

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

May 3, 2024

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

**RE: Notice of Exempt Modification // Site: WOODSTOCK VALLEY CT (ATC: 283425)
350 Route 198, Woodstock, CT 06282
N 41.93943611 // W -72.0820166**

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless currently maintains nine (9) antenna at the 93-ft level on the existing 114 ft Tower, located at 350 Route 198, Woodstock, CT. The tower is owned by American Tower. Verizon Wireless proposed modification involves the installation of a new mount modification, swap out (3) antennas and (6) RRH with new antennas and RRH 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 Woodstocks'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 24, 2024, by NB&C LLC, a structural analysis dated April 17, 2024, by American Tower Corp., and a structural mount analysis by Colliers Engineering and Design dated January 11, 2024, and Non-Ionizing Electromagnetic Radiation (NIER) Study dated April 30, 2024, 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

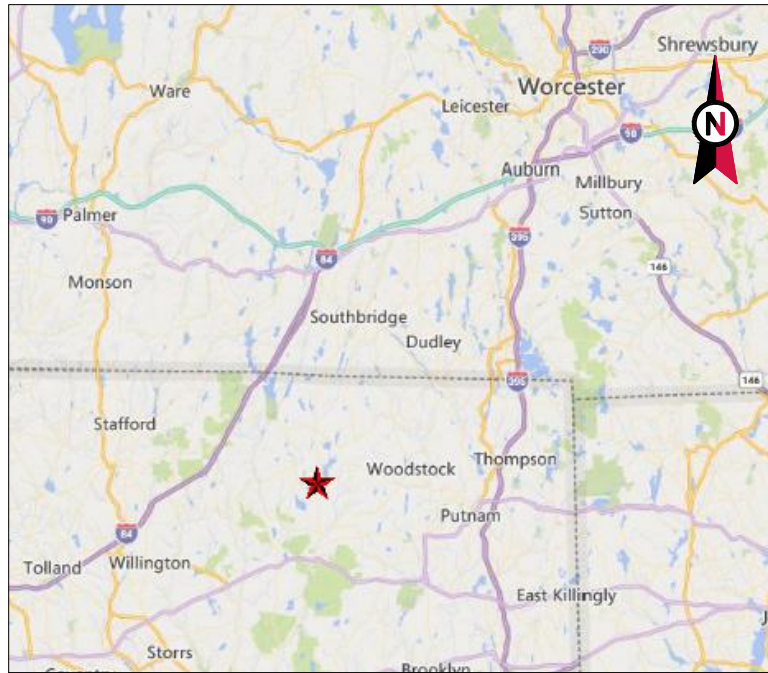
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Attachments: Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Available Original Tower Approval Records
Exhibit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

cc: Chandler L. Paquette – First Selectman – Chief Elected Official
Dan Malo – Zoning Enforcement Officer - as P&Z official
American Tower Corporation - as tower owner
Woodstock Tower Partner LLC – as ground owner

EXHIBIT 1





VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: WOODSTOCK 2 CT
 ATC SITE NUMBER: 283425
 VERIZON SITE NAME: WOODSTOCK VALLEY CT - A
 VERIZON SITE NUMBER: 5000246521
 VERIZON FUZE PID: 16272143
 SITE ADDRESS: 350 ROUTE 198
 WOODSTOCK VALLEY, CT 06282



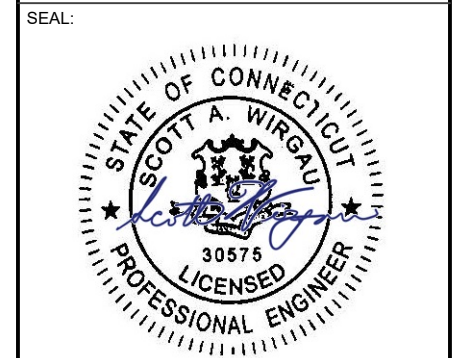
LOCATION MAP

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 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	EDNA	4/24/2024

ATC SITE NUMBER:
 283425
 ATC SITE NAME:
 WOODSTOCK 2 CT
 VERIZON SITE NAME:
 WOODSTOCK VALLEY CT - A
 SITE ADDRESS:
 350 ROUTE 198
 WOODSTOCK VALLEY, CT 06282



VERIZON AMENDMENT DRAWINGS

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
<p>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.</p> <p>1. 2020 NFPA 70, NATIONAL ELECTRIC CODE (NEC) 2. 2022 CONNECTICUT STATE BUILDING CODE 3. 2021 INTERNATIONAL BUILDING CODE (IBC)</p> <p>DESIGN CRITERIA FROM TOWER STRUCTURAL ANALYSIS: BASIC WIND SPEED: 119 MPH (3-SECOND GUST) BASIC WIND SPEED W/ ICE: 50 MPH (3-SECOND GUST) W/ 1.50" RADIAL ICE CONCURRENT ANSII/TIA-222-H / 2021 IBC / 2022 CONNECTICUT STATE BUILDING CODE</p> <p>CODE(S): EXPOSURE CATEGORY: B RISK CATEGORY: II TOPO FACTOR PROCEDURE: METHOD 1 TOPOGRAPHIC CATEGORY: 1 SPECTRAL RESPONSE: S_s=0.18, S_z=0.06 SITE CLASS: D - STIFF SOIL - DEFAULT</p> <p>INFORMATION TAKEN FROM STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 04/17/24.</p>	<p><u>SITE ADDRESS:</u> 350 ROUTE 198 WOODSTOCK VALLEY, CT 06282 COUNTY: WINDHAM</p> <p><u>REGISTERED COORDINATES:</u> LATITUDE: 41.93943611 41° 56' 21.97" N LONGITUDE: -72.0820166 72° 4' 55.26" W GROUND ELEVATION: 800' AMSL</p>	<p>THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:</p> <p>REMOVE (3) ANTENNA(S) AND (6) RRH(S)</p> <p>INSTALL MOUNT MODIFICATIONS, (3) ANTENNA(S), (6) RRH(S) AND (3) SIDE BY SIDE MOUNT(S)</p> <p>EXISTING (6) ANTENNA(S), (2) OVP(S) AND (2) 1.58" 6X12 HYBRIFLEX CABLE(S) TO REMAIN</p>	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<p>PROJECT TEAM</p> <p><u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801</p> <p><u>APPLICANT:</u> VERIZON WIRELESS</p> <p><u>ENGINEER:</u> A.T. ENGINEERING SERVICES LLC 1 FENTON MAIN, STE 300 CARY, NC 27511</p> <p><u>PROPERTY OWNER:</u> WOODSTOCK TOWER PARTNERS 350 ROUTE 198 WOODSTOCK VALLEY, CT 06282</p>	<p>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).</p>	G-001	TITLE SHEET	0	4/24/2024	EDNA
			<p>CONTRACTOR PMI REQUIREMENTS</p> <p>PMI ACCESSED AT: HTTPS://PMI.VZWSMART.COM</p> <p>SMART TOOL VENDOR PROJECT NUMBER: 10217471</p> <p>VZW LOCATION CODE (PSLC): 5000246521</p> <p>***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT</p> <p>MOUNT MODIFICATION REQUIRED: YES</p> <p>VZW APPROVED SMART KIT VENDORS: REFER TO MOUNT MODIFICATION DRAWINGS PAGES FOR VZW SMART KIT APPROVED VENDORS</p>				
<p>UTILITY COMPANIES</p> <p>POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326</p> <p>TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843</p>		<p>PROJECT NOTES</p>	<p>PROJECT LOCATION DIRECTIONS</p> <p>FROM HARTFORD TAKE I-84 EAST TO EXIT 73 CT-190 TOWARD UNION. TURN RIGHT ON CT-190 BUCKLEY HWY. TURN RIGHT ONTO BIGELOW HOLLOW ROAD CT-171 / CT-197. TURN LEFT ON CT-198. SITE IS ON THE RIGHT WITH A ROAD GATE</p>				

verizon

ATC JOB NO: 14854914_GO
 CUSTOMER ID: WOODSTOCK VALLEY CT - A
 CUSTOMER #: 5000246521

TITLE SHEET

SHEET NUMBER: **G-001**
 REVISION: **0**



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 ANSI/EIA/TIA-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 PPM 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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 CARY, NC 27511
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 PEC.0001553

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 WOODSTOCK 2 CT
 VERIZON SITE NAME:
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 350 ROUTE 198
 WOODSTOCK VALLEY, CT 06282



Digitally Signed: 2024-04-24



ATC JOB NO:	14854914_G0
CUSTOMER ID:	WOODSTOCK VALLEY CT - A
CUSTOMER #:	5000246521

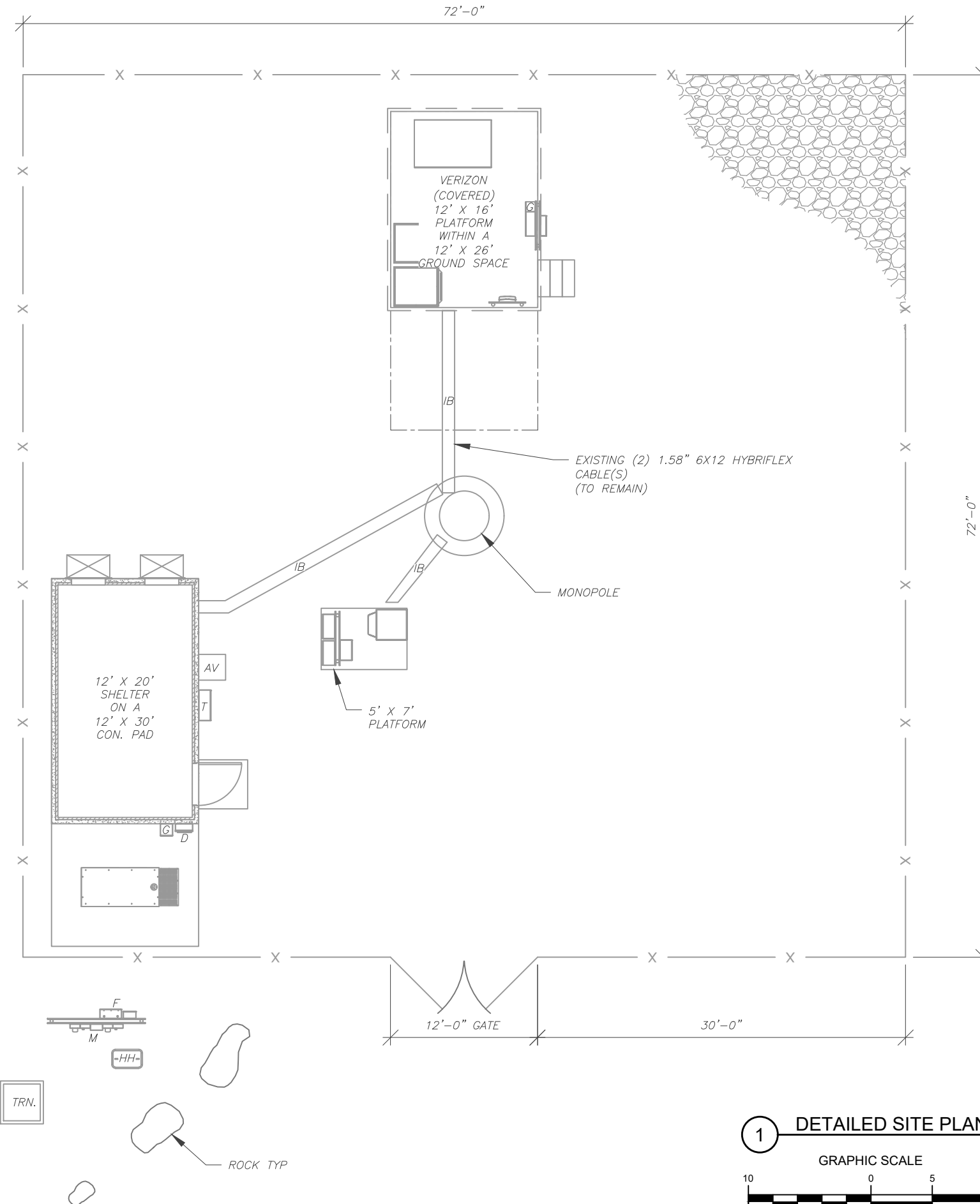
GENERAL NOTES

SHEET NUMBER: G-002	REVISION: 0
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SITE PLAN NOTES:

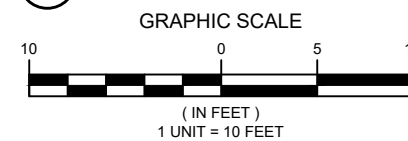
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE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



LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR 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
— X —	CHAINLINK FENCE

1 DETAILED SITE PLAN



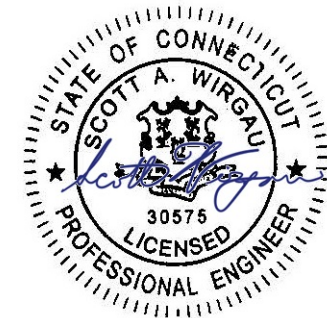

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WOODSTOCK 2 CT
 VERIZON SITE NAME:
WOODSTOCK VALLEY CT - A
 SITE ADDRESS:
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 WOODSTOCK VALLEY, CT 06282

SEAL:



Digitally Signed: 2024-04-24



ATC JOB NO:	14854914_G0
CUSTOMER ID:	WOODSTOCK VALLEY CT - A
CUSTOMER #:	5000246521

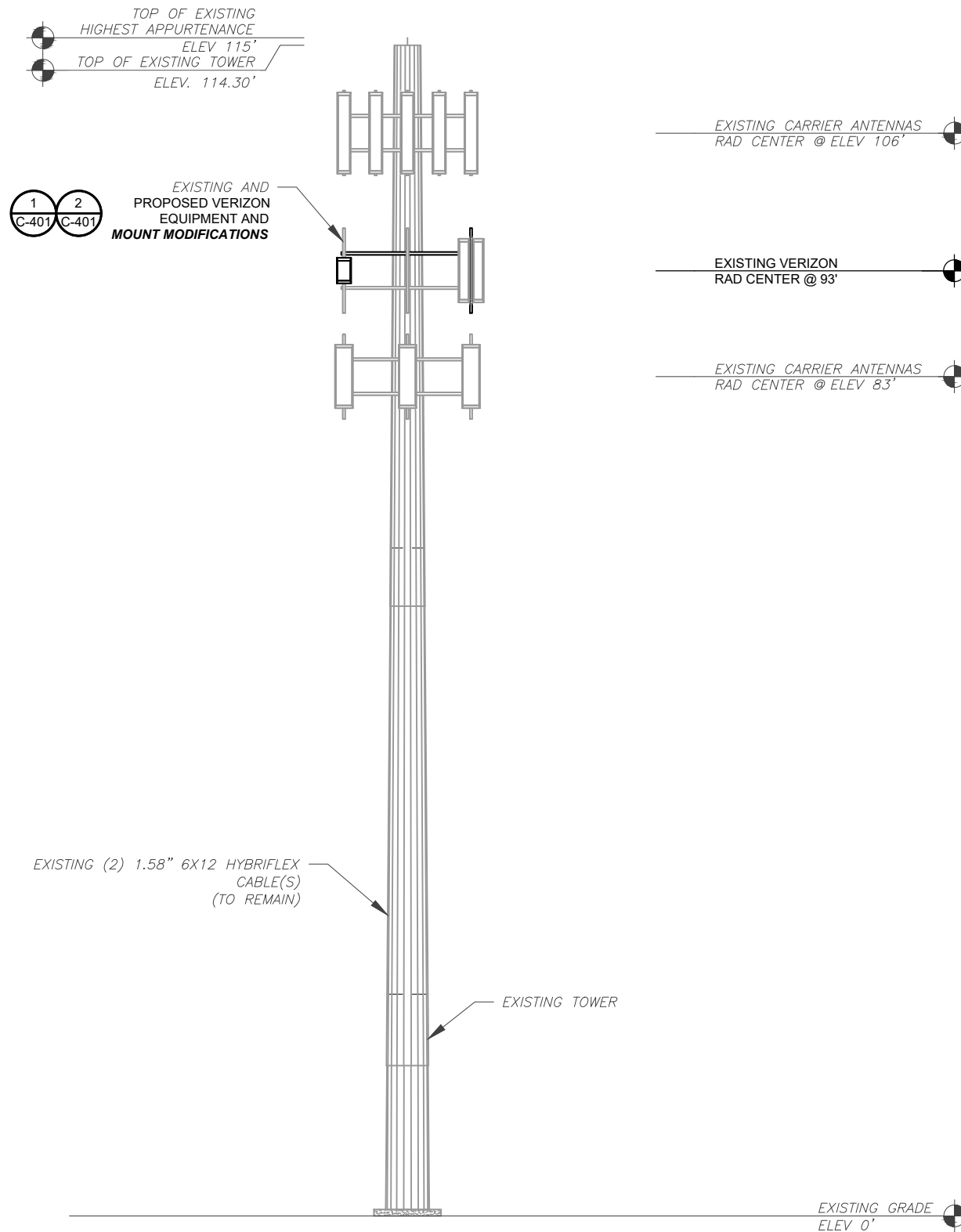
DETAILED SITE PLAN

SHEET NUMBER: C-101	REVISION: 0
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FAA REGISTERED HEIGHT: 119' AGL

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN, DATED 01/12/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

1 TOWER ELEVATION
SCALE: N.T.S.



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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	4/24/2024

ATC SITE NUMBER:
 283425
 ATC SITE NAME:
WOODSTOCK 2 CT
 VERIZON SITE NAME:
WOODSTOCK VALLEY CT - A
 SITE ADDRESS:
 350 ROUTE 198
 WOODSTOCK VALLEY, CT 06282

SEAL:



Digitally Signed: 2024-04-24



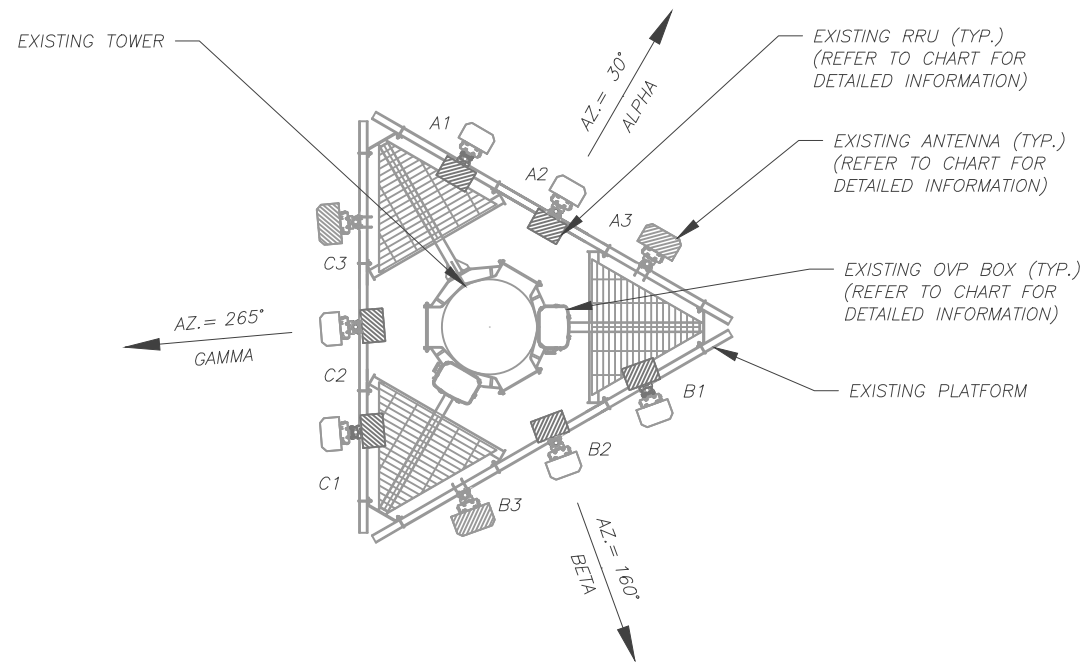
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 CUSTOMER ID: WOODSTOCK VALLEY CT - A
 CUSTOMER #: 5000246521

TOWER ELEVATION

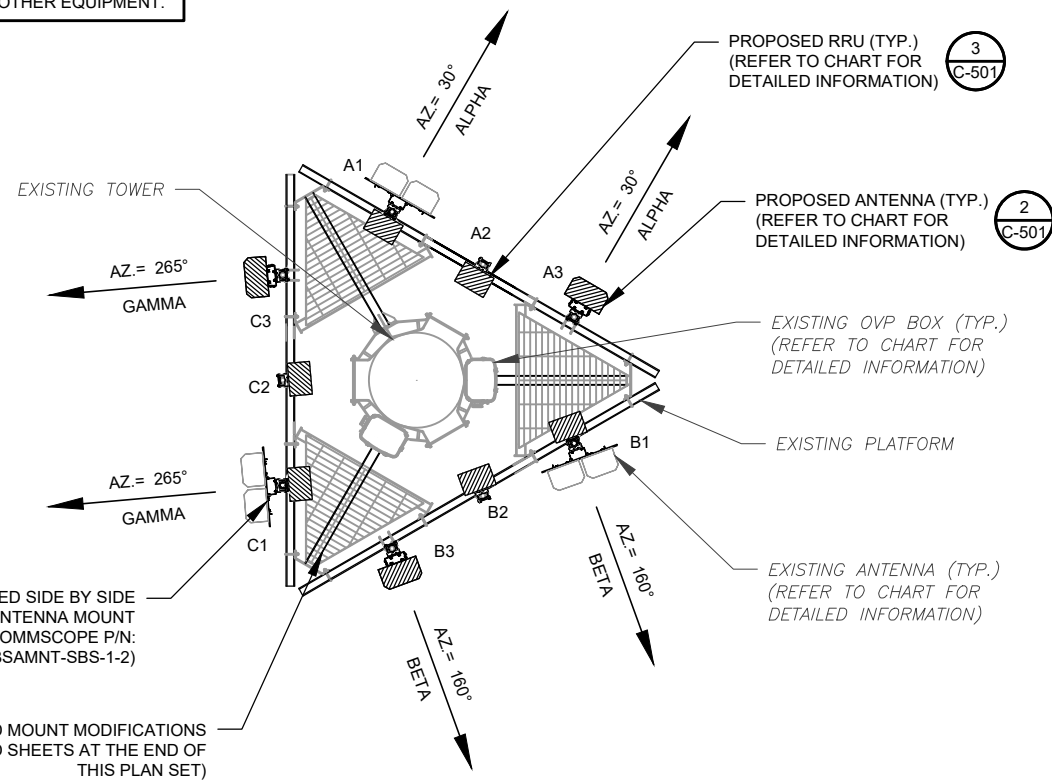
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C-201
 REVISION:
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PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN, DATED 01/12/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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



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

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	
ALPHA	93'	30°	A1	SBNHH-1D65B	700/850/1900/AWS	REL	UHBA B13 RRH 4x30	RMV	
			A2	SBNHH-1D65B	LTE & 850 5G	REL	UHIC B4 RRH 2x60-4R	RMV	
			A3	QUAD654C0000G	-	RMV	-	-	
BETA	93'	160°	B1	SBNHH-1D65B	700/850/1900/AWS	REL	UHBA B13 RRH 4x30	RMV	
			B2	SBNHH-1D65B	LTE & 850 5G	REL	UHIC B4 RRH 2x60-4R	RMV	
			B3	QUAD654C0000G	-	RMV	-	-	
GAMMA	93'	265°	C1	SBNHH-1D65B	700/850/1900/AWS	REL	UHBA B13 RRH 4x30	RMV	
			C2	SBNHH-1D65B	LTE & 850 5G	REL	UHIC B4 RRH 2x60-4R	RMV	
			C3	QUAD654C0000G	-	RMV	-	-	

NOTES

- GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
- GC TO CAP ALL UNUSED PORTS.
- GC TO 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

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	
ALPHA	93'	30°	A1	(2) SBNHH-1D65B	700/850/1900/AWS	REL	RF4461D-13A	ADD	
			A2	-	LTE & 850 5G	-	RF 4439D-25A	ADD	
			A3	MT6413-77A	L-SUB 6 5G	ADD	-	-	
BETA	93'	160°	B1	(2) SBNHH-1D65B	700/850/1900/AWS	REL	RF4461D-13A	ADD	
			B2	-	LTE & 850 5G	-	RF 4439D-25A	ADD	
			B3	MT6413-77A	L-SUB 6 5G	ADD	-	-	
GAMMA	93'	265°	C1	(2) SBNHH-1D65B	700/850/1900/AWS	REL	RF4461D-13A	ADD	
			C2	-	LTE & 850 5G	-	RF 4439D-25A	ADD	
			C3	MT6413-77A	L-SUB 6 5G	ADD	-	-	

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
 RRU TO ANTENNA: 10'

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
(2) DB-T1-6Z-8AB-OZ	RMN	(2) 1.58" 6X12 HYBRIFLEX CABLE(S)	RMN
-	RMV	----	RMV

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
(2) DB-T1-6Z-8AB-OZ	RMN	(2) 1.58" 6X12 HYBRIFLEX CABLE(S)	RMN
-	ADD	----	ADD

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	4/24/2024

ATC SITE NUMBER:
283425
 ATC SITE NAME:
WOODSTOCK 2 CT
 VERIZON SITE NAME:
WOODSTOCK VALLEY CT - A
 SITE ADDRESS:
350 ROUTE 198
WOODSTOCK VALLEY, CT 06282



Digitally Signed: 2024-04-24

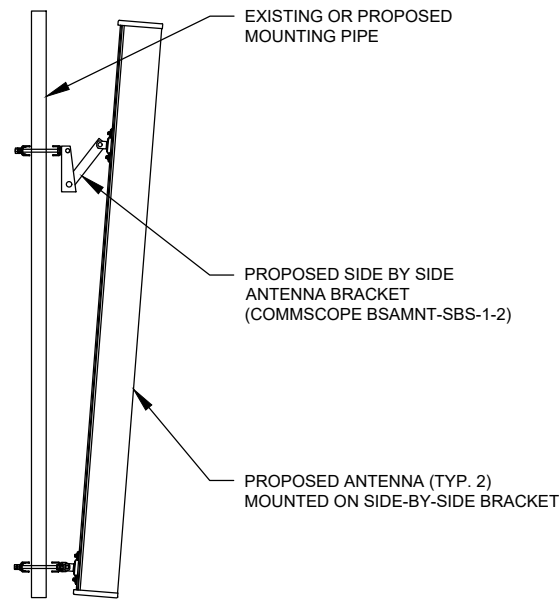


ATC JOB NO: 14854914_G0
 CUSTOMER ID: WOODSTOCK VALLEY CT - A
 CUSTOMER #: 5000246521

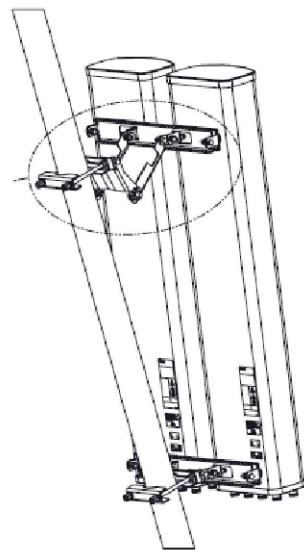
ANTENNA INFORMATION & SCHEDULE	
SHEET NUMBER:	REVISION:
C-401	0

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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.

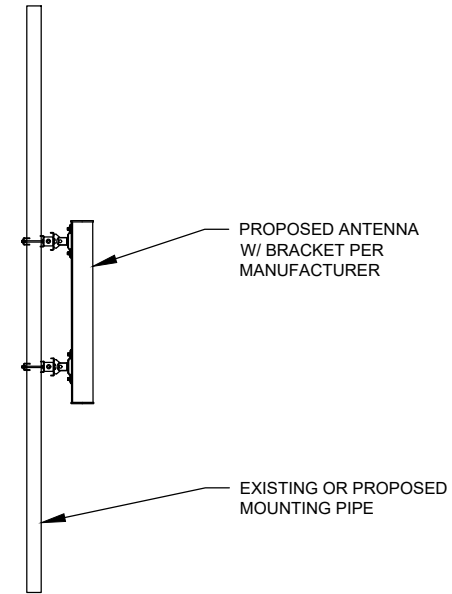


PROFILE VIEW

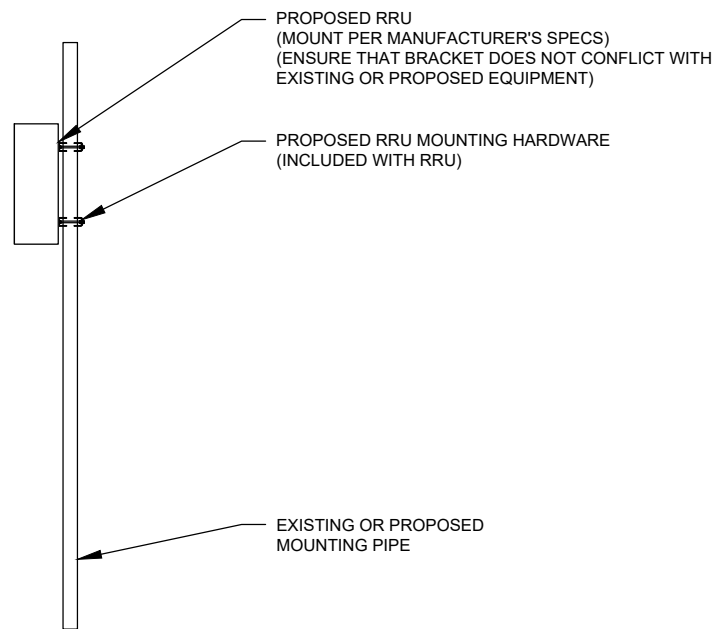


ISOMETRIC VIEW (BY MANUFACTURER)

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



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



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



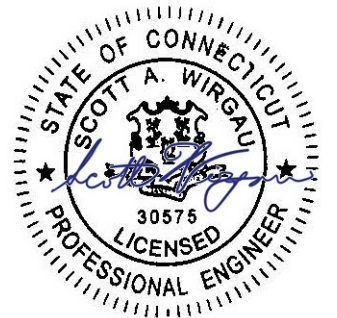
AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

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0	FOR CONSTRUCTION	EDNA	4/24/2024

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 283425
 ATC SITE NAME:
 WOODSTOCK 2 CT
 VERIZON SITE NAME:
 WOODSTOCK VALLEY CT - A
 SITE ADDRESS:
 350 ROUTE 198
 WOODSTOCK VALLEY, CT 06282

SEAL:



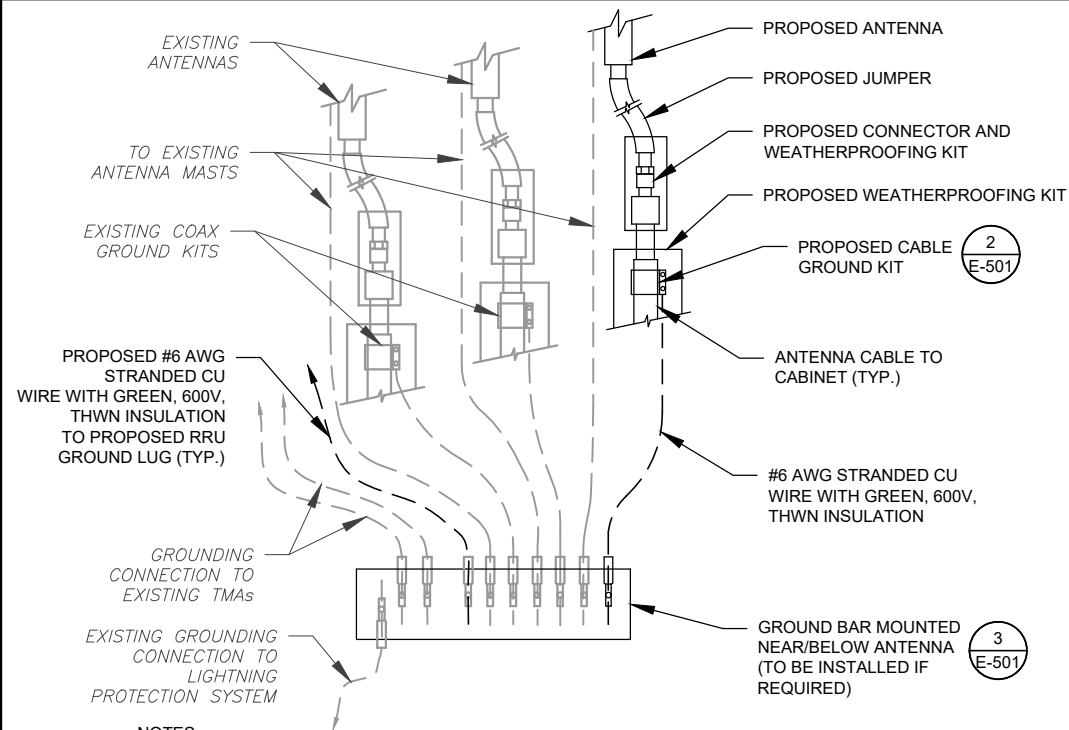
Digitally Signed: 2024-04-24



ATC JOB NO: 14854914_G0
 CUSTOMER ID: WOODSTOCK VALLEY CT - A
 CUSTOMER #: 5000246521

**CONSTRUCTION
 DETAILS**

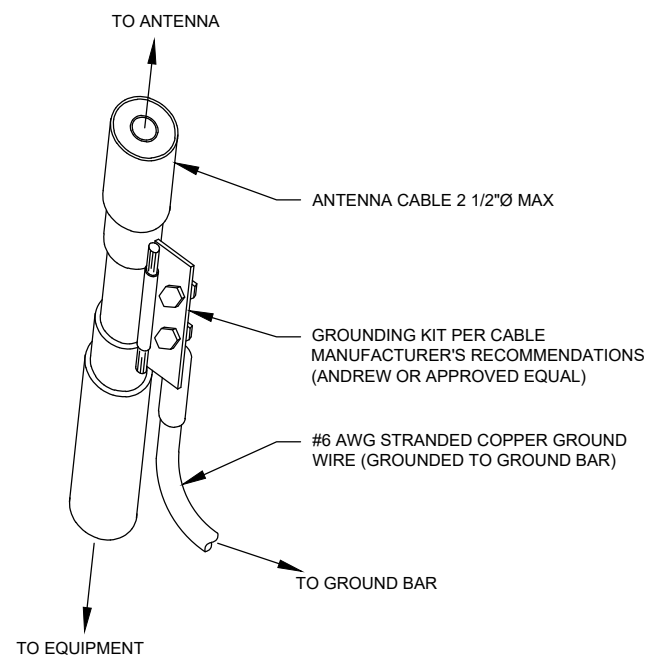
SHEET NUMBER: **C-501** REVISION: **0**



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.

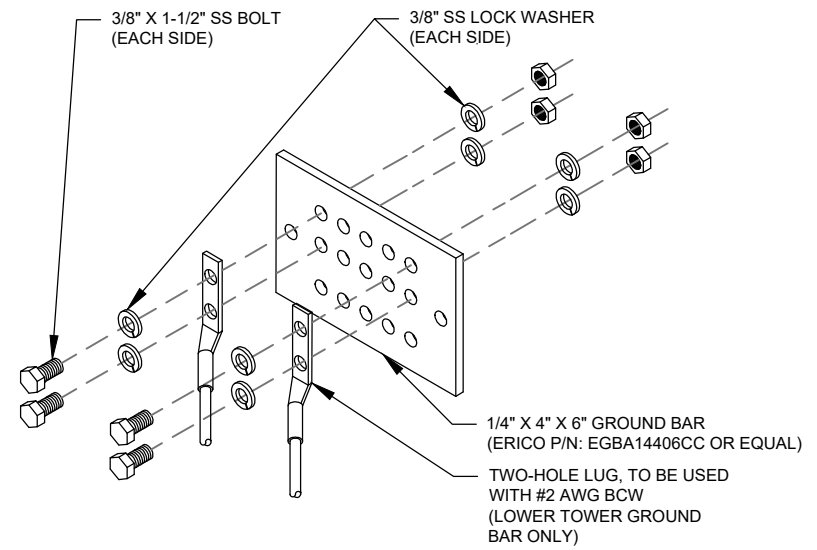
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



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 LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	4/24/2024

ATC SITE NUMBER:
283425

ATC SITE NAME:
WOODSTOCK 2 CT

VERIZON SITE NAME:
WOODSTOCK VALLEY CT - A

SITE ADDRESS:
350 ROUTE 198
WOODSTOCK VALLEY, CT 06282

SEAL:

Digitally Signed: 2024-04-24

ATC JOB NO: 14854914_G0
 CUSTOMER ID: WOODSTOCK VALLEY CT - A
 CUSTOMER #: 5000246521

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
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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 Post-Modification Analysis Report
 (1) 12.50-Ft Platform

January 11, 2024
 Site ID: 5000246521-VZW / WOODSTOCK VALLEY CT - A
 Page | 6

Requirements:

The existing mount will be **SUFFICIENT** for the final loading configuration (attachment 2) **after the modifications detailed in attachment 3 are successfully completed.**

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

Attachments:

1. Contractor Required PMI Report Deliverables
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10217471
 Colliers Engineering & Design Project #: 21777447 (Rev. 1)

January 11, 2024

Site Information

Site ID: 5000246521-VZW / WOODSTOCK VALLEY CT - A
 Site Name: WOODSTOCK VALLEY CT - A
 Carrier Name: Verizon Wireless
 Address: ATC Tower 350 Rte 198
 Woodstock, Connecticut 06282
 Windham County
 Latitude: 41.93944°
 Longitude: -72.08203°

Structure Information

Tower Type: Monopole
 Mount Type: 12.50-Ft Platform

FUZE ID # 16272143

Analysis Results

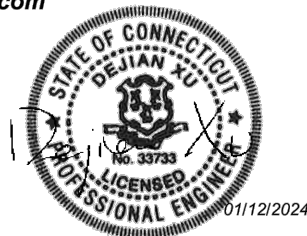
Platform: 25.4% **Pass w/ Modifications***

***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**

Report Prepared By: Prasanna Dhakal



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SUPPLEMENTAL

SHEET NUMBER: R-601	REVISION: 0
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MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' PLATFORM

TOWER OWNER: AMERICAN TOWER CORPORATION
TOWER OWNER SITE NUMBER: 283425

CARRIER SITE NAME: WOODSTOCK VALLEY CT - A
CARRIER SITE NUMBER: 5000246521
FUZE ID: 16272143

ATC TOWER 350 RTE 198
WOODSTOCK, CT 06282
WINDHAM COUNTY

LATITUDE: 41.94944° N
LONGITUDE: 72.08203° W

DESIGN CRITERIA table with columns: WIND LOADS, SEISMIC LOADS, and other design parameters.

PROJECT INFORMATION table with columns: APPLICANT/LESSEE, CLIENT REPRESENTATIVE, PROJECT MANAGER, and CONTRACTOR P&I REQUIREMENTS.

SHEET INDEX table with columns: SHEET, DESCRIPTION, and other sheet details.

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Colliers Engineering & Design logo and contact information, including address and phone number.

BILL OF MATERIALS table with columns: QUANTITY, MANUFACTURER, PART NUMBER, DESCRIPTION, NOTES, UNIT WEIGHT (LBS.), and WEIGHT (LBS.).

NOTES:
1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS...
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS table with columns: VENDOR, CONTACT, PHONE, EMAIL, and WEBSITE.

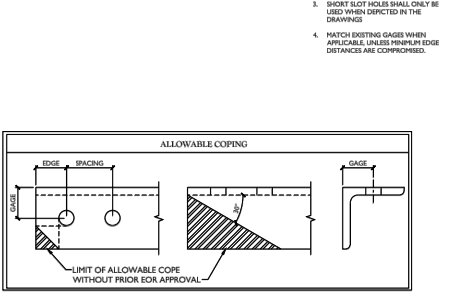
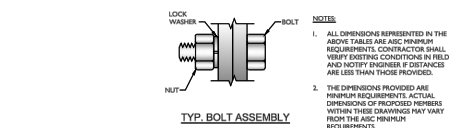
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GENERAL NOTES:
1. THESE MODIFICATIONS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD...
2. THE CONTRACTOR SHALL SURVEY AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNICAL, SEQUENCES, AND PROCEDURES.

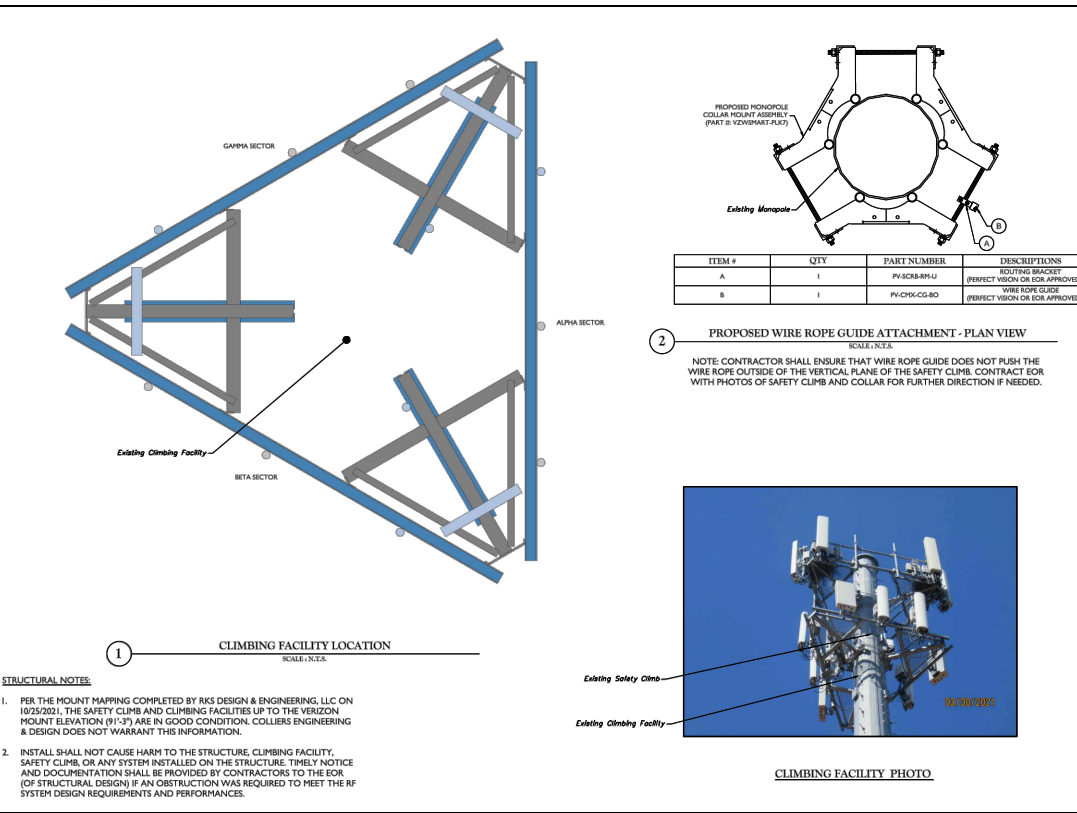
STRUCTURAL STEEL:
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED BY THE CONTRACT DOCUMENTS...
2. CHANNEL ANGLES, PLATES, ETC. CONFORM TO AISC 360-16 STEEL PIPING CONFORM TO AISC 360-16 BOLTS CONFORM TO AISC 308-16 NUTS CONFORM TO AISC 308-16 LOCK WASHERS CONFORM TO AISC 308-16

BOLT SCHEDULE (IN) table with columns: BOLT DIAMETER, STANDARD HOLE, SHORT SLOT, MIN. EDGE DISTANCE, and SPACING.

WORKABLE GAGES (IN) table with columns: LEG and GAGE.



