

Derek Maheux Program Manager  
c/o Cellco Partnership d/b/a Verizon Wireless  
Centerline Communications, LLC  
750 West Center Street, Suite 301  
West Bridgewater, MA 02379  
Mobile: (508)649-3407  
[Dmaheux@clinellc.com](mailto:Dmaheux@clinellc.com)

May 10, 2024

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

**RE: Notice of Exempt Modification // Site: CROMWELL SW CT (ATC: 411261)  
100 Berlin Road (a/k/a Christian Hill Road), Cromwell CT 06416  
N 41.6057264 // W -72.7014093**

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless currently maintains fifteen (15) antenna at the 84-ft level on the existing 100ft Tower, located at 100 Berlin Road, Cromwell, CT. The tower is owned by American Tower. Verizon Wireless proposed modification involves the removal of six (6) antenna and the installation of two (2) interference mitigation filters on Verizon Wireless existing antenna platform and mounting assembly.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Cromwell's Chief Elected Official and Land Use Officer.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated April 17, 2024, by A.T Engineering Services, LLC, a structural analysis dated April 18, 2024, by American Tower Corp., and a structural mount analysis by Colliers Engineering and Design dated January 26, 2024, and Non-Ionizing Electromagnetic Radiation (NIER) Study dated October 10, 2023, by Tower Engineering Professionals.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis and a structural mount analysis, pursuant to certain conditions defined therein. Design and engineering are fully illustrated within final construction drawings.

For the foregoing reasons, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

*Derek Maheux*

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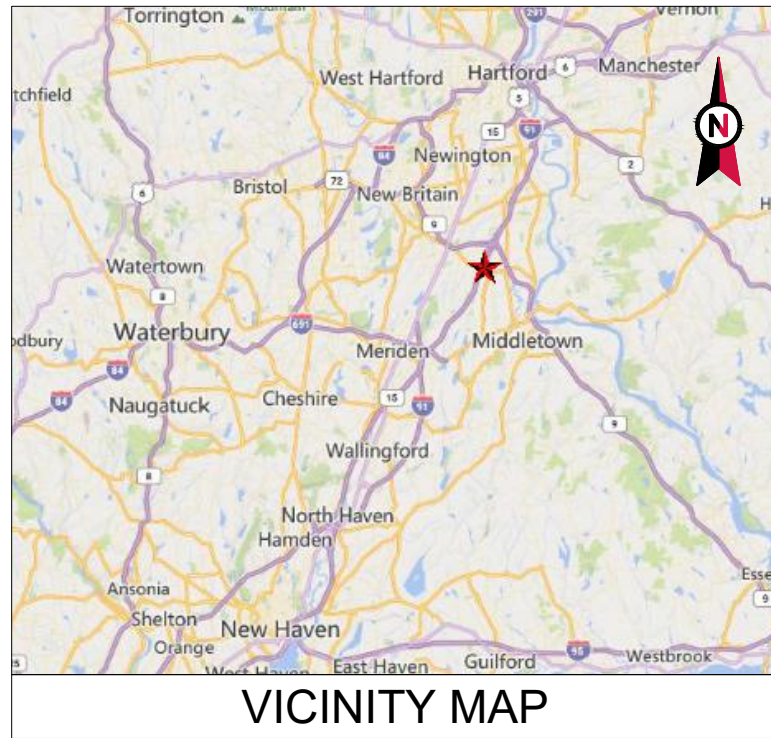
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Mobile: (508) 649 2307  
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Attachments: Exhibit 1 – Construction Drawings  
Exhibit 2 – Property Card and GIS  
Exhibit 3 – Structural Analysis  
Exhibit 4 – Mount Analysis  
Exhibit 5 – RF Emissions Analysis Report Evaluation  
Exhibit 6 – Available Original Tower Approval Records  
Exhibit 7 – Notice Deliver Confirmations

cc: James Demetriades – Mayor – Chief Elected Official  
Stuart B. Popper – Director of Planning - as P&Z official and ground owner  
M360 Berlin Land Holdings LLC – as ground owner  
American Tower Corporation - as tower owner

# EXHIBIT 1





**AMERICAN TOWER®**

ATC SITE NAME: CROMWELLSW CT  
 ATC SITE NUMBER: 411261  
 VERIZON SITE NAME: CROMWELL SW CT  
 VERIZON SITE NUMBER: 5000242779  
 SITE ADDRESS: 99 CHRISTIAN HILL RD  
 CROMWELL, CT 06416



**BIRD WATCH SITE:**  
 PLEASE CONTACT BIRD.WATCH@AMERICANTOWER.COM OR  
 AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

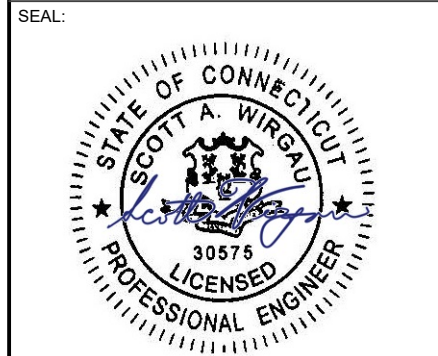
**VERIZON AMENDMENT DRAWINGS**

**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICES, PLLC**  
 1 FENTON MAIN STREET  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024
1	UPDATED RFDS & MA	VAR	04/17/24

ATC SITE NUMBER:  
 411261  
 ATC SITE NAME:  
 CROMWELLSW CT  
 VERIZON SITE NAME:  
 CROMWELL SW CT  
 SITE ADDRESS:  
 99 CHRISTIAN HILL RD  
 CROMWELL, CT 06416



ATC JOB NO: 14519438\_GO  
 CUSTOMER ID: CROMWELL SW CT  
 CUSTOMER #: 5000242779

**TITLE SHEET**

SHEET NUMBER:  
**G-001**  
 REVISION:  
**1**

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. 2020 NFPA 70, NATIONAL ELECTRIC CODE (NEC) 2. 2022 CONNECTICUT STATE BUILDING CODE 3. 2021 INTERNATIONAL BUILDING CODE (IBC)  <u>DESIGN CRITERIA FROM TOWER STRUCTURAL ANALYSIS:</u> BASIC WIND SPEED: 119 mph BASIC WIND SPEED W/ ICE: 50 mph CODE(S): ANSITIA-222-H / 2021 IBC / 2022 CONNECTICUT STATE BUILDING CODE  EXPOSURE CATEGORY: C RISK CATEGORY: II TOPO FACTOR PROCEDURE: METHOD 1 TOPOGRAPHIC CATEGORY: 1 FEATURE: FLAT SPECTRAL RESPONSE: S <sub>s</sub> =0.20, S <sub>r</sub> =0.06 SITE CLASS: D - STIFF SOIL - DEFAULT  INFORMATION TAKEN FROM STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 10/06/23.	<u>SITE ADDRESS:</u> 99 CHRISTIAN HILL RD CROMWELL, CT 06416 COUNTY: MIDDLESEX  <u>REGISTERED COORDINATES:</u> LATITUDE: 41.6057264 41° 36' 20.585" N LONGITUDE: -72.7014093 72° 42' 4.99" W GROUND ELEVATION: 66' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW.  <u>TOWER WORK:</u> REMOVE (6) ANTENNA(S) INSTALL (2) FILTER(S) EXISTING (9) ANTENNA(S), (6) RRH(S), (1) OVP(S), (12) 1-5/8" COAX, AND (2) 1-5/8" HYBRID CABLE(S) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 1 FENTON MAIN, STE 300 CARY, NC 27511  <u>PROPERTY OWNER:</u> AMERICAN TOWER LLC 116 HUNTINGTON AVE #1100 BOSTON, MA 02116	PROJECT NOTES 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>UTILITY COMPANIES</u>  POWER COMPANY: ITRON PHONE: (800) 635-5461  TELEPHONE COMPANY: UNKNOWN PHONE: N/A	<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>CONTRACTOR PMI REQUIREMENTS</u>  PMI ACCESSED AT: HTTPS://PMI.VZWSMART.COM SMART TOOL VENDOR PROJECT NUMBER: 10220910 VZW LOCATION CODE (PSLC): 5000242779 ***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT  MOUNT MODIFICATION REQUIRED: NO VZW APPROVED SMART KIT VENDORS: REFER TO MOUNT MODIFICATION DRAWINGS PAGES FOR VZW SMART KIT APPROVED VENDORS					



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**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, VERIZON "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 VERIZON 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/NTIA-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 VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON 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 VERIZON 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. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. 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 CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
31. 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.
32. 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 VERIZON REP. ANY WORK FOUND BY THE VERIZON REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. 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.
34. VERIZON FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE VERIZON 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.
35. VERIZON 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 VERIZON OR THEIR ARCHITECT/ENGINEER.

- B. ALL COAXIAL/HYBRID CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL/HYBRID CABLE (NOT WITHIN BENDS)

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL/HYBRID CABLES ARE FURNISHED BY VERIZON 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 VERIZON SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
  - E. INSTALL COAXIAL/HYBRID 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/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2. ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
  - A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

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.



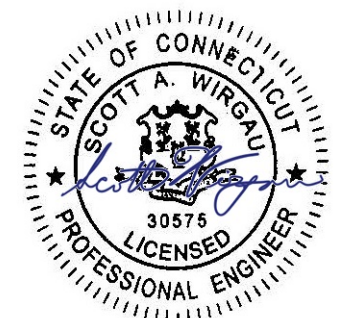
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024

ATC SITE NUMBER:  
 411261  
 ATC SITE NAME:  
 CROMWELLSW CT  
 VERIZON SITE NAME:  
 CROMWELL SW CT  
 SITE ADDRESS:  
 99 CHRISTIAN HILL RD  
 CROMWELL, CT 06416

SEAL:



Digitally Signed: 2024-04-19



ATC JOB NO:	14519438_GO
CUSTOMER ID:	CROMWELL SW CT
CUSTOMER #:	5000242779

**GENERAL NOTES**

SHEET NUMBER:  
**G-002**  
 REVISION:  
**0**

SURVEY LEGEND	
	EXISTING PROPERTY
	EXISTING ADJ. PROPERTY
	EXISTING FEE AREA
	EXISTING EASEMENT
	EXISTING TREELINE
	EXISTING CHAINLINK FENCE
	EXISTING OVERHEAD WIRES
	OHW
	EXISTING BUILDING
	EXISTING ROAD (STONE)
	EXISTING ROAD (PAVED)
	SURVEY IRON PIN FOUND
	SURVEY BENCHMARK
	EXISTING SANITARY MANHOLE
	EXISTING UTILITY POLE
	EXISTING GAS VALVE
	EXISTING CONCRETE
	ENCROACHMENT ITEM IDENTIFIER

**LEGAL DESCRIPTION - AS PROVIDED**

**LEASE PARCEL - AS PROVIDED:**  
LEGAL DESCRIPTION OF LOCATION OF TOWER EASEMENT PREMISES

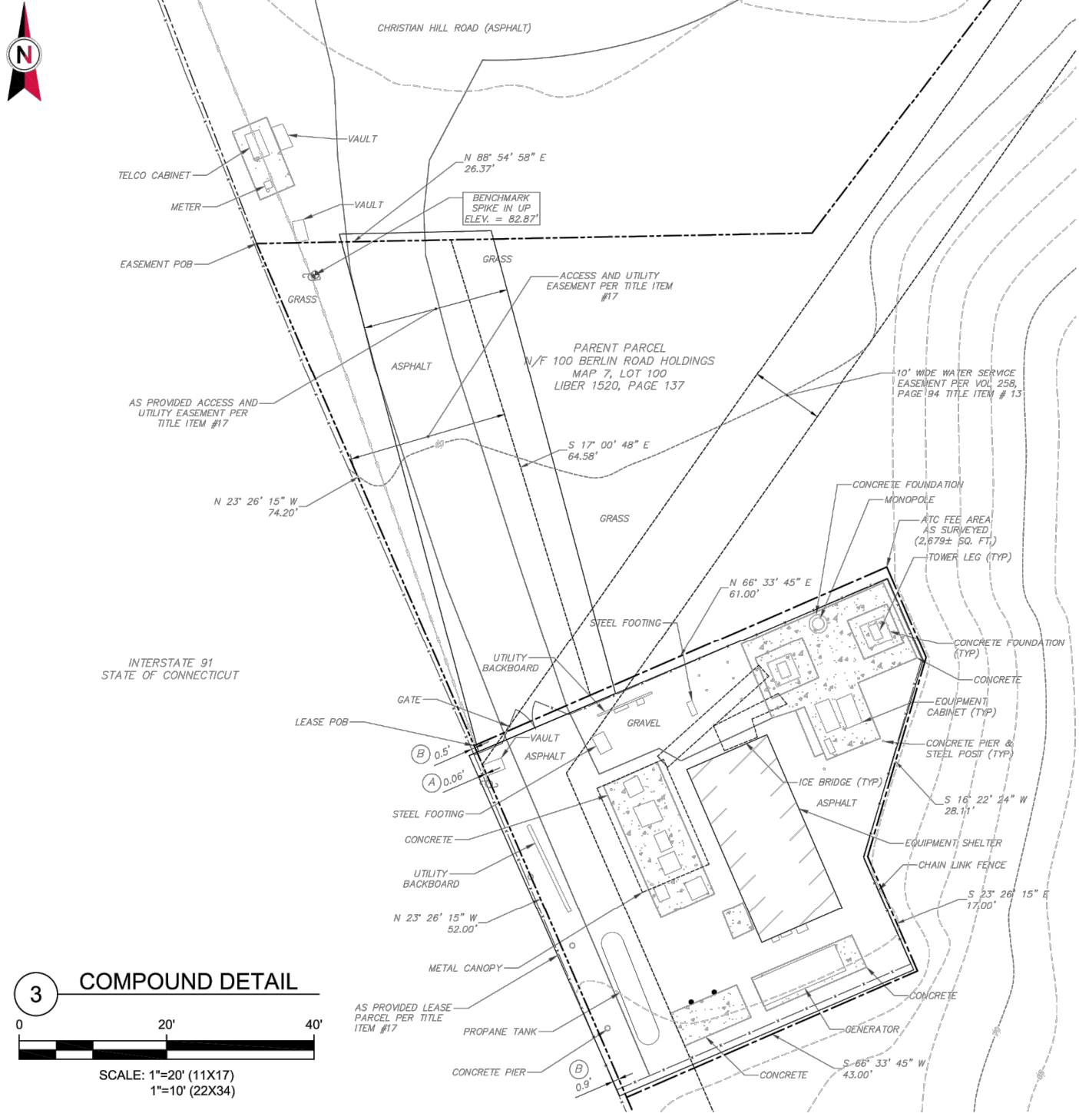
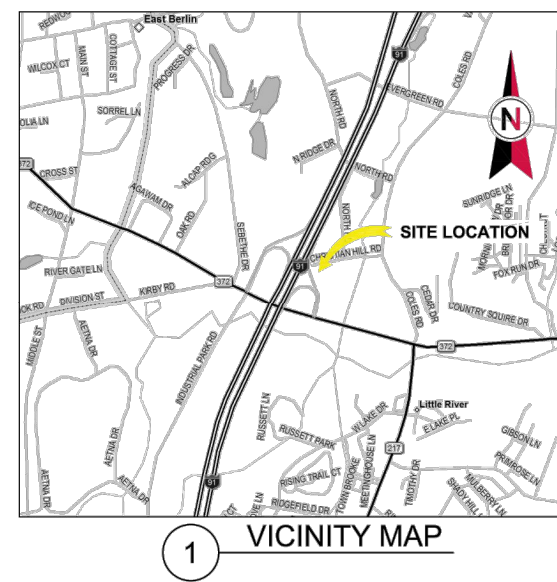
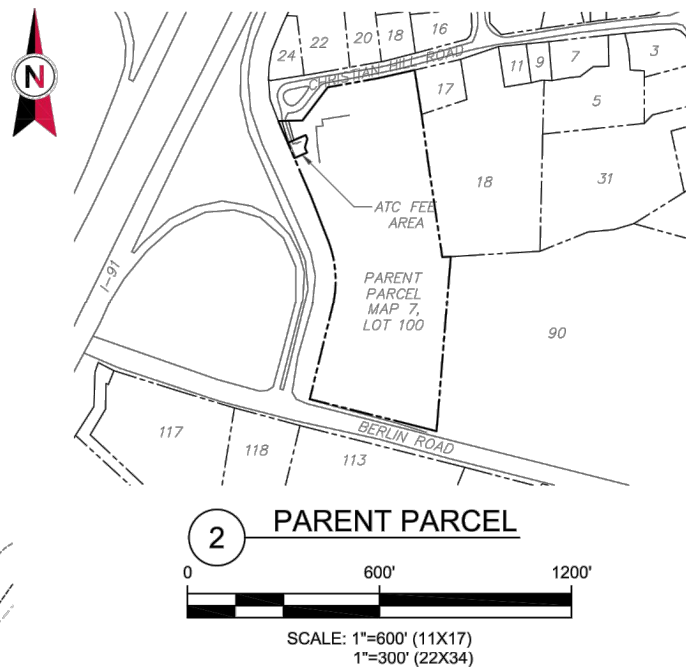
A PORTION OF ALL THAT CERTAIN PARCEL OF LAND LYING IN THE TOWN OF CROMWELL, COUNTY OF MIDDLESEX, STATE OF CONNECTICUT, DESCRIBED IN DEED BOOK 1520 PAGE 134, FURTHER DESCRIBED AS:

COMMENCING FROM AN EXISTING CONCRETE MONUMENT, FOUND ON THE EASTERN PUBLIC RIGHT OF WAY OF INTERSTATE 91, HAVING CONNECTICUT STATE PLANE COORDINATES E:1013187.23'-AND- N:781965.34'; THENCE DEPARTING SAID RIGHT OF WAY, S 22° 23' 32" E FOR A DISTANCE OF 146.85 FEET TO A POINT; THENCE, S 67° 04' 38" W FOR A DISTANCE OF 1.37 FEET TO THE POINT OF BEGINNING; THENCE, N 67° 04' 38" E FOR A DISTANCE OF 61.65 FEET TO A POINT; THENCE, S 23° 24' 56" E FOR A DISTANCE OF 12.06 FEET TO A POINT; THENCE, S 16° 54' 07" W FOR A DISTANCE OF 27.83 FEET TO A POINT; THENCE, S 23° 49' 02" E FOR A DISTANCE OF 16.87 FEET TO A POINT; THENCE S 66° 50' 43" W FOR A DISTANCE OF 43.38 FEET TO A POINT; THENCE, N 23° 50' 43" W FOR A DISTANCE OF 50.48 FEET TO THE POINT OF BEGINNING CONTAINING 2600 SQFT -AND- 0.06 ACRES.

**ACCESS & UTILITY EASEMENT - AS PROVIDED:**  
LEGAL DESCRIPTION OF LOCATION OF NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT AREA

A PORTION OF ALL THAT CERTAIN PARCEL OF LAND LYING IN THE TOWN OF CROMWELL, COUNTY OF MIDDLESEX, STATE OF CONNECTICUT, DESCRIBED IN DEED BOOK 1520 PAGE 134, FURTHER DESCRIBED AS:

COMMENCING FROM AN EXISTING CONCRETE MONUMENT, FOUND ON THE EASTERN PUBLIC RIGHT OF WAY OF INTERSTATE 91, HAVING CONNECTICUT STATE PLANE COORDINATES E:1013187.23'-AND- N:781965.34'; THENCE DEPARTING SAID RIGHT OF WAY, S 22° 23' 32" E FOR A DISTANCE OF 146.85 FEET TO A POINT ON A 50X75 TOWER EASEMENT; SAID POINT ALSO BEING TO THE POINT OF BEGINNING; THENCE DEPARTING SAID TOWER EASEMENT, N 15° 02' 32" W FOR A DISTANCE OF 72.65 FEET TO A POINT ON THE SOUTHERN RIGHT OF WAY OF CHRISTIAN HILL ROAD; THENCE ALONG SAID RIGHT OF WAY, N 88° 44' 48" E FOR A DISTANCE OF 20.59 FEET TO A POINT; THENCE DEPARTING SAID RIGHT OF WAY, S 15° 02' 32" E FOR A DISTANCE OF 64.97 FEET TO A POINT ON SAID TOWER EASEMENT; THENCE ALONG SAID TOWER EASEMENT, S 67° 02' 21" W FOR A DISTANCE OF 20.19 FEET TO THE POINT OF BEGINNING, CONTAINING 1376 SQFT -AND- 0.03 ACRES.



**LEGAL DESCRIPTION**

**PARENT PARCEL - AS PROVIDED:**  
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MIDDLESEX, CITY OF CROMWELL, STATE OF CONNECTICUT, AND IS DESCRIBED AS FOLLOWS:

A CERTAIN PIECE OR PARCEL OF LAND, WITH THE BUILDINGS AND IMPROVEMENTS THEREON, SITUATED IN THE TOWN OF CROMWELL, COUNTY OF MIDDLESEX AND STATE OF CONNECTICUT, MORE PARTICULARLY SHOWN ON A SURVEY MADE BY HALLISEY & HERBERT, CIVIL ENGINEERS & LAND SURVEYORS, WHICH SURVEY IS ON FILE IN THE OFFICE OF THE TOWN CLERK OF THE SAID TOWN OF CROMWELL ENTITLED "PROPERTY SURVEY PREPARED FOR THE RADISSON HOTEL BERLIN ROAD (ROUTE 372) CROMWELL CONNECTICUT DATE SEPT 7, 1996 REVISIONS SEPT. 18, 1996 - PROP. TAKING LINE, ADD. IMP., MISC. NOTES OCT 26, 1996 - LEASE LINE, ZONE TABLE, MISC. NOTES NOV 12, 1996 - MISC. NOTES CERT. OLD SAN ROW SCALE 1" = 40' SHEET 1 OF 1 JOB NO. 446-02. SAID PARCEL IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A C.H.D. (CONNECTICUT DEPARTMENT OF TRANSPORTATION) MONUMENT LOCATED IN THE NORTHERLY LINE OF BERLIN ROAD (RT. 372) AND THE EASTERLY LINE OF THE ROUTE I-91 NORTHBOUND RAMP, SAID MONUMENT BEING THE SOUTHWESTERLY CORNER OF THE PARCEL HEREIN DESCRIBED;  
THENCE NORTH 13° 50' 45" EAST FOR A DISTANCE OF TWO HUNDRED NINETY-FIVE AND EIGHTY-SIX HUNDREDTHS FEET (295.86') ALONG THE EASTERLY LINE OF I-91 TO A C.H.D. MONUMENT;  
THENCE FOLLOWING A CURVE TO LEFT HAVING A DEFLECTION ANGLE 37° 15' 34", A RADIUS 352.00, AND AN ARC LENGTH OF TWO HUNDRED TWENTY-EIGHT AND NINETY-ONE HUNDREDTHS FEET (228.91') ALONG EASTERLY LINE OF I-91 TO A C.H.D. MONUMENT;  
THENCE NORTH 21° 13' 15" WEST FOR A DISTANCE OF ONE HUNDRED THIRTY AND SIXTY-SEVEN HUNDREDTHS FEET (130.67') ALONG THE EASTERLY LINE OF I-91 TO A C.H.D. MONUMENT;  
THENCE NORTH 23° 25' 00" WEST FOR A DISTANCE OF TWO HUNDRED FIFTY-EIGHT AND THIRTY HUNDREDTHS FEET (258.30') ALONG THE EASTERLY LINE OF I-91 TO A C.H.D. MONUMENT IN THE SOUTHERLY LINE OF CHRISTIAN HILL ROAD;  
THENCE NORTH 88° 56' 13" EAST FOR A DISTANCE OF SEVENTY-FIVE AND THIRTY SIX HUNDREDTHS FEET (75.36') ALONG AND IN THE SOUTHERLY LINE OF CHRISTIAN HILL ROAD TO A MERESTONE;  
THENCE NORTH 37° 23' 22" EAST FOR A DISTANCE OF ONE HUNDRED THIRTY AND FORTY-ONE HUNDREDTHS FEET (130.41') ALONG THE SOUTHERLY LINE OF CHRISTIAN HILL ROAD TO A MERESTONE;  
THENCE NORTH 79° 48' 26" EAST FOR A DISTANCE OF ONE HUNDRED FIFTY EIGHT AND SEVENTY-FOUR HUNDREDTHS FEET (158.74') ALONG THE SOUTHERLY LINE OF CHRISTIAN HILL ROAD TO A MERESTONE;  
THENCE NORTH 77° 28' 28" EAST FOR A DISTANCE OF ONE HUNDRED EIGHTEEN AND SIXTEEN HUNDREDTHS FEET (118.16') ALONG THE SOUTHERLY LINE OF CHRISTIAN HILL ROAD TO A MERESTONE MARKING THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF OREN J. AND DOROTHY G. CLELAND;  
THENCE SOUTH 08° 53' 48" EAST FOR A DISTANCE OF ONE HUNDRED FORTY AND NO HUNDREDTHS FEET (140.00') ALONG LAND OF CLELAND TO A POINT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF CHARLES B. GOODRICH;  
THENCE SOUTH 07° 47' 55" EAST FOR A DISTANCE OF ONE HUNDRED FIFTY FOUR AND SIXTY-EIGHT HUNDREDTHS FEET (154.68') ALONG LAND OF GOODRICH TO A POINT;  
THENCE SOUTH 08° 27' 20" EAST FOR A DISTANCE OF TWO HUNDRED NINETY-FIVE AND FIFTY-ONE HUNDREDTHS FEET (195.51') ALONG LAND OF GOODRICH TO AN IRON PIN AT THE SOUTHWESTERLY CORNER OF GOODRICH;  
THENCE NORTH 86° 31' 33" EAST FOR A DISTANCE OF TWENTY-SIX AND FIFTY-EIGHT HUNDREDTHS FEET (26.58') ALONG THE SOUTHERLY LINE OF GOODRICH LAND TO A POINT MARKING THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF WALTER AND ALICE B. YASNY;  
THENCE SOUTH 04° 39' 57" WEST FOR A DISTANCE OF FIVE HUNDRED FORTY-EIGHT AND TWENTY-FIVE HUNDREDTHS FEET (548.25') ALONG LAND OF YASNY TO A POINT IN THE NORTHERLY LINE OF BERLIN ROAD (RT. 372);  
THENCE NORTH 75° 52' 30" WEST FOR A DISTANCE OF SEVENTY-SIX AND THIRTY HUNDREDTHS FEET (76.30') ALONG THE NORTHERLY LINE OF BERLIN ROAD (RT. 372) TO A C.H.D. MONUMENT;  
THENCE NORTH 75° 52' 10" WEST FOR A DISTANCE OF THREE HUNDRED THIRTY-TWO AND THIRTY-ONE HUNDREDTHS FEET (332.31') TO THE PLACE AND POINT OF BEGINNING.

PARCEL ID #00459100 AND 00459110 (TOWER)

THIS BEING THE SAME PROPERTY CONVEYED TO 100 BERLIN HOLDINGS, LLC, A DELAWARE LIMITED LIABILITY COMPANY FROM SHANER SPE ASSOCIATES LIMITED PARTNERSHIP IN A DEED DATED MARCH 31, 2015 AND RECORDED APRIL 7, 2015 IN BOOK 1520 PAGE 134.

PROPERTY COMMONLY KNOWN AS: 100 BERLIN ROAD, CROMWELL, CT 06416

**ATC FEE AREA - AS SURVEYED:**  
ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF CROMWELL, COUNTY OF MIDDLESEX, STATE OF CONNECTICUT, SAID BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE HEREIN DESCRIBED LEASE PARCEL SAID POINT BEING SOUTH 23°26'15" EAST FOR A DISTANCE OF 74.20 FEET FROM THE NORTHWEST CORNER OF LANDS NOW OR FORMERLY 100 BERLIN ROAD HOLDINGS (MAP 7, LOT 100) ALONG THE EASTERLY SIDELINE OF INTERSTATE 91; RUNNING THENCE THROUGH THE LANDS NOW OR FORMERLY 100 BERLIN ROAD HOLDINGS (MAP 7, LOT 100) THE FOLLOWING SIX (6) COURSES:

NORTH 66°33'45" EAST FOR A DISTANCE OF 61.00 FEET TO A POINT; THENCE SOUTH 23°26'15" EAST FOR A DISTANCE OF 13.40 FEET TO A POINT; THENCE SOUTH 16°22'24" WEST FOR A DISTANCE OF 28.11 FEET TO A POINT; THENCE SOUTH 23°26'15" EAST FOR A DISTANCE OF 17.00 FEET TO A POINT; THENCE SOUTH 66°33'45" WEST FOR A DISTANCE OF 43.00 FEET TO A POINT ON THE EASTERLY SIDELINE OF INTERSTATE 91; THENCE ALONG THE EASTERLY SIDELINE OF INTERSTATE 91, NORTH 23°26'15" WEST FOR A DISTANCE OF 52.00 FEET TO THE POINT OF BEGINNING.

**ACCESS AND UTILITY EASEMENT - AS SURVEYED:**  
ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF CROMWELL, COUNTY OF MIDDLESEX, STATE OF CONNECTICUT, SAID BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE HEREIN DESCRIBED ACCESS AND UTILITY EASEMENT SAID POINT BEING THE NORTHWEST CORNER OF LANDS NOW OR FORMERLY 100 BERLIN ROAD HOLDINGS (MAP 7, LOT 100) ON THE EASTERLY SIDELINE OF INTERSTATE 91; RUNNING THENCE

ALONG THE SOUTHERLY SIDELINE OF CHRISTIAN HILL ROAD NORTH 88°54'58" EAST FOR A DISTANCE OF 26.37 FEET TO A POINT; THENCE THROUGH THE LANDS NOW OR FORMERLY 100 BERLIN ROAD HOLDINGS (MAP 7, LOT 100) SOUTH 17°04'48" EAST FOR A DISTANCE OF 64.58 FEET TO A POINT; THENCE SOUTH 66°33'45" WEST FOR A DISTANCE OF 17.17 FEET TO A POINT ON THE EASTERLY SIDELINE OF INTERSTATE 91; THENCE ALONG THE EASTERLY SIDELINE OF INTERSTATE 91, NORTH 23°26'15" WEST FOR A DISTANCE OF 74.20 FEET TO THE POINT OF BEGINNING.

**PROJECT SUMMARY**

FIELD SURVEY DATE: 04/2015 & 10/12/16

SITE ADDRESS: 100 BERLIN RD, CROMWELL CT

**PARCEL INFORMATION**  
OWNER: 100 BERLIN HOLDINGS LLC  
OWNER ADDRESS: 12 TIDEWATER DRIVE, ORMOND BEACH, FL 32174  
APN: 00459100 & 00459110

**TOTAL AREAS:**  
PARENT PARCEL: 9.04± ACRES ATC FEE AREA: 2.679± SQ. FT.

**GEOGRAPHIC COORDINATES OF TOWER:**  
LATITUDE: 41°36'20.59" N LONGITUDE: 72°42'50.00" W  
VERTICAL DATUM: NAVD 1988 HORIZONTAL DATUM: NAD83  
GROUND ELEVATION: 78.5'

THIS IS TO CERTIFY THAT THE ABOVE INFORMATION IS PROVIDED TO THE FOLLOWING ACCURACY:  
± TWENTY (20) FEET IN THE HORIZONTAL  
± THREE (3) FEET IN THE VERTICAL

\*BEARINGS ARE THE CONNECTICUT STATE PLANE COORDINATE SYSTEM AND ARE BASED ON GPS OBSERVATIONS.

**FLOODPLAIN:**  
PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X.  
COMMUNITY PANEL NO.: 09007C0102G  
DATED: AUGUST 28, 2008

**BOUNDARY NOTE**  
THIS SURVEY IS THE RESULT OF AN ACTUAL FIELD SURVEY BASED UPON SUFFICIENT RESEARCH AND FIELD EVIDENCE TO VERIFY THE PARENT PARCEL OF THE SUBJECT PROPERTY. HOWEVER, THIS SURVEYOR HAS RELIED UPON THE DEEDS OF RECORD, AS PROVIDED, THIS SURVEYOR MAKES NO GUARANTEE, EITHER EXPRESSED OR IMPLIED AS TO THE QUALITY OF THE DEED REPORT AND REFERENCE DOCUMENTS PROVIDED AND THE DOCUMENTS PROVED AFFECTING THE LEASE AND IMMEDIATE AREA HAVE BEEN PLOTTED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM THE RECORD INFORMATION PROVIDED AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

**ENCROACHMENT NOTE**  
A. VAULT IS OVER LEASE & PROPERTY LINE BY 0.06'.  
B. WESTERN SIDE OF THE COMPOUND FENCE IS OVER THE PROPERTY AND LEASE LINE BY A MAXIMUM OF 0.9'.

**SURVEYOR'S NOTES**

1. THERE IS ACCESS TO THE SUBJECT PROPERTY VIA, CHRISTIAN HILL ROAD A PUBLIC RIGHT OF WAY.
2. THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
3. AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
4. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SLUMP OR SANITARY LANDFILL.
5. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
6. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.

**AMERICAN TOWER®**  
**ATC TOWER SERVICES, INC**  
3533 REGENCY PARKWAY  
SUITE 133  
CARY, NC 27551  
PHONE: (919) 468-0145  
COA: D-0204

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REV.	DESCRIPTION	BY	DATE
0	PRELIM	MT	09/16/15
1	UPDATED DRAWING	DTS	10/24/16

ATC SITE NUMBER:  
**411261**

ATC SITE NAME:  
**CROMWELL SOUTHWEST, CT**

SITE ADDRESS:  
100 BERLIN ROAD  
CROMWELL, CT 06416

**SURVEY CERTIFICATE:**  
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 8, 9, 11, 13, AND 19 TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 10/12/16.

TO MY KNOWLEDGE AN BELIEF THIS MAP SUBSTANTIALLY CORRECT AS NOTED HEREON.

(SIGNED) NAME:

SURVEY LOGO:

TECTONIC Engineering & Surveying Consultants P.C.  
1279 Route 300  
Newburgh, NY 12550  
Phone: (845) 567-6666  
Fax: (845) 567-8703  
www.tectonicengineering.com

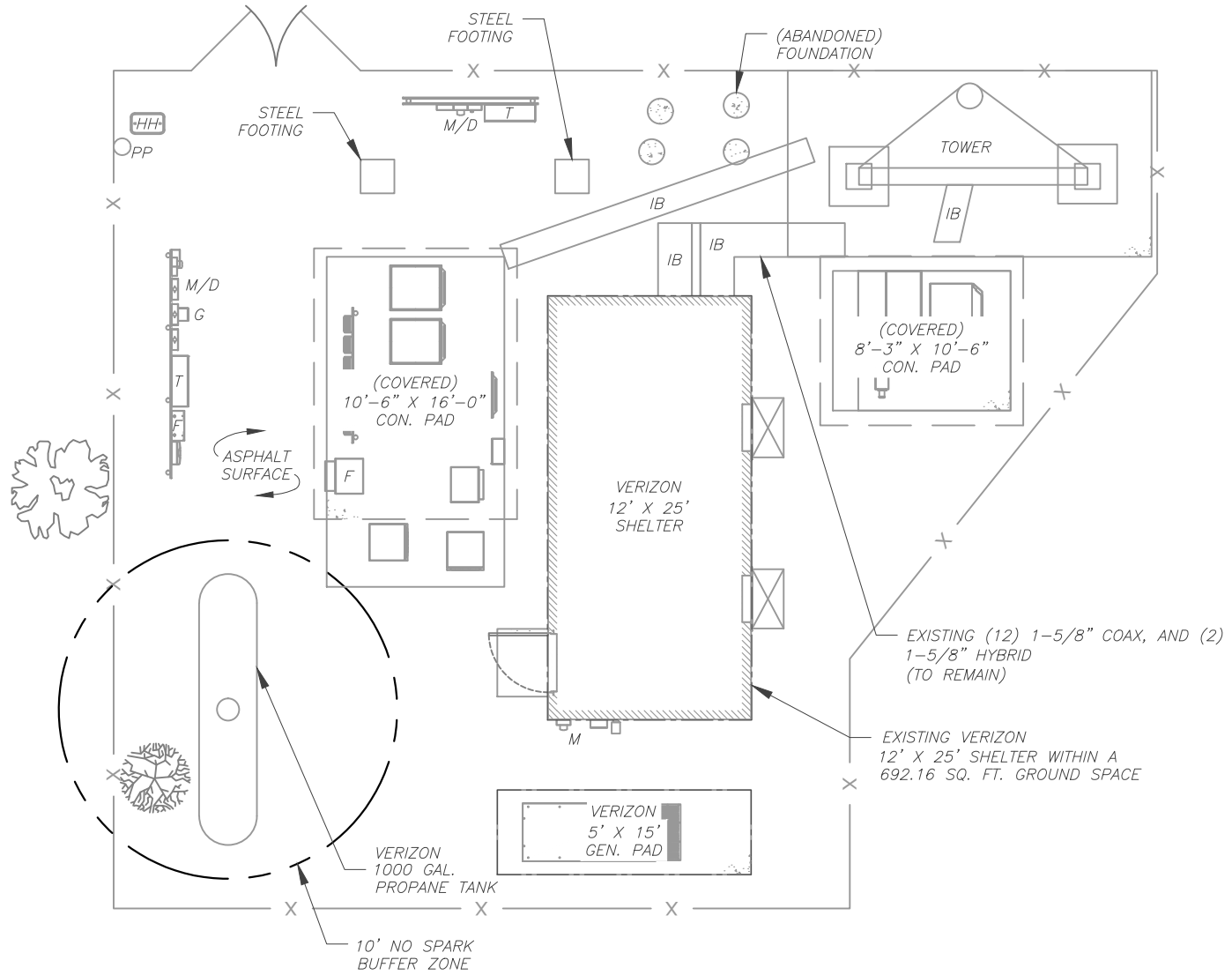
DRAWN BY:	MT
APPROVED BY:	JMK
DATE DRAWN:	09/16/15
ATC JOB NO:	411261

**ALTA SURVEY**

SHEET NUMBER: **V-101** REVISION: **1**

**SITE PLAN NOTES:**

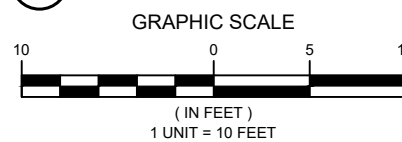

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE 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 RECEPTACLE
- 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
- CHAINLINK FENCE

**1 DETAILED SITE PLAN**

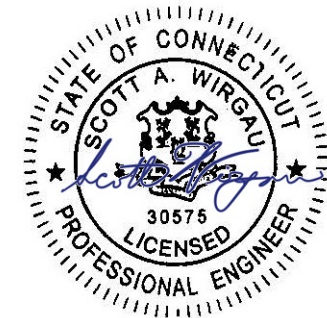
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**A.T. ENGINEERING SERVICES, PLLC**  
 1 FENTON MAIN STREET  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024

ATC SITE NUMBER:  
**411261**  
 ATC SITE NAME:  
**CROMWELLSW CT**  
 VERIZON SITE NAME:  
**CROMWELL SW CT**  
 SITE ADDRESS:  
 99 CHRISTIAN HILL RD  
 CROMWELL, CT 06416

SEAL:



Digitally Signed: 2024-04-19



ATC JOB NO:	14519438_GO
CUSTOMER ID:	CROMWELL SW CT
CUSTOMER #:	5000242779

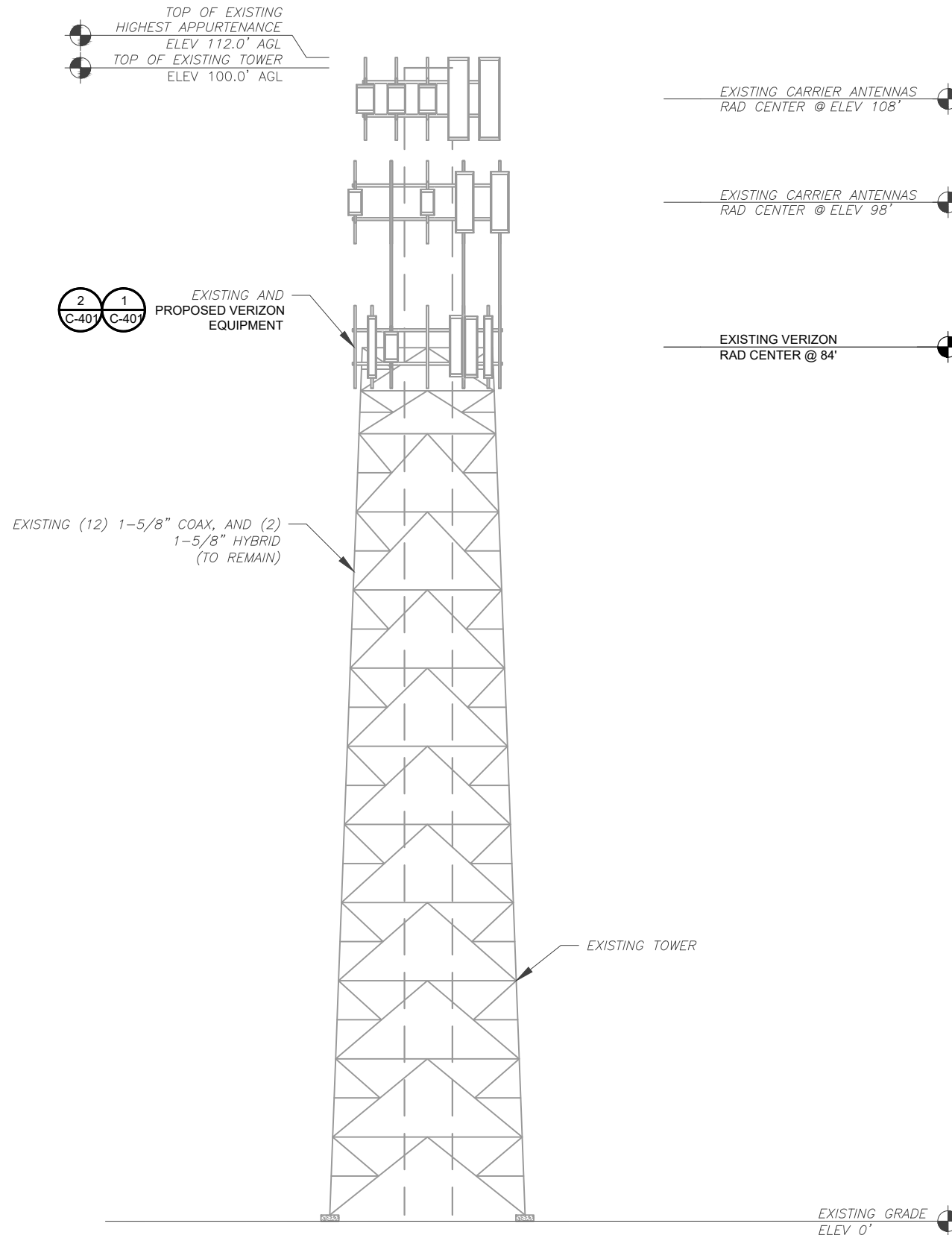
**DETAILED SITE PLAN**

SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

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FAA REGISTERED HEIGHT: 100.0' AGL

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN, DATED 01/26/24, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



1 TOWER ELEVATION  
SCALE: N.T.S.

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

**TOWER NOTE:**  
 1. 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.  
 2. 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.  
 3. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024

ATC SITE NUMBER:  
411261  
 ATC SITE NAME:  
CROMWELLSW CT  
 VERIZON SITE NAME:  
CROMWELL SW CT  
 SITE ADDRESS:  
99 CHRISTIAN HILL RD  
CROMWELL, CT 06416



Digitally Signed: 2024-04-19



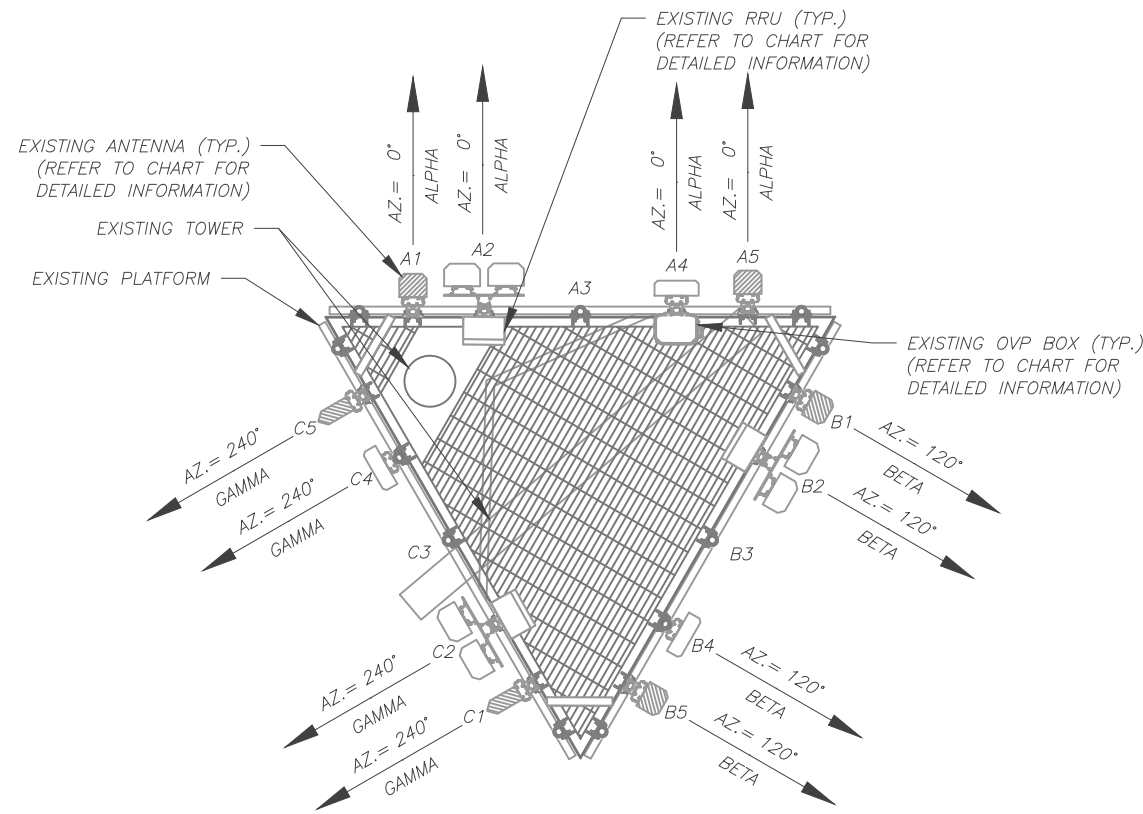
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 CUSTOMER ID: CROMWELL SW CT  
 CUSTOMER #: 5000242779

TOWER ELEVATION

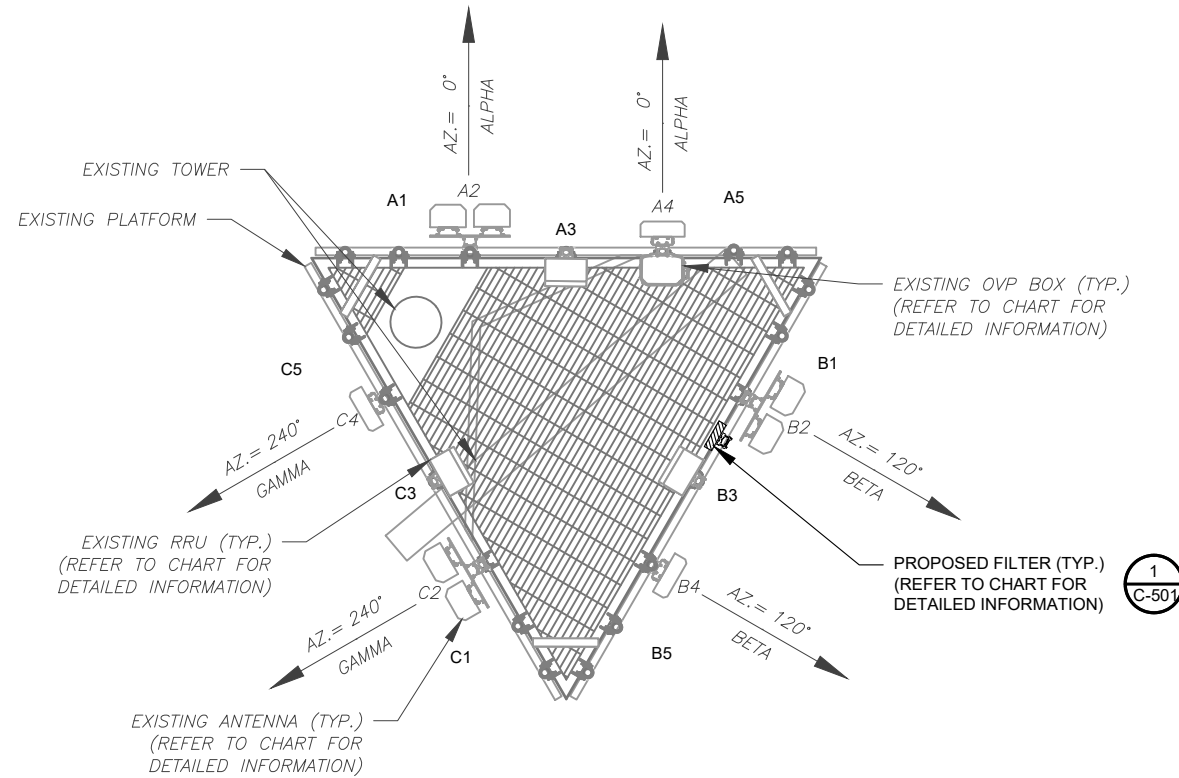
SHEET NUMBER: C-201  
 REVISION: 0

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



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

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN, DATED 01/26/24, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

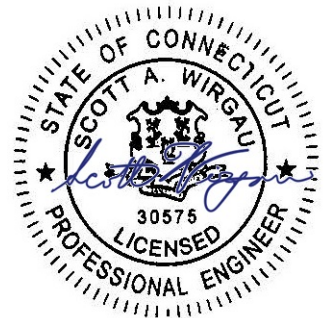
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024
1	UPDATED RFDS & MA	VAR	04/17/24

ATC SITE NUMBER:  
411261  
ATC SITE NAME:  
CROMWELLSW CT  
VERIZON SITE NAME:  
CROMWELL SW CT  
SITE ADDRESS:  
99 CHRISTIAN HILL RD  
CROMWELL, CT 06416

SEAL:



Digitally Signed: 2024-04-19



ATC JOB NO: 14519438\_GO  
CUSTOMER ID: CROMWELL SW CT  
CUSTOMER #: 5000242779

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:  
C-401  
REVISION:  
1

EXISTING ANTENNA SCHEDULE							
LOCATION			ANTENNA SUMMARY			NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	84'	0°	A1	DB846F65ZAXY	-	RMV	-
			A2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			A3	-	-	-	-
			A4	MT6407-77A	L-SUB6 5G	RMN	-
			A5	DB846F65ZAXY	-	RMV	-
BETA	84'	120°	B1	DB846F65ZAXY	-	RMV	-
			B2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			B3	-	-	-	-
			B4	MT6407-77A	L-SUB6 5G	RMN	-
			B5	DB846F65ZAXY	-	RMV	-
GAMMA	84'	240°	C1	LPA-80080/6CF	-	RMV	-
			C2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			C3	-	-	-	-
			C4	MT6407-77A	L-SUB6 5G	RMN	-
			C5	LPA-80080/6CF	-	RMV	-

**NOTES**

- CONFIRM WITH VERIZON 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.

