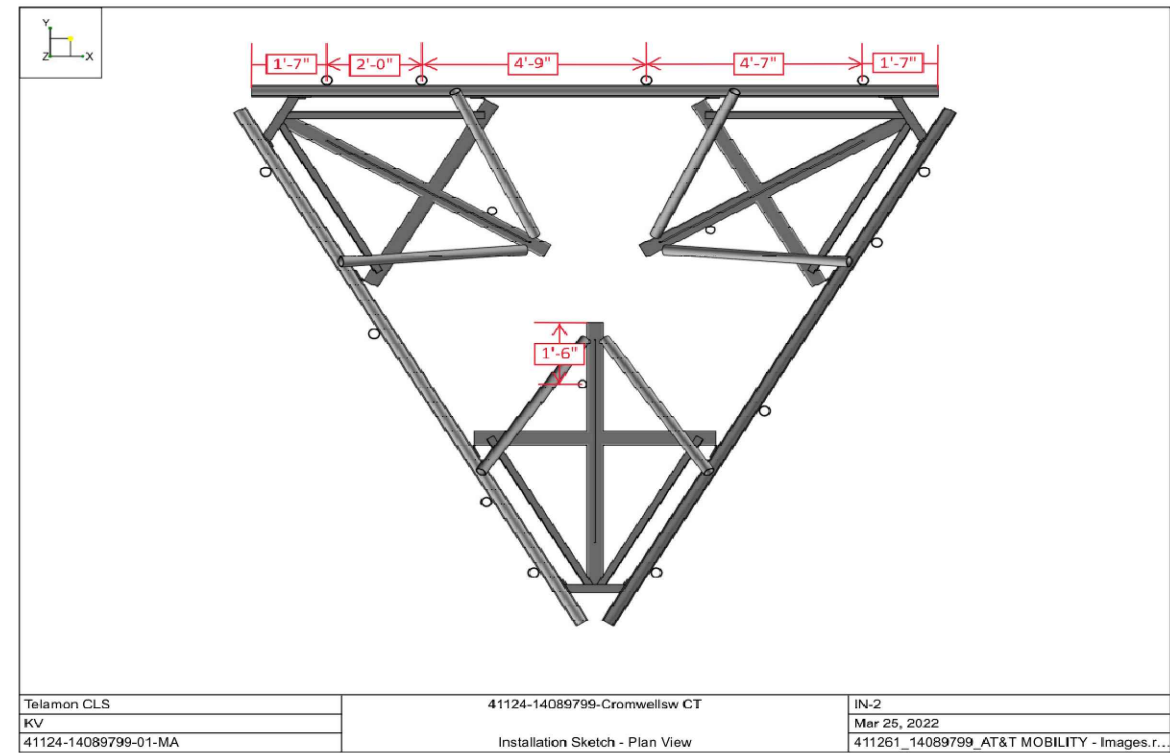
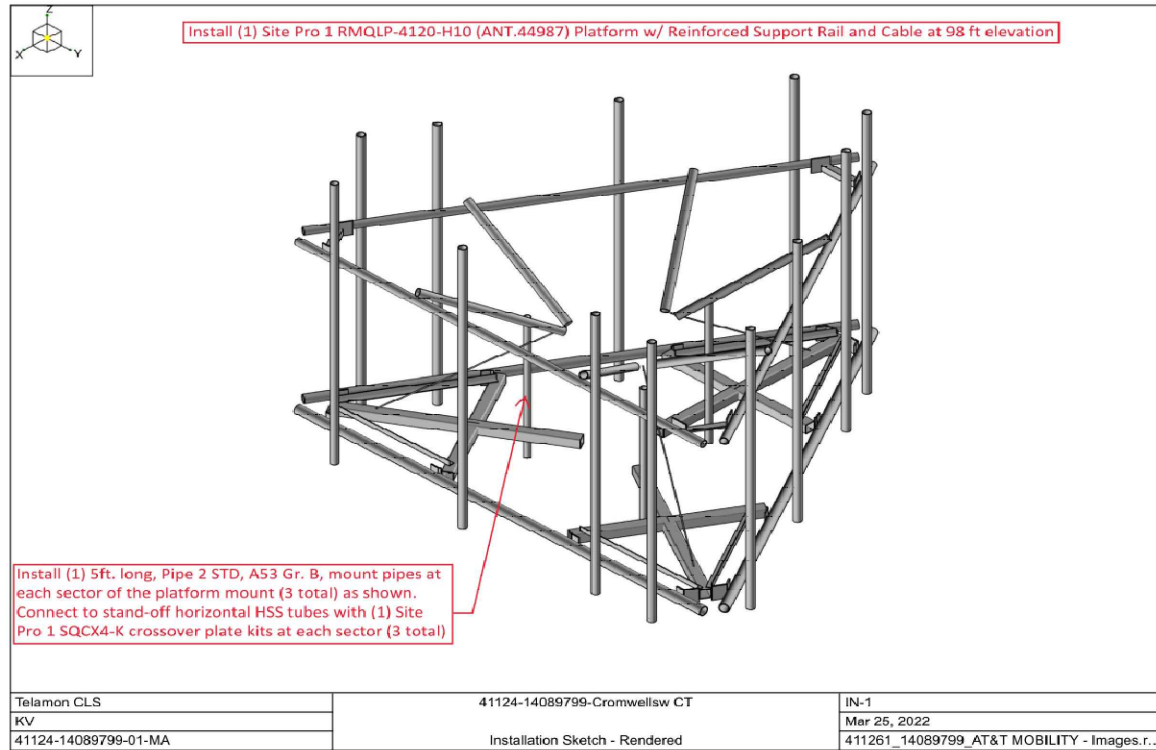
### Conclusion

Based on the analysis, the antenna mount meets the requirements per the applicable codes listed above. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

AT&T CONMAT does not have parts which connect HSS tube to pipe. Hence proposing modifications parts which are not listed in the CONMAT list.