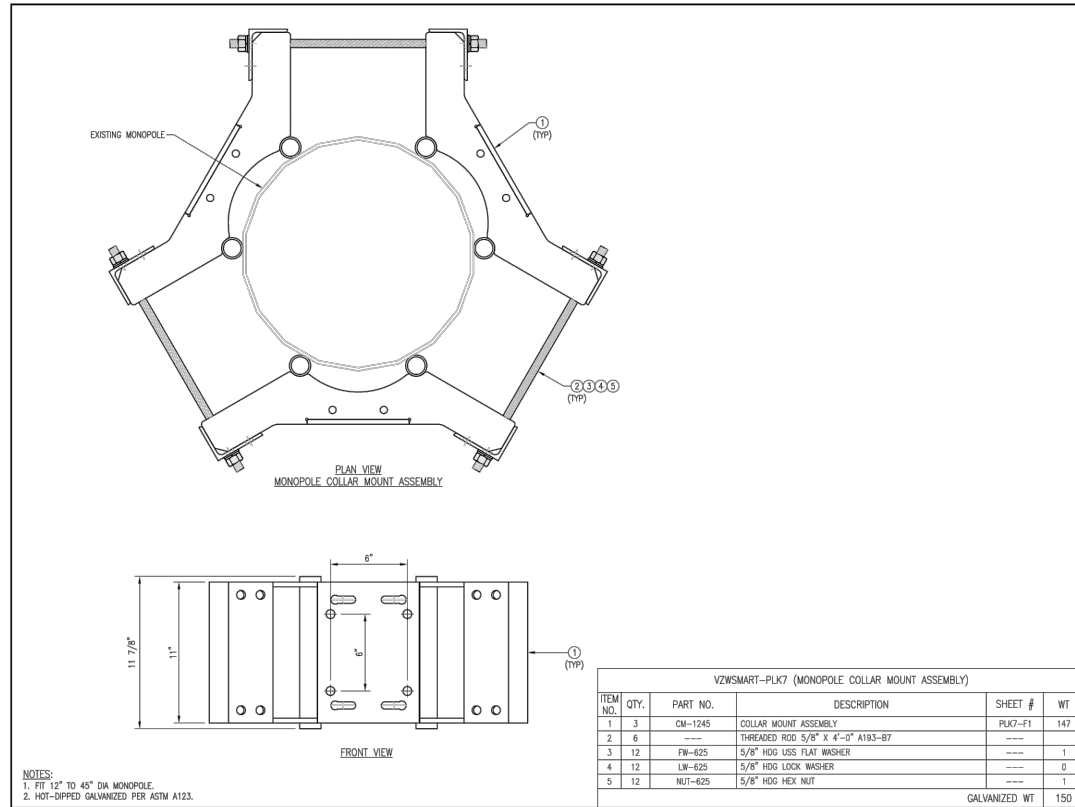
Colliers Engineering & Design logo and contact information, including address and phone number.



STRUCTURAL NOTES:
1. PER THE MOUNT MAPPING COMPLETED BY RKS DESIGN & ENGINEERING, LLC ON 10/25/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (N+37) ARE IN GOOD CONDITION...
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE...

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VzW
SMART Tool®
Vendor

verizon

FOR REFERENCE ONLY

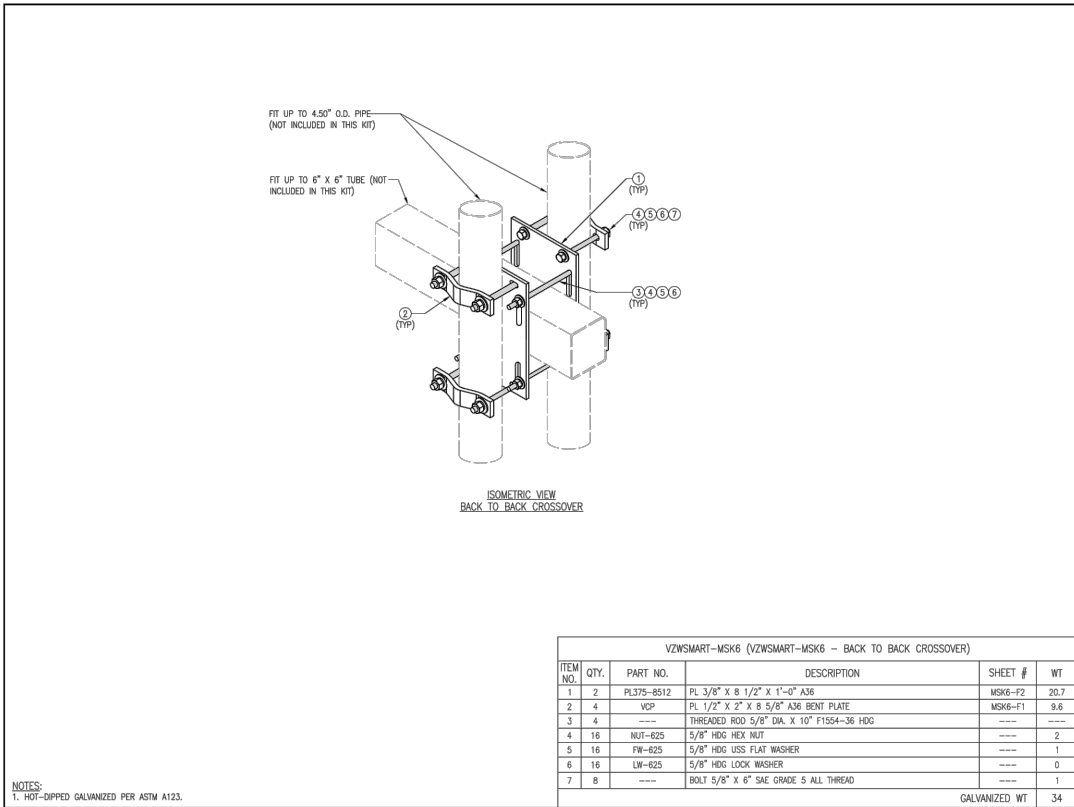
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REV. DESCRIPTION BY DATE
1. FIRST ISSUE BT 05/11/20

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VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: REV #:
VZWSMART-PLK7 0

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4"-0" A193-B7	---	---
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	0
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	0

GALVANIZED WT 150



VzW
SMART Tool®
Vendor

verizon

FOR REFERENCE ONLY

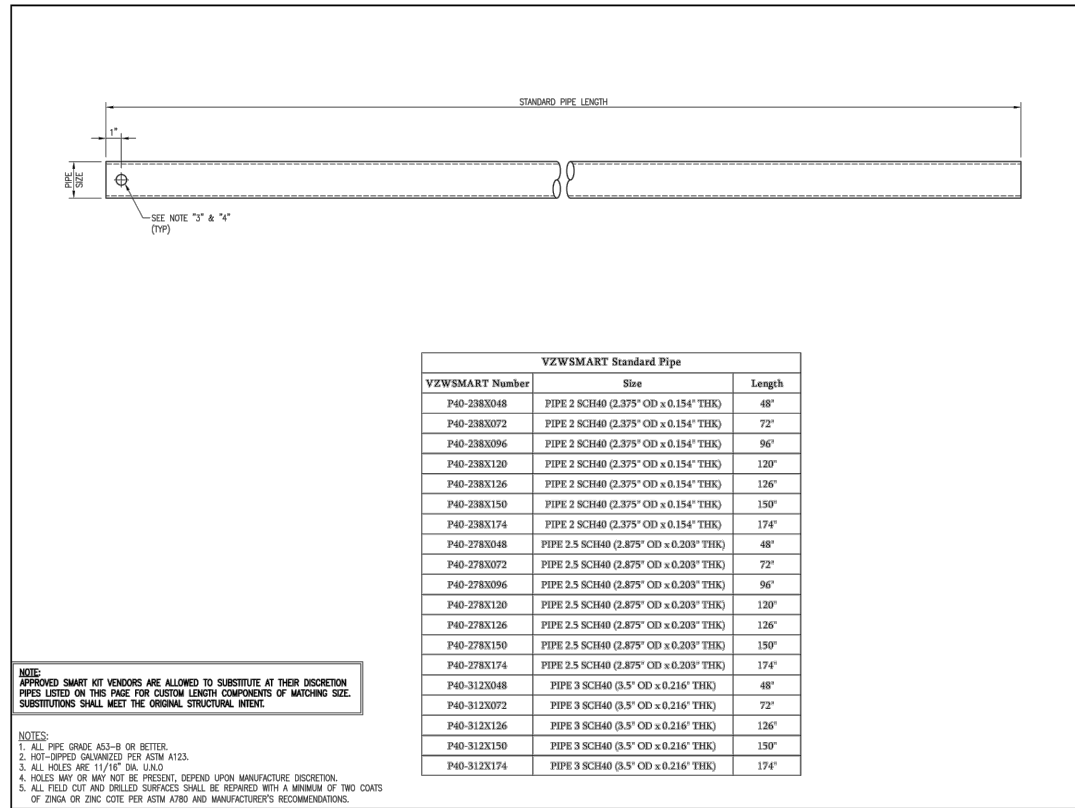
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REV. DESCRIPTION BY DATE
1. FIRST ISSUE SK 05/09/20

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VZWSMART-MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER: REV #:
VZWSMART-MSK6 0

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1"-0" A36	MSK6-F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
4	16	NUT-625	5/8" HDG HEX NUT	---	2
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAC GRADE 5 ALL THREAD	---	1

GALVANIZED WT 34



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Vendor

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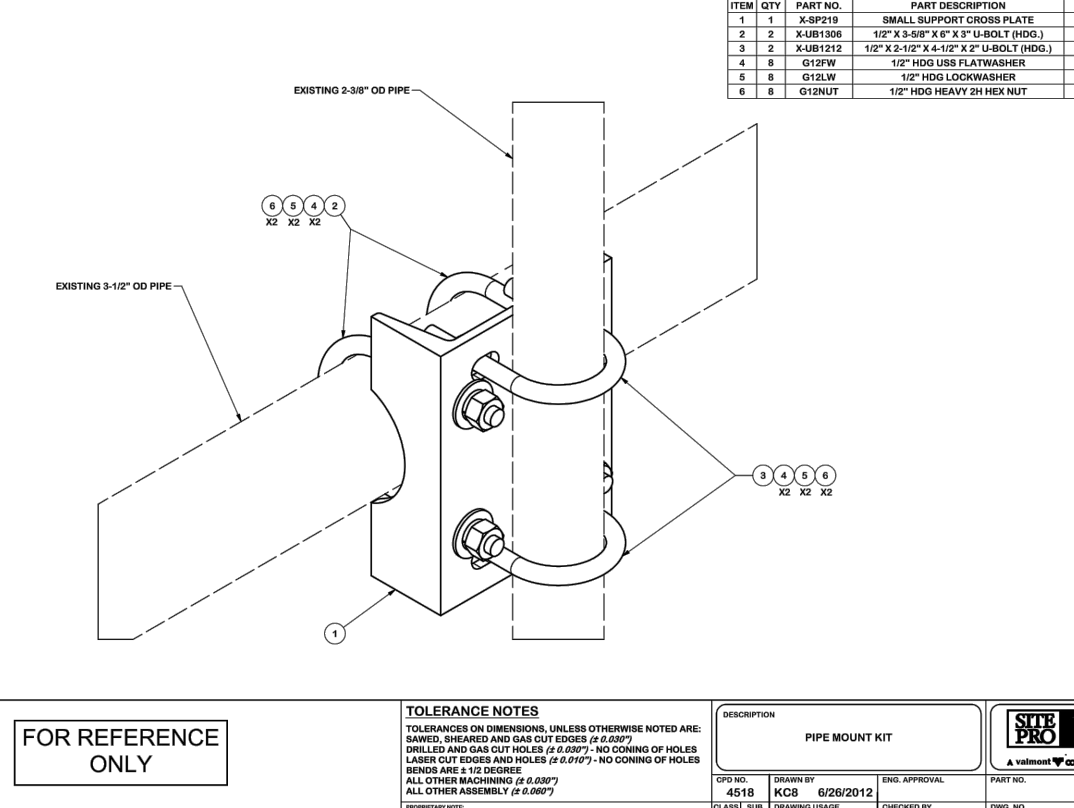
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REV. DESCRIPTION BY DATE
1. FIRST ISSUE BT 05/04/21

SHEET TITLE:
VZWSMART
STANDARD PIPE

SHEET NUMBER: REV #:
VZWSMART-PIPE 0

VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. UNLESS NOTED OTHERWISE.
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURER'S DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINCA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.



FOR REFERENCE ONLY

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.81	8.81
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	1.66
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.47

TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
BANGED, SHEARED AND GAS CUT EDGES (± 0.007)
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.000")

PROPRIETARY NOTE:
THE DATA AND DIMENSIONS CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMET AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF VALMET.

DESCRIPTION	PIPE MOUNT KIT
CPO NO.	4518
DRAWN BY	KCB 6/26/2012
ENG. APPROVAL	CEK 1/23/2013
PART NO.	SP219
DWG. NO.	SP219

1 - JO 1000

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-604

REVISION:
0

EXHIBIT 2



RT 198

Location RT 198

Mblu 5789/ 37/ 24/ /

Acct# F0132200

Owner WOODSTOCK TOWER PARTNERS LLC

Assessment \$111,130

Appraisal \$330,000

PID 1418

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$4,100	\$325,900	\$330,000

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$2,900	\$108,230	\$111,130

Owner of Record

Owner WOODSTOCK TOWER PARTNERS LLC
Co-Owner C/O KEVIN REAGAN
Address 1886 SYKES CREEK DR
MERRITT ISLAND , FL 32953

Sale Price \$0
Certificate
Book & Page 536/ 329
Sale Date 05/11/2011
Instrument

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
WOODSTOCK TOWER PARTNERS LLC	\$0		536/ 329		05/11/2011
HARNEY THOMAS F + REAGAN KEVIN J +	\$250,000	1	416/ 048	28	10/22/2004
NEUMANN EDWARD A JR + CAROLYN S	\$110,000		257/ 424		07/27/1995

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0

Building Percent Good:

Replacement Cost

Less Depreciation: \$0

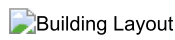
Building Attributes	
Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Living Units	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Whirlpool Tubs	
Bsmt. Garages	

Building Photo



(<https://images.vgsi.com/photos/WoodstockCTPhotos/\00\00\48\64.jpg>)

Building Layout



(https://images.vgsi.com/photos/WoodstockCTPhotos//Sketches/1418_141)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 63
 Description Op. Space
 Zone

Land Line Valuation

Size (Acres) 128
 Frontage
 Depth

Neighborhood
Alt Land Appr No
Category

Assessed Value \$108,230
Appraised Value \$325,900

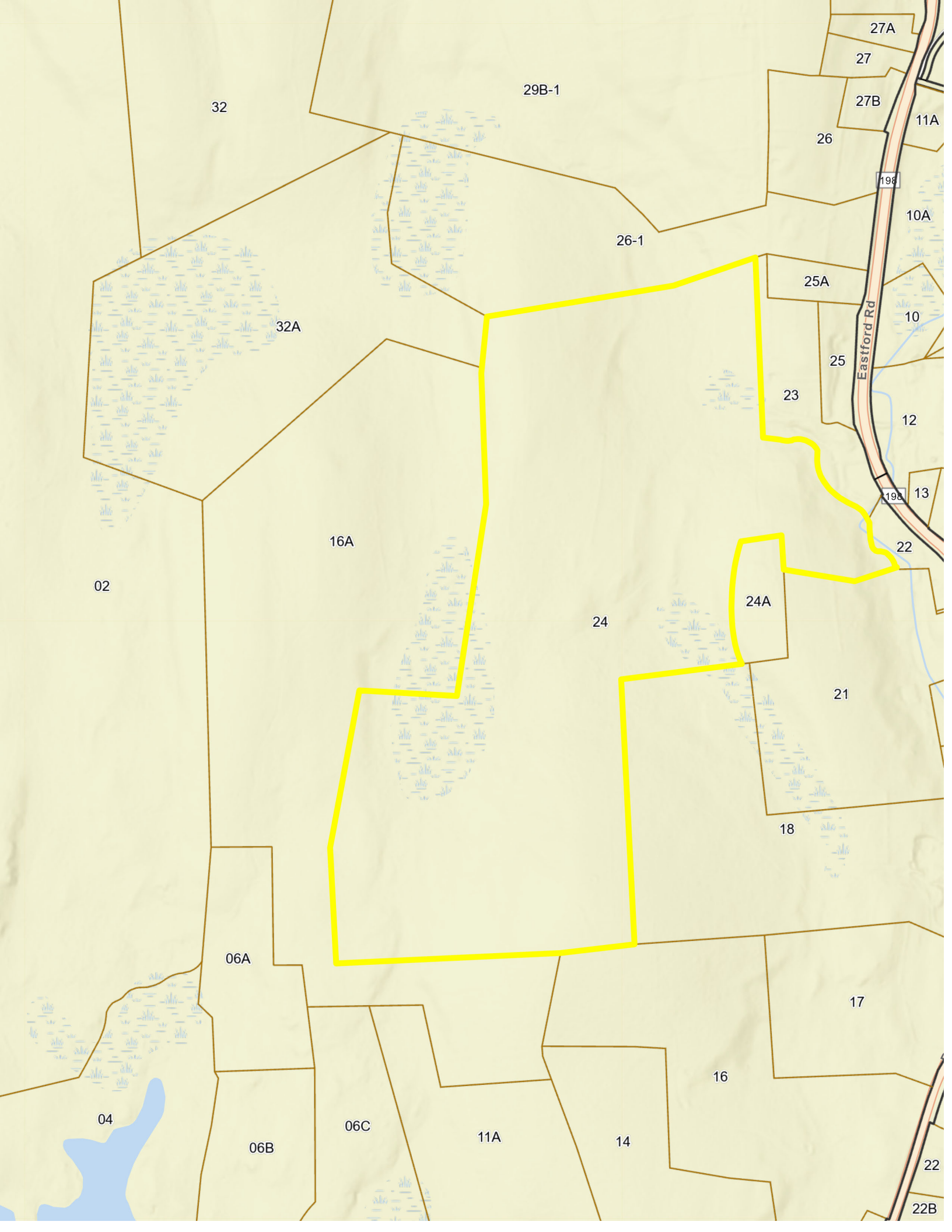
Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN3	Fence 6'			320 L.F.	\$4,100	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2023	\$4,100	\$325,900	\$330,000
2022	\$4,100	\$325,900	\$330,000
2020	\$4,100	\$479,400	\$483,500

Assessment			
Valuation Year	Improvements	Land	Total
2023	\$2,900	\$108,230	\$111,130
2022	\$2,900	\$108,230	\$111,130
2020	\$2,900	\$159,790	\$162,690



27A

27

27B

11A

26

198

10A

26-1

25A

10

25

23

12

13

22

198

16A

24A

24

21

18

17

16

04

06A

06B

06C

11A

14

22

22B

Eastford Rd

EXHIBIT 3





AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 110 ft Monopole
ATC Asset Name : WOODSTOCK 2 CT
ATC Asset Number : 283425
Engineering Number : 14854914_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : WOODSTOCK VALLEY CT - A
Carrier Site Number : 5000246521
Site Location : 350 Route 198
WOODSTOCK VALLEY, CT 06282-2425
41.9394° N, 72.082° W
County : Windham
Date : April 17, 2024
Max Usage : 92%
Analysis Result : Pass

Created By:

Daniel K. Sheek
Structural Engineer I



COA: PEC.0001553



Table of Contents

Introduction3

Supporting Documents.....3

Analysis3

Conclusion3

Structure Usages4

Maximum Reactions4

Tower Loading5

Standard Conditions Attached

Calculations..... Attached

Introduction

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

Supporting Documents

Tower:	Nello Corproation Drawing #182019, dated August 22, 2012
Foundation:	Nello Corproation Drawing #182020, dated November 2, 2009
Geotechnical:	Berkshire Geo-Technologies Tower Project #106943, dated July 16, 2012

Analysis

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

Basic Wind Speed:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.18$, $S_1 = 0.06$
Site Class:	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. Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	38.4%	1.2D + 1.0W	Pass
Serviceability Usage	14.8%	1.0D + 1.0W	Pass
Base Plate @ 0.0 ft	92.5%	Stiffener	Pass
Mat & Pier	32.7%	Flexure [Steel (Mat)]	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	1,468.0	35.3	18.0

**Reactions shown reflect the results from the Load Case with maximum Moment*

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

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
93.0	1	Platform with Handrails	(2) 1.58" (40.1mm) Hybrid
	2	RFS DB-T1-6Z-8AB-0Z	
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	6	Andrew SBNHH-1D65B	

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
105.0	1	Platform with Handrails	(2) 0.40" (10.3mm) Fiber (8) 0.78" (19.7mm) 8 AWG 6 (3) 1/2" Coax	AT&T MOBILITY
	3	Ericsson RRUS 32 (50.8 lbs)		
	3	Ericsson RRUS E2 B29		
	4	Raycap DC6-48-60-0-8F		
	6	Ericsson RRUS 12		
	6	Ericsson RRUS A2 Module		
	9	Ericsson RRUS 11 (Band 5)		
	12	CCI HPA-65R-BUU-H8		
83.0	1	Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	1	Raycap RDIDC-9181-PF-48		
	3	Commscope FFVV-65B-R2		
	3	Samsung SFG-ARR3J601DI		
	3	Samsung SFG-ARR3KM01DI		

(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.

ANALYSIS PARAMETERS

Nominal Wind: 119 mph	Ice Wind: 50 mph w/ 1.5" ice	Service Wind: 60 mph
Risk Category: II	Exposure: B	S _z : 0.18 S _d : 0.055
Topo Category: 1	Topo Factor: Method 1	Topo Feature:
Structure Height: 110 ft	Base Elevation: 0.00 ft	Structure Type: Taper
Base Diameter: 48.5 in	Base Rotation: 0°	Taper: 0.1850 (in/ft)

POLE SECTION PROPERTIES

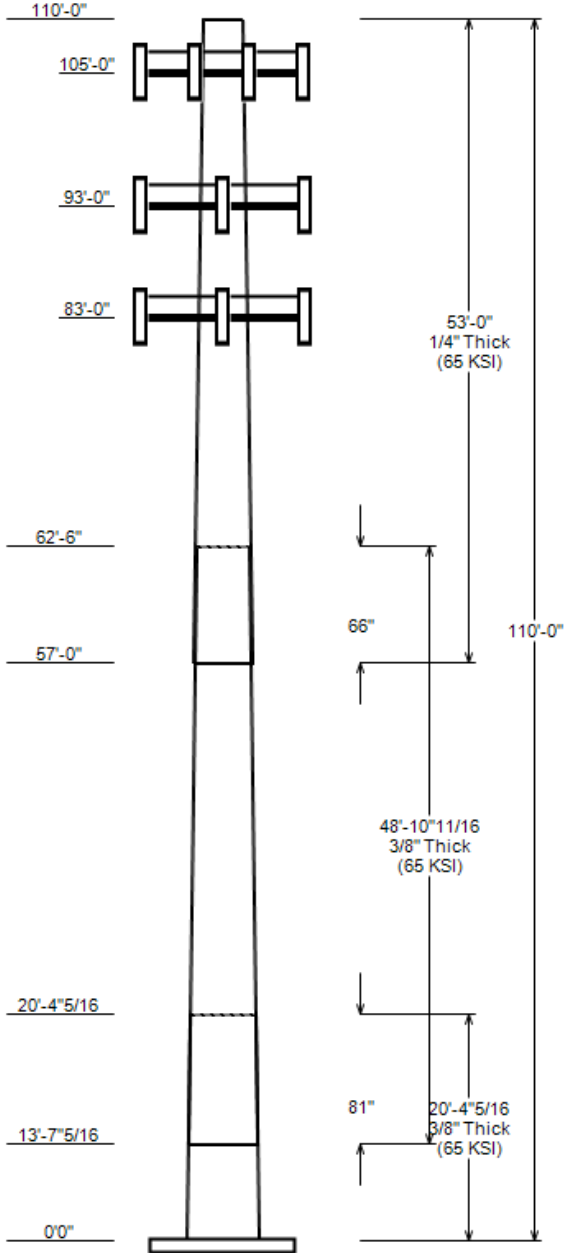
Section	Length (ft)	Flat Diameter (in)		Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
		Top	Bottom					
1	20.360	44.73	48.50	0.375		0.000	18 Sides	65
2	48.890	37.69	46.73	0.375	Slip Joint	81.000	18 Sides	65
3	53.000	29.40	39.20	0.250	Slip Joint	66.000	18 Sides	65

DISCRETE APPURTENANCE

Elev (ft)	Description
105.0	(4) Raycap DC6-48-60-0-8F
105.0	(6) Ericsson RRUS A2 Module
105.0	(3) Ericsson RRUS 32 (50.8 lbs)
105.0	(9) Ericsson RRUS 11 (Band 5)
105.0	(3) Ericsson RRUS E2 B29
105.0	(6) Ericsson RRUS 12
105.0	(12) CCI HPA-65R-BUU-H8
105.0	(1) Generic Round Platform with Ha
93.0	(3) Samsung B2/B66A RRH ORAN (RF 4
93.0	(3) Samsung RF4461d-13A
93.0	(3) Samsung MT6413-77A
93.0	(2) RFS DB-T1-6Z-8AB-0Z
93.0	(6) Andrew SBNHH-1D65B
93.0	(1) Generic Round Platform with Ha
83.0	(1) Raycap RDIDC-9181-PF-48
83.0	(3) Samsung SFG-ARR3KM01DI
83.0	(3) Samsung SFG-ARR3J601DI
83.0	(3) Commscope FFVV-65B-R2
83.0	(1) Generic Round Platform with Ha

LINEAR APPURTENANCE

Elev To (ft)	Description
105.0	(3) 1/2" Coax
105.0	(8) 0.78" (19.7mm) 8 AWG 6
105.0	(2) 0.40" (10.3mm) Fiber
93.0	(2) 1.58" (40.1mm) Hybrid
83.0	(1) 1.60" (40.6mm) Hybrid



GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	1468.03	35.28	18.00
0.9D + 1.0W	1458.90	26.45	17.99
1.2D + 1.0Di + 1.0Wi	411.96	54.45	5.10
1.2D + 1.0Ev + 1.0Eh	101.42	35.17	1.15
0.9D - 1.0Ev + 1.0Eh	100.65	24.47	1.15
1.0D + 1.0W	332.53	29.41	4.09

ANALYSIS PARAMETERS

Location:	Windham County,CT	Height:	110 ft
Type and Shape:	Taper, 18 Sides	Base Diameter:	48.50 in
Manufacturer:	Undetermined	Top Diameter:	29.40 in
K_d (non-service):	0.95	Taper:	0.1850 in/ft
K_e:	0.97	Rotation:	0.000°

ICE & WIND PARAMETERS

Risk Category:	II	Design Wind Speed:	119 mph
Exposure Category:	B	Design Wind Speed w/ Ice:	50 mph
Topo Factor Procedure:	Method 1	Design Ice Thickness:	1.50 in
Topographic Category:	1	Service Wind Speed:	60 mph
Crest Height:	0 ft	HMSL:	800.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	1.50
T_L (sec):	6	P:	1
S_s:	0.180	S₁:	0.055
F_a:	1.600	F_v:	2.400
S_{ds}:	0.192	S_{d1}:	0.088
		C_s:	0.039
		C_s Max:	0.039
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	119 mph Wind with No Ice
0.9D + 1.0W	119 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	20.36	0.3750	65		0.00	3,813	48.50	0.000	57.28	16,760.5	21.04	129.33	44.73	20.36	52.80	13,125.	19.27	119.29	0.1850
2-18	48.89	0.3750	65	Slip	81.00	8,284	46.73	13.610	55.17	14,980.5	20.21	124.62	37.69	62.50	44.41	7,811.6	15.96	100.50	0.1850
3-18	53.00	0.2500	65	Slip	66.00	4,873	39.20	57.000	30.91	5,926.2	25.89	156.82	29.40	110.00	23.13	2,483.1	18.97	117.60	0.1850
Total Shaft Weight						16,970													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Vert Ecc (ft)	No Ice			Ice			
				Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor	
105.00	Raycap DC6-48-60-0-8F	4	0.75	0.000	32.80	1.360	1.00	88.87	2.000	1.00
105.00	Ericsson RRUS A2 Module	6	0.75	0.000	21.20	1.600	0.50	55.96	2.406	0.50
105.00	Ericsson RRUS 32 (50.8 lbs)	3	0.75	0.000	50.80	2.692	0.67	119.79	3.806	0.67
105.00	Ericsson RRUS 11 (Band 5)	9	0.75	0.000	50.70	2.791	0.67	120.54	3.849	0.67
105.00	Ericsson RRUS E2 B29	3	0.75	0.000	60.00	3.145	0.67	138.02	4.263	0.67
105.00	Ericsson RRUS 12	6	0.75	0.000	50.00	3.145	0.67	128.02	4.263	0.67
105.00	CCI HPA-65R-BUU-H8	12	0.75	0.000	68.00	12.976	0.79	315.86	16.429	0.79
105.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4062.41	50.779	1.00
93.00	Andrew SBNHH-1D65B	6	0.75	0.000	50.70	8.173	0.83	218.05	10.872	0.83
93.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4044.77	50.513	1.00
93.00	RFS DB-T1-6Z-8AB-OZ	2	0.75	0.000	44.00	4.800	0.67	164.04	6.155	0.67
93.00	Samsung MT6413-77A	3	0.80	0.000	57.30	3.805	0.61	138.28	5.072	0.61
93.00	Samsung RF4461d-13A	3	0.80	0.000	79.10	1.875	0.50	140.59	2.736	0.50
93.00	Samsung B2/B66A RRH ORAN (RF 4	3	0.80	0.000	74.70	1.875	0.50	135.65	2.733	0.50
83.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4027.00	50.245	1.00
83.00	Commscope FFVV-65B-R2	3	0.75	0.000	70.80	12.271	0.64	307.72	14.914	0.64
83.00	Samsung SFG-ARR3J601DI	3	0.75	0.000	94.60	2.063	0.67	162.45	2.953	0.67
83.00	Samsung SFG-ARR3KM01DI	3	0.75	0.000	61.30	1.875	0.50	117.91	2.723	0.50
83.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	75.43	2.716	1.00
Totals		Row Count: 19	73		11,390.60			23,961.76		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/Row	Distance Between Rows (in)	Distance Between Cols (in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	105.00	8	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	105.00	3	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	105.00	2	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	93.00	2	1.58" (40.1mm) Hybrid	1.58	1.61	N	0	0	0	0	0	N	VERIZON WIRELESS
0.00	83.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS L.L.C.

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	48.500	57.279	16,760.50	21.04	129.33	76.7	680.7	0.0	0.0
5.00		0.3750	47.575	56.178	15,812.50	20.61	126.87	77.2	654.6	0.0	965.2
10.00		0.3750	46.650	55.077	14,901.00	20.17	124.40	77.7	629.1	0.0	946.4
13.61	Bot - Section 2	0.3750	45.982	54.282	14,265.10	19.86	122.62	78	611.0	0.0	671.7
15.00		0.3750	45.725	53.976	14,025.10	19.74	121.93	78.2	604.1	0.0	516.3
20.00		0.3750	44.800	52.875	13,184.30	19.30	119.47	78.7	579.6	0.0	1,833.1
20.36	Top - Section 1	0.3750	45.483	53.688	13,802.20	19.62	121.29	78.3	597.7	0.0	130.5
25.00		0.3750	44.625	52.667	13,029.10	19.22	119.00	78.8	575.1	0.0	839.6
30.00		0.3750	43.700	51.566	12,229.00	18.78	116.53	79.3	551.2	0.0	886.7
35.00		0.3750	42.775	50.465	11,462.30	18.35	114.07	79.8	527.8	0.0	868.0
40.00		0.3750	41.850	49.364	10,728.40	17.91	111.60	80.3	504.9	0.0	849.2
45.00		0.3750	40.925	48.263	10,026.50	17.48	109.13	80.8	482.5	0.0	830.5
50.00		0.3750	40.000	47.162	9,355.90	17.04	106.67	81.4	460.7	0.0	811.8

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	(Max Length: 5 ft)	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
55.00			0.3750	39.075	46.061	8,715.80	16.61	104.20	81.9	439.3	0.0	793.0
57.00	Bot - Section 3		0.3750	38.705	45.621	8,468.20	16.44	103.21	82.1	430.9	0.0	312.0
60.00			0.3750	38.150	44.960	8,105.70	16.18	101.73	82.4	418.5	0.0	775.6
62.50	Top - Section 2		0.2500	38.188	30.102	5,473.80	25.17	152.75	71.8	282.3	0.0	637.8
65.00			0.2500	37.725	29.735	5,276.10	24.84	150.90	72.2	275.5	0.0	254.5
70.00			0.2500	36.800	29.001	4,894.90	24.19	147.20	72.9	262.0	0.0	499.7
75.00			0.2500	35.875	28.267	4,532.60	23.54	143.50	73.7	248.9	0.0	487.2
80.00			0.2500	34.950	27.533	4,188.60	22.89	139.80	74.5	236.1	0.0	474.7
83.00			0.2500	34.395	27.093	3,990.90	22.50	137.58	74.9	228.5	0.0	278.8
85.00			0.2500	34.025	26.799	3,862.50	22.23	136.10	75.2	223.6	0.0	183.4
90.00			0.2500	33.100	26.066	3,553.80	21.58	132.40	76	211.5	0.0	449.7
93.00			0.2500	32.545	25.625	3,376.70	21.19	130.18	76.5	204.4	0.0	263.8
95.00			0.2500	32.175	25.332	3,261.90	20.93	128.70	76.8	199.7	0.0	173.4
100.00			0.2500	31.250	24.598	2,986.50	20.28	125.00	77.6	188.2	0.0	424.7
105.00			0.2500	30.325	23.864	2,727.10	19.63	121.30	78.3	177.1	0.0	412.3
110.00			0.2500	29.400	23.130	2,483.10	18.97	117.60	79.1	166.4	0.0	399.8
Total:												16,969.4

CALCULATED FORCES

Load Case: 1.2D + 1.0W		119 mph Wind with No Ice										18 Iterations	
Gust Response Factor:		1.10											
Dead load Factor:		1.20											
Wind Load Factor:		1.00											
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.28	-18.00	0.00	-1,468.0	0.00	1,468.03	3,951.47	1,005.24	4,369.55	3,913.02	0	0	0.384
5.00	-34.02	-17.69	0.00	-1,378.0	0.00	1,378.02	3,901.38	985.92	4,203.21	3,788.59	0.07	-0.12	0.373
10.00	-32.79	-17.43	0.00	-1,289.6	0.00	1,289.55	3,850.28	966.60	4,040.10	3,665.11	0.26	-0.24	0.361
13.61	-31.92	-17.27	0.00	-1,226.6	0.00	1,226.64	3,812.76	952.65	3,924.34	3,576.59	0.47	-0.33	0.352
15.00	-31.26	-17.08	0.00	-1,202.6	0.00	1,202.63	3,798.17	947.28	3,880.22	3,542.65	0.57	-0.36	0.348
20.00	-28.98	-16.90	0.00	-1,117.2	0.00	1,117.25	3,745.04	927.96	3,723.56	3,421.27	1.01	-0.48	0.335
20.36	-28.80	-16.74	0.00	-1,111.2	0.00	1,111.16	3,784.39	942.23	3,838.99	3,510.84	1.05	-0.49	0.324
25.00	-27.70	-16.44	0.00	-1,033.5	0.00	1,033.47	3,734.88	924.30	3,694.29	3,398.43	1.58	-0.6	0.312
30.00	-26.55	-16.13	0.00	-951.2	0.00	951.25	3,680.54	904.98	3,541.47	3,278.39	2.26	-0.7	0.298
35.00	-25.42	-15.81	0.00	-870.6	0.00	870.61	3,625.20	885.66	3,391.88	3,159.56	3.06	-0.81	0.283
40.00	-24.31	-15.47	0.00	-791.6	0.00	791.58	3,568.84	866.34	3,245.52	3,041.99	3.96	-0.91	0.267
45.00	-23.23	-15.13	0.00	-714.2	0.00	714.23	3,511.46	847.01	3,102.39	2,925.73	4.97	-1.01	0.251
50.00	-22.17	-14.78	0.00	-638.6	0.00	638.60	3,453.07	827.69	2,962.48	2,810.85	6.08	-1.11	0.234
55.00	-21.14	-14.52	0.00	-564.7	0.00	564.72	3,393.67	808.37	2,825.81	2,697.41	7.29	-1.2	0.216
57.00	-20.74	-14.34	0.00	-535.7	0.00	535.68	3,369.63	800.64	2,772.04	2,652.44	7.8	-1.24	0.208
60.00	-19.76	-14.13	0.00	-492.7	0.00	492.66	3,333.26	789.05	2,692.36	2,585.45	8.6	-1.29	0.197
62.50	-18.96	-13.94	0.00	-457.3	0.00	457.34	1,945.09	528.30	1,810.20	1,520.23	9.28	-1.33	0.311
65.00	-18.61	-13.67	0.00	-422.5	0.00	422.50	1,931.65	521.86	1,766.33	1,491.20	9.99	-1.37	0.294
70.00	-17.93	-13.31	0.00	-354.1	0.00	354.14	1,904.00	508.97	1,680.22	1,433.33	11.48	-1.47	0.257
75.00	-17.27	-12.95	0.00	-287.6	0.00	287.57	1,875.33	496.09	1,596.26	1,375.78	13.08	-1.57	0.219
80.00	-16.63	-12.66	0.00	-222.8	0.00	222.81	1,845.65	483.21	1,514.45	1,318.61	14.77	-1.65	0.179
83.00	-12.47	-10.58	0.00	-184.8	0.00	184.85	1,827.36	475.48	1,466.40	1,284.51	15.82	-1.69	0.151
85.00	-12.23	-10.33	0.00	-163.7	0.00	163.68	1,814.96	470.33	1,434.79	1,261.87	16.53	-1.71	0.137
90.00	-11.64	-10.03	0.00	-112.0	0.00	112.04	1,783.26	457.45	1,357.29	1,205.62	18.35	-1.76	0.100
93.00	-7.15	-7.12	0.00	-82.0	0.00	81.95	1,763.75	449.72	1,311.82	1,172.13	19.47	-1.79	0.074
95.00	-6.93	-6.87	0.00	-67.7	0.00	67.70	1,750.54	444.57	1,281.94	1,149.92	20.22	-1.8	0.063
100.00	-6.40	-6.51	0.00	-33.3	0.00	33.34	1,716.80	431.69	1,208.73	1,094.83	22.12	-1.82	0.034
105.00	-0.47	-0.16	0.00	-0.8	0.00	0.81	1,682.06	418.81	1,137.69	1,040.41	24.04	-1.83	0.001
110.00	0.00	-0.15	0.00	0.0	0.00	0.00	1,646.29	405.93	1,068.79	986.71	25.95	-1.83	0.000

CALCULATED FORCES

Load Case: 0.9D + 1.0W 119 mph Wind with No Ice (Reduced DL) 18 Iterations
 Gust Response Factor: 1.10
 Dead load Factor: 0.90
 Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-26.45	-17.99	0.00	-1,458.9	0.00	1,458.90	3,951.47	1,005.24	4,369.55	3,913.02	0	0	0.380
5.00	-25.50	-17.67	0.00	-1,368.9	0.00	1,368.94	3,901.38	985.92	4,203.21	3,788.59	0.06	-0.12	0.368
10.00	-24.57	-17.39	0.00	-1,280.6	0.00	1,280.61	3,850.28	966.60	4,040.10	3,665.11	0.25	-0.24	0.356
13.61	-23.91	-17.22	0.00	-1,217.8	0.00	1,217.84	3,812.76	952.65	3,924.34	3,576.59	0.47	-0.33	0.347
15.00	-23.41	-17.02	0.00	-1,193.9	0.00	1,193.90	3,798.17	947.28	3,880.22	3,542.65	0.57	-0.36	0.343
20.00	-21.70	-16.83	0.00	-1,108.8	0.00	1,108.81	3,745.04	927.96	3,723.56	3,421.27	1.01	-0.48	0.330
20.36	-21.56	-16.67	0.00	-1,102.8	0.00	1,102.75	3,784.39	942.23	3,838.99	3,510.84	1.04	-0.48	0.320
25.00	-20.73	-16.36	0.00	-1,025.4	0.00	1,025.39	3,734.88	924.30	3,694.29	3,398.43	1.57	-0.59	0.308
30.00	-19.86	-16.04	0.00	-943.6	0.00	943.57	3,680.54	904.98	3,541.47	3,278.39	2.25	-0.7	0.294
35.00	-19.01	-15.71	0.00	-863.4	0.00	863.38	3,625.20	885.66	3,391.88	3,159.56	3.03	-0.8	0.279
40.00	-18.17	-15.37	0.00	-784.8	0.00	784.84	3,568.84	866.34	3,245.52	3,041.99	3.93	-0.91	0.263
45.00	-17.36	-15.02	0.00	-708.0	0.00	708.02	3,511.46	847.01	3,102.39	2,925.73	4.93	-1	0.247
50.00	-16.56	-14.66	0.00	-632.9	0.00	632.94	3,453.07	827.69	2,962.48	2,810.85	6.04	-1.1	0.230
55.00	-15.79	-14.40	0.00	-559.6	0.00	559.65	3,393.67	808.37	2,825.81	2,697.41	7.24	-1.19	0.212
57.00	-15.48	-14.22	0.00	-530.8	0.00	530.84	3,369.63	800.64	2,772.04	2,652.44	7.75	-1.23	0.205
60.00	-14.74	-14.01	0.00	-488.2	0.00	488.18	3,333.26	789.05	2,692.36	2,585.45	8.53	-1.28	0.194
62.50	-14.14	-13.82	0.00	-453.2	0.00	453.15	1,945.09	528.30	1,810.20	1,520.23	9.22	-1.32	0.306
65.00	-13.88	-13.55	0.00	-418.6	0.00	418.60	1,931.65	521.86	1,766.33	1,491.20	9.92	-1.36	0.289
70.00	-13.36	-13.19	0.00	-350.8	0.00	350.84	1,904.00	508.97	1,680.22	1,433.33	11.4	-1.46	0.252
75.00	-12.87	-12.82	0.00	-284.9	0.00	284.89	1,875.33	496.09	1,596.26	1,375.78	12.98	-1.55	0.215
80.00	-12.39	-12.53	0.00	-220.8	0.00	220.77	1,845.65	483.21	1,514.45	1,318.61	14.65	-1.63	0.175
83.00	-9.28	-10.49	0.00	-183.2	0.00	183.18	1,827.36	475.48	1,466.40	1,284.51	15.69	-1.68	0.148
85.00	-9.10	-10.23	0.00	-162.2	0.00	162.21	1,814.96	470.33	1,434.79	1,261.87	16.4	-1.7	0.134
90.00	-8.66	-9.93	0.00	-111.1	0.00	111.06	1,783.26	457.45	1,357.29	1,205.62	18.21	-1.75	0.097
93.00	-5.31	-7.07	0.00	-81.2	0.00	81.25	1,763.75	449.72	1,311.82	1,172.13	19.32	-1.77	0.073
95.00	-5.15	-6.81	0.00	-67.1	0.00	67.12	1,750.54	444.57	1,281.94	1,149.92	20.07	-1.79	0.062
100.00	-4.75	-6.45	0.00	-33.0	0.00	33.05	1,716.80	431.69	1,208.73	1,094.83	21.95	-1.81	0.033
105.00	-0.35	-0.16	0.00	-0.8	0.00	0.80	1,682.06	418.81	1,137.69	1,040.41	23.85	-1.82	0.001
110.00	0.00	-0.15	0.00	0.0	0.00	0.00	1,646.29	405.93	1,068.79	986.71	25.75	-1.82	0.000

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi													50 mph Wind with 1.5" Radial Ice		18 Iterations
Gust Response Factor:		1.10	Ice Dead Load Factor			1.00							Ice Importance Factor		1.00
Dead load Factor:		1.20													
Wind Load Factor:		1.00													
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio		
0.00	-54.45	-5.10	0.00	-412.0	0.00	411.96	3,951.47	1,005.24	4,369.55	3,913.02	0	0	0.119		
5.00	-52.87	-5.01	0.00	-386.5	0.00	386.48	3,901.38	985.92	4,203.21	3,788.59	0.02	-0.03	0.116		
10.00	-51.28	-4.94	0.00	-361.4	0.00	361.43	3,850.28	966.60	4,040.10	3,665.11	0.07	-0.07	0.112		
13.61	-50.14	-4.89	0.00	-343.6	0.00	343.61	3,812.76	952.65	3,924.34	3,576.59	0.13	-0.09	0.109		
15.00	-49.38	-4.84	0.00	-336.8	0.00	336.80	3,798.17	947.28	3,880.22	3,542.65	0.16	-0.1	0.108		
20.00	-46.70	-4.79	0.00	-312.6	0.00	312.61	3,745.04	927.96	3,723.56	3,421.27	0.28	-0.13	0.104		
20.36	-46.51	-4.74	0.00	-310.9	0.00	310.89	3,784.39	942.23	3,838.99	3,510.84	0.29	-0.14	0.101		
25.00	-45.05	-4.66	0.00	-288.9	0.00	288.88	3,734.88	924.30	3,694.29	3,398.43	0.44	-0.17	0.097		
30.00	-43.50	-4.57	0.00	-265.6	0.00	265.59	3,680.54	904.98	3,541.47	3,278.39	0.63	-0.2	0.093		
35.00	-41.98	-4.47	0.00	-242.8	0.00	242.75	3,625.20	885.66	3,391.88	3,159.56	0.86	-0.23	0.088		
40.00	-40.48	-4.37	0.00	-220.4	0.00	220.39	3,568.84	866.34	3,245.52	3,041.99	1.11	-0.26	0.084		
45.00	-39.01	-4.27	0.00	-198.5	0.00	198.52	3,511.46	847.01	3,102.39	2,925.73	1.39	-0.28	0.079		
50.00	-37.56	-4.17	0.00	-177.2	0.00	177.16	3,453.07	827.69	2,962.48	2,810.85	1.7	-0.31	0.074		
55.00	-36.14	-4.09	0.00	-156.3	0.00	156.33	3,393.67	808.37	2,825.81	2,697.41	2.04	-0.34	0.069		
57.00	-35.58	-4.03	0.00	-148.2	0.00	148.16	3,369.63	800.64	2,772.04	2,652.44	2.18	-0.35	0.066		
60.00	-34.37	-3.97	0.00	-136.1	0.00	136.06	3,333.26	789.05	2,692.36	2,585.45	2.41	-0.36	0.063		
62.50	-33.37	-3.91	0.00	-126.1	0.00	126.13	1,945.09	528.30	1,810.20	1,520.23	2.6	-0.37	0.100		
65.00	-32.84	-3.83	0.00	-116.4	0.00	116.36	1,931.65	521.86	1,766.33	1,491.20	2.79	-0.38	0.095		
70.00	-31.78	-3.72	0.00	-97.2	0.00	97.21	1,904.00	508.97	1,680.22	1,433.33	3.21	-0.41	0.085		
75.00	-30.75	-3.61	0.00	-78.6	0.00	78.60	1,875.33	496.09	1,596.26	1,375.78	3.65	-0.44	0.074		
80.00	-29.74	-3.52	0.00	-60.6	0.00	60.56	1,845.65	483.21	1,514.45	1,318.61	4.12	-0.46	0.062		
83.00	-23.05	-2.91	0.00	-50.0	0.00	50.02	1,827.36	475.48	1,466.40	1,284.51	4.42	-0.47	0.052		
85.00	-22.66	-2.83	0.00	-44.2	0.00	44.19	1,814.96	470.33	1,434.79	1,261.87	4.61	-0.48	0.048		
90.00	-21.71	-2.74	0.00	-30.0	0.00	30.04	1,783.26	457.45	1,357.29	1,205.62	5.12	-0.49	0.037		
93.00	-14.04	-1.91	0.00	-21.8	0.00	21.83	1,763.75	449.72	1,311.82	1,172.13	5.43	-0.5	0.027		
95.00	-13.68	-1.83	0.00	-18.0	0.00	18.01	1,750.54	444.57	1,281.94	1,149.92	5.64	-0.5	0.023		
100.00	-12.79	-1.71	0.00	-8.8	0.00	8.85	1,716.80	431.69	1,208.73	1,094.83	6.17	-0.51	0.016		
105.00	-0.81	-0.06	0.00	-0.3	0.00	0.29	1,682.06	418.81	1,137.69	1,040.41	6.7	-0.51	0.001		
110.00	0.00	-0.05	0.00	0.0	0.00	0.00	1,646.29	405.93	1,068.79	986.71	7.23	-0.51	0.000		