**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'

EXISTING ANTENNA SCHEDULE							
LOCATION			ANTENNA SUMMARY			NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	84'	0°	A1	-	-	-	-
			A2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	-
			A3	-	-	-	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			A4	MT6407-77A	L-SUB6 5G	RMN	-
			A5	-	-	-	-
BETA	84'	120°	B1	-	-	-	-
			B2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	(2) BSF0020F3V1-1
			B3	-	-	-	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			B4	MT6407-77A	L-SUB6 5G	RMN	-
			B5	-	-	-	-
GAMMA	84'	240°	C1	-	-	-	-
			C2	(2) MX06FRO660-02	700 LTE, 850 LTE, 1900 LTE, AWS LTE	RMN	-
			C3	-	-	-	B2/B66A RRH-BR049 B5/B13 RRH-BR04C
			C4	MT6407-77A	L-SUB6 5G	RMN	-
			C5	-	-	-	-

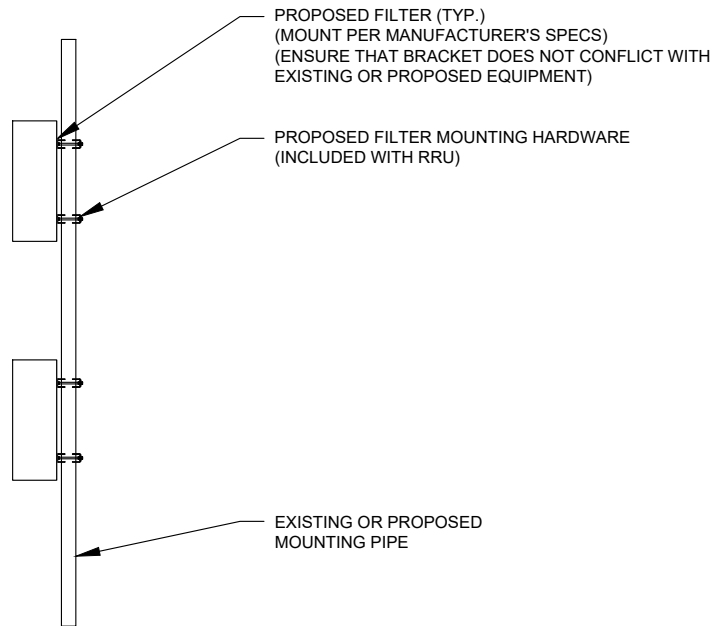
EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
RVZDC-6627-PF-48	RMN	(12) 1-5/8" COAX, AND (2) 1-5/8" HYBRID	RMN
-	-	-	-

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
RVZDC-6627-PF-48	RMN	(12) 1-5/8" COAX, AND (2) 1-5/8" HYBRID	RMN
-	-	-	-

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EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



1 PROPOSED FILTER MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



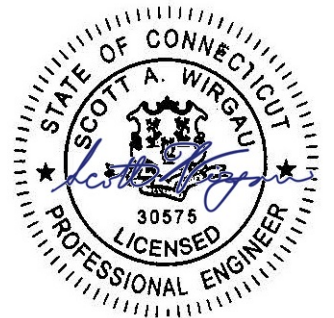
**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICES, PLLC**  
 1 FENTON MAIN STREET  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024

ATC SITE NUMBER:  
411261  
 ATC SITE NAME:  
CROMWELLSW CT  
 VERIZON SITE NAME:  
CROMWELL SW CT  
 SITE ADDRESS:  
99 CHRISTIAN HILL RD  
CROMWELL, CT 06416

SEAL:



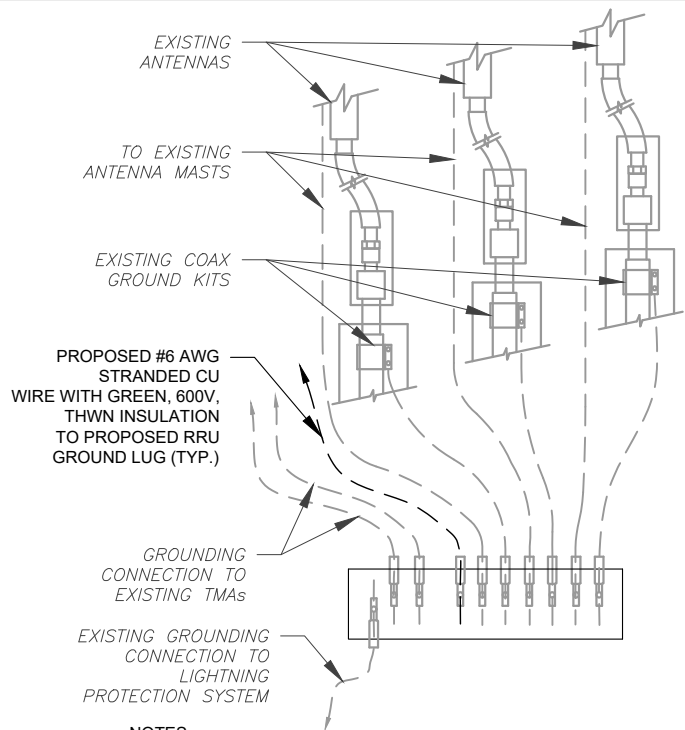
Digitally Signed: 2024-04-19



ATC JOB NO:	14519438_G0
CUSTOMER ID:	CROMWELL SW CT
CUSTOMER #:	5000242779

**CONSTRUCTION  
DETAILS**

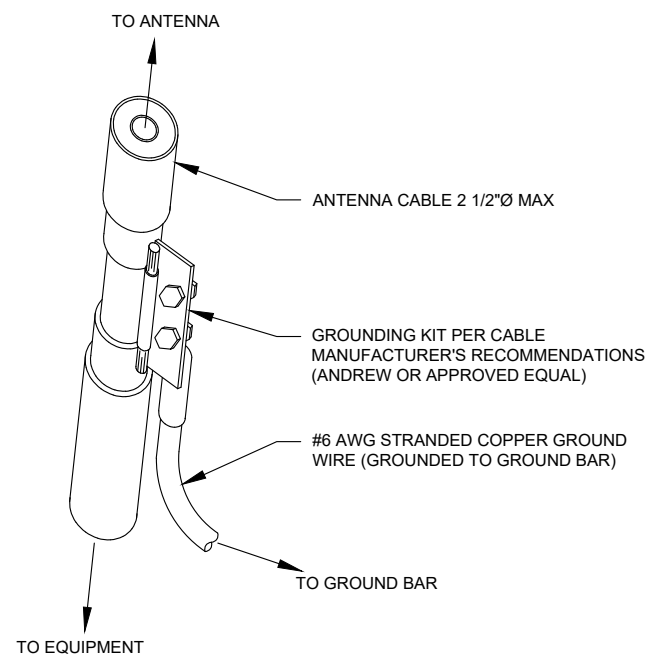
SHEET NUMBER: <b>C-501</b>	REVISION: <b>0</b>
-------------------------------	-----------------------



**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 VERIZON GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

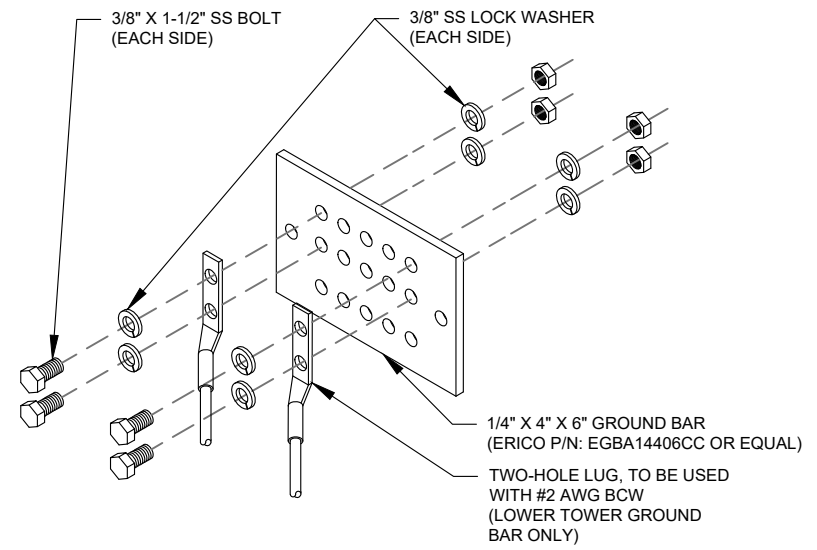
**1** TYPICAL ANTENNA GROUNDING DIAGRAM  
SCALE: N.T.S.



**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.

**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICES, PLLC**  
 1 FENTON MAIN STREET  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JO	1/10/2024

ATC SITE NUMBER:  
411261

ATC SITE NAME:  
CROMWELLSW CT

VERIZON SITE NAME:  
CROMWELL SW CT

SITE ADDRESS:  
99 CHRISTIAN HILL RD  
CROMWELL, CT 06416

SEAL:

Digitally Signed: 2024-04-19

ATC JOB NO: 14519438\_G0  
 CUSTOMER ID: CROMWELL SW CT  
 CUSTOMER #: 5000242779

**GROUNDING DETAILS**

SHEET NUMBER: <b>E-501</b>	REVISION: <b>0</b>
-------------------------------	-----------------------

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Colliers Engineering & Design, Architecture,  
Landscape Architecture, Surveying, CT P.C.  
1055 Washington Boulevard  
Stamford, CT 06901  
203.324.0800  
peter.albano@collierseng.com

Mount Structural Analysis Report  
(1) 15.50-Ft Platform

January 26, 2024  
Site ID: 5000242779-VZW / CROMWELL SW CT  
Page | 6

**Requirements:**

The existing mount is **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

Contractor to verify all equipment per previous mount analysis report and construction drawings by GPD Engineering and Architecture Professional Corporation, Project #: 2021740.467684.02 Rev 1, dated 9/28/2021, has been installed.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

**Attachments:**

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Photos
4. Mount Mapping Report (for reference only)
5. Analysis Calculations

**Antenna Mount Analysis Report and PMI Requirements**

Mount ReAnalysis

SMART Tool Project #: 10220910  
Colliers Engineering & Design Project #: 24777012

January 26, 2024

**Site Information**

Site ID: 5000242779-VZW / CROMWELL SW CT  
Site Name: CROMWELL SW CT  
Carrier Name: Verizon Wireless  
Address: 100 Berlin Road  
Cromwell, Connecticut 06416  
Middlesex County  
Latitude: 41.60621°  
Longitude: -72.701206°

**Structure Information**

Tower Type: 120-Ft Monopole/Self-Support  
Mount Type: 15.50-Ft Platform

FUZE ID # 17226238

**Analysis Results**

Platform: **84.9% Pass\***

**\*Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

**\*\*\*Contractor PMI Requirements:**

Included at the end of this MA report  
Available & Submitted via portal at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to:  
[pmisupport@colliersengineering.com](mailto:pmisupport@colliersengineering.com)

Report Prepared By: Grant Walters



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:  
**R-601**

REVISION:  
**1**

# EXHIBIT 2





**Patriot Properties Inc.**

Parcel ID: **00459110** 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
202	1,018,271	0	0	255,000	1,273,271	891,290
<b>TOTAL</b>	<b>1,018,271</b>	<b>0</b>	<b>0</b>	<b>255,000</b>	<b>1,273,271</b>	<b>891,290</b>

**Previous Value Information**

Tax Yr	Land Value	Bldg Value	Outbuildings	Total Value	Total Assessment
2021	1,000,000	0	276,000	1,276,000	893,200
2020	1,000,000	0	276,000	1,276,000	893,200
2019	1,000,000	0	276,000	1,276,000	893,200
2018	1,000,000	0	276,000	1,276,000	893,200
2017	1,000,000	0	276,000	1,276,000	893,200
2016	0	0	480,000	480,000	336,000

**Sales Information**

Grantee	Vol-Page	Type	SaleDate	SalePrice	Sale Verif	GeneralNotes
M360 BERLIN LAND HOLDING	1743-66	SW	10/18/2021	2,550,000		
M360 BERLIN LAND HOLDING	1743-66	SW	10/18/2021	2,550,000		
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	Other	

**General Notes**

CELL TOWER VALUATION  
 PID 00459110  
 LOC 100 BERLIN  
 ARRAYS 3  
 GROUND LEASE \$2,000  
 ANNUAL \$72,000  
 EXPENSES 10%  
 NOI \$64,800

**Activity Information**

Date	Results	Visited By
04/05/2022	Vacant Land	Peter Primiano
09/04/2017	Change - Value Change Company	John Valente
05/18/2017	No Change - Field Review	Dave Stannard
08/25/2016	Permit- Miscellaneous	Assessor Office
09/12/2012	Permit- Miscellaneous	Assessor Office
04/29/2010	Permit- Miscellaneous	Assessor Office

**Building Permit Information**

Date	Permit #	Description	Amount	% Comp	Visit Date	CO Date	GeneralNotes
12/29/2021	28289	Other	45,000	100		22-Jul-2022	ADD (3) RRU'S AND (1) HYBRID CABLE; AND RETAIN (6)AN
01/25/2021	27383	Electric	1,500	100			METER SOCKET REPL
04/30/2020	26765	Electric	20,000	100		07-Oct-2020	6-ANTENNAS
05/29/2019	26098	Electric	2,500	100		26-Jul-2019	FIRE ALARM/HOODS
12/14/2017	25191	Other	25,000	100			3-Antenna
11/14/2017	25138	Electric	1,850	100			Meter
08/25/2016	24257	Electric	25,000	100	25-Aug-2016		3 Antennas
09/12/2012	21107	Other	25,000	100	12-Sep-2012		LTE antennas & support eq

**Land Data**

Use	Description	Units	Unit Type	Neigh	Special Land Calc	Appraised Value	PA 490 Asmt	Neigh Order	Notes
		%	%	%					
<b>Total Area:</b>		<b>PA 490 Use Asmt:</b>	<b>Total Appraised:</b>	<b>Assessed Value:</b>					

**Property Factors**

Census  
 Flood:  
 Topo:  
 Street:  
 Dev. Map  
 Dev. Map

**Zoning Data**

Desc. %

**Utilities**

**BAA**

ParcelID: 00459110

Location: 100 BERLIN ROAD

Printed By: Shawna 11/04/2022 5:02:18PM

Bldg Seq 1 Of 1

**Exterior Information**

Building Type:  
Story Ht:  
Living Units: 0  
Foundation:  
Prim. Ext. Wall:  
Sec. Ext. Wall:  
Roof Type:  
Roof Cover:  
Avg. Wall Ht:  
Color:

**Interior Information**

Prime Wall:  
Sec. Wall:  
Floor Type:  
Sec. Floor:  
Heat Fuel:  
Heat Type:  
Sec. Ht Type:  
% A/C: 0  
% Sprinkled: 0  
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:  
Grade:  
Remodeled Yr:  
Rem. Kitchen Yr:  
Rem. Bath Yr:

**Depreciation** %

Phys Cond Average 0.00  
Func  
Econ  
Spec  
OV  
Total %Dep: 0.00

**Calculation**

Basic \$/SQ 0.00  
Replacement Cost 0  
Depreciation 0  
Depreciated Value 0  
Final Total (Rounded) 0

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

Code	Description	Qty	Size	Cond.	Year	Unit Price	Dep%	UndepValue	Appraised Value	Assessment
CELL	Cell Site Ca	1	111	AV	2007	0.00	13	0	255,000	178,500
<b>Total Sp. Features:</b>		<b>Total Yard Items:</b>		<b>255,000</b>	<b>Total Appraised:</b>	<b>255,000</b>	<b>Total Assessed Value:</b>	<b>178,500</b>		

**Sub Area Detail**

Code	Desc.	Living	Gross Area
------	-------	--------	------------

Total



**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 12/17/2023  
Data updated on a daily basis

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



# EXHIBIT 3





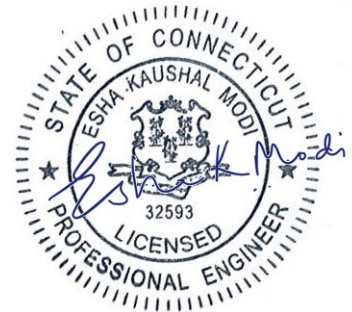
**AMERICAN TOWER®**  
CORPORATION

## Structural Analysis Report

**Structure** : 110 ft Self Support Tower  
**ATC Asset Name** : CROMWELLSW CT  
**ATC Asset Number** : 411261  
**Engineering Number** : 14760718\_C3\_01  
**Proposed Carrier** : VERIZON WIRELESS  
**Carrier Site Name** : CROMWELL SW CT  
**Carrier Site Number** : 5000242779  
**Site Location** : 99 Christian Hill Road  
CROMWELL, CT 06416-2612  
41.6057° N, 72.7014° W  
**County** : Middlesex  
**Date** : April 18, 2024  
**Max Usage** : 93%  
**Analysis Result** : Pass

Created By:

Timothy Kassakatis  
Structural Engineer II



**COA: PEC.0001553**



**Table of Contents**

Introduction .....3

Supporting Documents.....3

Analysis .....3

Conclusion .....3

Structure Usages .....4

Maximum Reactions .....4

Tower Loading .....5

Standard Conditions ..... Attached

Calculations..... Attached

## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 110 ft Self Support tower to reflect the change in loading by VERIZON WIRELESS.

## Supporting Documents

<b>Tower:</b>	ETS Mapping Job #150929.01, dated August 21, 2015
<b>Foundation:</b>	ETS Mapping Job #150929.01, dated June 13, 2016
<b>Geotechnical:</b>	FDH Velocitel Project #15BWZR1600, dated August 18, 2015

## Analysis

The tower was analyzed using the most recent version of Tower Numerics tnx and RISA-3D 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(s):</b>	ANSI/TIA-222-H / 2021 IBC / 2022 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>Feature:</b>	Flat
<b>Spectral Response:</b>	$S_s = 0.20, S_i = 0.06$
<b>Site Class:</b>	D - Stiff Soil - Default

## 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 reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact [Engineering@americantower.com](mailto:Engineering@americantower.com). Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

### Structure Usages

Structural Component	Usage	Result
Legs	93.2%	Pass
Diagonals	67.1%	Pass
Horizontals	22.7%	Pass
Foundation	87.4%	Pass

### Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Base (Global)	2,487.8	57.9	-	40.5
Base (Local)	-		367.6	405.4

*\*Reactions shown are maximum overall and not limited by Load Case*

Structure base reactions were analyzed using available geotechnical and foundation information.

**VERIZON WIRELESS Final Loading**

Elev (ft)	Qty	Equipment	Lines
88.0	1	GPS	(1) 1/2" Coax
86.0	1	Raycap RVZDC-6627-PF-48	(2) 1 5/8" Hybriflex
84.0	2	Kaelus BSF0020F3V1-1	(12) 1 5/8" Coax
	3	Samsung B2/B66A RRH-BR049	
	3	Samsung B5/B13 RRH-BR04C	
	3	Samsung MT6407-77A	
	6	JMA Wireless MX06FRO660-02	
83.0	1	Platform with Handrails	-

Install proposed lines in the place of the existing VERIZON WIRELESS lines.

**Other Existing/Reserved Loading**

Elev (ft)	Qty	Equipment	Lines	Carrier
108.0	1	Platform with Handrails	(3) 1 5/8" (1.63"-41.3mm) Fiber (2) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Commscope VV-65A-R1		
	3	Ericsson 4460 BAND 2/25		
	3	Ericsson Air6449 B41		
	3	Ericsson Radio 4449 B71 B85A		
	3	RFS APXVAALL24 43-U-NA20		
98.0	1	Raycap DC6-48-60-18-8F	(3) 0.41" (10.3mm) Fiber (2) 0.78" (19.7mm) 8 AWG 6 (5) 0.92" (23.4mm) Cable (6) 1 5/8" Coax (1) 2" conduit (1) 3/8" (0.38"- 9.5mm) RET Control Cable	AT&T MOBILITY
	1	Raycap DC6-48-60-18-8F(32.8 lbs)		
	1	Raycap DC9-48-60-24-8C-EV		
	3	CCI DMP65R-BU6DA		
	3	CCI TPA-65R-BU6DA-K		
	3	Ericsson RRUS 4426 B66		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14		
95.7	3	Ericsson AIR 6419 B77G	-	AT&T MOBILITY
92.4	3	Ericsson RRUS 32 B2	-	AT&T MOBILITY
	3	Ericsson RRUS 32 B30	-	AT&T MOBILITY
91.6	3	Ericsson AIR 6449 B77D/ C-Band	-	AT&T MOBILITY

*(If table breaks across pages, please see previous page for data in merged cells)*



## **Standard Conditions**

All engineering services performed by A.T. Engineering Services LLC 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:

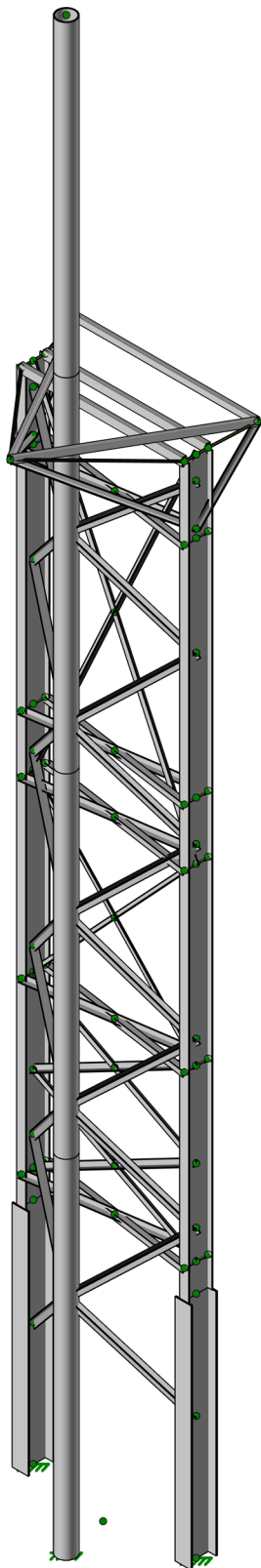
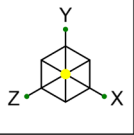
- Information supplied by the client regarding antenna, mounts, and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC 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 Services LLC, 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 Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



American Tower
TAK
14760718_C3_01

411261, CromwellSW CT

SK-1
Apr 18, 2024 at 11:10 AM
411261, CromwellSW CT - ...



**Model Settings**

Number of Reported Sections	20
Number of Internal Sections	200
Member Area Load Mesh Size (in <sup>2</sup> )	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Approximate Mesh Size (in)	12
Transfer Forces Between Intersecting Wood Walls	No
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	Yes
Maximum Number of Iterations	3
Single	No
Multiple (Optimum)	Yes
Maximum	No

Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Global Plane for z-axis	XZ
Plate Local Axis Orientation	Nodal

Hot Rolled Steel	AISC 15th (360-16): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 15th (360-16): LRFD
Cold Formed Steel	AISI S100-16: LRFD
Stiffness Adjustment	Yes (Iterative)
Wood	AWC NDS-18 / SDPWS-15 ASD
Temperature	< 100F
Concrete	ACI 318-14
Masonry	TMS 402-16: Strength
Aluminum	AA ADM1-15: LRFD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)

Analysis Methodology	Exact Integration Method
Parame Beta Factor	0.65

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes
List forces which were ignored for design in the Detail Report	Yes

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Code	ASCE 7-16
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**Model Settings (Continued)**

Risk Category	I or II
Drift Cat	Other
Base Elevation (ft)	0
Include the weight of the structure in base shear calcs	Yes
$S_i$ (g)	0.055
$SD_i$ (g)	0.089
$SD_s$ (g)	0.218
$T_i$ (sec)	6
T Z (sec)	0.2789
T X (sec)	0.2789
$C_z$	0.02
$C_x$	0.02
$C_{Exp. Z}$	0.75
$C_{Exp. X}$	0.75
R Z	3
R X	3
$\Omega_z$	1
$\Omega_x$	1
$C_d Z$	1
$C_d X$	1
$\rho Z$	1
$\rho X$	1

**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

**General Materials Properties**

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [ $1e^{-5}F^{-1}$ ]	Density [k/ft <sup>3</sup> ]	Plate Methodology
1	gen Conc3NW	3155	1372	0.15	0.6	0.145	Isotropic
2	gen Conc4NW	3644	1584	0.15	0.6	0.145	Isotropic
3	gen Conc3LW	2085	906	0.15	0.6	0.11	Isotropic
4	gen Conc4LW	2408	1047	0.15	0.6	0.11	Isotropic
5	gen Alum	10600	4077	0.3	1.29	0.173	Isotropic
6	gen Steel	29000	11154	0.3	0.65	0.49	Isotropic
7	RIGID	1e+6		0.3	0	0	Isotropic

**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 w/2" 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

**General Section Sets**

	Label	Shape	Type	Material	Area [in <sup>2</sup> ]	Iyy [in <sup>4</sup> ]	Izz [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	GEN1A	RE4X4	Beam	gen_Conc3NW	16	21.333	21.333	31.573
2	RIGID		Beam	RIGID	1e+6	1e+6	1e+6	1e+6

**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	N19	N31	90	W24x68	None	None	A572 Gr.50	Typical
4	M4	N18	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



Company : American Tower  
 Designer : TAK  
 Job Number : 14760718\_C3\_01  
 Model Name : 411261, CromwellSW CT

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**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
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
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



**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
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
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	N15	N19	90	W24x68	None	None	A572 Gr.50	Typical
85	M85	N9	N15	90	W24x68	None	None	A572 Gr.50	Typical
86	M86	N7	N9	90	W24x68	None	None	A572 Gr.50	Typical
87	M87	N14	N18	90	W24x68	None	None	A572 Gr.50	Typical
88	M88	N8	N14	90	W24x68	None	None	A572 Gr.50	Typical
89	M89	N6	N8	90	W24x68	None	None	A572 Gr.50	Typical
90	M90	N1	N90		RIGID	Beam	None	RIGID	DR1
91	M91	N2	N90		RIGID	Beam	None	RIGID	DR1
92	M92	N3	N90		RIGID	Beam	None	RIGID	DR1

**Hot Rolled Steel Design Parameters**

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
1	M1	W24x68 w16x1 PL	19	Lbyy			N/A	N/A	Lateral
2	M2	W24x68 w16x1 PL	19	Lbyy			N/A	N/A	Lateral
3	M3	W24x68	29.42				N/A	N/A	Lateral
4	M4	W24x68	29.42				N/A	N/A	Lateral
5	M5	18"x0.5"	28.833	Lbyy			N/A	N/A	Lateral
6	M6	18"x0.5"	27.708	Lbyy			N/A	N/A	Lateral
7	M7	18"x0.5"	28.479	Lbyy			N/A	N/A	Lateral
8	M8	18"x0.5"	25.542	Lbyy			N/A	N/A	Lateral
9	M29	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
10	M30	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
11	M31	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
12	M32	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
13	M33	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
14	M34	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
15	M35	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
16	M36	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
17	M37	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
18	M38	L5x5x3/8	13.644	Lbyy			N/A	N/A	Lateral
19	M39	L5x5x3/8	15.226	Lbyy	0.5	0.5	N/A	N/A	Lateral
20	M40	L5x5x3/8	15.226	Lbyy	0.5	0.5	N/A	N/A	Lateral
21	M41	L5x5x3/8	15.226	Lbyy			N/A	N/A	Lateral



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

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
22	M42	L5x5x3/8	15.226	Lbyy	0.5	0.5	N/A	N/A	Lateral
23	M43	L3.5x3.5x0.3125	19.812	Lbyy	0.5	0.5	N/A	N/A	Lateral
24	M44	L3.5x3.5x0.3125	19.812	Lbyy	0.5	0.5	N/A	N/A	Lateral
25	M45	L5x5x3/8 wHSS2x2x1/4	32.37	Lbyy	0.5	0.5	N/A	N/A	Lateral
26	M46	L5x5x3/8 wHSS2x2x1/4	32.37	Lbyy	0.5	0.5	N/A	N/A	Lateral
27	M47	WT6x15	10.717	Lbyy			N/A	N/A	Lateral
28	M48	WT6x15	10.717	Lbyy			N/A	N/A	Lateral
29	M49	WT6x15	10.037	Lbyy			N/A	N/A	Lateral
30	M50	WT6x15	10.037	Lbyy			N/A	N/A	Lateral
31	M51	WT6x15	10.86	Lbyy			N/A	N/A	Lateral
32	M52	WT6x15	10.86	Lbyy			N/A	N/A	Lateral
33	M53	WT6x15	9.935	Lbyy			N/A	N/A	Lateral
34	M54	WT6x15	9.935	Lbyy			N/A	N/A	Lateral
35	M55	WT6x15	10.976	Lbyy			N/A	N/A	Lateral
36	M56	WT6x15	10.976	Lbyy			N/A	N/A	Lateral
37	M57	WT6x15	10.09	Lbyy			N/A	N/A	Lateral
38	M58	WT6x15	10.09	Lbyy			N/A	N/A	Lateral
39	M59	WT6x15	10.803	Lbyy			N/A	N/A	Lateral
40	M60	WT6x15	10.803	Lbyy			N/A	N/A	Lateral
41	M61	WT6x15	10.09	Lbyy			N/A	N/A	Lateral
42	M62	WT6x15	10.09	Lbyy			N/A	N/A	Lateral
43	M63	WT6x15	10.803	Lbyy			N/A	N/A	Lateral
44	M64	WT6x15	10.803	Lbyy			N/A	N/A	Lateral
45	M65	WT6x15	9.288	Lbyy			N/A	N/A	Lateral
46	M66	WT6x15	9.288	Lbyy			N/A	N/A	Lateral
47	M71	HSS8x4x1/4	13.5	Lbyy			N/A	N/A	Lateral
48	M72	HSS8x4x1/4	13.5	Lbyy			N/A	N/A	Lateral
49	M75	HSS6x4x1/4	15.003	Lbyy			N/A	N/A	Lateral
50	M76	HSS6x4x1/4	15.003	Lbyy			N/A	N/A	Lateral
51	M77	HSS6x4x1/4	15	Lbyy			N/A	N/A	Lateral
52	M76A	L4x4x5/16 w/2" Pipe	7.372	Lbyy			N/A	N/A	Lateral
53	M77A	L4x4x5/16 w/2" Pipe	7.372	Lbyy			N/A	N/A	Lateral
54	M78	L4x4x5/16 w/2" Pipe	12.473	Lbyy			N/A	N/A	Lateral
55	M79	L4x4x5/16 w/2" Pipe	12.473	Lbyy			N/A	N/A	Lateral
56	M84	W24x68	14.5				N/A	N/A	Lateral
57	M85	W24x68	14.083				N/A	N/A	Lateral
58	M86	W24x68	2.333				N/A	N/A	Lateral
59	M87	W24x68	14.5				N/A	N/A	Lateral
60	M88	W24x68	14.083				N/A	N/A	Lateral
61	M89	W24x68	2.333				N/A	N/A	Lateral

**Basic Load Cases**

	BLC Description	Category	Y Gravity	Nodal	Distributed
1	Dead	DL	-1	169	
2	DA - No Ice Wind 0 deg	WL+Z		208	
3	DA - No Ice Wind 90 deg	WL-X		212	
4	DA - No Ice Wind 180 deg	WL-Z		208	
5	DA - Ice	OL1		169	
6	DA - Ice Wind 0 deg	OL2		208	
7	DA - Ice Wind 90 deg	OL3		212	
8	DA - Ice Wind 180 deg	OL4		208	
9	DA - Service Wind 0 deg	OL5		208	
10	DA - Service Wind 90 deg	OL6		212	
11	DA - Service Wind 180 deg	OL7		208	
12	STR - No Ice Wind 0 deg	WL+Z			17



**Basic Load Cases (Continued)**

	BLC Description	Category	Y Gravity	Nodal	Distributed
13	STR - No Ice Wind 90 deg	WL-X			17
14	STR - No Ice Wind 180 deg	WL-Z			17
15	STR - Ice	OL1			13
16	STR - Ice Wind 0 deg	OL2			17
17	STR - Ice Wind 90 deg	OL3			17
18	STR - Ice Wind 180 deg	OL4			17
19	STR - Service Wind 0 deg	OL5			17
20	STR - Service Wind 90 deg	OL6			17
21	STR - Service Wind 180 deg	OL7			17
22	LA - Dead	None			17
23	LA - Ice	None			17

**Load Combinations**

	Description	SolveP-Delta	BLCFactor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Dead Only	Yes	Y	DL	1	22	1								
2	1.2 Dead+1.0 Wind 0 deg - No Ice	Yes	Y	DL	1.2	22	1.9	WL+Z	1						
3	0.9 Dead+1.0 Wind 0 deg - No Ice	Yes	Y	DL	0.9	22	0.9	WL+Z	1						
4	1.2 Dead+1.0 Wind 90 deg - No Ice	Yes	Y	DL	1.2	22	1.2	WL-X	1						
5	0.9 Dead+1.0 Wind 90 deg - No Ice	Yes	Y	DL	0.9	22	0.9	WL-X	1						
6	1.2 Dead+1.0 Wind 180 deg - No Ice	Yes	Y	DL	1.2	22	1.2	WL-Z	1						
7	0.9 Dead+1.0 Wind 180 deg - No Ice	Yes	Y	DL	0.9	22	0.9	WL-Z	1						
8	1.2 Dead+1.0 Ice+1.0 Temp	Yes	Y	DL	1.2	23	1	OL1	1						
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	Yes	Y	DL	1.2	23	1	OL2	1						
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	Yes	Y	DL	1.2	23	1	OL3	1						
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	Yes	Y	DL	1.2	23	1	OL4	1						
12	Dead+Wind 0 deg - Service	Yes	Y	DL	1	22	1	OL5	1						
13	Dead+Wind 90 deg - Service	Yes	Y	DL	1	22	1	OL6	1						
14	Dead+Wind 180 deg - Service	Yes	Y	DL	1	22	1	OL7	1						
15	IBC 21/ASCE Strength 6 (a)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	1	SZ*SF	0.3	LL	0.5	LLS	1
16	IBC 21/ASCE Strength 6 (b)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	1	SX*SF	0.3	LL	0.5	LLS	1
17	IBC 21/ASCE Strength 6 (c)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	1	SZ*SF	-0.3	LL	0.5	LLS	1
18	IBC 21/ASCE Strength 6 (d)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	1	SX*SF	-0.3	LL	0.5	LLS	1
19	IBC 21/ASCE Strength 6 (e)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	-1	SZ*SF	-0.3	LL	0.5	LLS	1
20	IBC 21/ASCE Strength 6 (f)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	-1	SX*SF	-0.3	LL	0.5	LLS	1
21	IBC 21/ASCE Strength 6 (g)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	-1	SZ*SF	0.3	LL	0.5	LLS	1
22	IBC 21/ASCE Strength 6 (h)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	-1	SX*SF	0.3	LL	0.5	LLS	1
23	IBC 21/ASCE Strength 7 (a)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	1	SZ*SF	0.3				
24	IBC 21/ASCE Strength 7 (b)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	1	SX*SF	0.3				
25	IBC 21/ASCE Strength 7 (c)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	1	SZ*SF	-0.3				
26	IBC 21/ASCE Strength 7 (d)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	1	SX*SF	-0.3				
27	IBC 21/ASCE Strength 7 (e)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	-1	SZ*SF	-0.3				
28	IBC 21/ASCE Strength 7 (f)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	-1	SX*SF	-0.3				
29	IBC 21/ASCE Strength 7 (g)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	-1	SZ*SF	0.3				
30	IBC 21/ASCE Strength 7 (h)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	-1	SX*SF	0.3				

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

Member	Shape	Code	Check	Loc	[ft]	LC	Shear	Check	Loc	[ft]	Dir	LC	phi*	Pnc	[k]	phi*	Pnt	[k]	phi*	Mn	y-y	[k-ft]	phi*	Mn	z-z	[k-ft]	Cb	Eqn
0	M4	W24X68	0.932	1.394	6		0.014	1.394	z	2		127.604	904.5	91.875	395.219	2.009	H1-1a											
1	M3	W24X68	0.926	1.394	6		0.014	1.394	z	2		127.604	904.5	91.875	383.216	1.948	H1-1a											
2	M7	HSS18X0.500	0.869	16.938	2		0.119	16.938		4		690.365	806.4	375.375	375.375	1	H1-1b											
3	M5	HSS18X0.500	0.752	0	2		0.038	0		4		687.686	806.4	375.375	375.375	1	H1-1a											
4	M44	L3.5X3.5X5	0.671	4.171	4		0.003	9.906	y	6		15.754	68.04	2.882	4.059	1.349	H2-1											
5	M88	W24X68	0.67	0	6		0.038	0	y	7		487.595	904.5	91.875	663.75	1.434	H1-1a											



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

Member	Shape	Code Check	Loc[ft]	Lc	Shear	Check	Loc[ft]	Dir	Lc	phi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
6	M85	W24X68	0.666	0	6	0.037	0	y	7	487.595	904.5	91.875	663.75	1.432	H1-1a				
7	M6	HSS18X0.500	0.612	3.354	2	0.038	17.208	y	4	696.116	806.4	375.375	375.375	1	H1-1a				
8	M64	WT6X15	0.606	5.288	6	0.012	10.803	y	6	93.256	142.56	12.906	11.631	1	H1-1a				
9	M63	WT6X15	0.601	5.288	6	0.012	10.803	y	6	93.256	142.56	12.906	11.631	1	H1-1a				
10	M62	WT6X15	0.547	4.939	2	0.005	10.09	y	6	97.646	142.56	12.906	11.675	1	H1-1a				
11	M61	WT6X15	0.543	4.939	2	0.006	10.09	y	6	97.646	142.56	12.906	11.675	1	H1-1a				
12	M41	L5X5X6	0.533	7.613	4	0.004	7.613	y	6	24.013	118.26	7.418	11.345	1.101	H2-1				
13	M89	W24X68	0.519	2.333	6	0.04	0	y	2	795.97	904.5	91.875	663.75	1.081	H1-1a				
14	M86	W24X68	0.516	2.333	6	0.039	0	y	2	795.97	904.5	91.875	663.75	1.08	H1-1a				
15	M8	HSS18X0.500	0.484	0	6	0.054	0	y	4	711.672	806.4	375.375	375.375	1	H1-1b				
16	M46	L5x5x3/8 wHSS2x2x1/4	0.462	16.185	4	0.005	16.185	y	16	30.84	170.302	10.651	10.832	1.438	H2-1				
17	M52	WT6X15	0.43	5.316	6	0.005	10.86	y	4	92.895	142.56	12.906	11.628	1	H1-1a				
18	M51	WT6X15	0.423	5.316	6	0.005	10.86	y	6	92.895	142.56	12.906	11.628	1	H1-1a				
19	M43	L3.5X3.5X5	0.414	9.906	6	0.003	9.906	y	6	15.754	68.04	2.882	3.943	1.276	H2-1				
20	M87	W24X68	0.414	0	6	0.009	0	y	7	473.068	904.5	91.875	592.019	1.191	H1-1a				
21	M84	W24X68	0.412	0	6	0.009	0	y	7	473.068	904.5	91.875	591.876	1.191	H1-1a				
22	M56	WT6X15	0.403	5.372	6	0.006	10.976	y	4	92.164	142.56	12.906	11.621	1	H1-1a				
23	M55	WT6X15	0.397	5.372	6	0.005	10.976	y	4	92.164	142.56	12.906	11.621	1	H1-1a				
24	M49	WT6X15	0.345	4.913	4	0.004	10.037	y	6	97.959	142.56	12.906	11.678	1	H1-1a				
25	M48	WT6X15	0.327	5.246	4	0.005	10.717	y	6	93.791	142.56	12.906	11.637	1	H1-1a				
26	M2	W24x68 w16x1 PL	0.322	0	6	0.066	0	y	2	1722.727	2333.016	564.878	2134.343	1.446	H1-1b				
27	M1	W24x68 w16x1 PL	0.321	0	6	0.065	0	y	2	1722.727	2333.016	564.878	2134.343	1.445	H1-1b				
28	M54	WT6X15	0.316	4.863	2	0.005	9.935	y	4	98.574	142.56	12.906	11.684	1	H1-1a				
29	M53	WT6X15	0.311	4.863	2	0.005	9.935	y	6	98.574	142.56	12.906	11.684	1	H1-1a				
30	M45	L5x5x3/8 wHSS2x2x1/4	0.31	16.185	6	0.005	16.185	y	20	30.84	170.302	10.651	9.376	1.09	H2-1				
31	M58	WT6X15	0.285	4.939	2	0.006	10.09	y	4	97.646	142.56	12.906	11.675	1	H1-1a				
32	M57	WT6X15	0.28	4.939	2	0.005	10.09	y	4	97.646	142.56	12.906	11.675	1	H1-1a				
33	M50	WT6X15	0.243	5.072	4	0.005	10.037	y	4	97.959	142.56	12.906	11.678	1	H1-1a				
34	M60	WT6X15	0.227	5.288	6	0.007	10.803	y	4	93.256	142.56	12.906	11.631	1	H1-1a				
35	M30	L5X5X6	0.227	6.822	2	0.006	0	z	4	29.906	118.26	7.418	12.074	1.165	H2-1				
36	M29	L5X5X6	0.226	6.822	2	0.005	0	y	4	29.906	118.26	7.418	12.066	1.163	H2-1				
37	M59	WT6X15	0.222	5.288	6	0.006	10.803	y	4	93.256	142.56	12.906	11.631	1	H1-1a				
38	M47	WT6X15	0.22	5.471	4	0.005	10.717	y	6	93.791	142.56	12.906	11.637	1	H1-1a				
39	M39	L5X5X6	0.129	7.613	4	0.005	7.613	y	6	75.26	118.26	7.418	11.48	1.134	H2-1				
40	M42	L5X5X6	0.124	7.613	4	0.003	7.613	y	6	75.26	118.26	7.418	11.709	1.194	H2-1				
41	M32	L5X5X6	0.123	6.822	2	0.004	13.644	z	4	29.906	118.26	7.418	11.995	1.143	H2-1				
42	M31	L5X5X6	0.123	6.822	2	0.004	13.644	y	4	29.906	118.26	7.418	11.983	1.14	H2-1				
43	M40	L5X5X6	0.092	7.613	4	0.005	7.613	y	6	75.26	118.26	7.418	11.35	1.102	H2-1				
44	M34	L5X5X6	0.09	6.822	2	0.003	13.644	z	17	29.906	118.26	7.418	11.988	1.142	H2-1				
45	M33	L5X5X6	0.089	6.822	2	0.004	13.644	y	19	29.906	118.26	7.418	11.974	1.138	H2-1				
46	M78	L4x4x5/16 w2.4" pipe	0.088	12.473	4	0.002	12.473	y	4	23.183	122.791	5.57	9.845	1.5	H2-1				
47	M35	L5X5X6	0.088	6.822	6	0.003	13.644	y	19	29.906	118.26	7.418	11.993	1.143	H2-1				
48	M36	L5X5X6	0.087	6.822	6	0.003	13.644	z	17	29.906	118.26	7.418	11.979	1.139	H2-1				
49	M38	L5X5X6	0.073	6.822	6	0.003	0	z	4	29.906	118.26	7.418	12.05	1.158	H2-1				
50	M37	L5X5X6	0.073	6.822	6	0.003	0	y	4	29.906	118.26	7.418	12.054	1.159	H2-1				
51	M79	L4x4x5/16 w2.4" pipe	0.071	12.473	2	0.002	0	y	16	23.183	122.791	5.57	9.845	1.5	H2-1				
52	M66	WT6X15	0.051	0	2	0.015	9.288	y	2	102.314	142.56	12.906	11.723	1	H1-1b*				
53	M65	WT6X15	0.048	0	2	0.014	9.288	y	2	102.314	142.56	12.906	11.723	1	H1-1b*				
54	M77A	L4x4x5/16 w2.4" pipe	0.039	0	4	0.002	7.372	y	20	62.257	122.791	5.57	9.968	1.5	H2-1				
55	M76A	L4x4x5/16 w2.4" pipe	0.033	7.372	4	0.002	0	y	4	62.257	122.791	5.57	9.968	1.5	H2-1				
56	M77	HSS6X4X4	0.015	15	16	0.003	15	y	19	71.936	139.32	17.415	23.031	2.381	H1-1b				
57	M76	HSS6X4X4	0.015	0	22	0.003	15.003	y	19	71.936	139.32	17.415	23.031	2.381	H1-1b				
58	M75	HSS6X4X4	0.015	15.003	22	0.003	15.003	y	16	71.936	139.32	17.415	23.031	2.381	H1-1b				
59	M71	HSS8X4X4	0.009	13.5	16	0.002	13.5	y	19	102.692	169.776	22.14	35.91	2.381	H1-1b				
60	M72	HSS8X4X4	0.009	0	16	0.002	13.5	y	19	102.692	169.776	22.14	35.91	2.381	H1-1b				





Company : American Tower  
Designer : TAK  
Job Number : 14760718\_C3\_01  
Model Name : 411261, CromwellSW CT

4/18/2024  
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Checked By : \_\_\_\_\_

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

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Member	Shape	Code	CheckLoc[ft]	LC	Shear	CheckLoc[ft]	Dir	LC	$\phi$	Pnc	[k]	$\phi$	*Mn	y-y	[k-ft]	$\phi$	*Mn	z-z	[k-ft]	Cb	Eqn
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**Site Name:** CROMWELLSW CT, CT  
**Site Number:** 411261  
**Tower Type:** SST  
**Design Loads (Factored) - Analysis per TIA-222-H Standards**

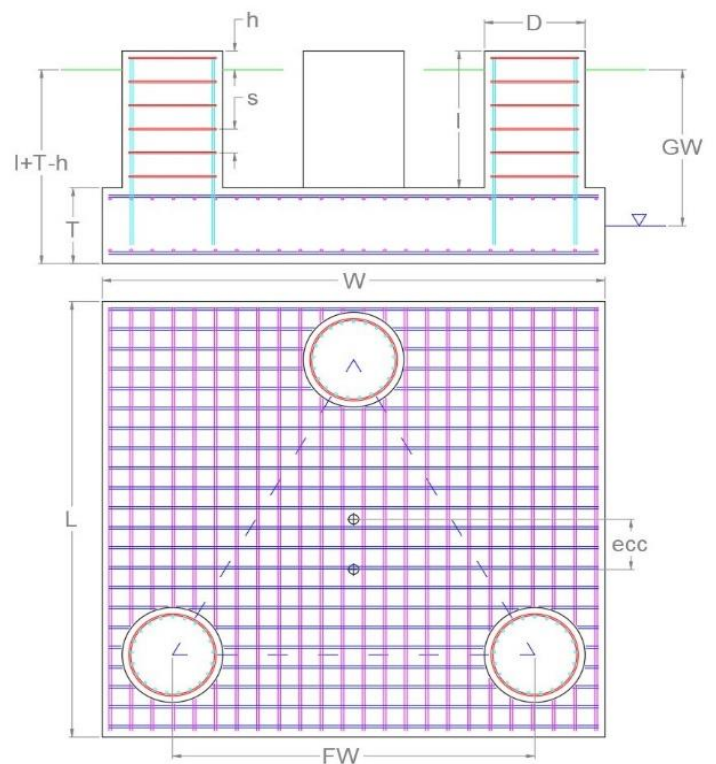
## Mat & Pier Foundation Analysis

Foundation Analysis Parameters		
Design / Analysis / Mapping:	Mapping	-
Compression/Leg:	405.4	k
Uplift/Leg:	367.6	k
Global Shear:	40.5	k
Global Moment:	2,487.8	k-ft
Global Axial:	57.9	k
Depth to Base of Foundation (l + t - h):	4.3	ft
Diameter of Pier (d):	6	ft
Length of Pier (l):	3.3	ft
Height of Pier above Ground (h):	2	ft
Pier Shape:	Square	
If Square: Pier Taper:	Prismatic	
Pier Width at Base:	6	ft
Width of Pad (W):	26.5	ft
Length of Pad (L):	16	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	13	ft
Number of Connection to Tower:	3	-
Tower Center from Mat Center:	1.3	ft
<hr/>		
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Soil Above Water Table:	120	pcf
Angle of Uplift:	0	°
Coefficient of Shear Friction:	0.6	-
Ultimate Compressive Bearing Pressure:	30,000	psf
Bearing Pressure Type:	Net	-
Ultimate Passive Pressure on Pad Face:	6,260	psf
Ultimate Skin Friction:	0	psf
Soil Type:	Other	-
$\Phi_{\text{Soil and Concrete Weight}}$ :	1.2	-
$\Phi_{\text{Soil}}$ :	0.75	-

Overturning Moment Usage		
Design OTM:	2743.9	k-ft
OTM Resistance:	3141.2	k-ft
$M_u / \Phi_s M_n$ :	87.4%	Pass

Soil Bearing Pressure Usage		
Applied Bearing Pressure:	9457.3	psf
Factored Nominal Bearing Pressure:	22500.0	psf
$P_u / \Phi_s P_n$ :	42.0%	Pass
Load Direction Controlling Design Bearing Pressure:	Parallel to Pad Edge	

Sliding Factor of Safety		
Ultimate Friction Resistance:	219.9	k
Ultimate Passive Pressure Resistance:	497.7	k
Total Factored Sliding Resistance:	538.2	k
$V_u / \Phi_s V_n$ :	7.5%	Pass



# EXHIBIT 4



Colliers Engineering & Design, Architecture,  
Landscape Architecture, Surveying, CT P.C.  
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peter.albano@collierseng.com

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## Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis

SMART Tool Project #: 10220910  
Colliers Engineering & Design Project #: 24777012

January 26, 2024

### Site Information

Site ID: 5000242779-VZW / CROMWELL SW CT  
Site Name: CROMWELL SW CT  
Carrier Name: Verizon Wireless  
Address: 100 Berlin Road  
Cromwell, Connecticut 06416  
Middlesex County  
Latitude: 41.60621°  
Longitude: -72.701206°

### Structure Information

Tower Type: 120-Ft Monopole/Self-Support  
Mount Type: 15.50-Ft Platform

FUZE ID # 17226238

### Analysis Results

Platform: 84.9% Pass\*

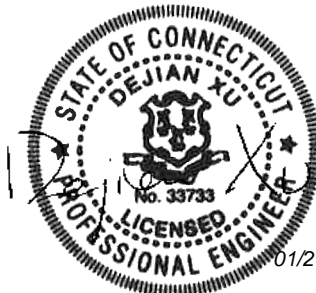
**\*Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

### \*\*\*Contractor PMI Requirements:

Included at the end of this MA report  
Available & Submitted via portal at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to:  
[pmisupport@colliersengineering.com](mailto:pmisupport@colliersengineering.com)

Report Prepared By: Grant Walters



01/26/2024

## **Executive Summary:**

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

## **Sources of Information:**

Document Type	Remarks
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS Site ID: 323641, dated January 17, 2024</i>
<i>Mount Mapping</i>	<i>Structural Components Site ID: 16231961, dated March 29, 2021</i>
<i>Previous Mount Modification Report</i>	<i>GPD Engineering and Architecture Professional Corporation, Project #: 2021740.467684.02 Rev 1, dated September 28, 2021</i>

## **Analysis Criteria:**

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), $V_{ULT}$ : 120 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 0.997
Seismic Parameters:	$S_s$ : 0.207 g $S_1$ : 0.056 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, $L_v$ : 250 lbs. Maintenance Load, $L_m$ : 500 lbs.
Analysis Software:	RISA-3D (V21)

**Final Loading Configuration:**

The following equipment has been considered for the analysis of the mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
81.00	84.00	6	JMA Wireless	MX06FRO660-03	Retained
		3	Samsung	MT6407-77A	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		1	Raycap	RVZDC-6627-PF-48*	
		2	KAelus	BSF0020F3V1-1	Added

\* Equipment is flush mounted directly to the Monopole. They are not mounted on the platform mount and are not included in this mount analysis.