- Install (1) Site Pro 1 RMQLP-4120-H10 (ANT.44987) Platform w/ Reinforced Support Rail and Cable at 98 ft elevation.
- Install (1) 5ft. long, Pipe 2 STD, A53 Gr. B, mount pipes at each sector of the platform mount (3 total) as shown. Connect to stand-off horizontal HSS tubes with (1) Site Pro 1 SQCX4-K crossover plate kits at each sector (3 total).
- All mount pipes are to be installed from each other as shown in the following sketches.
- Install all proposed antennas such that they are vertically centered between the support rails and face horizontal member.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



1 MOUNT MODIFICATIONS

SUPPLEMENTAL

SHEET NUMBER: <b>R-605</b>	REVISION: <b>A</b>
-------------------------------	-----------------------



July 9, 2022

M360 BERLIN LAND HOLDINGS LLC  
999 CORPORATE DRIVE, SUITE 215  
LADERA RANCH, CA 92694

Re: Exempt Modification Request – AT&T Site 14089799  
AT&T Wireless Telecommunications Facility @ 99 Christian Hill Road, Cromwell, CT 06416  
AKA 100 Berlin Road

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T was initially approved by the Siting Council in case number TS-AT&T-033-010213. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove six (6) antennas, (3) RRHs, six (6) TMAs, and six (6) diplexers;
- Install mount modifications, one (1) platform, twelve (12) antennas, nine (9) RRHs, one (1) squid, three (3) DC trunks, and one (1) fiber trunk cable.
- Ground work includes removing six (6) RRUW; and installing one (1) 6630, four (4) rectifiers, one (1) battery cabinet, five (5) 170AH 48V battery strings one (1) DC12 and IDLe cable.

This letter is intended to serve as the required notice to both the municipality's chief elected official and the Tower Owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue stamp or seal.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046

enclosures



July 9, 2022

The Honorable Allan Spotts  
Town Hall, 1st Floor  
41 West St.  
Cromwell, CT 06416

Re: Exempt Modification Request – AT&T Site 14089799  
AT&T Wireless Telecommunications Facility @ 99 Christian Hill Road, Cromwell, CT 06416  
AKA 100 Berlin Road

Dear Mayor Spotts:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T was initially approved by the Siting Council in case number TS-AT&T-033-010213. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove six (6) antennas, (3) RRHs, six (6) TMAs, and six (6) diplexers;
- Install mount modifications, one (1) platform, twelve (12) antennas, nine (9) RRHs, one (1) squid, three (3) DC trunks, and one (1) fiber trunk cable.
- Ground work includes removing six (6) RRUW; and installing one (1) 6630, four (4) rectifiers, one (1) battery cabinet, five (5) 170AH 48V battery strings one (1) DC12 and IDLe cable.

This letter is intended to serve as the required notice to both the municipality's chief elected official. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Jack Andrews", is written over the printed name.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046

enclosures



July 9, 2022

Stuart B. Popper, Director of Planning and Development  
Town Hall, 2nd Floor  
41 West St.  
Cromwell, CT 06416

Re: Exempt Modification Request – AT&T Site 14089799  
AT&T Wireless Telecommunications Facility @ 99 Christian Hill Road, Cromwell, CT 06416  
AKA 100 Berlin Road

Dear Director Popper:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T was initially approved by the Siting Council in case number TS-AT&T-033-010213. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove six (6) antennas, (3) RRHs, six (6) TMAs, and six (6) diplexers;
- Install mount modifications, one (1) platform, twelve (12) antennas, nine (9) RRHs, one (1) squid, three (3) DC trunks, and one (1) fiber trunk cable.
- Ground work includes removing six (6) RRUW; and installing one (1) 6630, four (4) rectifiers, one (1) battery cabinet, five (5) 170AH 48V battery strings one (1) DC12 and IDLe cable.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular stamp or seal.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046

enclosures



July 9, 2022

Jacqueline Hall  
Project Manager, Site Development  
American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801

Re: Exempt Modification Request – AT&T Site 1408979  
AT&T Wireless Telecommunications Facility @ 99 Christian Hill Road, Cromwell, CT 06416  
AKA 100 Berlin Road

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T was initially approved by the Siting Council in case number TS-AT&T-033-010213. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove six (6) antennas, (3) RRHs, six (6) TMAs, and six (6) diplexers;
- Install mount modifications, one (1) platform, twelve (12) antennas, nine (9) RRHs, one (1) squid, three (3) DC trunks, and one (1) fiber trunk cable.
- Ground work includes removing six (6) RRUW; and installing one (1) 6630, four (4) rectifiers, one (1) battery cabinet, five (5) 170AH 48V battery strings one (1) DC12 and IDLe cable.

This letter is intended to serve as the required notice to both the Tower Owner. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue stamp or watermark.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046

enclosures



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