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

17 Iterations

Gust Response Factor: 1.10
 Dead load Factor: 1.00
 Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.41	-4.09	0.00	-332.5	0.00	332.53	3,951.47	1,005.24	4,369.55	3,913.02	0	0	0.092
5.00	-28.39	-4.02	0.00	-312.1	0.00	312.07	3,901.38	985.92	4,203.21	3,788.59	0.01	-0.03	0.090
10.00	-27.39	-3.96	0.00	-292.0	0.00	291.97	3,850.28	966.60	4,040.10	3,665.11	0.06	-0.05	0.087
13.61	-26.68	-3.92	0.00	-277.7	0.00	277.68	3,812.76	952.65	3,924.34	3,576.59	0.11	-0.07	0.085
15.00	-26.15	-3.87	0.00	-272.2	0.00	272.23	3,798.17	947.28	3,880.22	3,542.65	0.13	-0.08	0.084
20.00	-24.26	-3.83	0.00	-252.9	0.00	252.86	3,745.04	927.96	3,723.56	3,421.27	0.23	-0.11	0.080
20.36	-24.12	-3.80	0.00	-251.5	0.00	251.48	3,784.39	942.23	3,838.99	3,510.84	0.24	-0.11	0.078
25.00	-23.23	-3.73	0.00	-233.9	0.00	233.86	3,734.88	924.30	3,694.29	3,398.43	0.36	-0.13	0.075
30.00	-22.29	-3.65	0.00	-215.2	0.00	215.22	3,680.54	904.98	3,541.47	3,278.39	0.51	-0.16	0.072
35.00	-21.36	-3.58	0.00	-197.0	0.00	196.95	3,625.20	885.66	3,391.88	3,159.56	0.69	-0.18	0.068
40.00	-20.46	-3.50	0.00	-179.0	0.00	179.05	3,568.84	866.34	3,245.52	3,041.99	0.9	-0.21	0.065
45.00	-19.57	-3.42	0.00	-161.5	0.00	161.54	3,511.46	847.01	3,102.39	2,925.73	1.13	-0.23	0.061
50.00	-18.71	-3.34	0.00	-144.4	0.00	144.42	3,453.07	827.69	2,962.48	2,810.85	1.38	-0.25	0.057
55.00	-17.86	-3.28	0.00	-127.7	0.00	127.70	3,393.67	808.37	2,825.81	2,697.41	1.65	-0.27	0.053
57.00	-17.52	-3.24	0.00	-121.1	0.00	121.13	3,369.63	800.64	2,772.04	2,652.44	1.77	-0.28	0.051
60.00	-16.71	-3.20	0.00	-111.4	0.00	111.40	3,333.26	789.05	2,692.36	2,585.45	1.95	-0.29	0.048
62.50	-16.05	-3.15	0.00	-103.4	0.00	103.41	1,945.09	528.30	1,810.20	1,520.23	2.1	-0.3	0.076
65.00	-15.77	-3.09	0.00	-95.5	0.00	95.53	1,931.65	521.86	1,766.33	1,491.20	2.26	-0.31	0.072
70.00	-15.21	-3.01	0.00	-80.1	0.00	80.07	1,904.00	508.97	1,680.22	1,433.33	2.6	-0.33	0.064
75.00	-14.67	-2.93	0.00	-65.0	0.00	65.02	1,875.33	496.09	1,596.26	1,375.78	2.96	-0.35	0.055
80.00	-14.14	-2.86	0.00	-50.4	0.00	50.39	1,845.65	483.21	1,514.45	1,318.61	3.34	-0.37	0.046
83.00	-10.63	-2.39	0.00	-41.8	0.00	41.81	1,827.36	475.48	1,466.40	1,284.51	3.58	-0.38	0.038
85.00	-10.43	-2.34	0.00	-37.0	0.00	37.02	1,814.96	470.33	1,434.79	1,261.87	3.74	-0.39	0.035
90.00	-9.94	-2.27	0.00	-25.3	0.00	25.34	1,783.26	457.45	1,357.29	1,205.62	4.15	-0.4	0.027
93.00	-6.13	-1.61	0.00	-18.5	0.00	18.54	1,763.75	449.72	1,311.82	1,172.13	4.41	-0.4	0.019
95.00	-5.94	-1.55	0.00	-15.3	0.00	15.32	1,750.54	444.57	1,281.94	1,149.92	4.58	-0.41	0.017
100.00	-5.49	-1.47	0.00	-7.5	0.00	7.54	1,716.80	431.69	1,208.73	1,094.83	5.01	-0.41	0.010
105.00	-0.40	-0.04	0.00	-0.2	0.00	0.18	1,682.06	418.81	1,137.69	1,040.41	5.44	-0.41	0.000
110.00	0.00	-0.03	0.00	0.0	0.00	0.00	1,646.29	405.93	1,068.79	986.71	5.87	-0.41	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.180
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.192
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.039
Upper Limit C_s :	0.039
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	1.500
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.500
Total Unfactored Dead Load:	29.420 k
Seismic Base Shear (E):	1.150 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh	Seismic	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Segment							
28		107.5	400	445	0.026	31	495
27		102.5	439	455	0.027	31	544
26		97.5	451	435	0.026	30	559
25		94	184	168	0.010	11	228
24		91.5	290	253	0.015	17	359
23		87.5	493	403	0.024	28	610
22		84	201	154	0.009	11	248
21		81.5	312	229	0.014	16	386
20		77.5	529	361	0.022	25	655
19		72.5	542	334	0.020	23	671
18		67.5	554	307	0.018	21	686
17		63.75	282	143	0.008	10	349
16		61.25	665	319	0.019	22	824
15		58.5	808	362	0.022	25	1,001
14		56	334	140	0.008	10	413
13		52.5	848	322	0.019	22	1,050
12		47.5	866	284	0.017	19	1,073
11		42.5	885	245	0.015	17	1,096
10		37.5	904	208	0.012	14	1,119
9		32.5	923	171	0.010	12	1,142
8		27.5	941	136	0.008	9	1,166
7		22.68	890	96	0.006	7	1,102
6		20.18	134	12	0.001	1	167
5		17.5	1,888	138	0.008	9	2,338
4		14.305	531	29	0.002	2	658
3		11.805	711	29	0.002	2	881
2		7.5	1,001	21	0.001	1	1,240
1		2.5	1,020	4	0.000	0	1,263
Raycap DC6-48-60-0-8F		105	131	141	0.008	10	162
Ericsson RRUS A2 Module		105	127	137	0.008	9	158
Ericsson RRUS 32 (50.8 lbs)		105	152	164	0.010	11	189
Ericsson RRUS 11 (Band 5)		105	456	491	0.029	34	565
Ericsson RRUS E2 B29		105	180	194	0.012	13	223
Ericsson RRUS 12		105	300	323	0.019	22	372
CCI HPA-65R-BUU-H8		105	816	878	0.052	60	1,011
Generic Round Platform with Handrails		105	2,500	2,689	0.160	184	3,096
Generic Round Platform with Handrails		93	2,500	2,242	0.133	154	3,096
Generic Round Platform with Handrails		83	2,500	1,890	0.112	129	3,096

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	93	224	201	0.012	14	278
Samsung RF4461d-13A	93	237	213	0.013	15	294
Samsung MT6413-77A	93	172	154	0.009	11	213
RFS DB-T1-6Z-8AB-0Z	93	88	79	0.005	5	109
Andrew SBNHH-1D65B	93	304	273	0.016	19	377
Raycap RDIDC-9181-PF-48	83	22	17	0.001	1	27
Samsung SFG-ARR3KM01DI	83	184	139	0.008	10	228
Samsung SFG-ARR3J601DI	83	284	215	0.013	15	351
Commscope FFVV-65B-R2	83	212	161	0.010	11	263
Totals:		29,415	16,801	1.000	1,151	36,428

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
28	107.5	400	445	0.026	31	344
27	102.5	439	455	0.027	31	378
26	97.5	451	435	0.026	30	389
25	94	184	168	0.010	11	159
24	91.5	290	253	0.015	17	249
23	87.5	493	403	0.024	28	424
22	84	201	154	0.009	11	173
21	81.5	312	229	0.014	16	268
20	77.5	529	361	0.022	25	456
19	72.5	542	334	0.020	23	467
18	67.5	554	307	0.018	21	478
17	63.75	282	143	0.008	10	243
16	61.25	665	319	0.019	22	573
15	58.5	808	362	0.022	25	696
14	56	334	140	0.008	10	288
13	52.5	848	322	0.019	22	730
12	47.5	866	284	0.017	19	746
11	42.5	885	245	0.015	17	763
10	37.5	904	208	0.012	14	779
9	32.5	923	171	0.010	12	795
8	27.5	941	136	0.008	9	811
7	22.68	890	96	0.006	7	767
6	20.18	134	12	0.001	1	116
5	17.5	1,888	138	0.008	9	1,626
4	14.305	531	29	0.002	2	458
3	11.805	711	29	0.002	2	613
2	7.5	1,001	21	0.001	1	862
1	2.5	1,020	4	0.000	0	879
Raycap DC6-48-60-0-8F	105	131	141	0.008	10	113
Ericsson RRUS A2 Module	105	127	137	0.008	9	110
Ericsson RRUS 32 (50.8 lbs)	105	152	164	0.010	11	131
Ericsson RRUS 11 (Band 5)	105	456	491	0.029	34	393
Ericsson RRUS E2 B29	105	180	194	0.012	13	155
Ericsson RRUS 12	105	300	323	0.019	22	258
CCI HPA-65R-BUU-H8	105	816	878	0.052	60	703
Generic Round Platform with Handrails	105	2,500	2,689	0.160	184	2,154
Generic Round Platform with Handrails	93	2,500	2,242	0.133	154	2,154
Generic Round Platform with Handrails	83	2,500	1,890	0.112	129	2,154
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	93	224	201	0.012	14	193
Samsung RF4461d-13A	93	237	213	0.013	15	204
Samsung MT6413-77A	93	172	154	0.009	11	148
RFS DB-T1-6Z-8AB-0Z	93	88	79	0.005	5	76
Andrew SBNHH-1D65B	93	304	273	0.016	19	262
Raycap RDIDC-9181-PF-48	83	22	17	0.001	1	19
Samsung SFG-ARR3KM01DI	83	184	139	0.008	10	158
Samsung SFG-ARR3J601DI	83	284	215	0.013	15	245

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Commscope FFVV-65B-R2	83	212	161	0.010	11	183
Totals:		29,415	16,801	1.000	1,151	25,344

1.2D + 1.0Ev + 1.0Eh

Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.17	-1.15	0.00	-101.42	0.00	101.42	3,951.47	1,005.24	4,370	3,913.02	0.00	0.00	0.04
5.00	-33.93	-1.16	0.00	-95.65	0.00	95.65	3,901.38	985.92	4,203	3,788.59	0.00	-0.01	0.03
10.00	-33.04	-1.16	0.00	-89.87	0.00	89.87	3,850.28	966.60	4,040	3,665.11	0.02	-0.02	0.03
13.61	-32.39	-1.16	0.00	-85.69	0.00	85.69	3,812.76	952.65	3,924	3,576.59	0.03	-0.02	0.03
15.00	-30.05	-1.15	0.00	-84.08	0.00	84.08	3,798.17	947.28	3,880	3,542.65	0.04	-0.03	0.03
20.00	-29.88	-1.15	0.00	-78.33	0.00	78.33	3,745.04	927.96	3,724	3,421.27	0.07	-0.03	0.03
20.36	-28.78	-1.15	0.00	-77.92	0.00	77.92	3,784.39	942.23	3,839	3,510.84	0.07	-0.03	0.03
25.00	-27.61	-1.14	0.00	-72.60	0.00	72.60	3,734.88	924.30	3,694	3,398.43	0.11	-0.04	0.03
30.00	-26.47	-1.13	0.00	-66.89	0.00	66.89	3,680.54	904.98	3,541	3,278.39	0.16	-0.05	0.03
35.00	-25.35	-1.12	0.00	-61.24	0.00	61.24	3,625.20	885.66	3,392	3,159.56	0.21	-0.06	0.03
40.00	-24.26	-1.10	0.00	-55.64	0.00	55.64	3,568.84	866.34	3,246	3,041.99	0.28	-0.06	0.03
45.00	-23.18	-1.09	0.00	-50.12	0.00	50.12	3,511.46	847.01	3,102	2,925.73	0.35	-0.07	0.02
50.00	-22.13	-1.07	0.00	-44.69	0.00	44.69	3,453.07	827.69	2,962	2,810.85	0.42	-0.08	0.02
55.00	-21.72	-1.06	0.00	-39.36	0.00	39.36	3,393.67	808.37	2,826	2,697.41	0.51	-0.08	0.02
57.00	-20.72	-1.03	0.00	-37.25	0.00	37.25	3,369.63	800.64	2,772	2,652.44	0.55	-0.09	0.02
60.00	-19.89	-1.01	0.00	-34.15	0.00	34.15	3,333.26	789.05	2,692	2,585.45	0.60	-0.09	0.02
62.50	-19.55	-1.00	0.00	-31.62	0.00	31.62	1,945.09	528.30	1,810	1,520.23	0.65	-0.09	0.03
65.00	-18.86	-0.98	0.00	-29.12	0.00	29.12	1,931.65	521.86	1,766	1,491.20	0.70	-0.10	0.03
70.00	-18.19	-0.96	0.00	-24.22	0.00	24.22	1,904.00	508.97	1,680	1,433.33	0.80	-0.10	0.03
75.00	-17.53	-0.93	0.00	-19.43	0.00	19.43	1,875.33	496.09	1,596	1,375.78	0.91	-0.11	0.02
80.00	-17.15	-0.92	0.00	-14.76	0.00	14.76	1,845.65	483.21	1,514	1,318.61	1.03	-0.11	0.02
83.00	-12.93	-0.73	0.00	-12.01	0.00	12.01	1,827.36	475.48	1,466	1,284.51	1.10	-0.12	0.02
85.00	-12.32	-0.71	0.00	-10.54	0.00	10.54	1,814.96	470.33	1,435	1,261.87	1.15	-0.12	0.02
90.00	-11.97	-0.69	0.00	-7.01	0.00	7.01	1,783.26	457.45	1,357	1,205.62	1.28	-0.12	0.01
93.00	-7.37	-0.45	0.00	-4.94	0.00	4.94	1,763.75	449.72	1,312	1,172.13	1.36	-0.12	0.01
95.00	-6.81	-0.42	0.00	-4.04	0.00	4.04	1,750.54	444.57	1,282	1,149.92	1.41	-0.12	0.01
100.00	-6.27	-0.39	0.00	-1.94	0.00	1.94	1,716.80	431.69	1,209	1,094.83	1.54	-0.13	0.01
105.00	0.00	0.00	0.00	0.00	0.00	0.00	1,682.06	418.81	1,138	1,040.41	1.67	-0.13	0.00
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,646.29	405.93	1,069	986.71	1.80	-0.13	0.00

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.47	-1.15	0.00	-100.65	0.00	100.65	3,951.47	1,005.24	4,370	3,913.02	0.00	0.00	0.03
5.00	-23.60	-1.15	0.00	-94.90	0.00	94.90	3,901.38	985.92	4,203	3,788.59	0.00	-0.01	0.03
10.00	-22.99	-1.15	0.00	-89.13	0.00	89.13	3,850.28	966.60	4,040	3,665.11	0.02	-0.02	0.03
13.61	-22.53	-1.15	0.00	-84.96	0.00	84.96	3,812.76	952.65	3,924	3,576.59	0.03	-0.02	0.03
15.00	-20.91	-1.15	0.00	-83.35	0.00	83.35	3,798.17	947.28	3,880	3,542.65	0.04	-0.02	0.03
20.00	-20.79	-1.15	0.00	-77.63	0.00	77.63	3,745.04	927.96	3,724	3,421.27	0.07	-0.03	0.03
20.36	-20.02	-1.14	0.00	-77.21	0.00	77.21	3,784.39	942.23	3,839	3,510.84	0.07	-0.03	0.03
25.00	-19.21	-1.13	0.00	-71.92	0.00	71.92	3,734.88	924.30	3,694	3,398.43	0.11	-0.04	0.03
30.00	-18.42	-1.12	0.00	-66.25	0.00	66.25	3,680.54	904.98	3,541	3,278.39	0.16	-0.05	0.03
35.00	-17.64	-1.11	0.00	-60.63	0.00	60.63	3,625.20	885.66	3,392	3,159.56	0.21	-0.06	0.02
40.00	-16.88	-1.10	0.00	-55.08	0.00	55.08	3,568.84	866.34	3,246	3,041.99	0.27	-0.06	0.02
45.00	-16.13	-1.08	0.00	-49.60	0.00	49.60	3,511.46	847.01	3,102	2,925.73	0.34	-0.07	0.02
50.00	-15.40	-1.06	0.00	-44.21	0.00	44.21	3,453.07	827.69	2,962	2,810.85	0.42	-0.08	0.02
55.00	-15.11	-1.05	0.00	-38.94	0.00	38.94	3,393.67	808.37	2,826	2,697.41	0.51	-0.08	0.02
57.00	-14.41	-1.02	0.00	-36.84	0.00	36.84	3,369.63	800.64	2,772	2,652.44	0.54	-0.09	0.02
60.00	-13.84	-1.00	0.00	-33.78	0.00	33.78	3,333.26	789.05	2,692	2,585.45	0.60	-0.09	0.02
62.50	-13.60	-0.99	0.00	-31.28	0.00	31.28	1,945.09	528.30	1,810	1,520.23	0.64	-0.09	0.03

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
65.00	-13.12	-0.97	0.00	-28.80	0.00	28.80	1,931.65	521.86	1,766	1,491.20	0.69	-0.09	0.03
70.00	-12.65	-0.95	0.00	-23.95	0.00	23.95	1,904.00	508.97	1,680	1,433.33	0.80	-0.10	0.02
75.00	-12.20	-0.92	0.00	-19.21	0.00	19.21	1,875.33	496.09	1,596	1,375.78	0.91	-0.11	0.02
80.00	-11.93	-0.91	0.00	-14.59	0.00	14.59	1,845.65	483.21	1,514	1,318.61	1.02	-0.11	0.02
83.00	-9.00	-0.73	0.00	-11.87	0.00	11.87	1,827.36	475.48	1,466	1,284.51	1.09	-0.12	0.01
85.00	-8.57	-0.70	0.00	-10.42	0.00	10.42	1,814.96	470.33	1,435	1,261.87	1.14	-0.12	0.01
90.00	-8.32	-0.68	0.00	-6.93	0.00	6.93	1,783.26	457.45	1,357	1,205.62	1.27	-0.12	0.01
93.00	-5.13	-0.45	0.00	-4.89	0.00	4.89	1,763.75	449.72	1,312	1,172.13	1.34	-0.12	0.01
95.00	-4.74	-0.42	0.00	-3.99	0.00	3.99	1,750.54	444.57	1,282	1,149.92	1.40	-0.12	0.01
100.00	-4.36	-0.38	0.00	-1.92	0.00	1.92	1,716.80	431.69	1,209	1,094.83	1.53	-0.12	0.00
105.00	0.00	0.00	0.00	0.00	0.00	0.00	1,682.06	418.81	1,138	1,040.41	1.66	-0.12	0.00
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,646.29	405.93	1,069	986.71	1.79	-0.12	0.00

ANALYSIS SUMMARY

Load Case	Base Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	18.00	0.00	35.28	0.00	0.00	1468.03	0.00	0.38
0.9D + 1.0W	17.99	0.00	26.45	0.00	0.00	1458.90	0.00	0.38
1.2D + 1.0Di + 1.0Wi	5.10	0.00	54.45	0.00	0.00	411.96	0.00	0.12
1.2D + 1.0Ev + 1.0Eh	1.16	0.00	35.17	0.00	0.00	101.42	0.00	0.03
0.9D - 1.0Ev + 1.0Eh	1.15	0.00	24.47	0.00	0.00	100.65	0.00	0.03
1.0D + 1.0W	4.09	0.00	29.41	0.00	0.00	332.53	0.00	0.09

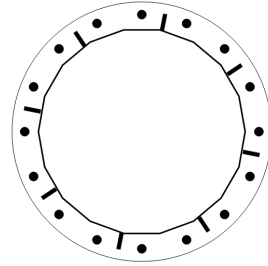
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1468.03	35.28	18

PLATE PARAMETERS (ID# 27177)

Width:	61.5	in
Shape:	Round	
Thickness:	3	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	3.5	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	56	°

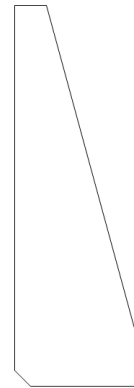


ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#27886]	Radial	16	2.25	55.5	A615-75	75	100	-	-

STIFFENER PARAMETERS

Arrangement:	Radial	
Quantity:	8	
Height:	12	in
Width:	4	in
Thickness:	1	in
Notch:	0.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.313	in
Vertical Weld Fillet Size:	0.313	in
Weld Strength:	70	ksi
Orientation Offset:	11.25	°



COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	48.5"Ø x 0.375" (18 Sides)	56.4085	-	-	16333.03	-
Bolt Group	Original (16) 2.25"Ø	3.9761	3.2477	0.8393	18172.99	4.5
Stiffeners	(8) 12"H x 4"W x 1"T	3.5000	3.1500	21.3333	8704.85	-

ASSET: 283425, WOODSTOCK 2 CT
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
 PROJECT: 14854914

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	48.5"Ø x 0.375" (18 Sides)	1468.0	35.28	18.00	1.000
Bolt Group	Original (16) 2.25"Ø	1468.0	-	18.00	1.000
Stiffeners	(8) 12"H x 4"W x 1"T	510.4	-	6.26	0.348

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 48.62 in
 Point-to-Point Diameter: 49.38 in
 Orientation Offset: - °

Flat Width: 8.574 in
 Flat Radians: 0.349 rad

PLATE PROPERTIES

Neutral Axis: 56 °
 Bend Line Limits: 2.109 to 2.996 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment M _u (k-in)	Moment Capacity ΦM _n (k-in)	Flexure Result M _u /ΦM _n
Flats	33.221	0.00	74.747	271.1	3363.6	8.1%
Corners	32.096	0.00	72.215	208.2	3249.7	6.4%
Circumferential	36.491	9.81	104.171	293.4	4687.7	6.3%

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P _u (k)	Applied Shear Load V _u (k)	Compressive Capacity ΦP _n (k)	Interaction Result
Original	16	2.25	69.4	1.7	243.6	29.9%

BASE PLATE STIFFENER ANALYSIS

Quantity:	8	
Height:	12	in
Width:	4	in
Effective Width:	4.000	in
Thickness:	1	in
Notch:	0.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.313	in
Horizontal Weld Bevel Size:		in
Vertical Weld Fillet Size:	0.313	in
Weld Strength:	70	ksi
Electrode Coefficient:	1.000	

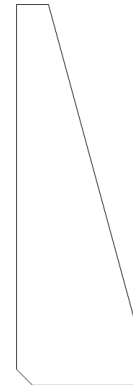


PLATE COMPRESSION

Radius of Gyration:	0.289	in ³
k/r:	24.94	
$4.71 \sqrt{(E/F_y)}$:	113.43	
Buckling Stress, F_e :	460.10	ksi
Crit. Buckling Stress, F_{cr} :	403.51	ksi
Applied Compression, P_u :	55.38	k
Compressive Capacity, ΦP_n :	1271.05	k
Compressive Result, $P_u/\Phi P_n$:	2.2%	✓

PLATE TENSION

Gross Cross Section:	3.5000	in ²
Net Cross Section:	3.1500	in ²
Applied Tension, T_u :	52.31	k
Tensile Capacity, ΦT_n :	153.56	k
Tension Result, $T_u/\Phi T_n$:	17.0%	✓

VERTICAL WELD TO POLE

Vertical Eccentricity Ratio, $a=e_x/l$:	0.111	
Spacing Ratio, k:	0.083	
Weld Coefficient, C:	3.720	
Applied Compression, P_u :	55.38	k
Compressive Capacity, ΦP_n :	167.67	k
Horizontal Eccentricity Ratio, $a=e_x/l$:	0.333	
Weld Coefficient, C:	2.940	
Applied Shear, V_u :	0.45	k
Shear Capacity, ΦV_n :	132.51	k
Weld Result, $P_u/\Phi P_n + V_u/\Phi V_n$:	33.4%	✓

HORIZONTAL WELD TO PLATE

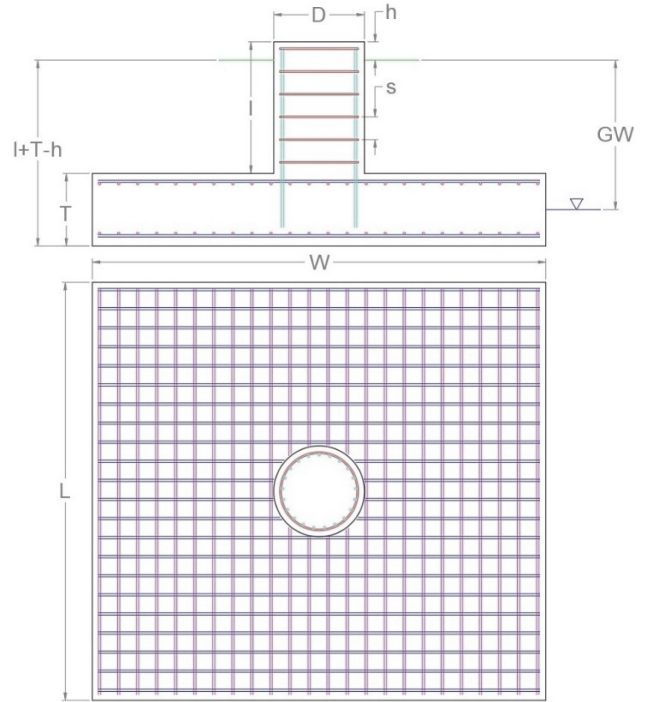
Horizontal Eccentricity Ratio, $a=e_x/l$:	0.167	
Spacing Ratio, k:	0.250	
Weld Coefficient, C:	4.040	
Effective Fillet Size:	0.313	in
Applied Compression, P_u :	55.38	k
Compressive Capacity, ΦP_n :	60.70	k
Vertical Eccentricity Ratio, $a=e_x/l$:	0.500	
Weld Coefficient, C:	2.320	
Applied Shear, V_u :	0.45	k
Shear Capacity, ΦV_n :	34.86	k
Weld Result, $P_u/\Phi P_n + V_u/\Phi V_n$:	92.5%	✓

APPLIED GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1,468.03	35.28	18.00

FOUNDATION PARAMETERS

Mat Length:	L	23	ft
Mat Width:	W	23	ft
Mat Thickness:	T	2.25	ft
Base Depth:	L+T-h	6.5	ft
Pier Shape:		Round	
Pier Diameter:	D	6.5	ft
Pier Height above Grade:	h	0.5	ft
Concrete Compressive Strength:		4,000	psi
Mat Top Rebar:		(26) #8 bars [60 ksi]	
Mat Bottom Rebar:		(26) #8 bars [60 ksi]	
Pier Vertical Rebar:		(51) #9 bars [60 ksi]	
Pier Rebar Ties:	s	#4 bars @ 6.0" c/c [60 ksi]	
Rebar Clear Cover:		3.0	in
Tower Eccentricity:	ecc	0	ft
Tower Leg Count		1	



SOIL PARAMETERS

Water Table Depth [BGL]:	GW	8	ft
Soil Unit Weight:		120	pcf
Ultimate Skin Friction:		0	psf
Ultimate Bearing Pressure:		10,000	psf
Bearing Pressure Type:		Net	
Coefficient of Shear Friction:		0.5	

SOIL STRENGTH ANALYSIS

Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_s	Asset Dead Load Factor	Dead Load Factor
0.75	0.75	0.9	1.2

SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
1,594.03	5,318.49	30.0% ✔

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (k-ft)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,182.00	8,085.00	Diagonal to Pad Edge	14.6% ✔

SOIL SLIDING SHEAR ANALYSIS

Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
18.00	0.00	645.0	33.38	206.70	9.0% ✔

MAT REINFORCING STEEL STRENGTH ANALYSIS

Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
29,000	0.9	0.75	0.65

MAT REINFORCING ONE WAY SHEAR ANALYSIS

One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$
49.56	581.11	Diagonal to Pad Edge	8.5%

MAT REINFORCING PUNCHING SHEAR ANALYSIS

Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c v_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c v_n$
35.9	189.7	18.9%

MAT REINFORCING MOMENT TRANSFER ANALYSIS

Moment Transfer Effective Flexural Width, w_f (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,f}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,f}$
13.25	1.38	0.00	15,058.8	0.0%

MAT REINFORCING FLEXURE ANALYSIS – UPPER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
609.51	2,074.30	Parallel to Pad Edge	29.4%

MAT REINFORCING FLEXURE ANALYSIS – LOWER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
678.40	2,074.30	Parallel to Pad Edge	32.7%

PIER REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
69.88	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u / \Phi_b M_n$
1,553.53	7,529.20	0.011	20.6%

PIER REINFORCING COMPRESSION ANALYSIS

Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
35.28	8,389.18	0.4%

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
18.00	642.19	2.8%

EXHIBIT 4



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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10217471
Colliers Engineering & Design Project #: 21777447 (Rev. 1)

January 11, 2024

Site Information

Site ID: 5000246521-VZW / WOODSTOCK VALLEY CT - A
Site Name: WOODSTOCK VALLEY CT - A
Carrier Name: Verizon Wireless
Address: ATC Tower 350 Rte 198
Woodstock, Connecticut 06282
Windham County
Latitude: 41.93944°
Longitude: -72.08203°

Structure Information

Tower Type: Monopole
Mount Type: 12.50-Ft Platform

FUZE ID # 16272143

Analysis Results

Platform: 25.4% **Pass w/ Modifications***

***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**

Report Prepared By: Prasanna Dhakal



01/12/2024

Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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: 5002582, dated July 28, 2023</i>
<i>Mount Mapping Report</i>	<i>RKS Design & Engineering, LLC, Site ID: ATC: 283425 dated October 25, 2021</i>
<i>Previous Mount Analysis</i>	<i>Colliers Engineering & Design, Project #: 21777447 (Rev. 1), dated December 15, 2023</i>
<i>Mount Modification Drawings</i>	<i>Colliers Engineering & Design, Project #: 21777447 (Rev. 1), dated January 11, 2024</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: 1.50 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.971
Seismic Parameters:	S_s : 0.182 g S_1 : 0.055 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 (V17)

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
91.25	93.00	3	Samsung	MT6413-77A	Added
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		6	Andrew	SBNHH-1D65B	Retained
		2	Raycap	RRFDC-3315-PF-48	

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

8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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
<i>Face Horizontal</i>	16.6%	<i>Pass</i>
<i>Standoff Horizontal</i>	10.2%	<i>Pass</i>
<i>Platform Crossmember</i>	10.7%	<i>Pass</i>
<i>Mount Pipe</i>	25.4%	<i>Pass</i>
<i>Corner Plate</i>	13.2%	<i>Pass</i>
<i>Grating Support</i>	11.6%	<i>Pass</i>
<i>Cross Arm Plate</i>	22.2%	<i>Pass</i>
<i>Mod Support Rail</i>	11.9%	<i>Pass</i>
<i>Mod Support Rail Corner</i>	19.0%	<i>Pass</i>
<i>Mod Kicker</i>	5.8%	<i>Pass</i>
<i>Mount Connection (Bolt)</i>	9.7%	<i>Pass</i>
<i>Mount Connection (Plate)</i>	11.4%	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	25.4%
---	--------------

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 C Standoff	91.3	N3	423	2418	0.569	0.856	969	2386	1.145	0.284
Sector B Standoff	91.3	N66	476	2439	0.580	1.010	1168	2394	1.298	0.318
Sector A Standoff	91.3	N103	473	2439	0.579	0.967	1161	2402	1.306	0.309
Sector C Reinforcement	88.3	N173	964	1313	0.000	0.000	1642	2230	0.000	0.000
Sector B Reinforcement	88.3	N176 A	955	1300	0.000	0.000	1635	2219	0.000	0.000
Sector A Reinforcement	88.3	N179 A	956	1301	0.000	0.000	1641	2228	0.000	0.000

Notes:

- Axial loads act along the axis of the tower
- Lateral reactions act perpendicular to the tower
- Moment loads introduce bending moment to the tower
- Torsion loads introduce twisting moment to the tower
- 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	30.9	30.9	41.6	41.6
0.5	40.1	40.1	55.3	55.3
1	48.2	48.2	67.9	67.9

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 sectors.
- Ka factors included in (EPA)a calculations

Requirements:

The existing mount will be **SUFFICIENT** for the final loading configuration (attachment 2) **after the modifications detailed in attachment 3 are successfully completed.**

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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

MDG #: 5000246521

SMART Project #: 10217471

Fuze Project ID: 16272143

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor 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 modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification 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 drawings” showing contractor’s name, 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 post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is 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 of the modifications.
 - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must 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.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
 - If the materials are as specified on the drawings
 - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
 - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
 - If seeking permission to use an equivalent
 - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

All hardware has been properly installed, and the existing hardware was inspected.

The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings 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.

Antenna & Equipment Placement and Geometry Confirmation:

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.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

- Yes No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

1. Contractor shall relocate existing OVPs on a new OVP pipes as proposed in Mount Modification Drawings.

Response:

Special Instruction Confirmation:

- The contractor has read and acknowledges the above special instructions.

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

Comments:

--

Certifying Individual:

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

Se tor: A

1/10/2024

Str t re Type: Mo opole

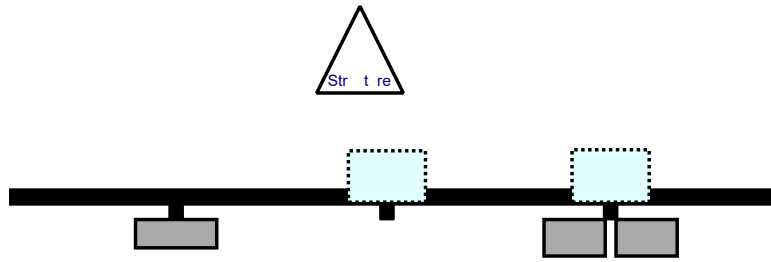
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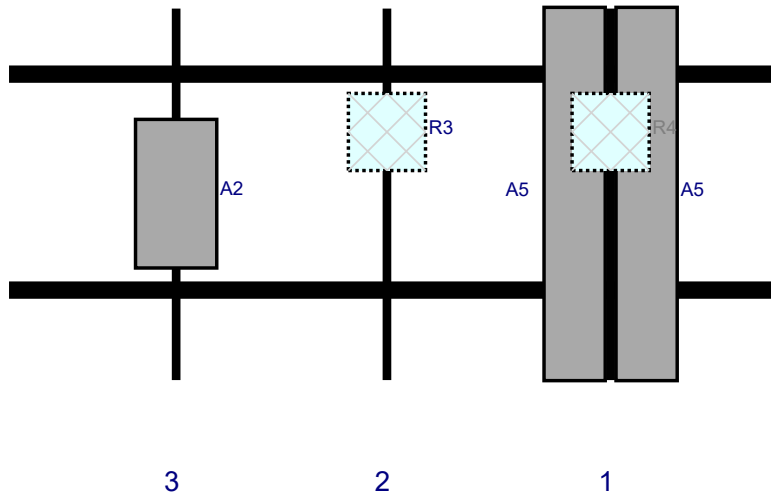
Mo t Elev: 91.25

P ge: 1

Plan View



Front View - Looking at Str t re



Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	7	Ret i ed	
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	-7	Ret i ed	
R4	RF4461d-13A	15	15	117	1		Behi d	24	0	Added	
R3	RF4439d-25A	15	15	73.5	2		Behi d	24	0	Added	
A2	MT6413-77A	28.9	15.8	32.5	3		Fro t	36	0	Added	
OVP2	RRFDC-3315-PF-48	29.5	16.5			Me er				Ret i ed	10/25/2021
OVP1	RRFDC-3315-PF-48	29.5	16.5			Me er				Ret i ed	10/25/2021

Se tor: B

1/10/2024

Str t re Type: Mo opole

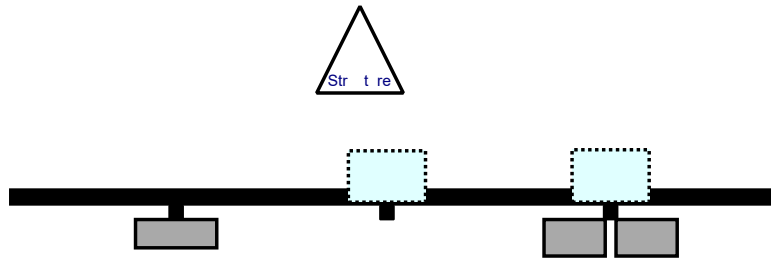
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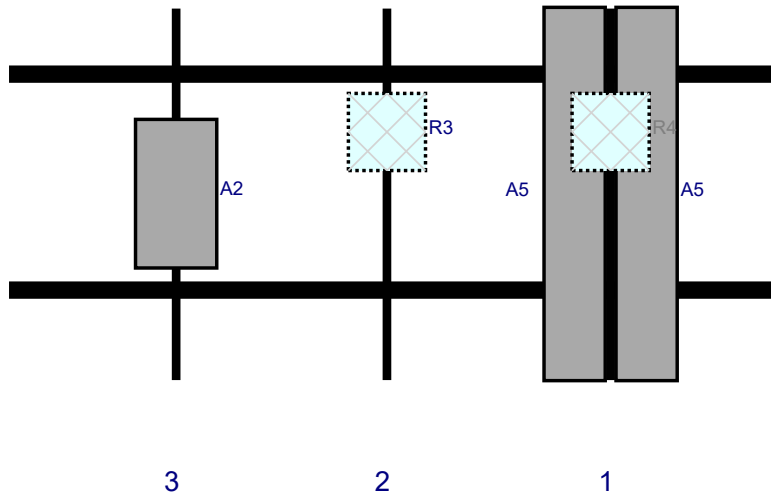
Mo t Elev: 91.25

P ge: 2

Plan View



Front View - Looking at Structure



Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	7	Ret i ed	
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	-7	Ret i ed	
R4	RF4461d-13A	15	15	117	1		Behi d	24	0	Added	
R3	RF4439d-25A	15	15	73.5	2		Behi d	24	0	Added	
A2	MT6413-77A	28.9	15.8	32.5	3		Fro t	36	0	Added	

Se tor: C

1/10/2024

Str t re Type: Mo opole

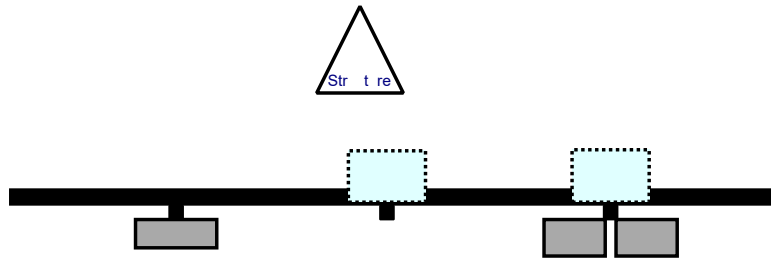
10217471



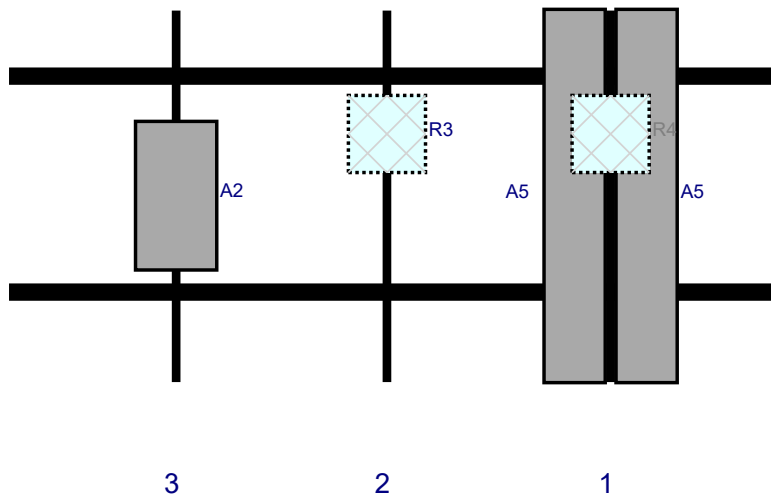
Mo t Elev: 91.25

P ge: 3

Plan View



Front View - Looking at Structure



Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	7	Ret i ed	
A5	SBNHH-1D65B	72.6	11.9	117	1		Fro t	36.06	-7	Ret i ed	
R4	RF4461d-13A	15	15	117	1		Behi d	24	0	Added	
R3	RF4439d-25A	15	15	73.5	2		Behi d	24	0	Added	
A2	MT6413-77A	28.9	15.8	32.5	3		Fro t	36	0	Added	



MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' PLATFORM

TOWER OWNER: AMERICAN TOWER CORPORATION
TOWER OWNER SITE NUMBER: 283425

CARRIER SITE NAME: WOODSTOCK VALLEY CT - A
CARRIER SITE NUMBER: 5000246521
FUZE ID: 16272143

ATC TOWER 350 RTE 198
WOODSTOCK, CT 06282
WINDHAM COUNTY

LATITUDE: 41.94944° N
LONGITUDE: 72.08203° W



www.colliersengineering.com

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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN JOB NUMBER: 21777447

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	01/11/24	ISSUED FOR CONSTRUCTION	PD	DK

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC-0000131

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

SITE NAME:
WOODSTOCK VALLEY CT - A
5000246521
ATC TOWER 350 RTE 198
WOODSTOCK, CT 06282
WINDHAM COUNTY

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
ST-1

DESIGN CRITERIA

WIND LOADS
BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 1137.73'

ICE LOADS
ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS
SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .182
LONG TERM MCER GROUND MOTION, S_l = .055

PROJECT INFORMATION

APPLICANT/LESSEE
COMPANY: VERIZON WIRELESS
CLIENT REPRESENTATIVE
COMPANY: VERIZON WIRELESS
PROJECT MANAGER
COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10217471
VZW MDG #: 5000246521
ANALYSIS DATE: 1/11/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

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BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	88
1		VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
2		VZWSMART-MSK6	BACK TO BACK Crossover PLATE		34	68

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
9	SITE PRO 1	SP219	Crossover PLATE	OR EOR APPROVED EQUAL, CONTACT COLLIERS ENGINEERING & DESIGN FOR APPROVAL OF SUBSTITUTION.	12	112
2	-	-	36" LONG, PIPE 2 SCH40	GALVANIZED	11	22

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1235

NOTES:

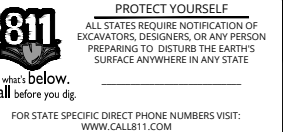
- THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
- ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM



SCALE:	AS SHOWN	JOB NUMBER:	21777447
REV	DATE	DESCRIPTION	DRAWN BY / CHECKED BY
1	01/11/24	ISSUED FOR CONSTRUCTION	PD / DK

SITE NAME:
WOODSTOCK VALLEY CT - A
5000246521
ATC TOWER 350 RTE 198
WOODSTOCK, CT 06282
WINDHAM COUNTY

GENERAL NOTES

- THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
- CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
- ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

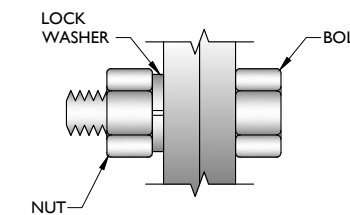
STRUCTURAL STEEL

- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
 - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - AISC CODE OF STANDARD PRACTICE
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
PETER.ALBANO@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 7/16	1 7/16 x 1 5/16	1 3/4	3

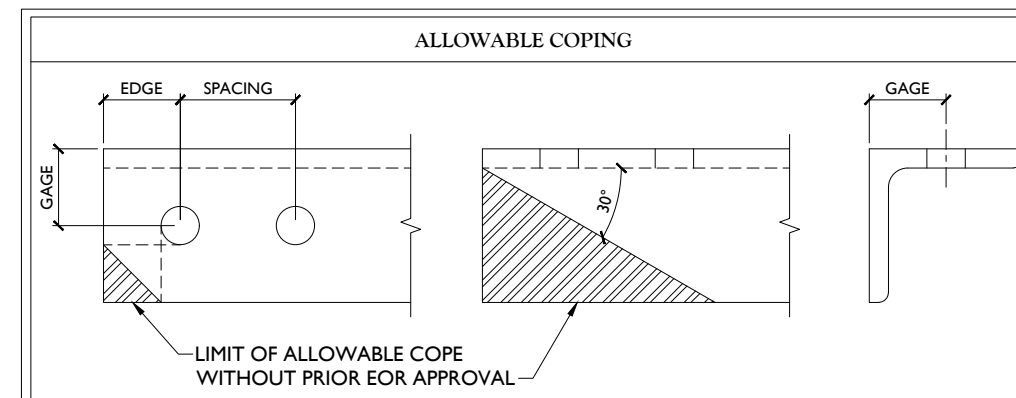
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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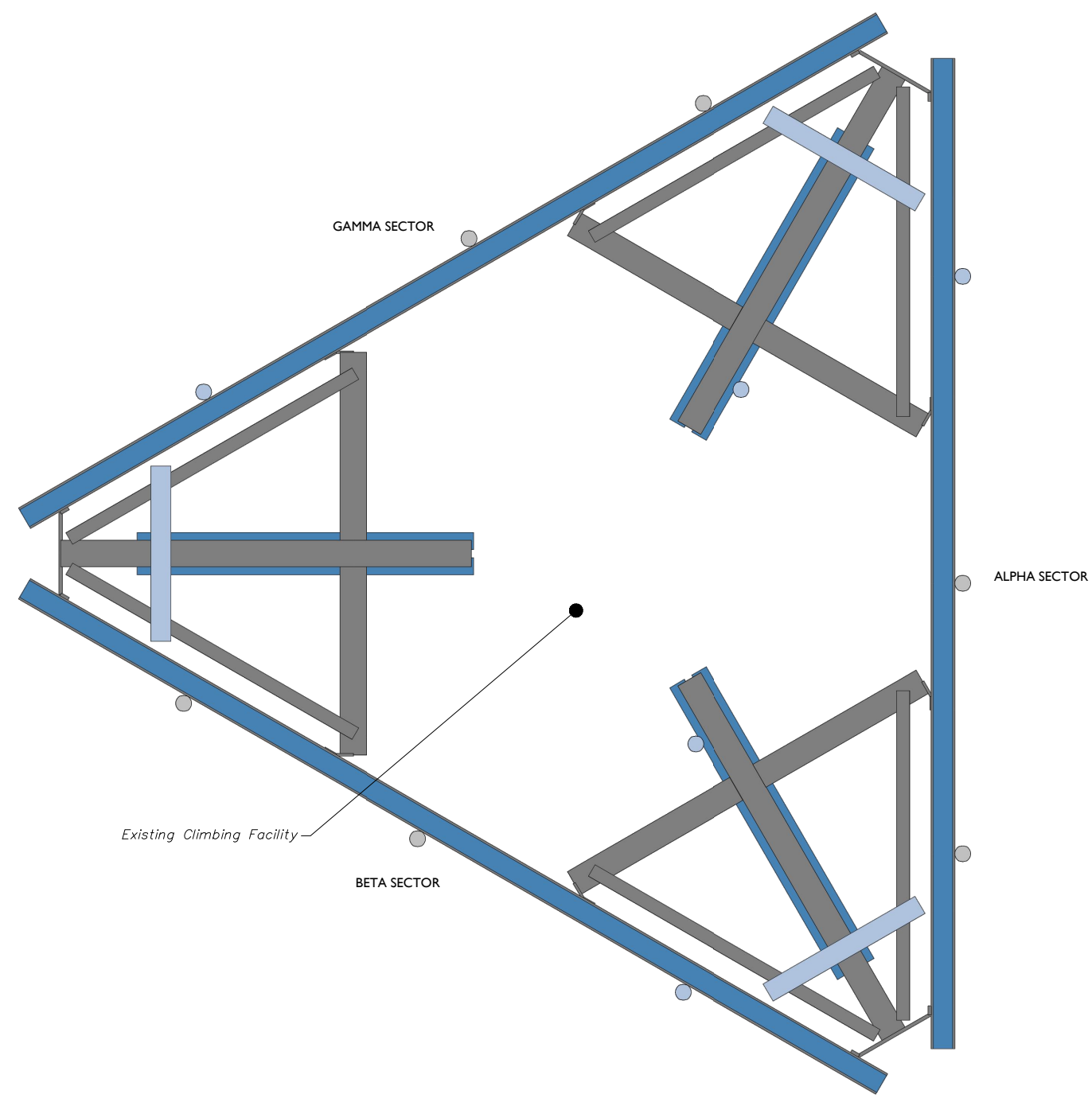
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SITE NAME:
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 5000246521
 ATC TOWER 350 RTE 198
 WOODSTOCK, CT 06282
 WINDHAM COUNTY

Colliers STAMFORD
 1055 Washington Boulevard
 Stamford, CT 06901
 Phone: 203.324.0800
 COLLIERS ENGINEERING & DESIGN CT, P.C.
 DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
 CLIMBING FACILITY DETAIL

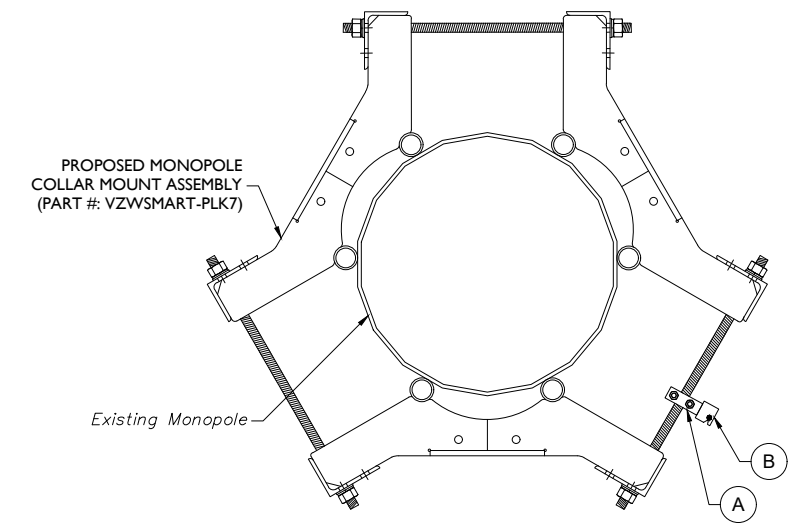
SHEET NUMBER:
 SCF-1



1 CLIMBING FACILITY LOCATION
 SCALE : N.T.S.

STRUCTURAL NOTES:

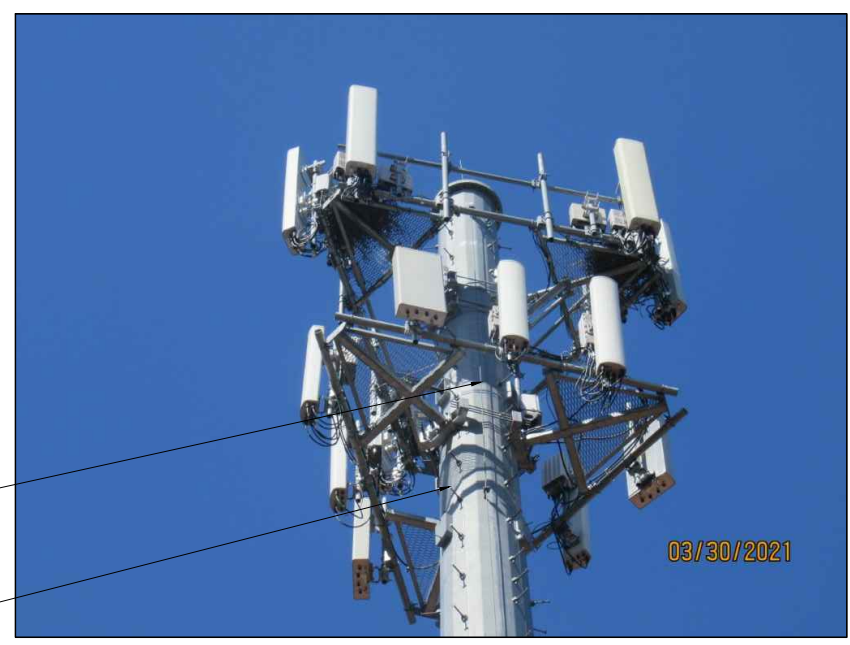
- PER THE MOUNT MAPPING COMPLETED BY RKS DESIGN & ENGINEERING, LLC ON 10/25/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (91'-3") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW
 SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

LEGEND:

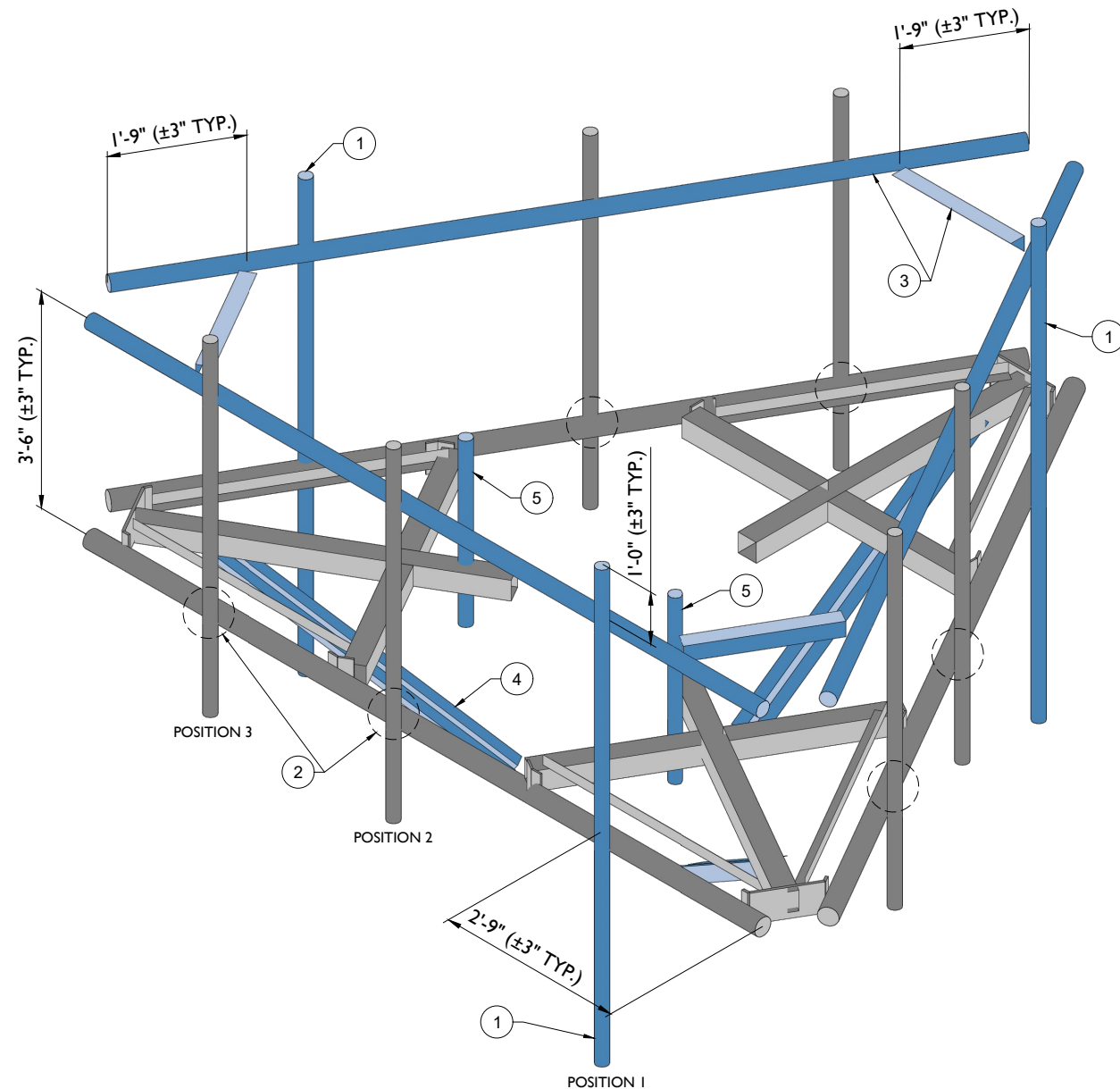
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

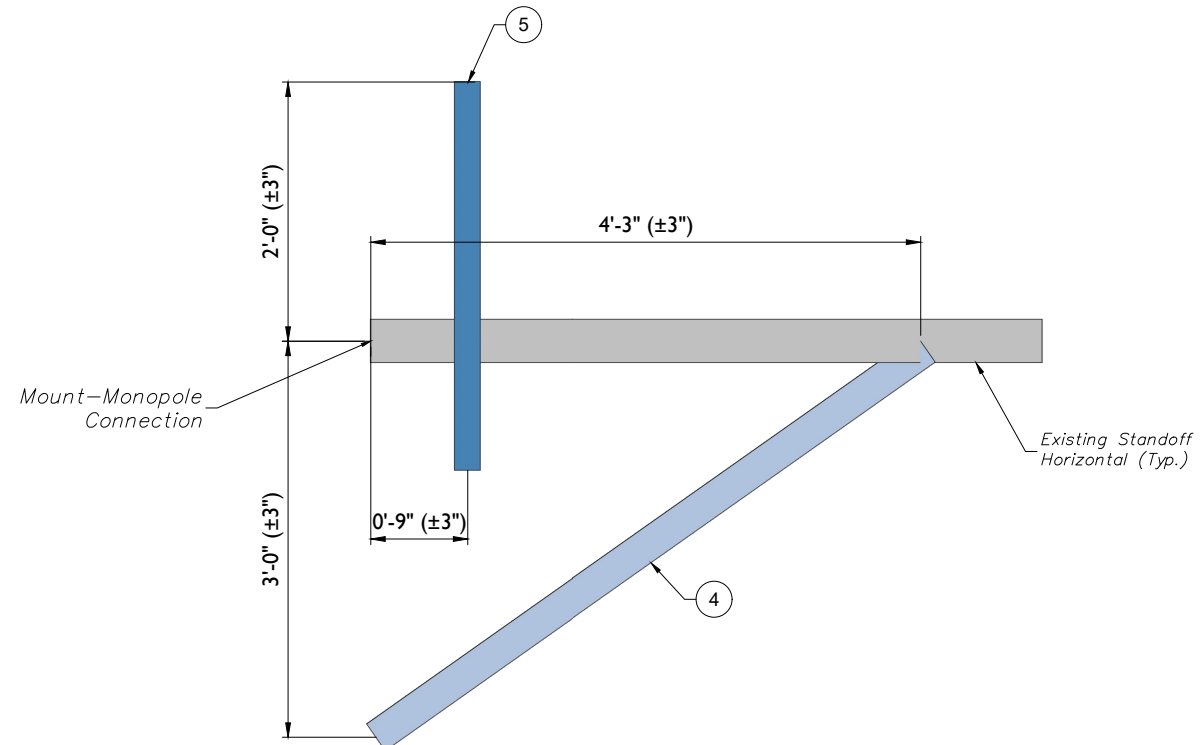
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	91'-3"	3	PROPOSED 96" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X096)	CONTRACTOR SHALL REPLACE EXISTING MOUNT PIPE AT POS. 1 (AS SEEN FROM BEHIND THE MOUNT) WITH NEW PIPE. CONNECT NEW MOUNT PIPE TO EXISTING FACE HORIZONTAL WITH CROSSOVER PLATES (SITE PRO I, PART #: SP219).
2		6	REPLACEMENT OF BENT CROSSOVER PLATE	CONTRACTOR SHALL INSPECT ALL CROSSOVER PLATE CONNECTION BETWEEN MOUNT PIPE AND FACE HORIZONTAL AND REPLACE WITH NEW CROSSOVER PLATE (SITE PRO I, PART #: SP219), IF THEY ARE BENT OR DAMAGED PRIOR TO INSTALLATION OF PROPOSED MODIFICATION KITS.
3		1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.
4		1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
5		2	PROPOSED 36" LONG, PIPE 2 SCH40 OVP PIPE	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTALS BETWEEN ALPHA & GAMMA AND ALPHA & BETA SECTORS WITH BACK TO BACK CROSSOVER PLATE (VZWSMART-MSK6).

GENERAL NOTES:

- A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
- B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
- C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW
SCALE: N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.



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WINDHAM COUNTY



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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1	01/11/24	ISSUED FOR CONSTRUCTION	PD	DK

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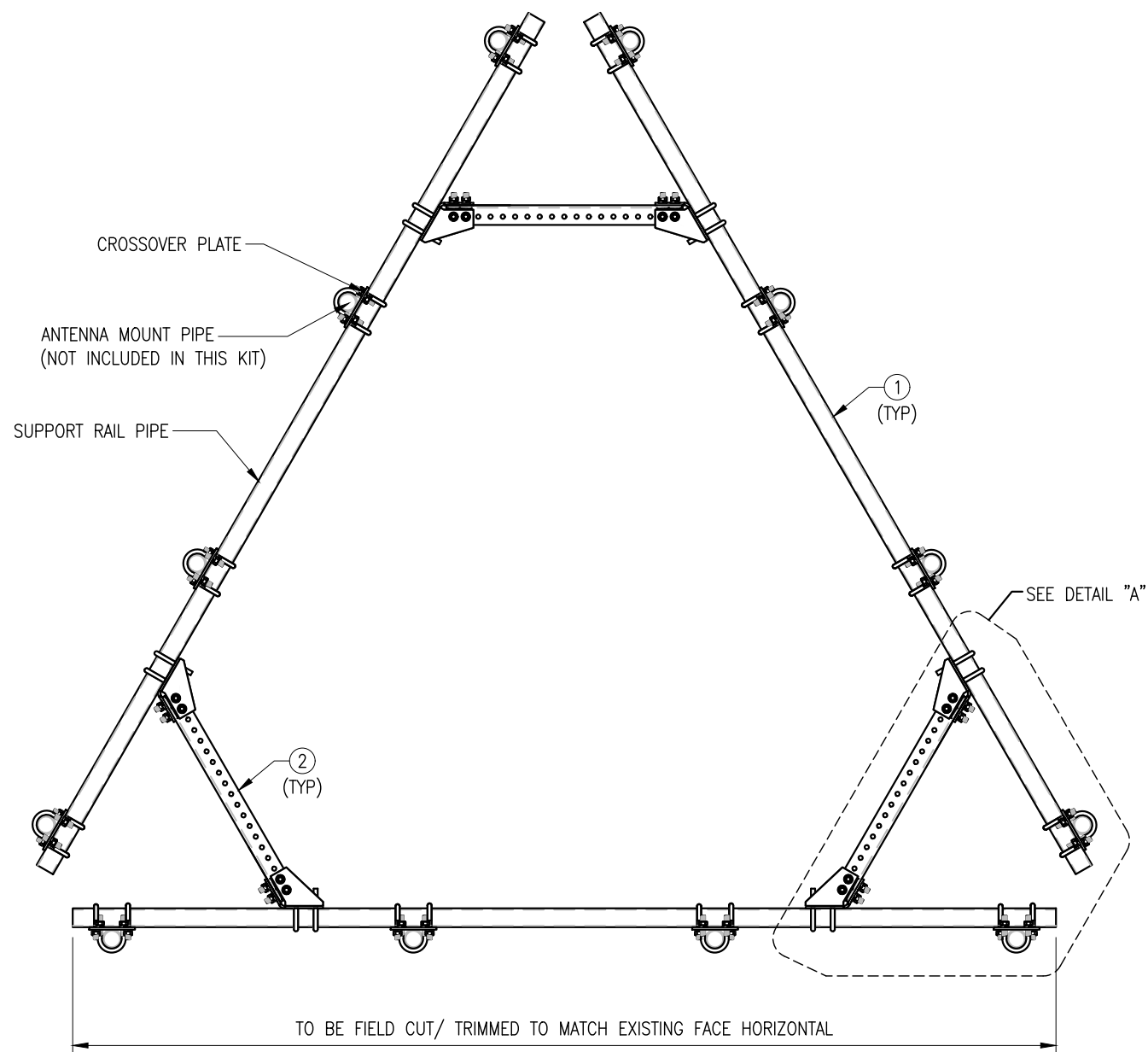
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SITE NAME:
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 5000246521
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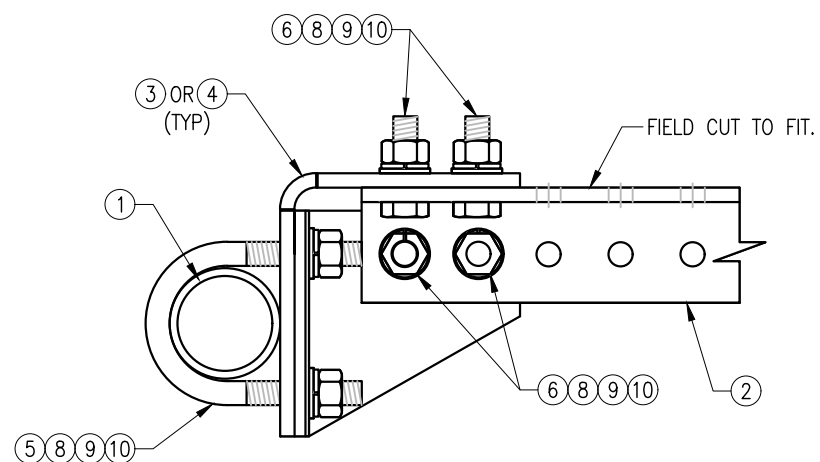
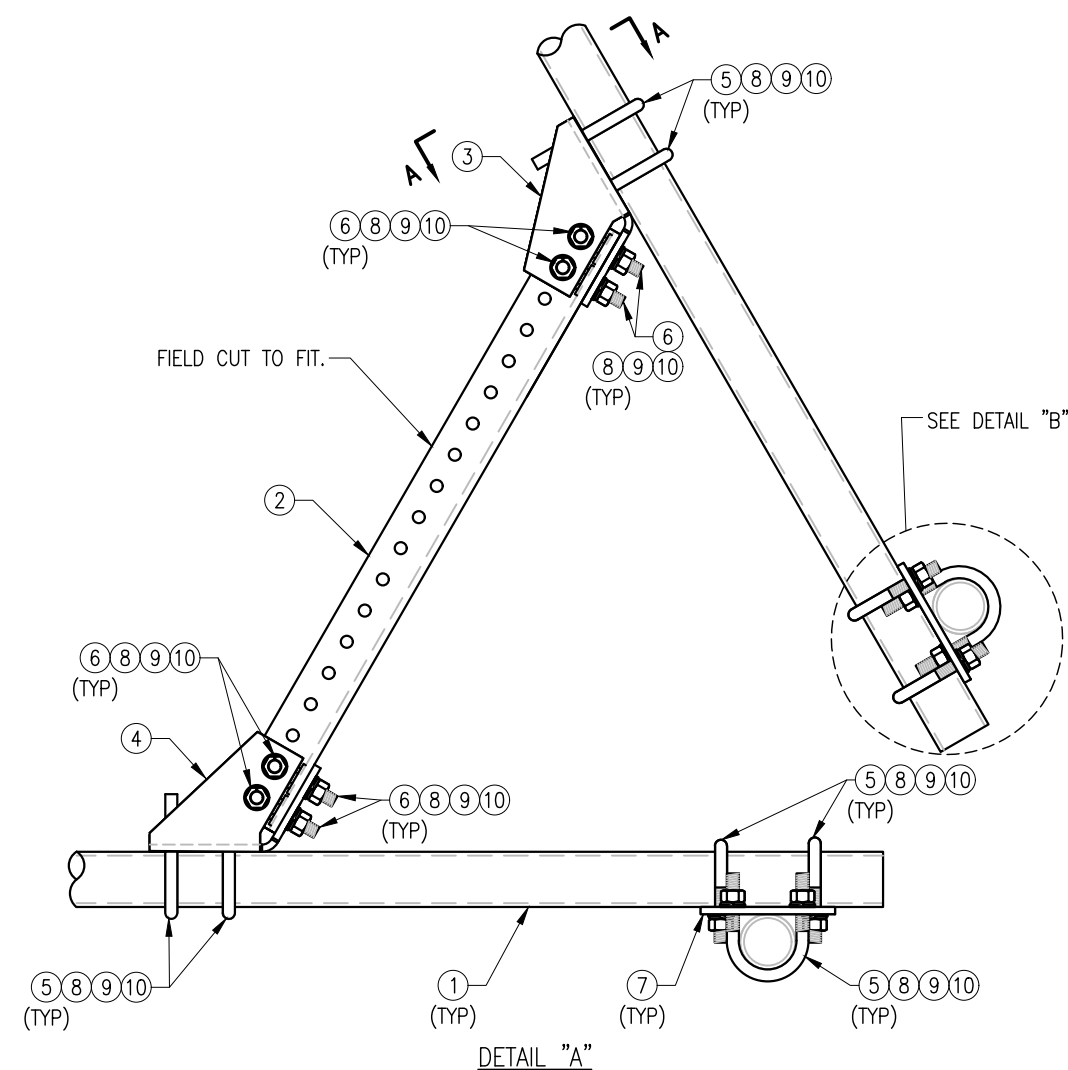
Colliers Engineering & Design
 STAMFORD
 1055 Washington Boulevard
 Stamford, CT 06901
 Phone: 203.324.0800
 COLLIERS ENGINEERING & DESIGN CT, P.C.
 DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
 MOUNT PHOTOS

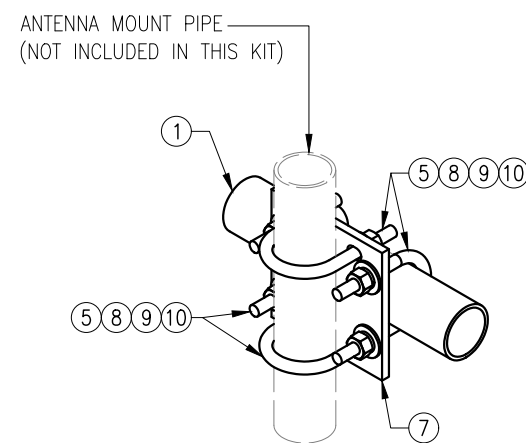
SHEET NUMBER:
 SS-2



PLAN VIEW



SECTION "A-A"



DETAIL "B"

NOTES:

1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZW SMART-PLK1 (SUPPORT RAIL KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875-12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'-6" A53 GR-B	PLK1-F1	292
2	3	L33375-3	L 3" X 3" X 3/8" X 3'-0" A36	PLK1-F1	66
3	3	CBP-L	CORNER BENT PLATE BRACKET	PLK1-F2	28
4	3	CBP-R	CORNER BENT PLATE BRACKET	PLK1-F2	28
5	60	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375-857	PL 3/8" X 8 1/2" X 7'-0" A36	PLK1-F3	77
8	144	FW-625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW-625	5/8" HDG LOCK WASHER	---	3
10	144	NUT-625	5/8" HDG HEX NUT	---	17
GALVANIZED WT					504

FOR REFERENCE ONLY

DRAWN BY: H.R. CHECKED BY: HMA

REV. DESCRIPTION BY DATE
 △ FIRST ISSUE H.R. 05/08/20

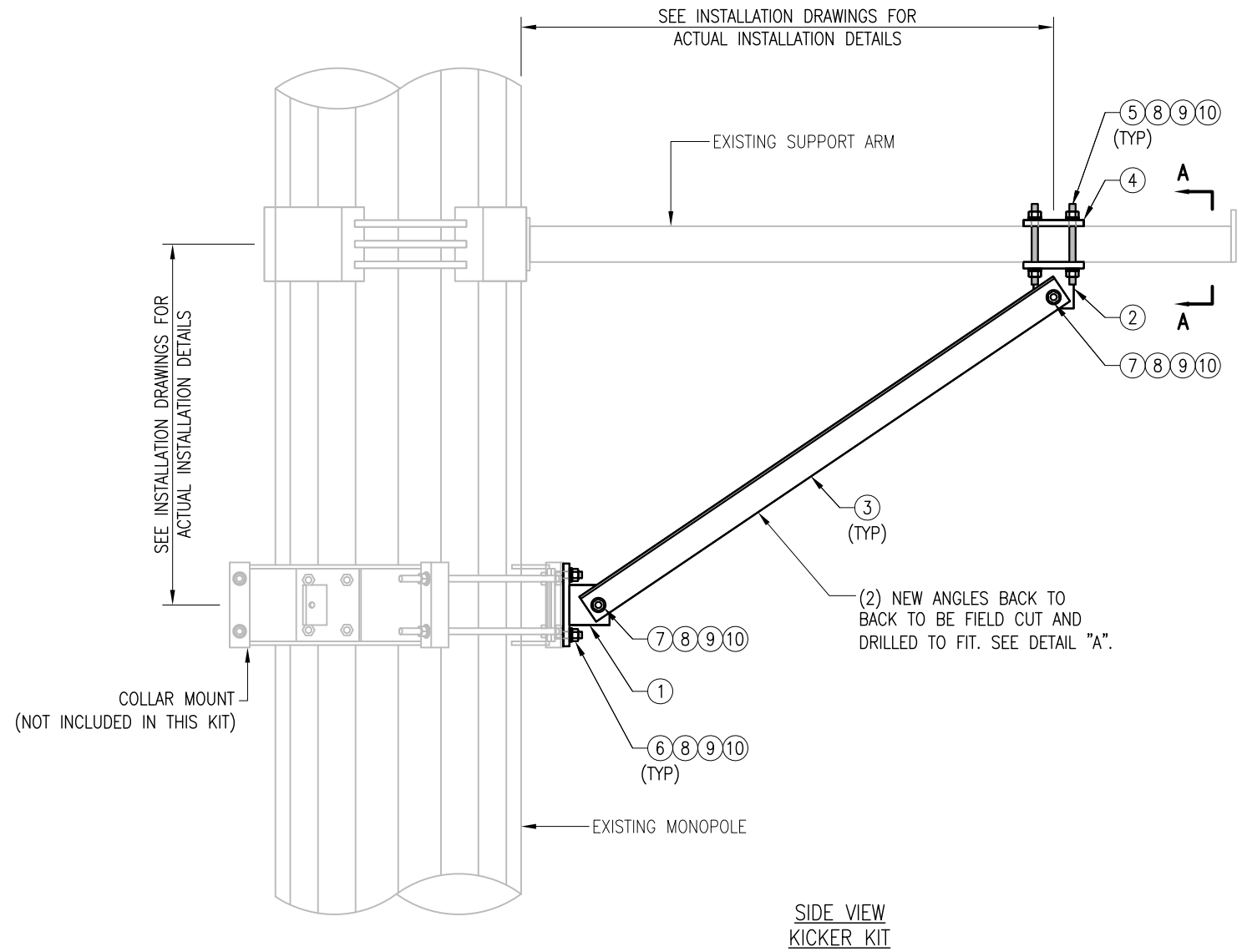
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VZWSMART-PLK1
 SUPPORT RAIL KIT

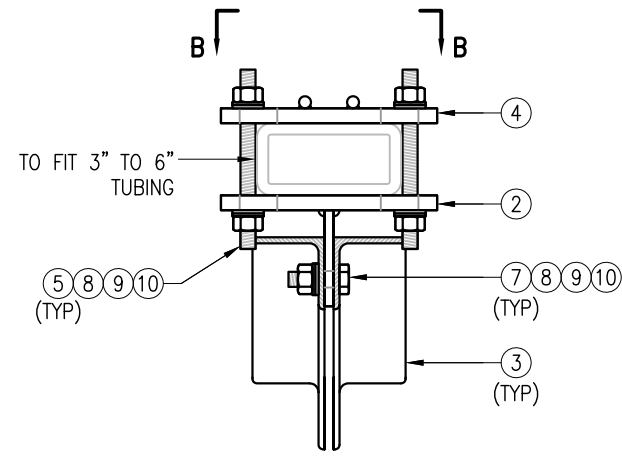
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VZWSMART-PLK1 0

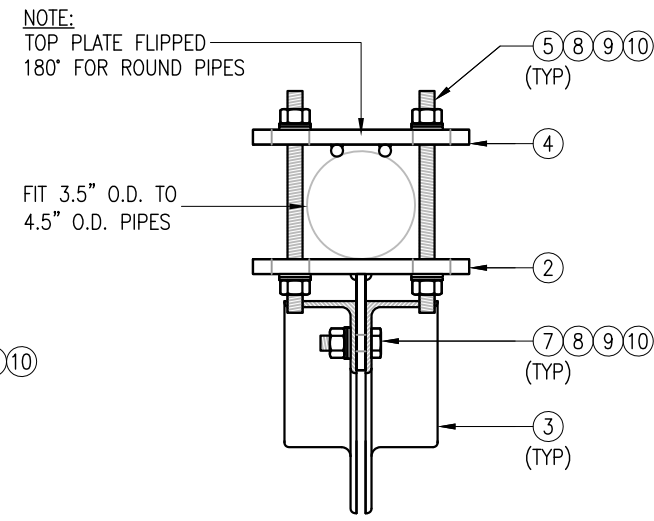
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



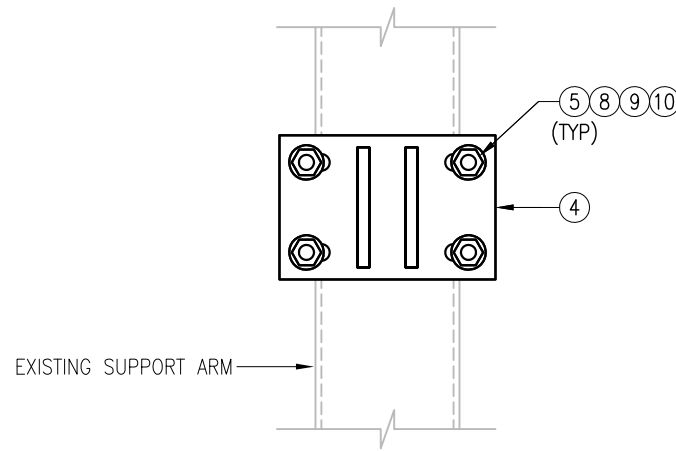
SIDE VIEW
KICKER KIT



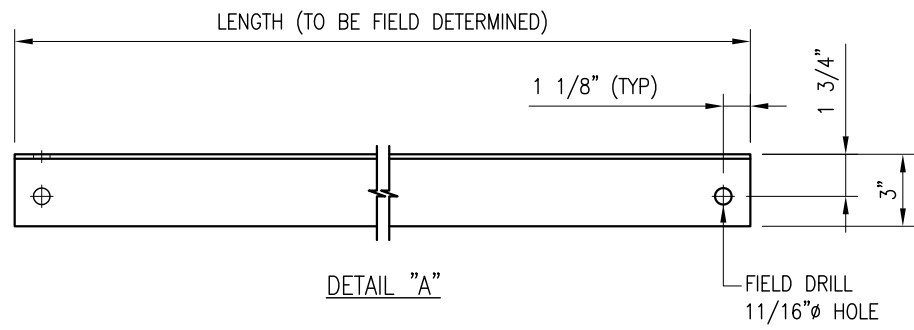
SECTION "A-A"
RECT. HSS MOUNTING



SECTION "A-A"
ROUND PIPE MOUNTING



SECTION "B-B"



DETAIL "A"

VZSMART-PLK5 (KICKER KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW-XXX	BRACKET WELDMENT A36	PLK5-F3	43.8
2	3	BRKW-XXXX	BRACKET WELDMENT A36	PLK5-F2	35.7
3	6	L331875-8	L 3" X 3" X 3/16" X 8'-0" A36	PLK5-F4	182.9
4	3	PL-KI	PL 5/8" X 6" X 9" A36	PLK5-F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	---
6	6	---	BOLT 5/8" X 2" A325	---	---
7	12	---	BOLT 5/8" X 2 1/2" A325	---	---
8	42	FW-625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW-625	5/8" HDG LOCK WASHER	---	1
10	42	NUT-625	5/8" HDG HEX NUT	---	5
GALVANIZED WT					291

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VzW
SMART Tool[®]
Vendor



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ONLY

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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
**VZSMART-PLK5
KICKER KIT**

SHEET NUMBER: **VZSMART-PLK5** REV #: **0**

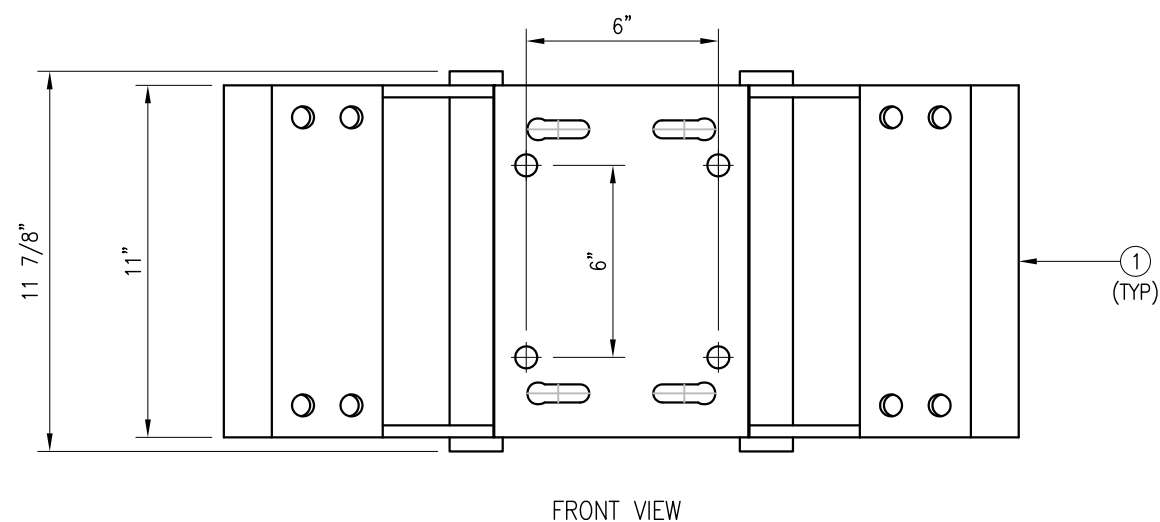
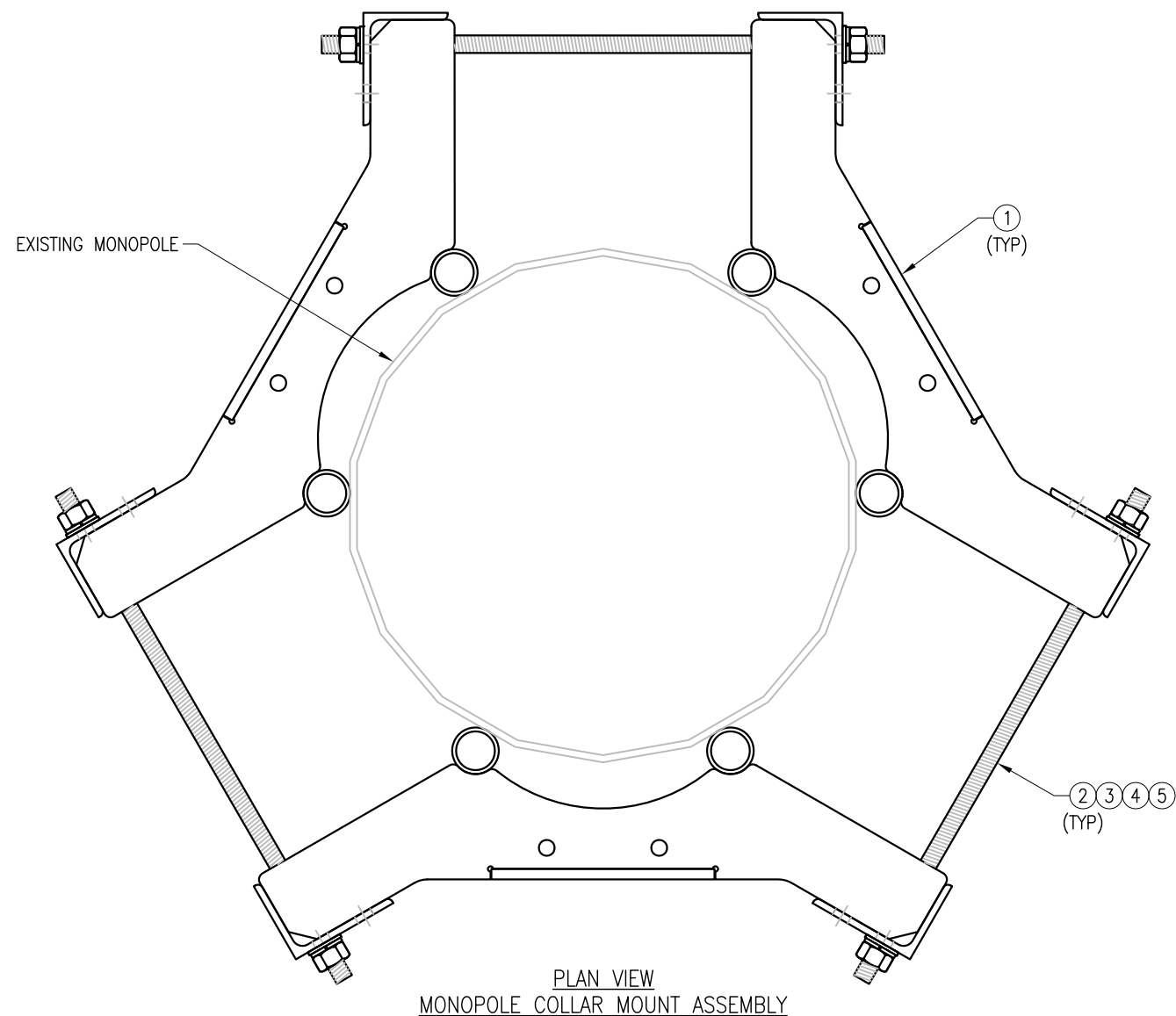
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/11/20

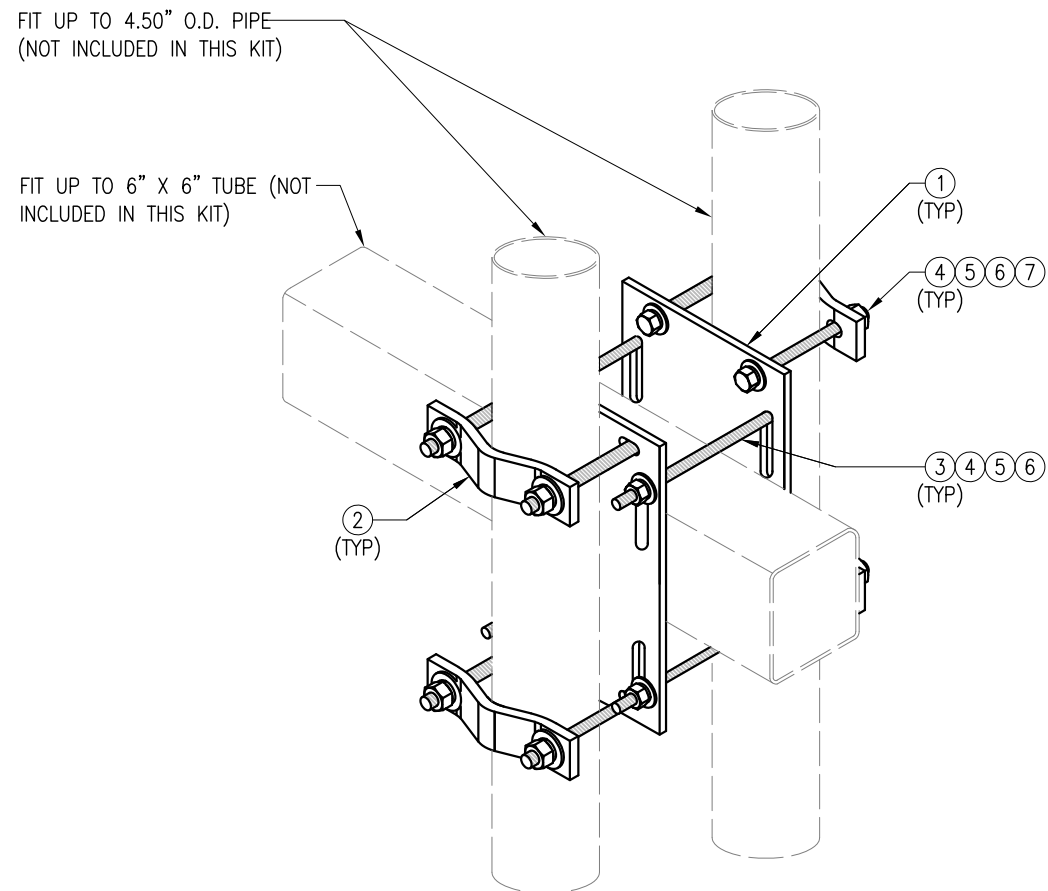
SHEET TITLE:
 VZSMART-PLK7
 MONOPOLE COLLAR
 MOUNT ASSEMBLY

SHEET NUMBER: VZSMART-PLK7 REV #: 0



NOTES:
 1. FIT 12" TO 45" DIA MONOPOLE.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	---
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					150



ISOMETRIC VIEW
 BACK TO BACK CROSSOVER

FOR REFERENCE
 ONLY

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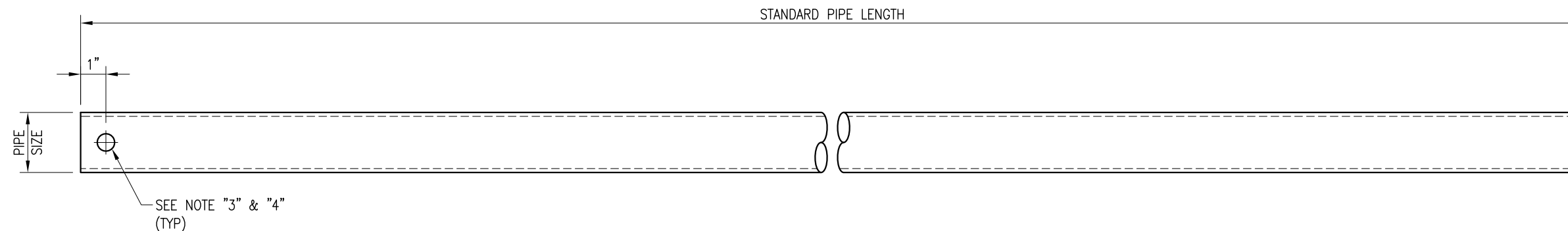
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	SK	05/08/20
△			
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△			

SHEET TITLE:
 VZSMART-MSK6
 BACK TO BACK
 CROSSOVER

SHEET NUMBER: VZSMART-MSK6
 REV #: 0

VZSMART-MSK6 (VZSMART-MSK6 - BACK TO BACK CROSSOVER)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1'-0" A36	MSK6-F2	20.7	
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6	
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---	
4	16	NUT-625	5/8" HDG HEX NUT	---	2	
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1	
6	16	LW-625	5/8" HDG LOCK WASHER	---	0	
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1	
					GALVANIZED WT	34

NOTES:
 1. HOT-DIPPED GALVANIZED PER ASTM A123.