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

**Standard Conditions:**

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
  - o Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - o HSS (Rectangular)                              ASTM 500 (Gr. B-46)
  - o Pipe    ASTM A53 (Gr. B-35)
  - o Threaded Rod                                      F1554 (Gr. 36)
  - o Bolts     ASTM A325

**Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.**

**Analysis Results:**

Component	Utilization %	Pass/Fail
Threaded Rod	84.9%	Pass
Mount Pipe (P2.0 STD)	10.9%	Pass
Mod V-Kit Angle	38.6%	Pass
Mod Reinf Corner Angle	9.1%	Pass
Mod Reinforcement Horizontal	29.5%	Pass
Platform Tower Horz	32.3%	Pass
Mount Pipe (P3.5 STD)	20.2%	Pass
Corner Angle Brace 3	22.3%	Pass
Corner Angle Brace 2	6.8%	Pass
Connection Plate	10.3%	Pass
Corner Angle Brace 1	13.1%	Pass
Corner Rail Post	12.7%	Pass
Platform Face Horizontals	18.8%	Pass
Platform Vertical	41.0%	Pass
Platform Kicker	20.8%	Pass
Platform HSS Framing	12.8%	Pass
Mount Connection	21.0%	Pass

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>84.9%</b>
---	--------------

**Mount Connection Envelope Reactions:**

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector B Reinforcement	77.25	N19	2795	1759	0.000	0.000	3199	1944	0.000	0.000
Sector C Reinforcement	77	N21	775	1598	0.000	0.000	1167	2409	0.000	0.000
Sector C Reinforcement	77.25	N15	2201	1970	0.000	0.000	3113	2656	0.000	0.000
Sector B Reinforcement	77	N17	1277	2539	0.000	0.000	2057	3991	0.000	0.000
Sector C Standoff	81	N367	1938	3496	1.884	0.585	2050	2470	0.996	0.186
Sector C Standoff	81	N368	1594	4287	0.633	0.410	1328	3207	0.634	0.171
Sector B Standoff	81	N369	903	2633	1.154	0.611	1438	2566	1.046	0.273
Sector B Standoff	81	N370	1421	1774	1.672	0.723	1039	1262	1.064	0.311
Sector C Top Reinforcement	88.7	N491	3185	4855	0.004	0.000	1205	1934	0.002	0.000

Notes:

- Axial loads act along the axis of the tower leg
- Lateral reactions act perpendicular to the tower leg
- Moment loads introduce bending moment to the tower leg
- Torsion loads introduce twisting moment to the tower leg
- Batch solutions by individual load cases are included at the end of this document

**Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:**

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	112.6	81.7	137.8	106.9
0.5	138.8	102.4	174.6	138.2
1	162.9	122.0	207.8	166.8

Notes:

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations



## **Requirements:**

The existing mount is **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

Contractor to verify all equipment per previous mount analysis report and construction drawings by GPD Engineering and Architecture Professional Corporation, Project #: 2021740.467684.02 Rev 1, dated 9/28/2021, has been installed.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

## **Attachments:**

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Photos
4. Mount Mapping Report (for reference only)
5. Analysis Calculations

# Mount Desktop – Post Modification Inspection (PMI) Report Requirements

## Documents & Photos Required from Contractor – **Passing Mount Analysis**

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at <https://pmi.vzwsmart.com>.

For additional questions and support, please reach out to [pmisupport@colliersengineering.com](mailto:pmisupport@colliersengineering.com)

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MDG #: 5000242779

SMART Project #: 10220910

Fuze Project ID: 17226238

**Purpose** – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

### **Base Requirements:**

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide “as built mount drawings” showing contractor’s name, contact information, preparer’s signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: <https://pmi.vzwsmart.com>

### **Photo Requirements:**

- Photos taken at ground level
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- Photos taken at Mount Elevation
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.
  - Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.

- These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

**Antenna & equipment placement and Geometry Confirmation:**

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.
  - The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

- The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

**Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:**

**Issue:**

Contractor to verify all equipment per previous mount analysis report and construction drawings by GPD Engineering and Architecture Professional Corporation, Project #: 2021740.467684.02 Rev 1, dated 9/28/2021, has been installed.

**Response:**

**Special Instruction Confirmation:**

- The contractor has read and acknowledges the above special instructions.
- All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.
- The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

- The material utilized was approved by a SMART Tool engineering vendor as an “equivalent” and this approval is included as part of the contractor submission.

**Comments:**

--

**Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:**

Yes       No

**Contractor certifies no new damage created during the current installation:**

Yes       No

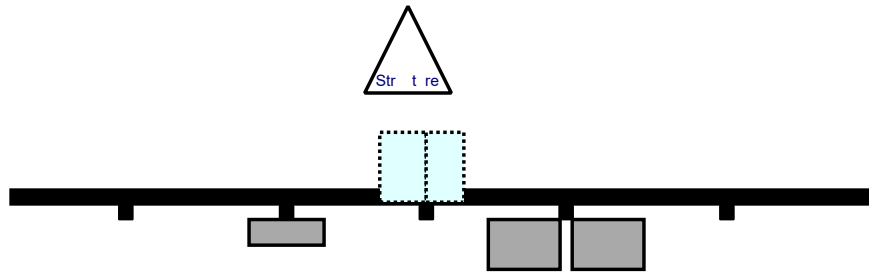
**Contractor to certify the condition of the safety climb and verify no damage when leaving the site:**

Safety Climb in Good Condition                       Safety Climb Damaged

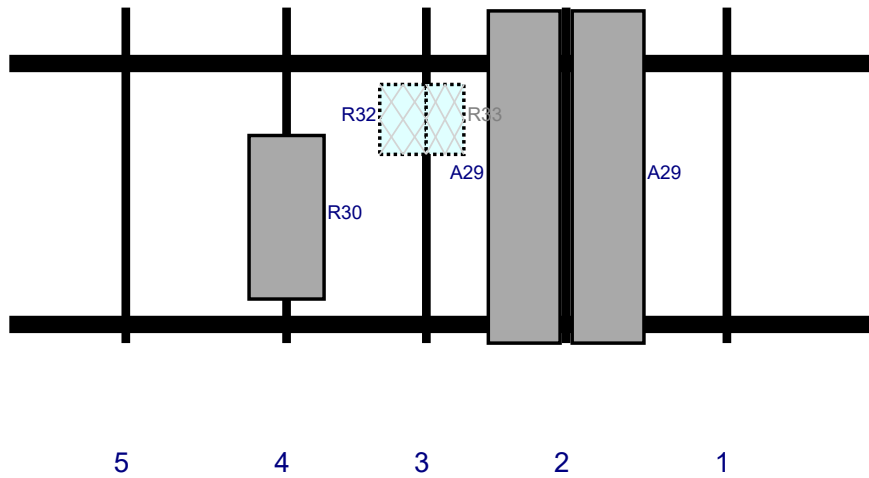
**Certifying Individual:**

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Plan View

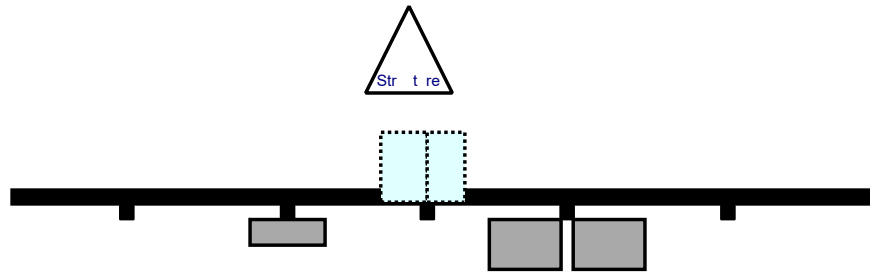


Front View - Looking at Structure

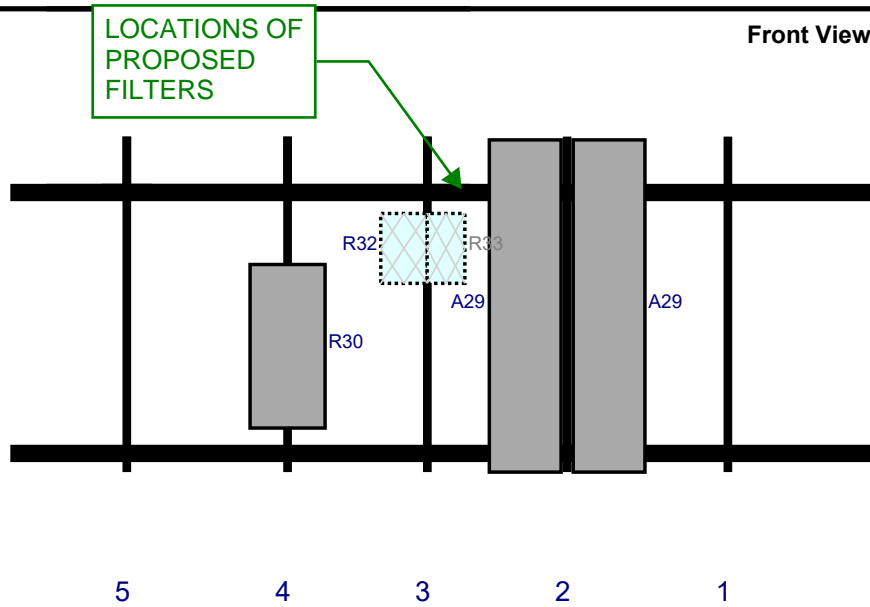


Re #	Model	Height (i)	Width (i)	H Dist Frm L.	Pipe #	Pipe Pos V	A t Pos	C. A t Frm T.	A t H O	St t s	V lid tio
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	9	Ret i ed	
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	-9	Ret i ed	
R32	B2/B66A RRH-BR049	15	10	89.5	3		Behi d	24	-5	Ret i ed	
R33	B5/B13 RRH-BR04C	15	8.1	89.5	3		Behi d	24	4	Ret i ed	
R30	MT6407-77A	35.1	16.1	59.5	4		Fro t	45	0	Ret i ed	

Plan View

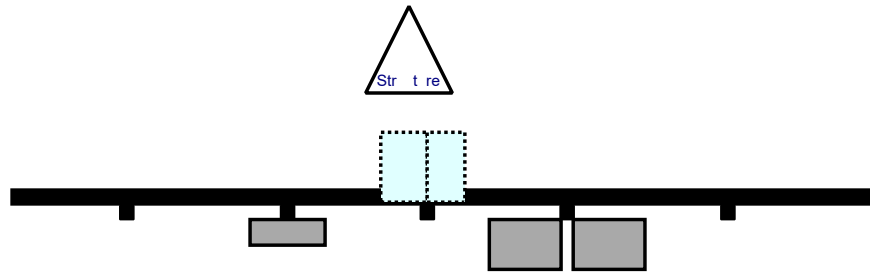


Front View - Looking at Structure

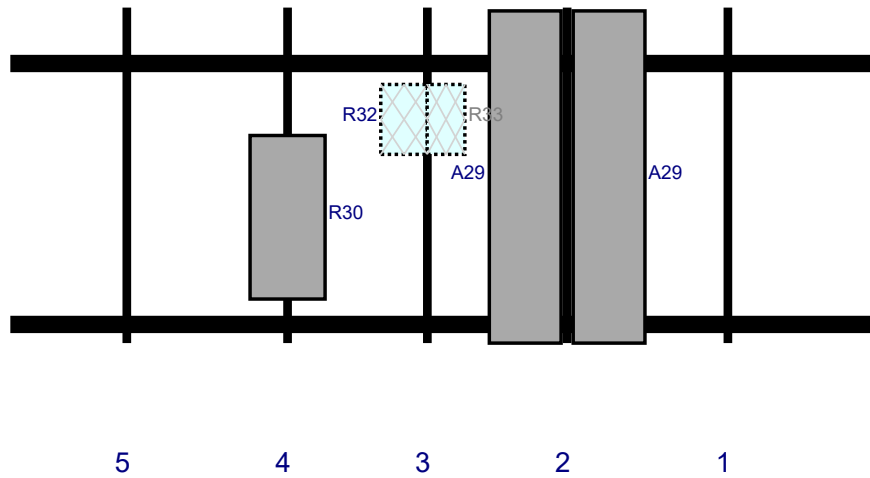


Re #	Model	Height (i)	Width (i)	H Dist Frm L.	Pipe #	Pipe Pos V	A t Pos	C. A t Frm T.	A t H O	St t s	V lid tio
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	9	Ret i ed	
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	-9	Ret i ed	
R32	B2/B66A RRH-BR049	15	10	89.5	3		Behi d	24	-5	Ret i ed	
R33	B5/B13 RRH-BR04C	15	8.1	89.5	3		Behi d	24	4	Ret i ed	
R30	MT6407-77A	35.1	16.1	59.5	4		Fro t	45	0	Ret i ed	
M19	BSF0020F3V1-1	10.6	10.9			Mem er				Added	
M19	BSF0020F3V1-1	10.6	10.9			Mem er				Added	

Plan View




Front View - Looking at Structure



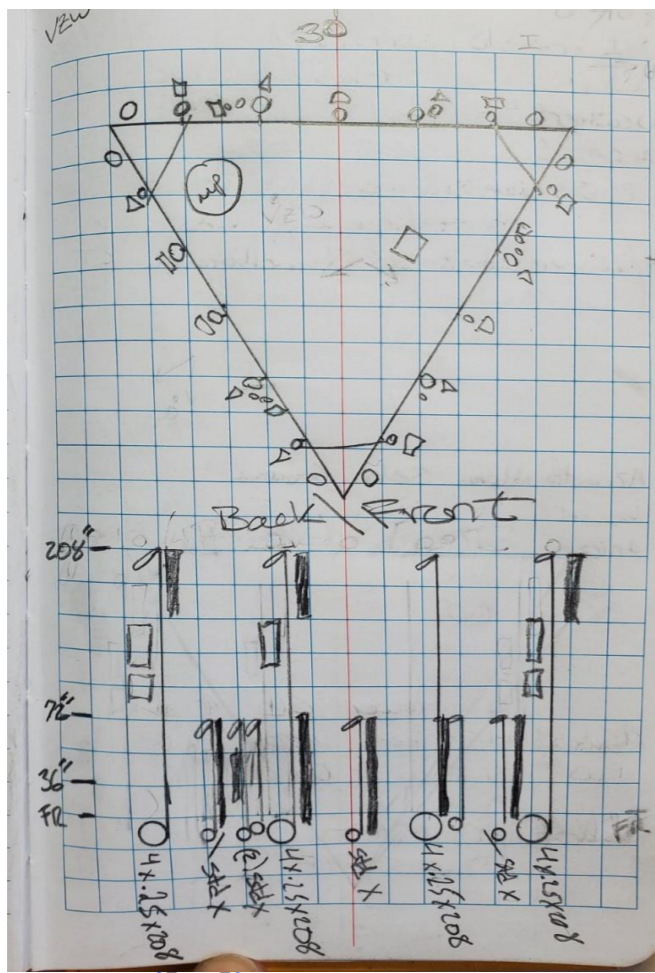
Re #	Model	Height (i)	Width (i)	H Dist Frm L.	Pipe #	Pipe Pos V	A t Pos	C. A t Frm T.	A t H O	St t s	V lid tio
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	9	Ret i ed	
A29	MX06FRO660-03	71.3	15.4	119.5	2		Fro t	36.36	-9	Ret i ed	
R32	B2/B66A RRH-BR049	15	10	89.5	3		Behi d	24	-5	Ret i ed	
R33	B5/B13 RRH-BR04C	15	8.1	89.5	3		Behi d	24	4	Ret i ed	
R30	MT6407-77A	35.1	16.1	59.5	4		Fro t	45	0	Ret i ed	





	<b>Antenna Mount Mapping Form (PATENT PENDING)</b>		<b>FCC #</b>	
	<b>Tower Owner:</b>	ATC	<b>Mapping Date:</b>	3/29/2021
	<b>Site Name:</b>	Cromwell CT	<b>Tower Type:</b>	Other
	<b>Site Number or ID:</b>	16231961	<b>Tower Height (Ft.):</b>	
<b>Mapping Contractor:</b>	Structural Components	<b>Mount Elevation (Ft.):</b>	80	

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Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2-3/8 x 0.154 x 72	72.00	23.00	C1	2-3/8 x 0.154 x 72	72.00	23.00
A2	4 x 0.25 x 208	208.00	58.00	C2	4 x 0.25 x 208	208.00	58.00
A3	2-3/8 x 0.154 x 72	72.00	89.00	C3	2-3/8 x 0.154 x 72	72.00	89.00
A4	4 x 0.25 x 208	208.00	118.00	C4	4 x 0.25 x 208	208.00	118.00
A5	2-3/8 x 0.154 x 72	72.00	154.00	C5	2-3/8 x 0.154 x 72	72.00	154.00
A6				C6			
B1	2-3/8 x 0.154 x 72	72.00	23.00	D1			
B2	4 x 0.25 x 208	208.00	58.00	D2			
B3	2-3/8 x 0.154 x 72	72.00	89.00	D3			
B4	4 x 0.25 x 208	208.00	118.00	D4			
B5	2-3/8 x 0.154 x 72	72.00	154.00	D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :

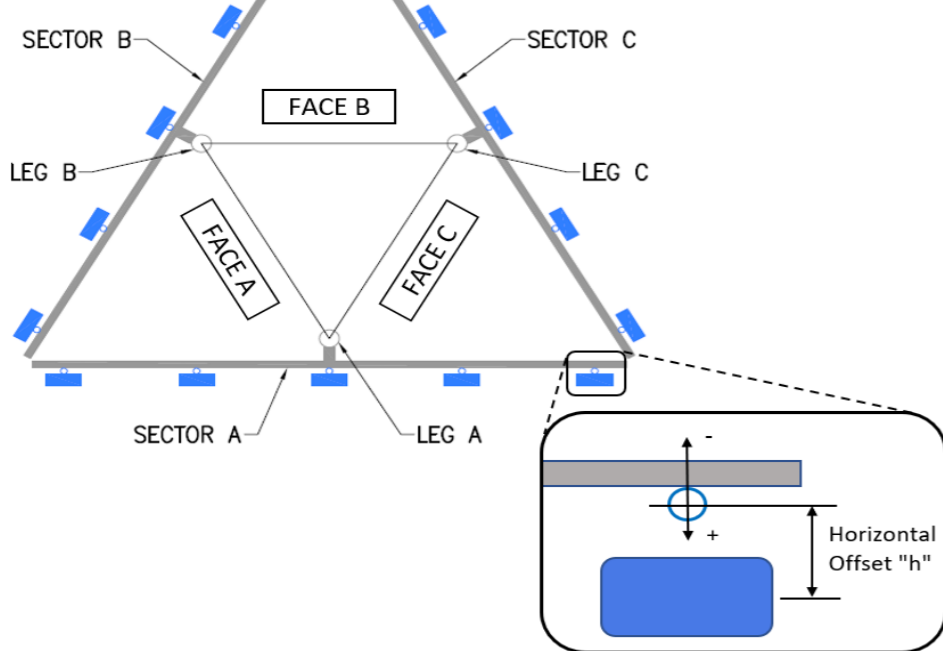
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :

Please enter additional information or comments below.

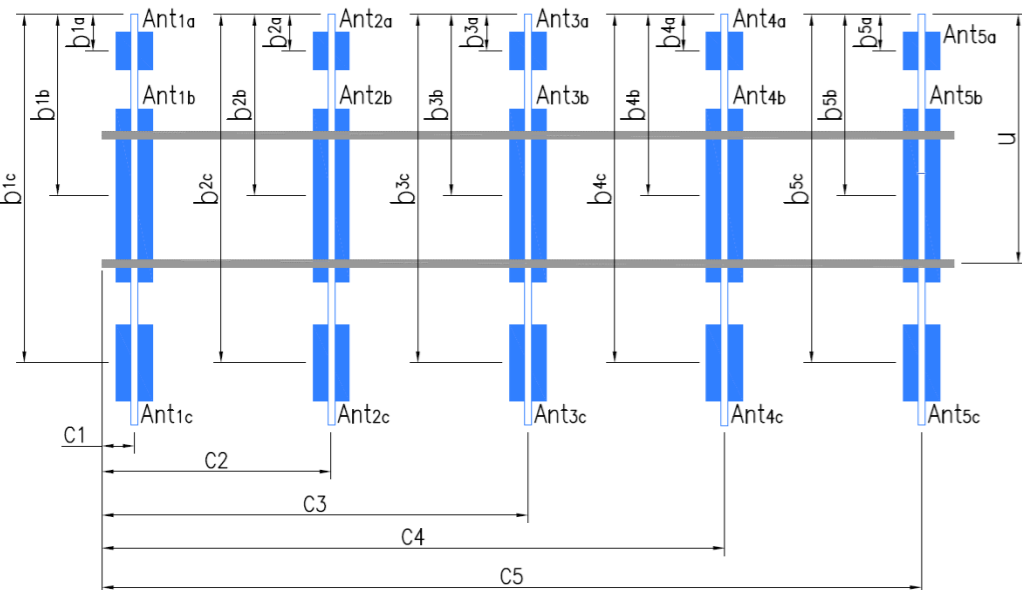
additional 4" pipe left of position 1 and right of position 5, with ATT equipment

Extra notes in photos

Tower Face Width at Mount Elev. (ft.): \_\_\_\_\_ Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.): \_\_\_\_\_



Ants. Items	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b <sub>1a</sub> , b <sub>2a</sub> , b <sub>3a</sub> , b <sub>1b</sub> ..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	
<b>Sector A</b>										
Ant <sub>1a</sub>										
Ant <sub>1b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83	36.00	8.00	15.00	10, 46
Ant <sub>1c</sub>										
Ant <sub>2a</sub>	9442 RRH 2x40-AWS	12.00	8.00	25.00		84	160.00	-8.00	15.00	10, 46
Ant <sub>2b</sub>	BXA-17063-12CF EDIN	6.00	4.00	72.00		83	172.00	8.00	15.00	10, 46
Ant <sub>2c</sub>										
Ant <sub>3a</sub>										
Ant <sub>3b</sub>	BXA-17063-CF EDIN	11.00	4.50	71.00		71.6667	172.00	11.00	15.00	10, 47
Ant <sub>3c</sub>										
Ant <sub>4a</sub>										
Ant <sub>4b</sub>	BXA-171085-12BF ED	6.00	4.00	72.00		83.5	166.00	6.00	15.00	10, 48
Ant <sub>4c</sub>										
Ant <sub>5a</sub>										
Ant <sub>5b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83.0833	35.00	8.00	15.00	10, 48
Ant <sub>5c</sub>										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										



**Antenna Layout (Looking Out From Tower)**

Mount Azimuth (Degree) for Each Sector			Tower Leg Azimuth (Degree) for Each Sector			Sector B														
Sector A:	30.00	Deg	Leg A:		Deg	Ant <sub>1a</sub>														
Sector B:	150.00	Deg	Leg B:		Deg	Ant <sub>1b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83	36.00	8.00	140.00	23, 49				
Sector C:	270.00	Deg	Leg C:		Deg	Ant <sub>1c</sub>														
Sector D:		Deg	Leg D:		Deg	Ant <sub>2a</sub>	9442 RRH 2x40-AWS	12.00	8.00	25.00		84	160.00	-8.00		23, 49				
<b>Climbing Facility Information</b>						Ant <sub>2b</sub>	BXA-17063-12CF EDIN	6.00	4.00	72.00		83	172.00	8.00	140.00	23, 49				
Location:	60.00	Deg	Sector A			Ant <sub>2c</sub>														
Climbing Facility	Corrosion Type:		Good condition.			Ant <sub>3a</sub>														
	Access:		Climbing path was obstructed.			Ant <sub>3b</sub>	BXA-17063-CF EDIN	11.00	4.50	71.00		71.6667	172.00	11.00	140.00	23, 49				
	Condition:		N/A			Ant <sub>3c</sub>														
						Ant <sub>4a</sub>														
						Ant <sub>4b</sub>	BXA-171085-12BF ED	6.00	4.00	72.00		83.5	166.00	6.00	140.00	23, 49				
						Ant <sub>4c</sub>														
						Ant <sub>5a</sub>														
						Ant <sub>5b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83.0833	35.00	8.00	140.00	23, 50				
						Ant <sub>5c</sub>														
						Ant on Standoff														
						Ant on Standoff	RRFDC-3315-PF-48	14.50	11.00	19.00	1) 1.5" Hyb		40.00			51				
						Ant on Tower														
						Ant on Tower														
														Sector C						
						Ant <sub>1a</sub>	GPS					86.5	-6.00			52				
						Ant <sub>1b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83	36.00	8.00	260.00	32, 52				
						Ant <sub>1c</sub>														
						Ant <sub>2a</sub>	9442 RRH 2x40-AWS	12.00	8.00	25.00		84	160.00	-8.00		32, 52				
						Ant <sub>2b</sub>	BXA-17063-12CF EDIN	6.00	4.00	72.00		83	172.00	8.00	260.00	32, 52				
						Ant <sub>2c</sub>														
						Ant <sub>3a</sub>														
						Ant <sub>3b</sub>	BXA-17063-CF EDIN	11.00	4.50	71.00		71.6667	172.00	11.00	260.00	32, 52				
						Ant <sub>3c</sub>														
						Ant <sub>4a</sub>														
						Ant <sub>4b</sub>	BXA-171085-12BF ED	6.00	4.00	72.00		83.5	166.00	6.00	270.00	32, 51				
						Ant <sub>4c</sub>														
						Ant <sub>5a</sub>														
						Ant <sub>5b</sub>	DB846F65ZAXY	10.00	8.00	72.00		83.0833	35.00	8.00	250.00	32, 51				
						Ant <sub>5c</sub>														
						Ant on Standoff														
						Ant on Standoff														
						Ant on Tower														
						Ant on Tower														
														Sector D						
						Ant <sub>1a</sub>														
						Ant <sub>1b</sub>														
						Ant <sub>1c</sub>														
						Ant <sub>2a</sub>														
						Ant <sub>2b</sub>														
						Ant <sub>2c</sub>														
						Ant <sub>3a</sub>														
						Ant <sub>3b</sub>														
						Ant <sub>3c</sub>														
						Ant <sub>4a</sub>														
						Ant <sub>4b</sub>														
						Ant <sub>4c</sub>														
						Ant <sub>5a</sub>														
						Ant <sub>5b</sub>														
						Ant <sub>5c</sub>														
						Ant on Standoff														
						Ant on Standoff														
						Ant on Tower														
						Ant on Tower														

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
---------------

1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
---------------------

1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



## Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	ATC	Mapping Date:	3/29/2021
Site Name:	Cromwell CT	Tower Type:	Other
Site Number or ID:	16231961	Tower Height (Ft.):	
Mapping Contractor:	Structural Components	Mount Elevation (Ft.):	80

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Please Insert Sketches of the Antenna Mount

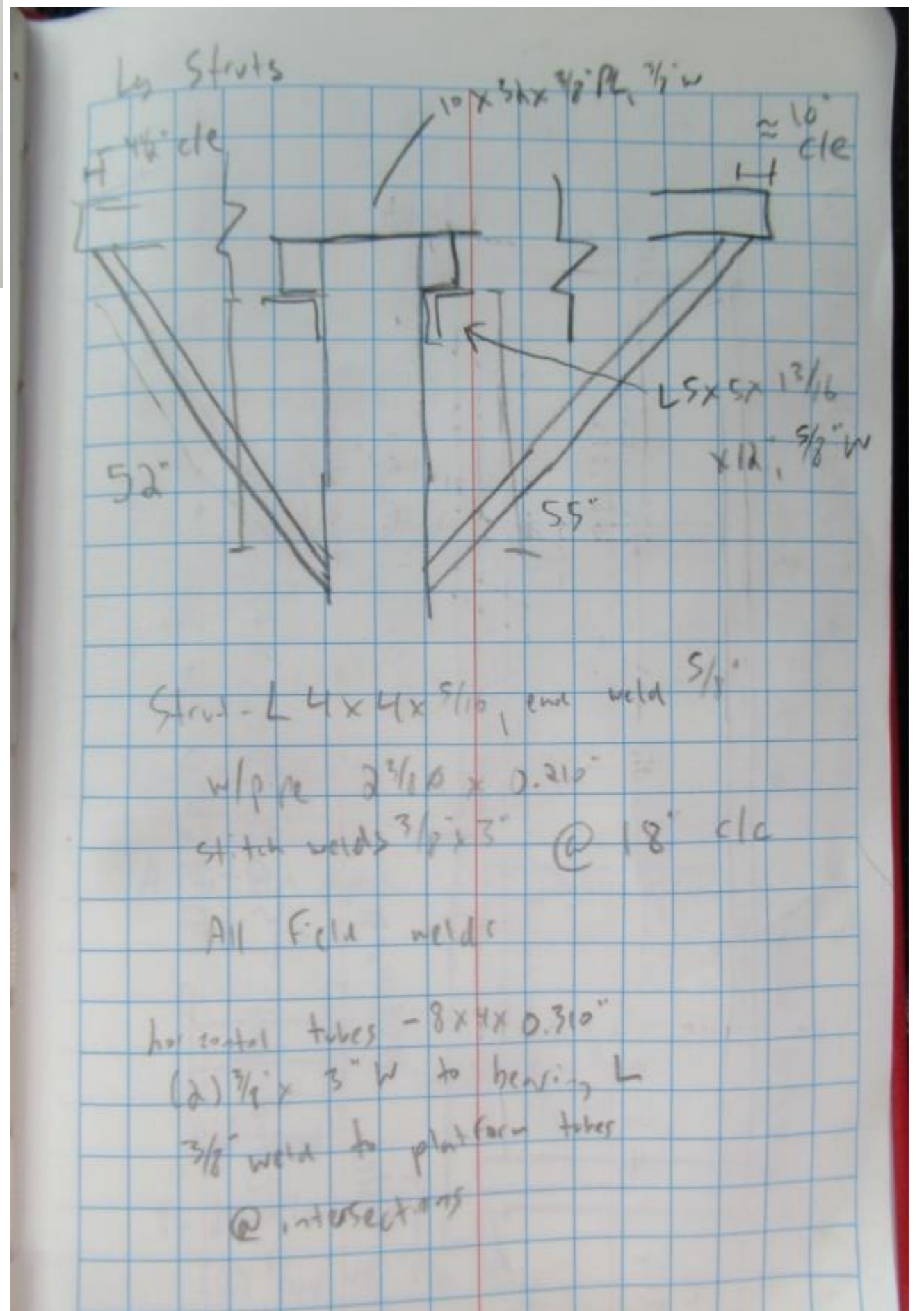
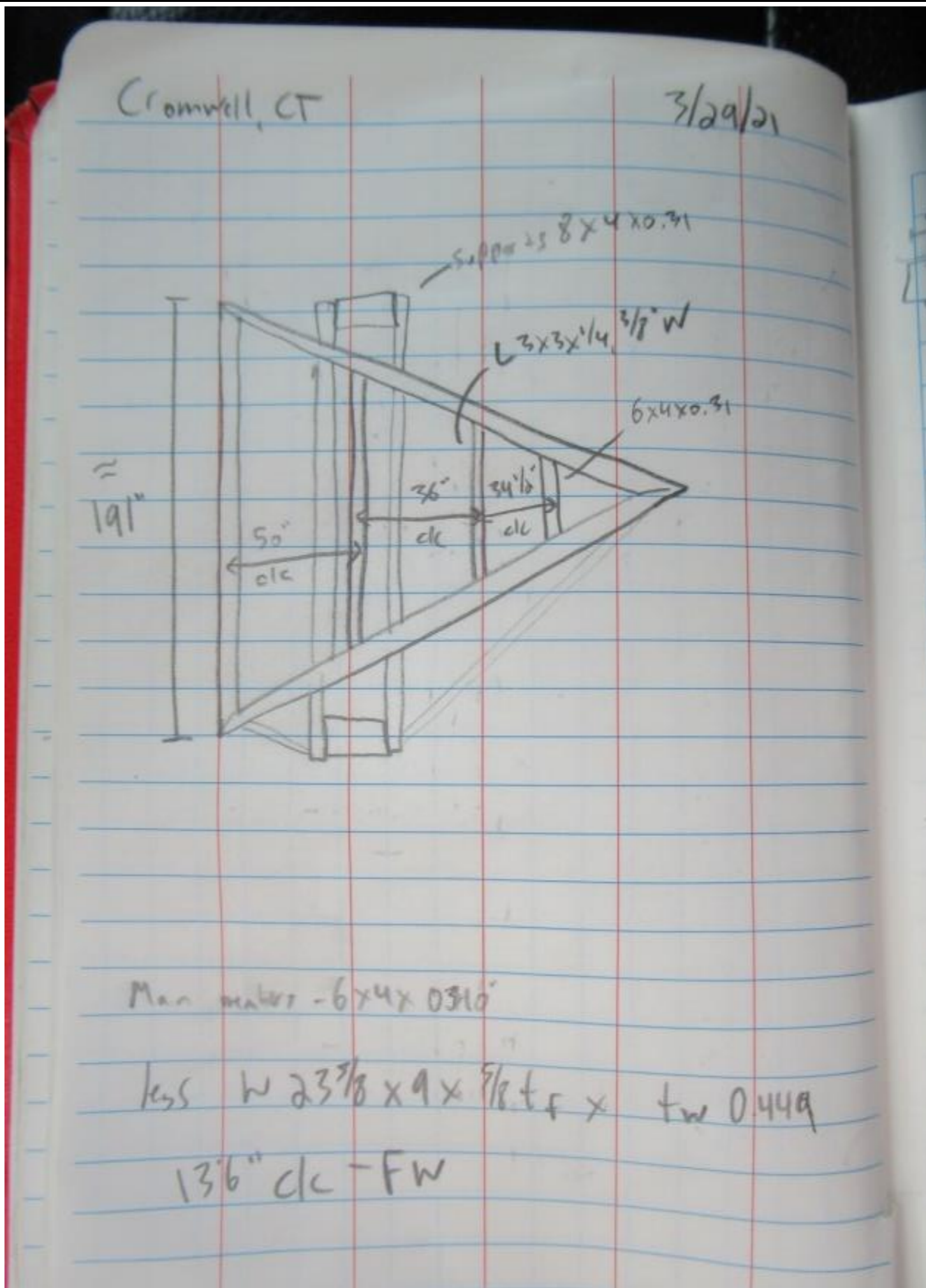
Maser-VZW 21777626 3/29/21  
 Todd/wes Cromwell SW CT  
 Weather: 40 / PC / 20 mph NW  
 Access: 2WD ATC  
 99 Christian Hill Rd Cromwell CT  
 Christian Hill Rd + Coles Rd  
 + 28 Crescent St, Middletown CT

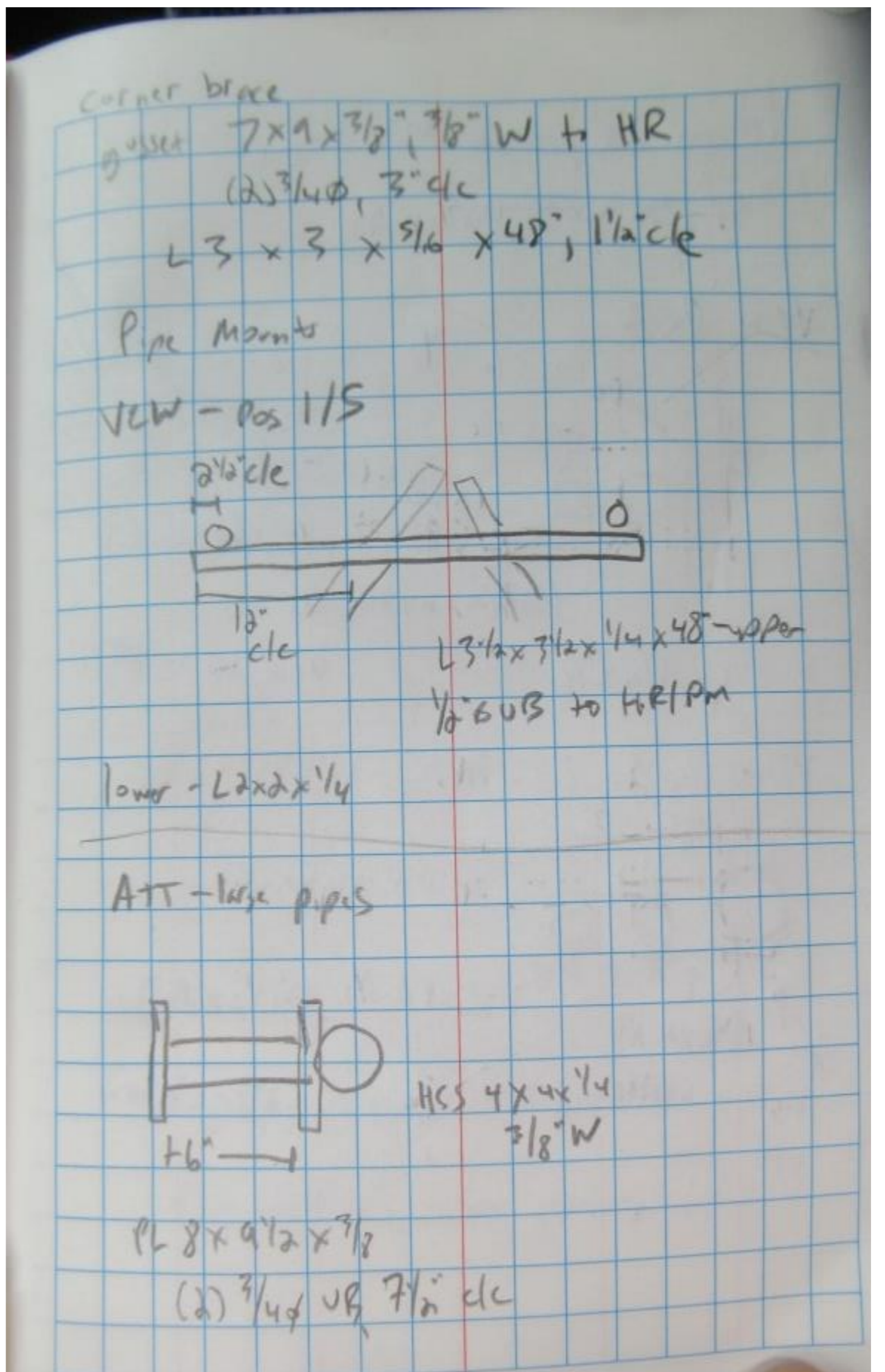
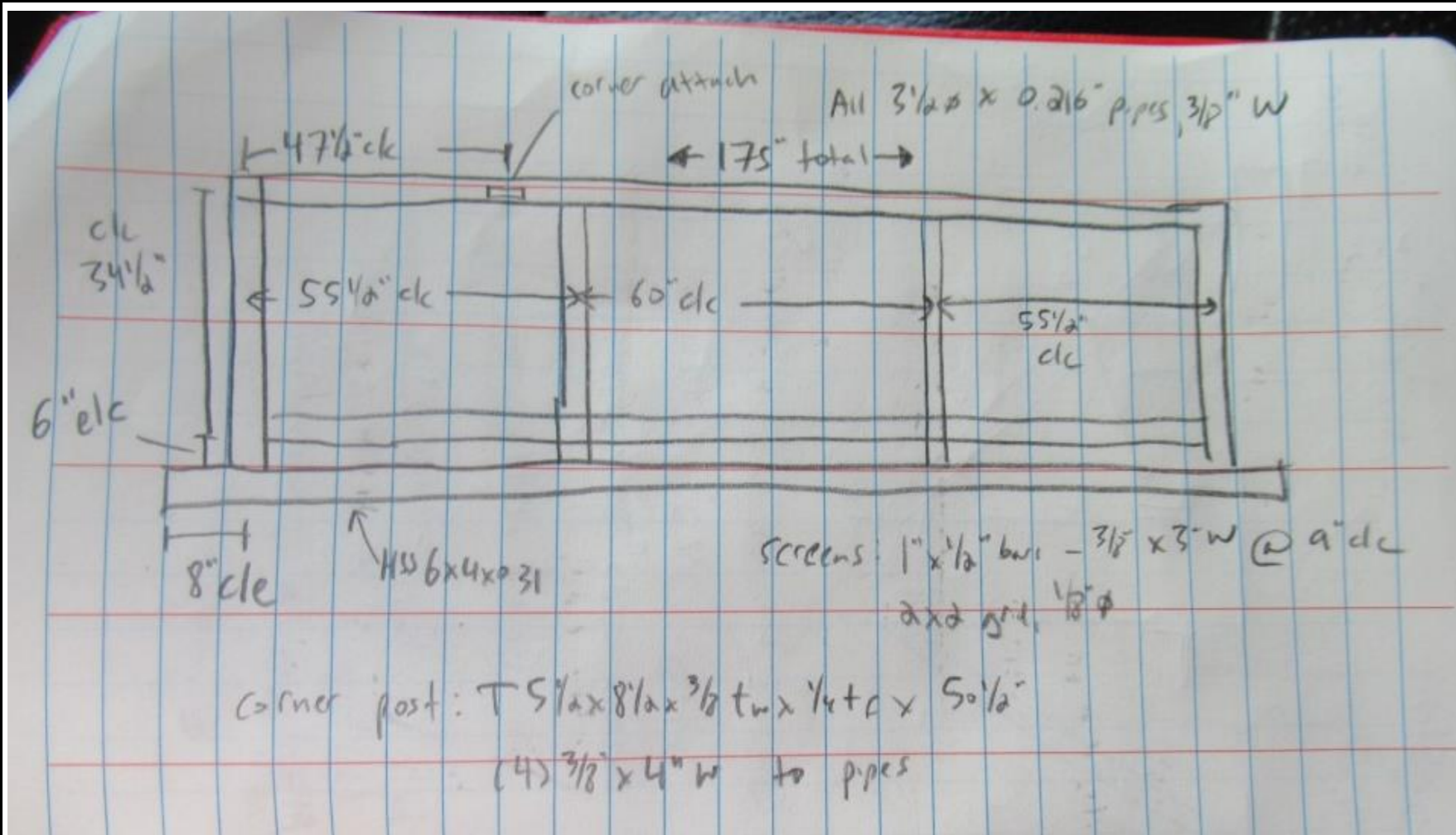
Azimuths	Alpha	Beta	Gamma
Mount	30	150	270
Antenna	20	140	250
Leg			
SC	60		

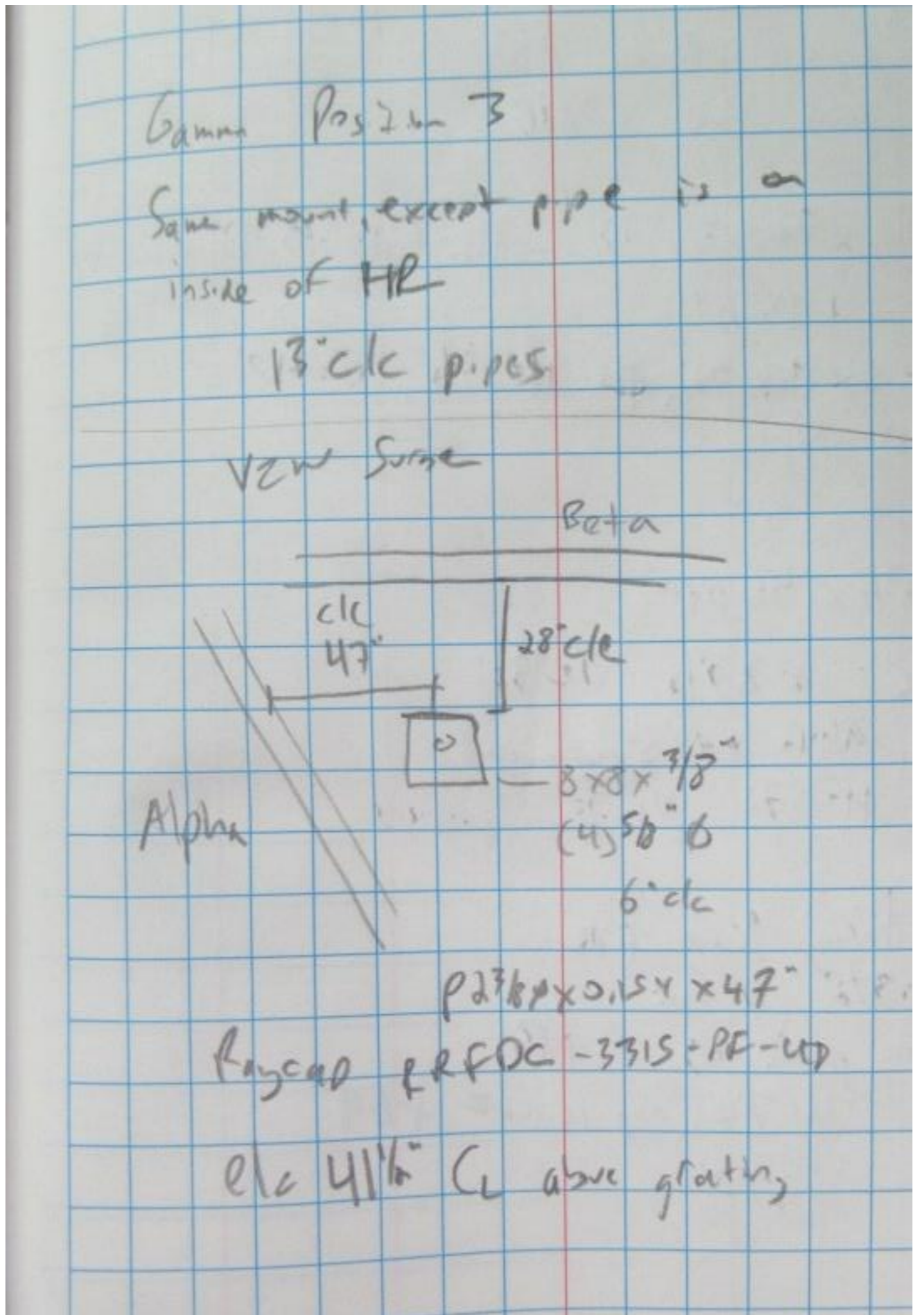
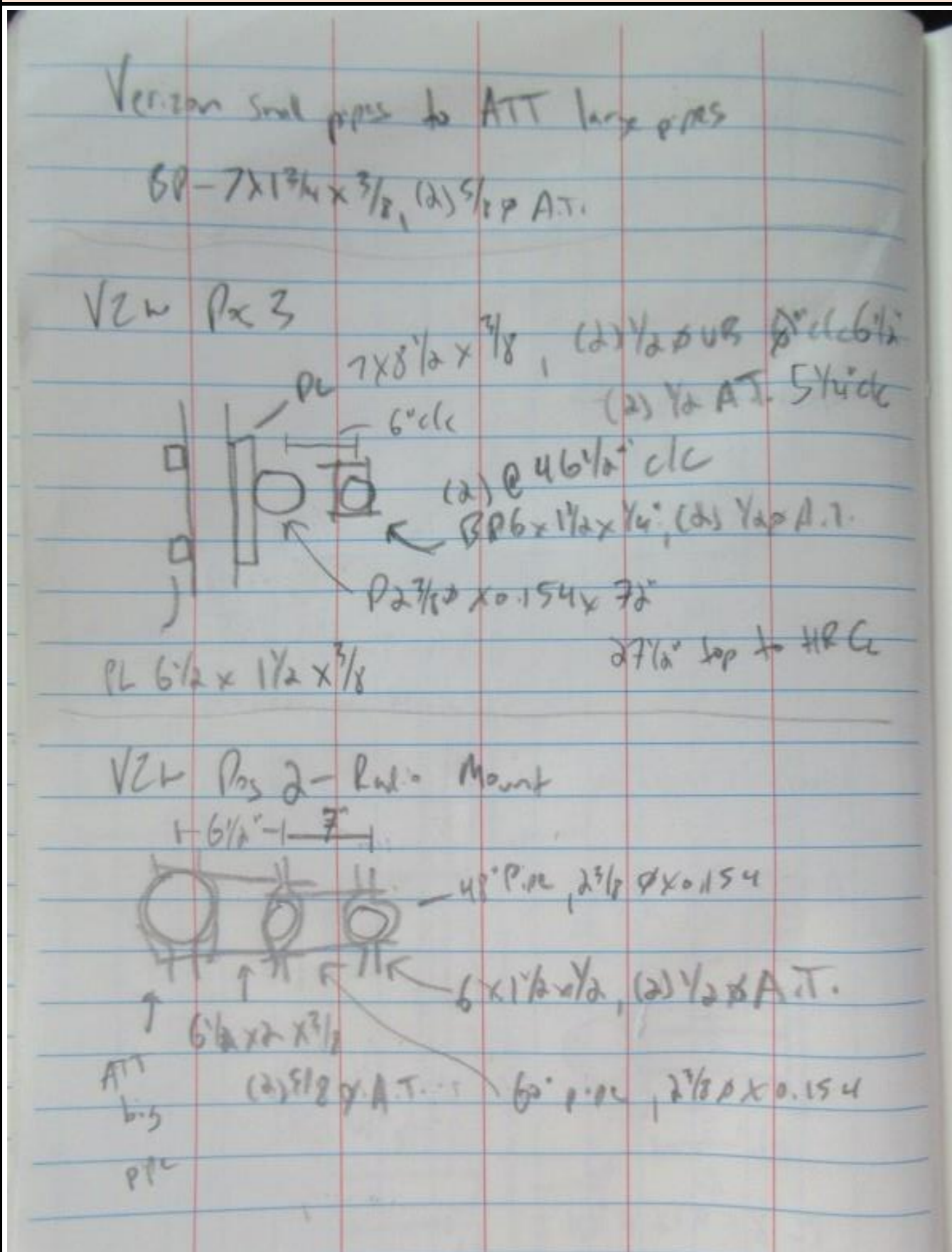
FR Tower CL    ↑ ↓

Elevations: 80'  
 FW leg  $\phi$

Cables: (18) 1-5/8  
 1 1.5 HYB







Gamma equipment -

P1 - ATT large pipe  
 $C = 9''$ , same elev  
 (2) dipole @ same A/B  
 (1) panel same A/B

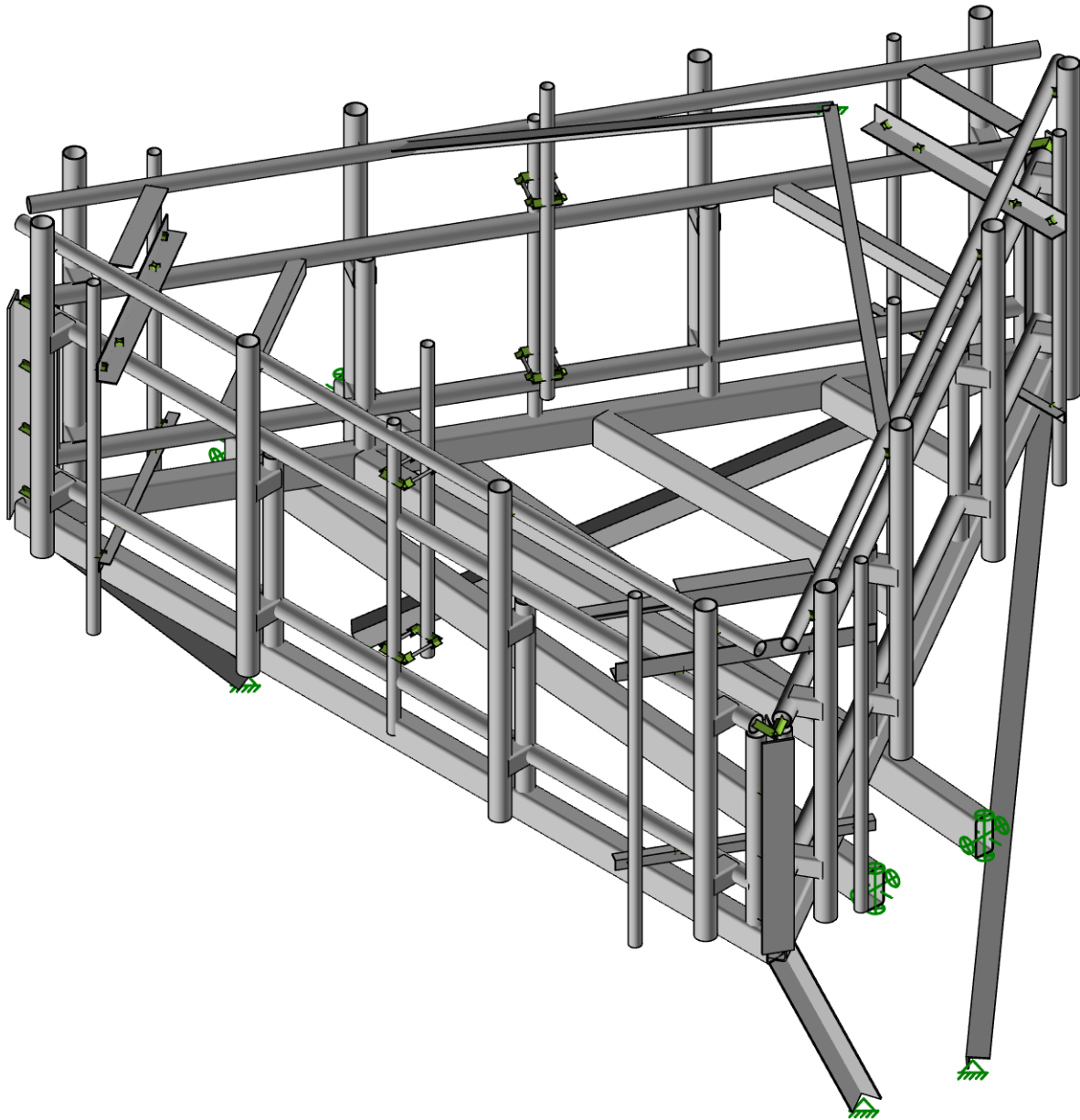
P2 -  $2\frac{1}{8} \times 72''$ , same U - also 3"  $\phi$  GPS 10" above tip of pipe  
 $C = +13\frac{1}{2}''$   
 Jumper  $6 \times 13 \times 72''$ ,  $H = 13\frac{1}{2}''$ ,  $U = 40''$   
 (1) 15/1 TX

P3 -  $2\frac{3}{8} \times 48''$  pipe  
 $C = +20\frac{1}{2}''$   $U = 50''$   
 9442 RRH 2x40 AMS  
 $H = 7''$   $U = 20''$  jumpers

P4 - large ATT pipe  
 $C = +13\frac{1}{2}''$  U same  
 same panel as A/B  
 $H = 7\frac{1}{2}''$ , tip height = +69"  
 jumpers

P5 - ATT Surge  $C = +13''$   
 $2\frac{3}{8} \times 60''$ ,  $U = 60''$   
 Rycap DC6 -47-60-18C  
~~height =~~  $8\frac{1}{2} \times 18''$   
 height = +62" CL





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NL  
Project No. 10220910

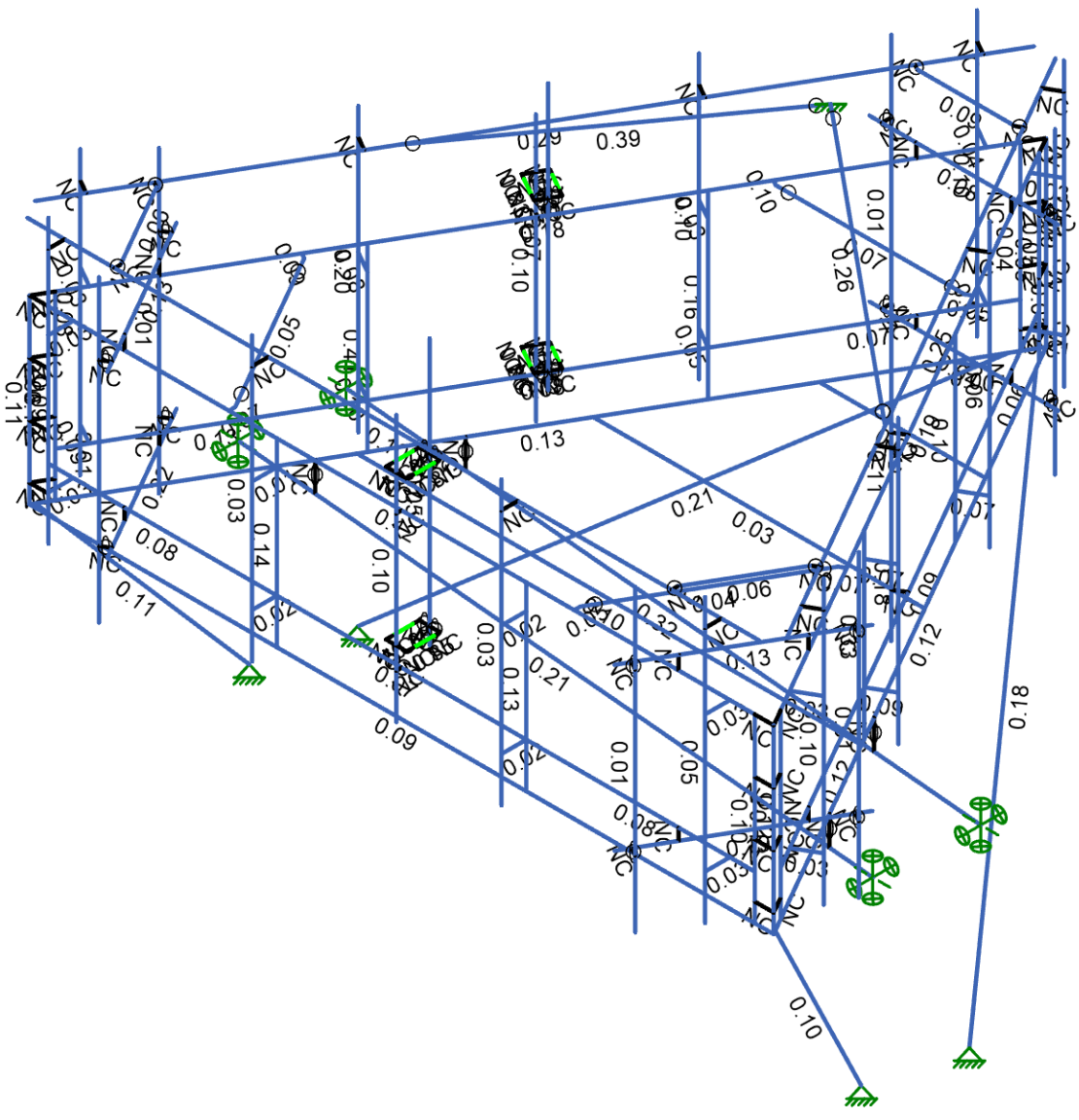
5000242779-VZW\_MT\_LO\_H

SK-4  
Jan 24, 2024 at 09:09 AM  
5000242779-VZW\_MT\_LO...



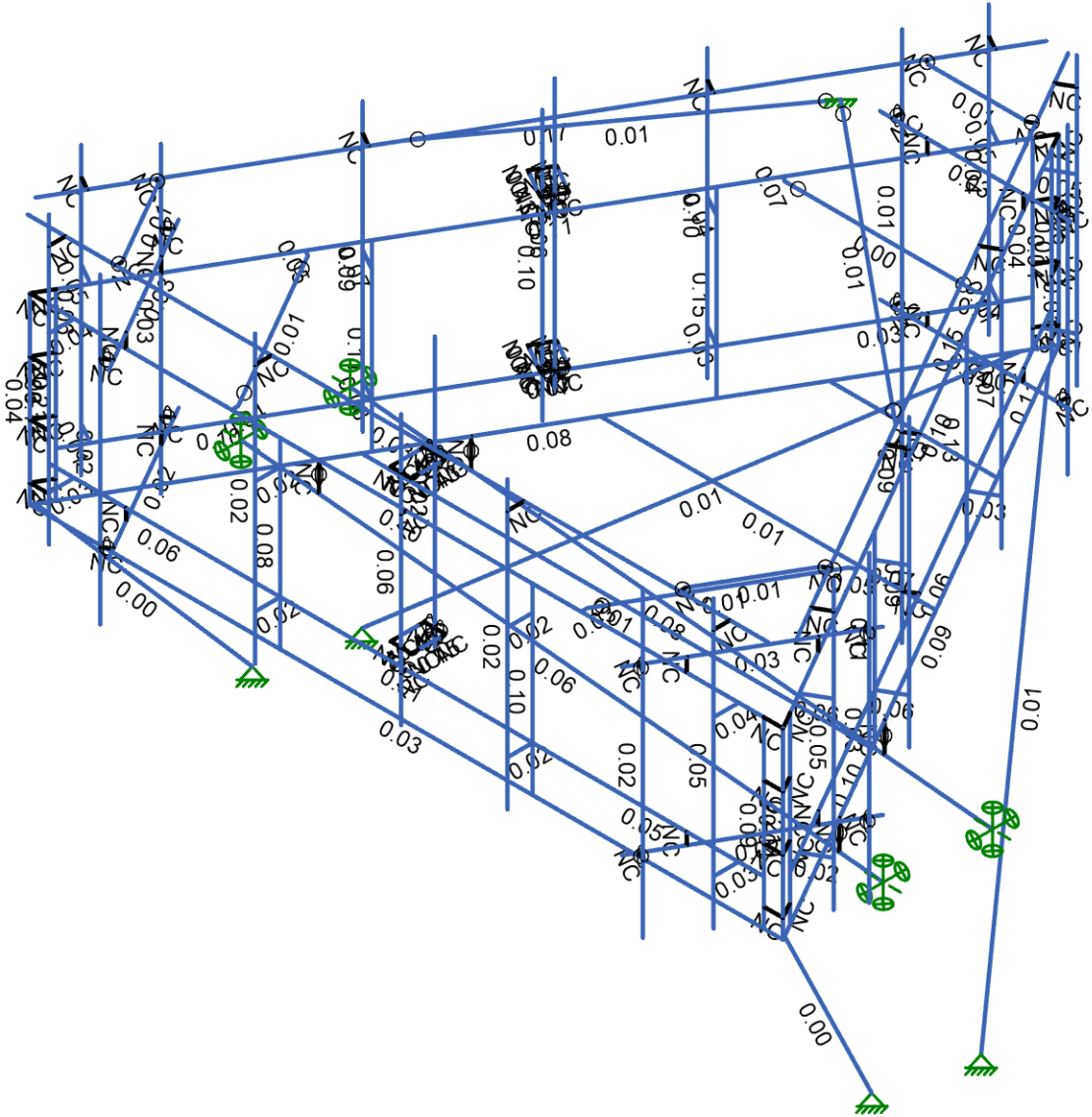
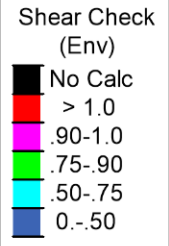
Code Check (Env)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



Member Code Checks Displayed (Enveloped)

	Colliers Engineering & D...	5000242779-VZW_MT_LO_H	SK-5
	NL		Jan 24, 2024 at 09:09 AM
	Project No. 10220910		5000242779-VZW_MT_LO...



Member Shear Checks Displayed (Enveloped)



Colliers Engineering & D...  
 NL  
 Project No. 10220910

5000242779-VZW\_MT\_LO\_H

SK-6  
 Jan 24, 2024 at 09:10 AM  
 5000242779-VZW\_MT\_LO...

**Basic Load Cases**

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
1	Antenna D	None				81		
2	Antenna Di	None				81		
3	Antenna Wo (0 Deg)	None				81		
4	Antenna Wo (30 Deg)	None				81		
5	Antenna Wo (60 Deg)	None				81		
6	Antenna Wo (90 Deg)	None				81		
7	Antenna Wo (120 Deg)	None				81		
8	Antenna Wo (150 Deg)	None				81		
9	Antenna Wo (180 Deg)	None				81		
10	Antenna Wo (210 Deg)	None				81		
11	Antenna Wo (240 Deg)	None				81		
12	Antenna Wo (270 Deg)	None				81		
13	Antenna Wo (300 Deg)	None				81		
14	Antenna Wo (330 Deg)	None				81		
15	Antenna Wi (0 Deg)	None				81		
16	Antenna Wi (30 Deg)	None				81		
17	Antenna Wi (60 Deg)	None				81		
18	Antenna Wi (90 Deg)	None				81		
19	Antenna Wi (120 Deg)	None				81		
20	Antenna Wi (150 Deg)	None				81		
21	Antenna Wi (180 Deg)	None				81		
22	Antenna Wi (210 Deg)	None				81		
23	Antenna Wi (240 Deg)	None				81		
24	Antenna Wi (270 Deg)	None				81		
25	Antenna Wi (300 Deg)	None				81		
26	Antenna Wi (330 Deg)	None				81		
27	Antenna Wm (0 Deg)	None				81		
28	Antenna Wm (30 Deg)	None				81		
29	Antenna Wm (60 Deg)	None				81		
30	Antenna Wm (90 Deg)	None				81		
31	Antenna Wm (120 Deg)	None				81		
32	Antenna Wm (150 Deg)	None				81		
33	Antenna Wm (180 Deg)	None				81		
34	Antenna Wm (210 Deg)	None				81		
35	Antenna Wm (240 Deg)	None				81		
36	Antenna Wm (270 Deg)	None				81		
37	Antenna Wm (300 Deg)	None				81		
38	Antenna Wm (330 Deg)	None				81		
39	Structure D	None		-1				2
40	Structure Di	None					117	2
41	Structure Wo (0 Deg)	None					234	
42	Structure Wo (30 Deg)	None					234	
43	Structure Wo (60 Deg)	None					234	
44	Structure Wo (90 Deg)	None					234	
45	Structure Wo (120 Deg)	None					234	
46	Structure Wo (150 Deg)	None					234	
47	Structure Wo (180 Deg)	None					234	
48	Structure Wo (210 Deg)	None					234	
49	Structure Wo (240 Deg)	None					234	
50	Structure Wo (270 Deg)	None					234	
51	Structure Wo (300 Deg)	None					234	
52	Structure Wo (330 Deg)	None					234	
53	Structure Wi (0 Deg)	None					234	
54	Structure Wi (30 Deg)	None					234	
55	Structure Wi (60 Deg)	None					234	

**Basic Load Cases (Continued)**

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
56	Structure Wi (90 Deg)	None					234	
57	Structure Wi (120 Deg)	None					234	
58	Structure Wi (150 Deg)	None					234	
59	Structure Wi (180 Deg)	None					234	
60	Structure Wi (210 Deg)	None					234	
61	Structure Wi (240 Deg)	None					234	
62	Structure Wi (270 Deg)	None					234	
63	Structure Wi (300 Deg)	None					234	
64	Structure Wi (330 Deg)	None					234	
65	Structure Wm (0 Deg)	None					234	
66	Structure Wm (30 Deg)	None					234	
67	Structure Wm (60 Deg)	None					234	
68	Structure Wm (90 Deg)	None					234	
69	Structure Wm (120 Deg)	None					234	
70	Structure Wm (150 Deg)	None					234	
71	Structure Wm (180 Deg)	None					234	
72	Structure Wm (210 Deg)	None					234	
73	Structure Wm (240 Deg)	None					234	
74	Structure Wm (270 Deg)	None					234	
75	Structure Wm (300 Deg)	None					234	
76	Structure Wm (330 Deg)	None					234	
77	Lm1	None				1		
78	Lm2	None				1		
79	Lv1	None				1		
80	Lv2	None				1		
81	Antenna Ev	None				81		
82	Antenna Eh (0 Deg)	None				54		
83	Antenna Eh (90 Deg)	None				54		
84	Structure Ev	ELY		-0.044				2
85	Structure Eh (0 Deg)	ELZ			-0.11			2
86	Structure Eh (90 Deg)	ELX	0.11					2
87	BLC 39 Transient Area Loads	None					48	
88	BLC 40 Transient Area Loads	None					48	
89	BLC 84 Transient Area Loads	None					48	
90	BLC 85 Transient Area Loads	None					48	
91	BLC 86 Transient Area Loads	None					48	

**Load Combinations**

	Description	Solve	P-Delta	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1					
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1					
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1					
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1					
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1					
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1					
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1					
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1					
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1					
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1					
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1					
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1					
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1	
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1	
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1	
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1	

**Load Combinations (Continued)**

	Description	Solve	P-Delta	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor			
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49	1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50	1.2D + 1.5Lv2	Yes	Y	1	1.2	39	1.2	80	1.5										
51	1.4D	Yes	Y	1	1.4	39	1.4												
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83	ELZ	1	ELX		
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5

**Load Combinations (Continued)**

Description	Solve	P-Delta	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor		
72 0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73 0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74 0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75 0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

**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 Platform HSS Framing	HSS6X4X5	None	None	A500 Gr.B Rect	Typical	5.26	13.2	24.8	28.4
2 Platform Kicker	L4X4X5	None	None	A36 Gr.36	Typical	2.4	3.67	3.67	0.083
3 Platform Face Horizontals	PIPE 3.0	None	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
4 Platform Vertical	PIPE 3.0	None	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5 Corner Rail Post	WT8X15.5	None	None	A36 Gr.36	Typical	4.56	6.2	27.5	0.23
6 Corner Angle Brace 1	L3.5X3.5X4	None	None	A36 Gr.36	Typical	1.7	2	2	0.039
7 Corner Angle Brace 2	L3X3X5	None	None	A36 Gr.36	Typical	1.78	1.5	1.5	0.06
8 Corner Angle Brace 3	L2X2X4	None	None	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
9 Connection Plate	PL1/2X4	None	None	A36 Gr.36	Typical	2	0.042	2.667	0.154
10 Mount Pipe (P3.5 STD)	PIPE 3.5	None	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
11 Mount Pipe (P2.0 STD)	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
12 Mount Pipe Connection HSS	HSS4X4X4	None	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
13 Platform Tower Horz	HSS8X4X5	None	None	A500 Gr.B Rect	Typical	6.43	17.2	51	42.6
14 Threaded Rod	SR 0.5	Beam	BAR	A307 Gr. A	Typical	0.196	0.003	0.003	0.006
15 Mod Reinforcement Horz	PIPE 2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
16 Mod Reinf Horz Corner Angle	L4X4X4	None	None	A36 Gr.36	Typical	1.93	3	3	0.044
17 Mod V-Kit Angle	L2.5X2.5X4	None	None	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
18 TES Platform Tower Horz	LL4X4X4X6	None	None	A500 Gr.B Rect	Typical	3.86	14.1	6	0.088
19 TES Corner Rail Post	LL4X4X4X6	None	None	A36 Gr.36	Typical	3.86	14.1	6	0.088

**Hot Rolled Steel Properties**

Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e <sup>6</sup> F <sup>-1</sup> ]	Density [k/ft <sup>3</sup> ]	Yield [ksi]	Ry	Fu [ksi]	Rt
1 A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2 A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3 A307 Gr. A	29000	11154	0.3	0.65	0.49	36	1.5	60	1.2
4 A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
5 A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
6 A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
7 A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
8 A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

**Member Primary Data**

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1 M1	N1	N2		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
2 M2	N2	N3		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
3 M3	N3	N1		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
4 M4	N4	N5		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
5 M5	N6	N7		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
6 M6	N8	N9		Platform HSS Framing	None	None	A500 Gr.B Rect	Typical
7 M7	N14	N15	180	Platform Kicker	None	None	A36 Gr.36	Typical
8 M8	N16	N17	90	Platform Kicker	None	None	A36 Gr.36	Typical
9 M9	N18	N19	90	Platform Kicker	None	None	A36 Gr.36	Typical
10 M10	N20	N21	180	Platform Kicker	None	None	A36 Gr.36	Typical
11 M11	N57	N54		Platform Face Horizontals	None	None	A53 Gr.B	Typical
12 M12	N57	N33		Platform Vertical	None	None	A53 Gr.B	Typical

**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
13	M13	N54	N30		Platform Vertical	None	None	A53 Gr.B	Typical
14	M14	N55	N31		Platform Vertical	None	None	A53 Gr.B	Typical
15	M15	N56	N32		Platform Vertical	None	None	A53 Gr.B	Typical
16	M16	N45	N44		Platform Face Horizontals	None	None	A53 Gr.B	Typical
17	M17	N44	N43		Platform Face Horizontals	None	None	A53 Gr.B	Typical
18	M18	N43	N42		Platform Face Horizontals	None	None	A53 Gr.B	Typical
19	M19	N49	N46		Platform Face Horizontals	None	None	A53 Gr.B	Typical
20	M20	N49	N25		Platform Vertical	None	None	A53 Gr.B	Typical
21	M21	N46	N22		Platform Vertical	None	None	A53 Gr.B	Typical
22	M22	N48	N24		Platform Vertical	None	None	A53 Gr.B	Typical
23	M23	N47	N23		Platform Vertical	None	None	A53 Gr.B	Typical
24	M24	N37	N36		Platform Face Horizontals	None	None	A53 Gr.B	Typical
25	M25	N36	N35		Platform Face Horizontals	None	None	A53 Gr.B	Typical
26	M26	N35	N34		Platform Face Horizontals	None	None	A53 Gr.B	Typical
27	M27	N53	N50		Platform Face Horizontals	None	None	A53 Gr.B	Typical
28	M28	N53	N29		Platform Vertical	None	None	A53 Gr.B	Typical
29	M29	N52	N28		Platform Vertical	None	None	A53 Gr.B	Typical
30	M30	N51	N27		Platform Vertical	None	None	A53 Gr.B	Typical
31	M31	N50	N26		Platform Vertical	None	None	A53 Gr.B	Typical
32	M32	N41	N40		Platform Face Horizontals	None	None	A53 Gr.B	Typical
33	M33	N40	N39		Platform Face Horizontals	None	None	A53 Gr.B	Typical
34	M34	N39	N38		Platform Face Horizontals	None	None	A53 Gr.B	Typical
35	M35	N58	N1	90	Corner Rail Post	None	None	A36 Gr.36	Typical
36	M36	N59	N2	210	Corner Rail Post	None	None	A36 Gr.36	Typical
37	M37	N60	N3	330	Corner Rail Post	None	None	A36 Gr.36	Typical
38	M38	N49	N58		RIGID	None	None	RIGID	Typical
39	M39	N50	N58		RIGID	None	None	RIGID	Typical
40	M40	N53	N59		RIGID	None	None	RIGID	Typical
41	M41	N54	N59		RIGID	None	None	RIGID	Typical
42	M42	N46	N60		RIGID	None	None	RIGID	Typical
43	M43	N57	N60		RIGID	None	None	RIGID	Typical
44	M44	N62	N67		RIGID	None	None	RIGID	Typical
45	M45	N63	N67		RIGID	None	None	RIGID	Typical
46	M46	N64	N68		RIGID	None	None	RIGID	Typical
47	M47	N65	N68		RIGID	None	None	RIGID	Typical
48	M48	N61	N69		RIGID	None	None	RIGID	Typical
49	M49	N66	N69		RIGID	None	None	RIGID	Typical
50	M50	N71	N76		RIGID	None	None	RIGID	Typical
51	M51	N72	N76		RIGID	None	None	RIGID	Typical
52	M52	N73	N77		RIGID	None	None	RIGID	Typical
53	M53	N74	N77		RIGID	None	None	RIGID	Typical
54	M54	N70	N78		RIGID	None	None	RIGID	Typical
55	M55	N75	N78		RIGID	None	None	RIGID	Typical
56	M56	N80	N85		RIGID	None	None	RIGID	Typical
57	M57	N81	N85		RIGID	None	None	RIGID	Typical
58	M58	N82	N86		RIGID	None	None	RIGID	Typical
59	M59	N83	N86		RIGID	None	None	RIGID	Typical
60	M60	N79	N87		RIGID	None	None	RIGID	Typical
61	M61	N84	N87		RIGID	None	None	RIGID	Typical
62	M62	N101	N102		Corner Angle Brace 1	None	None	A36 Gr.36	Typical
63	M63	N93A	N95	90	Connection Plate	None	None	A36 Gr.36	Typical
64	M64	N98	N100A	90	Connection Plate	None	None	A36 Gr.36	Typical
65	M65	N95	N100A	180	Corner Angle Brace 2	None	None	A36 Gr.36	Typical
66	M66	N101A	N102A		Corner Angle Brace 1	None	None	A36 Gr.36	Typical
67	M67	N97	N98A	90	Connection Plate	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
68	M68	N99	N100B	90	Connection Plate	None	None	A36 Gr.36	Typical
69	M69	N98A	N100B	180	Corner Angle Brace 2	None	None	A36 Gr.36	Typical
70	M70	N109	N110		Corner Angle Brace 1	None	None	A36 Gr.36	Typical
71	M71	N105	N106	90	Connection Plate	None	None	A36 Gr.36	Typical
72	M72	N107	N108	90	Connection Plate	None	None	A36 Gr.36	Typical
73	M73	N106	N108	180	Corner Angle Brace 2	None	None	A36 Gr.36	Typical
74	M74	N142A	N143A	90	Corner Angle Brace 3	None	None	A36 Gr.36	Typical
75	M75	N146	N147	90	Corner Angle Brace 3	None	None	A36 Gr.36	Typical
76	M76	N150	N151	90	Corner Angle Brace 3	None	None	A36 Gr.36	Typical
77	MP0.5A	N134	N138		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
78	MP1A	N158A	N171		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
79	MP2A	N131	N135		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
80	MP4A	N132	N136		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
81	MP5A	N159	N172		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
82	MP5.5A	N133	N137		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
83	M87	N142	N157A		RIGID	None	None	RIGID	Typical
84	M88	N154	N156		RIGID	None	None	RIGID	Typical
85	M89	N143	N158		RIGID	None	None	RIGID	Typical
86	M90	N155	N157		RIGID	None	None	RIGID	Typical
87	M91	N122	N130		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
88	M92	N120	N128		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
89	M94	N43	N123		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
90	M96	N44	N124		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
91	M97	N121	N129		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
92	M98	N113	N127		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
93	MP0.5B	N208	N212		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
94	MP1B	N221	N234		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
95	MP2B	N205	N209		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
96	MP4B	N206	N210		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
97	MP5B	N222	N235		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
98	MP5.5B	N207	N211		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
99	M117	N213	N217		RIGID	None	None	RIGID	Typical
100	M118	N215	N219		RIGID	None	None	RIGID	Typical
101	M119	N214	N218		RIGID	None	None	RIGID	Typical
102	M120	N216	N220		RIGID	None	None	RIGID	Typical
103	M121	N196	N204		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
104	M122	N194	N202		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
105	M124	N35	N197		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
106	M126	N36	N198		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
107	M127	N195	N203		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
108	M128	N189	N201		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
109	MP0.5C	N271	N275		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
110	MP1C	N284	N297		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
111	MP2C	N268	N272		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
112	MP4C	N269	N273		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
113	MP5C	N285	N298		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
114	MP5.5C	N270	N274		Mount Pipe (P3.5 STD)	None	None	A53 Gr.B	Typical
115	M147	N276	N280		RIGID	None	None	RIGID	Typical
116	M148	N278	N282		RIGID	None	None	RIGID	Typical
117	M149	N277	N281		RIGID	None	None	RIGID	Typical
118	M150	N279	N283		RIGID	None	None	RIGID	Typical
119	M151	N259	N267		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
120	M152	N257	N265		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
121	M154	N248	N260		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
122	M156	N40	N261		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical

**Member Primary Data (Continued)**

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
123	M157	N258	N266		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
124	M158	N252	N264		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
125	M167	N111	N315		RIGID	None	None	RIGID	Typical
126	M168	N112	N316	120	RIGID	None	None	RIGID	Typical
127	M169	N95A	N311	120	RIGID	None	None	RIGID	Typical
128	M170	N96	N312	240	RIGID	None	None	RIGID	Typical
129	M171	N104	N314		RIGID	None	None	RIGID	Typical
130	M172	N103	N313	240	RIGID	None	None	RIGID	Typical
131	M173	N313A	N148	240	RIGID	None	None	RIGID	Typical
132	M174	N314A	N149		RIGID	None	None	RIGID	Typical
133	M175	N315A	N152		RIGID	None	None	RIGID	Typical
134	M176	N316A	N153	120	RIGID	None	None	RIGID	Typical
135	M177	N311A	N144	120	RIGID	None	None	RIGID	Typical
136	M178	N312A	N145	240	RIGID	None	None	RIGID	Typical
137	MP3C	N326A	N325A		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
138	M190A	N321A	N323A		RIGID	None	None	RIGID	Typical
139	M191A	N322A	N324A		RIGID	None	None	RIGID	Typical
140	M218A	N358A	N360A		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
141	M219A	N359A	N361A		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
142	M220A	N355A	N362A		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
143	M221A	N356A	N363		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
144	M222A	N364	N365		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
145	M223	N357A	N366		Mount Pipe Connection HSS	None	None	A500 Gr.B Rect	Typical
146	M218B	N370	N368		Platform Tower Horz	None	None	A500 Gr.B Rect	Typical
147	M219B	N369	N367		Platform Tower Horz	None	None	A500 Gr.B Rect	Typical
148	M220B	N375	N379A		RIGID	None	None	RIGID	Typical
149	M221B	N374	N378		RIGID	None	None	RIGID	Typical
150	M222B	N373	N377		RIGID	None	None	RIGID	Typical
151	M223A	N372	N376		RIGID	None	None	RIGID	Typical
152	M224	N380	N384		RIGID	None	None	RIGID	Typical
153	M225	N383	N387		RIGID	None	None	RIGID	Typical
154	M226	N382	N386		RIGID	None	None	RIGID	Typical
155	M227	N381	N385		RIGID	None	None	RIGID	Typical
156	M228	N388	N389		Mod Reinforcement Horz	None	None	A53 Gr.B	Typical
157	M229	N395	N399		RIGID	None	None	RIGID	Typical
158	M230	N398	N402		RIGID	None	None	RIGID	Typical
159	M231	N397	N401		RIGID	None	None	RIGID	Typical
160	M232	N396	N400		RIGID	None	None	RIGID	Typical
161	M233	N403	N404		Mod Reinforcement Horz	None	None	A53 Gr.B	Typical
162	M234	N410	N414		RIGID	None	None	RIGID	Typical
163	M235	N413	N417		RIGID	None	None	RIGID	Typical
164	M236	N412	N416		RIGID	None	None	RIGID	Typical
165	M237	N411	N415		RIGID	None	None	RIGID	Typical
166	M238	N418	N419		Mod Reinforcement Horz	None	None	A53 Gr.B	Typical
167	M239	N390	N422A		RIGID	None	None	RIGID	Typical
168	M242	N391	N423A		RIGID	None	None	RIGID	Typical
169	M243	N405	N430		RIGID	None	None	RIGID	Typical
170	M246	N406	N431		RIGID	None	None	RIGID	Typical
171	M247	N420	N438		RIGID	None	None	RIGID	Typical
172	M250	N421	N439		RIGID	None	None	RIGID	Typical
173	M251	N422A	N431	90	Mod Reinf Horz Corner Angle	None	None	A36 Gr.36	Typical
174	M253	N430	N439	90	Mod Reinf Horz Corner Angle	None	None	A36 Gr.36	Typical
175	M255	N438	N423A	90	Mod Reinf Horz Corner Angle	None	None	A36 Gr.36	Typical
176	M290	N491	N484A	180	Mod V-Kit Angle	None	None	A36 Gr.36	Typical
177	M291	N491	N491A	90	Mod V-Kit Angle	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
178	MP3A	N309	N310		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
179	M180	N306	N307		RIGID	None	None	RIGID	Typical
180	M181	N305	N308		RIGID	None	None	RIGID	Typical
181	RRH-A	N317	N318		Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
182	M183	N325	N327		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
183	M184	N326	N328		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
184	M185	N320	N325		RIGID	None	None	RIGID	Typical
185	M186	N321	N326		RIGID	None	None	RIGID	Typical
186	M187	N324	N328		RIGID	None	None	RIGID	Typical
187	M188	N323	N327		RIGID	None	None	RIGID	Typical
188	M189	N323	N322		RIGID	None	None	RIGID	Typical
189	M190	N324	N322		RIGID	None	None	RIGID	Typical
190	M191	N321	N319		RIGID	None	None	RIGID	Typical
191	M192	N320	N319		RIGID	None	None	RIGID	Typical
192	M193	N333	N330		RIGID	None	None	RIGID	Typical
193	M194	N337	N338		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
194	M195	N332	N336		RIGID	None	None	RIGID	Typical
195	M196	N329	N338		RIGID	None	None	RIGID	Typical
196	M197	N332	N334		RIGID	None	None	RIGID	Typical
197	M198	N331	N334		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
198	M199	N333	N331		RIGID	None	None	RIGID	Typical
199	M200	N335	N337		RIGID	None	None	RIGID	Typical
200	M201	N335	N330		RIGID	None	None	RIGID	Typical
201	M202	N329	N336		RIGID	None	None	RIGID	Typical
202	M248	N437	N424		RIGID	None	None	RIGID	Typical
203	M249	N443	N444		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
204	M252	N429	N442		RIGID	None	None	RIGID	Typical
205	M254	N422	N444		RIGID	None	None	RIGID	Typical
206	M256	N429	N440		RIGID	None	None	RIGID	Typical
207	M257	N447	N425		RIGID	None	None	RIGID	Typical
208	M258	N445	N450		RIGID	None	None	RIGID	Typical
209	M259	N409	N426		RIGID	None	None	RIGID	Typical
210	M260	N432	N428		RIGID	None	None	RIGID	Typical
211	MP3B	N434	N433	120	Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
212	RRH-B	N435	N436	120	Mount Pipe (P2.0 STD)	None	None	A53 Gr.B	Typical
213	M263	N427	N440		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
214	M264	N437	N427		RIGID	None	None	RIGID	Typical
215	M265	N441	N443		RIGID	None	None	RIGID	Typical
216	M266	N441	N424		RIGID	None	None	RIGID	Typical
217	M267	N422	N442		RIGID	None	None	RIGID	Typical
218	M268	N423	N446		RIGID	None	None	RIGID	Typical
219	M269	N407	N450		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
220	M270	N447	N448		RIGID	None	None	RIGID	Typical
221	M271	N408	N448		Threaded Rod	Beam	BAR	A307 Gr. A	Typical
222	M272	N423	N408		RIGID	None	None	RIGID	Typical
223	M273	N449	N407		RIGID	None	None	RIGID	Typical
224	M274	N449	N446		RIGID	None	None	RIGID	Typical
225	M275	N445	N425		RIGID	None	None	RIGID	Typical

**Member Advanced Data**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	M1						Yes	** NA **	None
2	M2						Yes	** NA **	None
3	M3						Yes	** NA **	None
4	M4			2	2		Yes	** NA **	None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
5	M5			2	2		Yes	** NA **	None
6	M6			2	2		Yes	** NA **	None
7	M7						Yes	** NA **	None
8	M8						Yes	** NA **	None
9	M9						Yes	** NA **	None
10	M10						Yes	** NA **	None
11	M11						Yes	** NA **	None
12	M12			1.75	1.75		Yes	** NA **	None
13	M13			1.75	1.75		Yes	** NA **	None
14	M14			1.75	1.75		Yes	** NA **	None
15	M15			1.75	1.75		Yes	** NA **	None
16	M16						Yes	** NA **	None
17	M17						Yes	** NA **	None
18	M18						Yes	** NA **	None
19	M19						Yes	** NA **	None
20	M20			1.75	1.75		Yes	** NA **	None
21	M21			1.75	1.75		Yes	** NA **	None
22	M22			1.75	1.75		Yes	** NA **	None
23	M23			1.75	1.75		Yes	** NA **	None
24	M24						Yes	** NA **	None
25	M25						Yes	** NA **	None
26	M26						Yes	** NA **	None
27	M27						Yes	** NA **	None
28	M28			1.75	1.75		Yes	** NA **	None
29	M29			1.75	1.75		Yes	** NA **	None
30	M30			1.75	1.75		Yes	** NA **	None
31	M31			1.75	1.75		Yes	** NA **	None
32	M32						Yes	** NA **	None
33	M33						Yes	** NA **	None
34	M34						Yes	** NA **	None
35	M35						Yes	** NA **	None
36	M36						Yes	** NA **	None
37	M37						Yes	** NA **	None
38	M38						Yes	** NA **	None
39	M39						Yes	** NA **	None
40	M40						Yes	** NA **	None
41	M41						Yes	** NA **	None
42	M42						Yes	** NA **	None
43	M43						Yes	** NA **	None
44	M44						Yes	** NA **	None
45	M45						Yes	** NA **	None
46	M46						Yes	** NA **	None
47	M47						Yes	** NA **	None
48	M48						Yes	** NA **	None
49	M49						Yes	** NA **	None
50	M50						Yes	** NA **	None
51	M51						Yes	** NA **	None
52	M52						Yes	** NA **	None
53	M53						Yes	** NA **	None
54	M54						Yes	** NA **	None
55	M55						Yes	** NA **	None
56	M56						Yes	** NA **	None
57	M57						Yes	** NA **	None
58	M58						Yes	** NA **	None
59	M59						Yes	** NA **	None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
60	M60						Yes	** NA **	None
61	M61						Yes	** NA **	None
62	M62						Yes	** NA **	None
63	M63						Yes	** NA **	None
64	M64						Yes	** NA **	None
65	M65	OOOOOX	OOOOOX				Yes	** NA **	None
66	M66						Yes	** NA **	None
67	M67						Yes	** NA **	None
68	M68						Yes	** NA **	None
69	M69	OOOOOX	OOOOOX				Yes	** NA **	None
70	M70						Yes	** NA **	None
71	M71						Yes	** NA **	None
72	M72						Yes	** NA **	None
73	M73	OOOOOX	OOOOOX				Yes	** NA **	None
74	M74						Yes	** NA **	None
75	M75						Yes	** NA **	None
76	M76						Yes	** NA **	None
77	MP0.5A						Yes	** NA **	None
78	MP1A						Yes	** NA **	None
79	MP2A						Yes	** NA **	None
80	MP4A						Yes	** NA **	None
81	MP5A						Yes	** NA **	None
82	MP5.5A						Yes	** NA **	None
83	M87		OOOXOX				Yes	** NA **	None
84	M88		OOOXOX				Yes	** NA **	None
85	M89		OOOXOX				Yes	** NA **	None
86	M90		OOOXOX				Yes	** NA **	None
87	M91						Yes	** NA **	None
88	M92						Yes	** NA **	None
89	M94						Yes	** NA **	None
90	M96						Yes	** NA **	None
91	M97						Yes	** NA **	None
92	M98						Yes	** NA **	None
93	MP0.5B						Yes	** NA **	None
94	MP1B						Yes	** NA **	None
95	MP2B						Yes	** NA **	None
96	MP4B						Yes	** NA **	None
97	MP5B						Yes	** NA **	None
98	MP5.5B						Yes	** NA **	None
99	M117		OOOXOX				Yes	** NA **	None
100	M118		OOOXOX				Yes	** NA **	None
101	M119		OOOXOX				Yes	** NA **	None
102	M120		OOOXOX				Yes	** NA **	None
103	M121						Yes	** NA **	None
104	M122						Yes	** NA **	None
105	M124						Yes	** NA **	None
106	M126						Yes	** NA **	None
107	M127						Yes	** NA **	None
108	M128						Yes	** NA **	None
109	MP0.5C						Yes	** NA **	None
110	MP1C						Yes	** NA **	None
111	MP2C						Yes	** NA **	None
112	MP4C						Yes	** NA **	None
113	MP5C						Yes	** NA **	None
114	MP5.5C						Yes	** NA **	None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
115	M147		OOOXOX				Yes	** NA **	None
116	M148		OOOXOX				Yes	** NA **	None
117	M149		OOOXOX				Yes	** NA **	None
118	M150		OOOXOX				Yes	** NA **	None
119	M151						Yes	** NA **	None
120	M152						Yes	** NA **	None
121	M154						Yes	** NA **	None
122	M156						Yes	** NA **	None
123	M157						Yes	** NA **	None
124	M158						Yes	** NA **	None
125	M167						Yes	** NA **	None
126	M168						Yes	** NA **	None
127	M169						Yes	** NA **	None
128	M170						Yes	** NA **	None
129	M171						Yes	** NA **	None
130	M172						Yes	** NA **	None
131	M173						Yes	** NA **	None
132	M174						Yes	** NA **	None
133	M175						Yes	** NA **	None
134	M176						Yes	** NA **	None
135	M177						Yes	** NA **	None
136	M178						Yes	** NA **	None
137	MP3C						Yes	** NA **	None
138	M190A						Yes	** NA **	None
139	M191A						Yes	** NA **	None
140	M218A						Yes	** NA **	None
141	M219A						Yes	** NA **	None
142	M220A						Yes	** NA **	None
143	M221A						Yes	** NA **	None
144	M222A						Yes	** NA **	None
145	M223						Yes	** NA **	None
146	M218B						Yes	** NA **	None
147	M219B						Yes	** NA **	None
148	M220B	AIPIN				Compression Only	Yes	** NA **	None
149	M221B	AIPIN				Compression Only	Yes	** NA **	None
150	M222B	AIPIN				Compression Only	Yes	** NA **	None
151	M223A	AIPIN				Compression Only	Yes	** NA **	None
152	M224						Yes	** NA **	None
153	M225						Yes	** NA **	None
154	M226						Yes	** NA **	None
155	M227						Yes	** NA **	None
156	M228						Yes	** NA **	None
157	M229						Yes	** NA **	None
158	M230						Yes	** NA **	None
159	M231						Yes	** NA **	None
160	M232						Yes	** NA **	None
161	M233						Yes	** NA **	None
162	M234						Yes	** NA **	None
163	M235						Yes	** NA **	None
164	M236						Yes	** NA **	None
165	M237						Yes	** NA **	None
166	M238						Yes	** NA **	None
167	M239	OOOOOX					Yes	** NA **	None
168	M242	OOOOOX					Yes	** NA **	None
169	M243	OOOOOX					Yes	** NA **	None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
170	M246	OOOOOX					Yes	** NA **	None
171	M247	OOOOOX					Yes	** NA **	None
172	M250	OOOOOX					Yes	** NA **	None
173	M251						Yes	** NA **	None
174	M253						Yes	** NA **	None
175	M255						Yes	** NA **	None
176	M290	BenPIN	BenPIN				Yes	** NA **	None
177	M291	BenPIN	BenPIN				Yes	** NA **	None
178	MP3A						Yes	** NA **	None
179	M180						Yes	** NA **	None
180	M181						Yes	** NA **	None
181	RRH-A						Yes	** NA **	None
182	M183						Yes	Default	None
183	M184						Yes	Default	None
184	M185						Yes	** NA **	None
185	M186						Yes	** NA **	None
186	M187						Yes	** NA **	None
187	M188						Yes	** NA **	None
188	M189		OOOXOX				Yes	** NA **	None
189	M190		OOOXOX				Yes	** NA **	None
190	M191						Yes	** NA **	None
191	M192						Yes	** NA **	None
192	M193						Yes	** NA **	None
193	M194						Yes	Default	None
194	M195		OOOXOX				Yes	** NA **	None
195	M196						Yes	** NA **	None
196	M197						Yes	** NA **	None
197	M198						Yes	Default	None
198	M199						Yes	** NA **	None
199	M200						Yes	** NA **	None
200	M201						Yes	** NA **	None
201	M202		OOOXOX				Yes	** NA **	None
202	M248						Yes	** NA **	None
203	M249						Yes	Default	None
204	M252		OOOXOX				Yes	** NA **	None
205	M254						Yes	** NA **	None
206	M256						Yes	** NA **	None
207	M257		OOOXOX				Yes	** NA **	None
208	M258						Yes	** NA **	None
209	M259						Yes	** NA **	None
210	M260						Yes	** NA **	None
211	MP3B						Yes	** NA **	None
212	RRH-B						Yes	** NA **	None
213	M263						Yes	Default	None
214	M264						Yes	** NA **	None
215	M265						Yes	** NA **	None
216	M266						Yes	** NA **	None
217	M267		OOOXOX				Yes	** NA **	None
218	M268						Yes	** NA **	None
219	M269						Yes	Default	None
220	M270						Yes	** NA **	None
221	M271						Yes	Default	None
222	M272						Yes	** NA **	None
223	M273						Yes	** NA **	None
224	M274						Yes	** NA **	None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflection Ratio Options	Seismic DR
225	M275		O O O X O X				Yes	** NA **	None

**Member Point Loads (BLC 1 : Antenna D)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	Y	-17.6	8.5
2	M19	My	-0.003	8.5
3	M19	Mz	0.001	8.5
4	M19	Y	-17.6	8.5
5	M19	My	0.003	8.5
6	M19	Mz	-0.001	8.5
7	RRH-A	Y	-84.4	2.5
8	RRH-A	My	0.028	2.5
9	RRH-A	Mz	-0.035	2.5
10	RRH-A	Y	-70.3	2.5
11	RRH-A	My	0.023	2.5
12	RRH-A	Mz	0.023	2.5
13	RRH-B	Y	-84.4	2.5
14	RRH-B	My	0.016	2.5
15	RRH-B	Mz	0.042	2.5
16	RRH-B	Y	-70.3	2.5
17	RRH-B	My	0.014	2.5
18	RRH-B	Mz	0.035	2.5
19	MP3C	Y	-84.4	2.5
20	MP3C	My	-0.045	2.5
21	MP3C	Mz	-0.007	2.5
22	MP3C	Y	-70.3	2.5
23	MP3C	My	0.009	2.5
24	MP3C	Mz	-0.032	2.5
25	MP2A	Y	-23	0.53
26	MP2A	My	-0.005	0.53
27	MP2A	Mz	0.023	0.53
28	MP2A	Y	-23	5.53
29	MP2A	My	-0.005	5.53
30	MP2A	Mz	0.023	5.53
31	MP2B	Y	-23	0.53
32	MP2B	My	-0.017	0.53
33	MP2B	Mz	-0.015	0.53
34	MP2B	Y	-23	5.53
35	MP2B	My	-0.017	5.53
36	MP2B	Mz	-0.015	5.53
37	MP2C	Y	-23	0.53
38	MP2C	My	0.022	0.53
39	MP2C	Mz	-0.007	0.53
40	MP2C	Y	-23	5.53
41	MP2C	My	0.022	5.53
42	MP2C	Mz	-0.007	5.53
43	MP2A	Y	-23	0.53
44	MP2A	My	-0.022	0.53
45	MP2A	Mz	-0.007	0.53
46	MP2A	Y	-23	5.53
47	MP2A	My	-0.022	5.53
48	MP2A	Mz	-0.007	5.53
49	MP2B	Y	-23	0.53
50	MP2B	My	0.017	0.53
51	MP2B	Mz	-0.015	0.53



**Member Point Loads (BLC 1 : Antenna D) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
52	MP2B	Y	-23	5.53
53	MP2B	My	0.017	5.53
54	MP2B	Mz	-0.015	5.53
55	MP2C	Y	-23	0.53
56	MP2C	My	0.005	0.53
57	MP2C	Mz	0.023	0.53
58	MP2C	Y	-23	5.53
59	MP2C	My	0.005	5.53
60	MP2C	Mz	0.023	5.53
61	MP4A	Y	-43.55	2.75
62	MP4A	My	-0.025	2.75
63	MP4A	Mz	0.015	2.75
64	MP4A	Y	-43.55	4.75
65	MP4A	My	-0.025	4.75
66	MP4A	Mz	0.015	4.75
67	MP4B	Y	-43.55	2.75
68	MP4B	My	0	2.75
69	MP4B	Mz	-0.029	2.75
70	MP4B	Y	-43.55	4.75
71	MP4B	My	0	4.75
72	MP4B	Mz	-0.029	4.75
73	MP4C	Y	-43.55	2.75
74	MP4C	My	0.025	2.75
75	MP4C	Mz	0.015	2.75
76	MP4C	Y	-43.55	4.75
77	MP4C	My	0.025	4.75
78	MP4C	Mz	0.015	4.75
79	MP3C	Y	-32	1.19
80	MP3C	My	-0.012	1.19
81	MP3C	Mz	-0.021	1.19

**Member Point Loads (BLC 2 : Antenna Di)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	Y	-16.258	8.5
2	M19	My	-0.002	8.5
3	M19	Mz	0.001	8.5
4	M19	Y	-16.258	8.5
5	M19	My	0.002	8.5
6	M19	Mz	-0.001	8.5
7	RRH-A	Y	-42.276	2.5
8	RRH-A	My	0.014	2.5
9	RRH-A	Mz	-0.018	2.5
10	RRH-A	Y	-38.003	2.5
11	RRH-A	My	0.013	2.5
12	RRH-A	Mz	0.013	2.5
13	RRH-B	Y	-42.276	2.5
14	RRH-B	My	0.008	2.5
15	RRH-B	Mz	0.021	2.5
16	RRH-B	Y	-38.003	2.5
17	RRH-B	My	0.007	2.5
18	RRH-B	Mz	0.019	2.5
19	MP3C	Y	-42.276	2.5
20	MP3C	My	-0.022	2.5
21	MP3C	Mz	-0.003	2.5
22	MP3C	Y	-38.003	2.5

**Member Point Loads (BLC 2 : Antenna Di) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
23	MP3C	My	0.005	2.5
24	MP3C	Mz	-0.017	2.5
25	MP2A	Y	-77.838	0.53
26	MP2A	My	-0.016	0.53
27	MP2A	Mz	0.077	0.53
28	MP2A	Y	-77.838	5.53
29	MP2A	My	-0.016	5.53
30	MP2A	Mz	0.077	5.53
31	MP2B	Y	-77.838	0.53
32	MP2B	My	-0.058	0.53
33	MP2B	Mz	-0.052	0.53
34	MP2B	Y	-77.838	5.53
35	MP2B	My	-0.058	5.53
36	MP2B	Mz	-0.052	5.53
37	MP2C	Y	-77.838	0.53
38	MP2C	My	0.074	0.53
39	MP2C	Mz	-0.025	0.53
40	MP2C	Y	-77.838	5.53
41	MP2C	My	0.074	5.53
42	MP2C	Mz	-0.025	5.53
43	MP2A	Y	-77.838	0.53
44	MP2A	My	-0.074	0.53
45	MP2A	Mz	-0.025	0.53
46	MP2A	Y	-77.838	5.53
47	MP2A	My	-0.074	5.53
48	MP2A	Mz	-0.025	5.53
49	MP2B	Y	-77.838	0.53
50	MP2B	My	0.058	0.53
51	MP2B	Mz	-0.052	0.53
52	MP2B	Y	-77.838	5.53
53	MP2B	My	0.058	5.53
54	MP2B	Mz	-0.052	5.53
55	MP2C	Y	-77.838	0.53
56	MP2C	My	0.016	0.53
57	MP2C	Mz	0.077	0.53
58	MP2C	Y	-77.838	5.53
59	MP2C	My	0.016	5.53
60	MP2C	Mz	0.077	5.53
61	MP4A	Y	-33.561	2.75
62	MP4A	My	-0.019	2.75
63	MP4A	Mz	0.011	2.75
64	MP4A	Y	-33.561	4.75
65	MP4A	My	-0.019	4.75
66	MP4A	Mz	0.011	4.75
67	MP4B	Y	-33.561	2.75
68	MP4B	My	0	2.75
69	MP4B	Mz	-0.022	2.75
70	MP4B	Y	-33.561	4.75
71	MP4B	My	0	4.75
72	MP4B	Mz	-0.022	4.75
73	MP4C	Y	-33.561	2.75
74	MP4C	My	0.019	2.75
75	MP4C	Mz	0.011	2.75
76	MP4C	Y	-33.561	4.75
77	MP4C	My	0.019	4.75