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
 APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
 PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
 SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:**
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. U.N.O
 4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

FOR REFERENCE
 ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:

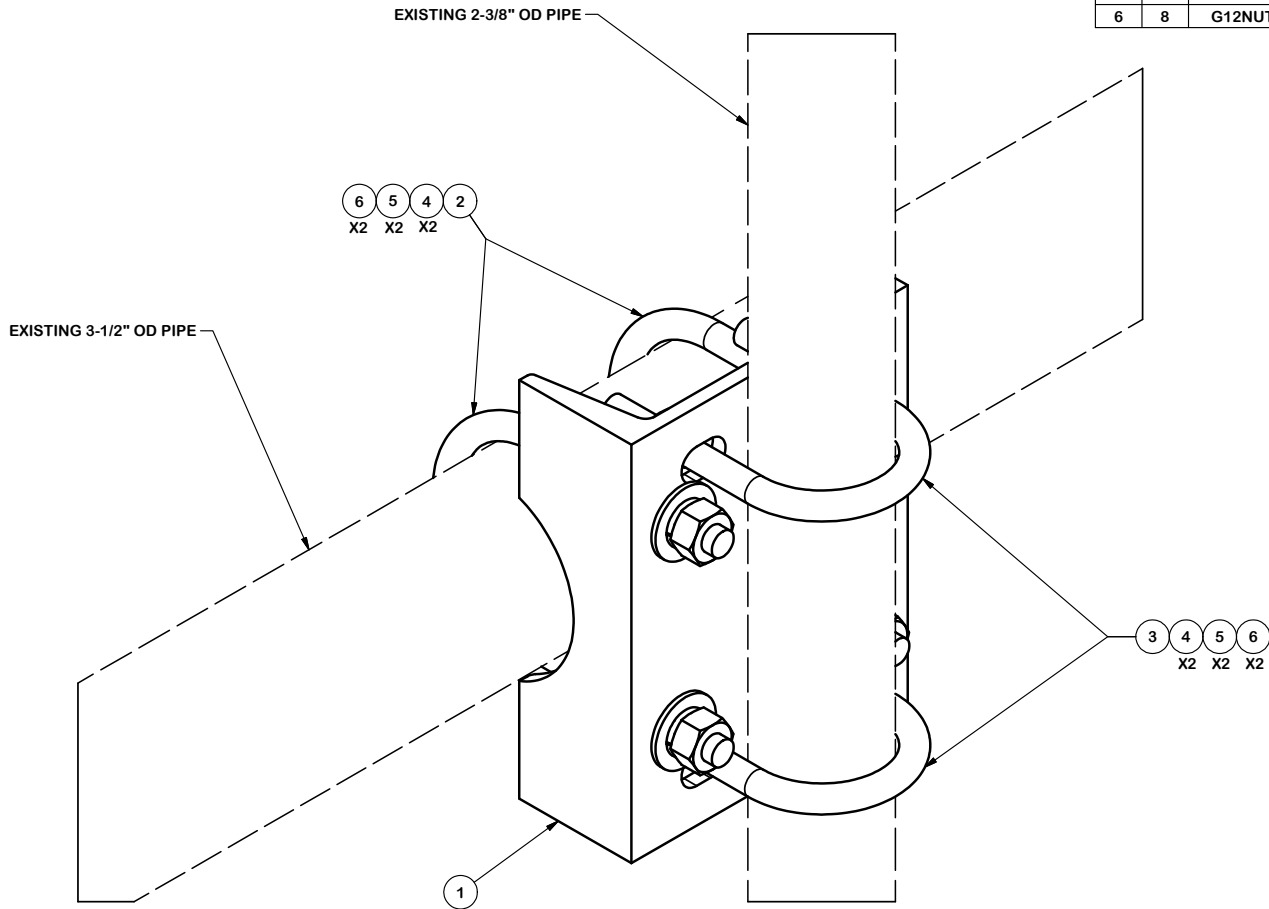
VZWSMART
 STANDARD PIPE

SHEET NUMBER: REV #:

VZWSMART-PIPE

0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	1.66
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.47



FOR REFERENCE ONLY

TOLERANCE NOTES

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

PROPRIETARY NOTE:
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DESCRIPTION
 PIPE MOUNT KIT

CPD NO. 4518	DRAWN BY KC8 6/26/2012	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
		CHECKED BY CEK 1/23/2013

SITE PRO 1
 A valmont COMPANY

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

Engineering Support Team:
 1-888-753-7446

PART NO. SP219	PAGE 1 OF 1
DWG. NO. SP219	





Antenna Mount Mapping Form (PATENT PENDING)

FCC #
1278179

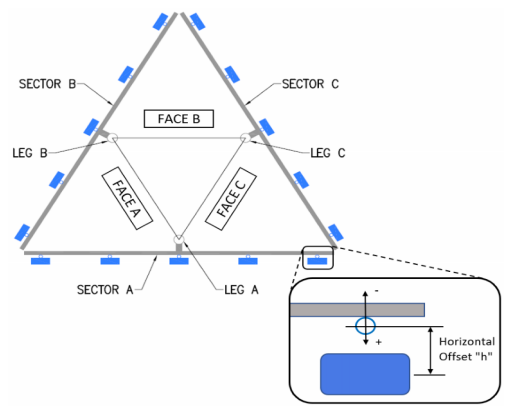
Tower Owner:	ATC	Mapping Date:	10/25/2021
Site Name:	ATC: Woodstock CT 2; VZW: Woodstock Valley CT - A	Tower Type:	Monopole
Site Number or ID:	ATC: 283425	Tower Height (Ft.):	UNKNOWN
Mapping Contractor:	RKS Design & Engineering, LLC	Mount Elevation (Ft.):	94.3

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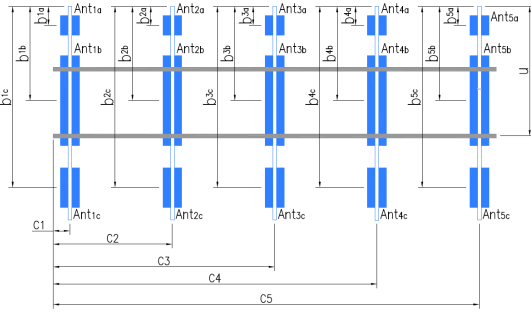
Please insert the sketches of the antenna mount from the "Sketches" tab with dimensions and members here.

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	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	33.00	C1	PIPE 2.375"Ø X 0.15" X 72.5" LONG	85.75	33.00
A2	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	76.50	C2	PIPE 2.375"Ø X 0.15" X 72.25" LONG	85.75	76.50
A3	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	117.50	C3	PIPE 2.375"Ø X 0.15" X 72.25" LONG	86.75	117.50
A4				C4			
A5				C5			
A6				C6			
B1	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	33.00	D1			
B2	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	76.50	D2			
B3	PIPE 2.375"Ø X 0.15" X 72.25" LC	56.50	117.50	D3			
B4				D4			
B5				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.	
Tower Face Width at Mount Elev. (ft.):	33.6
Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	31



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 _{1a} , b _{2a} , b _{3a} , b _{1b} ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	
Sector A										
Ant _{1a}	B66A RRH4X45	12.00	7.00	26.00		97.3833	19.50	-8.50		124
Ant _{1b}	SBNHH-1D65B	12.00	7.00	72.00		96.175	34.00	9.50	30.00	124
Ant _{1c}										
Ant _{2a}	B13 RRH4X30	12.00	9.00	21.50		97.5083	18.00	-9.00		125
Ant _{2b}	SBNHH-1D65B	12.00	7.00	72.00		96.175	34.00	9.50	30.00	125
Ant _{2c}										
Ant _{3a}										
Ant _{3b}	QUAD654C0000G	20.50	7.00	54.00		95.8417	38.00	10.00	30.00	126
Ant _{3c}										
Ant _{4a}										
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	16.00	10.25	25.50			33.50			125
Ant on Tower										



Antenna Layout (Looking Out From Tower)

Observed Safety and Structural Issues During the Mount Mapping

Issue #	Description of Issue	Photo #
1	COAX TOTAL (2): (2) 1.5"Ø	
2		
3		
4		
5		
6		
7		
8		

Observed Obstructions to Tower Lighting System

If the tower lighting system is being obstructed by the carrier's equipment (for example: a light nested by the antennas), please provide photos and fill in the information below.		Photo #
Description of Obstruction:		
Type of Light:	Photo #	Additional Comments:
Lighting Technology:	Photo #	
Elevation (AGL) at base of light (Ft.):	Photo #	
Is a service loop available?	Photo #	
Is beacon installed on an extension?	Photo #	

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.



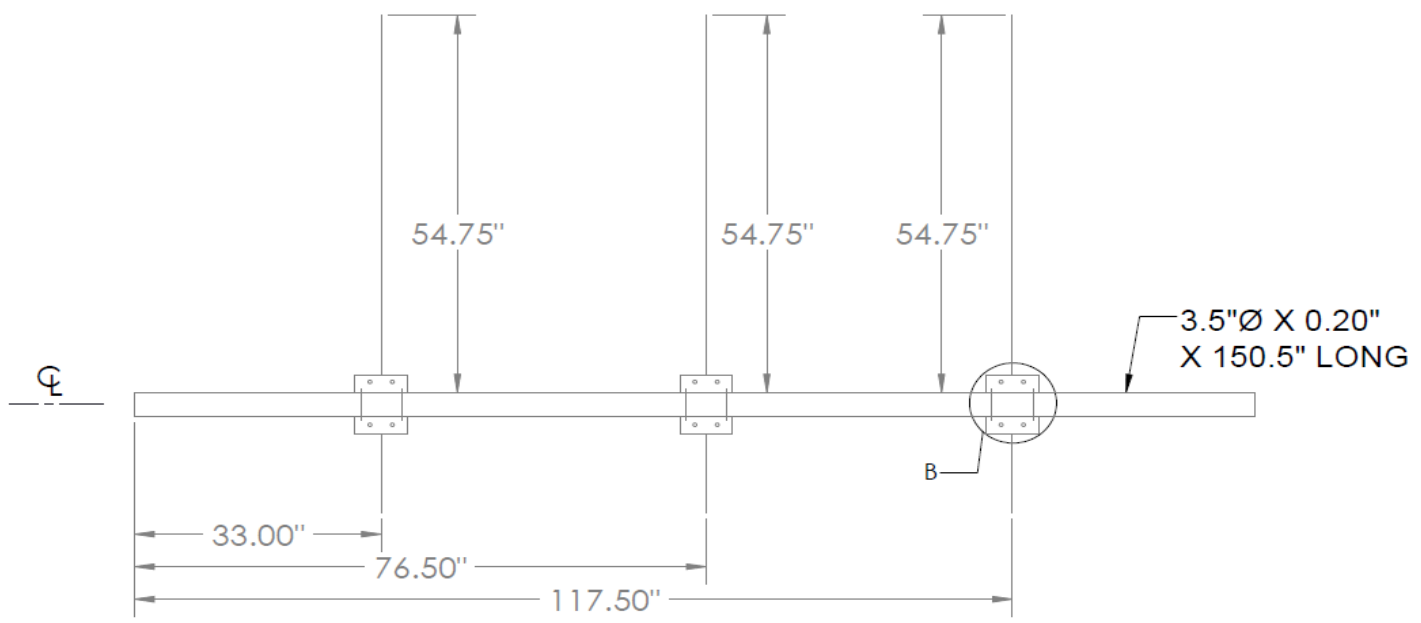
Antenna Mount Mapping Form (PATENT PENDING)

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Site Number or ID:	ATC: 283425	Tower Height (Ft.):	UNKNOWN
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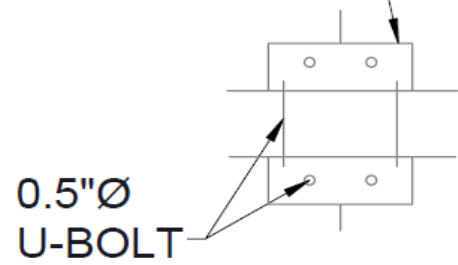
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Please Insert Sketches of the Antenna Mount

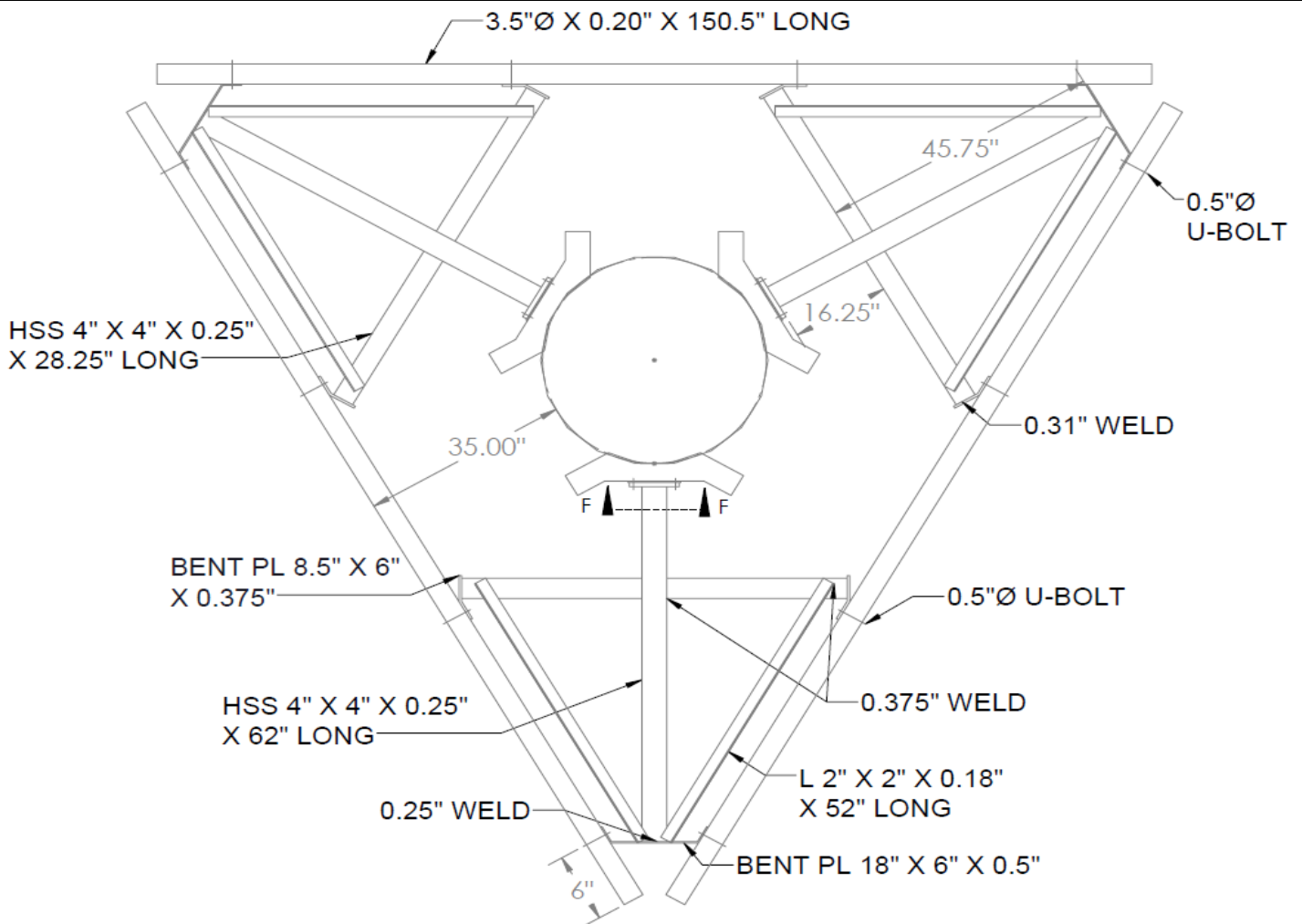


SECTOR A,B,C

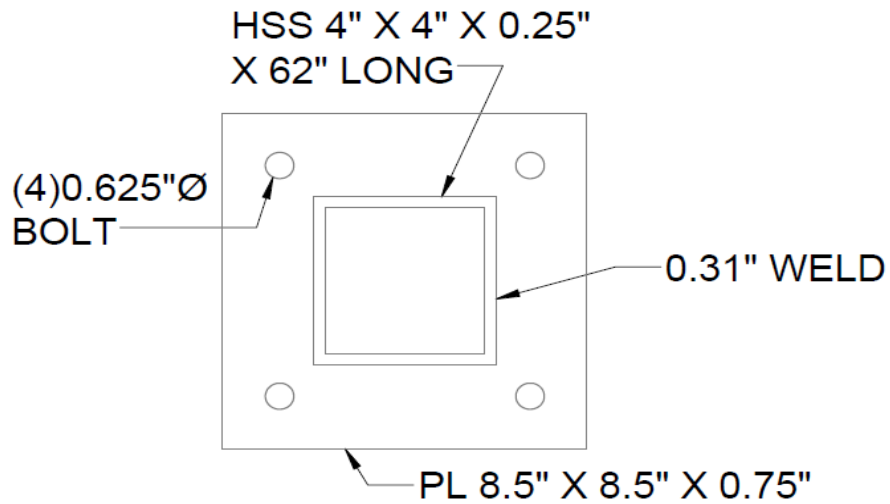
C 2.5" X 6.25" X 0.31"
X 8.5" LONG



DETAIL B

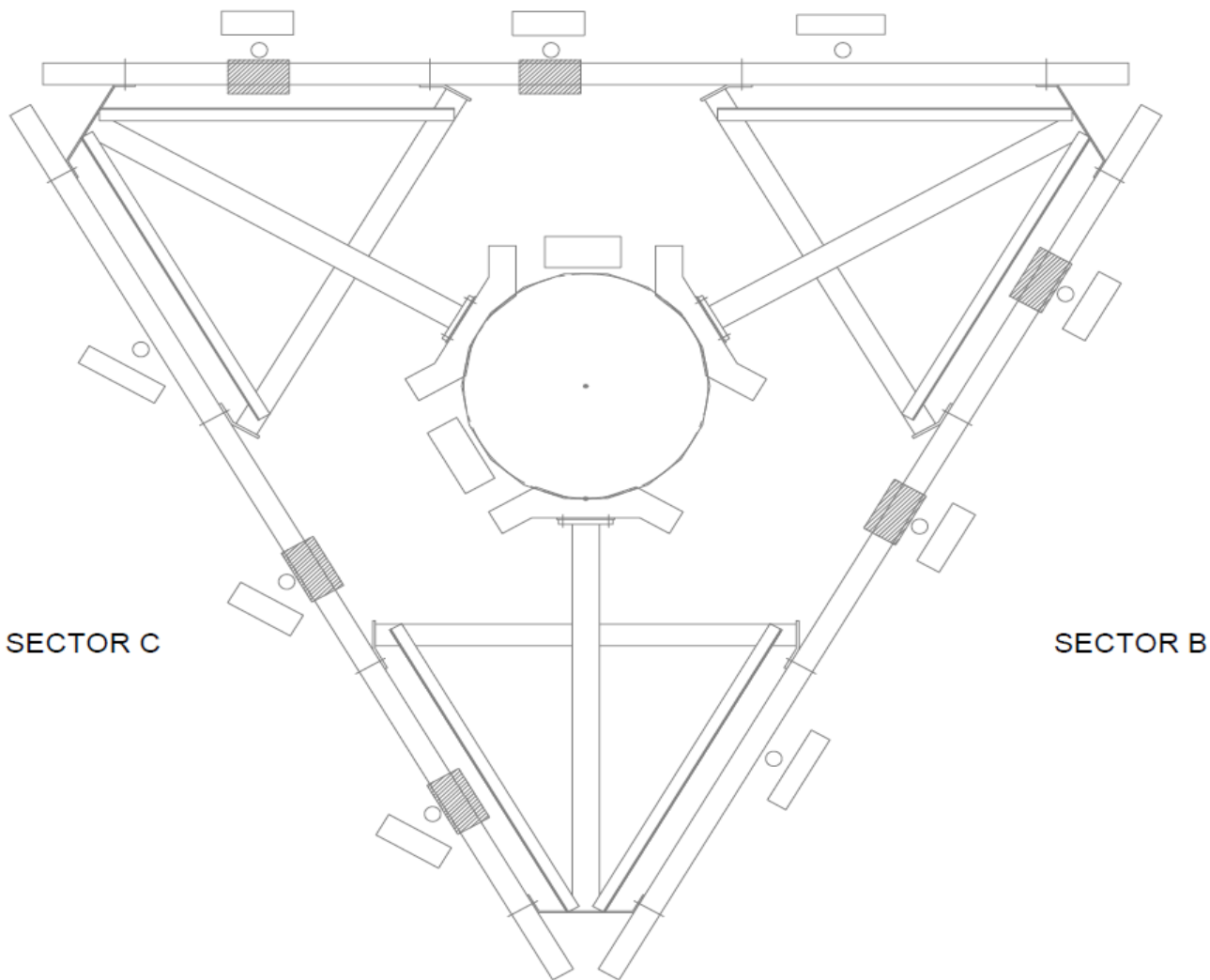


MOUNT PLAN VIEW



SECTION F-F

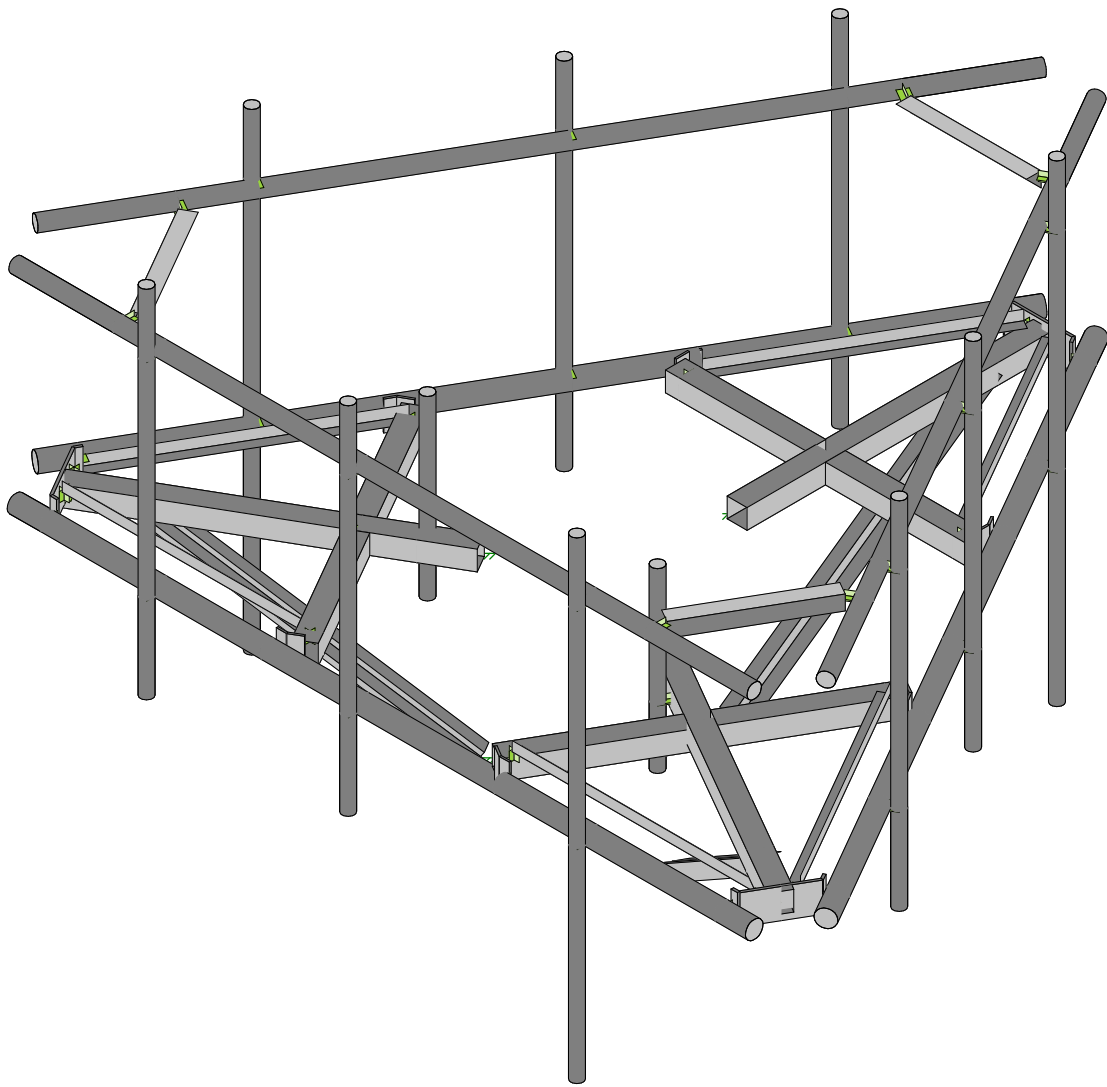
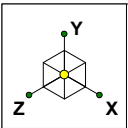
SECTOR A



SECTOR C

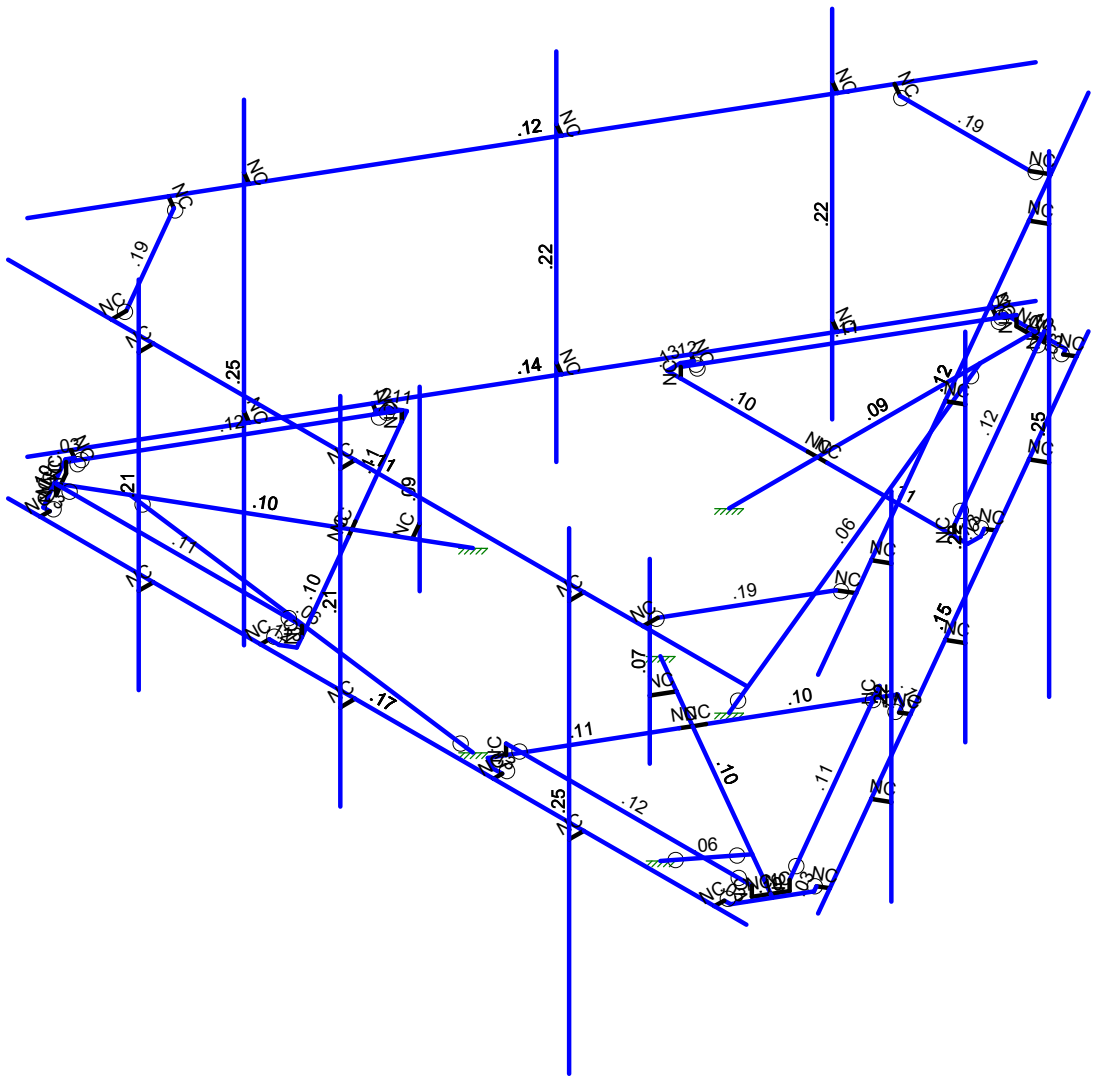
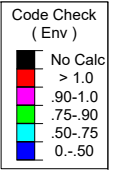
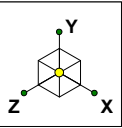
SECTOR B

ANTENNA PLAN VIEW



Envelope Only Solution

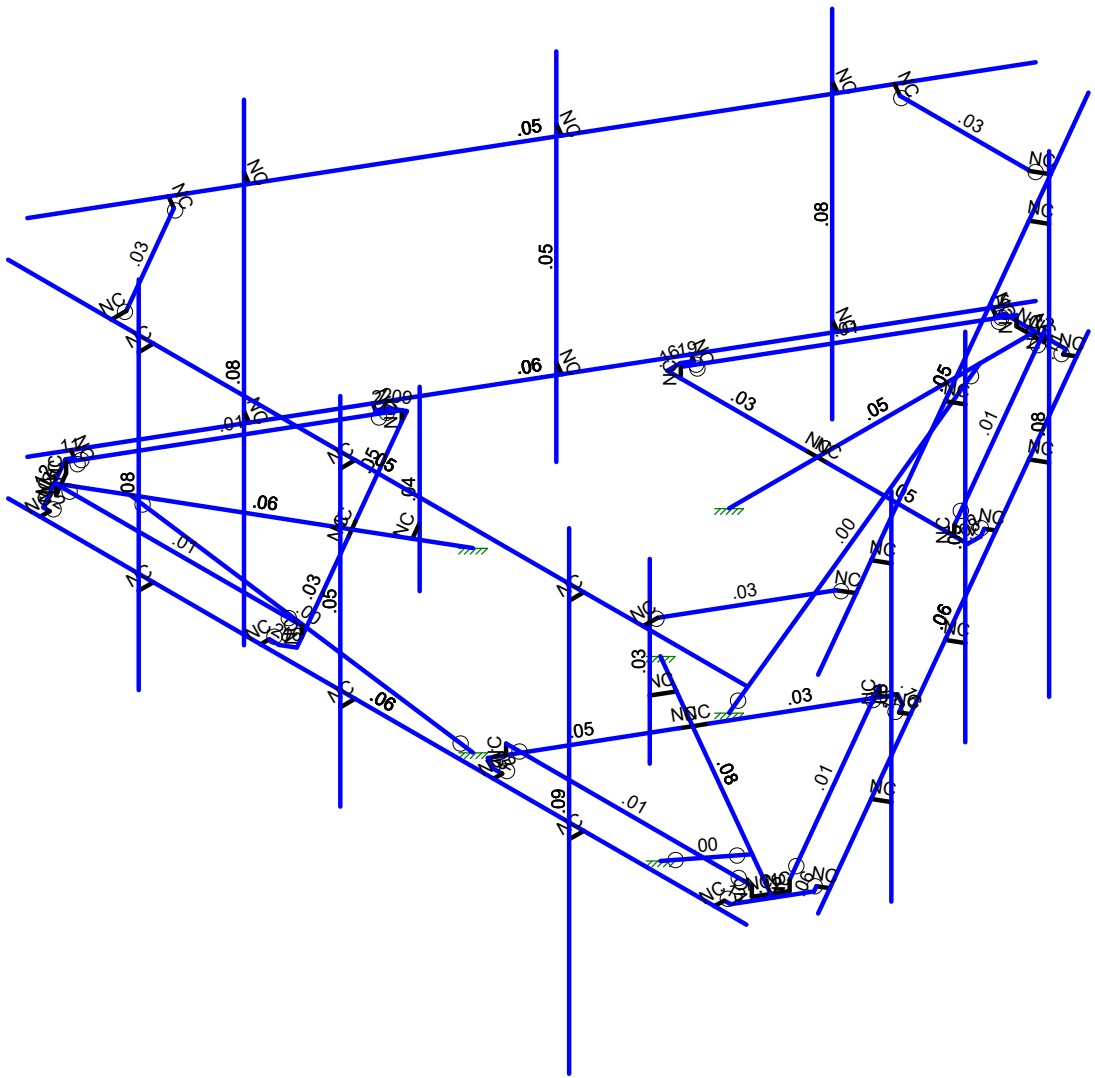
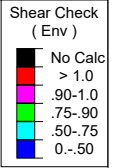
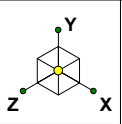
Colliers Engineering & De...	Antenna Mount Analysis	SK - 1
		Jan 10, 2024 at 5:04 PM
Project # 21777447		5000246521-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...	Antenna Mount Analysis	SK - 2
		Jan 10, 2024 at 5:05 PM
		5000246521-VZW_MT_LO_H.r3d

Project # 21777447



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...	Antenna Mount Analysis	SK - 3
		Jan 10, 2024 at 5:05 PM
Project # 21777447		5000246521-VZW_MT_LO_H.r3d



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
1	Antenna D	None					78			
2	Antenna Di	None					78			
3	Antenna Wo (0 Deg)	None					78			
4	Antenna Wo (30 Deg)	None					78			
5	Antenna Wo (60 Deg)	None					78			
6	Antenna Wo (90 Deg)	None					78			
7	Antenna Wo (120 Deg)	None					78			
8	Antenna Wo (150 Deg)	None					78			
9	Antenna Wo (180 Deg)	None					78			
10	Antenna Wo (210 Deg)	None					78			
11	Antenna Wo (240 Deg)	None					78			
12	Antenna Wo (270 Deg)	None					78			
13	Antenna Wo (300 Deg)	None					78			
14	Antenna Wo (330 Deg)	None					78			
15	Antenna Wi (0 Deg)	None					78			
16	Antenna Wi (30 Deg)	None					78			
17	Antenna Wi (60 Deg)	None					78			
18	Antenna Wi (90 Deg)	None					78			
19	Antenna Wi (120 Deg)	None					78			
20	Antenna Wi (150 Deg)	None					78			
21	Antenna Wi (180 Deg)	None					78			
22	Antenna Wi (210 Deg)	None					78			
23	Antenna Wi (240 Deg)	None					78			
24	Antenna Wi (270 Deg)	None					78			
25	Antenna Wi (300 Deg)	None					78			
26	Antenna Wi (330 Deg)	None					78			
27	Antenna Wm (0 Deg)	None					78			
28	Antenna Wm (30 Deg)	None					78			
29	Antenna Wm (60 Deg)	None					78			
30	Antenna Wm (90 Deg)	None					78			
31	Antenna Wm (120 Deg)	None					78			
32	Antenna Wm (150 Deg)	None					78			
33	Antenna Wm (180 Deg)	None					78			
34	Antenna Wm (210 Deg)	None					78			
35	Antenna Wm (240 Deg)	None					78			
36	Antenna Wm (270 Deg)	None					78			
37	Antenna Wm (300 Deg)	None					78			
38	Antenna Wm (330 Deg)	None					78			
39	Structure D	None		-1					3	
40	Structure Di	None						59	3	
41	Structure Wo (0 Deg)	None						118		
42	Structure Wo (30 Deg)	None						118		
43	Structure Wo (60 Deg)	None						118		
44	Structure Wo (90 Deg)	None						118		
45	Structure Wo (120 Deg)	None						118		
46	Structure Wo (150 Deg)	None						118		
47	Structure Wo (180 Deg)	None						118		
48	Structure Wo (210 Deg)	None						118		
49	Structure Wo (240 Deg)	None						118		
50	Structure Wo (270 Deg)	None						118		
51	Structure Wo (300 Deg)	None						118		
52	Structure Wo (330 Deg)	None						118		
53	Structure Wi (0 Deg)	None						118		
54	Structure Wi (30 Deg)	None						118		
55	Structure Wi (60 Deg)	None						118		
56	Structure Wi (90 Deg)	None						118		



Basic Load Cases (Continued)

BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
57 Structure Wi (120 Deg)	None						118		
58 Structure Wi (150 Deg)	None						118		
59 Structure Wi (180 Deg)	None						118		
60 Structure Wi (210 Deg)	None						118		
61 Structure Wi (240 Deg)	None						118		
62 Structure Wi (270 Deg)	None						118		
63 Structure Wi (300 Deg)	None						118		
64 Structure Wi (330 Deg)	None						118		
65 Structure Wm (0 Deg)	None						118		
66 Structure Wm (30 Deg)	None						118		
67 Structure Wm (60 Deg)	None						118		
68 Structure Wm (90 Deg)	None						118		
69 Structure Wm (120 Deg)	None						118		
70 Structure Wm (150 Deg)	None						118		
71 Structure Wm (180 Deg)	None						118		
72 Structure Wm (210 Deg)	None						118		
73 Structure Wm (240 Deg)	None						118		
74 Structure Wm (270 Deg)	None						118		
75 Structure Wm (300 Deg)	None						118		
76 Structure Wm (330 Deg)	None						118		
77 Lm1	None					1			
78 Lm2	None					1			
79 Lv1	None					1			
80 Lv2	None					1			
81 Antenna Ev	None					78			
82 Antenna Eh (0 Deg)	None					52			
83 Antenna Eh (90 Deg)	None					52			
84 Structure Ev	ELY		-0388					3	
85 Structure Eh (0 Deg)	ELZ			-0971				3	
86 Structure Eh (90 Deg)	ELX	.0971						3	
87 BLC 39 Transient Area Loads	None						30		
88 BLC 40 Transient Area Loads	None						30		
89 BLC 84 Transient Area Loads	None						30		
90 BLC 85 Transient Area Loads	None						30		
91 BLC 86 Transient Area Loads	None						30		

Load Combinations

Description	S...	PDel...	SR...	BLC Fa...	BLC Fa...	BLC Fa...	B...Fa...	B...Fa...	B...Fa...	BLC Fa...	B...Fa...	B...Fa...	B...Fa...
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 De...	Yes	Y		1	1.2	39	1.2	7	1	45	1		
6 1.2D+1.0Wo (150 De...	Yes	Y		1	1.2	39	1.2	8	1	46	1		
7 1.2D+1.0Wo (180 De...	Yes	Y		1	1.2	39	1.2	9	1	47	1		
8 1.2D+1.0Wo (210 De...	Yes	Y		1	1.2	39	1.2	10	1	48	1		
9 1.2D+1.0Wo (240 De...	Yes	Y		1	1.2	39	1.2	11	1	49	1		
10 1.2D+1.0Wo (270 De...	Yes	Y		1	1.2	39	1.2	12	1	50	1		
11 1.2D+1.0Wo (300 De...	Yes	Y		1	1.2	39	1.2	13	1	51	1		
12 1.2D+1.0Wo (330 De...	Yes	Y		1	1.2	39	1.2	14	1	52	1		
13 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1
14 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1
15 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1
16 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1
17 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1

Load Combinations (Continued)

	Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
18	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0...	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 + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866				
57	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
58	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
60	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
61	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
63	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
73	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
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Load Combinations (Continued)

Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	
75	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5				

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design... A [in2]	Iyy [i...	Izz [i...	J [in4]		
1	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Horizontal	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL1/2x6	Beam	BAR	A36 Gr.36	Typical	3	.0625	9	.2369
4	Platform Crossmember	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
5	Grating Support	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.0092
6	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Cross Arm Plate	PL3/8x6	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	Mod Support Rail Corner	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.0313
9	Mod Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
10	Mod Kicker	LL3x3x3x3	Column	Double Angle ...	A36 Gr.36	Typical	2.18	4.09	1.9	.0272

Hot Rolled Steel Properties

Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt	
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Member Primary Data

Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	M1	N1	N2		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M4	N3	N27		Standoff Horizontal	Beam	SquareTube	A500 Gr...	Typical
3	M10	N101	N103A		Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
4	M20	N10	N11		RIGID	None	None	RIGID	Typical
5	MP1A	N19	N18		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
6	M43	N102	N5		Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
7	M46	N86C	N87A		Corner Plate	Beam	BAR	A36 Gr.36	Typical
8	M35A	N7	N30		RIGID	None	None	RIGID	Typical
9	M36A	N6	N29		RIGID	None	None	RIGID	Typical
10	M51B	N87C	N6		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
11	M52B	N7	N87B		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
12	M52	N87B	N88C		RIGID	None	None	RIGID	Typical
13	M58	N102	N24		RIGID	None	None	RIGID	Typical
14	M59	N24	N103A		RIGID	None	None	RIGID	Typical
15	M76	N101	N105		Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
16	M77	N105	N131		Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
17	M79	N131	N86A		RIGID	None	None	RIGID	Typical
18	M80	N87A	N135		Corner Plate	Beam	BAR	A36 Gr.36	Typical
19	M83	N135	N86D		RIGID	None	None	RIGID	Typical
20	M84	N5	N104A		Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
21	M85	N104A	N144		Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
22	M88	N144	N86B		RIGID	None	None	RIGID	Typical
23	M91	N86C	N148		Corner Plate	Beam	BAR	A36 Gr.36	Typical
24	M92	N148	N86E		RIGID	None	None	RIGID	Typical



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
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Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
25	M50	N88C	N88A			RIGID	None	None	RIGID	Typical
26	M51	N88A	N86G			RIGID	None	None	RIGID	Typical
27	M51A	N87C	N86G			RIGID	None	None	RIGID	Typical
28	M100	N144A	N145			Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
29	M102	N148A	N149			RIGID	None	None	RIGID	Typical
30	M123	N170	N143		90	Mod Support Rail ...	Beam	Single Angle	A36 Gr.36	Typical
31	M44	N66	N71			Standoff Horizontal	Beam	SquareTube	A500 Gr...	Typical
32	M45	N75	N77			Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
33	M46A	N76	N67			Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
34	M47	N86	N87			Corner Plate	Beam	BAR	A36 Gr.36	Typical
35	M48	N69	N74			RIGID	None	None	RIGID	Typical
36	M49	N68	N73			RIGID	None	None	RIGID	Typical
37	M50A	N91	N68			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
38	M51C	N69	N93			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
39	M52A	N93	N94			RIGID	None	None	RIGID	Typical
40	M53	N76	N70			RIGID	None	None	RIGID	Typical
41	M54	N70	N77			RIGID	None	None	RIGID	Typical
42	M55	N75	N79			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
43	M56	N79	N80			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
44	M57	N80	N84			RIGID	None	None	RIGID	Typical
45	M58A	N87	N81			Corner Plate	Beam	BAR	A36 Gr.36	Typical
46	M59A	N81	N88			RIGID	None	None	RIGID	Typical
47	M60	N67	N78			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
48	M61	N78	N82			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
49	M62	N82	N85			RIGID	None	None	RIGID	Typical
50	M63	N86	N83			Corner Plate	Beam	BAR	A36 Gr.36	Typical
51	M64	N83	N89			RIGID	None	None	RIGID	Typical
52	M65	N94	N90			RIGID	None	None	RIGID	Typical
53	M66	N90	N92			RIGID	None	None	RIGID	Typical
54	M67	N91	N92			RIGID	None	None	RIGID	Typical
55	M69	N97	N98			RIGID	None	None	RIGID	Typical
56	M71	N99	N100			RIGID	None	None	RIGID	Typical
57	OVP1	N101A	N102A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
58	M73	N103	N108			Standoff Horizontal	Beam	SquareTube	A500 Gr...	Typical
59	M74	N112	N114			Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
60	M75	N113	N104			Platform Crossme...	Beam	SquareTube	A500 Gr...	Typical
61	M76A	N123	N124			Corner Plate	Beam	BAR	A36 Gr.36	Typical
62	M77A	N106	N111			RIGID	None	None	RIGID	Typical
63	M78	N105A	N110			RIGID	None	None	RIGID	Typical
64	M79A	N128	N105A			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
65	M80A	N106	N130			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
66	M81	N130	N131A			RIGID	None	None	RIGID	Typical
67	M82	N113	N107			RIGID	None	None	RIGID	Typical
68	M83A	N107	N114			RIGID	None	None	RIGID	Typical
69	M84A	N112	N116			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
70	M85A	N116	N117			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
71	M86	N117	N121			RIGID	None	None	RIGID	Typical
72	M87	N124	N118			Corner Plate	Beam	BAR	A36 Gr.36	Typical
73	M88A	N118	N125			RIGID	None	None	RIGID	Typical
74	M89	N104	N115			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
75	M90	N115	N119			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
76	M91A	N119	N122			RIGID	None	None	RIGID	Typical
77	M92A	N123	N120			Corner Plate	Beam	BAR	A36 Gr.36	Typical
78	M93	N120	N126			RIGID	None	None	RIGID	Typical
79	M94	N131A	N127			RIGID	None	None	RIGID	Typical
80	M95	N127	N129			RIGID	None	None	RIGID	Typical
81	M96	N128	N129			RIGID	None	None	RIGID	Typical



Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
82	M97	N132	N133			RIGID	None	None	RIGID	Typical
83	M100A	N136	N137			RIGID	None	None	RIGID	Typical
84	OVP2	N138	N139			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
85	M87A	N114A	N115A			RIGID	None	None	RIGID	Typical
86	MP2A	N117A	N116A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
87	M89A	N118A	N119A			RIGID	None	None	RIGID	Typical
88	M90A	N120A	N121A			RIGID	None	None	RIGID	Typical
89	MP3A	N123A	N122A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
90	M92B	N124A	N125A			RIGID	None	None	RIGID	Typical
91	M93A	N126A	N127A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
92	M94A	N128A	N129A			RIGID	None	None	RIGID	Typical
93	MP1C	N131B	N130A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
94	M96A	N133A	N134			Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
95	M97A	N135A	N136A			RIGID	None	None	RIGID	Typical
96	M98	N139A	N140			RIGID	None	None	RIGID	Typical
97	M99	N143	N144B			RIGID	None	None	RIGID	Typical
98	M100B	N145A	N146			RIGID	None	None	RIGID	Typical
99	MP2C	N148B	N147			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
100	M102A	N149A	N150			RIGID	None	None	RIGID	Typical
101	M103	N151	N152			RIGID	None	None	RIGID	Typical
102	MP3C	N154	N153			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
103	M105	N155	N156			RIGID	None	None	RIGID	Typical
104	M106	N157	N158			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
105	M107	N159	N160			RIGID	None	None	RIGID	Typical
106	MP1B	N162	N161			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
107	M109	N164	N165			Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
108	M110	N166	N167			RIGID	None	None	RIGID	Typical
109	M111	N170	N171			RIGID	None	None	RIGID	Typical
110	M112	N174	N175			RIGID	None	None	RIGID	Typical
111	M113	N176	N177			RIGID	None	None	RIGID	Typical
112	MP2B	N179	N178			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
113	M115	N180A	N181			RIGID	None	None	RIGID	Typical
114	M116	N182A	N183			RIGID	None	None	RIGID	Typical
115	MP3B	N185	N184			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
116	M118	N186	N187			RIGID	None	None	RIGID	Typical
117	M119	N97	N174		90	Mod Support Rail ...	Beam	Single Angle	A36 Gr.36	Typical
118	M120	N139A	N132		90	Mod Support Rail ...	Beam	Single Angle	A36 Gr.36	Typical
119	M119A	N172	N173			Mod Kicker	Column	Double Angl..	A36 Gr.36	Typical
120	M120A	N175A	N176A			Mod Kicker	Column	Double Angl..	A36 Gr.36	Typical
121	M121	N178A	N179A			Mod Kicker	Column	Double Angl..	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical Defl Ratio Opti...	Analysis ...	Inactive	Seismi...
1	M1						Yes	Default		None
2	M4						Yes	Default		None
3	M10						Yes	Default		None
4	M20						Yes	** NA **		None
5	MP1A						Yes	** NA **		None
6	M43						Yes	Default		None
7	M46						Yes	Default		None
8	M35A						Yes	** NA **		None
9	M36A						Yes	** NA **		None
10	M51B	00000X	00000X				Yes	Default		None
11	M52B	00000X	00000X				Yes	Default		None
12	M52						Yes	** NA **		None



Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio	Opti...	Analysis ...	Inactive	Seismi...
13	M58						Yes	** NA **				None
14	M59						Yes	** NA **				None
15	M76						Yes					None
16	M77						Yes					None
17	M79		BenPIN				Yes	** NA **				None
18	M80						Yes					None
19	M83		BenPIN				Yes	** NA **				None
20	M84						Yes					None
21	M85						Yes					None
22	M88		BenPIN				Yes	** NA **				None
23	M91						Yes					None
24	M92		BenPIN				Yes	** NA **				None
25	M50						Yes	** NA **				None
26	M51						Yes	** NA **				None
27	M51A						Yes	** NA **				None
28	M100						Yes	Default				None
29	M102						Yes	** NA **				None
30	M123						Yes					None
31	M44						Yes					None
32	M45						Yes	Default				None
33	M46A						Yes	Default				None
34	M47						Yes	Default				None
35	M48						Yes	** NA **				None
36	M49						Yes	** NA **				None
37	M50A	00000X	00000X				Yes	Default				None
38	M51C	00000X	00000X				Yes	Default				None
39	M52A						Yes	** NA **				None
40	M53						Yes	** NA **				None
41	M54						Yes	** NA **				None
42	M55						Yes					None
43	M56						Yes					None
44	M57		BenPIN				Yes	** NA **				None
45	M58A						Yes					None
46	M59A		BenPIN				Yes	** NA **				None
47	M60						Yes					None
48	M61						Yes					None
49	M62		BenPIN				Yes	** NA **				None
50	M63						Yes					None
51	M64		BenPIN				Yes	** NA **				None
52	M65						Yes	** NA **				None
53	M66						Yes	** NA **				None
54	M67						Yes	** NA **				None
55	M69		000000				Yes	** NA **				None
56	M71						Yes	** NA **				None
57	OVP1						Yes	** NA **				None
58	M73						Yes					None
59	M74						Yes	Default				None
60	M75						Yes	Default				None
61	M76A						Yes	Default				None
62	M77A						Yes	** NA **				None
63	M78						Yes	** NA **				None
64	M79A	00000X	00000X				Yes	Default				None
65	M80A	00000X	00000X				Yes	Default				None
66	M81						Yes	** NA **				None
67	M82						Yes	** NA **				None
68	M83A						Yes	** NA **				None
69	M84A						Yes					None



Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opti...	Analysis ...	Inactive	Seismi...
70	M85A						Yes				None
71	M86		BenPIN				Yes	** NA **			None
72	M87						Yes				None
73	M88A		BenPIN				Yes	** NA **			None
74	M89						Yes				None
75	M90						Yes				None
76	M91A		BenPIN				Yes	** NA **			None
77	M92A						Yes				None
78	M93		BenPIN				Yes	** NA **			None
79	M94						Yes	** NA **			None
80	M95						Yes	** NA **			None
81	M96						Yes	** NA **			None
82	M97		000000				Yes	** NA **			None
83	M100A						Yes	** NA **			None
84	OVP2						Yes	** NA **			None
85	M87A						Yes	** NA **			None
86	MP2A						Yes	** NA **			None
87	M89A						Yes	** NA **			None
88	M90A						Yes	** NA **			None
89	MP3A						Yes	** NA **			None
90	M92B						Yes	** NA **			None
91	M93A						Yes	Default			None
92	M94A						Yes	** NA **			None
93	MP1C						Yes	** NA **			None
94	M96A						Yes	Default			None
95	M97A						Yes	** NA **			None
96	M98		000000				Yes	** NA **			None
97	M99		000000				Yes	** NA **			None
98	M100B						Yes	** NA **			None
99	MP2C						Yes	** NA **			None
100	M102A						Yes	** NA **			None
101	M103						Yes	** NA **			None
102	MP3C						Yes	** NA **			None
103	M105						Yes	** NA **			None
104	M106						Yes	Default			None
105	M107						Yes	** NA **			None
106	MP1B						Yes	** NA **			None
107	M109						Yes	Default			None
108	M110						Yes	** NA **			None
109	M111		000000				Yes	** NA **			None
110	M112		000000				Yes	** NA **			None
111	M113						Yes	** NA **			None
112	MP2B						Yes	** NA **			None
113	M115						Yes	** NA **			None
114	M116						Yes	** NA **			None
115	MP3B						Yes	** NA **			None
116	M118						Yes	** NA **			None
117	M119						Yes				None
118	M120						Yes				None
119	M119A	BenPIN	BenPIN				Yes	** NA **			None
120	M120A	BenPIN	BenPIN				Yes	** NA **			None
121	M121	BenPIN	BenPIN				Yes	** NA **			None



Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	Y	-32	1
2	OVP2	My	-.0158	1
3	OVP2	Mz	-.0028	1
4	MP3A	Y	-28.65	2.25
5	MP3A	My	-.0239	2.25
6	MP3A	Mz	0	2.25
7	MP3A	Y	-28.65	3.75
8	MP3A	My	-.0239	3.75
9	MP3A	Mz	0	3.75
10	MP3B	Y	-28.65	2.25
11	MP3B	My	.0153	2.25
12	MP3B	Mz	-.0183	2.25
13	MP3B	Y	-28.65	3.75
14	MP3B	My	.0153	3.75
15	MP3B	Mz	-.0183	3.75
16	MP3C	Y	-28.65	2.25
17	MP3C	My	.0137	2.25
18	MP3C	Mz	.0196	2.25
19	MP3C	Y	-28.65	3.75
20	MP3C	My	.0137	3.75
21	MP3C	Mz	.0196	3.75
22	MP2A	Y	-74.7	2
23	MP2A	My	.0368	2
24	MP2A	Mz	.0065	2
25	MP2B	Y	-74.7	2
26	MP2B	My	-.024	2
27	MP2B	Mz	.0286	2
28	MP2C	Y	-74.7	2
29	MP2C	My	-.0128	2
30	MP2C	Mz	-.0351	2
31	MP1A	Y	-79.1	2
32	MP1A	My	.0389	2
33	MP1A	Mz	.0069	2
34	MP1B	Y	-79.1	2
35	MP1B	My	-.0254	2
36	MP1B	Mz	.0303	2
37	MP1C	Y	-79.1	2
38	MP1C	My	-.0135	2
39	MP1C	Mz	-.0372	2
40	MP1A	Y	-20	.68
41	MP1A	My	-.02	.68
42	MP1A	Mz	.0117	.68
43	MP1A	Y	-20	5.33
44	MP1A	My	-.02	5.33
45	MP1A	Mz	.0117	5.33
46	MP1B	Y	-20	.68
47	MP1B	My	.0039	.68
48	MP1B	Mz	-.0228	.68
49	MP1B	Y	-20	5.33
50	MP1B	My	.0039	5.33
51	MP1B	Mz	-.0228	5.33
52	MP1C	Y	-20	.68
53	MP1C	My	.021	.68
54	MP1C	Mz	.0097	.68
55	MP1C	Y	-20	5.33
56	MP1C	My	.021	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
57	MP1C	Mz	.0097	5.33
58	MP1A	Y	-20	.68
59	MP1A	My	-.02	.68
60	MP1A	Mz	-.0117	.68
61	MP1A	Y	-20	5.33
62	MP1A	My	-.02	5.33
63	MP1A	Mz	-.0117	5.33
64	MP1B	Y	-20	.68
65	MP1B	My	.0218	.68
66	MP1B	Mz	-.0078	.68
67	MP1B	Y	-20	5.33
68	MP1B	My	.0218	5.33
69	MP1B	Mz	-.0078	5.33
70	MP1C	Y	-20	.68
71	MP1C	My	.0019	.68
72	MP1C	Mz	.0231	.68
73	MP1C	Y	-20	5.33
74	MP1C	My	.0019	5.33
75	MP1C	Mz	.0231	5.33
76	OVP1	Y	-32	1
77	OVP1	My	-.0236	1
78	OVP1	Mz	-.0042	1

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	Y	-131.8459	1
2	OVP2	My	-.0649	1
3	OVP2	Mz	-.0114	1
4	MP3A	Y	-45.219	2.25
5	MP3A	My	-.0377	2.25
6	MP3A	Mz	0	2.25
7	MP3A	Y	-45.219	3.75
8	MP3A	My	-.0377	3.75
9	MP3A	Mz	0	3.75
10	MP3B	Y	-45.219	2.25
11	MP3B	My	.0242	2.25
12	MP3B	Mz	-.0289	2.25
13	MP3B	Y	-45.219	3.75
14	MP3B	My	.0242	3.75
15	MP3B	Mz	-.0289	3.75
16	MP3C	Y	-45.219	2.25
17	MP3C	My	.0216	2.25
18	MP3C	Mz	.0309	2.25
19	MP3C	Y	-45.219	3.75
20	MP3C	My	.0216	3.75
21	MP3C	Mz	.0309	3.75
22	MP2A	Y	-68.4461	2
23	MP2A	My	.0337	2
24	MP2A	Mz	.0059	2
25	MP2B	Y	-68.4461	2
26	MP2B	My	-.022	2
27	MP2B	Mz	.0262	2
28	MP2C	Y	-68.4461	2
29	MP2C	My	-.0117	2
30	MP2C	Mz	-.0322	2
31	MP1A	Y	-69.1488	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
32	MP1A	My	.034	2
33	MP1A	Mz	.006	2
34	MP1B	Y	-69.1488	2
35	MP1B	My	-.0222	2
36	MP1B	Mz	.0265	2
37	MP1C	Y	-69.1488	2
38	MP1C	My	-.0118	2
39	MP1C	Mz	-.0325	2
40	MP1A	Y	-92.0642	.68
41	MP1A	My	-.0921	.68
42	MP1A	Mz	.0537	.68
43	MP1A	Y	-92.0642	5.33
44	MP1A	My	-.0921	5.33
45	MP1A	Mz	.0537	5.33
46	MP1B	Y	-92.0642	.68
47	MP1B	My	.018	.68
48	MP1B	Mz	-.105	.68
49	MP1B	Y	-92.0642	5.33
50	MP1B	My	.018	5.33
51	MP1B	Mz	-.105	5.33
52	MP1C	Y	-92.0642	.68
53	MP1C	My	.0968	.68
54	MP1C	Mz	.0446	.68
55	MP1C	Y	-92.0642	5.33
56	MP1C	My	.0968	5.33
57	MP1C	Mz	.0446	5.33
58	MP1A	Y	-92.0642	.68
59	MP1A	My	-.0921	.68
60	MP1A	Mz	-.0537	.68
61	MP1A	Y	-92.0642	5.33
62	MP1A	My	-.0921	5.33
63	MP1A	Mz	-.0537	5.33
64	MP1B	Y	-92.0642	.68
65	MP1B	My	.1003	.68
66	MP1B	Mz	-.036	.68
67	MP1B	Y	-92.0642	5.33
68	MP1B	My	.1003	5.33
69	MP1B	Mz	-.036	5.33
70	MP1C	Y	-92.0642	.68
71	MP1C	My	.0088	.68
72	MP1C	Mz	.1062	.68
73	MP1C	Y	-92.0642	5.33
74	MP1C	My	.0088	5.33
75	MP1C	Mz	.1062	5.33
76	OVP1	Y	-131.8459	1
77	OVP1	My	-.0974	1
78	OVP1	Mz	-.0172	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	OVP2	X	0	1
2	OVP2	Z	-92.749	1
3	OVP2	Mx	.0081	1
4	MP3A	X	0	2.25
5	MP3A	Z	-46.71	2.25
6	MP3A	Mx	0	2.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP3A	X	0	3.75
8	MP3A	Z	-46.71	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	-28.928	2.25
12	MP3B	Mx	.0185	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	-28.928	3.75
15	MP3B	Mx	.0185	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	-26.377	2.25
18	MP3C	Mx	-.018	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	-26.377	3.75
21	MP3C	Mx	-.018	3.75
22	MP2A	X	0	2
23	MP2A	Z	-45.368	2
24	MP2A	Mx	-.0039	2
25	MP2B	X	0	2
26	MP2B	Z	-36.975	2
27	MP2B	Mx	-.0142	2
28	MP2C	X	0	2
29	MP2C	Z	-32.51	2
30	MP2C	Mx	.0153	2
31	MP1A	X	0	2
32	MP1A	Z	-54.753	2
33	MP1A	Mx	-.0048	2
34	MP1B	X	0	2
35	MP1B	Z	-44.961	2
36	MP1B	Mx	-.0172	2
37	MP1C	X	0	2
38	MP1C	Z	-39.751	2
39	MP1C	Mx	.0187	2
40	MP1A	X	0	.68
41	MP1A	Z	-81.447	.68
42	MP1A	Mx	-.0475	.68
43	MP1A	X	0	5.33
44	MP1A	Z	-81.447	5.33
45	MP1A	Mx	-.0475	5.33
46	MP1B	X	0	.68
47	MP1B	Z	-54.21	.68
48	MP1B	Mx	.0619	.68
49	MP1B	X	0	5.33
50	MP1B	Z	-54.21	5.33
51	MP1B	Mx	.0619	5.33
52	MP1C	X	0	.68
53	MP1C	Z	-50.302	.68
54	MP1C	Mx	-.0244	.68
55	MP1C	X	0	5.33
56	MP1C	Z	-50.302	5.33
57	MP1C	Mx	-.0244	5.33
58	MP1A	X	0	.68
59	MP1A	Z	-81.447	.68
60	MP1A	Mx	.0475	.68
61	MP1A	X	0	5.33
62	MP1A	Z	-81.447	5.33
63	MP1A	Mx	.0475	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
64	MP1B	X	0	.68
65	MP1B	Z	-54.21	.68
66	MP1B	Mx	.0212	.68
67	MP1B	X	0	5.33
68	MP1B	Z	-54.21	5.33
69	MP1B	Mx	.0212	5.33
70	MP1C	X	0	.68
71	MP1C	Z	-50.302	.68
72	MP1C	Mx	-.058	.68
73	MP1C	X	0	5.33
74	MP1C	Z	-50.302	5.33
75	MP1C	Mx	-.058	5.33
76	OVP1	X	0	1
77	OVP1	Z	-92.749	1
78	OVP1	Mx	.0121	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	45.402	1
2	OVP2	Z	-78.639	1
3	OVP2	Mx	-.0155	1
4	MP3A	X	19.567	2.25
5	MP3A	Z	-33.891	2.25
6	MP3A	Mx	-.0163	2.25
7	MP3A	X	19.567	3.75
8	MP3A	Z	-33.891	3.75
9	MP3A	Mx	-.0163	3.75
10	MP3B	X	8.661	2.25
11	MP3B	Z	-15.001	2.25
12	MP3B	Mx	.0142	2.25
13	MP3B	X	8.661	3.75
14	MP3B	Z	-15.001	3.75
15	MP3B	Mx	.0142	3.75
16	MP3C	X	20.649	2.25
17	MP3C	Z	-35.765	2.25
18	MP3C	Mx	-.0145	2.25
19	MP3C	X	20.649	3.75
20	MP3C	Z	-35.765	3.75
21	MP3C	Mx	-.0145	3.75
22	MP2A	X	22.03	2
23	MP2A	Z	-38.157	2
24	MP2A	Mx	.0075	2
25	MP2B	X	15.6	2
26	MP2B	Z	-27.02	2
27	MP2B	Mx	-.0154	2
28	MP2C	X	19.797	2
29	MP2C	Z	-34.289	2
30	MP2C	Mx	.0127	2
31	MP1A	X	26.613	2
32	MP1A	Z	-46.095	2
33	MP1A	Mx	.0091	2
34	MP1B	X	19.112	2
35	MP1B	Z	-33.103	2
36	MP1B	Mx	-.0188	2
37	MP1C	X	24.008	2
38	MP1C	Z	-41.583	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
39	MP1C	Mx	.0154	2
40	MP1A	X	34.922	.68
41	MP1A	Z	-60.486	.68
42	MP1A	Mx	-.0702	.68
43	MP1A	X	34.922	5.33
44	MP1A	Z	-60.486	5.33
45	MP1A	Mx	-.0702	5.33
46	MP1B	X	18.216	.68
47	MP1B	Z	-31.551	.68
48	MP1B	Mx	.0396	.68
49	MP1B	X	18.216	5.33
50	MP1B	Z	-31.551	5.33
51	MP1B	Mx	.0396	5.33
52	MP1C	X	36.578	.68
53	MP1C	Z	-63.356	.68
54	MP1C	Mx	.0078	.68
55	MP1C	X	36.578	5.33
56	MP1C	Z	-63.356	5.33
57	MP1C	Mx	.0078	5.33
58	MP1A	X	34.922	.68
59	MP1A	Z	-60.486	.68
60	MP1A	Mx	.000362	.68
61	MP1A	X	34.922	5.33
62	MP1A	Z	-60.486	5.33
63	MP1A	Mx	.000362	5.33
64	MP1B	X	18.216	.68
65	MP1B	Z	-31.551	.68
66	MP1B	Mx	.0322	.68
67	MP1B	X	18.216	5.33
68	MP1B	Z	-31.551	5.33
69	MP1B	Mx	.0322	5.33
70	MP1C	X	36.578	.68
71	MP1C	Z	-63.356	.68
72	MP1C	Mx	-.0696	.68
73	MP1C	X	36.578	5.33
74	MP1C	Z	-63.356	5.33
75	MP1C	Mx	-.0696	5.33
76	OVP1	X	45.402	1
77	OVP1	Z	-78.639	1
78	OVP1	Mx	-.0233	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	69.525	1
2	OVP2	Z	-40.14	1
3	OVP2	Mx	-.0307	1
4	MP3A	X	20.77	2.25
5	MP3A	Z	-11.992	2.25
6	MP3A	Mx	-.0173	2.25
7	MP3A	X	20.77	3.75
8	MP3A	Z	-11.992	3.75
9	MP3A	Mx	-.0173	3.75
10	MP3B	X	17.279	2.25
11	MP3B	Z	-9.976	2.25
12	MP3B	Mx	.0156	2.25
13	MP3B	X	17.279	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
14	MP3B	Z	-9.976	3.75
15	MP3B	Mx	.0156	3.75
16	MP3C	X	40.253	2.25
17	MP3C	Z	-23.24	2.25
18	MP3C	Mx	.0034	2.25
19	MP3C	X	40.253	3.75
20	MP3C	Z	-23.24	3.75
21	MP3C	Mx	.0034	3.75
22	MP2A	X	32.022	2
23	MP2A	Z	-18.488	2
24	MP2A	Mx	.0142	2
25	MP2B	X	28.154	2
26	MP2B	Z	-16.255	2
27	MP2B	Mx	-.0153	2
28	MP2C	X	39.29	2
29	MP2C	Z	-22.684	2
30	MP2C	Mx	.0039	2
31	MP1A	X	38.937	2
32	MP1A	Z	-22.481	2
33	MP1A	Mx	.0172	2
34	MP1B	X	34.425	2
35	MP1B	Z	-19.875	2
36	MP1B	Mx	-.0187	2
37	MP1C	X	47.417	2
38	MP1C	Z	-27.376	2
39	MP1C	Mx	.0048	2
40	MP1A	X	40.388	.68
41	MP1A	Z	-23.318	.68
42	MP1A	Mx	-.054	.68
43	MP1A	X	40.388	5.33
44	MP1A	Z	-23.318	5.33
45	MP1A	Mx	-.054	5.33
46	MP1B	X	35.041	.68
47	MP1B	Z	-20.231	.68
48	MP1B	Mx	.0299	.68
49	MP1B	X	35.041	5.33
50	MP1B	Z	-20.231	5.33
51	MP1B	Mx	.0299	5.33
52	MP1C	X	70.23	.68
53	MP1C	Z	-40.547	.68
54	MP1C	Mx	.0542	.68
55	MP1C	X	70.23	5.33
56	MP1C	Z	-40.547	5.33
57	MP1C	Mx	.0542	5.33
58	MP1A	X	40.388	.68
59	MP1A	Z	-23.318	.68
60	MP1A	Mx	-.0268	.68
61	MP1A	X	40.388	5.33
62	MP1A	Z	-23.318	5.33
63	MP1A	Mx	-.0268	5.33
64	MP1B	X	35.041	.68
65	MP1B	Z	-20.231	.68
66	MP1B	Mx	.0461	.68
67	MP1B	X	35.041	5.33
68	MP1B	Z	-20.231	5.33
69	MP1B	Mx	.0461	5.33
70	MP1C	X	70.23	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
71	MP1C	Z	-40.547	.68
72	MP1C	Mx	-.0401	.68
73	MP1C	X	70.23	5.33
74	MP1C	Z	-40.547	5.33
75	MP1C	Mx	-.0401	5.33
76	OVP1	X	69.525	1
77	OVP1	Z	-40.14	1
78	OVP1	Mx	-.0461	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	71.701	1
2	OVP2	Z	0	1
3	OVP2	Mx	-.0353	1
4	MP3A	X	16.408	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	-.0137	2.25
7	MP3A	X	16.408	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	-.0137	3.75
10	MP3B	X	34.19	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	.0183	2.25
13	MP3B	X	34.19	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	.0183	3.75
16	MP3C	X	36.741	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	.0176	2.25
19	MP3C	X	36.741	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	.0176	3.75
22	MP2A	X	31.2	2
23	MP2A	Z	0	2
24	MP2A	Mx	.0154	2
25	MP2B	X	39.594	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.0127	2
28	MP2C	X	44.059	2
29	MP2C	Z	0	2
30	MP2C	Mx	-.0075	2
31	MP1A	X	38.224	2
32	MP1A	Z	0	2
33	MP1A	Mx	.0188	2
34	MP1B	X	48.016	2
35	MP1B	Z	0	2
36	MP1B	Mx	-.0154	2
37	MP1C	X	53.226	2
38	MP1C	Z	0	2
39	MP1C	Mx	-.0091	2
40	MP1A	X	35.032	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	-.035	.68
43	MP1A	X	35.032	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	-.035	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
46	MP1B	X	62.27	.68
47	MP1B	Z	0	.68
48	MP1B	Mx	.0122	.68
49	MP1B	X	62.27	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	.0122	5.33
52	MP1C	X	66.177	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	.0696	.68
55	MP1C	X	66.177	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	.0696	5.33
58	MP1A	X	35.032	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	-.035	.68
61	MP1A	X	35.032	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	-.035	5.33
64	MP1B	X	62.27	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	.0679	.68
67	MP1B	X	62.27	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	.0679	5.33
70	MP1C	X	66.177	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	.0063	.68
73	MP1C	X	66.177	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	.0063	5.33
76	OVP1	X	71.701	1
77	OVP1	Z	0	1
78	OVP1	Mx	-.053	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	63.779	1
2	OVP2	Z	36.823	1
3	OVP2	Mx	-.0346	1
4	MP3A	X	20.77	2.25
5	MP3A	Z	11.992	2.25
6	MP3A	Mx	-.0173	2.25
7	MP3A	X	20.77	3.75
8	MP3A	Z	11.992	3.75
9	MP3A	Mx	-.0173	3.75
10	MP3B	X	39.661	2.25
11	MP3B	Z	22.898	2.25
12	MP3B	Mx	.0066	2.25
13	MP3B	X	39.661	3.75
14	MP3B	Z	22.898	3.75
15	MP3B	Mx	.0066	3.75
16	MP3C	X	18.897	2.25
17	MP3C	Z	10.91	2.25
18	MP3C	Mx	.0165	2.25
19	MP3C	X	18.897	3.75
20	MP3C	Z	10.91	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
21	MP3C	Mx	.0165	3.75
22	MP2A	X	28.154	2
23	MP2A	Z	16.255	2
24	MP2A	Mx	.0153	2
25	MP2B	X	39.29	2
26	MP2B	Z	22.684	2
27	MP2B	Mx	-.0039	2
28	MP2C	X	32.022	2
29	MP2C	Z	18.488	2
30	MP2C	Mx	-.0142	2
31	MP1A	X	34.425	2
32	MP1A	Z	19.875	2
33	MP1A	Mx	.0187	2
34	MP1B	X	47.417	2
35	MP1B	Z	27.376	2
36	MP1B	Mx	-.0048	2
37	MP1C	X	38.937	2
38	MP1C	Z	22.481	2
39	MP1C	Mx	-.0172	2
40	MP1A	X	40.388	.68
41	MP1A	Z	23.318	.68
42	MP1A	Mx	-.0268	.68
43	MP1A	X	40.388	5.33
44	MP1A	Z	23.318	5.33
45	MP1A	Mx	-.0268	5.33
46	MP1B	X	69.323	.68
47	MP1B	Z	40.024	.68
48	MP1B	Mx	-.0321	.68
49	MP1B	X	69.323	5.33
50	MP1B	Z	40.024	5.33
51	MP1B	Mx	-.0321	5.33
52	MP1C	X	37.518	.68
53	MP1C	Z	21.661	.68
54	MP1C	Mx	.0499	.68
55	MP1C	X	37.518	5.33
56	MP1C	Z	21.661	5.33
57	MP1C	Mx	.0499	5.33
58	MP1A	X	40.388	.68
59	MP1A	Z	23.318	.68
60	MP1A	Mx	-.054	.68
61	MP1A	X	40.388	5.33
62	MP1A	Z	23.318	5.33
63	MP1A	Mx	-.054	5.33
64	MP1B	X	69.323	.68
65	MP1B	Z	40.024	.68
66	MP1B	Mx	.0599	.68
67	MP1B	X	69.323	5.33
68	MP1B	Z	40.024	5.33
69	MP1B	Mx	.0599	5.33
70	MP1C	X	37.518	.68
71	MP1C	Z	21.661	.68
72	MP1C	Mx	.0286	.68
73	MP1C	X	37.518	5.33
74	MP1C	Z	21.661	5.33
75	MP1C	Mx	.0286	5.33
76	OVP1	X	63.779	1
77	OVP1	Z	36.823	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
78	OVP1	Mx	-0.519	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	OVP2	X	42.085	1
2	OVP2	Z	72.893	1
3	OVP2	Mx	-0.271	1
4	MP3A	X	19.567	2.25
5	MP3A	Z	33.891	2.25
6	MP3A	Mx	-0.163	2.25
7	MP3A	X	19.567	3.75
8	MP3A	Z	33.891	3.75
9	MP3A	Mx	-0.163	3.75
10	MP3B	X	21.583	2.25
11	MP3B	Z	37.382	2.25
12	MP3B	Mx	-0.123	2.25
13	MP3B	X	21.583	3.75
14	MP3B	Z	37.382	3.75
15	MP3B	Mx	-0.123	3.75
16	MP3C	X	8.319	2.25
17	MP3C	Z	14.409	2.25
18	MP3C	Mx	.0138	2.25
19	MP3C	X	8.319	3.75
20	MP3C	Z	14.409	3.75
21	MP3C	Mx	.0138	3.75
22	MP2A	X	19.797	2
23	MP2A	Z	34.289	2
24	MP2A	Mx	.0127	2
25	MP2B	X	22.03	2
26	MP2B	Z	38.157	2
27	MP2B	Mx	.0075	2
28	MP2C	X	15.6	2
29	MP2C	Z	27.02	2
30	MP2C	Mx	-0.154	2
31	MP1A	X	24.008	2
32	MP1A	Z	41.583	2
33	MP1A	Mx	.0154	2
34	MP1B	X	26.613	2
35	MP1B	Z	46.095	2
36	MP1B	Mx	.0091	2
37	MP1C	X	19.112	2
38	MP1C	Z	33.103	2
39	MP1C	Mx	-0.188	2
40	MP1A	X	34.922	.68
41	MP1A	Z	60.486	.68
42	MP1A	Mx	.000362	.68
43	MP1A	X	34.922	5.33
44	MP1A	Z	60.486	5.33
45	MP1A	Mx	.000362	5.33
46	MP1B	X	38.009	.68
47	MP1B	Z	65.833	.68
48	MP1B	Mx	-0.677	.68
49	MP1B	X	38.009	5.33
50	MP1B	Z	65.833	5.33
51	MP1B	Mx	-0.677	5.33
52	MP1C	X	17.693	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
53	MP1C	Z	30.644	.68
54	MP1C	Mx	.0335	.68
55	MP1C	X	17.693	5.33
56	MP1C	Z	30.644	5.33
57	MP1C	Mx	.0335	5.33
58	MP1A	X	34.922	.68
59	MP1A	Z	60.486	.68
60	MP1A	Mx	-.0702	.68
61	MP1A	X	34.922	5.33
62	MP1A	Z	60.486	5.33
63	MP1A	Mx	-.0702	5.33
64	MP1B	X	38.009	.68
65	MP1B	Z	65.833	.68
66	MP1B	Mx	.0157	.68
67	MP1B	X	38.009	5.33
68	MP1B	Z	65.833	5.33
69	MP1B	Mx	.0157	5.33
70	MP1C	X	17.693	.68
71	MP1C	Z	30.644	.68
72	MP1C	Mx	.037	.68
73	MP1C	X	17.693	5.33
74	MP1C	Z	30.644	5.33
75	MP1C	Mx	.037	5.33
76	OVP1	X	42.085	1
77	OVP1	Z	72.893	1
78	OVP1	Mx	-.0406	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	0	1
2	OVP2	Z	92.749	1
3	OVP2	Mx	-.0081	1
4	MP3A	X	0	2.25
5	MP3A	Z	46.71	2.25
6	MP3A	Mx	0	2.25
7	MP3A	X	0	3.75
8	MP3A	Z	46.71	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	28.928	2.25
12	MP3B	Mx	-.0185	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	28.928	3.75
15	MP3B	Mx	-.0185	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	26.377	2.25
18	MP3C	Mx	.018	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	26.377	3.75
21	MP3C	Mx	.018	3.75
22	MP2A	X	0	2
23	MP2A	Z	45.368	2
24	MP2A	Mx	.0039	2
25	MP2B	X	0	2
26	MP2B	Z	36.975	2
27	MP2B	Mx	.0142	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
28	MP2C	X	0	2
29	MP2C	Z	32.51	2
30	MP2C	Mx	-.0153	2
31	MP1A	X	0	2
32	MP1A	Z	54.753	2
33	MP1A	Mx	.0048	2
34	MP1B	X	0	2
35	MP1B	Z	44.961	2
36	MP1B	Mx	.0172	2
37	MP1C	X	0	2
38	MP1C	Z	39.751	2
39	MP1C	Mx	-.0187	2
40	MP1A	X	0	.68
41	MP1A	Z	81.447	.68
42	MP1A	Mx	.0475	.68
43	MP1A	X	0	5.33
44	MP1A	Z	81.447	5.33
45	MP1A	Mx	.0475	5.33
46	MP1B	X	0	.68
47	MP1B	Z	54.21	.68
48	MP1B	Mx	-.0619	.68
49	MP1B	X	0	5.33
50	MP1B	Z	54.21	5.33
51	MP1B	Mx	-.0619	5.33
52	MP1C	X	0	.68
53	MP1C	Z	50.302	.68
54	MP1C	Mx	.0244	.68
55	MP1C	X	0	5.33
56	MP1C	Z	50.302	5.33
57	MP1C	Mx	.0244	5.33
58	MP1A	X	0	.68
59	MP1A	Z	81.447	.68
60	MP1A	Mx	-.0475	.68
61	MP1A	X	0	5.33
62	MP1A	Z	81.447	5.33
63	MP1A	Mx	-.0475	5.33
64	MP1B	X	0	.68
65	MP1B	Z	54.21	.68
66	MP1B	Mx	-.0212	.68
67	MP1B	X	0	5.33
68	MP1B	Z	54.21	5.33
69	MP1B	Mx	-.0212	5.33
70	MP1C	X	0	.68
71	MP1C	Z	50.302	.68
72	MP1C	Mx	.058	.68
73	MP1C	X	0	5.33
74	MP1C	Z	50.302	5.33
75	MP1C	Mx	.058	5.33
76	OVP1	X	0	1
77	OVP1	Z	92.749	1
78	OVP1	Mx	-.0121	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	OVP2	X	-45.402	1
2	OVP2	Z	78.639	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
3	OVP2	Mx	.0155	1
4	MP3A	X	-19.567	2.25
5	MP3A	Z	33.891	2.25
6	MP3A	Mx	.0163	2.25
7	MP3A	X	-19.567	3.75
8	MP3A	Z	33.891	3.75
9	MP3A	Mx	.0163	3.75
10	MP3B	X	-8.661	2.25
11	MP3B	Z	15.001	2.25
12	MP3B	Mx	-.0142	2.25
13	MP3B	X	-8.661	3.75
14	MP3B	Z	15.001	3.75
15	MP3B	Mx	-.0142	3.75
16	MP3C	X	-20.649	2.25
17	MP3C	Z	35.765	2.25
18	MP3C	Mx	.0145	2.25
19	MP3C	X	-20.649	3.75
20	MP3C	Z	35.765	3.75
21	MP3C	Mx	.0145	3.75
22	MP2A	X	-22.03	2
23	MP2A	Z	38.157	2
24	MP2A	Mx	-.0075	2
25	MP2B	X	-15.6	2
26	MP2B	Z	27.02	2
27	MP2B	Mx	.0154	2
28	MP2C	X	-19.797	2
29	MP2C	Z	34.289	2
30	MP2C	Mx	-.0127	2
31	MP1A	X	-26.613	2
32	MP1A	Z	46.095	2
33	MP1A	Mx	-.0091	2
34	MP1B	X	-19.112	2
35	MP1B	Z	33.103	2
36	MP1B	Mx	.0188	2
37	MP1C	X	-24.008	2
38	MP1C	Z	41.583	2
39	MP1C	Mx	-.0154	2
40	MP1A	X	-34.922	.68
41	MP1A	Z	60.486	.68
42	MP1A	Mx	.0702	.68
43	MP1A	X	-34.922	5.33
44	MP1A	Z	60.486	5.33
45	MP1A	Mx	.0702	5.33
46	MP1B	X	-18.216	.68
47	MP1B	Z	31.551	.68
48	MP1B	Mx	-.0396	.68
49	MP1B	X	-18.216	5.33
50	MP1B	Z	31.551	5.33
51	MP1B	Mx	-.0396	5.33
52	MP1C	X	-36.578	.68
53	MP1C	Z	63.356	.68
54	MP1C	Mx	-.0078	.68
55	MP1C	X	-36.578	5.33
56	MP1C	Z	63.356	5.33
57	MP1C	Mx	-.0078	5.33
58	MP1A	X	-34.922	.68
59	MP1A	Z	60.486	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP1A	Mx	-.000362	.68
61	MP1A	X	-34.922	5.33
62	MP1A	Z	60.486	5.33
63	MP1A	Mx	-.000362	5.33
64	MP1B	X	-18.216	.68
65	MP1B	Z	31.551	.68
66	MP1B	Mx	-.0322	.68
67	MP1B	X	-18.216	5.33
68	MP1B	Z	31.551	5.33
69	MP1B	Mx	-.0322	5.33
70	MP1C	X	-36.578	.68
71	MP1C	Z	63.356	.68
72	MP1C	Mx	.0696	.68
73	MP1C	X	-36.578	5.33
74	MP1C	Z	63.356	5.33
75	MP1C	Mx	.0696	5.33
76	OVP1	X	-45.402	1
77	OVP1	Z	78.639	1
78	OVP1	Mx	.0233	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	-69.525	1
2	OVP2	Z	40.14	1
3	OVP2	Mx	.0307	1
4	MP3A	X	-20.77	2.25
5	MP3A	Z	11.992	2.25
6	MP3A	Mx	.0173	2.25
7	MP3A	X	-20.77	3.75
8	MP3A	Z	11.992	3.75
9	MP3A	Mx	.0173	3.75
10	MP3B	X	-17.279	2.25
11	MP3B	Z	9.976	2.25
12	MP3B	Mx	-.0156	2.25
13	MP3B	X	-17.279	3.75
14	MP3B	Z	9.976	3.75
15	MP3B	Mx	-.0156	3.75
16	MP3C	X	-40.253	2.25
17	MP3C	Z	23.24	2.25
18	MP3C	Mx	-.0034	2.25
19	MP3C	X	-40.253	3.75
20	MP3C	Z	23.24	3.75
21	MP3C	Mx	-.0034	3.75
22	MP2A	X	-32.022	2
23	MP2A	Z	18.488	2
24	MP2A	Mx	-.0142	2
25	MP2B	X	-28.154	2
26	MP2B	Z	16.255	2
27	MP2B	Mx	.0153	2
28	MP2C	X	-39.29	2
29	MP2C	Z	22.684	2
30	MP2C	Mx	-.0039	2
31	MP1A	X	-38.937	2
32	MP1A	Z	22.481	2
33	MP1A	Mx	-.0172	2
34	MP1B	X	-34.425	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
35	MP1B	Z	19.875	2
36	MP1B	Mx	.0187	2
37	MP1C	X	-47.417	2
38	MP1C	Z	27.376	2
39	MP1C	Mx	-.0048	2
40	MP1A	X	-40.388	.68
41	MP1A	Z	23.318	.68
42	MP1A	Mx	.054	.68
43	MP1A	X	-40.388	5.33
44	MP1A	Z	23.318	5.33
45	MP1A	Mx	.054	5.33
46	MP1B	X	-35.041	.68
47	MP1B	Z	20.231	.68
48	MP1B	Mx	-.0299	.68
49	MP1B	X	-35.041	5.33
50	MP1B	Z	20.231	5.33
51	MP1B	Mx	-.0299	5.33
52	MP1C	X	-70.23	.68
53	MP1C	Z	40.547	.68
54	MP1C	Mx	-.0542	.68
55	MP1C	X	-70.23	5.33
56	MP1C	Z	40.547	5.33
57	MP1C	Mx	-.0542	5.33
58	MP1A	X	-40.388	.68
59	MP1A	Z	23.318	.68
60	MP1A	Mx	.0268	.68
61	MP1A	X	-40.388	5.33
62	MP1A	Z	23.318	5.33
63	MP1A	Mx	.0268	5.33
64	MP1B	X	-35.041	.68
65	MP1B	Z	20.231	.68
66	MP1B	Mx	-.0461	.68
67	MP1B	X	-35.041	5.33
68	MP1B	Z	20.231	5.33
69	MP1B	Mx	-.0461	5.33
70	MP1C	X	-70.23	.68
71	MP1C	Z	40.547	.68
72	MP1C	Mx	.0401	.68
73	MP1C	X	-70.23	5.33
74	MP1C	Z	40.547	5.33
75	MP1C	Mx	.0401	5.33
76	OVP1	X	-69.525	1
77	OVP1	Z	40.14	1
78	OVP1	Mx	.0461	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-71.701	1
2	OVP2	Z	0	1
3	OVP2	Mx	.0353	1
4	MP3A	X	-16.408	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	.0137	2.25
7	MP3A	X	-16.408	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	.0137	3.75