**Member Point Loads (BLC 2 : Antenna Di) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
78	MP4C	Mz	0.011	4.75
79	MP3C	Y	-82.926	1.19
80	MP3C	My	-0.031	1.19
81	MP3C	Mz	-0.054	1.19

**Member Point Loads (BLC 3 : Antenna Wo (0 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	-30.162	8.5
3	M19	Mx	-0.003	8.5
4	M19	X	0	8.5
5	M19	Z	-30.162	8.5
6	M19	Mx	0.003	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	-58.969	2.5
9	RRH-A	Mx	0.025	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	-58.969	2.5
12	RRH-A	Mx	-0.02	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	-44.417	2.5
15	RRH-B	Mx	-0.022	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	-38.996	2.5
18	RRH-B	Mx	-0.019	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	-44.417	2.5
21	MP3C	Mx	0.004	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	-38.996	2.5
24	MP3C	Mx	0.018	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	-84.316	0.53
27	MP2A	Mx	-0.083	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	-84.316	5.53
30	MP2A	Mx	-0.083	5.53
31	MP2B	X	0	0.53
32	MP2B	Z	-67.339	0.53
33	MP2B	Mx	0.045	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	-67.339	5.53
36	MP2B	Mx	0.045	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	-84.316	0.53
39	MP2C	Mx	0.027	0.53
40	MP2C	X	0	5.53
41	MP2C	Z	-84.316	5.53
42	MP2C	Mx	0.027	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	-84.316	0.53
45	MP2A	Mx	0.027	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	-84.316	5.53
48	MP2A	Mx	0.027	5.53

**Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
49	MP2B	X	0	0.53
50	MP2B	Z	-67.339	0.53
51	MP2B	Mx	0.045	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	-67.339	5.53
54	MP2B	Mx	0.045	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	-84.316	0.53
57	MP2C	Mx	-0.083	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	-84.316	5.53
60	MP2C	Mx	-0.083	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	-62.346	2.75
63	MP4A	Mx	-0.021	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	-62.346	4.75
66	MP4A	Mx	-0.021	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	-25.68	2.75
69	MP4B	Mx	0.017	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	-25.68	4.75
72	MP4B	Mx	0.017	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	-62.346	2.75
75	MP4C	Mx	-0.021	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	-62.346	4.75
78	MP4C	Mx	-0.021	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	-98.916	1.19
81	MP3C	Mx	0.064	1.19

**Member Point Loads (BLC 4 : Antenna Wo (30 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	8.719	8.5
2	M19	Z	-15.103	8.5
3	M19	Mx	-0.003	8.5
4	M19	X	8.719	8.5
5	M19	Z	-15.103	8.5
6	M19	Mx	0.003	8.5
7	RRH-A	X	27.059	2.5
8	RRH-A	Z	-46.868	2.5
9	RRH-A	Mx	0.029	2.5
10	RRH-A	X	26.156	2.5
11	RRH-A	Z	-45.303	2.5
12	RRH-A	Mx	-0.006	2.5
13	RRH-B	X	19.783	2.5
14	RRH-B	Z	-34.266	2.5
15	RRH-B	Mx	-0.013	2.5
16	RRH-B	X	16.169	2.5
17	RRH-B	Z	-28.005	2.5
18	RRH-B	Mx	-0.011	2.5
19	MP3C	X	27.059	2.5

**Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
20	MP3C	Z	-46.868	2.5
21	MP3C	Mx	-0.011	2.5
22	MP3C	X	26.156	2.5
23	MP3C	Z	-45.303	2.5
24	MP3C	Mx	0.024	2.5
25	MP2A	X	36.499	0.53
26	MP2A	Z	-63.218	0.53
27	MP2A	Mx	-0.07	0.53
28	MP2A	X	36.499	5.53
29	MP2A	Z	-63.218	5.53
30	MP2A	Mx	-0.07	5.53
31	MP2B	X	36.499	0.53
32	MP2B	Z	-63.218	0.53
33	MP2B	Mx	0.015	0.53
34	MP2B	X	36.499	5.53
35	MP2B	Z	-63.218	5.53
36	MP2B	Mx	0.015	5.53
37	MP2C	X	44.988	0.53
38	MP2C	Z	-77.921	0.53
39	MP2C	Mx	0.067	0.53
40	MP2C	X	44.988	5.53
41	MP2C	Z	-77.921	5.53
42	MP2C	Mx	0.067	5.53
43	MP2A	X	36.499	0.53
44	MP2A	Z	-63.218	0.53
45	MP2A	Mx	-0.015	0.53
46	MP2A	X	36.499	5.53
47	MP2A	Z	-63.218	5.53
48	MP2A	Mx	-0.015	5.53
49	MP2B	X	36.499	0.53
50	MP2B	Z	-63.218	0.53
51	MP2B	Mx	0.07	0.53
52	MP2B	X	36.499	5.53
53	MP2B	Z	-63.218	5.53
54	MP2B	Mx	0.07	5.53
55	MP2C	X	44.988	0.53
56	MP2C	Z	-77.921	0.53
57	MP2C	Mx	-0.067	0.53
58	MP2C	X	44.988	5.53
59	MP2C	Z	-77.921	5.53
60	MP2C	Mx	-0.067	5.53
61	MP4A	X	18.951	2.75
62	MP4A	Z	-32.824	2.75
63	MP4A	Mx	-0.022	2.75
64	MP4A	X	18.951	4.75
65	MP4A	Z	-32.824	4.75
66	MP4A	Mx	-0.022	4.75
67	MP4B	X	18.951	2.75
68	MP4B	Z	-32.824	2.75
69	MP4B	Mx	0.022	2.75
70	MP4B	X	18.951	4.75
71	MP4B	Z	-32.824	4.75
72	MP4B	Mx	0.022	4.75
73	MP4C	X	37.284	2.75
74	MP4C	Z	-64.577	2.75

**Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
75	MP4C	Mx	0	2.75
76	MP4C	X	37.284	4.75
77	MP4C	Z	-64.577	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	56.687	1.19
80	MP3C	Z	-98.184	1.19
81	MP3C	Mx	0.043	1.19

**Member Point Loads (BLC 5 : Antenna Wo (60 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	9.593	8.5
2	M19	Z	-5.539	8.5
3	M19	Mx	-0.002	8.5
4	M19	X	9.593	8.5
5	M19	Z	-5.539	8.5
6	M19	Mx	0.002	8.5
7	RRH-A	X	38.466	2.5
8	RRH-A	Z	-22.209	2.5
9	RRH-A	Mx	0.022	2.5
10	RRH-A	X	33.771	2.5
11	RRH-A	Z	-19.498	2.5
12	RRH-A	Mx	0.005	2.5
13	RRH-B	X	38.466	2.5
14	RRH-B	Z	-22.209	2.5
15	RRH-B	Mx	-0.004	2.5
16	RRH-B	X	33.771	2.5
17	RRH-B	Z	-19.498	2.5
18	RRH-B	Mx	-0.003	2.5
19	MP3C	X	51.069	2.5
20	MP3C	Z	-29.485	2.5
21	MP3C	Mx	-0.025	2.5
22	MP3C	X	51.069	2.5
23	MP3C	Z	-29.485	2.5
24	MP3C	Mx	0.02	2.5
25	MP2A	X	58.317	0.53
26	MP2A	Z	-33.67	0.53
27	MP2A	Mx	-0.045	0.53
28	MP2A	X	58.317	5.53
29	MP2A	Z	-33.67	5.53
30	MP2A	Mx	-0.045	5.53
31	MP2B	X	73.02	0.53
32	MP2B	Z	-42.158	0.53
33	MP2B	Mx	-0.027	0.53
34	MP2B	X	73.02	5.53
35	MP2B	Z	-42.158	5.53
36	MP2B	Mx	-0.027	5.53
37	MP2C	X	73.02	0.53
38	MP2C	Z	-42.158	0.53
39	MP2C	Mx	0.083	0.53
40	MP2C	X	73.02	5.53
41	MP2C	Z	-42.158	5.53
42	MP2C	Mx	0.083	5.53
43	MP2A	X	58.317	0.53
44	MP2A	Z	-33.67	0.53
45	MP2A	Mx	-0.045	0.53

**Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
46	MP2A	X	58.317	5.53
47	MP2A	Z	-33.67	5.53
48	MP2A	Mx	-0.045	5.53
49	MP2B	X	73.02	0.53
50	MP2B	Z	-42.158	0.53
51	MP2B	Mx	0.083	0.53
52	MP2B	X	73.02	5.53
53	MP2B	Z	-42.158	5.53
54	MP2B	Mx	0.083	5.53
55	MP2C	X	73.02	0.53
56	MP2C	Z	-42.158	0.53
57	MP2C	Mx	-0.027	0.53
58	MP2C	X	73.02	5.53
59	MP2C	Z	-42.158	5.53
60	MP2C	Mx	-0.027	5.53
61	MP4A	X	22.24	2.75
62	MP4A	Z	-12.84	2.75
63	MP4A	Mx	-0.017	2.75
64	MP4A	X	22.24	4.75
65	MP4A	Z	-12.84	4.75
66	MP4A	Mx	-0.017	4.75
67	MP4B	X	53.993	2.75
68	MP4B	Z	-31.173	2.75
69	MP4B	Mx	0.021	2.75
70	MP4B	X	53.993	4.75
71	MP4B	Z	-31.173	4.75
72	MP4B	Mx	0.021	4.75
73	MP4C	X	53.993	2.75
74	MP4C	Z	-31.173	2.75
75	MP4C	Mx	0.021	2.75
76	MP4C	X	53.993	4.75
77	MP4C	Z	-31.173	4.75
78	MP4C	Mx	0.021	4.75
79	MP3C	X	104.444	1.19
80	MP3C	Z	-60.301	1.19
81	MP3C	Mx	0	1.19

**Member Point Loads (BLC 6 : Antenna Wo (90 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	17.439	8.5
2	M19	Z	0	8.5
3	M19	Mx	-0.003	8.5
4	M19	X	17.439	8.5
5	M19	Z	0	8.5
6	M19	Mx	0.003	8.5
7	RRH-A	X	39.566	2.5
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	0.013	2.5
10	RRH-A	X	32.338	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	0.011	2.5
13	RRH-B	X	54.119	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	0.011	2.5
16	RRH-B	X	52.311	2.5

**Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	0.01	2.5
19	MP3C	X	54.119	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	-0.029	2.5
22	MP3C	X	52.311	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0.006	2.5
25	MP2A	X	72.998	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	-0.015	0.53
28	MP2A	X	72.998	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	-0.015	5.53
31	MP2B	X	89.976	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	-0.067	0.53
34	MP2B	X	89.976	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	-0.067	5.53
37	MP2C	X	72.998	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	0.07	0.53
40	MP2C	X	72.998	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	0.07	5.53
43	MP2A	X	72.998	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	-0.07	0.53
46	MP2A	X	72.998	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	-0.07	5.53
49	MP2B	X	89.976	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	0.067	0.53
52	MP2B	X	89.976	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	0.067	5.53
55	MP2C	X	72.998	0.53
56	MP2C	Z	0	0.53
57	MP2C	Mx	0.015	0.53
58	MP2C	X	72.998	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	0.015	5.53
61	MP4A	X	37.902	2.75
62	MP4A	Z	0	2.75
63	MP4A	Mx	-0.022	2.75
64	MP4A	X	37.902	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	-0.022	4.75
67	MP4B	X	74.568	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	74.568	4.75
71	MP4B	Z	0	4.75



**Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
72	MP4B	Mx	0	4.75
73	MP4C	X	37.902	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	0.022	2.75
76	MP4C	X	37.902	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	0.022	4.75
79	MP3C	X	113.373	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	-0.043	1.19

**Member Point Loads (BLC 7 : Antenna Wo (120 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	26.121	8.5
2	M19	Z	15.081	8.5
3	M19	Mx	-0.003	8.5
4	M19	X	26.121	8.5
5	M19	Z	15.081	8.5
6	M19	Mx	0.003	8.5
7	RRH-A	X	38.466	2.5
8	RRH-A	Z	22.209	2.5
9	RRH-A	Mx	0.004	2.5
10	RRH-A	X	33.771	2.5
11	RRH-A	Z	19.498	2.5
12	RRH-A	Mx	0.018	2.5
13	RRH-B	X	51.069	2.5
14	RRH-B	Z	29.485	2.5
15	RRH-B	Mx	0.025	2.5
16	RRH-B	X	51.069	2.5
17	RRH-B	Z	29.485	2.5
18	RRH-B	Mx	0.025	2.5
19	MP3C	X	38.466	2.5
20	MP3C	Z	22.209	2.5
21	MP3C	Mx	-0.022	2.5
22	MP3C	X	33.771	2.5
23	MP3C	Z	19.498	2.5
24	MP3C	Mx	-0.005	2.5
25	MP2A	X	73.02	0.53
26	MP2A	Z	42.158	0.53
27	MP2A	Mx	0.027	0.53
28	MP2A	X	73.02	5.53
29	MP2A	Z	42.158	5.53
30	MP2A	Mx	0.027	5.53
31	MP2B	X	73.02	0.53
32	MP2B	Z	42.158	0.53
33	MP2B	Mx	-0.083	0.53
34	MP2B	X	73.02	5.53
35	MP2B	Z	42.158	5.53
36	MP2B	Mx	-0.083	5.53
37	MP2C	X	58.317	0.53
38	MP2C	Z	33.67	0.53
39	MP2C	Mx	0.045	0.53
40	MP2C	X	58.317	5.53
41	MP2C	Z	33.67	5.53
42	MP2C	Mx	0.045	5.53

**Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
43	MP2A	X	73.02	0.53
44	MP2A	Z	42.158	0.53
45	MP2A	Mx	-0.083	0.53
46	MP2A	X	73.02	5.53
47	MP2A	Z	42.158	5.53
48	MP2A	Mx	-0.083	5.53
49	MP2B	X	73.02	0.53
50	MP2B	Z	42.158	0.53
51	MP2B	Mx	0.027	0.53
52	MP2B	X	73.02	5.53
53	MP2B	Z	42.158	5.53
54	MP2B	Mx	0.027	5.53
55	MP2C	X	58.317	0.53
56	MP2C	Z	33.67	0.53
57	MP2C	Mx	0.045	0.53
58	MP2C	X	58.317	5.53
59	MP2C	Z	33.67	5.53
60	MP2C	Mx	0.045	5.53
61	MP4A	X	53.993	2.75
62	MP4A	Z	31.173	2.75
63	MP4A	Mx	-0.021	2.75
64	MP4A	X	53.993	4.75
65	MP4A	Z	31.173	4.75
66	MP4A	Mx	-0.021	4.75
67	MP4B	X	53.993	2.75
68	MP4B	Z	31.173	2.75
69	MP4B	Mx	-0.021	2.75
70	MP4B	X	53.993	4.75
71	MP4B	Z	31.173	4.75
72	MP4B	Mx	-0.021	4.75
73	MP4C	X	22.24	2.75
74	MP4C	Z	12.84	2.75
75	MP4C	Mx	0.017	2.75
76	MP4C	X	22.24	4.75
77	MP4C	Z	12.84	4.75
78	MP4C	Mx	0.017	4.75
79	MP3C	X	85.664	1.19
80	MP3C	Z	49.458	1.19
81	MP3C	Mx	-0.064	1.19

**Member Point Loads (BLC 8 : Antenna Wo (150 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	18.261	8.5
2	M19	Z	31.63	8.5
3	M19	Mx	0	8.5
4	M19	X	18.261	8.5
5	M19	Z	31.63	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	27.059	2.5
8	RRH-A	Z	46.868	2.5
9	RRH-A	Mx	-0.011	2.5
10	RRH-A	X	26.156	2.5
11	RRH-A	Z	45.303	2.5
12	RRH-A	Mx	0.024	2.5
13	RRH-B	X	27.059	2.5

**Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
14	RRH-B	Z	46.868	2.5
15	RRH-B	Mx	0.029	2.5
16	RRH-B	X	26.156	2.5
17	RRH-B	Z	45.303	2.5
18	RRH-B	Mx	0.028	2.5
19	MP3C	X	19.783	2.5
20	MP3C	Z	34.266	2.5
21	MP3C	Mx	-0.013	2.5
22	MP3C	X	16.169	2.5
23	MP3C	Z	28.005	2.5
24	MP3C	Mx	-0.011	2.5
25	MP2A	X	44.988	0.53
26	MP2A	Z	77.921	0.53
27	MP2A	Mx	0.067	0.53
28	MP2A	X	44.988	5.53
29	MP2A	Z	77.921	5.53
30	MP2A	Mx	0.067	5.53
31	MP2B	X	36.499	0.53
32	MP2B	Z	63.218	0.53
33	MP2B	Mx	-0.07	0.53
34	MP2B	X	36.499	5.53
35	MP2B	Z	63.218	5.53
36	MP2B	Mx	-0.07	5.53
37	MP2C	X	36.499	0.53
38	MP2C	Z	63.218	0.53
39	MP2C	Mx	0.015	0.53
40	MP2C	X	36.499	5.53
41	MP2C	Z	63.218	5.53
42	MP2C	Mx	0.015	5.53
43	MP2A	X	44.988	0.53
44	MP2A	Z	77.921	0.53
45	MP2A	Mx	-0.067	0.53
46	MP2A	X	44.988	5.53
47	MP2A	Z	77.921	5.53
48	MP2A	Mx	-0.067	5.53
49	MP2B	X	36.499	0.53
50	MP2B	Z	63.218	0.53
51	MP2B	Mx	-0.015	0.53
52	MP2B	X	36.499	5.53
53	MP2B	Z	63.218	5.53
54	MP2B	Mx	-0.015	5.53
55	MP2C	X	36.499	0.53
56	MP2C	Z	63.218	0.53
57	MP2C	Mx	0.07	0.53
58	MP2C	X	36.499	5.53
59	MP2C	Z	63.218	5.53
60	MP2C	Mx	0.07	5.53
61	MP4A	X	37.284	2.75
62	MP4A	Z	64.577	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	37.284	4.75
65	MP4A	Z	64.577	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	18.951	2.75
68	MP4B	Z	32.824	2.75

**Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
69	MP4B	Mx	-0.022	2.75
70	MP4B	X	18.951	4.75
71	MP4B	Z	32.824	4.75
72	MP4B	Mx	-0.022	4.75
73	MP4C	X	18.951	2.75
74	MP4C	Z	32.824	2.75
75	MP4C	Mx	0.022	2.75
76	MP4C	X	18.951	4.75
77	MP4C	Z	32.824	4.75
78	MP4C	Mx	0.022	4.75
79	MP3C	X	45.844	1.19
80	MP3C	Z	79.404	1.19
81	MP3C	Mx	-0.069	1.19

**Member Point Loads (BLC 9 : Antenna Wo (180 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	30.162	8.5
3	M19	Mx	0.003	8.5
4	M19	X	0	8.5
5	M19	Z	30.162	8.5
6	M19	Mx	-0.003	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	58.969	2.5
9	RRH-A	Mx	-0.025	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	58.969	2.5
12	RRH-A	Mx	0.02	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	44.417	2.5
15	RRH-B	Mx	0.022	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	38.996	2.5
18	RRH-B	Mx	0.019	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	44.417	2.5
21	MP3C	Mx	-0.004	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	38.996	2.5
24	MP3C	Mx	-0.018	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	84.316	0.53
27	MP2A	Mx	0.083	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	84.316	5.53
30	MP2A	Mx	0.083	5.53
31	MP2B	X	0	0.53
32	MP2B	Z	67.339	0.53
33	MP2B	Mx	-0.045	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	67.339	5.53
36	MP2B	Mx	-0.045	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	84.316	0.53
39	MP2C	Mx	-0.027	0.53

**Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
40	MP2C	X	0	5.53
41	MP2C	Z	84.316	5.53
42	MP2C	Mx	-0.027	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	84.316	0.53
45	MP2A	Mx	-0.027	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	84.316	5.53
48	MP2A	Mx	-0.027	5.53
49	MP2B	X	0	0.53
50	MP2B	Z	67.339	0.53
51	MP2B	Mx	-0.045	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	67.339	5.53
54	MP2B	Mx	-0.045	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	84.316	0.53
57	MP2C	Mx	0.083	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	84.316	5.53
60	MP2C	Mx	0.083	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	62.346	2.75
63	MP4A	Mx	0.021	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	62.346	4.75
66	MP4A	Mx	0.021	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	25.68	2.75
69	MP4B	Mx	-0.017	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	25.68	4.75
72	MP4B	Mx	-0.017	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	62.346	2.75
75	MP4C	Mx	0.021	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	62.346	4.75
78	MP4C	Mx	0.021	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	98.916	1.19
81	MP3C	Mx	-0.064	1.19

**Member Point Loads (BLC 10 : Antenna Wo (210 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-8.719	8.5
2	M19	Z	15.103	8.5
3	M19	Mx	0.003	8.5
4	M19	X	-8.719	8.5
5	M19	Z	15.103	8.5
6	M19	Mx	-0.003	8.5
7	RRH-A	X	-27.059	2.5
8	RRH-A	Z	46.868	2.5
9	RRH-A	Mx	-0.029	2.5
10	RRH-A	X	-26.156	2.5

**Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	RRH-A	Z	45.303	2.5
12	RRH-A	Mx	0.006	2.5
13	RRH-B	X	-19.783	2.5
14	RRH-B	Z	34.266	2.5
15	RRH-B	Mx	0.013	2.5
16	RRH-B	X	-16.169	2.5
17	RRH-B	Z	28.005	2.5
18	RRH-B	Mx	0.011	2.5
19	MP3C	X	-27.059	2.5
20	MP3C	Z	46.868	2.5
21	MP3C	Mx	0.011	2.5
22	MP3C	X	-26.156	2.5
23	MP3C	Z	45.303	2.5
24	MP3C	Mx	-0.024	2.5
25	MP2A	X	-36.499	0.53
26	MP2A	Z	63.218	0.53
27	MP2A	Mx	0.07	0.53
28	MP2A	X	-36.499	5.53
29	MP2A	Z	63.218	5.53
30	MP2A	Mx	0.07	5.53
31	MP2B	X	-36.499	0.53
32	MP2B	Z	63.218	0.53
33	MP2B	Mx	-0.015	0.53
34	MP2B	X	-36.499	5.53
35	MP2B	Z	63.218	5.53
36	MP2B	Mx	-0.015	5.53
37	MP2C	X	-44.988	0.53
38	MP2C	Z	77.921	0.53
39	MP2C	Mx	-0.067	0.53
40	MP2C	X	-44.988	5.53
41	MP2C	Z	77.921	5.53
42	MP2C	Mx	-0.067	5.53
43	MP2A	X	-36.499	0.53
44	MP2A	Z	63.218	0.53
45	MP2A	Mx	0.015	0.53
46	MP2A	X	-36.499	5.53
47	MP2A	Z	63.218	5.53
48	MP2A	Mx	0.015	5.53
49	MP2B	X	-36.499	0.53
50	MP2B	Z	63.218	0.53
51	MP2B	Mx	-0.07	0.53
52	MP2B	X	-36.499	5.53
53	MP2B	Z	63.218	5.53
54	MP2B	Mx	-0.07	5.53
55	MP2C	X	-44.988	0.53
56	MP2C	Z	77.921	0.53
57	MP2C	Mx	0.067	0.53
58	MP2C	X	-44.988	5.53
59	MP2C	Z	77.921	5.53
60	MP2C	Mx	0.067	5.53
61	MP4A	X	-18.951	2.75
62	MP4A	Z	32.824	2.75
63	MP4A	Mx	0.022	2.75
64	MP4A	X	-18.951	4.75
65	MP4A	Z	32.824	4.75

**Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP4A	Mx	0.022	4.75
67	MP4B	X	-18.951	2.75
68	MP4B	Z	32.824	2.75
69	MP4B	Mx	-0.022	2.75
70	MP4B	X	-18.951	4.75
71	MP4B	Z	32.824	4.75
72	MP4B	Mx	-0.022	4.75
73	MP4C	X	-37.284	2.75
74	MP4C	Z	64.577	2.75
75	MP4C	Mx	0	2.75
76	MP4C	X	-37.284	4.75
77	MP4C	Z	64.577	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	-56.687	1.19
80	MP3C	Z	98.184	1.19
81	MP3C	Mx	-0.043	1.19

**Member Point Loads (BLC 11 : Antenna Wo (240 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-9.593	8.5
2	M19	Z	5.539	8.5
3	M19	Mx	0.002	8.5
4	M19	X	-9.593	8.5
5	M19	Z	5.539	8.5
6	M19	Mx	-0.002	8.5
7	RRH-A	X	-38.466	2.5
8	RRH-A	Z	22.209	2.5
9	RRH-A	Mx	-0.022	2.5
10	RRH-A	X	-33.771	2.5
11	RRH-A	Z	19.498	2.5
12	RRH-A	Mx	-0.005	2.5
13	RRH-B	X	-38.466	2.5
14	RRH-B	Z	22.209	2.5
15	RRH-B	Mx	0.004	2.5
16	RRH-B	X	-33.771	2.5
17	RRH-B	Z	19.498	2.5
18	RRH-B	Mx	0.003	2.5
19	MP3C	X	-51.069	2.5
20	MP3C	Z	29.485	2.5
21	MP3C	Mx	0.025	2.5
22	MP3C	X	-51.069	2.5
23	MP3C	Z	29.485	2.5
24	MP3C	Mx	-0.02	2.5
25	MP2A	X	-58.317	0.53
26	MP2A	Z	33.67	0.53
27	MP2A	Mx	0.045	0.53
28	MP2A	X	-58.317	5.53
29	MP2A	Z	33.67	5.53
30	MP2A	Mx	0.045	5.53
31	MP2B	X	-73.02	0.53
32	MP2B	Z	42.158	0.53
33	MP2B	Mx	0.027	0.53
34	MP2B	X	-73.02	5.53
35	MP2B	Z	42.158	5.53
36	MP2B	Mx	0.027	5.53

**Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
37	MP2C	X	-73.02	0.53
38	MP2C	Z	42.158	0.53
39	MP2C	Mx	-0.083	0.53
40	MP2C	X	-73.02	5.53
41	MP2C	Z	42.158	5.53
42	MP2C	Mx	-0.083	5.53
43	MP2A	X	-58.317	0.53
44	MP2A	Z	33.67	0.53
45	MP2A	Mx	0.045	0.53
46	MP2A	X	-58.317	5.53
47	MP2A	Z	33.67	5.53
48	MP2A	Mx	0.045	5.53
49	MP2B	X	-73.02	0.53
50	MP2B	Z	42.158	0.53
51	MP2B	Mx	-0.083	0.53
52	MP2B	X	-73.02	5.53
53	MP2B	Z	42.158	5.53
54	MP2B	Mx	-0.083	5.53
55	MP2C	X	-73.02	0.53
56	MP2C	Z	42.158	0.53
57	MP2C	Mx	0.027	0.53
58	MP2C	X	-73.02	5.53
59	MP2C	Z	42.158	5.53
60	MP2C	Mx	0.027	5.53
61	MP4A	X	-22.24	2.75
62	MP4A	Z	12.84	2.75
63	MP4A	Mx	0.017	2.75
64	MP4A	X	-22.24	4.75
65	MP4A	Z	12.84	4.75
66	MP4A	Mx	0.017	4.75
67	MP4B	X	-53.993	2.75
68	MP4B	Z	31.173	2.75
69	MP4B	Mx	-0.021	2.75
70	MP4B	X	-53.993	4.75
71	MP4B	Z	31.173	4.75
72	MP4B	Mx	-0.021	4.75
73	MP4C	X	-53.993	2.75
74	MP4C	Z	31.173	2.75
75	MP4C	Mx	-0.021	2.75
76	MP4C	X	-53.993	4.75
77	MP4C	Z	31.173	4.75
78	MP4C	Mx	-0.021	4.75
79	MP3C	X	-104.444	1.19
80	MP3C	Z	60.301	1.19
81	MP3C	Mx	0	1.19

**Member Point Loads (BLC 12 : Antenna Wo (270 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-17.439	8.5
2	M19	Z	0	8.5
3	M19	Mx	0.003	8.5
4	M19	X	-17.439	8.5
5	M19	Z	0	8.5
6	M19	Mx	-0.003	8.5
7	RRH-A	X	-39.566	2.5



**Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	-0.013	2.5
10	RRH-A	X	-32.338	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	-0.011	2.5
13	RRH-B	X	-54.119	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	-0.011	2.5
16	RRH-B	X	-52.311	2.5
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	-0.01	2.5
19	MP3C	X	-54.119	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	0.029	2.5
22	MP3C	X	-52.311	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	-0.006	2.5
25	MP2A	X	-72.998	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	0.015	0.53
28	MP2A	X	-72.998	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	0.015	5.53
31	MP2B	X	-89.976	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	0.067	0.53
34	MP2B	X	-89.976	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	0.067	5.53
37	MP2C	X	-72.998	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	-0.07	0.53
40	MP2C	X	-72.998	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	-0.07	5.53
43	MP2A	X	-72.998	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	0.07	0.53
46	MP2A	X	-72.998	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	0.07	5.53
49	MP2B	X	-89.976	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	-0.067	0.53
52	MP2B	X	-89.976	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	-0.067	5.53
55	MP2C	X	-72.998	0.53
56	MP2C	Z	0	0.53
57	MP2C	Mx	-0.015	0.53
58	MP2C	X	-72.998	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	-0.015	5.53
61	MP4A	X	-37.902	2.75
62	MP4A	Z	0	2.75

**Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
63	MP4A	Mx	0.022	2.75
64	MP4A	X	-37.902	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	0.022	4.75
67	MP4B	X	-74.568	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	-74.568	4.75
71	MP4B	Z	0	4.75
72	MP4B	Mx	0	4.75
73	MP4C	X	-37.902	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	-0.022	2.75
76	MP4C	X	-37.902	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	-0.022	4.75
79	MP3C	X	-113.373	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	0.043	1.19

**Member Point Loads (BLC 13 : Antenna Wo (300 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-26.121	8.5
2	M19	Z	-15.081	8.5
3	M19	Mx	0.003	8.5
4	M19	X	-26.121	8.5
5	M19	Z	-15.081	8.5
6	M19	Mx	-0.003	8.5
7	RRH-A	X	-38.466	2.5
8	RRH-A	Z	-22.209	2.5
9	RRH-A	Mx	-0.004	2.5
10	RRH-A	X	-33.771	2.5
11	RRH-A	Z	-19.498	2.5
12	RRH-A	Mx	-0.018	2.5
13	RRH-B	X	-51.069	2.5
14	RRH-B	Z	-29.485	2.5
15	RRH-B	Mx	-0.025	2.5
16	RRH-B	X	-51.069	2.5
17	RRH-B	Z	-29.485	2.5
18	RRH-B	Mx	-0.025	2.5
19	MP3C	X	-38.466	2.5
20	MP3C	Z	-22.209	2.5
21	MP3C	Mx	0.022	2.5
22	MP3C	X	-33.771	2.5
23	MP3C	Z	-19.498	2.5
24	MP3C	Mx	0.005	2.5
25	MP2A	X	-73.02	0.53
26	MP2A	Z	-42.158	0.53
27	MP2A	Mx	-0.027	0.53
28	MP2A	X	-73.02	5.53
29	MP2A	Z	-42.158	5.53
30	MP2A	Mx	-0.027	5.53
31	MP2B	X	-73.02	0.53
32	MP2B	Z	-42.158	0.53
33	MP2B	Mx	0.083	0.53

**Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
34	MP2B	X	-73.02	5.53
35	MP2B	Z	-42.158	5.53
36	MP2B	Mx	0.083	5.53
37	MP2C	X	-58.317	0.53
38	MP2C	Z	-33.67	0.53
39	MP2C	Mx	-0.045	0.53
40	MP2C	X	-58.317	5.53
41	MP2C	Z	-33.67	5.53
42	MP2C	Mx	-0.045	5.53
43	MP2A	X	-73.02	0.53
44	MP2A	Z	-42.158	0.53
45	MP2A	Mx	0.083	0.53
46	MP2A	X	-73.02	5.53
47	MP2A	Z	-42.158	5.53
48	MP2A	Mx	0.083	5.53
49	MP2B	X	-73.02	0.53
50	MP2B	Z	-42.158	0.53
51	MP2B	Mx	-0.027	0.53
52	MP2B	X	-73.02	5.53
53	MP2B	Z	-42.158	5.53
54	MP2B	Mx	-0.027	5.53
55	MP2C	X	-58.317	0.53
56	MP2C	Z	-33.67	0.53
57	MP2C	Mx	-0.045	0.53
58	MP2C	X	-58.317	5.53
59	MP2C	Z	-33.67	5.53
60	MP2C	Mx	-0.045	5.53
61	MP4A	X	-53.993	2.75
62	MP4A	Z	-31.173	2.75
63	MP4A	Mx	0.021	2.75
64	MP4A	X	-53.993	4.75
65	MP4A	Z	-31.173	4.75
66	MP4A	Mx	0.021	4.75
67	MP4B	X	-53.993	2.75
68	MP4B	Z	-31.173	2.75
69	MP4B	Mx	0.021	2.75
70	MP4B	X	-53.993	4.75
71	MP4B	Z	-31.173	4.75
72	MP4B	Mx	0.021	4.75
73	MP4C	X	-22.24	2.75
74	MP4C	Z	-12.84	2.75
75	MP4C	Mx	-0.017	2.75
76	MP4C	X	-22.24	4.75
77	MP4C	Z	-12.84	4.75
78	MP4C	Mx	-0.017	4.75
79	MP3C	X	-85.664	1.19
80	MP3C	Z	-49.458	1.19
81	MP3C	Mx	0.064	1.19

**Member Point Loads (BLC 14 : Antenna Wo (330 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-18.261	8.5
2	M19	Z	-31.63	8.5
3	M19	Mx	0	8.5
4	M19	X	-18.261	8.5

**Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
5	M19	Z	-31.63	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	-27.059	2.5
8	RRH-A	Z	-46.868	2.5
9	RRH-A	Mx	0.011	2.5
10	RRH-A	X	-26.156	2.5
11	RRH-A	Z	-45.303	2.5
12	RRH-A	Mx	-0.024	2.5
13	RRH-B	X	-27.059	2.5
14	RRH-B	Z	-46.868	2.5
15	RRH-B	Mx	-0.029	2.5
16	RRH-B	X	-26.156	2.5
17	RRH-B	Z	-45.303	2.5
18	RRH-B	Mx	-0.028	2.5
19	MP3C	X	-19.783	2.5
20	MP3C	Z	-34.266	2.5
21	MP3C	Mx	0.013	2.5
22	MP3C	X	-16.169	2.5
23	MP3C	Z	-28.005	2.5
24	MP3C	Mx	0.011	2.5
25	MP2A	X	-44.988	0.53
26	MP2A	Z	-77.921	0.53
27	MP2A	Mx	-0.067	0.53
28	MP2A	X	-44.988	5.53
29	MP2A	Z	-77.921	5.53
30	MP2A	Mx	-0.067	5.53
31	MP2B	X	-36.499	0.53
32	MP2B	Z	-63.218	0.53
33	MP2B	Mx	0.07	0.53
34	MP2B	X	-36.499	5.53
35	MP2B	Z	-63.218	5.53
36	MP2B	Mx	0.07	5.53
37	MP2C	X	-36.499	0.53
38	MP2C	Z	-63.218	0.53
39	MP2C	Mx	-0.015	0.53
40	MP2C	X	-36.499	5.53
41	MP2C	Z	-63.218	5.53
42	MP2C	Mx	-0.015	5.53
43	MP2A	X	-44.988	0.53
44	MP2A	Z	-77.921	0.53
45	MP2A	Mx	0.067	0.53
46	MP2A	X	-44.988	5.53
47	MP2A	Z	-77.921	5.53
48	MP2A	Mx	0.067	5.53
49	MP2B	X	-36.499	0.53
50	MP2B	Z	-63.218	0.53
51	MP2B	Mx	0.015	0.53
52	MP2B	X	-36.499	5.53
53	MP2B	Z	-63.218	5.53
54	MP2B	Mx	0.015	5.53
55	MP2C	X	-36.499	0.53
56	MP2C	Z	-63.218	0.53
57	MP2C	Mx	-0.07	0.53
58	MP2C	X	-36.499	5.53
59	MP2C	Z	-63.218	5.53

**Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
60	MP2C	Mx	-0.07	5.53
61	MP4A	X	-37.284	2.75
62	MP4A	Z	-64.577	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	-37.284	4.75
65	MP4A	Z	-64.577	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	-18.951	2.75
68	MP4B	Z	-32.824	2.75
69	MP4B	Mx	0.022	2.75
70	MP4B	X	-18.951	4.75
71	MP4B	Z	-32.824	4.75
72	MP4B	Mx	0.022	4.75
73	MP4C	X	-18.951	2.75
74	MP4C	Z	-32.824	2.75
75	MP4C	Mx	-0.022	2.75
76	MP4C	X	-18.951	4.75
77	MP4C	Z	-32.824	4.75
78	MP4C	Mx	-0.022	4.75
79	MP3C	X	-45.844	1.19
80	MP3C	Z	-79.404	1.19
81	MP3C	Mx	0.069	1.19

**Member Point Loads (BLC 15 : Antenna Wi (0 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	-6.765	8.5
3	M19	Mx	-0.000564	8.5
4	M19	X	0	8.5
5	M19	Z	-6.765	8.5
6	M19	Mx	0.000564	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	-10.166	2.5
9	RRH-A	Mx	0.004	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	-8.464	2.5
12	RRH-A	Mx	-0.003	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	-13.526	2.5
15	RRH-B	Mx	-0.007	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	-13.1	2.5
18	RRH-B	Mx	-0.007	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	-13.526	2.5
21	MP3C	Mx	0.001	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	-13.1	2.5
24	MP3C	Mx	0.006	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	-33.225	0.53
27	MP2A	Mx	-0.033	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	-33.225	5.53
30	MP2A	Mx	-0.033	5.53

**Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
31	MP2B	X	0	0.53
32	MP2B	Z	-26.743	0.53
33	MP2B	Mx	0.018	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	-26.743	5.53
36	MP2B	Mx	0.018	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	-33.225	0.53
39	MP2C	Mx	0.011	0.53
40	MP2C	X	0	5.53
41	MP2C	Z	-33.225	5.53
42	MP2C	Mx	0.011	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	-33.225	0.53
45	MP2A	Mx	0.011	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	-33.225	5.53
48	MP2A	Mx	0.011	5.53
49	MP2B	X	0	0.53
50	MP2B	Z	-26.743	0.53
51	MP2B	Mx	0.018	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	-26.743	5.53
54	MP2B	Mx	0.018	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	-33.225	0.53
57	MP2C	Mx	-0.033	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	-33.225	5.53
60	MP2C	Mx	-0.033	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	-14.918	2.75
63	MP4A	Mx	-0.005	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	-14.918	4.75
66	MP4A	Mx	-0.005	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	-7.39	2.75
69	MP4B	Mx	0.005	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	-7.39	4.75
72	MP4B	Mx	0.005	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	-14.918	2.75
75	MP4C	Mx	-0.005	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	-14.918	4.75
78	MP4C	Mx	-0.005	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	-25.222	1.19
81	MP3C	Mx	0.016	1.19

**Member Point Loads (BLC 16 : Antenna Wi (30 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	2.124	8.5
2	M19	Z	-3.679	8.5
3	M19	Mx	-0.000613	8.5
4	M19	X	2.124	8.5
5	M19	Z	-3.679	8.5
6	M19	Mx	0.000613	8.5
7	RRH-A	X	5.643	2.5
8	RRH-A	Z	-9.774	2.5
9	RRH-A	Mx	0.006	2.5
10	RRH-A	X	5.005	2.5
11	RRH-A	Z	-8.668	2.5
12	RRH-A	Mx	-0.001	2.5
13	RRH-B	X	7.323	2.5
14	RRH-B	Z	-12.683	2.5
15	RRH-B	Mx	-0.005	2.5
16	RRH-B	X	7.323	2.5
17	RRH-B	Z	-12.683	2.5
18	RRH-B	Mx	-0.005	2.5
19	MP3C	X	5.643	2.5
20	MP3C	Z	-9.774	2.5
21	MP3C	Mx	-0.002	2.5
22	MP3C	X	5.005	2.5
23	MP3C	Z	-8.668	2.5
24	MP3C	Mx	0.005	2.5
25	MP2A	X	14.452	0.53
26	MP2A	Z	-25.031	0.53
27	MP2A	Mx	-0.028	0.53
28	MP2A	X	14.452	5.53
29	MP2A	Z	-25.031	5.53
30	MP2A	Mx	-0.028	5.53
31	MP2B	X	14.452	0.53
32	MP2B	Z	-25.031	0.53
33	MP2B	Mx	0.006	0.53
34	MP2B	X	14.452	5.53
35	MP2B	Z	-25.031	5.53
36	MP2B	Mx	0.006	5.53
37	MP2C	X	17.693	0.53
38	MP2C	Z	-30.644	0.53
39	MP2C	Mx	0.027	0.53
40	MP2C	X	17.693	5.53
41	MP2C	Z	-30.644	5.53
42	MP2C	Mx	0.027	5.53
43	MP2A	X	14.452	0.53
44	MP2A	Z	-25.031	0.53
45	MP2A	Mx	-0.006	0.53
46	MP2A	X	14.452	5.53
47	MP2A	Z	-25.031	5.53
48	MP2A	Mx	-0.006	5.53
49	MP2B	X	14.452	0.53
50	MP2B	Z	-25.031	0.53
51	MP2B	Mx	0.028	0.53
52	MP2B	X	14.452	5.53
53	MP2B	Z	-25.031	5.53
54	MP2B	Mx	0.028	5.53
55	MP2C	X	17.693	0.53

**Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	-30.644	0.53
57	MP2C	Mx	-0.027	0.53
58	MP2C	X	17.693	5.53
59	MP2C	Z	-30.644	5.53
60	MP2C	Mx	-0.027	5.53
61	MP4A	X	4.95	2.75
62	MP4A	Z	-8.573	2.75
63	MP4A	Mx	-0.006	2.75
64	MP4A	X	4.95	4.75
65	MP4A	Z	-8.573	4.75
66	MP4A	Mx	-0.006	4.75
67	MP4B	X	4.95	2.75
68	MP4B	Z	-8.573	2.75
69	MP4B	Mx	0.006	2.75
70	MP4B	X	4.95	4.75
71	MP4B	Z	-8.573	4.75
72	MP4B	Mx	0.006	4.75
73	MP4C	X	8.714	2.75
74	MP4C	Z	-15.093	2.75
75	MP4C	Mx	0	2.75
76	MP4C	X	8.714	4.75
77	MP4C	Z	-15.093	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	14.262	1.19
80	MP3C	Z	-24.703	1.19
81	MP3C	Mx	0.011	1.19

**Member Point Loads (BLC 17 : Antenna Wi (60 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	2.59	8.5
2	M19	Z	-1.495	8.5
3	M19	Mx	-0.000498	8.5
4	M19	X	2.59	8.5
5	M19	Z	-1.495	8.5
6	M19	Mx	0.000498	8.5
7	RRH-A	X	11.714	2.5
8	RRH-A	Z	-6.763	2.5
9	RRH-A	Mx	0.007	2.5
10	RRH-A	X	11.345	2.5
11	RRH-A	Z	-6.55	2.5
12	RRH-A	Mx	0.002	2.5
13	RRH-B	X	11.714	2.5
14	RRH-B	Z	-6.763	2.5
15	RRH-B	Mx	-0.001	2.5
16	RRH-B	X	11.345	2.5
17	RRH-B	Z	-6.55	2.5
18	RRH-B	Mx	-0.001	2.5
19	MP3C	X	8.804	2.5
20	MP3C	Z	-5.083	2.5
21	MP3C	Mx	-0.004	2.5
22	MP3C	X	7.33	2.5
23	MP3C	Z	-4.232	2.5
24	MP3C	Mx	0.003	2.5
25	MP2A	X	23.161	0.53
26	MP2A	Z	-13.372	0.53



**Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	-0.018	0.53
28	MP2A	X	23.161	5.53
29	MP2A	Z	-13.372	5.53
30	MP2A	Mx	-0.018	5.53
31	MP2B	X	28.773	0.53
32	MP2B	Z	-16.612	0.53
33	MP2B	Mx	-0.011	0.53
34	MP2B	X	28.773	5.53
35	MP2B	Z	-16.612	5.53
36	MP2B	Mx	-0.011	5.53
37	MP2C	X	28.773	0.53
38	MP2C	Z	-16.612	0.53
39	MP2C	Mx	0.033	0.53
40	MP2C	X	28.773	5.53
41	MP2C	Z	-16.612	5.53
42	MP2C	Mx	0.033	5.53
43	MP2A	X	23.161	0.53
44	MP2A	Z	-13.372	0.53
45	MP2A	Mx	-0.018	0.53
46	MP2A	X	23.161	5.53
47	MP2A	Z	-13.372	5.53
48	MP2A	Mx	-0.018	5.53
49	MP2B	X	28.773	0.53
50	MP2B	Z	-16.612	0.53
51	MP2B	Mx	0.033	0.53
52	MP2B	X	28.773	5.53
53	MP2B	Z	-16.612	5.53
54	MP2B	Mx	0.033	5.53
55	MP2C	X	28.773	0.53
56	MP2C	Z	-16.612	0.53
57	MP2C	Mx	-0.011	0.53
58	MP2C	X	28.773	5.53
59	MP2C	Z	-16.612	5.53
60	MP2C	Mx	-0.011	5.53
61	MP4A	X	6.4	2.75
62	MP4A	Z	-3.695	2.75
63	MP4A	Mx	-0.005	2.75
64	MP4A	X	6.4	4.75
65	MP4A	Z	-3.695	4.75
66	MP4A	Mx	-0.005	4.75
67	MP4B	X	12.92	2.75
68	MP4B	Z	-7.459	2.75
69	MP4B	Mx	0.005	2.75
70	MP4B	X	12.92	4.75
71	MP4B	Z	-7.459	4.75
72	MP4B	Mx	0.005	4.75
73	MP4C	X	12.92	2.75
74	MP4C	Z	-7.459	2.75
75	MP4C	Mx	0.005	2.75
76	MP4C	X	12.92	4.75
77	MP4C	Z	-7.459	4.75
78	MP4C	Mx	0.005	4.75
79	MP3C	X	26.134	1.19
80	MP3C	Z	-15.088	1.19
81	MP3C	Mx	0	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

1/24/2024  
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Checked By :

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**Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 18 : Antenna Wi (90 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	4.248	8.5
2	M19	Z	0	8.5
3	M19	Mx	-0.000613	8.5
4	M19	X	4.248	8.5
5	M19	Z	0	8.5
6	M19	Mx	0.000613	8.5
7	RRH-A	X	14.645	2.5
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	0.005	2.5
10	RRH-A	X	14.645	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	0.005	2.5
13	RRH-B	X	11.286	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	0.002	2.5
16	RRH-B	X	10.009	2.5
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	0.002	2.5
19	MP3C	X	11.286	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	-0.006	2.5
22	MP3C	X	10.009	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0.001	2.5
25	MP2A	X	28.904	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	-0.006	0.53
28	MP2A	X	28.904	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	-0.006	5.53
31	MP2B	X	35.385	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	-0.027	0.53
34	MP2B	X	35.385	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	-0.027	5.53
37	MP2C	X	28.904	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	0.028	0.53
40	MP2C	X	28.904	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	0.028	5.53
43	MP2A	X	28.904	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	-0.028	0.53
46	MP2A	X	28.904	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	-0.028	5.53
49	MP2B	X	35.385	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	0.027	0.53
52	MP2B	X	35.385	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	0.027	5.53
55	MP2C	X	28.904	0.53

**Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	0	0.53
57	MP2C	Mx	0.006	0.53
58	MP2C	X	28.904	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	0.006	5.53
61	MP4A	X	9.9	2.75
62	MP4A	Z	0	2.75
63	MP4A	Mx	-0.006	2.75
64	MP4A	X	9.9	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	-0.006	4.75
67	MP4B	X	17.427	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	17.427	4.75
71	MP4B	Z	0	4.75
72	MP4B	Mx	0	4.75
73	MP4C	X	9.9	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	0.006	2.75
76	MP4C	X	9.9	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	0.006	4.75
79	MP3C	X	28.525	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	-0.011	1.19

**Member Point Loads (BLC 19 : Antenna Wi (120 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	5.859	8.5
2	M19	Z	3.383	8.5
3	M19	Mx	-0.000564	8.5
4	M19	X	5.859	8.5
5	M19	Z	3.383	8.5
6	M19	Mx	0.000564	8.5
7	RRH-A	X	11.714	2.5
8	RRH-A	Z	6.763	2.5
9	RRH-A	Mx	0.001	2.5
10	RRH-A	X	11.345	2.5
11	RRH-A	Z	6.55	2.5
12	RRH-A	Mx	0.006	2.5
13	RRH-B	X	8.804	2.5
14	RRH-B	Z	5.083	2.5
15	RRH-B	Mx	0.004	2.5
16	RRH-B	X	7.33	2.5
17	RRH-B	Z	4.232	2.5
18	RRH-B	Mx	0.004	2.5
19	MP3C	X	11.714	2.5
20	MP3C	Z	6.763	2.5
21	MP3C	Mx	-0.007	2.5
22	MP3C	X	11.345	2.5
23	MP3C	Z	6.55	2.5
24	MP3C	Mx	-0.002	2.5
25	MP2A	X	28.773	0.53
26	MP2A	Z	16.612	0.53

**Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.011	0.53
28	MP2A	X	28.773	5.53
29	MP2A	Z	16.612	5.53
30	MP2A	Mx	0.011	5.53
31	MP2B	X	28.773	0.53
32	MP2B	Z	16.612	0.53
33	MP2B	Mx	-0.033	0.53
34	MP2B	X	28.773	5.53
35	MP2B	Z	16.612	5.53
36	MP2B	Mx	-0.033	5.53
37	MP2C	X	23.161	0.53
38	MP2C	Z	13.372	0.53
39	MP2C	Mx	0.018	0.53
40	MP2C	X	23.161	5.53
41	MP2C	Z	13.372	5.53
42	MP2C	Mx	0.018	5.53
43	MP2A	X	28.773	0.53
44	MP2A	Z	16.612	0.53
45	MP2A	Mx	-0.033	0.53
46	MP2A	X	28.773	5.53
47	MP2A	Z	16.612	5.53
48	MP2A	Mx	-0.033	5.53
49	MP2B	X	28.773	0.53
50	MP2B	Z	16.612	0.53
51	MP2B	Mx	0.011	0.53
52	MP2B	X	28.773	5.53
53	MP2B	Z	16.612	5.53
54	MP2B	Mx	0.011	5.53
55	MP2C	X	23.161	0.53
56	MP2C	Z	13.372	0.53
57	MP2C	Mx	0.018	0.53
58	MP2C	X	23.161	5.53
59	MP2C	Z	13.372	5.53
60	MP2C	Mx	0.018	5.53
61	MP4A	X	12.92	2.75
62	MP4A	Z	7.459	2.75
63	MP4A	Mx	-0.005	2.75
64	MP4A	X	12.92	4.75
65	MP4A	Z	7.459	4.75
66	MP4A	Mx	-0.005	4.75
67	MP4B	X	12.92	2.75
68	MP4B	Z	7.459	2.75
69	MP4B	Mx	-0.005	2.75
70	MP4B	X	12.92	4.75
71	MP4B	Z	7.459	4.75
72	MP4B	Mx	-0.005	4.75
73	MP4C	X	6.4	2.75
74	MP4C	Z	3.695	2.75
75	MP4C	Mx	0.005	2.75
76	MP4C	X	6.4	4.75
77	MP4C	Z	3.695	4.75
78	MP4C	Mx	0.005	4.75
79	MP3C	X	21.843	1.19
80	MP3C	Z	12.611	1.19
81	MP3C	Mx	-0.016	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 20 : Antenna Wi (150 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	4.012	8.5
2	M19	Z	6.949	8.5
3	M19	Mx	0	8.5
4	M19	X	4.012	8.5
5	M19	Z	6.949	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	5.643	2.5
8	RRH-A	Z	9.774	2.5
9	RRH-A	Mx	-0.002	2.5
10	RRH-A	X	5.005	2.5
11	RRH-A	Z	8.668	2.5
12	RRH-A	Mx	0.005	2.5
13	RRH-B	X	5.643	2.5
14	RRH-B	Z	9.774	2.5
15	RRH-B	Mx	0.006	2.5
16	RRH-B	X	5.005	2.5
17	RRH-B	Z	8.668	2.5
18	RRH-B	Mx	0.005	2.5
19	MP3C	X	7.323	2.5
20	MP3C	Z	12.683	2.5
21	MP3C	Mx	-0.005	2.5
22	MP3C	X	7.323	2.5
23	MP3C	Z	12.683	2.5
24	MP3C	Mx	-0.005	2.5
25	MP2A	X	17.693	0.53
26	MP2A	Z	30.644	0.53
27	MP2A	Mx	0.027	0.53
28	MP2A	X	17.693	5.53
29	MP2A	Z	30.644	5.53
30	MP2A	Mx	0.027	5.53
31	MP2B	X	14.452	0.53
32	MP2B	Z	25.031	0.53
33	MP2B	Mx	-0.028	0.53
34	MP2B	X	14.452	5.53
35	MP2B	Z	25.031	5.53
36	MP2B	Mx	-0.028	5.53
37	MP2C	X	14.452	0.53
38	MP2C	Z	25.031	0.53
39	MP2C	Mx	0.006	0.53
40	MP2C	X	14.452	5.53
41	MP2C	Z	25.031	5.53
42	MP2C	Mx	0.006	5.53
43	MP2A	X	17.693	0.53
44	MP2A	Z	30.644	0.53
45	MP2A	Mx	-0.027	0.53
46	MP2A	X	17.693	5.53
47	MP2A	Z	30.644	5.53
48	MP2A	Mx	-0.027	5.53
49	MP2B	X	14.452	0.53
50	MP2B	Z	25.031	0.53
51	MP2B	Mx	-0.006	0.53
52	MP2B	X	14.452	5.53
53	MP2B	Z	25.031	5.53
54	MP2B	Mx	-0.006	5.53
55	MP2C	X	14.452	0.53

**Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	25.031	0.53
57	MP2C	Mx	0.028	0.53
58	MP2C	X	14.452	5.53
59	MP2C	Z	25.031	5.53
60	MP2C	Mx	0.028	5.53
61	MP4A	X	8.714	2.75
62	MP4A	Z	15.093	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	8.714	4.75
65	MP4A	Z	15.093	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	4.95	2.75
68	MP4B	Z	8.573	2.75
69	MP4B	Mx	-0.006	2.75
70	MP4B	X	4.95	4.75
71	MP4B	Z	8.573	4.75
72	MP4B	Mx	-0.006	4.75
73	MP4C	X	4.95	2.75
74	MP4C	Z	8.573	2.75
75	MP4C	Mx	0.006	2.75
76	MP4C	X	4.95	4.75
77	MP4C	Z	8.573	4.75
78	MP4C	Mx	0.006	4.75
79	MP3C	X	11.785	1.19
80	MP3C	Z	20.412	1.19
81	MP3C	Mx	-0.018	1.19

**Member Point Loads (BLC 21 : Antenna Wi (180 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	6.765	8.5
3	M19	Mx	0.000564	8.5
4	M19	X	0	8.5
5	M19	Z	6.765	8.5
6	M19	Mx	-0.000564	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	10.166	2.5
9	RRH-A	Mx	-0.004	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	8.464	2.5
12	RRH-A	Mx	0.003	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	13.526	2.5
15	RRH-B	Mx	0.007	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	13.1	2.5
18	RRH-B	Mx	0.007	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	13.526	2.5
21	MP3C	Mx	-0.001	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	13.1	2.5
24	MP3C	Mx	-0.006	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	33.225	0.53



**Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.033	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	33.225	5.53
30	MP2A	Mx	0.033	5.53
31	MP2B	X	0	0.53
32	MP2B	Z	26.743	0.53
33	MP2B	Mx	-0.018	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	26.743	5.53
36	MP2B	Mx	-0.018	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	33.225	0.53
39	MP2C	Mx	-0.011	0.53
40	MP2C	X	0	5.53
41	MP2C	Z	33.225	5.53
42	MP2C	Mx	-0.011	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	33.225	0.53
45	MP2A	Mx	-0.011	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	33.225	5.53
48	MP2A	Mx	-0.011	5.53
49	MP2B	X	0	0.53
50	MP2B	Z	26.743	0.53
51	MP2B	Mx	-0.018	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	26.743	5.53
54	MP2B	Mx	-0.018	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	33.225	0.53
57	MP2C	Mx	0.033	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	33.225	5.53
60	MP2C	Mx	0.033	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	14.918	2.75
63	MP4A	Mx	0.005	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	14.918	4.75
66	MP4A	Mx	0.005	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	7.39	2.75
69	MP4B	Mx	-0.005	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	7.39	4.75
72	MP4B	Mx	-0.005	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	14.918	2.75
75	MP4C	Mx	0.005	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	14.918	4.75
78	MP4C	Mx	0.005	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	25.222	1.19
81	MP3C	Mx	-0.016	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 22 : Antenna Wi (210 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-2.124	8.5
2	M19	Z	3.679	8.5
3	M19	Mx	0.000613	8.5
4	M19	X	-2.124	8.5
5	M19	Z	3.679	8.5
6	M19	Mx	-0.000613	8.5
7	RRH-A	X	-5.643	2.5
8	RRH-A	Z	9.774	2.5
9	RRH-A	Mx	-0.006	2.5
10	RRH-A	X	-5.005	2.5
11	RRH-A	Z	8.668	2.5
12	RRH-A	Mx	0.001	2.5
13	RRH-B	X	-7.323	2.5
14	RRH-B	Z	12.683	2.5
15	RRH-B	Mx	0.005	2.5
16	RRH-B	X	-7.323	2.5
17	RRH-B	Z	12.683	2.5
18	RRH-B	Mx	0.005	2.5
19	MP3C	X	-5.643	2.5
20	MP3C	Z	9.774	2.5
21	MP3C	Mx	0.002	2.5
22	MP3C	X	-5.005	2.5
23	MP3C	Z	8.668	2.5
24	MP3C	Mx	-0.005	2.5
25	MP2A	X	-14.452	0.53
26	MP2A	Z	25.031	0.53
27	MP2A	Mx	0.028	0.53
28	MP2A	X	-14.452	5.53
29	MP2A	Z	25.031	5.53
30	MP2A	Mx	0.028	5.53
31	MP2B	X	-14.452	0.53
32	MP2B	Z	25.031	0.53
33	MP2B	Mx	-0.006	0.53
34	MP2B	X	-14.452	5.53
35	MP2B	Z	25.031	5.53
36	MP2B	Mx	-0.006	5.53
37	MP2C	X	-17.693	0.53
38	MP2C	Z	30.644	0.53
39	MP2C	Mx	-0.027	0.53
40	MP2C	X	-17.693	5.53
41	MP2C	Z	30.644	5.53
42	MP2C	Mx	-0.027	5.53
43	MP2A	X	-14.452	0.53
44	MP2A	Z	25.031	0.53
45	MP2A	Mx	0.006	0.53
46	MP2A	X	-14.452	5.53
47	MP2A	Z	25.031	5.53
48	MP2A	Mx	0.006	5.53
49	MP2B	X	-14.452	0.53
50	MP2B	Z	25.031	0.53
51	MP2B	Mx	-0.028	0.53
52	MP2B	X	-14.452	5.53
53	MP2B	Z	25.031	5.53
54	MP2B	Mx	-0.028	5.53
55	MP2C	X	-17.693	0.53

**Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	30.644	0.53
57	MP2C	Mx	0.027	0.53
58	MP2C	X	-17.693	5.53
59	MP2C	Z	30.644	5.53
60	MP2C	Mx	0.027	5.53
61	MP4A	X	-4.95	2.75
62	MP4A	Z	8.573	2.75
63	MP4A	Mx	0.006	2.75
64	MP4A	X	-4.95	4.75
65	MP4A	Z	8.573	4.75
66	MP4A	Mx	0.006	4.75
67	MP4B	X	-4.95	2.75
68	MP4B	Z	8.573	2.75
69	MP4B	Mx	-0.006	2.75
70	MP4B	X	-4.95	4.75
71	MP4B	Z	8.573	4.75
72	MP4B	Mx	-0.006	4.75
73	MP4C	X	-8.714	2.75
74	MP4C	Z	15.093	2.75
75	MP4C	Mx	0	2.75
76	MP4C	X	-8.714	4.75
77	MP4C	Z	15.093	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	-14.262	1.19
80	MP3C	Z	24.703	1.19
81	MP3C	Mx	-0.011	1.19

**Member Point Loads (BLC 23 : Antenna Wi (240 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-2.59	8.5
2	M19	Z	1.495	8.5
3	M19	Mx	0.000498	8.5
4	M19	X	-2.59	8.5
5	M19	Z	1.495	8.5
6	M19	Mx	-0.000498	8.5
7	RRH-A	X	-11.714	2.5
8	RRH-A	Z	6.763	2.5
9	RRH-A	Mx	-0.007	2.5
10	RRH-A	X	-11.345	2.5
11	RRH-A	Z	6.55	2.5
12	RRH-A	Mx	-0.002	2.5
13	RRH-B	X	-11.714	2.5
14	RRH-B	Z	6.763	2.5
15	RRH-B	Mx	0.001	2.5
16	RRH-B	X	-11.345	2.5
17	RRH-B	Z	6.55	2.5
18	RRH-B	Mx	0.001	2.5
19	MP3C	X	-8.804	2.5
20	MP3C	Z	5.083	2.5
21	MP3C	Mx	0.004	2.5
22	MP3C	X	-7.33	2.5
23	MP3C	Z	4.232	2.5
24	MP3C	Mx	-0.003	2.5
25	MP2A	X	-23.161	0.53
26	MP2A	Z	13.372	0.53

**Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.018	0.53
28	MP2A	X	-23.161	5.53
29	MP2A	Z	13.372	5.53
30	MP2A	Mx	0.018	5.53
31	MP2B	X	-28.773	0.53
32	MP2B	Z	16.612	0.53
33	MP2B	Mx	0.011	0.53
34	MP2B	X	-28.773	5.53
35	MP2B	Z	16.612	5.53
36	MP2B	Mx	0.011	5.53
37	MP2C	X	-28.773	0.53
38	MP2C	Z	16.612	0.53
39	MP2C	Mx	-0.033	0.53
40	MP2C	X	-28.773	5.53
41	MP2C	Z	16.612	5.53
42	MP2C	Mx	-0.033	5.53
43	MP2A	X	-23.161	0.53
44	MP2A	Z	13.372	0.53
45	MP2A	Mx	0.018	0.53
46	MP2A	X	-23.161	5.53
47	MP2A	Z	13.372	5.53
48	MP2A	Mx	0.018	5.53
49	MP2B	X	-28.773	0.53
50	MP2B	Z	16.612	0.53
51	MP2B	Mx	-0.033	0.53
52	MP2B	X	-28.773	5.53
53	MP2B	Z	16.612	5.53
54	MP2B	Mx	-0.033	5.53
55	MP2C	X	-28.773	0.53
56	MP2C	Z	16.612	0.53
57	MP2C	Mx	0.011	0.53
58	MP2C	X	-28.773	5.53
59	MP2C	Z	16.612	5.53
60	MP2C	Mx	0.011	5.53
61	MP4A	X	-6.4	2.75
62	MP4A	Z	3.695	2.75
63	MP4A	Mx	0.005	2.75
64	MP4A	X	-6.4	4.75
65	MP4A	Z	3.695	4.75
66	MP4A	Mx	0.005	4.75
67	MP4B	X	-12.92	2.75
68	MP4B	Z	7.459	2.75
69	MP4B	Mx	-0.005	2.75
70	MP4B	X	-12.92	4.75
71	MP4B	Z	7.459	4.75
72	MP4B	Mx	-0.005	4.75
73	MP4C	X	-12.92	2.75
74	MP4C	Z	7.459	2.75
75	MP4C	Mx	-0.005	2.75
76	MP4C	X	-12.92	4.75
77	MP4C	Z	7.459	4.75
78	MP4C	Mx	-0.005	4.75
79	MP3C	X	-26.134	1.19
80	MP3C	Z	15.088	1.19
81	MP3C	Mx	0	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 24 : Antenna Wi (270 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-4.248	8.5
2	M19	Z	0	8.5
3	M19	Mx	0.000613	8.5
4	M19	X	-4.248	8.5
5	M19	Z	0	8.5
6	M19	Mx	-0.000613	8.5
7	RRH-A	X	-14.645	2.5
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	-0.005	2.5
10	RRH-A	X	-14.645	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	-0.005	2.5
13	RRH-B	X	-11.286	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	-0.002	2.5
16	RRH-B	X	-10.009	2.5
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	-0.002	2.5
19	MP3C	X	-11.286	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	0.006	2.5
22	MP3C	X	-10.009	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	-0.001	2.5
25	MP2A	X	-28.904	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	0.006	0.53
28	MP2A	X	-28.904	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	0.006	5.53
31	MP2B	X	-35.385	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	0.027	0.53
34	MP2B	X	-35.385	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	0.027	5.53
37	MP2C	X	-28.904	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	-0.028	0.53
40	MP2C	X	-28.904	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	-0.028	5.53
43	MP2A	X	-28.904	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	0.028	0.53
46	MP2A	X	-28.904	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	0.028	5.53
49	MP2B	X	-35.385	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	-0.027	0.53
52	MP2B	X	-35.385	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	-0.027	5.53
55	MP2C	X	-28.904	0.53

**Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	0	0.53
57	MP2C	Mx	-0.006	0.53
58	MP2C	X	-28.904	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	-0.006	5.53
61	MP4A	X	-9.9	2.75
62	MP4A	Z	0	2.75
63	MP4A	Mx	0.006	2.75
64	MP4A	X	-9.9	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	0.006	4.75
67	MP4B	X	-17.427	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	-17.427	4.75
71	MP4B	Z	0	4.75
72	MP4B	Mx	0	4.75
73	MP4C	X	-9.9	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	-0.006	2.75
76	MP4C	X	-9.9	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	-0.006	4.75
79	MP3C	X	-28.525	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	0.011	1.19

**Member Point Loads (BLC 25 : Antenna Wi (300 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-5.859	8.5
2	M19	Z	-3.383	8.5
3	M19	Mx	0.000564	8.5
4	M19	X	-5.859	8.5
5	M19	Z	-3.383	8.5
6	M19	Mx	-0.000564	8.5
7	RRH-A	X	-11.714	2.5
8	RRH-A	Z	-6.763	2.5
9	RRH-A	Mx	-0.001	2.5
10	RRH-A	X	-11.345	2.5
11	RRH-A	Z	-6.55	2.5
12	RRH-A	Mx	-0.006	2.5
13	RRH-B	X	-8.804	2.5
14	RRH-B	Z	-5.083	2.5
15	RRH-B	Mx	-0.004	2.5
16	RRH-B	X	-7.33	2.5
17	RRH-B	Z	-4.232	2.5
18	RRH-B	Mx	-0.004	2.5
19	MP3C	X	-11.714	2.5
20	MP3C	Z	-6.763	2.5
21	MP3C	Mx	0.007	2.5
22	MP3C	X	-11.345	2.5
23	MP3C	Z	-6.55	2.5
24	MP3C	Mx	0.002	2.5
25	MP2A	X	-28.773	0.53
26	MP2A	Z	-16.612	0.53



**Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	-0.011	0.53
28	MP2A	X	-28.773	5.53
29	MP2A	Z	-16.612	5.53
30	MP2A	Mx	-0.011	5.53
31	MP2B	X	-28.773	0.53
32	MP2B	Z	-16.612	0.53
33	MP2B	Mx	0.033	0.53
34	MP2B	X	-28.773	5.53
35	MP2B	Z	-16.612	5.53
36	MP2B	Mx	0.033	5.53
37	MP2C	X	-23.161	0.53
38	MP2C	Z	-13.372	0.53
39	MP2C	Mx	-0.018	0.53
40	MP2C	X	-23.161	5.53
41	MP2C	Z	-13.372	5.53
42	MP2C	Mx	-0.018	5.53
43	MP2A	X	-28.773	0.53
44	MP2A	Z	-16.612	0.53
45	MP2A	Mx	0.033	0.53
46	MP2A	X	-28.773	5.53
47	MP2A	Z	-16.612	5.53
48	MP2A	Mx	0.033	5.53
49	MP2B	X	-28.773	0.53
50	MP2B	Z	-16.612	0.53
51	MP2B	Mx	-0.011	0.53
52	MP2B	X	-28.773	5.53
53	MP2B	Z	-16.612	5.53
54	MP2B	Mx	-0.011	5.53
55	MP2C	X	-23.161	0.53
56	MP2C	Z	-13.372	0.53
57	MP2C	Mx	-0.018	0.53
58	MP2C	X	-23.161	5.53
59	MP2C	Z	-13.372	5.53
60	MP2C	Mx	-0.018	5.53
61	MP4A	X	-12.92	2.75
62	MP4A	Z	-7.459	2.75
63	MP4A	Mx	0.005	2.75
64	MP4A	X	-12.92	4.75
65	MP4A	Z	-7.459	4.75
66	MP4A	Mx	0.005	4.75
67	MP4B	X	-12.92	2.75
68	MP4B	Z	-7.459	2.75
69	MP4B	Mx	0.005	2.75
70	MP4B	X	-12.92	4.75
71	MP4B	Z	-7.459	4.75
72	MP4B	Mx	0.005	4.75
73	MP4C	X	-6.4	2.75
74	MP4C	Z	-3.695	2.75
75	MP4C	Mx	-0.005	2.75
76	MP4C	X	-6.4	4.75
77	MP4C	Z	-3.695	4.75
78	MP4C	Mx	-0.005	4.75
79	MP3C	X	-21.843	1.19
80	MP3C	Z	-12.611	1.19
81	MP3C	Mx	0.016	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 26 : Antenna Wi (330 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-4.012	8.5
2	M19	Z	-6.949	8.5
3	M19	Mx	0	8.5
4	M19	X	-4.012	8.5
5	M19	Z	-6.949	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	-5.643	2.5
8	RRH-A	Z	-9.774	2.5
9	RRH-A	Mx	0.002	2.5
10	RRH-A	X	-5.005	2.5
11	RRH-A	Z	-8.668	2.5
12	RRH-A	Mx	-0.005	2.5
13	RRH-B	X	-5.643	2.5
14	RRH-B	Z	-9.774	2.5
15	RRH-B	Mx	-0.006	2.5
16	RRH-B	X	-5.005	2.5
17	RRH-B	Z	-8.668	2.5
18	RRH-B	Mx	-0.005	2.5
19	MP3C	X	-7.323	2.5
20	MP3C	Z	-12.683	2.5
21	MP3C	Mx	0.005	2.5
22	MP3C	X	-7.323	2.5
23	MP3C	Z	-12.683	2.5
24	MP3C	Mx	0.005	2.5
25	MP2A	X	-17.693	0.53
26	MP2A	Z	-30.644	0.53
27	MP2A	Mx	-0.027	0.53
28	MP2A	X	-17.693	5.53
29	MP2A	Z	-30.644	5.53
30	MP2A	Mx	-0.027	5.53
31	MP2B	X	-14.452	0.53
32	MP2B	Z	-25.031	0.53
33	MP2B	Mx	0.028	0.53
34	MP2B	X	-14.452	5.53
35	MP2B	Z	-25.031	5.53
36	MP2B	Mx	0.028	5.53
37	MP2C	X	-14.452	0.53
38	MP2C	Z	-25.031	0.53
39	MP2C	Mx	-0.006	0.53
40	MP2C	X	-14.452	5.53
41	MP2C	Z	-25.031	5.53
42	MP2C	Mx	-0.006	5.53
43	MP2A	X	-17.693	0.53
44	MP2A	Z	-30.644	0.53
45	MP2A	Mx	0.027	0.53
46	MP2A	X	-17.693	5.53
47	MP2A	Z	-30.644	5.53
48	MP2A	Mx	0.027	5.53
49	MP2B	X	-14.452	0.53
50	MP2B	Z	-25.031	0.53
51	MP2B	Mx	0.006	0.53
52	MP2B	X	-14.452	5.53
53	MP2B	Z	-25.031	5.53
54	MP2B	Mx	0.006	5.53
55	MP2C	X	-14.452	0.53

**Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	-25.031	0.53
57	MP2C	Mx	-0.028	0.53
58	MP2C	X	-14.452	5.53
59	MP2C	Z	-25.031	5.53
60	MP2C	Mx	-0.028	5.53
61	MP4A	X	-8.714	2.75
62	MP4A	Z	-15.093	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	-8.714	4.75
65	MP4A	Z	-15.093	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	-4.95	2.75
68	MP4B	Z	-8.573	2.75
69	MP4B	Mx	0.006	2.75
70	MP4B	X	-4.95	4.75
71	MP4B	Z	-8.573	4.75
72	MP4B	Mx	0.006	4.75
73	MP4C	X	-4.95	2.75
74	MP4C	Z	-8.573	2.75
75	MP4C	Mx	-0.006	2.75
76	MP4C	X	-4.95	4.75
77	MP4C	Z	-8.573	4.75
78	MP4C	Mx	-0.006	4.75
79	MP3C	X	-11.785	1.19
80	MP3C	Z	-20.412	1.19
81	MP3C	Mx	0.018	1.19

**Member Point Loads (BLC 27 : Antenna Wm (0 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	-1.885	8.5
3	M19	Mx	-0.000157	8.5
4	M19	X	0	8.5
5	M19	Z	-1.885	8.5
6	M19	Mx	0.000157	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	-3.686	2.5
9	RRH-A	Mx	0.002	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	-3.686	2.5
12	RRH-A	Mx	-0.001	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	-2.776	2.5
15	RRH-B	Mx	-0.001	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	-2.437	2.5
18	RRH-B	Mx	-0.001	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	-2.776	2.5
21	MP3C	Mx	0.000223	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	-2.437	2.5
24	MP3C	Mx	0.001	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	-5.27	0.53

**Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	-0.005	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	-5.27	5.53
30	MP2A	Mx	-0.005	5.53
31	MP2B	X	0	0.53
32	MP2B	Z	-4.209	0.53
33	MP2B	Mx	0.003	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	-4.209	5.53
36	MP2B	Mx	0.003	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	-5.27	0.53
39	MP2C	Mx	0.002	0.53
40	MP2C	X	0	5.53
41	MP2C	Z	-5.27	5.53
42	MP2C	Mx	0.002	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	-5.27	0.53
45	MP2A	Mx	0.002	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	-5.27	5.53
48	MP2A	Mx	0.002	5.53
49	MP2B	X	0	0.53
50	MP2B	Z	-4.209	0.53
51	MP2B	Mx	0.003	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	-4.209	5.53
54	MP2B	Mx	0.003	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	-5.27	0.53
57	MP2C	Mx	-0.005	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	-5.27	5.53
60	MP2C	Mx	-0.005	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	-3.897	2.75
63	MP4A	Mx	-0.001	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	-3.897	4.75
66	MP4A	Mx	-0.001	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	-1.605	2.75
69	MP4B	Mx	0.001	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	-1.605	4.75
72	MP4B	Mx	0.001	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	-3.897	2.75
75	MP4C	Mx	-0.001	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	-3.897	4.75
78	MP4C	Mx	-0.001	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	-6.182	1.19
81	MP3C	Mx	0.004	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 28 : Antenna Wm (30 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0.545	8.5
2	M19	Z	-0.944	8.5
3	M19	Mx	-0.000157	8.5
4	M19	X	0.545	8.5
5	M19	Z	-0.944	8.5
6	M19	Mx	0.000157	8.5
7	RRH-A	X	1.691	2.5
8	RRH-A	Z	-2.929	2.5
9	RRH-A	Mx	0.002	2.5
10	RRH-A	X	1.635	2.5
11	RRH-A	Z	-2.831	2.5
12	RRH-A	Mx	-0.000399	2.5
13	RRH-B	X	1.236	2.5
14	RRH-B	Z	-2.142	2.5
15	RRH-B	Mx	-0.000825	2.5
16	RRH-B	X	1.011	2.5
17	RRH-B	Z	-1.75	2.5
18	RRH-B	Mx	-0.000673	2.5
19	MP3C	X	1.691	2.5
20	MP3C	Z	-2.929	2.5
21	MP3C	Mx	-0.000657	2.5
22	MP3C	X	1.635	2.5
23	MP3C	Z	-2.831	2.5
24	MP3C	Mx	0.001	2.5
25	MP2A	X	2.281	0.53
26	MP2A	Z	-3.951	0.53
27	MP2A	Mx	-0.004	0.53
28	MP2A	X	2.281	5.53
29	MP2A	Z	-3.951	5.53
30	MP2A	Mx	-0.004	5.53
31	MP2B	X	2.281	0.53
32	MP2B	Z	-3.951	0.53
33	MP2B	Mx	0.000923	0.53
34	MP2B	X	2.281	5.53
35	MP2B	Z	-3.951	5.53
36	MP2B	Mx	0.000923	5.53
37	MP2C	X	2.812	0.53
38	MP2C	Z	-4.87	0.53
39	MP2C	Mx	0.004	0.53
40	MP2C	X	2.812	5.53
41	MP2C	Z	-4.87	5.53
42	MP2C	Mx	0.004	5.53
43	MP2A	X	2.281	0.53
44	MP2A	Z	-3.951	0.53
45	MP2A	Mx	-0.000923	0.53
46	MP2A	X	2.281	5.53
47	MP2A	Z	-3.951	5.53
48	MP2A	Mx	-0.000923	5.53
49	MP2B	X	2.281	0.53
50	MP2B	Z	-3.951	0.53
51	MP2B	Mx	0.004	0.53
52	MP2B	X	2.281	5.53
53	MP2B	Z	-3.951	5.53
54	MP2B	Mx	0.004	5.53
55	MP2C	X	2.812	0.53

**Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	-4.87	0.53
57	MP2C	Mx	-0.004	0.53
58	MP2C	X	2.812	5.53
59	MP2C	Z	-4.87	5.53
60	MP2C	Mx	-0.004	5.53
61	MP4A	X	1.184	2.75
62	MP4A	Z	-2.052	2.75
63	MP4A	Mx	-0.001	2.75
64	MP4A	X	1.184	4.75
65	MP4A	Z	-2.052	4.75
66	MP4A	Mx	-0.001	4.75
67	MP4B	X	1.184	2.75
68	MP4B	Z	-2.052	2.75
69	MP4B	Mx	0.001	2.75
70	MP4B	X	1.184	4.75
71	MP4B	Z	-2.052	4.75
72	MP4B	Mx	0.001	4.75
73	MP4C	X	2.33	2.75
74	MP4C	Z	-4.036	2.75
75	MP4C	Mx	0	2.75
76	MP4C	X	2.33	4.75
77	MP4C	Z	-4.036	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	3.543	1.19
80	MP3C	Z	-6.136	1.19
81	MP3C	Mx	0.003	1.19

**Member Point Loads (BLC 29 : Antenna Wm (60 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0.6	8.5
2	M19	Z	-0.346	8.5
3	M19	Mx	-0.000115	8.5
4	M19	X	0.6	8.5
5	M19	Z	-0.346	8.5
6	M19	Mx	0.000115	8.5
7	RRH-A	X	2.404	2.5
8	RRH-A	Z	-1.388	2.5
9	RRH-A	Mx	0.001	2.5
10	RRH-A	X	2.111	2.5
11	RRH-A	Z	-1.219	2.5
12	RRH-A	Mx	0.000297	2.5
13	RRH-B	X	2.404	2.5
14	RRH-B	Z	-1.388	2.5
15	RRH-B	Mx	-0.000223	2.5
16	RRH-B	X	2.111	2.5
17	RRH-B	Z	-1.219	2.5
18	RRH-B	Mx	-0.000196	2.5
19	MP3C	X	3.192	2.5
20	MP3C	Z	-1.843	2.5
21	MP3C	Mx	-0.002	2.5
22	MP3C	X	3.192	2.5
23	MP3C	Z	-1.843	2.5
24	MP3C	Mx	0.001	2.5
25	MP2A	X	3.645	0.53
26	MP2A	Z	-2.104	0.53



**Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	-0.003	0.53
28	MP2A	X	3.645	5.53
29	MP2A	Z	-2.104	5.53
30	MP2A	Mx	-0.003	5.53
31	MP2B	X	4.564	0.53
32	MP2B	Z	-2.635	0.53
33	MP2B	Mx	-0.002	0.53
34	MP2B	X	4.564	5.53
35	MP2B	Z	-2.635	5.53
36	MP2B	Mx	-0.002	5.53
37	MP2C	X	4.564	0.53
38	MP2C	Z	-2.635	0.53
39	MP2C	Mx	0.005	0.53
40	MP2C	X	4.564	5.53
41	MP2C	Z	-2.635	5.53
42	MP2C	Mx	0.005	5.53
43	MP2A	X	3.645	0.53
44	MP2A	Z	-2.104	0.53
45	MP2A	Mx	-0.003	0.53
46	MP2A	X	3.645	5.53
47	MP2A	Z	-2.104	5.53
48	MP2A	Mx	-0.003	5.53
49	MP2B	X	4.564	0.53
50	MP2B	Z	-2.635	0.53
51	MP2B	Mx	0.005	0.53
52	MP2B	X	4.564	5.53
53	MP2B	Z	-2.635	5.53
54	MP2B	Mx	0.005	5.53
55	MP2C	X	4.564	0.53
56	MP2C	Z	-2.635	0.53
57	MP2C	Mx	-0.002	0.53
58	MP2C	X	4.564	5.53
59	MP2C	Z	-2.635	5.53
60	MP2C	Mx	-0.002	5.53
61	MP4A	X	1.39	2.75
62	MP4A	Z	-0.803	2.75
63	MP4A	Mx	-0.001	2.75
64	MP4A	X	1.39	4.75
65	MP4A	Z	-0.803	4.75
66	MP4A	Mx	-0.001	4.75
67	MP4B	X	3.375	2.75
68	MP4B	Z	-1.948	2.75
69	MP4B	Mx	0.001	2.75
70	MP4B	X	3.375	4.75
71	MP4B	Z	-1.948	4.75
72	MP4B	Mx	0.001	4.75
73	MP4C	X	3.375	2.75
74	MP4C	Z	-1.948	2.75
75	MP4C	Mx	0.001	2.75
76	MP4C	X	3.375	4.75
77	MP4C	Z	-1.948	4.75
78	MP4C	Mx	0.001	4.75
79	MP3C	X	6.528	1.19
80	MP3C	Z	-3.769	1.19
81	MP3C	Mx	0	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 30 : Antenna Wm (90 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	1.09	8.5
2	M19	Z	0	8.5
3	M19	Mx	-0.000157	8.5
4	M19	X	1.09	8.5
5	M19	Z	0	8.5
6	M19	Mx	0.000157	8.5
7	RRH-A	X	2.473	2.5
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	0.000824	2.5
10	RRH-A	X	2.021	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	0.000674	2.5
13	RRH-B	X	3.382	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	0.000657	2.5
16	RRH-B	X	3.269	2.5
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	0.000635	2.5
19	MP3C	X	3.382	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	-0.002	2.5
22	MP3C	X	3.269	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0.000399	2.5
25	MP2A	X	4.562	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	-0.000923	0.53
28	MP2A	X	4.562	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	-0.000923	5.53
31	MP2B	X	5.623	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	-0.004	0.53
34	MP2B	X	5.623	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	-0.004	5.53
37	MP2C	X	4.562	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	0.004	0.53
40	MP2C	X	4.562	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	0.004	5.53
43	MP2A	X	4.562	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	-0.004	0.53
46	MP2A	X	4.562	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	-0.004	5.53
49	MP2B	X	5.623	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	0.004	0.53
52	MP2B	X	5.623	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	0.004	5.53
55	MP2C	X	4.562	0.53

**Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	0	0.53
57	MP2C	Mx	0.000923	0.53
58	MP2C	X	4.562	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	0.000923	5.53
61	MP4A	X	2.369	2.75
62	MP4A	Z	0	2.75
63	MP4A	Mx	-0.001	2.75
64	MP4A	X	2.369	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	-0.001	4.75
67	MP4B	X	4.66	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	4.66	4.75
71	MP4B	Z	0	4.75
72	MP4B	Mx	0	4.75
73	MP4C	X	2.369	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	0.001	2.75
76	MP4C	X	2.369	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	0.001	4.75
79	MP3C	X	7.086	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	-0.003	1.19

**Member Point Loads (BLC 31 : Antenna Wm (120 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	1.633	8.5
2	M19	Z	0.943	8.5
3	M19	Mx	-0.000157	8.5
4	M19	X	1.633	8.5
5	M19	Z	0.943	8.5
6	M19	Mx	0.000157	8.5
7	RRH-A	X	2.404	2.5
8	RRH-A	Z	1.388	2.5
9	RRH-A	Mx	0.000223	2.5
10	RRH-A	X	2.111	2.5
11	RRH-A	Z	1.219	2.5
12	RRH-A	Mx	0.001	2.5
13	RRH-B	X	3.192	2.5
14	RRH-B	Z	1.843	2.5
15	RRH-B	Mx	0.002	2.5
16	RRH-B	X	3.192	2.5
17	RRH-B	Z	1.843	2.5
18	RRH-B	Mx	0.002	2.5
19	MP3C	X	2.404	2.5
20	MP3C	Z	1.388	2.5
21	MP3C	Mx	-0.001	2.5
22	MP3C	X	2.111	2.5
23	MP3C	Z	1.219	2.5
24	MP3C	Mx	-0.000298	2.5
25	MP2A	X	4.564	0.53
26	MP2A	Z	2.635	0.53

**Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.002	0.53
28	MP2A	X	4.564	5.53
29	MP2A	Z	2.635	5.53
30	MP2A	Mx	0.002	5.53
31	MP2B	X	4.564	0.53
32	MP2B	Z	2.635	0.53
33	MP2B	Mx	-0.005	0.53
34	MP2B	X	4.564	5.53
35	MP2B	Z	2.635	5.53
36	MP2B	Mx	-0.005	5.53
37	MP2C	X	3.645	0.53
38	MP2C	Z	2.104	0.53
39	MP2C	Mx	0.003	0.53
40	MP2C	X	3.645	5.53
41	MP2C	Z	2.104	5.53
42	MP2C	Mx	0.003	5.53
43	MP2A	X	4.564	0.53
44	MP2A	Z	2.635	0.53
45	MP2A	Mx	-0.005	0.53
46	MP2A	X	4.564	5.53
47	MP2A	Z	2.635	5.53
48	MP2A	Mx	-0.005	5.53
49	MP2B	X	4.564	0.53
50	MP2B	Z	2.635	0.53
51	MP2B	Mx	0.002	0.53
52	MP2B	X	4.564	5.53
53	MP2B	Z	2.635	5.53
54	MP2B	Mx	0.002	5.53
55	MP2C	X	3.645	0.53
56	MP2C	Z	2.104	0.53
57	MP2C	Mx	0.003	0.53
58	MP2C	X	3.645	5.53
59	MP2C	Z	2.104	5.53
60	MP2C	Mx	0.003	5.53
61	MP4A	X	3.375	2.75
62	MP4A	Z	1.948	2.75
63	MP4A	Mx	-0.001	2.75
64	MP4A	X	3.375	4.75
65	MP4A	Z	1.948	4.75
66	MP4A	Mx	-0.001	4.75
67	MP4B	X	3.375	2.75
68	MP4B	Z	1.948	2.75
69	MP4B	Mx	-0.001	2.75
70	MP4B	X	3.375	4.75
71	MP4B	Z	1.948	4.75
72	MP4B	Mx	-0.001	4.75
73	MP4C	X	1.39	2.75
74	MP4C	Z	0.803	2.75
75	MP4C	Mx	0.001	2.75
76	MP4C	X	1.39	4.75
77	MP4C	Z	0.803	4.75
78	MP4C	Mx	0.001	4.75
79	MP3C	X	5.354	1.19
80	MP3C	Z	3.091	1.19
81	MP3C	Mx	-0.004	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 32 : Antenna Wm (150 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	1.141	8.5
2	M19	Z	1.977	8.5
3	M19	Mx	0	8.5
4	M19	X	1.141	8.5
5	M19	Z	1.977	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	1.691	2.5
8	RRH-A	Z	2.929	2.5
9	RRH-A	Mx	-0.000657	2.5
10	RRH-A	X	1.635	2.5
11	RRH-A	Z	2.831	2.5
12	RRH-A	Mx	0.001	2.5
13	RRH-B	X	1.691	2.5
14	RRH-B	Z	2.929	2.5
15	RRH-B	Mx	0.002	2.5
16	RRH-B	X	1.635	2.5
17	RRH-B	Z	2.831	2.5
18	RRH-B	Mx	0.002	2.5
19	MP3C	X	1.236	2.5
20	MP3C	Z	2.142	2.5
21	MP3C	Mx	-0.000824	2.5
22	MP3C	X	1.011	2.5
23	MP3C	Z	1.75	2.5
24	MP3C	Mx	-0.000673	2.5
25	MP2A	X	2.812	0.53
26	MP2A	Z	4.87	0.53
27	MP2A	Mx	0.004	0.53
28	MP2A	X	2.812	5.53
29	MP2A	Z	4.87	5.53
30	MP2A	Mx	0.004	5.53
31	MP2B	X	2.281	0.53
32	MP2B	Z	3.951	0.53
33	MP2B	Mx	-0.004	0.53
34	MP2B	X	2.281	5.53
35	MP2B	Z	3.951	5.53
36	MP2B	Mx	-0.004	5.53
37	MP2C	X	2.281	0.53
38	MP2C	Z	3.951	0.53
39	MP2C	Mx	0.000923	0.53
40	MP2C	X	2.281	5.53
41	MP2C	Z	3.951	5.53
42	MP2C	Mx	0.000923	5.53
43	MP2A	X	2.812	0.53
44	MP2A	Z	4.87	0.53
45	MP2A	Mx	-0.004	0.53
46	MP2A	X	2.812	5.53
47	MP2A	Z	4.87	5.53
48	MP2A	Mx	-0.004	5.53
49	MP2B	X	2.281	0.53
50	MP2B	Z	3.951	0.53
51	MP2B	Mx	-0.000923	0.53
52	MP2B	X	2.281	5.53
53	MP2B	Z	3.951	5.53
54	MP2B	Mx	-0.000923	5.53
55	MP2C	X	2.281	0.53

**Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	3.951	0.53
57	MP2C	Mx	0.004	0.53
58	MP2C	X	2.281	5.53
59	MP2C	Z	3.951	5.53
60	MP2C	Mx	0.004	5.53
61	MP4A	X	2.33	2.75
62	MP4A	Z	4.036	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	2.33	4.75
65	MP4A	Z	4.036	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	1.184	2.75
68	MP4B	Z	2.052	2.75
69	MP4B	Mx	-0.001	2.75
70	MP4B	X	1.184	4.75
71	MP4B	Z	2.052	4.75
72	MP4B	Mx	-0.001	4.75
73	MP4C	X	1.184	2.75
74	MP4C	Z	2.052	2.75
75	MP4C	Mx	0.001	2.75
76	MP4C	X	1.184	4.75
77	MP4C	Z	2.052	4.75
78	MP4C	Mx	0.001	4.75
79	MP3C	X	2.865	1.19
80	MP3C	Z	4.963	1.19
81	MP3C	Mx	-0.004	1.19

**Member Point Loads (BLC 33 : Antenna Wm (180 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	0	8.5
2	M19	Z	1.885	8.5
3	M19	Mx	0.000157	8.5
4	M19	X	0	8.5
5	M19	Z	1.885	8.5
6	M19	Mx	-0.000157	8.5
7	RRH-A	X	0	2.5
8	RRH-A	Z	3.686	2.5
9	RRH-A	Mx	-0.002	2.5
10	RRH-A	X	0	2.5
11	RRH-A	Z	3.686	2.5
12	RRH-A	Mx	0.001	2.5
13	RRH-B	X	0	2.5
14	RRH-B	Z	2.776	2.5
15	RRH-B	Mx	0.001	2.5
16	RRH-B	X	0	2.5
17	RRH-B	Z	2.437	2.5
18	RRH-B	Mx	0.001	2.5
19	MP3C	X	0	2.5
20	MP3C	Z	2.776	2.5
21	MP3C	Mx	-0.000223	2.5
22	MP3C	X	0	2.5
23	MP3C	Z	2.437	2.5
24	MP3C	Mx	-0.001	2.5
25	MP2A	X	0	0.53
26	MP2A	Z	5.27	0.53



**Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.005	0.53
28	MP2A	X	0	5.53
29	MP2A	Z	5.27	5.53
30	MP2A	Mx	0.005	5.53
31	MP2B	X	0	0.53
32	MP2B	Z	4.209	0.53
33	MP2B	Mx	-0.003	0.53
34	MP2B	X	0	5.53
35	MP2B	Z	4.209	5.53
36	MP2B	Mx	-0.003	5.53
37	MP2C	X	0	0.53
38	MP2C	Z	5.27	0.53
39	MP2C	Mx	-0.002	0.53
40	MP2C	X	0	5.53
41	MP2C	Z	5.27	5.53
42	MP2C	Mx	-0.002	5.53
43	MP2A	X	0	0.53
44	MP2A	Z	5.27	0.53
45	MP2A	Mx	-0.002	0.53
46	MP2A	X	0	5.53
47	MP2A	Z	5.27	5.53
48	MP2A	Mx	-0.002	5.53
49	MP2B	X	0	0.53
50	MP2B	Z	4.209	0.53
51	MP2B	Mx	-0.003	0.53
52	MP2B	X	0	5.53
53	MP2B	Z	4.209	5.53
54	MP2B	Mx	-0.003	5.53
55	MP2C	X	0	0.53
56	MP2C	Z	5.27	0.53
57	MP2C	Mx	0.005	0.53
58	MP2C	X	0	5.53
59	MP2C	Z	5.27	5.53
60	MP2C	Mx	0.005	5.53
61	MP4A	X	0	2.75
62	MP4A	Z	3.897	2.75
63	MP4A	Mx	0.001	2.75
64	MP4A	X	0	4.75
65	MP4A	Z	3.897	4.75
66	MP4A	Mx	0.001	4.75
67	MP4B	X	0	2.75
68	MP4B	Z	1.605	2.75
69	MP4B	Mx	-0.001	2.75
70	MP4B	X	0	4.75
71	MP4B	Z	1.605	4.75
72	MP4B	Mx	-0.001	4.75
73	MP4C	X	0	2.75
74	MP4C	Z	3.897	2.75
75	MP4C	Mx	0.001	2.75
76	MP4C	X	0	4.75
77	MP4C	Z	3.897	4.75
78	MP4C	Mx	0.001	4.75
79	MP3C	X	0	1.19
80	MP3C	Z	6.182	1.19
81	MP3C	Mx	-0.004	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 34 : Antenna Wm (210 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-0.545	8.5
2	M19	Z	0.944	8.5
3	M19	Mx	0.000157	8.5
4	M19	X	-0.545	8.5
5	M19	Z	0.944	8.5
6	M19	Mx	-0.000157	8.5
7	RRH-A	X	-1.691	2.5
8	RRH-A	Z	2.929	2.5
9	RRH-A	Mx	-0.002	2.5
10	RRH-A	X	-1.635	2.5
11	RRH-A	Z	2.831	2.5
12	RRH-A	Mx	0.000399	2.5
13	RRH-B	X	-1.236	2.5
14	RRH-B	Z	2.142	2.5
15	RRH-B	Mx	0.000825	2.5
16	RRH-B	X	-1.011	2.5
17	RRH-B	Z	1.75	2.5
18	RRH-B	Mx	0.000673	2.5
19	MP3C	X	-1.691	2.5
20	MP3C	Z	2.929	2.5
21	MP3C	Mx	0.000657	2.5
22	MP3C	X	-1.635	2.5
23	MP3C	Z	2.831	2.5
24	MP3C	Mx	-0.001	2.5
25	MP2A	X	-2.281	0.53
26	MP2A	Z	3.951	0.53
27	MP2A	Mx	0.004	0.53
28	MP2A	X	-2.281	5.53
29	MP2A	Z	3.951	5.53
30	MP2A	Mx	0.004	5.53
31	MP2B	X	-2.281	0.53
32	MP2B	Z	3.951	0.53
33	MP2B	Mx	-0.000923	0.53
34	MP2B	X	-2.281	5.53
35	MP2B	Z	3.951	5.53
36	MP2B	Mx	-0.000923	5.53
37	MP2C	X	-2.812	0.53
38	MP2C	Z	4.87	0.53
39	MP2C	Mx	-0.004	0.53
40	MP2C	X	-2.812	5.53
41	MP2C	Z	4.87	5.53
42	MP2C	Mx	-0.004	5.53
43	MP2A	X	-2.281	0.53
44	MP2A	Z	3.951	0.53
45	MP2A	Mx	0.000923	0.53
46	MP2A	X	-2.281	5.53
47	MP2A	Z	3.951	5.53
48	MP2A	Mx	0.000923	5.53
49	MP2B	X	-2.281	0.53
50	MP2B	Z	3.951	0.53
51	MP2B	Mx	-0.004	0.53
52	MP2B	X	-2.281	5.53
53	MP2B	Z	3.951	5.53
54	MP2B	Mx	-0.004	5.53
55	MP2C	X	-2.812	0.53

**Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	4.87	0.53
57	MP2C	Mx	0.004	0.53
58	MP2C	X	-2.812	5.53
59	MP2C	Z	4.87	5.53
60	MP2C	Mx	0.004	5.53
61	MP4A	X	-1.184	2.75
62	MP4A	Z	2.052	2.75
63	MP4A	Mx	0.001	2.75
64	MP4A	X	-1.184	4.75
65	MP4A	Z	2.052	4.75
66	MP4A	Mx	0.001	4.75
67	MP4B	X	-1.184	2.75
68	MP4B	Z	2.052	2.75
69	MP4B	Mx	-0.001	2.75
70	MP4B	X	-1.184	4.75
71	MP4B	Z	2.052	4.75
72	MP4B	Mx	-0.001	4.75
73	MP4C	X	-2.33	2.75
74	MP4C	Z	4.036	2.75
75	MP4C	Mx	0	2.75
76	MP4C	X	-2.33	4.75
77	MP4C	Z	4.036	4.75
78	MP4C	Mx	0	4.75
79	MP3C	X	-3.543	1.19
80	MP3C	Z	6.136	1.19
81	MP3C	Mx	-0.003	1.19

**Member Point Loads (BLC 35 : Antenna Wm (240 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-0.6	8.5
2	M19	Z	0.346	8.5
3	M19	Mx	0.000115	8.5
4	M19	X	-0.6	8.5
5	M19	Z	0.346	8.5
6	M19	Mx	-0.000115	8.5
7	RRH-A	X	-2.404	2.5
8	RRH-A	Z	1.388	2.5
9	RRH-A	Mx	-0.001	2.5
10	RRH-A	X	-2.111	2.5
11	RRH-A	Z	1.219	2.5
12	RRH-A	Mx	-0.000297	2.5
13	RRH-B	X	-2.404	2.5
14	RRH-B	Z	1.388	2.5
15	RRH-B	Mx	0.000223	2.5
16	RRH-B	X	-2.111	2.5
17	RRH-B	Z	1.219	2.5
18	RRH-B	Mx	0.000196	2.5
19	MP3C	X	-3.192	2.5
20	MP3C	Z	1.843	2.5
21	MP3C	Mx	0.002	2.5
22	MP3C	X	-3.192	2.5
23	MP3C	Z	1.843	2.5
24	MP3C	Mx	-0.001	2.5
25	MP2A	X	-3.645	0.53
26	MP2A	Z	2.104	0.53

**Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	0.003	0.53
28	MP2A	X	-3.645	5.53
29	MP2A	Z	2.104	5.53
30	MP2A	Mx	0.003	5.53
31	MP2B	X	-4.564	0.53
32	MP2B	Z	2.635	0.53
33	MP2B	Mx	0.002	0.53
34	MP2B	X	-4.564	5.53
35	MP2B	Z	2.635	5.53
36	MP2B	Mx	0.002	5.53
37	MP2C	X	-4.564	0.53
38	MP2C	Z	2.635	0.53
39	MP2C	Mx	-0.005	0.53
40	MP2C	X	-4.564	5.53
41	MP2C	Z	2.635	5.53
42	MP2C	Mx	-0.005	5.53
43	MP2A	X	-3.645	0.53
44	MP2A	Z	2.104	0.53
45	MP2A	Mx	0.003	0.53
46	MP2A	X	-3.645	5.53
47	MP2A	Z	2.104	5.53
48	MP2A	Mx	0.003	5.53
49	MP2B	X	-4.564	0.53
50	MP2B	Z	2.635	0.53
51	MP2B	Mx	-0.005	0.53
52	MP2B	X	-4.564	5.53
53	MP2B	Z	2.635	5.53
54	MP2B	Mx	-0.005	5.53
55	MP2C	X	-4.564	0.53
56	MP2C	Z	2.635	0.53
57	MP2C	Mx	0.002	0.53
58	MP2C	X	-4.564	5.53
59	MP2C	Z	2.635	5.53
60	MP2C	Mx	0.002	5.53
61	MP4A	X	-1.39	2.75
62	MP4A	Z	0.803	2.75
63	MP4A	Mx	0.001	2.75
64	MP4A	X	-1.39	4.75
65	MP4A	Z	0.803	4.75
66	MP4A	Mx	0.001	4.75
67	MP4B	X	-3.375	2.75
68	MP4B	Z	1.948	2.75
69	MP4B	Mx	-0.001	2.75
70	MP4B	X	-3.375	4.75
71	MP4B	Z	1.948	4.75
72	MP4B	Mx	-0.001	4.75
73	MP4C	X	-3.375	2.75
74	MP4C	Z	1.948	2.75
75	MP4C	Mx	-0.001	2.75
76	MP4C	X	-3.375	4.75
77	MP4C	Z	1.948	4.75
78	MP4C	Mx	-0.001	4.75
79	MP3C	X	-6.528	1.19
80	MP3C	Z	3.769	1.19
81	MP3C	Mx	0	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 36 : Antenna Wm (270 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-1.09	8.5
2	M19	Z	0	8.5
3	M19	Mx	0.000157	8.5
4	M19	X	-1.09	8.5
5	M19	Z	0	8.5
6	M19	Mx	-0.000157	8.5
7	RRH-A	X	-2.473	2.5
8	RRH-A	Z	0	2.5
9	RRH-A	Mx	-0.000824	2.5
10	RRH-A	X	-2.021	2.5
11	RRH-A	Z	0	2.5
12	RRH-A	Mx	-0.000674	2.5
13	RRH-B	X	-3.382	2.5
14	RRH-B	Z	0	2.5
15	RRH-B	Mx	-0.000657	2.5
16	RRH-B	X	-3.269	2.5
17	RRH-B	Z	0	2.5
18	RRH-B	Mx	-0.000635	2.5
19	MP3C	X	-3.382	2.5
20	MP3C	Z	0	2.5
21	MP3C	Mx	0.002	2.5
22	MP3C	X	-3.269	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	-0.000399	2.5
25	MP2A	X	-4.562	0.53
26	MP2A	Z	0	0.53
27	MP2A	Mx	0.000923	0.53
28	MP2A	X	-4.562	5.53
29	MP2A	Z	0	5.53
30	MP2A	Mx	0.000923	5.53
31	MP2B	X	-5.623	0.53
32	MP2B	Z	0	0.53
33	MP2B	Mx	0.004	0.53
34	MP2B	X	-5.623	5.53
35	MP2B	Z	0	5.53
36	MP2B	Mx	0.004	5.53
37	MP2C	X	-4.562	0.53
38	MP2C	Z	0	0.53
39	MP2C	Mx	-0.004	0.53
40	MP2C	X	-4.562	5.53
41	MP2C	Z	0	5.53
42	MP2C	Mx	-0.004	5.53
43	MP2A	X	-4.562	0.53
44	MP2A	Z	0	0.53
45	MP2A	Mx	0.004	0.53
46	MP2A	X	-4.562	5.53
47	MP2A	Z	0	5.53
48	MP2A	Mx	0.004	5.53
49	MP2B	X	-5.623	0.53
50	MP2B	Z	0	0.53
51	MP2B	Mx	-0.004	0.53
52	MP2B	X	-5.623	5.53
53	MP2B	Z	0	5.53
54	MP2B	Mx	-0.004	5.53
55	MP2C	X	-4.562	0.53

**Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	0	0.53
57	MP2C	Mx	-0.000923	0.53
58	MP2C	X	-4.562	5.53
59	MP2C	Z	0	5.53
60	MP2C	Mx	-0.000923	5.53
61	MP4A	X	-2.369	2.75
62	MP4A	Z	0	2.75
63	MP4A	Mx	0.001	2.75
64	MP4A	X	-2.369	4.75
65	MP4A	Z	0	4.75
66	MP4A	Mx	0.001	4.75
67	MP4B	X	-4.66	2.75
68	MP4B	Z	0	2.75
69	MP4B	Mx	0	2.75
70	MP4B	X	-4.66	4.75
71	MP4B	Z	0	4.75
72	MP4B	Mx	0	4.75
73	MP4C	X	-2.369	2.75
74	MP4C	Z	0	2.75
75	MP4C	Mx	-0.001	2.75
76	MP4C	X	-2.369	4.75
77	MP4C	Z	0	4.75
78	MP4C	Mx	-0.001	4.75
79	MP3C	X	-7.086	1.19
80	MP3C	Z	0	1.19
81	MP3C	Mx	0.003	1.19

**Member Point Loads (BLC 37 : Antenna Wm (300 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-1.633	8.5
2	M19	Z	-0.943	8.5
3	M19	Mx	0.000157	8.5
4	M19	X	-1.633	8.5
5	M19	Z	-0.943	8.5
6	M19	Mx	-0.000157	8.5
7	RRH-A	X	-2.404	2.5
8	RRH-A	Z	-1.388	2.5
9	RRH-A	Mx	-0.000223	2.5
10	RRH-A	X	-2.111	2.5
11	RRH-A	Z	-1.219	2.5
12	RRH-A	Mx	-0.001	2.5
13	RRH-B	X	-3.192	2.5
14	RRH-B	Z	-1.843	2.5
15	RRH-B	Mx	-0.002	2.5
16	RRH-B	X	-3.192	2.5
17	RRH-B	Z	-1.843	2.5
18	RRH-B	Mx	-0.002	2.5
19	MP3C	X	-2.404	2.5
20	MP3C	Z	-1.388	2.5
21	MP3C	Mx	0.001	2.5
22	MP3C	X	-2.111	2.5
23	MP3C	Z	-1.219	2.5
24	MP3C	Mx	0.000298	2.5
25	MP2A	X	-4.564	0.53
26	MP2A	Z	-2.635	0.53



**Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
27	MP2A	Mx	-0.002	0.53
28	MP2A	X	-4.564	5.53
29	MP2A	Z	-2.635	5.53
30	MP2A	Mx	-0.002	5.53
31	MP2B	X	-4.564	0.53
32	MP2B	Z	-2.635	0.53
33	MP2B	Mx	0.005	0.53
34	MP2B	X	-4.564	5.53
35	MP2B	Z	-2.635	5.53
36	MP2B	Mx	0.005	5.53
37	MP2C	X	-3.645	0.53
38	MP2C	Z	-2.104	0.53
39	MP2C	Mx	-0.003	0.53
40	MP2C	X	-3.645	5.53
41	MP2C	Z	-2.104	5.53
42	MP2C	Mx	-0.003	5.53
43	MP2A	X	-4.564	0.53
44	MP2A	Z	-2.635	0.53
45	MP2A	Mx	0.005	0.53
46	MP2A	X	-4.564	5.53
47	MP2A	Z	-2.635	5.53
48	MP2A	Mx	0.005	5.53
49	MP2B	X	-4.564	0.53
50	MP2B	Z	-2.635	0.53
51	MP2B	Mx	-0.002	0.53
52	MP2B	X	-4.564	5.53
53	MP2B	Z	-2.635	5.53
54	MP2B	Mx	-0.002	5.53
55	MP2C	X	-3.645	0.53
56	MP2C	Z	-2.104	0.53
57	MP2C	Mx	-0.003	0.53
58	MP2C	X	-3.645	5.53
59	MP2C	Z	-2.104	5.53
60	MP2C	Mx	-0.003	5.53
61	MP4A	X	-3.375	2.75
62	MP4A	Z	-1.948	2.75
63	MP4A	Mx	0.001	2.75
64	MP4A	X	-3.375	4.75
65	MP4A	Z	-1.948	4.75
66	MP4A	Mx	0.001	4.75
67	MP4B	X	-3.375	2.75
68	MP4B	Z	-1.948	2.75
69	MP4B	Mx	0.001	2.75
70	MP4B	X	-3.375	4.75
71	MP4B	Z	-1.948	4.75
72	MP4B	Mx	0.001	4.75
73	MP4C	X	-1.39	2.75
74	MP4C	Z	-0.803	2.75
75	MP4C	Mx	-0.001	2.75
76	MP4C	X	-1.39	4.75
77	MP4C	Z	-0.803	4.75
78	MP4C	Mx	-0.001	4.75
79	MP3C	X	-5.354	1.19
80	MP3C	Z	-3.091	1.19
81	MP3C	Mx	0.004	1.19



Company : Colliers Engineering & Design  
Designer : NL  
Job Number : Project No. 10220910  
Model Name : 5000242779-VZW\_MT\_LO\_H

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**Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)**

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Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
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**Member Point Loads (BLC 38 : Antenna Wm (330 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	-1.141	8.5
2	M19	Z	-1.977	8.5
3	M19	Mx	0	8.5
4	M19	X	-1.141	8.5
5	M19	Z	-1.977	8.5
6	M19	Mx	0	8.5
7	RRH-A	X	-1.691	2.5
8	RRH-A	Z	-2.929	2.5
9	RRH-A	Mx	0.000657	2.5
10	RRH-A	X	-1.635	2.5
11	RRH-A	Z	-2.831	2.5
12	RRH-A	Mx	-0.001	2.5
13	RRH-B	X	-1.691	2.5
14	RRH-B	Z	-2.929	2.5
15	RRH-B	Mx	-0.002	2.5
16	RRH-B	X	-1.635	2.5
17	RRH-B	Z	-2.831	2.5
18	RRH-B	Mx	-0.002	2.5
19	MP3C	X	-1.236	2.5
20	MP3C	Z	-2.142	2.5
21	MP3C	Mx	0.000824	2.5
22	MP3C	X	-1.011	2.5
23	MP3C	Z	-1.75	2.5
24	MP3C	Mx	0.000673	2.5
25	MP2A	X	-2.812	0.53
26	MP2A	Z	-4.87	0.53
27	MP2A	Mx	-0.004	0.53
28	MP2A	X	-2.812	5.53
29	MP2A	Z	-4.87	5.53
30	MP2A	Mx	-0.004	5.53
31	MP2B	X	-2.281	0.53
32	MP2B	Z	-3.951	0.53
33	MP2B	Mx	0.004	0.53
34	MP2B	X	-2.281	5.53
35	MP2B	Z	-3.951	5.53
36	MP2B	Mx	0.004	5.53
37	MP2C	X	-2.281	0.53
38	MP2C	Z	-3.951	0.53
39	MP2C	Mx	-0.000923	0.53
40	MP2C	X	-2.281	5.53
41	MP2C	Z	-3.951	5.53
42	MP2C	Mx	-0.000923	5.53
43	MP2A	X	-2.812	0.53
44	MP2A	Z	-4.87	0.53
45	MP2A	Mx	0.004	0.53
46	MP2A	X	-2.812	5.53
47	MP2A	Z	-4.87	5.53
48	MP2A	Mx	0.004	5.53
49	MP2B	X	-2.281	0.53
50	MP2B	Z	-3.951	0.53
51	MP2B	Mx	0.000923	0.53
52	MP2B	X	-2.281	5.53
53	MP2B	Z	-3.951	5.53
54	MP2B	Mx	0.000923	5.53
55	MP2C	X	-2.281	0.53

**Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP2C	Z	-3.951	0.53
57	MP2C	Mx	-0.004	0.53
58	MP2C	X	-2.281	5.53
59	MP2C	Z	-3.951	5.53
60	MP2C	Mx	-0.004	5.53
61	MP4A	X	-2.33	2.75
62	MP4A	Z	-4.036	2.75
63	MP4A	Mx	0	2.75
64	MP4A	X	-2.33	4.75
65	MP4A	Z	-4.036	4.75
66	MP4A	Mx	0	4.75
67	MP4B	X	-1.184	2.75
68	MP4B	Z	-2.052	2.75
69	MP4B	Mx	0.001	2.75
70	MP4B	X	-1.184	4.75
71	MP4B	Z	-2.052	4.75
72	MP4B	Mx	0.001	4.75
73	MP4C	X	-1.184	2.75
74	MP4C	Z	-2.052	2.75
75	MP4C	Mx	-0.001	2.75
76	MP4C	X	-1.184	4.75
77	MP4C	Z	-2.052	4.75
78	MP4C	Mx	-0.001	4.75
79	MP3C	X	-2.865	1.19
80	MP3C	Z	-4.963	1.19
81	MP3C	Mx	0.004	1.19

**Member Point Loads (BLC 77 : Lm1)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M17	Y	-500	0

**Member Point Loads (BLC 78 : Lm2)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M17	Y	-500	%100

**Member Point Loads (BLC 79 : Lv1)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M2	Y	-250	0

**Member Point Loads (BLC 80 : Lv2)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M2	Y	-250	%50

**Member Point Loads (BLC 81 : Antenna Ev)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	Y	-0.777	8.5
2	M19	My	-0.000112	8.5
3	M19	Mz	6.5e-5	8.5
4	M19	Y	-0.777	8.5

**Member Point Loads (BLC 81 : Antenna Ev) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
5	M19	My	0.000112	8.5
6	M19	Mz	-6.5e-5	8.5
7	RRH-A	Y	-3.727	2.5
8	RRH-A	My	0.001	2.5
9	RRH-A	Mz	-0.002	2.5
10	RRH-A	Y	-3.104	2.5
11	RRH-A	My	0.001	2.5
12	RRH-A	Mz	0.001	2.5
13	RRH-B	Y	-3.727	2.5
14	RRH-B	My	0.000724	2.5
15	RRH-B	Mz	0.002	2.5
16	RRH-B	Y	-3.104	2.5
17	RRH-B	My	0.000603	2.5
18	RRH-B	Mz	0.002	2.5
19	MP3C	Y	-3.727	2.5
20	MP3C	My	-0.002	2.5
21	MP3C	Mz	-0.000299	2.5
22	MP3C	Y	-3.104	2.5
23	MP3C	My	0.000379	2.5
24	MP3C	Mz	-0.001	2.5
25	MP2A	Y	-1.016	0.53
26	MP2A	My	-0.000206	0.53
27	MP2A	Mz	0.000998	0.53
28	MP2A	Y	-1.016	5.53
29	MP2A	My	-0.000206	5.53
30	MP2A	Mz	0.000998	5.53
31	MP2B	Y	-1.016	0.53
32	MP2B	My	-0.000762	0.53
33	MP2B	Mz	-0.000677	0.53
34	MP2B	Y	-1.016	5.53
35	MP2B	My	-0.000762	5.53
36	MP2B	Mz	-0.000677	5.53
37	MP2C	Y	-1.016	0.53
38	MP2C	My	0.000967	0.53
39	MP2C	Mz	-0.000321	0.53
40	MP2C	Y	-1.016	5.53
41	MP2C	My	0.000967	5.53
42	MP2C	Mz	-0.000321	5.53
43	MP2A	Y	-1.016	0.53
44	MP2A	My	-0.000967	0.53
45	MP2A	Mz	-0.000321	0.53
46	MP2A	Y	-1.016	5.53
47	MP2A	My	-0.000967	5.53
48	MP2A	Mz	-0.000321	5.53
49	MP2B	Y	-1.016	0.53
50	MP2B	My	0.000762	0.53
51	MP2B	Mz	-0.000677	0.53
52	MP2B	Y	-1.016	5.53
53	MP2B	My	0.000762	5.53
54	MP2B	Mz	-0.000677	5.53
55	MP2C	Y	-1.016	0.53
56	MP2C	My	0.000206	0.53
57	MP2C	Mz	0.000998	0.53
58	MP2C	Y	-1.016	5.53
59	MP2C	My	0.000206	5.53

**Member Point Loads (BLC 81 : Antenna Ev) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
60	MP2C	Mz	0.000998	5.53
61	MP4A	Y	-1.923	2.75
62	MP4A	My	-0.001	2.75
63	MP4A	Mz	0.000641	2.75
64	MP4A	Y	-1.923	4.75
65	MP4A	My	-0.001	4.75
66	MP4A	Mz	0.000641	4.75
67	MP4B	Y	-1.923	2.75
68	MP4B	My	0	2.75
69	MP4B	Mz	-0.001	2.75
70	MP4B	Y	-1.923	4.75
71	MP4B	My	0	4.75
72	MP4B	Mz	-0.001	4.75
73	MP4C	Y	-1.923	2.75
74	MP4C	My	0.001	2.75
75	MP4C	Mz	0.000641	2.75
76	MP4C	Y	-1.923	4.75
77	MP4C	My	0.001	4.75
78	MP4C	Mz	0.000641	4.75
79	MP3C	Y	-1.413	1.19
80	MP3C	My	-0.00053	1.19
81	MP3C	Mz	-0.000918	1.19

**Member Point Loads (BLC 82 : Antenna Eh (0 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	Z	-1.943	8.5
2	M19	Mx	-0.000162	8.5
3	M19	Z	-1.943	8.5
4	M19	Mx	0.000162	8.5
5	RRH-A	Z	-9.318	2.5
6	RRH-A	Mx	0.004	2.5
7	RRH-A	Z	-7.761	2.5
8	RRH-A	Mx	-0.003	2.5
9	RRH-B	Z	-9.318	2.5
10	RRH-B	Mx	-0.005	2.5
11	RRH-B	Z	-7.761	2.5
12	RRH-B	Mx	-0.004	2.5
13	MP3C	Z	-9.318	2.5
14	MP3C	Mx	0.000749	2.5
15	MP3C	Z	-7.761	2.5
16	MP3C	Mx	0.004	2.5
17	MP2A	Z	-2.539	0.53
18	MP2A	Mx	-0.002	0.53
19	MP2A	Z	-2.539	5.53
20	MP2A	Mx	-0.002	5.53
21	MP2B	Z	-2.539	0.53
22	MP2B	Mx	0.002	0.53
23	MP2B	Z	-2.539	5.53
24	MP2B	Mx	0.002	5.53
25	MP2C	Z	-2.539	0.53
26	MP2C	Mx	0.000803	0.53
27	MP2C	Z	-2.539	5.53
28	MP2C	Mx	0.000803	5.53
29	MP2A	Z	-2.539	0.53
30	MP2A	Mx	0.000803	0.53

**Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
31	MP2A	Z	-2.539	5.53
32	MP2A	Mx	0.000803	5.53
33	MP2B	Z	-2.539	0.53
34	MP2B	Mx	0.002	0.53
35	MP2B	Z	-2.539	5.53
36	MP2B	Mx	0.002	5.53
37	MP2C	Z	-2.539	0.53
38	MP2C	Mx	-0.002	0.53
39	MP2C	Z	-2.539	5.53
40	MP2C	Mx	-0.002	5.53
41	MP4A	Z	-4.808	2.75
42	MP4A	Mx	-0.002	2.75
43	MP4A	Z	-4.808	4.75
44	MP4A	Mx	-0.002	4.75
45	MP4B	Z	-4.808	2.75
46	MP4B	Mx	0.003	2.75
47	MP4B	Z	-4.808	4.75
48	MP4B	Mx	0.003	4.75
49	MP4C	Z	-4.808	2.75
50	MP4C	Mx	-0.002	2.75
51	MP4C	Z	-4.808	4.75
52	MP4C	Mx	-0.002	4.75
53	MP3C	Z	-3.533	1.19
54	MP3C	Mx	0.002	1.19

**Member Point Loads (BLC 83 : Antenna Eh (90 Deg))**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M19	X	1.943	8.5
2	M19	Mx	-0.00028	8.5
3	M19	X	1.943	8.5
4	M19	Mx	0.00028	8.5
5	RRH-A	X	9.318	2.5
6	RRH-A	Mx	0.003	2.5
7	RRH-A	X	7.761	2.5
8	RRH-A	Mx	0.003	2.5
9	RRH-B	X	9.318	2.5
10	RRH-B	Mx	0.002	2.5
11	RRH-B	X	7.761	2.5
12	RRH-B	Mx	0.002	2.5
13	MP3C	X	9.318	2.5
14	MP3C	Mx	-0.005	2.5
15	MP3C	X	7.761	2.5
16	MP3C	Mx	0.000947	2.5
17	MP2A	X	2.539	0.53
18	MP2A	Mx	-0.000514	0.53
19	MP2A	X	2.539	5.53
20	MP2A	Mx	-0.000514	5.53
21	MP2B	X	2.539	0.53
22	MP2B	Mx	-0.002	0.53
23	MP2B	X	2.539	5.53
24	MP2B	Mx	-0.002	5.53
25	MP2C	X	2.539	0.53
26	MP2C	Mx	0.002	0.53
27	MP2C	X	2.539	5.53
28	MP2C	Mx	0.002	5.53

**Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
29	MP2A	X	2.539	0.53
30	MP2A	Mx	-0.002	0.53
31	MP2A	X	2.539	5.53
32	MP2A	Mx	-0.002	5.53
33	MP2B	X	2.539	0.53
34	MP2B	Mx	0.002	0.53
35	MP2B	X	2.539	5.53
36	MP2B	Mx	0.002	5.53
37	MP2C	X	2.539	0.53
38	MP2C	Mx	0.000514	0.53
39	MP2C	X	2.539	5.53
40	MP2C	Mx	0.000514	5.53
41	MP4A	X	4.808	2.75
42	MP4A	Mx	-0.003	2.75
43	MP4A	X	4.808	4.75
44	MP4A	Mx	-0.003	4.75
45	MP4B	X	4.808	2.75
46	MP4B	Mx	0	2.75
47	MP4B	X	4.808	4.75
48	MP4B	Mx	0	4.75
49	MP4C	X	4.808	2.75
50	MP4C	Mx	0.003	2.75
51	MP4C	X	4.808	4.75
52	MP4C	Mx	0.003	4.75
53	MP3C	X	3.533	1.19
54	MP3C	Mx	-0.001	1.19

**Member Area Loads (BLC 39 : Structure D)**

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N2	N3	N7	N6	Y	Two Way	-0.005
2	N8	N9	N1		Y	Two Way	-0.005

**Member Area Loads (BLC 40 : Structure Di)**

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N2	N3	N7	N6	Y	Two Way	-0.01
2	N8	N9	N1		Y	Two Way	-0.01

**Member Area Loads (BLC 84 : Structure Ev)**

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N2	N3	N7	N6	Y	Two Way	-0.00023
2	N8	N9	N1		Y	Two Way	-0.00023

**Member Area Loads (BLC 85 : Structure Eh (0 Deg))**

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N2	N3	N7	N6	Z	Two Way	-0.000574
2	N8	N9	N1		Z	Two Way	-0.000574



**Member Area Loads (BLC 86 : Structure Eh (90 Deg))**

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N2	N3	N7	N6	X	Two Way	0.000574
2	N8	N9	N1		X	Two Way	0.000574

**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	N19	max	428.669	15	2560.881	14	1514.988	14	0	75	0	75	0	75
2		min	-144.901	7	-748.786	8	-453.915	8	0	1	0	1	0	1
3	N21	max	-95.226	2	948.6	16	26.543	2	0	75	0	75	0	75
4		min	-1250.113	16	78.962	2	-1488.014	16	0	1	0	1	0	1
5	N15	max	-43.759	1	2151.763	23	1814.506	23	0	75	0	75	0	75
6		min	-277.07	21	473.042	2	383.181	4	0	1	0	1	0	1
7	N17	max	2008.865	21	1520.475	21	-217.132	1	0	75	0	75	0	75
8		min	260.21	1	226.299	1	-2114.009	21	0	1	0	1	0	1
9	N367	max	2905.822	11	3792.777	7	892.535	11	0	75	0.552	11	1.833	3
10		min	-2559.486	5	-1111.185	11	-1132.951	7	0	1	-1.365	7	-9.27	7
11	N368	max	1159.716	12	2746.968	24	843.983	1	0	75	2.027	1	0.798	2
12		min	-2896.678	2	197.667	6	-328.306	19	0	1	-0.483	19	-3.618	15
13	N369	max	1501.171	10	2328.286	18	673.436	3	0	75	1.895	7	4.215	3
14		min	-2748.908	4	53.064	8	-1285.152	7	0	1	-1.259	3	-4.609	7
15	N370	max	1438.068	12	4665.126	1	1444.731	1	0	75	0.41	7	13.236	1
16		min	-59.566	6	197.667	8	-176.194	7	0	1	-2.816	1	0.454	7
17	N491	max	1647.767	10	2045.364	7	3406.288	1	0.003	1	0	8	0	2
18		min	-1735.881	4	-2193.293	1	-3176.867	7	-0.003	7	0	2	0	8
19	Totals:	max	6018.142	10	13425.193	19	7232.107	1						
20		min	-6018.122	4	5263.79	64	-7232.102	7						

**Node Reactions**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N19	219.522	1369.834	863.778	0	0	0
2	1	N21	-202.933	192.575	-195.524	0	0	0
3	1	N15	-43.759	738.102	733.596	0	0	0
4	1	N17	260.21	226.299	-217.132	0	0	0
5	1	N367	0	197.669	176.193	0	0.41	-0.454
6	1	N368	-916.46	1986.543	843.983	0	2.027	0.562
7	1	N369	0	197.668	176.193	0	-0.41	0.454
8	1	N370	823.064	4665.126	1444.731	0	-2.816	13.236
9	1	N491	-139.611	-2193.293	3406.288	0.003	0	0
10	1	Totals:	0.034	7380.522	7232.107			
11	1	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
12	2	N19	207.411	1566.501	1026.71	0	0	0
13	2	N21	-95.226	78.962	26.543	0	0	0
14	2	N15	-48.491	473.042	458.024	0	0	0
15	2	N17	433.524	363.998	-453.419	0	0	0
16	2	N367	-72.916	197.668	126.294	0	0.308	-0.454
17	2	N368	-2896.678	1827.539	679.127	0	1.977	0.798
18	2	N369	-72.916	197.669	126.294	0	-0.308	0.454
19	2	N370	60.966	4520.202	1185.763	0	-2.445	12.198
20	2	N491	-1005.903	-1845.045	2870.041	0.003	0	0
21	2	Totals:	-3490.229	7380.536	6045.377			
22	2	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
23	3	N19	206.089	1595.647	1007.904	0	0	0
24	3	N21	-493.464	322.644	-429.146	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
25	3	N15	-99.554	585.025	507.952	0	0	0
26	3	N17	803.203	640.646	-865.34	0	0	0
27	3	N367	-398.565	-101.768	36.331	0	0.247	1.833
28	3	N368	-1587.891	1433.291	311.03	0	0.96	-0.714
29	3	N369	-2615.642	597.979	673.436	0	-1.259	4.215
30	3	N370	179.866	3121.977	647.075	0	-1.289	7.705
31	3	N491	-1513.701	-814.883	1297.582	0.001	0	0
32	3	Totals:	-5519.661	7380.559	3186.824			
33	3	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
34	4	N19	217.282	1645.978	1002.256	0	0	0
35	4	N21	-833.479	573.37	-913.898	0	0	0
36	4	N15	-111.201	482.622	383.181	0	0	0
37	4	N17	691.389	590.304	-801.707	0	0	0
38	4	N367	-378.413	290.199	-15.371	0	0.079	-0.73
39	4	N368	-1128.764	1145.403	-118.984	0	0.012	-1.618
40	4	N369	-2748.908	1467.741	166.945	0	-0.554	3.573
41	4	N370	9.853	1235.261	175.265	0	-0.324	2.661
42	4	N491	-1735.881	-50.302	122.317	0	0	0
43	4	Totals:	-6018.122	7380.576	0.005			
44	4	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
45	5	N19	87.38	718.562	412.816	0	0	0
46	5	N21	-723.866	526.648	-848.91	0	0	0
47	5	N15	-122.86	531.106	385.545	0	0	0
48	5	N17	789.11	676.5	-973.552	0	0	0
49	5	N367	-2559.486	2263.238	-465.791	0	-0.258	-3.729
50	5	N368	-27.462	197.668	-15.855	0	-0.031	-0.454
51	5	N369	-1429.505	1440.632	-370.249	0	0.356	0.469
52	5	N370	-27.462	197.669	-15.855	0	0.031	0.454
53	5	N491	-1415.526	828.57	-1242.984	-0.001	0	0
54	5	Totals:	-5429.677	7380.592	-3134.836			
55	5	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
56	6	N19	-54.647	-144.648	-93.224	0	0	0
57	6	N21	-341.259	265.911	-408.778	0	0	0
58	6	N15	-123.931	574.305	387.219	0	0	0
59	6	N17	914.592	738.716	-1097.528	0	0	0
60	6	N367	-1705.039	3247.909	-885.743	0	-0.89	-7.314
61	6	N368	-59.566	197.667	-103.171	0	-0.228	-0.454
62	6	N369	-1287.588	608.936	-1037.095	0	1.379	-2.865
63	6	N370	-59.566	197.67	-103.172	0	0.228	0.454
64	6	N491	-721.317	1694.139	-2613.849	-0.002	0	0
65	6	Totals:	-3438.32	7380.605	-5955.341			
66	6	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
67	7	N19	-144.901	-731.145	-441.034	0	0	0
68	7	N21	-223.297	192.387	-319.685	0	0	0
69	7	N15	-150.094	843.944	612.719	0	0	0
70	7	N17	1025.427	780.204	-1136.746	0	0	0
71	7	N367	-122.031	3792.777	-1132.951	0	-1.365	-9.27
72	7	N368	0	197.668	-176.193	0	-0.41	-0.454
73	7	N369	-535.452	61.74	-1285.152	0	1.895	-4.609
74	7	N370	0	197.669	-176.194	0	0.41	0.454
75	7	N491	150.324	2045.364	-3176.867	-0.003	0	0
76	7	Totals:	-0.023	7380.608	-7232.102			
77	7	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
78	8	N19	-130.156	-748.786	-453.915	0	0	0
79	8	N21	-202.857	217.669	-388.418	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
80	8	N15	-176.765	1187.333	921.608	0	0	0
81	8	N17	1175.592	875.488	-1240.605	0	0	0
82	8	N367	1258.902	3685.235	-961.922	0	-1.237	-8.781
83	8	N368	72.916	197.669	-126.295	0	-0.308	-0.454
84	8	N369	454.064	53.064	-1026.407	0	1.619	-4.108
85	8	N370	72.916	197.667	-126.293	0	0.308	0.454
86	8	N491	965.649	1715.261	-2643.127	-0.003	0	0
87	8	Totals:	3490.26	7380.6	-6045.374			
88	8	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
89	9	N19	-13.116	-192.695	-122.874	0	0	0
90	9	N21	-218.5	264.132	-431.841	0	0	0
91	9	N15	-175.582	1422.762	1154.068	0	0	0
92	9	N17	1445.969	1061.377	-1505.102	0	0	0
93	9	N367	1734.281	2960.708	-471.889	0	-0.65	-6.024
94	9	N368	50.584	197.669	-29.205	0	-0.078	-0.454
95	9	N369	1148.398	600.27	-447.96	0	0.805	-1.54
96	9	N370	50.584	197.668	-29.205	0	0.078	0.454
97	9	N491	1497.068	868.693	-1302.815	-0.001	0	0
98	9	Totals:	5519.686	7380.585	-3186.822			
99	9	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
100	10	N19	147.899	665.746	384.935	0	0	0
101	10	N21	-321.492	324.46	-480.714	0	0	0
102	10	N15	-169.486	1593.703	1345.01	0	0	0
103	10	N17	1456.976	1040.602	-1464.753	0	0	0
104	10	N367	1834.953	1054.694	37.167	0	-0.111	-1.771
105	10	N368	-612.926	1153.675	-65.043	0	-0.017	-1.891
106	10	N369	1501.171	585.687	79.625	0	0.076	0.608
107	10	N370	533.28	1001.671	57.975	0	-0.019	1.895
108	10	N491	1647.767	-39.672	105.793	0	0	0
109	10	Totals:	6018.142	7380.567	-0.005			
110	10	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
111	11	N19	273.254	1396.56	806.352	0	0	0
112	11	N21	-763.015	602.357	-944.295	0	0	0
113	11	N15	-130.043	1446.829	1283.199	0	0	0
114	11	N17	892.962	617.422	-801.794	0	0	0
115	11	N367	2905.822	-1111.185	892.535	0	0.552	1.297
116	11	N368	-251.968	2262.548	2.588	0	0.195	-2.447
117	11	N369	241.345	561.703	43.315	0	-0.072	2.876
118	11	N370	916.743	2369.638	628.399	0	-1.04	6.307
119	11	N491	1344.577	-765.325	1224.538	0.001	0	0
120	11	Totals:	5429.675	7380.547	3134.836			
121	11	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
122	12	N19	231.766	1143.597	661.803	0	0	0
123	12	N21	-540.324	437.865	-654.75	0	0	0
124	12	N15	-80.395	1196.233	1143.233	0	0	0
125	12	N17	347.899	251.778	-234.019	0	0	0
126	12	N367	59.566	197.669	103.172	0	0.228	-0.454
127	12	N368	1159.716	1964.469	655.29	0	1.301	-0.524
128	12	N369	59.566	197.668	103.172	0	-0.228	0.454
129	12	N370	1438.068	3852.412	1280.068	0	-2.311	11.228
130	12	N491	762.444	-1861.167	2897.378	0.003	0	0
131	12	Totals:	3438.307	7380.523	5955.347			
132	12	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
133	13	N19	417.139	2503.584	1475.453	0	0	0
134	13	N21	-978.654	771.572	-1170.897	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
135	13	N15	-256.146	1983.827	1674.173	0	0	0
136	13	N17	1930.43	1466.661	-2023.408	0	0	0
137	13	N367	27.324	81.576	69.675	0	0.214	0.854
138	13	N368	-1898.147	2726.41	-13.884	0	0.392	-3.392
139	13	N369	160.614	1395.203	670.205	0	-0.932	3.462
140	13	N370	617.856	3006.357	481.592	0	-0.846	6.905
141	13	N491	-20.401	-510.017	892.952	0.001	0	0
142	13	Totals:	0.015	13425.174	2055.861			
143	13	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
144	14	N19	419.852	2560.881	1514.988	0	0	0
145	14	N21	-1010.328	784.863	-1187.57	0	0	0
146	14	N15	-245.038	1866.359	1570.257	0	0	0
147	14	N17	1902.988	1450.392	-2007.04	0	0	0
148	14	N367	-60.592	132.325	51.836	0	0.19	0.566
149	14	N368	-1897.886	2654.902	-46.562	0	0.322	-3.377
150	14	N369	-369.581	1552.419	611.348	0	-0.905	3.736
151	14	N370	544.223	2866.012	437.997	0	-0.767	6.532
152	14	N491	-283.577	-442.978	786.713	0.001	0	0
153	14	Totals:	-999.939	13425.176	1731.969			
154	14	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
155	15	N19	428.669	2545.176	1479.165	0	0	0
156	15	N21	-1237.099	936.315	-1455.266	0	0	0
157	15	N15	-251.571	1867.327	1570.384	0	0	0
158	15	N17	1763.909	1353.052	-1865.237	0	0	0
159	15	N367	-1126.781	230.326	188.568	0	0.3	0.757
160	15	N368	-1743.998	2599.587	-194.385	0	0.009	-3.618
161	15	N369	523.911	1791.56	368.977	0	-0.459	3.242
162	15	N370	481.72	2365.468	331.416	0	-0.537	5.262
163	15	N491	-451.383	-263.632	507.433	0.001	0	0
164	15	Totals:	-1612.625	13425.18	931.055			
165	15	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
166	16	N19	390.558	2342.055	1361.166	0	0	0
167	16	N21	-1250.113	948.6	-1488.014	0	0	0
168	16	N15	-253.884	1834.038	1532.649	0	0	0
169	16	N17	1774.8	1368.286	-1889.016	0	0	0
170	16	N367	-1227.23	872.743	48.596	0	0.169	-0.401
171	16	N368	-1478.437	2247.817	-235.299	0	-0.14	-3.461
172	16	N369	325.439	2011.62	274.084	0	-0.341	3.097
173	16	N370	448.043	1861.394	200.275	0	-0.281	3.859
174	16	N491	-509.422	-61.369	195.56	0	0	0
175	16	Totals:	-1780.245	13425.184	0			
176	16	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
177	17	N19	351.573	2115.487	1230.148	0	0	0
178	17	N21	-1215.62	931.873	-1462.122	0	0	0
179	17	N15	-254.404	1822.568	1512.724	0	0	0
180	17	N17	1836.268	1416.911	-1969.412	0	0	0
181	17	N367	-1249.439	1536.655	-72.486	0	0.051	-1.621
182	17	N368	-1206.398	1896.074	-266.548	0	-0.273	-3.314
183	17	N369	158.886	2214.751	167.172	0	-0.207	2.909
184	17	N370	419.822	1349.633	60.66	0	-0.011	2.43
185	17	N491	-430.881	141.237	-118.238	0	0	0
186	17	Totals:	-1590.193	13425.189	-918.102			
187	17	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
188	18	N19	314.689	1892.002	1101.194	0	0	0
189	18	N21	-1187.018	914.53	-1432.637	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
190	18	N15	-257.221	1854.205	1533.828	0	0	0
191	18	N17	1917.756	1469.863	-2053.359	0	0	0
192	18	N367	-1061.118	2082.017	-186.894	0	-0.098	-2.661
193	18	N368	-1005.061	1616.484	-305.116	0	-0.409	-3.176
194	18	N369	135.213	2328.286	74.528	0	-0.06	2.683
195	18	N370	396.154	961.852	-63.234	0	0.234	1.347
196	18	N491	-240.398	305.954	-377.844	0	0	0
197	18	Totals:	-987.005	13425.192	-1709.534			
198	18	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
199	19	N19	288.988	1730.011	1006.661	0	0	0
200	19	N21	-1179.639	911.976	-1436.125	0	0	0
201	19	N15	-266.505	1940.511	1606.97	0	0	0
202	19	N17	1970.107	1498.874	-2090.505	0	0	0
203	19	N367	-640.779	2350.432	-251.936	0	-0.215	-3.23
204	19	N368	-916.508	1497.711	-328.306	0	-0.483	-3.099
205	19	N369	316.083	2300.095	40.309	0	0.029	2.458
206	19	N370	414.835	820.7	-115.67	0	0.347	0.941
207	19	N491	13.414	374.883	-487.26	0	0	0
208	19	Totals:	-0.004	13425.193	-2055.862			
209	19	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
210	20	N19	288.846	1707.156	992.111	0	0	0
211	20	N21	-1151.161	900.861	-1423.38	0	0	0
212	20	N15	-275.57	2040.256	1694.737	0	0	0
213	20	N17	1993.412	1512.227	-2102.454	0	0	0
214	20	N367	-228.152	2232.511	-207.627	0	-0.193	-3.091
215	20	N368	-959.51	1593.687	-303.296	0	-0.419	-3.146
216	20	N369	586.854	2156.623	75.157	0	0.004	2.336
217	20	N370	478.987	968.319	-68.656	0	0.261	1.325
218	20	N491	266.244	313.551	-388.562	0	0	0
219	20	Totals:	999.952	13425.191	-1731.97			
220	20	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
221	21	N19	315.077	1830.991	1063.704	0	0	0
222	21	N21	-1101.416	873.334	-1368.983	0	0	0
223	21	N15	-277.07	2106.732	1756.968	0	0	0
224	21	N17	2008.865	1520.475	-2114.009	0	0	0
225	21	N367	-6.15	1772.251	-78.799	0	-0.063	-2.294
226	21	N368	-1134.074	1864.962	-248.544	0	-0.262	-3.291
227	21	N369	819.738	1958.322	150.021	0	-0.096	2.375
228	21	N370	539.81	1345.921	43.034	0	0.041	2.356
229	21	N491	447.849	152.2	-134.448	0	0	0
230	21	Totals:	1612.629	13425.187	-931.056			
231	21	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
232	22	N19	353.129	2033.998	1181.966	0	0	0
233	22	N21	-1087.968	860.771	-1335.688	0	0	0
234	22	N15	-274.814	2140.268	1794.762	0	0	0
235	22	N17	1998.311	1505.41	-2090.632	0	0	0
236	22	N367	93.069	1130.409	58.182	0	0.066	-1.137
237	22	N368	-1398.575	2216.69	-205.793	0	-0.11	-3.45
238	22	N369	1018.37	1739.183	243.852	0	-0.213	2.52
239	22	N370	573.02	1848.41	175.174	0	-0.218	3.755
240	22	N491	505.707	-49.956	178.176	0	0	0
241	22	Totals:	1780.25	13425.182	-0.002			
242	22	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
243	23	N19	391.953	2260.249	1312.798	0	0	0
244	23	N21	-1122.364	877.45	-1361.441	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
245	23	N15	-274.296	2151.763	1814.506	0	0	0
246	23	N17	1937.126	1456.967	-2010.548	0	0	0
247	23	N367	116.162	466.205	181.589	0	0.186	0.084
248	23	N368	-1671.347	2568.422	-176.021	0	0.02	-3.595
249	23	N369	1184.586	1535.171	352.327	0	-0.349	2.708
250	23	N370	601.646	2361.563	313.732	0	-0.486	5.188
251	23	N491	426.732	-252.613	491.16	0.001	0	0
252	23	Totals:	1590.198	13425.178	918.1			
253	23	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
254	24	N19	415.789	2443.585	1428.927	0	0	0
255	24	N21	-1024.213	806.014	-1238.108	0	0	0
256	24	N15	-268.018	2091.445	1766.846	0	0	0
257	24	N17	1958.112	1477.874	-2034.624	0	0	0
258	24	N367	118.904	95.912	56.105	0	0.156	0.709
259	24	N368	-1836.466	2746.968	-79.719	0	0.247	-3.555
260	24	N369	741.456	1381.974	621.033	0	-0.778	3.033
261	24	N370	640.141	2810.879	421.958	0	-0.711	6.394
262	24	N491	241.307	-429.476	767.115	0.001	0	0
263	24	Totals:	987.013	13425.174	1709.533			
264	24	COG (ft):	X: 0.006	Y: 1.593	Z: -0.146			
265	25	N19	229.854	1349.829	787.12	0	0	0
266	25	N21	-602.613	466.222	-723.723	0	0	0
267	25	N15	-197.691	1489.626	1258.226	0	0	0
268	25	N17	1126.35	852.96	-1184.955	0	0	0
269	25	N367	-480.552	632.213	60.467	0	0.116	-0.471
270	25	N368	-760.157	1220.29	-89.976	0	-0.017	-1.91
271	25	N369	373.876	1120.804	133.496	0	-0.152	1.685
272	25	N370	328.166	1036.952	103.602	0	-0.139	2.115
273	25	N491	-17.23	-38.326	107.753	0	0	0
274	25	Totals:	0.003	8130.571	452.011			
275	25	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
276	26	N19	229.548	1353.998	789.802	0	0	0
277	26	N21	-608.663	468.085	-725.229	0	0	0
278	26	N15	-195.952	1468.194	1239.294	0	0	0
279	26	N17	1122.25	850.866	-1184.012	0	0	0
280	26	N367	-571.075	657.386	50.353	0	0.11	-0.5
281	26	N368	-752.48	1199.601	-95.607	0	-0.031	-1.899
282	26	N369	314.599	1151.61	124.89	0	-0.144	1.712
283	26	N370	312.91	1005.35	92.762	0	-0.119	2.033
284	26	N491	-69.274	-24.518	85.581	0	0	0
285	26	Totals:	-218.138	8130.571	377.835			
286	26	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
287	27	N19	223.486	1326.016	773.438	0	0	0
288	27	N21	-620.564	474.426	-738.132	0	0	0
289	27	N15	-195.993	1454.816	1226.557	0	0	0
290	27	N17	1119.316	849.426	-1182.213	0	0	0
291	27	N367	-614.162	755.043	20.777	0	0.078	-0.668
292	27	N368	-716.997	1142.005	-108.342	0	-0.067	-1.867
293	27	N369	268.162	1192.419	108.034	0	-0.12	1.703
294	27	N370	298.411	926.243	68.141	0	-0.07	1.818
295	27	N491	-106.645	10.177	30.916	0	0	0
296	27	Totals:	-344.985	8130.572	199.176			
297	27	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
298	28	N19	215.241	1282.39	747.71	0	0	0
299	28	N21	-624.107	477.736	-747.091	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
300	28	N15	-196.707	1448.388	1218.821	0	0	0
301	28	N17	1121.13	852.631	-1187.494	0	0	0
302	28	N367	-630.514	888.676	-8.629	0	0.05	-0.909
303	28	N368	-662.882	1069.034	-118.006	0	-0.1	-1.833
304	28	N369	230.776	1237.229	88.509	0	-0.095	1.671
305	28	N370	289.992	822.448	40.178	0	-0.015	1.53
306	28	N491	-119.053	52.041	-33.999	0	0	0
307	28	Totals:	-376.126	8130.573	0			
308	28	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
309	29	N19	207.187	1234.951	719.97	0	0	0
310	29	N21	-615.542	473.706	-741.067	0	0	0
311	29	N15	-196.594	1445.1	1213.55	0	0	0
312	29	N17	1135.169	863.828	-1206.577	0	0	0
313	29	N367	-637.647	1027.197	-33.793	0	0.025	-1.162
314	29	N368	-606.425	995.704	-124.933	0	-0.128	-1.802
315	29	N369	195.67	1280.595	65.542	0	-0.066	1.633
316	29	N370	282.694	715.722	10.247	0	0.042	1.233
317	29	N491	-103.872	93.771	-98.867	0	0	0
318	29	Totals:	-339.36	8130.574	-195.929			
319	29	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
320	30	N19	199.536	1187.4	692.342	0	0	0
321	30	N21	-608.193	469.235	-733.572	0	0	0
322	30	N15	-196.775	1450.52	1216.764	0	0	0
323	30	N17	1154.868	876.41	-1226.888	0	0	0
324	30	N367	-601.362	1143.816	-59.614	0	-0.01	-1.383
325	30	N368	-563.1	935.568	-134.064	0	-0.16	-1.772
326	30	N369	188.495	1305.939	44.239	0	-0.032	1.587
327	30	N370	277.054	633.078	-17.488	0	0.097	1.003
328	30	N491	-65.414	128.609	-153.927	0	0	0
329	30	Totals:	-214.89	8130.575	-372.209			
330	30	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
331	31	N19	194.176	1152.342	671.777	0	0	0
332	31	N21	-606.829	468.941	-735.25	0	0	0
333	31	N15	-198.513	1468.726	1232.215	0	0	0
334	31	N17	1166.982	882.794	-1234.844	0	0	0
335	31	N367	-509.525	1202.587	-75.42	0	-0.038	-1.507
336	31	N368	-542.711	909.264	-140	0	-0.178	-1.754
337	31	N369	227.949	1299.94	36.279	0	-0.011	1.539
338	31	N370	281.78	602.673	-29.462	0	0.124	0.916
339	31	N491	-13.309	143.307	-177.307	0	0	0
340	31	Totals:	0	8130.575	-452.011			
341	31	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
342	32	N19	194.491	1148.188	669.103	0	0	0
343	32	N21	-600.781	467.078	-733.747	0	0	0
344	32	N15	-200.253	1490.16	1251.158	0	0	0
345	32	N17	1171.069	884.879	-1235.774	0	0	0
346	32	N367	-419.049	1177.436	-65.422	0	-0.032	-1.478
347	32	N368	-550.348	929.947	-134.297	0	-0.164	-1.765
348	32	N369	287.239	1269.181	44.806	0	-0.018	1.513
349	32	N370	297.017	634.202	-18.573	0	0.104	0.997
350	32	N491	38.754	129.502	-155.091	0	0	0
351	32	Totals:	218.14	8130.574	-377.835			
352	32	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
353	33	N19	200.557	1176.179	685.491	0	0	0
354	33	N21	-588.863	460.724	-720.824	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
355	33	N15	-200.216	1503.551	1263.906	0	0	0
356	33	N17	1174.006	886.319	-1237.577	0	0	0
357	33	N367	-376.057	1079.824	-36.096	0	0	-1.309
358	33	N368	-585.749	987.538	-121.414	0	-0.128	-1.798
359	33	N369	333.695	1228.453	61.548	0	-0.042	1.522
360	33	N370	311.478	713.172	6.137	0	0.055	1.212
361	33	N491	76.137	94.813	-100.35	0	0	0
362	33	Totals:	344.988	8130.574	-199.177			
363	33	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
364	34	N19	208.8	1219.802	711.231	0	0	0
365	34	N21	-585.301	457.402	-711.842	0	0	0
366	34	N15	-199.504	1509.99	1271.645	0	0	0
367	34	N17	1172.206	883.121	-1232.313	0	0	0
368	34	N367	-359.758	946.213	-6.821	0	0.028	-1.069
369	34	N368	-639.819	1060.51	-111.67	0	-0.095	-1.831
370	34	N369	371.089	1183.681	81.026	0	-0.067	1.553
371	34	N370	319.876	816.901	34.144	0	0	1.499
372	34	N491	88.539	52.954	-35.402	0	0	0
373	34	Totals:	376.128	8130.573	0			
374	34	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
375	35	N19	216.847	1267.227	738.964	0	0	0
376	35	N21	-593.862	461.43	-717.859	0	0	0
377	35	N15	-199.618	1513.279	1276.909	0	0	0
378	35	N17	1158.179	871.932	-1213.243	0	0	0
379	35	N367	-352.589	807.68	18.44	0	0.053	-0.815
380	35	N368	-696.306	1133.839	-104.804	0	-0.066	-1.862
381	35	N369	406.18	1140.278	104.059	0	-0.096	1.591
382	35	N370	327.191	923.685	64.031	0	-0.058	1.797
383	35	N491	73.339	11.222	29.432	0	0	0
384	35	Totals:	339.362	8130.572	195.928			
385	35	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
386	36	N19	224.491	1314.767	766.57	0	0	0
387	36	N21	-601.228	465.913	-725.375	0	0	0
388	36	N15	-199.433	1507.847	1273.681	0	0	0
389	36	N17	1138.478	859.352	-1192.927	0	0	0
390	36	N367	-388.772	691.018	44.509	0	0.088	-0.595
391	36	N368	-739.717	1193.981	-95.824	0	-0.035	-1.893
392	36	N369	413.336	1114.849	125.487	0	-0.131	1.637
393	36	N370	332.869	1006.467	91.674	0	-0.113	2.027
394	36	N491	34.869	-23.623	84.415	0	0	0
395	36	Totals:	214.893	8130.571	372.209			
396	36	COG (ft):	X: -0.236	Y: 1.45	Z: 0.247			
397	37	N19	267.38	1574.064	920.797	0	0	0
398	37	N21	-663.84	509.414	-797.787	0	0	0
399	37	N15	-171.389	1287.566	1084.39	0	0	0
400	37	N17	1052.754	799.656	-1107.178	0	0	0
401	37	N367	-367.924	664.006	25.912	0	0.084	-0.485
402	37	N368	-832.76	1238.202	-105.128	0	-0.024	-1.901
403	37	N369	431.277	1034.468	167.726	0	-0.189	1.599
404	37	N370	283.672	1079.861	127.69	0	-0.189	2.235
405	37	N491	0.831	-56.666	135.588	0	0	0
406	37	Totals:	0.001	8130.57	452.011			
407	37	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
408	38	N19	267.082	1578.234	923.481	0	0	0
409	38	N21	-669.893	511.28	-799.296	0	0	0