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
10	MP3B	X	-34.19	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	-.0183	2.25
13	MP3B	X	-34.19	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	-.0183	3.75
16	MP3C	X	-36.741	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	-.0176	2.25
19	MP3C	X	-36.741	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	-.0176	3.75
22	MP2A	X	-31.2	2
23	MP2A	Z	0	2
24	MP2A	Mx	-.0154	2
25	MP2B	X	-39.594	2
26	MP2B	Z	0	2
27	MP2B	Mx	.0127	2
28	MP2C	X	-44.059	2
29	MP2C	Z	0	2
30	MP2C	Mx	.0075	2
31	MP1A	X	-38.224	2
32	MP1A	Z	0	2
33	MP1A	Mx	-.0188	2
34	MP1B	X	-48.016	2
35	MP1B	Z	0	2
36	MP1B	Mx	.0154	2
37	MP1C	X	-53.226	2
38	MP1C	Z	0	2
39	MP1C	Mx	.0091	2
40	MP1A	X	-35.032	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	.035	.68
43	MP1A	X	-35.032	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	.035	5.33
46	MP1B	X	-62.27	.68
47	MP1B	Z	0	.68
48	MP1B	Mx	-.0122	.68
49	MP1B	X	-62.27	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	-.0122	5.33
52	MP1C	X	-66.177	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	-.0696	.68
55	MP1C	X	-66.177	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	-.0696	5.33
58	MP1A	X	-35.032	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	.035	.68
61	MP1A	X	-35.032	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	.035	5.33
64	MP1B	X	-62.27	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	-.0679	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
67	MP1B	X	-62.27	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	-.0679	5.33
70	MP1C	X	-66.177	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	-.0063	.68
73	MP1C	X	-66.177	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	-.0063	5.33
76	OVP1	X	-71.701	1
77	OVP1	Z	0	1
78	OVP1	Mx	.053	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-63.779	1
2	OVP2	Z	-36.823	1
3	OVP2	Mx	.0346	1
4	MP3A	X	-20.77	2.25
5	MP3A	Z	-11.992	2.25
6	MP3A	Mx	.0173	2.25
7	MP3A	X	-20.77	3.75
8	MP3A	Z	-11.992	3.75
9	MP3A	Mx	.0173	3.75
10	MP3B	X	-39.661	2.25
11	MP3B	Z	-22.898	2.25
12	MP3B	Mx	-.0066	2.25
13	MP3B	X	-39.661	3.75
14	MP3B	Z	-22.898	3.75
15	MP3B	Mx	-.0066	3.75
16	MP3C	X	-18.897	2.25
17	MP3C	Z	-10.91	2.25
18	MP3C	Mx	-.0165	2.25
19	MP3C	X	-18.897	3.75
20	MP3C	Z	-10.91	3.75
21	MP3C	Mx	-.0165	3.75
22	MP2A	X	-28.154	2
23	MP2A	Z	-16.255	2
24	MP2A	Mx	-.0153	2
25	MP2B	X	-39.29	2
26	MP2B	Z	-22.684	2
27	MP2B	Mx	.0039	2
28	MP2C	X	-32.022	2
29	MP2C	Z	-18.488	2
30	MP2C	Mx	.0142	2
31	MP1A	X	-34.425	2
32	MP1A	Z	-19.875	2
33	MP1A	Mx	-.0187	2
34	MP1B	X	-47.417	2
35	MP1B	Z	-27.376	2
36	MP1B	Mx	.0048	2
37	MP1C	X	-38.937	2
38	MP1C	Z	-22.481	2
39	MP1C	Mx	.0172	2
40	MP1A	X	-40.388	.68
41	MP1A	Z	-23.318	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
42	MP1A	Mx	.0268	.68
43	MP1A	X	-40.388	5.33
44	MP1A	Z	-23.318	5.33
45	MP1A	Mx	.0268	5.33
46	MP1B	X	-69.323	.68
47	MP1B	Z	-40.024	.68
48	MP1B	Mx	.0321	.68
49	MP1B	X	-69.323	5.33
50	MP1B	Z	-40.024	5.33
51	MP1B	Mx	.0321	5.33
52	MP1C	X	-37.518	.68
53	MP1C	Z	-21.661	.68
54	MP1C	Mx	-.0499	.68
55	MP1C	X	-37.518	5.33
56	MP1C	Z	-21.661	5.33
57	MP1C	Mx	-.0499	5.33
58	MP1A	X	-40.388	.68
59	MP1A	Z	-23.318	.68
60	MP1A	Mx	.054	.68
61	MP1A	X	-40.388	5.33
62	MP1A	Z	-23.318	5.33
63	MP1A	Mx	.054	5.33
64	MP1B	X	-69.323	.68
65	MP1B	Z	-40.024	.68
66	MP1B	Mx	-.0599	.68
67	MP1B	X	-69.323	5.33
68	MP1B	Z	-40.024	5.33
69	MP1B	Mx	-.0599	5.33
70	MP1C	X	-37.518	.68
71	MP1C	Z	-21.661	.68
72	MP1C	Mx	-.0286	.68
73	MP1C	X	-37.518	5.33
74	MP1C	Z	-21.661	5.33
75	MP1C	Mx	-.0286	5.33
76	OVP1	X	-63.779	1
77	OVP1	Z	-36.823	1
78	OVP1	Mx	.0519	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-42.085	1
2	OVP2	Z	-72.893	1
3	OVP2	Mx	.0271	1
4	MP3A	X	-19.567	2.25
5	MP3A	Z	-33.891	2.25
6	MP3A	Mx	.0163	2.25
7	MP3A	X	-19.567	3.75
8	MP3A	Z	-33.891	3.75
9	MP3A	Mx	.0163	3.75
10	MP3B	X	-21.583	2.25
11	MP3B	Z	-37.382	2.25
12	MP3B	Mx	.0123	2.25
13	MP3B	X	-21.583	3.75
14	MP3B	Z	-37.382	3.75
15	MP3B	Mx	.0123	3.75
16	MP3C	X	-8.319	2.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP3C	Z	-14.409	2.25
18	MP3C	Mx	-0.138	2.25
19	MP3C	X	-8.319	3.75
20	MP3C	Z	-14.409	3.75
21	MP3C	Mx	-0.138	3.75
22	MP2A	X	-19.797	2
23	MP2A	Z	-34.289	2
24	MP2A	Mx	-0.127	2
25	MP2B	X	-22.03	2
26	MP2B	Z	-38.157	2
27	MP2B	Mx	-0.075	2
28	MP2C	X	-15.6	2
29	MP2C	Z	-27.02	2
30	MP2C	Mx	.0154	2
31	MP1A	X	-24.008	2
32	MP1A	Z	-41.583	2
33	MP1A	Mx	-0.154	2
34	MP1B	X	-26.613	2
35	MP1B	Z	-46.095	2
36	MP1B	Mx	-0.091	2
37	MP1C	X	-19.112	2
38	MP1C	Z	-33.103	2
39	MP1C	Mx	.0188	2
40	MP1A	X	-34.922	.68
41	MP1A	Z	-60.486	.68
42	MP1A	Mx	-0.00362	.68
43	MP1A	X	-34.922	5.33
44	MP1A	Z	-60.486	5.33
45	MP1A	Mx	-0.00362	5.33
46	MP1B	X	-38.009	.68
47	MP1B	Z	-65.833	.68
48	MP1B	Mx	.0677	.68
49	MP1B	X	-38.009	5.33
50	MP1B	Z	-65.833	5.33
51	MP1B	Mx	.0677	5.33
52	MP1C	X	-17.693	.68
53	MP1C	Z	-30.644	.68
54	MP1C	Mx	-0.335	.68
55	MP1C	X	-17.693	5.33
56	MP1C	Z	-30.644	5.33
57	MP1C	Mx	-0.335	5.33
58	MP1A	X	-34.922	.68
59	MP1A	Z	-60.486	.68
60	MP1A	Mx	.0702	.68
61	MP1A	X	-34.922	5.33
62	MP1A	Z	-60.486	5.33
63	MP1A	Mx	.0702	5.33
64	MP1B	X	-38.009	.68
65	MP1B	Z	-65.833	.68
66	MP1B	Mx	-0.157	.68
67	MP1B	X	-38.009	5.33
68	MP1B	Z	-65.833	5.33
69	MP1B	Mx	-0.157	5.33
70	MP1C	X	-17.693	.68
71	MP1C	Z	-30.644	.68
72	MP1C	Mx	-0.37	.68
73	MP1C	X	-17.693	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
74	MP1C	Z	-30.644	5.33
75	MP1C	Mx	-.037	5.33
76	OVP1	X	-42.085	1
77	OVP1	Z	-72.893	1
78	OVP1	Mx	.0406	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	OVP2	X	0	1
2	OVP2	Z	-24.671	1
3	OVP2	Mx	.0021	1
4	MP3A	X	0	2.25
5	MP3A	Z	-11.757	2.25
6	MP3A	Mx	0	2.25
7	MP3A	X	0	3.75
8	MP3A	Z	-11.757	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	-7.889	2.25
12	MP3B	Mx	.005	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	-7.889	3.75
15	MP3B	Mx	.005	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	-7.334	2.25
18	MP3C	Mx	-.005	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	-7.334	3.75
21	MP3C	Mx	-.005	3.75
22	MP2A	X	0	2
23	MP2A	Z	-12.279	2
24	MP2A	Mx	-.0011	2
25	MP2B	X	0	2
26	MP2B	Z	-10.262	2
27	MP2B	Mx	-.0039	2
28	MP2C	X	0	2
29	MP2C	Z	-9.189	2
30	MP2C	Mx	.0043	2
31	MP1A	X	0	2
32	MP1A	Z	-12.283	2
33	MP1A	Mx	-.0011	2
34	MP1B	X	0	2
35	MP1B	Z	-10.347	2
36	MP1B	Mx	-.004	2
37	MP1C	X	0	2
38	MP1C	Z	-9.317	2
39	MP1C	Mx	.0044	2
40	MP1A	X	0	.68
41	MP1A	Z	-24.108	.68
42	MP1A	Mx	-.0141	.68
43	MP1A	X	0	5.33
44	MP1A	Z	-24.108	5.33
45	MP1A	Mx	-.0141	5.33
46	MP1B	X	0	.68
47	MP1B	Z	-19.886	.68
48	MP1B	Mx	.0227	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
49	MP1B	X	0	5.33
50	MP1B	Z	-19.886	5.33
51	MP1B	Mx	.0227	5.33
52	MP1C	X	0	.68
53	MP1C	Z	-19.281	.68
54	MP1C	Mx	-.0093	.68
55	MP1C	X	0	5.33
56	MP1C	Z	-19.281	5.33
57	MP1C	Mx	-.0093	5.33
58	MP1A	X	0	.68
59	MP1A	Z	-24.108	.68
60	MP1A	Mx	.0141	.68
61	MP1A	X	0	5.33
62	MP1A	Z	-24.108	5.33
63	MP1A	Mx	.0141	5.33
64	MP1B	X	0	.68
65	MP1B	Z	-19.886	.68
66	MP1B	Mx	.0078	.68
67	MP1B	X	0	5.33
68	MP1B	Z	-19.886	5.33
69	MP1B	Mx	.0078	5.33
70	MP1C	X	0	.68
71	MP1C	Z	-19.281	.68
72	MP1C	Mx	-.0222	.68
73	MP1C	X	0	5.33
74	MP1C	Z	-19.281	5.33
75	MP1C	Mx	-.0222	5.33
76	OVP1	X	0	1
77	OVP1	Z	-24.671	1
78	OVP1	Mx	.0032	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	12.108	1
2	OVP2	Z	-20.972	1
3	OVP2	Mx	-.0041	1
4	MP3A	X	5.055	2.25
5	MP3A	Z	-8.755	2.25
6	MP3A	Mx	-.0042	2.25
7	MP3A	X	5.055	3.75
8	MP3A	Z	-8.755	3.75
9	MP3A	Mx	-.0042	3.75
10	MP3B	X	2.682	2.25
11	MP3B	Z	-4.646	2.25
12	MP3B	Mx	.0044	2.25
13	MP3B	X	2.682	3.75
14	MP3B	Z	-4.646	3.75
15	MP3B	Mx	.0044	3.75
16	MP3C	X	5.29	2.25
17	MP3C	Z	-9.162	2.25
18	MP3C	Mx	-.0037	2.25
19	MP3C	X	5.29	3.75
20	MP3C	Z	-9.162	3.75
21	MP3C	Mx	-.0037	3.75
22	MP2A	X	5.982	2
23	MP2A	Z	-10.361	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
24	MP2A	Mx	.002	2
25	MP2B	X	4.437	2
26	MP2B	Z	-7.686	2
27	MP2B	Mx	-.0044	2
28	MP2C	X	5.446	2
29	MP2C	Z	-9.432	2
30	MP2C	Mx	.0035	2
31	MP1A	X	5.991	2
32	MP1A	Z	-10.376	2
33	MP1A	Mx	.002	2
34	MP1B	X	4.508	2
35	MP1B	Z	-7.807	2
36	MP1B	Mx	-.0044	2
37	MP1C	X	5.475	2
38	MP1C	Z	-9.484	2
39	MP1C	Mx	.0035	2
40	MP1A	X	11.155	.68
41	MP1A	Z	-19.32	.68
42	MP1A	Mx	-.0224	.68
43	MP1A	X	11.155	5.33
44	MP1A	Z	-19.32	5.33
45	MP1A	Mx	-.0224	5.33
46	MP1B	X	8.565	.68
47	MP1B	Z	-14.836	.68
48	MP1B	Mx	.0186	.68
49	MP1B	X	8.565	5.33
50	MP1B	Z	-14.836	5.33
51	MP1B	Mx	.0186	5.33
52	MP1C	X	11.411	.68
53	MP1C	Z	-19.765	.68
54	MP1C	Mx	.0024	.68
55	MP1C	X	11.411	5.33
56	MP1C	Z	-19.765	5.33
57	MP1C	Mx	.0024	5.33
58	MP1A	X	11.155	.68
59	MP1A	Z	-19.32	.68
60	MP1A	Mx	.000115	.68
61	MP1A	X	11.155	5.33
62	MP1A	Z	-19.32	5.33
63	MP1A	Mx	.000115	5.33
64	MP1B	X	8.565	.68
65	MP1B	Z	-14.836	.68
66	MP1B	Mx	.0151	.68
67	MP1B	X	8.565	5.33
68	MP1B	Z	-14.836	5.33
69	MP1B	Mx	.0151	5.33
70	MP1C	X	11.411	.68
71	MP1C	Z	-19.765	.68
72	MP1C	Mx	-.0217	.68
73	MP1C	X	11.411	5.33
74	MP1C	Z	-19.765	5.33
75	MP1C	Mx	-.0217	5.33
76	OVP1	X	12.108	1
77	OVP1	Z	-20.972	1
78	OVP1	Mx	-.0062	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	18.845	1
2	OVP2	Z	-10.88	1
3	OVP2	Mx	-.0083	1
4	MP3A	X	5.901	2.25
5	MP3A	Z	-3.407	2.25
6	MP3A	Mx	-.0049	2.25
7	MP3A	X	5.901	3.75
8	MP3A	Z	-3.407	3.75
9	MP3A	Mx	-.0049	3.75
10	MP3B	X	5.142	2.25
11	MP3B	Z	-2.969	2.25
12	MP3B	Mx	.0046	2.25
13	MP3B	X	5.142	3.75
14	MP3B	Z	-2.969	3.75
15	MP3B	Mx	.0046	3.75
16	MP3C	X	10.138	2.25
17	MP3C	Z	-5.853	2.25
18	MP3C	Mx	.00085	2.25
19	MP3C	X	10.138	3.75
20	MP3C	Z	-5.853	3.75
21	MP3C	Mx	.00085	3.75
22	MP2A	X	8.887	2
23	MP2A	Z	-5.131	2
24	MP2A	Mx	.0039	2
25	MP2B	X	7.958	2
26	MP2B	Z	-4.595	2
27	MP2B	Mx	-.0043	2
28	MP2C	X	10.634	2
29	MP2C	Z	-6.139	2
30	MP2C	Mx	.0011	2
31	MP1A	X	8.961	2
32	MP1A	Z	-5.174	2
33	MP1A	Mx	.004	2
34	MP1B	X	8.069	2
35	MP1B	Z	-4.658	2
36	MP1B	Mx	-.0044	2
37	MP1C	X	10.637	2
38	MP1C	Z	-6.141	2
39	MP1C	Mx	.0011	2
40	MP1A	X	16.205	.68
41	MP1A	Z	-9.356	.68
42	MP1A	Mx	-.0217	.68
43	MP1A	X	16.205	5.33
44	MP1A	Z	-9.356	5.33
45	MP1A	Mx	-.0217	5.33
46	MP1B	X	15.377	.68
47	MP1B	Z	-8.878	.68
48	MP1B	Mx	.0131	.68
49	MP1B	X	15.377	5.33
50	MP1B	Z	-8.878	5.33
51	MP1B	Mx	.0131	5.33
52	MP1C	X	20.831	.68
53	MP1C	Z	-12.027	.68
54	MP1C	Mx	.0161	.68
55	MP1C	X	20.831	5.33
56	MP1C	Z	-12.027	5.33
57	MP1C	Mx	.0161	5.33



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP1A	X	16.205	.68
59	MP1A	Z	-9.356	.68
60	MP1A	Mx	-.0107	.68
61	MP1A	X	16.205	5.33
62	MP1A	Z	-9.356	5.33
63	MP1A	Mx	-.0107	5.33
64	MP1B	X	15.377	.68
65	MP1B	Z	-8.878	.68
66	MP1B	Mx	.0202	.68
67	MP1B	X	15.377	5.33
68	MP1B	Z	-8.878	5.33
69	MP1B	Mx	.0202	5.33
70	MP1C	X	20.831	.68
71	MP1C	Z	-12.027	.68
72	MP1C	Mx	-.0119	.68
73	MP1C	X	20.831	5.33
74	MP1C	Z	-12.027	5.33
75	MP1C	Mx	-.0119	5.33
76	OVP1	X	18.845	1
77	OVP1	Z	-10.88	1
78	OVP1	Mx	-.0125	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	19.758	1
2	OVP2	Z	0	1
3	OVP2	Mx	-.0097	1
4	MP3A	X	5.166	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	-.0043	2.25
7	MP3A	X	5.166	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	-.0043	3.75
10	MP3B	X	9.034	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	.0048	2.25
13	MP3B	X	9.034	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	.0048	3.75
16	MP3C	X	9.589	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	.0046	2.25
19	MP3C	X	9.589	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	.0046	3.75
22	MP2A	X	8.875	2
23	MP2A	Z	0	2
24	MP2A	Mx	.0044	2
25	MP2B	X	10.891	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.0035	2
28	MP2C	X	11.964	2
29	MP2C	Z	0	2
30	MP2C	Mx	-.002	2
31	MP1A	X	9.015	2
32	MP1A	Z	0	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP1A	Mx	.0044	2
34	MP1B	X	10.951	2
35	MP1B	Z	0	2
36	MP1B	Mx	-.0035	2
37	MP1C	X	11.981	2
38	MP1C	Z	0	2
39	MP1C	Mx	-.002	2
40	MP1A	X	16.914	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	-.0169	.68
43	MP1A	X	16.914	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	-.0169	5.33
46	MP1B	X	21.135	.68
47	MP1B	Z	0	.68
48	MP1B	Mx	.0041	.68
49	MP1B	X	21.135	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	.0041	5.33
52	MP1C	X	21.741	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	.0229	.68
55	MP1C	X	21.741	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	.0229	5.33
58	MP1A	X	16.914	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	-.0169	.68
61	MP1A	X	16.914	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	-.0169	5.33
64	MP1B	X	21.135	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	.023	.68
67	MP1B	X	21.135	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	.023	5.33
70	MP1C	X	21.741	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	.0021	.68
73	MP1C	X	21.741	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	.0021	5.33
76	OVP1	X	19.758	1
77	OVP1	Z	0	1
78	OVP1	Mx	-.0146	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	17.504	1
2	OVP2	Z	10.106	1
3	OVP2	Mx	-.0095	1
4	MP3A	X	5.901	2.25
5	MP3A	Z	3.407	2.25
6	MP3A	Mx	-.0049	2.25
7	MP3A	X	5.901	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP3A	Z	3.407	3.75
9	MP3A	Mx	-.0049	3.75
10	MP3B	X	10.01	2.25
11	MP3B	Z	5.779	2.25
12	MP3B	Mx	.0017	2.25
13	MP3B	X	10.01	3.75
14	MP3B	Z	5.779	3.75
15	MP3B	Mx	.0017	3.75
16	MP3C	X	5.493	2.25
17	MP3C	Z	3.172	2.25
18	MP3C	Mx	.0048	2.25
19	MP3C	X	5.493	3.75
20	MP3C	Z	3.172	3.75
21	MP3C	Mx	.0048	3.75
22	MP2A	X	7.958	2
23	MP2A	Z	4.595	2
24	MP2A	Mx	.0043	2
25	MP2B	X	10.634	2
26	MP2B	Z	6.139	2
27	MP2B	Mx	-.0011	2
28	MP2C	X	8.887	2
29	MP2C	Z	5.131	2
30	MP2C	Mx	-.0039	2
31	MP1A	X	8.069	2
32	MP1A	Z	4.658	2
33	MP1A	Mx	.0044	2
34	MP1B	X	10.637	2
35	MP1B	Z	6.141	2
36	MP1B	Mx	-.0011	2
37	MP1C	X	8.961	2
38	MP1C	Z	5.174	2
39	MP1C	Mx	-.004	2
40	MP1A	X	16.205	.68
41	MP1A	Z	9.356	.68
42	MP1A	Mx	-.0107	.68
43	MP1A	X	16.205	5.33
44	MP1A	Z	9.356	5.33
45	MP1A	Mx	-.0107	5.33
46	MP1B	X	20.69	.68
47	MP1B	Z	11.945	.68
48	MP1B	Mx	-.0096	.68
49	MP1B	X	20.69	5.33
50	MP1B	Z	11.945	5.33
51	MP1B	Mx	-.0096	5.33
52	MP1C	X	15.76	.68
53	MP1C	Z	9.099	.68
54	MP1C	Mx	.021	.68
55	MP1C	X	15.76	5.33
56	MP1C	Z	9.099	5.33
57	MP1C	Mx	.021	5.33
58	MP1A	X	16.205	.68
59	MP1A	Z	9.356	.68
60	MP1A	Mx	-.0217	.68
61	MP1A	X	16.205	5.33
62	MP1A	Z	9.356	5.33
63	MP1A	Mx	-.0217	5.33
64	MP1B	X	20.69	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
65	MP1B	Z	11.945	.68
66	MP1B	Mx	.0179	.68
67	MP1B	X	20.69	5.33
68	MP1B	Z	11.945	5.33
69	MP1B	Mx	.0179	5.33
70	MP1C	X	15.76	.68
71	MP1C	Z	9.099	.68
72	MP1C	Mx	.012	.68
73	MP1C	X	15.76	5.33
74	MP1C	Z	9.099	5.33
75	MP1C	Mx	.012	5.33
76	OVP1	X	17.504	1
77	OVP1	Z	10.106	1
78	OVP1	Mx	-.0142	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	11.334	1
2	OVP2	Z	19.631	1
3	OVP2	Mx	-.0073	1
4	MP3A	X	5.055	2.25
5	MP3A	Z	8.755	2.25
6	MP3A	Mx	-.0042	2.25
7	MP3A	X	5.055	3.75
8	MP3A	Z	8.755	3.75
9	MP3A	Mx	-.0042	3.75
10	MP3B	X	5.493	2.25
11	MP3B	Z	9.514	2.25
12	MP3B	Mx	-.0031	2.25
13	MP3B	X	5.493	3.75
14	MP3B	Z	9.514	3.75
15	MP3B	Mx	-.0031	3.75
16	MP3C	X	2.608	2.25
17	MP3C	Z	4.517	2.25
18	MP3C	Mx	.0043	2.25
19	MP3C	X	2.608	3.75
20	MP3C	Z	4.517	3.75
21	MP3C	Mx	.0043	3.75
22	MP2A	X	5.446	2
23	MP2A	Z	9.432	2
24	MP2A	Mx	.0035	2
25	MP2B	X	5.982	2
26	MP2B	Z	10.361	2
27	MP2B	Mx	.002	2
28	MP2C	X	4.437	2
29	MP2C	Z	7.686	2
30	MP2C	Mx	-.0044	2
31	MP1A	X	5.475	2
32	MP1A	Z	9.484	2
33	MP1A	Mx	.0035	2
34	MP1B	X	5.991	2
35	MP1B	Z	10.376	2
36	MP1B	Mx	.002	2
37	MP1C	X	4.508	2
38	MP1C	Z	7.807	2
39	MP1C	Mx	-.0044	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
40	MP1A	X	11.155	.68
41	MP1A	Z	19.32	.68
42	MP1A	Mx	.000115	.68
43	MP1A	X	11.155	5.33
44	MP1A	Z	19.32	5.33
45	MP1A	Mx	.000115	5.33
46	MP1B	X	11.633	.68
47	MP1B	Z	20.149	.68
48	MP1B	Mx	-.0207	.68
49	MP1B	X	11.633	5.33
50	MP1B	Z	20.149	5.33
51	MP1B	Mx	-.0207	5.33
52	MP1C	X	8.484	.68
53	MP1C	Z	14.695	.68
54	MP1C	Mx	.016	.68
55	MP1C	X	8.484	5.33
56	MP1C	Z	14.695	5.33
57	MP1C	Mx	.016	5.33
58	MP1A	X	11.155	.68
59	MP1A	Z	19.32	.68
60	MP1A	Mx	-.0224	.68
61	MP1A	X	11.155	5.33
62	MP1A	Z	19.32	5.33
63	MP1A	Mx	-.0224	5.33
64	MP1B	X	11.633	.68
65	MP1B	Z	20.149	.68
66	MP1B	Mx	.0048	.68
67	MP1B	X	11.633	5.33
68	MP1B	Z	20.149	5.33
69	MP1B	Mx	.0048	5.33
70	MP1C	X	8.484	.68
71	MP1C	Z	14.695	.68
72	MP1C	Mx	.0178	.68
73	MP1C	X	8.484	5.33
74	MP1C	Z	14.695	5.33
75	MP1C	Mx	.0178	5.33
76	OVP1	X	11.334	1
77	OVP1	Z	19.631	1
78	OVP1	Mx	-.0109	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	0	1
2	OVP2	Z	24.671	1
3	OVP2	Mx	-.0021	1
4	MP3A	X	0	2.25
5	MP3A	Z	11.757	2.25
6	MP3A	Mx	0	2.25
7	MP3A	X	0	3.75
8	MP3A	Z	11.757	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	7.889	2.25
12	MP3B	Mx	-.005	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	7.889	3.75



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

Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]	
15	MP3B	Mx	-0.005	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	7.334	2.25
18	MP3C	Mx	.005	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	7.334	3.75
21	MP3C	Mx	.005	3.75
22	MP2A	X	0	2
23	MP2A	Z	12.279	2
24	MP2A	Mx	.0011	2
25	MP2B	X	0	2
26	MP2B	Z	10.262	2
27	MP2B	Mx	.0039	2
28	MP2C	X	0	2
29	MP2C	Z	9.189	2
30	MP2C	Mx	-.0043	2
31	MP1A	X	0	2
32	MP1A	Z	12.283	2
33	MP1A	Mx	.0011	2
34	MP1B	X	0	2
35	MP1B	Z	10.347	2
36	MP1B	Mx	.004	2
37	MP1C	X	0	2
38	MP1C	Z	9.317	2
39	MP1C	Mx	-.0044	2
40	MP1A	X	0	.68
41	MP1A	Z	24.108	.68
42	MP1A	Mx	.0141	.68
43	MP1A	X	0	5.33
44	MP1A	Z	24.108	5.33
45	MP1A	Mx	.0141	5.33
46	MP1B	X	0	.68
47	MP1B	Z	19.886	.68
48	MP1B	Mx	-.0227	.68
49	MP1B	X	0	5.33
50	MP1B	Z	19.886	5.33
51	MP1B	Mx	-.0227	5.33
52	MP1C	X	0	.68
53	MP1C	Z	19.281	.68
54	MP1C	Mx	.0093	.68
55	MP1C	X	0	5.33
56	MP1C	Z	19.281	5.33
57	MP1C	Mx	.0093	5.33
58	MP1A	X	0	.68
59	MP1A	Z	24.108	.68
60	MP1A	Mx	-.0141	.68
61	MP1A	X	0	5.33
62	MP1A	Z	24.108	5.33
63	MP1A	Mx	-.0141	5.33
64	MP1B	X	0	.68
65	MP1B	Z	19.886	.68
66	MP1B	Mx	-.0078	.68
67	MP1B	X	0	5.33
68	MP1B	Z	19.886	5.33
69	MP1B	Mx	-.0078	5.33
70	MP1C	X	0	.68
71	MP1C	Z	19.281	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
72	MP1C	Mx	.0222	.68
73	MP1C	X	0	5.33
74	MP1C	Z	19.281	5.33
75	MP1C	Mx	.0222	5.33
76	OVP1	X	0	1
77	OVP1	Z	24.671	1
78	OVP1	Mx	-.0032	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-12.108	1
2	OVP2	Z	20.972	1
3	OVP2	Mx	.0041	1
4	MP3A	X	-5.055	2.25
5	MP3A	Z	8.755	2.25
6	MP3A	Mx	.0042	2.25
7	MP3A	X	-5.055	3.75
8	MP3A	Z	8.755	3.75
9	MP3A	Mx	.0042	3.75
10	MP3B	X	-2.682	2.25
11	MP3B	Z	4.646	2.25
12	MP3B	Mx	-.0044	2.25
13	MP3B	X	-2.682	3.75
14	MP3B	Z	4.646	3.75
15	MP3B	Mx	-.0044	3.75
16	MP3C	X	-5.29	2.25
17	MP3C	Z	9.162	2.25
18	MP3C	Mx	.0037	2.25
19	MP3C	X	-5.29	3.75
20	MP3C	Z	9.162	3.75
21	MP3C	Mx	.0037	3.75
22	MP2A	X	-5.982	2
23	MP2A	Z	10.361	2
24	MP2A	Mx	-.002	2
25	MP2B	X	-4.437	2
26	MP2B	Z	7.686	2
27	MP2B	Mx	.0044	2
28	MP2C	X	-5.446	2
29	MP2C	Z	9.432	2
30	MP2C	Mx	-.0035	2
31	MP1A	X	-5.991	2
32	MP1A	Z	10.376	2
33	MP1A	Mx	-.002	2
34	MP1B	X	-4.508	2
35	MP1B	Z	7.807	2
36	MP1B	Mx	.0044	2
37	MP1C	X	-5.475	2
38	MP1C	Z	9.484	2
39	MP1C	Mx	-.0035	2
40	MP1A	X	-11.155	.68
41	MP1A	Z	19.32	.68
42	MP1A	Mx	.0224	.68
43	MP1A	X	-11.155	5.33
44	MP1A	Z	19.32	5.33
45	MP1A	Mx	.0224	5.33
46	MP1B	X	-8.565	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP1B	Z	14.836	.68
48	MP1B	Mx	-.0186	.68
49	MP1B	X	-8.565	5.33
50	MP1B	Z	14.836	5.33
51	MP1B	Mx	-.0186	5.33
52	MP1C	X	-11.411	.68
53	MP1C	Z	19.765	.68
54	MP1C	Mx	-.0024	.68
55	MP1C	X	-11.411	5.33
56	MP1C	Z	19.765	5.33
57	MP1C	Mx	-.0024	5.33
58	MP1A	X	-11.155	.68
59	MP1A	Z	19.32	.68
60	MP1A	Mx	-.000115	.68
61	MP1A	X	-11.155	5.33
62	MP1A	Z	19.32	5.33
63	MP1A	Mx	-.000115	5.33
64	MP1B	X	-8.565	.68
65	MP1B	Z	14.836	.68
66	MP1B	Mx	-.0151	.68
67	MP1B	X	-8.565	5.33
68	MP1B	Z	14.836	5.33
69	MP1B	Mx	-.0151	5.33
70	MP1C	X	-11.411	.68
71	MP1C	Z	19.765	.68
72	MP1C	Mx	.0217	.68
73	MP1C	X	-11.411	5.33
74	MP1C	Z	19.765	5.33
75	MP1C	Mx	.0217	5.33
76	OVP1	X	-12.108	1
77	OVP1	Z	20.972	1
78	OVP1	Mx	.0062	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-18.845	1
2	OVP2	Z	10.88	1
3	OVP2	Mx	.0083	1
4	MP3A	X	-5.901	2.25
5	MP3A	Z	3.407	2.25
6	MP3A	Mx	.0049	2.25
7	MP3A	X	-5.901	3.75
8	MP3A	Z	3.407	3.75
9	MP3A	Mx	.0049	3.75
10	MP3B	X	-5.142	2.25
11	MP3B	Z	2.969	2.25
12	MP3B	Mx	-.0046	2.25
13	MP3B	X	-5.142	3.75
14	MP3B	Z	2.969	3.75
15	MP3B	Mx	-.0046	3.75
16	MP3C	X	-10.138	2.25
17	MP3C	Z	5.853	2.25
18	MP3C	Mx	-.00085	2.25
19	MP3C	X	-10.138	3.75
20	MP3C	Z	5.853	3.75
21	MP3C	Mx	-.00085	3.75