**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
410	38	N15	-169.656	1266.14	1065.453	0	0	0
411	38	N17	1048.648	797.556	-1106.23	0	0	0
412	38	N367	-458.45	689.176	15.794	0	0.078	-0.513
413	38	N368	-825.082	1217.516	-110.754	0	-0.039	-1.89
414	38	N369	372.009	1065.273	159.108	0	-0.182	1.626
415	38	N370	268.414	1048.256	116.857	0	-0.17	2.153
416	38	N491	-51.211	-42.861	113.422	0	0	0
417	38	Totals:	-218.139	8130.57	377.835			
418	38	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
419	39	N19	261.025	1550.246	907.124	0	0	0
420	39	N21	-681.801	517.63	-812.206	0	0	0
421	39	N15	-169.7	1252.774	1052.708	0	0	0
422	39	N17	1045.703	796.105	-1104.421	0	0	0
423	39	N367	-501.536	786.838	-13.796	0	0.046	-0.682
424	39	N368	-789.594	1159.923	-123.475	0	-0.074	-1.857
425	39	N369	325.588	1106.086	142.224	0	-0.158	1.616
426	39	N370	253.907	969.135	92.252	0	-0.121	1.938
427	39	N491	-88.579	-8.167	58.768	0	0	0
428	39	Totals:	-344.987	8130.571	199.176			
429	39	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
430	40	N19	252.784	1506.612	881.407	0	0	0
431	40	N21	-685.354	520.951	-821.174	0	0	0
432	40	N15	-170.416	1246.361	1044.96	0	0	0
433	40	N17	1047.503	799.294	-1109.691	0	0	0
434	40	N367	-517.882	920.481	-43.22	0	0.017	-0.923
435	40	N368	-735.474	1086.954	-133.121	0	-0.107	-1.824
436	40	N369	288.22	1150.905	122.664	0	-0.132	1.585
437	40	N370	245.478	865.319	64.308	0	-0.066	1.65
438	40	N491	-100.984	33.697	-6.133	0	0	0
439	40	Totals:	-376.127	8130.572	0			
440	40	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
441	41	N19	244.733	1459.164	853.677	0	0	0
442	41	N21	-676.798	516.932	-815.159	0	0	0
443	41	N15	-170.304	1243.088	1039.678	0	0	0
444	41	N17	1061.528	810.475	-1128.762	0	0	0
445	41	N367	-525.01	1059.013	-68.404	0	-0.008	-1.176
446	41	N368	-679.011	1013.625	-140.029	0	-0.136	-1.793
447	41	N369	253.134	1194.28	99.66	0	-0.103	1.547
448	41	N370	238.168	758.571	34.398	0	-0.009	1.353
449	41	N491	-85.801	75.426	-70.987	0	0	0
450	41	Totals:	-339.361	8130.573	-195.929			
451	41	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
452	42	N19	237.082	1411.603	826.059	0	0	0
453	42	N21	-669.456	512.468	-807.669	0	0	0
454	42	N15	-170.483	1248.52	1042.884	0	0	0
455	42	N17	1081.218	823.045	-1149.066	0	0	0
456	42	N367	-488.721	1175.645	-94.241	0	-0.042	-1.397
457	42	N368	-635.68	953.488	-149.145	0	-0.167	-1.762
458	42	N369	245.972	1219.631	78.329	0	-0.069	1.501
459	42	N370	232.518	675.908	6.677	0	0.046	1.123
460	42	N491	-47.341	110.265	-126.036	0	0	0
461	42	Totals:	-214.891	8130.574	-372.209			
462	42	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
463	43	N19	231.716	1376.538	805.499	0	0	0
464	43	N21	-668.094	512.177	-809.348	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
465	43	N15	-172.217	1266.73	1058.334	0	0	0
466	43	N17	1093.33	829.426	-1157.02	0	0	0
467	43	N367	-396.878	1234.427	-110.054	0	-0.07	-1.521
468	43	N368	-615.288	927.183	-155.075	0	-0.186	-1.744
469	43	N369	285.427	1213.637	70.359	0	-0.048	1.453
470	43	N370	237.239	645.491	-5.292	0	0.073	1.036
471	43	N491	4.764	124.965	-149.414	0	0	0
472	43	Totals:	-0.001	8130.574	-452.011			
473	43	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
474	44	N19	232.024	1372.384	802.825	0	0	0
475	44	N21	-662.043	510.311	-807.842	0	0	0
476	44	N15	-173.95	1288.158	1077.282	0	0	0
477	44	N17	1097.422	831.517	-1157.955	0	0	0
478	44	N367	-306.4	1209.278	-100.051	0	-0.064	-1.492
479	44	N368	-622.925	947.862	-149.378	0	-0.171	-1.755
480	44	N369	344.708	1182.877	78.898	0	-0.055	1.426
481	44	N370	252.479	677.023	5.59	0	0.053	1.117
482	44	N491	56.825	111.163	-127.203	0	0	0
483	44	Totals:	218.139	8130.573	-377.835			
484	44	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
485	45	N19	238.084	1400.38	819.205	0	0	0
486	45	N21	-650.118	503.949	-794.912	0	0	0
487	45	N15	-173.911	1301.537	1090.039	0	0	0
488	45	N17	1100.37	832.968	-1159.768	0	0	0
489	45	N367	-263.41	1111.661	-70.711	0	-0.033	-1.323
490	45	N368	-658.33	1005.451	-136.508	0	-0.135	-1.788
491	45	N369	391.149	1142.144	95.667	0	-0.079	1.436
492	45	N370	266.947	756.007	30.284	0	0.004	1.332
493	45	N491	94.205	76.476	-72.473	0	0	0
494	45	Totals:	344.987	8130.573	-199.177			
495	45	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
496	46	N19	246.323	1444.011	844.935	0	0	0
497	46	N21	-646.546	500.616	-785.921	0	0	0
498	46	N15	-173.197	1307.961	1097.789	0	0	0
499	46	N17	1098.585	829.786	-1154.516	0	0	0
500	46	N367	-247.117	978.04	-41.418	0	-0.004	-1.082
501	46	N368	-712.405	1078.42	-126.782	0	-0.102	-1.822
502	46	N369	428.524	1097.365	115.181	0	-0.105	1.467
503	46	N370	275.357	859.757	58.271	0	-0.051	1.619
504	46	N491	106.603	34.616	-7.539	0	0	0
505	46	Totals:	376.127	8130.572	0			
506	46	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
507	47	N19	254.366	1491.445	872.656	0	0	0
508	47	N21	-655.097	504.633	-791.93	0	0	0
509	47	N15	-173.309	1311.235	1103.064	0	0	0
510	47	N17	1084.571	818.612	-1135.457	0	0	0
511	47	N367	-239.952	839.496	-16.137	0	0.021	-0.829
512	47	N368	-768.898	1151.749	-119.936	0	-0.074	-1.852
513	47	N369	463.595	1053.953	138.251	0	-0.134	1.505
514	47	N370	282.683	966.563	88.138	0	-0.109	1.917
515	47	N491	91.401	-7.115	57.28	0	0	0
516	47	Totals:	339.361	8130.571	195.928			
517	47	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
518	48	N19	262.012	1538.995	900.253	0	0	0
519	48	N21	-662.457	509.108	-799.44	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
520	48	N15	-173.126	1305.79	1099.843	0	0	0
521	48	N17	1064.88	806.044	-1115.149	0	0	0
522	48	N367	-276.14	722.821	9.947	0	0.055	-0.608
523	48	N368	-812.315	1211.891	-110.97	0	-0.043	-1.883
524	48	N369	470.738	1028.517	159.707	0	-0.168	1.551
525	48	N370	288.371	1049.365	115.766	0	-0.164	2.147
526	48	N491	52.93	-41.961	112.253	0	0	0
527	48	Totals:	214.892	8130.57	372.209			
528	48	COG (ft):	X: 0.225	Y: 1.45	Z: 0.247			
529	49	N19	248.806	1440.227	834.583	0	0	0
530	49	N21	-676.164	518.114	-816.037	0	0	0
531	49	N15	-146.848	1098.229	919.963	0	0	0
532	49	N17	1033.073	785.606	-1089.94	0	0	0
533	49	N367	-296.704	756.317	-19.911	0	0.022	-0.731
534	49	N368	-793.588	1163.827	-129.119	0	-0.084	-1.862
535	49	N369	392.735	1029.398	143.699	0	-0.149	1.503
536	49	N370	258.981	975.141	94.581	0	-0.123	1.949
537	49	N491	-20.29	-11.287	62.182	0	0	0
538	49	Totals:	0	7755.571	0			
539	49	COG (ft):	X: 0.355	Y: 1.434	Z: 0.05			
540	50	N19	214.62	1264.154	736.458	0	0	0
541	50	N21	-633.584	488.109	-764.551	0	0	0
542	50	N15	-165.817	1239.118	1040.251	0	0	0
543	50	N17	1078.995	818.873	-1138.465	0	0	0
544	50	N367	-384.72	764.545	-1.142	0	0.041	-0.745
545	50	N368	-742.821	1147.983	-119.097	0	-0.079	-1.866
546	50	N369	354.592	1091.023	120.685	0	-0.123	1.562
547	50	N370	288.373	943.781	77.758	0	-0.088	1.859
548	50	N491	-9.637	-2.015	48.103	0	0	0
549	50	Totals:	0.001	7755.571	0			
550	50	COG (ft):	X: -0.006	Y: 1.434	Z: 0.05			
551	51	N19	232.195	1361.214	790.014	0	0	0
552	51	N21	-737.611	568.508	-890.262	0	0	0
553	51	N15	-171.434	1284.046	1076.13	0	0	0
554	51	N17	1223.034	929.4	-1290.486	0	0	0
555	51	N367	-385.159	691.925	26.977	0	0.07	-0.574
556	51	N368	-931.172	1426.25	-135.24	0	-0.068	-2.222
557	51	N369	441.95	1182.49	162.866	0	-0.171	1.814
558	51	N370	343.311	1221.703	124.158	0	-0.166	2.503
559	51	N491	-15.112	-54.87	135.845	0	0	0
560	51	Totals:	0.002	8610.666	0			
561	51	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
562	52	N19	233.709	1361.974	790.444	0	0	0
563	52	N21	-650.062	501.655	-781.094	0	0	0
564	52	N15	-152.543	1162.157	979.996	0	0	0
565	52	N17	1045.428	795.73	-1099.606	0	0	0
566	52	N367	-320.688	204.889	123.665	0	0.178	0.227
567	52	N368	-981.431	1489.838	-84.029	0	0.057	-2.088
568	52	N369	485.729	919.86	216.926	0	-0.261	1.714
569	52	N370	352.203	1397.017	208.844	0	-0.34	3.076
570	52	N491	-12.342	-180.916	323.857	0	0	0
571	52	Totals:	0.003	7652.203	679.005			
572	52	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
573	53	N19	233.984	1368.382	794.373	0	0	0
574	53	N21	-664.74	510.339	-796.656	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
575	53	N15	-149.923	1133.644	954.712	0	0	0
576	53	N17	1031.267	787.138	-1087.344	0	0	0
577	53	N367	-453.951	233.905	109.655	0	0.174	0.201
578	53	N368	-983.167	1465.729	-92.023	0	0.041	-2.075
579	53	N369	399.935	958.191	209.961	0	-0.26	1.75
580	53	N370	324.249	1358.297	198.356	0	-0.323	2.976
581	53	N491	-77.152	-163.422	296.986	0	0	0
582	53	Totals:	-339.498	7652.204	588.018			
583	53	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
584	54	N19	226.844	1332.243	773.57	0	0	0
585	54	N21	-676.94	517.657	-810.74	0	0	0
586	54	N15	-147.959	1107.135	929.861	0	0	0
587	54	N17	1032.02	788.958	-1091.032	0	0	0
588	54	N367	-557.293	365.045	72.653	0	0.14	-0.016
589	54	N368	-943.163	1388.497	-107.515	0	-0.002	-2.036
590	54	N369	312.222	1021.371	185.523	0	-0.23	1.749
591	54	N370	291.145	1246.491	164.304	0	-0.259	2.675
592	54	N491	-124.89	-115.193	222.879	0	0	0
593	54	Totals:	-588.013	7652.205	339.503			
594	54	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
595	55	N19	214.197	1263.227	733.589	0	0	0
596	55	N21	-683.407	521.658	-819.587	0	0	0
597	55	N15	-147.174	1089.719	912.087	0	0	0
598	55	N17	1047.486	800.705	-1109.679	0	0	0
599	55	N367	-602.97	563.165	22.751	0	0.085	-0.365
600	55	N368	-872.191	1278.823	-126.468	0	-0.061	-1.98
601	55	N369	246.058	1092.42	150.245	0	-0.18	1.711
602	55	N370	261.784	1091.636	115.739	0	-0.165	2.253
603	55	N491	-142.782	-49.146	121.323	0	0	0
604	55	Totals:	-679	7652.206	0			
605	55	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
606	56	N19	199.433	1179.826	685.131	0	0	0
607	56	N21	-682.42	521.277	-820.843	0	0	0
608	56	N15	-147.776	1086.057	906.156	0	0	0
609	56	N17	1073.511	819.228	-1138.277	0	0	0
610	56	N367	-578.676	775.155	-26.564	0	0.025	-0.753
611	56	N368	-789.306	1166.099	-143.868	0	-0.12	-1.923
612	56	N369	219.183	1152.262	113.62	0	-0.122	1.647
613	56	N370	244.054	935.287	65.638	0	-0.066	1.824
614	56	N491	-126.018	17.016	19.505	0	0	0
615	56	Totals:	-588.015	7652.208	-339.502			
616	56	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
617	57	N19	186.517	1104.408	641.191	0	0	0
618	57	N21	-674.247	516.618	-814.177	0	0	0
619	57	N15	-149.603	1097.129	913.661	0	0	0
620	57	N17	1103.112	839.557	-1169.151	0	0	0
621	57	N367	-490.974	944.208	-62.15	0	-0.026	-1.076
622	57	N368	-716.7	1080.536	-155.007	0	-0.163	-1.88
623	57	N369	238.796	1184.892	85.415	0	-0.073	1.573
624	57	N370	242.691	819.3	27.461	0	0.011	1.502
625	57	N491	-79.091	65.561	-55.26	0	0	0
626	57	Totals:	-339.501	7652.209	-588.018			
627	57	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
628	58	N19	178.911	1057.174	613.55	0	0	0
629	58	N21	-661.065	508.919	-801.359	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
630	58	N15	-152.171	1119.977	932.601	0	0	0
631	58	N17	1128.362	856.248	-1194.038	0	0	0
632	58	N367	-363.421	1025.088	-74.665	0	-0.053	-1.248
633	58	N368	-673.753	1045.041	-156.791	0	-0.178	-1.862
634	58	N369	299.663	1181.633	73.091	0	-0.045	1.509
635	58	N370	258.031	774.633	11.5	0	0.045	1.374
636	58	N491	-14.558	83.496	-82.895	0	0	0
637	58	Totals:	-0.001	7652.209	-679.005			
638	58	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
639	59	N19	178.654	1050.793	609.637	0	0	0
640	59	N21	-646.391	500.233	-785.805	0	0	0
641	59	N15	-154.792	1148.49	957.906	0	0	0
642	59	N17	1142.501	864.826	-1206.275	0	0	0
643	59	N367	-230.242	996.104	-60.856	0	-0.049	-1.222
644	59	N368	-671.953	1069.147	-148.673	0	-0.162	-1.875
645	59	N369	385.486	1143.38	79.918	0	-0.046	1.473
646	59	N370	285.952	813.229	22.076	0	0.028	1.473
647	59	N491	50.285	66.007	-55.946	0	0	0
648	59	Totals:	339.5	7652.208	-588.018			
649	59	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
650	60	N19	185.806	1086.953	630.486	0	0	0
651	60	N21	-634.157	492.891	-771.681	0	0	0
652	60	N15	-156.765	1175.024	982.783	0	0	0
653	60	N17	1141.751	863	-1202.596	0	0	0
654	60	N367	-127.1	865.046	-24.36	0	-0.015	-1.005
655	60	N368	-711.791	1146.374	-132.877	0	-0.118	-1.914
656	60	N369	473.245	1080.366	104.111	0	-0.075	1.474
657	60	N370	318.979	924.763	56.314	0	-0.036	1.773
658	60	N491	98.047	17.789	18.317	0	0	0
659	60	Totals:	588.016	7652.207	-339.503			
660	60	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
661	61	N19	198.447	1155.963	670.498	0	0	0
662	61	N21	-627.651	488.866	-762.785	0	0	0
663	61	N15	-157.557	1192.465	1000.563	0	0	0
664	61	N17	1126.312	851.263	-1183.983	0	0	0
665	61	N367	-81.539	666.978	25.236	0	0.039	-0.656
666	61	N368	-782.661	1256.046	-113.743	0	-0.059	-1.97
667	61	N369	539.425	1009.405	139.282	0	-0.125	1.512
668	61	N370	348.296	1079.47	104.979	0	-0.13	2.195
669	61	N491	115.931	-48.25	119.953	0	0	0
670	61	Totals:	679.003	7652.206	0			
671	61	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
672	62	N19	213.193	1239.336	718.941	0	0	0
673	62	N21	-628.634	489.248	-761.52	0	0	0
674	62	N15	-156.954	1196.125	1006.474	0	0	0
675	62	N17	1100.308	832.752	-1155.409	0	0	0
676	62	N367	-105.75	454.957	74.753	0	0.1	-0.267
677	62	N368	-865.611	1368.773	-96.467	0	0	-2.027
678	62	N369	566.272	949.485	176.044	0	-0.183	1.577
679	62	N370	366.06	1235.943	154.992	0	-0.229	2.624
680	62	N491	99.135	-114.415	221.694	0	0	0
681	62	Totals:	588.017	7652.204	339.502			
682	62	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
683	63	N19	226.097	1314.733	762.836	0	0	0
684	63	N21	-636.841	493.932	-768.226	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
685	63	N15	-155.118	1185.029	998.943	0	0	0
686	63	N17	1070.704	812.428	-1124.526	0	0	0
687	63	N367	-193.252	285.822	110.846	0	0.151	0.056
688	63	N368	-938.383	1454.341	-85.633	0	0.042	-2.07
689	63	N369	546.613	916.689	204.495	0	-0.232	1.651
690	63	N370	367.5	1352.201	192.982	0	-0.305	2.947
691	63	N491	52.184	-162.973	296.302	0	0	0
692	63	Totals:	339.504	7652.203	588.018			
693	63	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
694	64	N19	162.736	971.566	571.148	0	0	0
695	64	N21	-393.23	307.418	-471.181	0	0	0
696	64	N15	-102.781	786.491	663.55	0	0	0
697	64	N17	746.402	567.062	-783.964	0	0	0
698	64	N367	8.914	80.264	27.996	0	0.083	0.131
699	64	N368	-721.444	1051.203	-21.891	0	0.117	-1.394
700	64	N369	51.939	581.199	231.254	0	-0.326	1.324
701	64	N370	258.267	1087.459	171.03	0	-0.292	2.437
702	64	N491	-10.798	-168.872	291.065	0	0	0
703	64	Totals:	0.005	5263.79	679.005			
704	64	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
705	65	N19	163.172	985.836	581.324	0	0	0
706	65	N21	-408.811	316.722	-487.852	0	0	0
707	65	N15	-99.559	752.559	633.214	0	0	0
708	65	N17	730.636	557.318	-770.001	0	0	0
709	65	N367	-22.09	93.946	23.695	0	0.079	0.055
710	65	N368	-735.729	1031.877	-32.138	0	0.099	-1.386
711	65	N369	-115.481	623.245	216.214	0	-0.324	1.409
712	65	N370	227.423	1052.216	161.579	0	-0.277	2.344
713	65	N491	-79.056	-149.927	261.983	0	0	0
714	65	Totals:	-339.495	5263.791	588.018			
715	65	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
716	66	N19	162.332	954.311	554.338	0	0	0
717	66	N21	-472.432	360.078	-563.88	0	0	0
718	66	N15	-100.441	750.869	631.329	0	0	0
719	66	N17	692.845	531.296	-733.116	0	0	0
720	66	N367	-450.373	173.764	65.192	0	0.121	0.142
721	66	N368	-684.552	992.644	-69.688	0	0.017	-1.419
722	66	N369	189.569	693.598	140.464	0	-0.183	1.246
723	66	N370	195.722	906.978	129.964	0	-0.213	1.979
724	66	N491	-120.683	-99.746	184.899	0	0	0
725	66	Totals:	-588.013	5263.792	339.503			
726	66	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
727	67	N19	149.713	885.498	514.432	0	0	0
728	67	N21	-478.856	364.03	-572.689	0	0	0
729	67	N15	-99.664	733.519	613.552	0	0	0
730	67	N17	708.254	542.968	-751.722	0	0	0
731	67	N367	-496.03	371.487	15.288	0	0.066	-0.206
732	67	N368	-613.766	883.125	-88.827	0	-0.042	-1.364
733	67	N369	123.478	764.478	105.124	0	-0.132	1.208
734	67	N370	166.46	752.517	81.339	0	-0.119	1.558
735	67	N491	-138.59	-33.827	83.504	0	0	0
736	67	Totals:	-679	5263.793	0			
737	67	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
738	68	N19	134.987	802.306	466.044	0	0	0
739	68	N21	-477.823	363.598	-573.905	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
740	68	N15	-100.267	729.924	607.621	0	0	0
741	68	N17	734.224	561.416	-780.28	0	0	0
742	68	N367	-471.73	583.069	-34.028	0	0.005	-0.594
743	68	N368	-531.067	770.559	-106.416	0	-0.101	-1.306
744	68	N369	96.668	824.151	68.433	0	-0.075	1.144
745	68	N370	148.835	596.569	31.178	0	-0.02	1.13
746	68	N491	-121.841	32.203	-18.149	0	0	0
747	68	Totals:	-588.015	5263.795	-339.502			
748	68	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
749	69	N19	122.108	727.046	422.151	0	0	0
750	69	N21	-469.615	358.899	-567.208	0	0	0
751	69	N15	-102.088	741.042	615.13	0	0	0
752	69	N17	763.782	581.69	-811.124	0	0	0
753	69	N367	-384.039	751.815	-69.614	0	-0.045	-0.916
754	69	N368	-458.6	685.113	-117.695	0	-0.144	-1.263
755	69	N369	116.32	856.657	40.175	0	-0.025	1.07
756	69	N370	147.553	480.884	-7.043	0	0.057	0.809
757	69	N491	-74.923	80.65	-92.789	0	0	0
758	69	Totals:	-339.501	5263.795	-588.018			
759	69	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
760	70	N19	114.529	679.877	394.523	0	0	0
761	70	N21	-456.416	351.182	-554.376	0	0	0
762	70	N15	-104.642	763.905	634.077	0	0	0
763	70	N17	789.017	598.358	-835.998	0	0	0
764	70	N367	-256.511	832.569	-82.125	0	-0.072	-1.088
765	70	N368	-415.707	649.664	-119.536	0	-0.16	-1.245
766	70	N369	177.19	853.353	27.826	0	0.003	1.006
767	70	N370	162.929	436.339	-23.023	0	0.092	0.681
768	70	N491	-10.39	98.547	-120.373	0	0	0
769	70	Totals:	-0.001	5263.796	-679.005			
770	70	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
771	71	N19	114.281	673.452	390.583	0	0	0
772	71	N21	-441.75	342.506	-538.829	0	0	0
773	71	N15	-107.248	792.398	659.389	0	0	0
774	71	N17	803.17	606.955	-848.245	0	0	0
775	71	N367	-123.363	803.674	-68.311	0	-0.068	-1.062
776	71	N368	-413.86	673.732	-111.374	0	-0.143	-1.258
777	71	N369	262.978	815.144	34.663	0	0.002	0.97
778	71	N370	190.832	474.846	-12.434	0	0.074	0.78
779	71	N491	54.46	81.088	-93.461	0	0	0
780	71	Totals:	339.5	5263.795	-588.018			
781	71	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
782	72	N19	121.422	709.469	411.374	0	0	0
783	72	N21	-429.546	335.197	-524.732	0	0	0
784	72	N15	-109.207	818.881	684.274	0	0	0
785	72	N17	802.461	605.184	-844.594	0	0	0
786	72	N367	-20.25	672.897	-31.809	0	-0.034	-0.845
787	72	N368	-453.565	750.848	-95.447	0	-0.099	-1.298
788	72	N369	350.675	752.253	58.899	0	-0.027	0.971
789	72	N370	223.791	586.102	21.845	0	0.01	1.08
790	72	N491	102.235	32.962	-19.312	0	0	0
791	72	Totals:	588.015	5263.794	-339.503			
792	72	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
793	73	N19	134.034	778.276	451.313	0	0	0
794	73	N21	-423.084	331.221	-515.874	0	0	0

**Node Reactions (Continued)**

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
795	73	N15	-109.99	836.255	702.057	0	0	0
796	73	N17	787.078	593.521	-826.021	0	0	0
797	73	N367	25.29	475.226	17.792	0	0.02	-0.497
798	73	N368	-524.251	860.365	-76.13	0	-0.04	-1.354
799	73	N369	416.782	681.461	94.132	0	-0.078	1.009
800	73	N370	253.009	740.415	70.569	0	-0.084	1.5
801	73	N491	120.134	-32.948	82.162	0	0	0
802	73	Totals:	679.002	5263.792	0			
803	73	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
804	74	N19	148.742	861.441	499.686	0	0	0
805	74	N21	-424.112	331.654	-514.649	0	0	0
806	74	N15	-109.386	839.849	707.968	0	0	0
807	74	N17	761.131	575.086	-797.488	0	0	0
808	74	N367	1.074	263.613	67.309	0	0.081	-0.109
809	74	N368	-607.014	972.935	-58.664	0	0.019	-1.411
810	74	N369	443.564	621.71	130.96	0	-0.135	1.073
811	74	N370	270.668	896.486	120.642	0	-0.183	1.928
812	74	N491	103.352	-98.983	183.738	0	0	0
813	74	Totals:	588.017	5263.791	339.502			
814	74	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			
815	75	N19	161.609	936.68	543.532	0	0	0
816	75	N21	-432.355	336.378	-521.386	0	0	0
817	75	N15	-107.556	828.707	700.433	0	0	0
818	75	N17	731.568	554.817	-766.635	0	0	0
819	75	N367	-86.418	94.786	103.399	0	0.132	0.213
820	75	N368	-679.647	1058.385	-47.687	0	0.062	-1.454
821	75	N369	423.866	589.039	159.463	0	-0.185	1.147
822	75	N370	272.026	1012.44	158.678	0	-0.26	2.25
823	75	N491	56.41	-147.442	258.221	0	0	0
824	75	Totals:	339.503	5263.79	588.018			
825	75	COG (ft):	X: -0.006	Y: 1.507	Z: -0.166			

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

	Member	Shape	Code Check	Loc [ft]	LC Shear	Check	Loc [ft]	Dir	LC phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn	
1	M1	HSS6X4X5	0.12	14.456	8	0.091	10.104	z	2	92190.425	217764	26.738	35.535	2.436	H1-1b
2	M2	HSS6X4X5	0.092	14.456	12	0.03	14.456	z	1	92190.425	217764	26.738	35.535	2.671	H1-1b
3	M3	HSS6X4X5	0.128	6.373	1	0.084	4.819	z	6	92190.425	217764	26.738	35.535	2.297	H1-1b
4	M4	HSS6X4X5	0.099	9.778	12	0.012	0	z	2	150559.695	217764	26.738	35.535	1.977	H1-1b
5	M5	HSS6X4X5	0.034	0	9	0.006	6.314	z	3	186705.128	217764	26.738	35.535	1.097	H1-1b
6	M6	HSS6X4X5	0.019	2.994	6	0.008	2.994	z	2	210357.098	217764	26.738	35.535	1.167	H1-1b
7	M7	L4X4X5	0.111	0	12	0.004	5.72	z	12	51779.758	77760	3.777	7.995	1.5	H2-1
8	M8	L4X4X5	0.208	0	24	0.006	0	y	11	21581.752	77760	3.777	6.748	1.288	H2-1
9	M9	L4X4X5	0.102	0	2	0.005	5.067	y	2	56516.436	77760	3.777	8.158	1.5	H2-1
10	M10	L4X4X5	0.182	0	15	0.007	0	z	3	18253.756	77760	3.777	6.512	1.25	H2-1
11	M11	PIPE 3.0	0.117	7.083	7	0.1	0		7	22278.547	65205	5.749	5.749	1	H1-1b
12	M12	PIPE 3.0	0.095	3.333	21	0.111	3.09		7	63586.824	65205	5.749	5.749	1	H1-1b
13	M13	PIPE 3.0	0.099	3.333	18	0.089	2.604		8	63586.824	65205	5.749	5.749	1	H1-1b
14	M14	PIPE 3.0	0.135	3.333	17	0.096	3.333		6	63586.824	65205	5.749	5.749	1	H1-1b
15	M15	PIPE 3.0	0.139	3.333	23	0.082	3.333		20	63586.824	65205	5.749	5.749	1	H1-1b
16	M16	PIPE 3.0	0.08	1.528	12	0.061	0.477		11	58269.786	65205	5.749	5.749	1	H1-1b
17	M17	PIPE 3.0	0.07	2.5	7	0.014	5		2	57037.472	65205	5.749	5.749	1	H1-1b
18	M18	PIPE 3.0	0.079	0	16	0.054	3.056		7	58269.786	65205	5.749	5.749	1	H1-1b
19	M19	PIPE 3.0	0.185	9.444	2	0.107	9.592		1	22278.547	65205	5.749	5.749	1	H1-1b
20	M20	PIPE 3.0	0.038	2.569	2	0.04	3.333		9	63586.824	65205	5.749	5.749	1	H1-1b
21	M21	PIPE 3.0	0.094	3.125	7	0.208	3.333		12	63586.824	65205	5.749	5.749	1	H1-1b





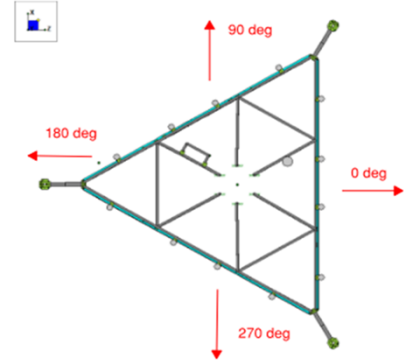
**Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)**

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
77	MP0.5C	PIPE 3.5	0.087	2.007	12	0.049	0.59	1	1	69087.855	78750	7.954	7.954	1	H1-1b	
78	MP1C	PIPE 2.0	0.005	1.437	7	0.01	1.437	12	20866.733	32130	1.872	1.872	1	H1-1b		
79	MP2C	PIPE 3.5	0.064	4.722	8	0.068	0.59	1	69087.855	78750	7.954	7.954	1	H1-1b		
80	MP4C	PIPE 3.5	0.177	2.538	12	0.093	0.59	1	69087.855	78750	7.954	7.954	1	H1-1b		
81	MP5C	PIPE 2.0	0.005	1.437	12	0.031	1.437	1	20866.733	32130	1.872	1.872	1	H1-1b		
82	MP5.5C	PIPE 3.5	0.1	2.007	1	0.053	0.59	1	69087.855	78750	7.954	7.954	1	H1-1b		
83	M151	HSS4X4X4	0.025	0.5	1	0.048	0.5	z	12	139372.102	139518	16.181	16.181	1.014	H1-1b	
84	M152	HSS4X4X4	0.01	0	2	0.011	0	z	14	139372.102	139518	16.181	16.181	1.047	H1-1b	
85	M154	HSS4X4X4	0.068	0	1	0.026	0	y	12	139372.102	139518	16.181	16.181	1.126	H1-1b	
86	M156	HSS4X4X4	0.085	0	1	0.064	0	y	1	139372.102	139518	16.181	16.181	1.488	H1-1b	
87	M157	HSS4X4X4	0.03	0	1	0.063	0.5	z	7	139372.102	139518	16.181	16.181	1.075	H1-1b	
88	M158	HSS4X4X4	0.028	0	7	0.018	0	y	7	139372.102	139518	16.181	16.181	1.19	H1-1b	
89	MP3C	PIPE 2.0	0.109	2.375	10	0.09	2.375	1	20866.733	32130	1.872	1.872	1	H1-1b		
90	M218A	HSS4X4X4	0.02	0.5	2	0.022	0	y	2	139372.102	139518	16.181	16.181	1.524	H1-1b	
91	M219A	HSS4X4X4	0.014	0.5	12	0.021	0	y	12	139372.102	139518	16.181	16.181	1.494	H1-1b	
92	M220A	HSS4X4X4	0.08	0.5	1	0.069	0.5	y	1	139372.102	139518	16.181	16.181	1.253	H1-1b	
93	M221A	HSS4X4X4	0.034	0.5	1	0.04	0.5	z	2	139372.102	139518	16.181	16.181	1.239	H1-1b	
94	M222A	HSS4X4X4	0	0.5	1	0	0.5	y	23	139372.102	139518	16.181	16.181	2.326	H1-1b*	
95	M223	HSS4X4X4	0.071	0	12	0.068	0.5	z	1	139372.102	139518	16.181	16.181	1.11	H1-1b	
96	M218B	HSS8X4X5	0.323	0	1	0.079	0	y	1	130908.647	266202	34.19	55.545	3	H1-1b	
97	M219B	HSS8X4X5	0.207	14	7	0.06	14	y	7	130908.647	266202	34.19	55.545	2.579	H1-1b	
98	M228	PIPE 2.5	0.098	9.931	7	0.034	13.903	7	10575.052	50715	3.596	3.596	1	H1-1b		
99	M233	PIPE 2.5	0.295	9.319	7	0.168	9.778	1	10575.052	50715	3.596	3.596	1	H1-1b		
100	M238	PIPE 2.5	0.248	4.889	1	0.151	4.889	1	10575.052	50715	3.596	3.596	1	H1-1b		
101	M251	L4X4X4	0.057	0	7	0.007	1.968	y	8	49414.877	62532	3.138	6.715	1.217	H2-1	
102	M253	L4X4X4	0.091	1.968	12	0.009	1.968	y	12	49414.877	62532	3.138	6.897	1.5	H2-1	
103	M255	L4X4X4	0.059	1.968	6	0.011	0	y	6	49414.877	62532	3.138	6.715	1.5	H2-1	
104	M290	L2.5X2.5X4	0.386	3.281	1	0.013	6.703	z	12	9654.495	38556	1.114	2.092	1.136	H2-1	
105	M291	L2.5X2.5X4	0.264	2.694	1	0.013	5.503	y	2	14321.416	38556	1.114	2.2	1.136	H2-1	
106	MP3A	PIPE 2.0	0.1	1.667	1	0.057	1.667	10	22845.314	32130	1.872	1.872	1	H1-1b		
107	RRH-A	PIPE 2.0	0.051	2.5	7	0.017	2	2	22845.314	32130	1.872	1.872	1	H1-1b		
108	M183	SR 0.5	0.811	0	22	0.431	0	22	5827.173	6350.4	0.052	0.052	1	H1-1b		
109	M184	SR 0.5	0.812	0	21	0.43	0	16	5827.173	6350.4	0.052	0.052	1	H1-1b		
110	M194	SR 0.5	0.845	0	22	0.448	0	15	5827.173	6350.4	0.052	0.052	1	H1-1b		
111	M198	SR 0.5	0.847	0	16	0.448	0	23	5827.173	6350.4	0.052	0.052	1	H1-1b		
112	M249	SR 0.5	0.828	0	20	0.436	0	20	5827.173	6350.4	0.052	0.052	1	H1-1b		
113	MP3B	PIPE 2.0	0.098	1.667	5	0.101	1.667	7	22845.314	32130	1.872	1.872	1	H1-1b		
114	RRH-B	PIPE 2.0	0.071	2.5	14	0.057	2	12	22845.314	32130	1.872	1.872	1	H1-1b		
115	M263	SR 0.5	0.829	0	20	0.433	0	24	5827.173	6350.4	0.052	0.052	1	H1-1b		
116	M269	SR 0.5	0.849	0	14	0.449	0	15	5827.173	6350.4	0.052	0.052	1	H1-1b		
117	M271	SR 0.5	0.849	0	15	0.448	0	15	5827.173	6350.4	0.052	0.052	1	H1-1b		

**I. Mount-to-Tower Connection Check**

Custom Orientation Required

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N368	175
N367	355
N369	355
N370	175



Tower Connection Bolt Checks

Tower Connection Baseplate Checks

Tower Connection Weld Checks

Yes
-----

Weld Shape:	Custom
Weld Stiffener Configuration:	None
Weld Size (1/16 in):	5
Weld Total Length (in):	13.50
Z <sub>x</sub> (in <sup>3</sup> /in):	37.04
Z <sub>y</sub> (in <sup>3</sup> /in):	206.07
J <sub>p</sub> (in <sup>4</sup> /in):	243.11
c <sub>x</sub> (in)	4.5
c <sub>y</sub> (in)	3.148
Required combined strength (kip/in):	1.46
Weld Capacity (kip/in):	6.96
Weld Utilization:	<b>21.0%</b>

# EXHIBIT 5





RF Design and Services  
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Raleigh, NC 27603  
(612) 965-8225  
WWW.TEPGROUP.NET

## Non-Ionizing Electromagnetic Radiation (NIER) Study

*Site Number:*

411261

*Site Name:*

Cromwellsw CT

*Location:*

Cromwell, Connecticut

*Tenants:*

AT&T Mobility, Dish, & Verizon Wireless

*Prepared For:*

American Tower, Inc.  
Woburn, Massachusetts

October 10<sup>th</sup>, 2023

69024 P-408023

Prepared By:

Adam Carlson MS, CBRE, CPI  
Program Manager RF Design & Service  
Tower Engineering Professionals

Approved By:



10/16/23



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## Non-Ionizing Electromagnetic Radiation (NIER) Study

411261 Cromwellsw CT  
Cromwell, Connecticut

### INTRODUCTION

Tower Engineering Professionals RF Design & Services Division (TEP-RF) of Raleigh, North Carolina, has been retained by American Tower, Inc. (ATC), of Woburn, Massachusetts to evaluate the RF emissions compared to the Maximum Permissible Exposure (MPE) limit for facilities at this location. This evaluation uses compliance standards as outlined in Federal Communications Commission (FCC) document OET-65.

### SITE AND FACILITY CONSIDERATIONS

Site 411261 Cromwellsw CT is located at 99 Christian Hill Rd., in Cromwell, Connecticut at coordinates 41.605718, -72.701386. The support structure is a 110' self-support tower. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are AT&T Mobility (AT&T) T-Mobile (T-Mobile), & Verizon Wireless (VZW). A table listing all antennae and effective radiated power (ERP) levels that were used in this study may be found in Appendix 2, Antenna Inventory.

### POWER DENSITY CALCULATIONS

Power densities were calculated based on FCC MPE limits for both General Population/Uncontrolled and Occupational/Controlled environments.

For the purpose of this study, a radius of 200' from the base of the tower with a height of 6' above ground level was used, beyond 200' the MPE levels become *di minimus*. This study utilized FCC recognized and accepted software programs using the maximum ERP levels for the antenna models provided by ATC. Diagrams depicting the predicted spatial average power density level at any specific location may be found in Appendix 3, MPE Limit Study. A discussion regarding the FCC limits may be found in Appendix 4, Information Pertaining to MPE Studies. Study methodology describing Non-ionizing Radiation Prediction Models used in this study may be found in Appendix 5, MPE Standards Methodology.



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All data used in this study was collected from one or more of the following sources:

- ATC furnished data and does not include other unidentified communication facilities.
- Load List at 411261 Cromwellsw CT.RF NIER Study 9/29/23.
- FCC databases.
- Carrier standard configurations.
- Empirical data collected by TEP.

### SITE MITIGATION & CONTROL

In order to comply with FCC, tenant, & ATC requirements, TEP recommends the placement of signage at the base of the tower and all compound access points to alert workers of potential exposure to RF fields while working on or near the antennae.

TEP recommends that all personnel working on this tower be trained in RF safety procedures and carry a personal RF monitor at all times.

### COMPLIANCE DETERMINATION

This installation **IS** in compliance with current FCC MPE limits as described in FCC OET-65.

## APPENDIX 1 Site Photos



Aerial View of Site



## Appendix 2.1 Antenna Inventory

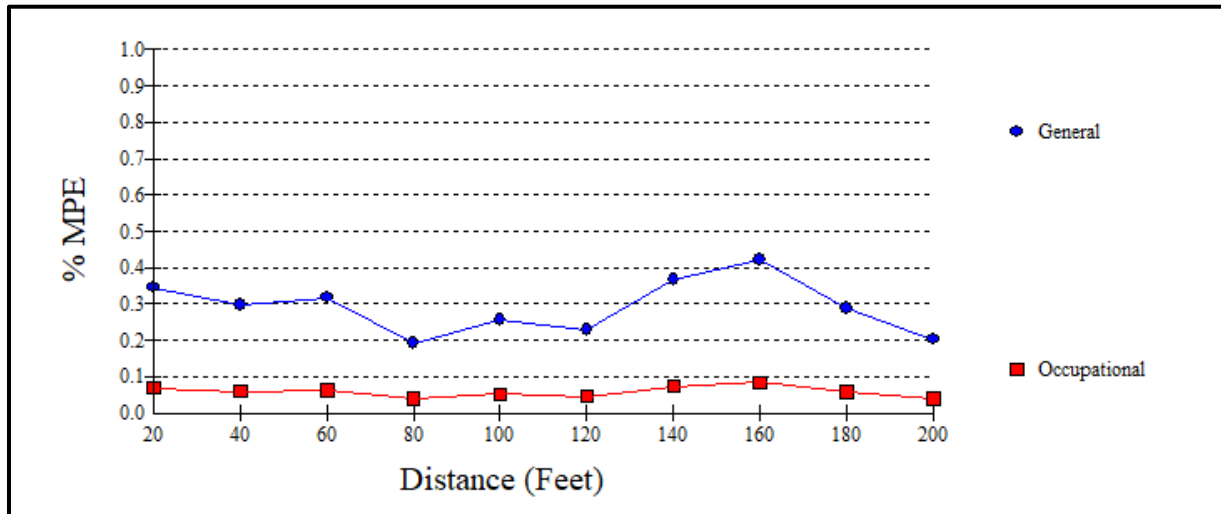
411216 Cromwellsw CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	T-Mobile	Ericsson	Air 6419	2500/2600	025	20253	108.0
2	T-Mobile	Ericsson	Air 6419	2500/2600	120	20253	108.0
3	T-Mobile	Ericsson	Air 6419	2500/2600	240	20253	108.0
4	T-Mobile	RFS	APXVAALL24	600	025	11065	108.0
5	T-Mobile	RFS	APXVAALL24	600	120	11065	108.0
6	T-Mobile	RFS	APXVAALL24	600	240	11065	108.0
7	T-Mobile	Commscope	VV-65A-R1B	1900/2100	030	25027	108.0
8	T-Mobile	Commscope	VV-65A-R1B	1900/2100	150	25027	108.0
9	T-Mobile	Commscope	VV-65A-R1B	1900/2100	270	25027	108.0
10	AT&T	Ericsson	Air 6419	3700/3800/3900	030	20253	100.0
11	AT&T	Ericsson	Air 6419	3700/3800/3900	140	20253	100.0
12	AT&T	Ericsson	Air 6419	3700/3800/3900	270	20253	100.0
13	AT&T	CCI	TPA65R-BU8D	700/2300	030	35334	98.0
14	AT&T	CCI	TPA65R-BU8D	700/2300	140	35334	98.0
15	AT&T	CCI	TPA65R-BU8D	700/2300	270	35334	98.0
16	AT&T	CCI	DMP65R-BU8D	700/800/1900	030	61549	98.0
17	AT&T	CCI	DMP65R-BU8D	700/800/1900	140	61549	98.0
18	AT&T	CCI	DMP65R-BU8D	700/800/1900	270	61549	98.0



## Appendix 2.2 Antenna Inventory

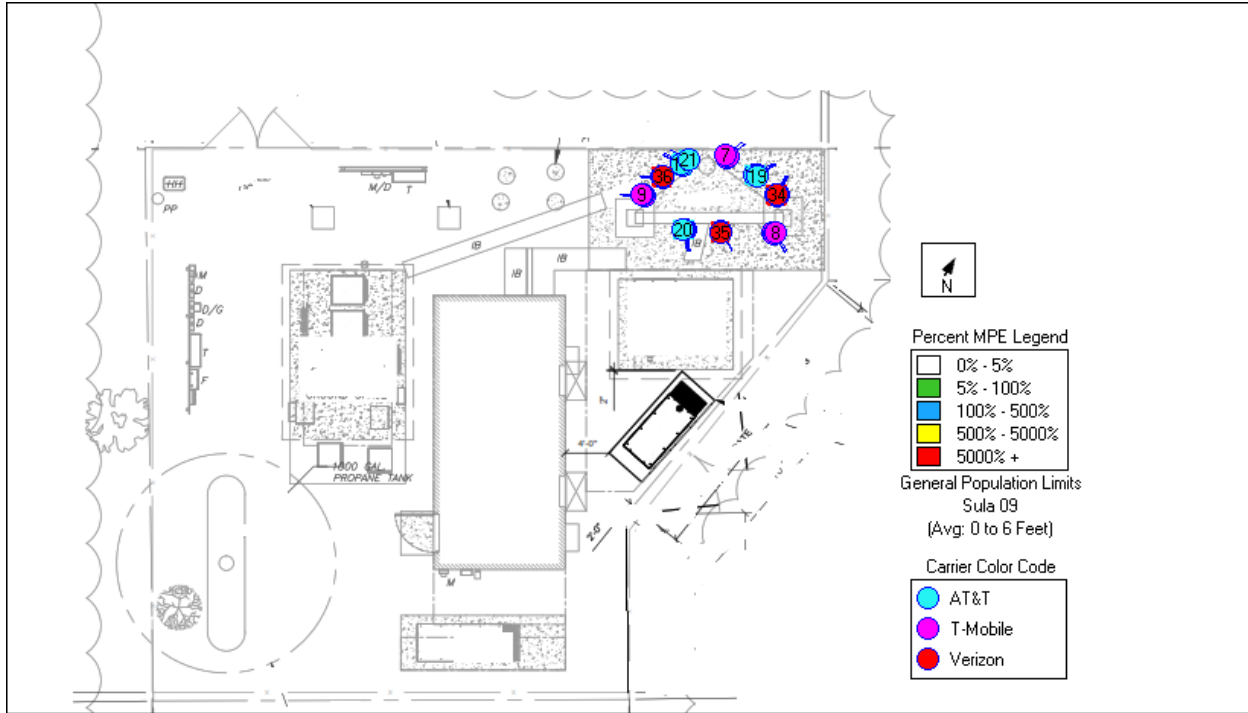
411261 Cromwellsw CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
19	AT&T	Ericsson	Air 6449	3700/3800/3900	030	20253	96.0
20	AT&T	Ericsson	Air 6449	3700/3800/3900	140	20253	96.0
21	AT&T	Ericsson	Air 6449	3700/3800/3900	270	20253	96.0
22	Verizon	Antel	LPA-80063/6CF	800	240	15311	84.0
23	Verizon	Antel	LPA-80063/6CF	800	240	15311	84.0
24	Verizon	Samsung	MT6407	3700/3800/3900	310	18286	84.0
25	Verizon	Samsung	MT6407	3700/3800/3900	110	18286	84.0
26	Verizon	Samsung	MT6407	3700/3800/3900	230	18286	84.0
27	Verizon	Decible	DB846F65ZAXY	800	000	15411	84.0
28	Verizon	Decible	DB846F65ZAXY	800	120	15411	84.0
29	Verizon	Decible	DB846F65ZAXY	800	000	15311	84.0
30	Verizon	Decible	DB846F65ZAXY	800	120	15411	84.0
31	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	310	59387	100.0
32	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	110	59387	100.0
33	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	230	59387	100.0
34	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	310	59387	100.0
35	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	110	59387	100.0
36	Verizon	JMA	MX06FRO660-02	700/800/1900/2100	230	59387	100.0

### Appendix 3.1 MPE Limit Study



Maximum Power Density (@160'):	0.0027 mW/cm <sup>2</sup>
General Population MPE (@160'):	0.4225%
Occupational MPE (@160'):	0.0734%

## Appendix 3.2 MPE Limit Study





## Appendix 4 Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.





MPE limits are defined in terms of power density (units of milliwatts per centimeter squared:  $\text{mW}/\text{cm}^2$ ), electric field strength (units of volts per meter:  $\text{V}/\text{m}$ ) and magnetic field strength (units of amperes per meter:  $\text{A}/\text{m}$ ). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

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

**General population/uncontrolled exposure** limits apply to situations in which the general public 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 public 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. Additional details can be found in FCC OET 65.



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## Appendix 5 MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure, and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

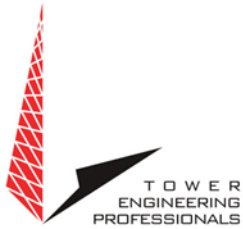


The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F <sup>2</sup>	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6

f = frequency

\* = Plane-wave equivalent power density



Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F <sup>2</sup>	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

f = frequency

\* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.



The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex, and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature, but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65.

### **Cylindrical Model (Near Field Predictions)**

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length



For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

$\theta_{BW}$  = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.



### **Spherical Model (Far Field Predictions)**

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered, and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

# EXHIBIT 6







# Town of Cromwell

NATHANIEL WHITE BUILDING  
41 WEST STREET  
CROMWELL, CONNECTICUT 06416

## C E R T I F I C A T E   O F   U S E   /   A P P R O V A L

DATE OF APPROVAL: September 21, 2006

This is to certify that the erection/installation of \_\_\_\_\_

Telecommunication Antennas

016336

authorized by Building Permit No. 015850, 015983, &  
et al

issued to Omnipoint Communications, Inc., and located on  
Shaner Hotel Group  
100 Berlin Road / \_\_\_\_\_,

Lot No.

is in accordance with the specifications of said permit and substantially conforms to the provisions of the Basic Building Code of the State of Connecticut and is hereby approved.

CONDITIONS OF APPROVAL: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

  
Building Official

# EXHIBIT 7





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**Delivery Time:** 12:03 PM

**Signed by:** INGRID

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<b>Tracking Number:</b>	<a href="#"><b>1Z9Y45030301644110</b></a>
<b>Ship To:</b>	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 018011053 US
<b>Number of Packages:</b>	1
<b>UPS Service:</b>	UPS Ground
<b>Package Weight:</b>	1.0 LBS
<b>Reference Number:</b>	14519438

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UPS <pkginfo@ups.com>

Mon 5/13/2024 11:52 AM

To: Barbara Kassabian <BKASSABIAN@CLINELLC.COM>



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**Delivery Date:** Monday, 05/13/2024

**Delivery Time:** 11:50 AM

**Signed by:** HODGE

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<b>Ship To:</b>	STUART B. POPPER DIR. OF PLANNING 41 WEST STREET TOWN HALL, 2ND FLOOR CROMWELL, CT 064162180 US
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<b>UPS Service:</b>	UPS Ground
<b>Package Weight:</b>	1.0 LBS
<b>Reference Number:</b>	14519438

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# UPS Delivery Notification, Tracking Number 1Z9Y45030301181085

UPS <pkginfo@ups.com>

Mon 5/13/2024 11:53 AM

To: Barbara Kassabian <BKASSABIAN@CLINELLC.COM>



**Hello, your package has been delivered.**

**Delivery Date:** Monday, 05/13/2024

**Delivery Time:** 11:51 AM

**Signed by:** ARMETA

## CENTERLINE SITE ACQUISITION

<b>Tracking Number:</b>	<a href="#">1Z9Y45030301181085</a>
<b>Ship To:</b>	JAMES DEMETRIADES MAYOR 41 WEST STREET TOWN HALL, 1ST FLOOR CROMWELL, CT 064162180 US
<b>Number of Packages:</b>	1
<b>UPS Service:</b>	UPS Ground
<b>Package Weight:</b>	1.0 LBS
<b>Reference Number:</b>	14519438

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**Hello, your package has been delivered.**

**Delivery Date:** Thursday, 05/16/2024

**Delivery Time:** 11:41 AM

**Signed by:** RUSTIN

## **CENTERLINE SITE ACQUISITION**

<b>Tracking Number:</b>	<a href="#"><b>1Z9Y45030317421107</b></a>
<b>Ship To:</b>	M360 BERLIN LAND HOLDINGS LLC 999 CORPORATE DRIVE LADERA RANCH, CA 926942146 US
<b>Number of Packages:</b>	1
<b>UPS Service:</b>	UPS Ground
<b>Package Weight:</b>	1.0 LBS
<b>Reference Number:</b>	14519438

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