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP2A	X	-8.887	2
23	MP2A	Z	5.131	2
24	MP2A	Mx	-.0039	2
25	MP2B	X	-7.958	2
26	MP2B	Z	4.595	2
27	MP2B	Mx	.0043	2
28	MP2C	X	-10.634	2
29	MP2C	Z	6.139	2
30	MP2C	Mx	-.0011	2
31	MP1A	X	-8.961	2
32	MP1A	Z	5.174	2
33	MP1A	Mx	-.004	2
34	MP1B	X	-8.069	2
35	MP1B	Z	4.658	2
36	MP1B	Mx	.0044	2
37	MP1C	X	-10.637	2
38	MP1C	Z	6.141	2
39	MP1C	Mx	-.0011	2
40	MP1A	X	-16.205	.68
41	MP1A	Z	9.356	.68
42	MP1A	Mx	.0217	.68
43	MP1A	X	-16.205	5.33
44	MP1A	Z	9.356	5.33
45	MP1A	Mx	.0217	5.33
46	MP1B	X	-15.377	.68
47	MP1B	Z	8.878	.68
48	MP1B	Mx	-.0131	.68
49	MP1B	X	-15.377	5.33
50	MP1B	Z	8.878	5.33
51	MP1B	Mx	-.0131	5.33
52	MP1C	X	-20.831	.68
53	MP1C	Z	12.027	.68
54	MP1C	Mx	-.0161	.68
55	MP1C	X	-20.831	5.33
56	MP1C	Z	12.027	5.33
57	MP1C	Mx	-.0161	5.33
58	MP1A	X	-16.205	.68
59	MP1A	Z	9.356	.68
60	MP1A	Mx	.0107	.68
61	MP1A	X	-16.205	5.33
62	MP1A	Z	9.356	5.33
63	MP1A	Mx	.0107	5.33
64	MP1B	X	-15.377	.68
65	MP1B	Z	8.878	.68
66	MP1B	Mx	-.0202	.68
67	MP1B	X	-15.377	5.33
68	MP1B	Z	8.878	5.33
69	MP1B	Mx	-.0202	5.33
70	MP1C	X	-20.831	.68
71	MP1C	Z	12.027	.68
72	MP1C	Mx	.0119	.68
73	MP1C	X	-20.831	5.33
74	MP1C	Z	12.027	5.33
75	MP1C	Mx	.0119	5.33
76	OVP1	X	-18.845	1
77	OVP1	Z	10.88	1
78	OVP1	Mx	.0125	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	-19.758	1
2	OVP2	Z	0	1
3	OVP2	Mx	.0097	1
4	MP3A	X	-5.166	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	.0043	2.25
7	MP3A	X	-5.166	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	.0043	3.75
10	MP3B	X	-9.034	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	-.0048	2.25
13	MP3B	X	-9.034	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	-.0048	3.75
16	MP3C	X	-9.589	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	-.0046	2.25
19	MP3C	X	-9.589	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	-.0046	3.75
22	MP2A	X	-8.875	2
23	MP2A	Z	0	2
24	MP2A	Mx	-.0044	2
25	MP2B	X	-10.891	2
26	MP2B	Z	0	2
27	MP2B	Mx	.0035	2
28	MP2C	X	-11.964	2
29	MP2C	Z	0	2
30	MP2C	Mx	.002	2
31	MP1A	X	-9.015	2
32	MP1A	Z	0	2
33	MP1A	Mx	-.0044	2
34	MP1B	X	-10.951	2
35	MP1B	Z	0	2
36	MP1B	Mx	.0035	2
37	MP1C	X	-11.981	2
38	MP1C	Z	0	2
39	MP1C	Mx	.002	2
40	MP1A	X	-16.914	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	.0169	.68
43	MP1A	X	-16.914	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	.0169	5.33
46	MP1B	X	-21.135	.68
47	MP1B	Z	0	.68
48	MP1B	Mx	-.0041	.68
49	MP1B	X	-21.135	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	-.0041	5.33
52	MP1C	X	-21.741	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	-.0229	.68
55	MP1C	X	-21.741	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	-.0229	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP1A	X	-16.914	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	.0169	.68
61	MP1A	X	-16.914	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	.0169	5.33
64	MP1B	X	-21.135	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	-.023	.68
67	MP1B	X	-21.135	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	-.023	5.33
70	MP1C	X	-21.741	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	-.0021	.68
73	MP1C	X	-21.741	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	-.0021	5.33
76	OVP1	X	-19.758	1
77	OVP1	Z	0	1
78	OVP1	Mx	.0146	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-17.504	1
2	OVP2	Z	-10.106	1
3	OVP2	Mx	.0095	1
4	MP3A	X	-5.901	2.25
5	MP3A	Z	-3.407	2.25
6	MP3A	Mx	.0049	2.25
7	MP3A	X	-5.901	3.75
8	MP3A	Z	-3.407	3.75
9	MP3A	Mx	.0049	3.75
10	MP3B	X	-10.01	2.25
11	MP3B	Z	-5.779	2.25
12	MP3B	Mx	-.0017	2.25
13	MP3B	X	-10.01	3.75
14	MP3B	Z	-5.779	3.75
15	MP3B	Mx	-.0017	3.75
16	MP3C	X	-5.493	2.25
17	MP3C	Z	-3.172	2.25
18	MP3C	Mx	-.0048	2.25
19	MP3C	X	-5.493	3.75
20	MP3C	Z	-3.172	3.75
21	MP3C	Mx	-.0048	3.75
22	MP2A	X	-7.958	2
23	MP2A	Z	-4.595	2
24	MP2A	Mx	-.0043	2
25	MP2B	X	-10.634	2
26	MP2B	Z	-6.139	2
27	MP2B	Mx	.0011	2
28	MP2C	X	-8.887	2
29	MP2C	Z	-5.131	2
30	MP2C	Mx	.0039	2
31	MP1A	X	-8.069	2
32	MP1A	Z	-4.658	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP1A	Mx	-.0044	2
34	MP1B	X	-10.637	2
35	MP1B	Z	-6.141	2
36	MP1B	Mx	.0011	2
37	MP1C	X	-8.961	2
38	MP1C	Z	-5.174	2
39	MP1C	Mx	.004	2
40	MP1A	X	-16.205	.68
41	MP1A	Z	-9.356	.68
42	MP1A	Mx	.0107	.68
43	MP1A	X	-16.205	5.33
44	MP1A	Z	-9.356	5.33
45	MP1A	Mx	.0107	5.33
46	MP1B	X	-20.69	.68
47	MP1B	Z	-11.945	.68
48	MP1B	Mx	.0096	.68
49	MP1B	X	-20.69	5.33
50	MP1B	Z	-11.945	5.33
51	MP1B	Mx	.0096	5.33
52	MP1C	X	-15.76	.68
53	MP1C	Z	-9.099	.68
54	MP1C	Mx	-.021	.68
55	MP1C	X	-15.76	5.33
56	MP1C	Z	-9.099	5.33
57	MP1C	Mx	-.021	5.33
58	MP1A	X	-16.205	.68
59	MP1A	Z	-9.356	.68
60	MP1A	Mx	.0217	.68
61	MP1A	X	-16.205	5.33
62	MP1A	Z	-9.356	5.33
63	MP1A	Mx	.0217	5.33
64	MP1B	X	-20.69	.68
65	MP1B	Z	-11.945	.68
66	MP1B	Mx	-.0179	.68
67	MP1B	X	-20.69	5.33
68	MP1B	Z	-11.945	5.33
69	MP1B	Mx	-.0179	5.33
70	MP1C	X	-15.76	.68
71	MP1C	Z	-9.099	.68
72	MP1C	Mx	-.012	.68
73	MP1C	X	-15.76	5.33
74	MP1C	Z	-9.099	5.33
75	MP1C	Mx	-.012	5.33
76	OVP1	X	-17.504	1
77	OVP1	Z	-10.106	1
78	OVP1	Mx	.0142	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-11.334	1
2	OVP2	Z	-19.631	1
3	OVP2	Mx	.0073	1
4	MP3A	X	-5.055	2.25
5	MP3A	Z	-8.755	2.25
6	MP3A	Mx	.0042	2.25
7	MP3A	X	-5.055	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP3A	Z	-8.755	3.75
9	MP3A	Mx	.0042	3.75
10	MP3B	X	-5.493	2.25
11	MP3B	Z	-9.514	2.25
12	MP3B	Mx	.0031	2.25
13	MP3B	X	-5.493	3.75
14	MP3B	Z	-9.514	3.75
15	MP3B	Mx	.0031	3.75
16	MP3C	X	-2.608	2.25
17	MP3C	Z	-4.517	2.25
18	MP3C	Mx	-.0043	2.25
19	MP3C	X	-2.608	3.75
20	MP3C	Z	-4.517	3.75
21	MP3C	Mx	-.0043	3.75
22	MP2A	X	-5.446	2
23	MP2A	Z	-9.432	2
24	MP2A	Mx	-.0035	2
25	MP2B	X	-5.982	2
26	MP2B	Z	-10.361	2
27	MP2B	Mx	-.002	2
28	MP2C	X	-4.437	2
29	MP2C	Z	-7.686	2
30	MP2C	Mx	.0044	2
31	MP1A	X	-5.475	2
32	MP1A	Z	-9.484	2
33	MP1A	Mx	-.0035	2
34	MP1B	X	-5.991	2
35	MP1B	Z	-10.376	2
36	MP1B	Mx	-.002	2
37	MP1C	X	-4.508	2
38	MP1C	Z	-7.807	2
39	MP1C	Mx	.0044	2
40	MP1A	X	-11.155	.68
41	MP1A	Z	-19.32	.68
42	MP1A	Mx	-.000115	.68
43	MP1A	X	-11.155	5.33
44	MP1A	Z	-19.32	5.33
45	MP1A	Mx	-.000115	5.33
46	MP1B	X	-11.633	.68
47	MP1B	Z	-20.149	.68
48	MP1B	Mx	.0207	.68
49	MP1B	X	-11.633	5.33
50	MP1B	Z	-20.149	5.33
51	MP1B	Mx	.0207	5.33
52	MP1C	X	-8.484	.68
53	MP1C	Z	-14.695	.68
54	MP1C	Mx	-.016	.68
55	MP1C	X	-8.484	5.33
56	MP1C	Z	-14.695	5.33
57	MP1C	Mx	-.016	5.33
58	MP1A	X	-11.155	.68
59	MP1A	Z	-19.32	.68
60	MP1A	Mx	.0224	.68
61	MP1A	X	-11.155	5.33
62	MP1A	Z	-19.32	5.33
63	MP1A	Mx	.0224	5.33
64	MP1B	X	-11.633	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
65	MP1B	Z	-20.149	.68
66	MP1B	Mx	-.0048	.68
67	MP1B	X	-11.633	5.33
68	MP1B	Z	-20.149	5.33
69	MP1B	Mx	-.0048	5.33
70	MP1C	X	-8.484	.68
71	MP1C	Z	-14.695	.68
72	MP1C	Mx	-.0178	.68
73	MP1C	X	-8.484	5.33
74	MP1C	Z	-14.695	5.33
75	MP1C	Mx	-.0178	5.33
76	OVP1	X	-11.334	1
77	OVP1	Z	-19.631	1
78	OVP1	Mx	.0109	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	0	1
2	OVP2	Z	-5.797	1
3	OVP2	Mx	.000503	1
4	MP3A	X	0	2.25
5	MP3A	Z	-2.919	2.25
6	MP3A	Mx	0	2.25
7	MP3A	X	0	3.75
8	MP3A	Z	-2.919	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	-1.808	2.25
12	MP3B	Mx	.0012	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	-1.808	3.75
15	MP3B	Mx	.0012	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	-1.649	2.25
18	MP3C	Mx	-.0011	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	-1.649	3.75
21	MP3C	Mx	-.0011	3.75
22	MP2A	X	0	2
23	MP2A	Z	-2.836	2
24	MP2A	Mx	-.000246	2
25	MP2B	X	0	2
26	MP2B	Z	-2.311	2
27	MP2B	Mx	-.000885	2
28	MP2C	X	0	2
29	MP2C	Z	-2.032	2
30	MP2C	Mx	.000955	2
31	MP1A	X	0	2
32	MP1A	Z	-3.422	2
33	MP1A	Mx	-.000297	2
34	MP1B	X	0	2
35	MP1B	Z	-2.81	2
36	MP1B	Mx	-.0011	2
37	MP1C	X	0	2
38	MP1C	Z	-2.484	2
39	MP1C	Mx	.0012	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
40	MP1A	X	0	.68
41	MP1A	Z	-5.09	.68
42	MP1A	Mx	-.003	.68
43	MP1A	X	0	5.33
44	MP1A	Z	-5.09	5.33
45	MP1A	Mx	-.003	5.33
46	MP1B	X	0	.68
47	MP1B	Z	-3.388	.68
48	MP1B	Mx	.0039	.68
49	MP1B	X	0	5.33
50	MP1B	Z	-3.388	5.33
51	MP1B	Mx	.0039	5.33
52	MP1C	X	0	.68
53	MP1C	Z	-3.144	.68
54	MP1C	Mx	-.0015	.68
55	MP1C	X	0	5.33
56	MP1C	Z	-3.144	5.33
57	MP1C	Mx	-.0015	5.33
58	MP1A	X	0	.68
59	MP1A	Z	-5.09	.68
60	MP1A	Mx	.003	.68
61	MP1A	X	0	5.33
62	MP1A	Z	-5.09	5.33
63	MP1A	Mx	.003	5.33
64	MP1B	X	0	.68
65	MP1B	Z	-3.388	.68
66	MP1B	Mx	.0013	.68
67	MP1B	X	0	5.33
68	MP1B	Z	-3.388	5.33
69	MP1B	Mx	.0013	5.33
70	MP1C	X	0	.68
71	MP1C	Z	-3.144	.68
72	MP1C	Mx	-.0036	.68
73	MP1C	X	0	5.33
74	MP1C	Z	-3.144	5.33
75	MP1C	Mx	-.0036	5.33
76	OVP1	X	0	1
77	OVP1	Z	-5.797	1
78	OVP1	Mx	.000755	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	2.838	1
2	OVP2	Z	-4.915	1
3	OVP2	Mx	-.000971	1
4	MP3A	X	1.223	2.25
5	MP3A	Z	-2.118	2.25
6	MP3A	Mx	-.001	2.25
7	MP3A	X	1.223	3.75
8	MP3A	Z	-2.118	3.75
9	MP3A	Mx	-.001	3.75
10	MP3B	X	.541	2.25
11	MP3B	Z	-.938	2.25
12	MP3B	Mx	.000889	2.25
13	MP3B	X	.541	3.75
14	MP3B	Z	-.938	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP3B	Mx	.000889	3.75
16	MP3C	X	1.291	2.25
17	MP3C	Z	-2.235	2.25
18	MP3C	Mx	-.000909	2.25
19	MP3C	X	1.291	3.75
20	MP3C	Z	-2.235	3.75
21	MP3C	Mx	-.000909	3.75
22	MP2A	X	1.377	2
23	MP2A	Z	-2.385	2
24	MP2A	Mx	.000471	2
25	MP2B	X	.975	2
26	MP2B	Z	-1.689	2
27	MP2B	Mx	-.00096	2
28	MP2C	X	1.237	2
29	MP2C	Z	-2.143	2
30	MP2C	Mx	.000795	2
31	MP1A	X	1.663	2
32	MP1A	Z	-2.881	2
33	MP1A	Mx	.000569	2
34	MP1B	X	1.194	2
35	MP1B	Z	-2.069	2
36	MP1B	Mx	-.0012	2
37	MP1C	X	1.5	2
38	MP1C	Z	-2.599	2
39	MP1C	Mx	.000965	2
40	MP1A	X	2.183	.68
41	MP1A	Z	-3.78	.68
42	MP1A	Mx	-.0044	.68
43	MP1A	X	2.183	5.33
44	MP1A	Z	-3.78	5.33
45	MP1A	Mx	-.0044	5.33
46	MP1B	X	1.139	.68
47	MP1B	Z	-1.972	.68
48	MP1B	Mx	.0025	.68
49	MP1B	X	1.139	5.33
50	MP1B	Z	-1.972	5.33
51	MP1B	Mx	.0025	5.33
52	MP1C	X	2.286	.68
53	MP1C	Z	-3.96	.68
54	MP1C	Mx	.000485	.68
55	MP1C	X	2.286	5.33
56	MP1C	Z	-3.96	5.33
57	MP1C	Mx	.000485	5.33
58	MP1A	X	2.183	.68
59	MP1A	Z	-3.78	.68
60	MP1A	Mx	2.2e-5	.68
61	MP1A	X	2.183	5.33
62	MP1A	Z	-3.78	5.33
63	MP1A	Mx	2.2e-5	5.33
64	MP1B	X	1.139	.68
65	MP1B	Z	-1.972	.68
66	MP1B	Mx	.002	.68
67	MP1B	X	1.139	5.33
68	MP1B	Z	-1.972	5.33
69	MP1B	Mx	.002	5.33
70	MP1C	X	2.286	.68
71	MP1C	Z	-3.96	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
72	MP1C	Mx	-0.043	.68
73	MP1C	X	2.286	5.33
74	MP1C	Z	-3.96	5.33
75	MP1C	Mx	-0.043	5.33
76	OVP1	X	2.838	1
77	OVP1	Z	-4.915	1
78	OVP1	Mx	-0.015	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	4.345	1
2	OVP2	Z	-2.509	1
3	OVP2	Mx	-0.019	1
4	MP3A	X	1.298	2.25
5	MP3A	Z	-0.749	2.25
6	MP3A	Mx	-0.011	2.25
7	MP3A	X	1.298	3.75
8	MP3A	Z	-0.749	3.75
9	MP3A	Mx	-0.011	3.75
10	MP3B	X	1.08	2.25
11	MP3B	Z	-0.624	2.25
12	MP3B	Mx	.000977	2.25
13	MP3B	X	1.08	3.75
14	MP3B	Z	-0.624	3.75
15	MP3B	Mx	.000977	3.75
16	MP3C	X	2.516	2.25
17	MP3C	Z	-1.452	2.25
18	MP3C	Mx	.000211	2.25
19	MP3C	X	2.516	3.75
20	MP3C	Z	-1.452	3.75
21	MP3C	Mx	.000211	3.75
22	MP2A	X	2.001	2
23	MP2A	Z	-1.155	2
24	MP2A	Mx	.000885	2
25	MP2B	X	1.76	2
26	MP2B	Z	-1.016	2
27	MP2B	Mx	-0.00955	2
28	MP2C	X	2.456	2
29	MP2C	Z	-1.418	2
30	MP2C	Mx	.000246	2
31	MP1A	X	2.434	2
32	MP1A	Z	-1.405	2
33	MP1A	Mx	.0011	2
34	MP1B	X	2.152	2
35	MP1B	Z	-1.242	2
36	MP1B	Mx	-0.012	2
37	MP1C	X	2.964	2
38	MP1C	Z	-1.711	2
39	MP1C	Mx	.000297	2
40	MP1A	X	2.524	.68
41	MP1A	Z	-1.457	.68
42	MP1A	Mx	-0.034	.68
43	MP1A	X	2.524	5.33
44	MP1A	Z	-1.457	5.33
45	MP1A	Mx	-0.034	5.33
46	MP1B	X	2.19	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP1B	Z	-1.264	.68
48	MP1B	Mx	.0019	.68
49	MP1B	X	2.19	5.33
50	MP1B	Z	-1.264	5.33
51	MP1B	Mx	.0019	5.33
52	MP1C	X	4.389	.68
53	MP1C	Z	-2.534	.68
54	MP1C	Mx	.0034	.68
55	MP1C	X	4.389	5.33
56	MP1C	Z	-2.534	5.33
57	MP1C	Mx	.0034	5.33
58	MP1A	X	2.524	.68
59	MP1A	Z	-1.457	.68
60	MP1A	Mx	-.0017	.68
61	MP1A	X	2.524	5.33
62	MP1A	Z	-1.457	5.33
63	MP1A	Mx	-.0017	5.33
64	MP1B	X	2.19	.68
65	MP1B	Z	-1.264	.68
66	MP1B	Mx	.0029	.68
67	MP1B	X	2.19	5.33
68	MP1B	Z	-1.264	5.33
69	MP1B	Mx	.0029	5.33
70	MP1C	X	4.389	.68
71	MP1C	Z	-2.534	.68
72	MP1C	Mx	-.0025	.68
73	MP1C	X	4.389	5.33
74	MP1C	Z	-2.534	5.33
75	MP1C	Mx	-.0025	5.33
76	OVP1	X	4.345	1
77	OVP1	Z	-2.509	1
78	OVP1	Mx	-.0029	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	4.481	1
2	OVP2	Z	0	1
3	OVP2	Mx	-.0022	1
4	MP3A	X	1.025	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	-.000854	2.25
7	MP3A	X	1.025	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	-.000854	3.75
10	MP3B	X	2.137	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	.0011	2.25
13	MP3B	X	2.137	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	.0011	3.75
16	MP3C	X	2.296	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	.0011	2.25
19	MP3C	X	2.296	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	.0011	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP2A	X	1.95	2
23	MP2A	Z	0	2
24	MP2A	Mx	.00096	2
25	MP2B	X	2.475	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.000795	2
28	MP2C	X	2.754	2
29	MP2C	Z	0	2
30	MP2C	Mx	-.000471	2
31	MP1A	X	2.389	2
32	MP1A	Z	0	2
33	MP1A	Mx	.0012	2
34	MP1B	X	3.001	2
35	MP1B	Z	0	2
36	MP1B	Mx	-.000965	2
37	MP1C	X	3.327	2
38	MP1C	Z	0	2
39	MP1C	Mx	-.000569	2
40	MP1A	X	2.19	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	-.0022	.68
43	MP1A	X	2.19	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	-.0022	5.33
46	MP1B	X	3.892	.68
47	MP1B	Z	0	.68
48	MP1B	Mx	.000763	.68
49	MP1B	X	3.892	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	.000763	5.33
52	MP1C	X	4.136	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	.0043	.68
55	MP1C	X	4.136	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	.0043	5.33
58	MP1A	X	2.19	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	-.0022	.68
61	MP1A	X	2.19	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	-.0022	5.33
64	MP1B	X	3.892	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	.0042	.68
67	MP1B	X	3.892	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	.0042	5.33
70	MP1C	X	4.136	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	.000396	.68
73	MP1C	X	4.136	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	.000396	5.33
76	OVP1	X	4.481	1
77	OVP1	Z	0	1
78	OVP1	Mx	-.0033	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	3.986	1
2	OVP2	Z	2.301	1
3	OVP2	Mx	-.0022	1
4	MP3A	X	1.298	2.25
5	MP3A	Z	.749	2.25
6	MP3A	Mx	-.0011	2.25
7	MP3A	X	1.298	3.75
8	MP3A	Z	.749	3.75
9	MP3A	Mx	-.0011	3.75
10	MP3B	X	2.479	2.25
11	MP3B	Z	1.431	2.25
12	MP3B	Mx	.000414	2.25
13	MP3B	X	2.479	3.75
14	MP3B	Z	1.431	3.75
15	MP3B	Mx	.000414	3.75
16	MP3C	X	1.181	2.25
17	MP3C	Z	.682	2.25
18	MP3C	Mx	.001	2.25
19	MP3C	X	1.181	3.75
20	MP3C	Z	.682	3.75
21	MP3C	Mx	.001	3.75
22	MP2A	X	1.76	2
23	MP2A	Z	1.016	2
24	MP2A	Mx	.000955	2
25	MP2B	X	2.456	2
26	MP2B	Z	1.418	2
27	MP2B	Mx	-.000246	2
28	MP2C	X	2.001	2
29	MP2C	Z	1.155	2
30	MP2C	Mx	-.000885	2
31	MP1A	X	2.152	2
32	MP1A	Z	1.242	2
33	MP1A	Mx	.0012	2
34	MP1B	X	2.964	2
35	MP1B	Z	1.711	2
36	MP1B	Mx	-.000297	2
37	MP1C	X	2.434	2
38	MP1C	Z	1.405	2
39	MP1C	Mx	-.0011	2
40	MP1A	X	2.524	.68
41	MP1A	Z	1.457	.68
42	MP1A	Mx	-.0017	.68
43	MP1A	X	2.524	5.33
44	MP1A	Z	1.457	5.33
45	MP1A	Mx	-.0017	5.33
46	MP1B	X	4.333	.68
47	MP1B	Z	2.501	.68
48	MP1B	Mx	-.002	.68
49	MP1B	X	4.333	5.33
50	MP1B	Z	2.501	5.33
51	MP1B	Mx	-.002	5.33
52	MP1C	X	2.345	.68
53	MP1C	Z	1.354	.68
54	MP1C	Mx	.0031	.68
55	MP1C	X	2.345	5.33
56	MP1C	Z	1.354	5.33
57	MP1C	Mx	.0031	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP1A	X	2.524	.68
59	MP1A	Z	1.457	.68
60	MP1A	Mx	-.0034	.68
61	MP1A	X	2.524	5.33
62	MP1A	Z	1.457	5.33
63	MP1A	Mx	-.0034	5.33
64	MP1B	X	4.333	.68
65	MP1B	Z	2.501	.68
66	MP1B	Mx	.0037	.68
67	MP1B	X	4.333	5.33
68	MP1B	Z	2.501	5.33
69	MP1B	Mx	.0037	5.33
70	MP1C	X	2.345	.68
71	MP1C	Z	1.354	.68
72	MP1C	Mx	.0018	.68
73	MP1C	X	2.345	5.33
74	MP1C	Z	1.354	5.33
75	MP1C	Mx	.0018	5.33
76	OVP1	X	3.986	1
77	OVP1	Z	2.301	1
78	OVP1	Mx	-.0032	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	2.63	1
2	OVP2	Z	4.556	1
3	OVP2	Mx	-.0017	1
4	MP3A	X	1.223	2.25
5	MP3A	Z	2.118	2.25
6	MP3A	Mx	-.001	2.25
7	MP3A	X	1.223	3.75
8	MP3A	Z	2.118	3.75
9	MP3A	Mx	-.001	3.75
10	MP3B	X	1.349	2.25
11	MP3B	Z	2.336	2.25
12	MP3B	Mx	-.000769	2.25
13	MP3B	X	1.349	3.75
14	MP3B	Z	2.336	3.75
15	MP3B	Mx	-.000769	3.75
16	MP3C	X	.52	2.25
17	MP3C	Z	.901	2.25
18	MP3C	Mx	.000864	2.25
19	MP3C	X	.52	3.75
20	MP3C	Z	.901	3.75
21	MP3C	Mx	.000864	3.75
22	MP2A	X	1.237	2
23	MP2A	Z	2.143	2
24	MP2A	Mx	.000795	2
25	MP2B	X	1.377	2
26	MP2B	Z	2.385	2
27	MP2B	Mx	.000471	2
28	MP2C	X	.975	2
29	MP2C	Z	1.689	2
30	MP2C	Mx	-.00096	2
31	MP1A	X	1.5	2
32	MP1A	Z	2.599	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP1A	Mx	.000964	2
34	MP1B	X	1.663	2
35	MP1B	Z	2.881	2
36	MP1B	Mx	.000569	2
37	MP1C	X	1.194	2
38	MP1C	Z	2.069	2
39	MP1C	Mx	-.0012	2
40	MP1A	X	2.183	.68
41	MP1A	Z	3.78	.68
42	MP1A	Mx	2.2e-5	.68
43	MP1A	X	2.183	5.33
44	MP1A	Z	3.78	5.33
45	MP1A	Mx	2.2e-5	5.33
46	MP1B	X	2.376	.68
47	MP1B	Z	4.115	.68
48	MP1B	Mx	-.0042	.68
49	MP1B	X	2.376	5.33
50	MP1B	Z	4.115	5.33
51	MP1B	Mx	-.0042	5.33
52	MP1C	X	1.106	.68
53	MP1C	Z	1.915	.68
54	MP1C	Mx	.0021	.68
55	MP1C	X	1.106	5.33
56	MP1C	Z	1.915	5.33
57	MP1C	Mx	.0021	5.33
58	MP1A	X	2.183	.68
59	MP1A	Z	3.78	.68
60	MP1A	Mx	-.0044	.68
61	MP1A	X	2.183	5.33
62	MP1A	Z	3.78	5.33
63	MP1A	Mx	-.0044	5.33
64	MP1B	X	2.376	.68
65	MP1B	Z	4.115	.68
66	MP1B	Mx	.00098	.68
67	MP1B	X	2.376	5.33
68	MP1B	Z	4.115	5.33
69	MP1B	Mx	.00098	5.33
70	MP1C	X	1.106	.68
71	MP1C	Z	1.915	.68
72	MP1C	Mx	.0023	.68
73	MP1C	X	1.106	5.33
74	MP1C	Z	1.915	5.33
75	MP1C	Mx	.0023	5.33
76	OVP1	X	2.63	1
77	OVP1	Z	4.556	1
78	OVP1	Mx	-.0025	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	0	1
2	OVP2	Z	5.797	1
3	OVP2	Mx	-.000503	1
4	MP3A	X	0	2.25
5	MP3A	Z	2.919	2.25
6	MP3A	Mx	0	2.25
7	MP3A	X	0	3.75



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

Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]	
8	MP3A	Z	2.919	3.75
9	MP3A	Mx	0	3.75
10	MP3B	X	0	2.25
11	MP3B	Z	1.808	2.25
12	MP3B	Mx	-.0012	2.25
13	MP3B	X	0	3.75
14	MP3B	Z	1.808	3.75
15	MP3B	Mx	-.0012	3.75
16	MP3C	X	0	2.25
17	MP3C	Z	1.649	2.25
18	MP3C	Mx	.0011	2.25
19	MP3C	X	0	3.75
20	MP3C	Z	1.649	3.75
21	MP3C	Mx	.0011	3.75
22	MP2A	X	0	2
23	MP2A	Z	2.836	2
24	MP2A	Mx	.000246	2
25	MP2B	X	0	2
26	MP2B	Z	2.311	2
27	MP2B	Mx	.000885	2
28	MP2C	X	0	2
29	MP2C	Z	2.032	2
30	MP2C	Mx	-.000955	2
31	MP1A	X	0	2
32	MP1A	Z	3.422	2
33	MP1A	Mx	.000297	2
34	MP1B	X	0	2
35	MP1B	Z	2.81	2
36	MP1B	Mx	.0011	2
37	MP1C	X	0	2
38	MP1C	Z	2.484	2
39	MP1C	Mx	-.0012	2
40	MP1A	X	0	.68
41	MP1A	Z	5.09	.68
42	MP1A	Mx	.003	.68
43	MP1A	X	0	5.33
44	MP1A	Z	5.09	5.33
45	MP1A	Mx	.003	5.33
46	MP1B	X	0	.68
47	MP1B	Z	3.388	.68
48	MP1B	Mx	-.0039	.68
49	MP1B	X	0	5.33
50	MP1B	Z	3.388	5.33
51	MP1B	Mx	-.0039	5.33
52	MP1C	X	0	.68
53	MP1C	Z	3.144	.68
54	MP1C	Mx	.0015	.68
55	MP1C	X	0	5.33
56	MP1C	Z	3.144	5.33
57	MP1C	Mx	.0015	5.33
58	MP1A	X	0	.68
59	MP1A	Z	5.09	.68
60	MP1A	Mx	-.003	.68
61	MP1A	X	0	5.33
62	MP1A	Z	5.09	5.33
63	MP1A	Mx	-.003	5.33
64	MP1B	X	0	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
65	MP1B	Z	3.388	.68
66	MP1B	Mx	-.0013	.68
67	MP1B	X	0	5.33
68	MP1B	Z	3.388	5.33
69	MP1B	Mx	-.0013	5.33
70	MP1C	X	0	.68
71	MP1C	Z	3.144	.68
72	MP1C	Mx	.0036	.68
73	MP1C	X	0	5.33
74	MP1C	Z	3.144	5.33
75	MP1C	Mx	.0036	5.33
76	OVP1	X	0	1
77	OVP1	Z	5.797	1
78	OVP1	Mx	-.000755	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	-2.838	1
2	OVP2	Z	4.915	1
3	OVP2	Mx	.000971	1
4	MP3A	X	-1.223	2.25
5	MP3A	Z	2.118	2.25
6	MP3A	Mx	.001	2.25
7	MP3A	X	-1.223	3.75
8	MP3A	Z	2.118	3.75
9	MP3A	Mx	.001	3.75
10	MP3B	X	-.541	2.25
11	MP3B	Z	.938	2.25
12	MP3B	Mx	-.000889	2.25
13	MP3B	X	-.541	3.75
14	MP3B	Z	.938	3.75
15	MP3B	Mx	-.000889	3.75
16	MP3C	X	-1.291	2.25
17	MP3C	Z	2.235	2.25
18	MP3C	Mx	.000909	2.25
19	MP3C	X	-1.291	3.75
20	MP3C	Z	2.235	3.75
21	MP3C	Mx	.000909	3.75
22	MP2A	X	-1.377	2
23	MP2A	Z	2.385	2
24	MP2A	Mx	-.000471	2
25	MP2B	X	-.975	2
26	MP2B	Z	1.689	2
27	MP2B	Mx	.00096	2
28	MP2C	X	-1.237	2
29	MP2C	Z	2.143	2
30	MP2C	Mx	-.000795	2
31	MP1A	X	-1.663	2
32	MP1A	Z	2.881	2
33	MP1A	Mx	-.000569	2
34	MP1B	X	-1.194	2
35	MP1B	Z	2.069	2
36	MP1B	Mx	.0012	2
37	MP1C	X	-1.5	2
38	MP1C	Z	2.599	2
39	MP1C	Mx	-.000965	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP1A	X	-2.183	.68
41	MP1A	Z	3.78	.68
42	MP1A	Mx	.0044	.68
43	MP1A	X	-2.183	5.33
44	MP1A	Z	3.78	5.33
45	MP1A	Mx	.0044	5.33
46	MP1B	X	-1.139	.68
47	MP1B	Z	1.972	.68
48	MP1B	Mx	-.0025	.68
49	MP1B	X	-1.139	5.33
50	MP1B	Z	1.972	5.33
51	MP1B	Mx	-.0025	5.33
52	MP1C	X	-2.286	.68
53	MP1C	Z	3.96	.68
54	MP1C	Mx	-.000485	.68
55	MP1C	X	-2.286	5.33
56	MP1C	Z	3.96	5.33
57	MP1C	Mx	-.000485	5.33
58	MP1A	X	-2.183	.68
59	MP1A	Z	3.78	.68
60	MP1A	Mx	-2.2e-5	.68
61	MP1A	X	-2.183	5.33
62	MP1A	Z	3.78	5.33
63	MP1A	Mx	-2.2e-5	5.33
64	MP1B	X	-1.139	.68
65	MP1B	Z	1.972	.68
66	MP1B	Mx	-.002	.68
67	MP1B	X	-1.139	5.33
68	MP1B	Z	1.972	5.33
69	MP1B	Mx	-.002	5.33
70	MP1C	X	-2.286	.68
71	MP1C	Z	3.96	.68
72	MP1C	Mx	.0043	.68
73	MP1C	X	-2.286	5.33
74	MP1C	Z	3.96	5.33
75	MP1C	Mx	.0043	5.33
76	OVP1	X	-2.838	1
77	OVP1	Z	4.915	1
78	OVP1	Mx	.0015	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	-4.345	1
2	OVP2	Z	2.509	1
3	OVP2	Mx	.0019	1
4	MP3A	X	-1.298	2.25
5	MP3A	Z	.749	2.25
6	MP3A	Mx	.0011	2.25
7	MP3A	X	-1.298	3.75
8	MP3A	Z	.749	3.75
9	MP3A	Mx	.0011	3.75
10	MP3B	X	-1.08	2.25
11	MP3B	Z	.624	2.25
12	MP3B	Mx	-.000977	2.25
13	MP3B	X	-1.08	3.75
14	MP3B	Z	.624	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP3B	Mx	-0.00977	3.75
16	MP3C	X	-2.516	2.25
17	MP3C	Z	1.452	2.25
18	MP3C	Mx	-0.00211	2.25
19	MP3C	X	-2.516	3.75
20	MP3C	Z	1.452	3.75
21	MP3C	Mx	-0.00211	3.75
22	MP2A	X	-2.001	2
23	MP2A	Z	1.155	2
24	MP2A	Mx	-0.00885	2
25	MP2B	X	-1.76	2
26	MP2B	Z	1.016	2
27	MP2B	Mx	.000955	2
28	MP2C	X	-2.456	2
29	MP2C	Z	1.418	2
30	MP2C	Mx	-0.00246	2
31	MP1A	X	-2.434	2
32	MP1A	Z	1.405	2
33	MP1A	Mx	-0.011	2
34	MP1B	X	-2.152	2
35	MP1B	Z	1.242	2
36	MP1B	Mx	.0012	2
37	MP1C	X	-2.964	2
38	MP1C	Z	1.711	2
39	MP1C	Mx	-0.00297	2
40	MP1A	X	-2.524	.68
41	MP1A	Z	1.457	.68
42	MP1A	Mx	.0034	.68
43	MP1A	X	-2.524	5.33
44	MP1A	Z	1.457	5.33
45	MP1A	Mx	.0034	5.33
46	MP1B	X	-2.19	.68
47	MP1B	Z	1.264	.68
48	MP1B	Mx	-0.0019	.68
49	MP1B	X	-2.19	5.33
50	MP1B	Z	1.264	5.33
51	MP1B	Mx	-0.0019	5.33
52	MP1C	X	-4.389	.68
53	MP1C	Z	2.534	.68
54	MP1C	Mx	-0.0034	.68
55	MP1C	X	-4.389	5.33
56	MP1C	Z	2.534	5.33
57	MP1C	Mx	-0.0034	5.33
58	MP1A	X	-2.524	.68
59	MP1A	Z	1.457	.68
60	MP1A	Mx	.0017	.68
61	MP1A	X	-2.524	5.33
62	MP1A	Z	1.457	5.33
63	MP1A	Mx	.0017	5.33
64	MP1B	X	-2.19	.68
65	MP1B	Z	1.264	.68
66	MP1B	Mx	-0.0029	.68
67	MP1B	X	-2.19	5.33
68	MP1B	Z	1.264	5.33
69	MP1B	Mx	-0.0029	5.33
70	MP1C	X	-4.389	.68
71	MP1C	Z	2.534	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
72	MP1C	Mx	.0025	.68
73	MP1C	X	-4.389	5.33
74	MP1C	Z	2.534	5.33
75	MP1C	Mx	.0025	5.33
76	OVP1	X	-4.345	1
77	OVP1	Z	2.509	1
78	OVP1	Mx	.0029	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	OVP2	X	-4.481	1
2	OVP2	Z	0	1
3	OVP2	Mx	.0022	1
4	MP3A	X	-1.025	2.25
5	MP3A	Z	0	2.25
6	MP3A	Mx	.000854	2.25
7	MP3A	X	-1.025	3.75
8	MP3A	Z	0	3.75
9	MP3A	Mx	.000854	3.75
10	MP3B	X	-2.137	2.25
11	MP3B	Z	0	2.25
12	MP3B	Mx	-.0011	2.25
13	MP3B	X	-2.137	3.75
14	MP3B	Z	0	3.75
15	MP3B	Mx	-.0011	3.75
16	MP3C	X	-2.296	2.25
17	MP3C	Z	0	2.25
18	MP3C	Mx	-.0011	2.25
19	MP3C	X	-2.296	3.75
20	MP3C	Z	0	3.75
21	MP3C	Mx	-.0011	3.75
22	MP2A	X	-1.95	2
23	MP2A	Z	0	2
24	MP2A	Mx	-.00096	2
25	MP2B	X	-2.475	2
26	MP2B	Z	0	2
27	MP2B	Mx	.000795	2
28	MP2C	X	-2.754	2
29	MP2C	Z	0	2
30	MP2C	Mx	.000471	2
31	MP1A	X	-2.389	2
32	MP1A	Z	0	2
33	MP1A	Mx	-.0012	2
34	MP1B	X	-3.001	2
35	MP1B	Z	0	2
36	MP1B	Mx	.000965	2
37	MP1C	X	-3.327	2
38	MP1C	Z	0	2
39	MP1C	Mx	.000569	2
40	MP1A	X	-2.19	.68
41	MP1A	Z	0	.68
42	MP1A	Mx	.0022	.68
43	MP1A	X	-2.19	5.33
44	MP1A	Z	0	5.33
45	MP1A	Mx	.0022	5.33
46	MP1B	X	-3.892	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP1B	Z	0	.68
48	MP1B	Mx	-.000763	.68
49	MP1B	X	-3.892	5.33
50	MP1B	Z	0	5.33
51	MP1B	Mx	-.000763	5.33
52	MP1C	X	-4.136	.68
53	MP1C	Z	0	.68
54	MP1C	Mx	-.0043	.68
55	MP1C	X	-4.136	5.33
56	MP1C	Z	0	5.33
57	MP1C	Mx	-.0043	5.33
58	MP1A	X	-2.19	.68
59	MP1A	Z	0	.68
60	MP1A	Mx	.0022	.68
61	MP1A	X	-2.19	5.33
62	MP1A	Z	0	5.33
63	MP1A	Mx	.0022	5.33
64	MP1B	X	-3.892	.68
65	MP1B	Z	0	.68
66	MP1B	Mx	-.0042	.68
67	MP1B	X	-3.892	5.33
68	MP1B	Z	0	5.33
69	MP1B	Mx	-.0042	5.33
70	MP1C	X	-4.136	.68
71	MP1C	Z	0	.68
72	MP1C	Mx	-.000396	.68
73	MP1C	X	-4.136	5.33
74	MP1C	Z	0	5.33
75	MP1C	Mx	-.000396	5.33
76	OVP1	X	-4.481	1
77	OVP1	Z	0	1
78	OVP1	Mx	.0033	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	-3.986	1
2	OVP2	Z	-2.301	1
3	OVP2	Mx	.0022	1
4	MP3A	X	-1.298	2.25
5	MP3A	Z	-.749	2.25
6	MP3A	Mx	.0011	2.25
7	MP3A	X	-1.298	3.75
8	MP3A	Z	-.749	3.75
9	MP3A	Mx	.0011	3.75
10	MP3B	X	-2.479	2.25
11	MP3B	Z	-1.431	2.25
12	MP3B	Mx	-.000414	2.25
13	MP3B	X	-2.479	3.75
14	MP3B	Z	-1.431	3.75
15	MP3B	Mx	-.000414	3.75
16	MP3C	X	-1.181	2.25
17	MP3C	Z	-.682	2.25
18	MP3C	Mx	-.001	2.25
19	MP3C	X	-1.181	3.75
20	MP3C	Z	-.682	3.75
21	MP3C	Mx	-.001	3.75



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

Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]	
22	MP2A	X	-1.76	2
23	MP2A	Z	-1.016	2
24	MP2A	Mx	-.000955	2
25	MP2B	X	-2.456	2
26	MP2B	Z	-1.418	2
27	MP2B	Mx	.000246	2
28	MP2C	X	-2.001	2
29	MP2C	Z	-1.155	2
30	MP2C	Mx	.000885	2
31	MP1A	X	-2.152	2
32	MP1A	Z	-1.242	2
33	MP1A	Mx	-.0012	2
34	MP1B	X	-2.964	2
35	MP1B	Z	-1.711	2
36	MP1B	Mx	.000297	2
37	MP1C	X	-2.434	2
38	MP1C	Z	-1.405	2
39	MP1C	Mx	.0011	2
40	MP1A	X	-2.524	.68
41	MP1A	Z	-1.457	.68
42	MP1A	Mx	.0017	.68
43	MP1A	X	-2.524	5.33
44	MP1A	Z	-1.457	5.33
45	MP1A	Mx	.0017	5.33
46	MP1B	X	-4.333	.68
47	MP1B	Z	-2.501	.68
48	MP1B	Mx	.002	.68
49	MP1B	X	-4.333	5.33
50	MP1B	Z	-2.501	5.33
51	MP1B	Mx	.002	5.33
52	MP1C	X	-2.345	.68
53	MP1C	Z	-1.354	.68
54	MP1C	Mx	-.0031	.68
55	MP1C	X	-2.345	5.33
56	MP1C	Z	-1.354	5.33
57	MP1C	Mx	-.0031	5.33
58	MP1A	X	-2.524	.68
59	MP1A	Z	-1.457	.68
60	MP1A	Mx	.0034	.68
61	MP1A	X	-2.524	5.33
62	MP1A	Z	-1.457	5.33
63	MP1A	Mx	.0034	5.33
64	MP1B	X	-4.333	.68
65	MP1B	Z	-2.501	.68
66	MP1B	Mx	-.0037	.68
67	MP1B	X	-4.333	5.33
68	MP1B	Z	-2.501	5.33
69	MP1B	Mx	-.0037	5.33
70	MP1C	X	-2.345	.68
71	MP1C	Z	-1.354	.68
72	MP1C	Mx	-.0018	.68
73	MP1C	X	-2.345	5.33
74	MP1C	Z	-1.354	5.33
75	MP1C	Mx	-.0018	5.33
76	OVP1	X	-3.986	1
77	OVP1	Z	-2.301	1
78	OVP1	Mx	.0032	1



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

Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]	
1	OVP2	X	-2.63	1
2	OVP2	Z	-4.556	1
3	OVP2	Mx	.0017	1
4	MP3A	X	-1.223	2.25
5	MP3A	Z	-2.118	2.25
6	MP3A	Mx	.001	2.25
7	MP3A	X	-1.223	3.75
8	MP3A	Z	-2.118	3.75
9	MP3A	Mx	.001	3.75
10	MP3B	X	-1.349	2.25
11	MP3B	Z	-2.336	2.25
12	MP3B	Mx	.000769	2.25
13	MP3B	X	-1.349	3.75
14	MP3B	Z	-2.336	3.75
15	MP3B	Mx	.000769	3.75
16	MP3C	X	-.52	2.25
17	MP3C	Z	-.901	2.25
18	MP3C	Mx	-.000864	2.25
19	MP3C	X	-.52	3.75
20	MP3C	Z	-.901	3.75
21	MP3C	Mx	-.000864	3.75
22	MP2A	X	-1.237	2
23	MP2A	Z	-2.143	2
24	MP2A	Mx	-.000795	2
25	MP2B	X	-1.377	2
26	MP2B	Z	-2.385	2
27	MP2B	Mx	-.000471	2
28	MP2C	X	-.975	2
29	MP2C	Z	-1.689	2
30	MP2C	Mx	.00096	2
31	MP1A	X	-1.5	2
32	MP1A	Z	-2.599	2
33	MP1A	Mx	-.000964	2
34	MP1B	X	-1.663	2
35	MP1B	Z	-2.881	2
36	MP1B	Mx	-.000569	2
37	MP1C	X	-1.194	2
38	MP1C	Z	-2.069	2
39	MP1C	Mx	.0012	2
40	MP1A	X	-2.183	.68
41	MP1A	Z	-3.78	.68
42	MP1A	Mx	-2.2e-5	.68
43	MP1A	X	-2.183	5.33
44	MP1A	Z	-3.78	5.33
45	MP1A	Mx	-2.2e-5	5.33
46	MP1B	X	-2.376	.68
47	MP1B	Z	-4.115	.68
48	MP1B	Mx	.0042	.68
49	MP1B	X	-2.376	5.33
50	MP1B	Z	-4.115	5.33
51	MP1B	Mx	.0042	5.33
52	MP1C	X	-1.106	.68
53	MP1C	Z	-1.915	.68
54	MP1C	Mx	-.0021	.68
55	MP1C	X	-1.106	5.33
56	MP1C	Z	-1.915	5.33
57	MP1C	Mx	-.0021	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
58	MP1A	X	-2.183	.68
59	MP1A	Z	-3.78	.68
60	MP1A	Mx	.0044	.68
61	MP1A	X	-2.183	5.33
62	MP1A	Z	-3.78	5.33
63	MP1A	Mx	.0044	5.33
64	MP1B	X	-2.376	.68
65	MP1B	Z	-4.115	.68
66	MP1B	Mx	-.00098	.68
67	MP1B	X	-2.376	5.33
68	MP1B	Z	-4.115	5.33
69	MP1B	Mx	-.00098	5.33
70	MP1C	X	-1.106	.68
71	MP1C	Z	-1.915	.68
72	MP1C	Mx	-.0023	.68
73	MP1C	X	-1.106	5.33
74	MP1C	Z	-1.915	5.33
75	MP1C	Mx	-.0023	5.33
76	OVP1	X	-2.63	1
77	OVP1	Z	-4.556	1
78	OVP1	Mx	.0025	1

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	M20	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	M87A	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	M1	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	M1	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	OVP2	Y	-1.2425	1
2	OVP2	My	-.000612	1
3	OVP2	Mz	-.000108	1
4	MP3A	Y	-1.1124	2.25
5	MP3A	My	-.000927	2.25
6	MP3A	Mz	0	2.25
7	MP3A	Y	-1.1124	3.75
8	MP3A	My	-.000927	3.75
9	MP3A	Mz	0	3.75
10	MP3B	Y	-1.1124	2.25
11	MP3B	My	.000596	2.25
12	MP3B	Mz	-.00071	2.25
13	MP3B	Y	-1.1124	3.75
14	MP3B	My	.000596	3.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP3B	Mz	-0.0071	3.75
16	MP3C	Y	-1.1124	2.25
17	MP3C	My	.000532	2.25
18	MP3C	Mz	.000759	2.25
19	MP3C	Y	-1.1124	3.75
20	MP3C	My	.000532	3.75
21	MP3C	Mz	.000759	3.75
22	MP2A	Y	-2.9004	2
23	MP2A	My	.0014	2
24	MP2A	Mz	.000252	2
25	MP2B	Y	-2.9004	2
26	MP2B	My	-.000932	2
27	MP2B	Mz	.0011	2
28	MP2C	Y	-2.9004	2
29	MP2C	My	-.000496	2
30	MP2C	Mz	-.0014	2
31	MP1A	Y	-3.0712	2
32	MP1A	My	.0015	2
33	MP1A	Mz	.000267	2
34	MP1B	Y	-3.0712	2
35	MP1B	My	-.000987	2
36	MP1B	Mz	.0012	2
37	MP1C	Y	-3.0712	2
38	MP1C	My	-.000525	2
39	MP1C	Mz	-.0014	2
40	MP1A	Y	-.7765	.68
41	MP1A	My	-.000777	.68
42	MP1A	Mz	.000453	.68
43	MP1A	Y	-.7765	5.33
44	MP1A	My	-.000777	5.33
45	MP1A	Mz	.000453	5.33
46	MP1B	Y	-.7765	.68
47	MP1B	My	.000152	.68
48	MP1B	Mz	-.000886	.68
49	MP1B	Y	-.7765	5.33
50	MP1B	My	.000152	5.33
51	MP1B	Mz	-.000886	5.33
52	MP1C	Y	-.7765	.68
53	MP1C	My	.000816	.68
54	MP1C	Mz	.000376	.68
55	MP1C	Y	-.7765	5.33
56	MP1C	My	.000816	5.33
57	MP1C	Mz	.000376	5.33
58	MP1A	Y	-.7765	.68
59	MP1A	My	-.000777	.68
60	MP1A	Mz	-.000453	.68
61	MP1A	Y	-.7765	5.33
62	MP1A	My	-.000777	5.33
63	MP1A	Mz	-.000453	5.33
64	MP1B	Y	-.7765	.68
65	MP1B	My	.000846	.68
66	MP1B	Mz	-.000304	.68
67	MP1B	Y	-.7765	5.33
68	MP1B	My	.000846	5.33
69	MP1B	Mz	-.000304	5.33
70	MP1C	Y	-.7765	.68
71	MP1C	My	7.4e-5	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP1C	Mz	.000896	.68
73	MP1C	Y	-.7765	5.33
74	MP1C	My	7.4e-5	5.33
75	MP1C	Mz	.000896	5.33
76	OVP1	Y	-1.2425	1
77	OVP1	My	-.000918	1
78	OVP1	Mz	-.000162	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	OVP2	Z	-3.1061	1
2	OVP2	Mx	.00027	1
3	MP3A	Z	-2.781	2.25
4	MP3A	Mx	0	2.25
5	MP3A	Z	-2.781	3.75
6	MP3A	Mx	0	3.75
7	MP3B	Z	-2.781	2.25
8	MP3B	Mx	.0018	2.25
9	MP3B	Z	-2.781	3.75
10	MP3B	Mx	.0018	3.75
11	MP3C	Z	-2.781	2.25
12	MP3C	Mx	-.0019	2.25
13	MP3C	Z	-2.781	3.75
14	MP3C	Mx	-.0019	3.75
15	MP2A	Z	-7.2509	2
16	MP2A	Mx	-.00063	2
17	MP2B	Z	-7.2509	2
18	MP2B	Mx	-.0028	2
19	MP2C	Z	-7.2509	2
20	MP2C	Mx	.0034	2
21	MP1A	Z	-7.678	2
22	MP1A	Mx	-.000667	2
23	MP1B	Z	-7.678	2
24	MP1B	Mx	-.0029	2
25	MP1C	Z	-7.678	2
26	MP1C	Mx	.0036	2
27	MP1A	Z	-1.9413	.68
28	MP1A	Mx	-.0011	.68
29	MP1A	Z	-1.9413	5.33
30	MP1A	Mx	-.0011	5.33
31	MP1B	Z	-1.9413	.68
32	MP1B	Mx	.0022	.68
33	MP1B	Z	-1.9413	5.33
34	MP1B	Mx	.0022	5.33
35	MP1C	Z	-1.9413	.68
36	MP1C	Mx	-.000941	.68
37	MP1C	Z	-1.9413	5.33
38	MP1C	Mx	-.000941	5.33
39	MP1A	Z	-1.9413	.68
40	MP1A	Mx	.0011	.68
41	MP1A	Z	-1.9413	5.33
42	MP1A	Mx	.0011	5.33
43	MP1B	Z	-1.9413	.68
44	MP1B	Mx	.000759	.68
45	MP1B	Z	-1.9413	5.33
46	MP1B	Mx	.000759	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP1C	Z	-1.9413	.68
48	MP1C	Mx	-.0022	.68
49	MP1C	Z	-1.9413	5.33
50	MP1C	Mx	-.0022	5.33
51	OVP1	Z	-3.1061	1
52	OVP1	Mx	.000405	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	OVP2	X	3.1061	1
2	OVP2	Mx	-.0015	1
3	MP3A	X	2.781	2.25
4	MP3A	Mx	-.0023	2.25
5	MP3A	X	2.781	3.75
6	MP3A	Mx	-.0023	3.75
7	MP3B	X	2.781	2.25
8	MP3B	Mx	.0015	2.25
9	MP3B	X	2.781	3.75
10	MP3B	Mx	.0015	3.75
11	MP3C	X	2.781	2.25
12	MP3C	Mx	.0013	2.25
13	MP3C	X	2.781	3.75
14	MP3C	Mx	.0013	3.75
15	MP2A	X	7.2509	2
16	MP2A	Mx	.0036	2
17	MP2B	X	7.2509	2
18	MP2B	Mx	-.0023	2
19	MP2C	X	7.2509	2
20	MP2C	Mx	-.0012	2
21	MP1A	X	7.678	2
22	MP1A	Mx	.0038	2
23	MP1B	X	7.678	2
24	MP1B	Mx	-.0025	2
25	MP1C	X	7.678	2
26	MP1C	Mx	-.0013	2
27	MP1A	X	1.9413	.68
28	MP1A	Mx	-.0019	.68
29	MP1A	X	1.9413	5.33
30	MP1A	Mx	-.0019	5.33
31	MP1B	X	1.9413	.68
32	MP1B	Mx	.00038	.68
33	MP1B	X	1.9413	5.33
34	MP1B	Mx	.00038	5.33
35	MP1C	X	1.9413	.68
36	MP1C	Mx	.002	.68
37	MP1C	X	1.9413	5.33
38	MP1C	Mx	.002	5.33
39	MP1A	X	1.9413	.68
40	MP1A	Mx	-.0019	.68
41	MP1A	X	1.9413	5.33
42	MP1A	Mx	-.0019	5.33
43	MP1B	X	1.9413	.68
44	MP1B	Mx	.0021	.68
45	MP1B	X	1.9413	5.33
46	MP1B	Mx	.0021	5.33
47	MP1C	X	1.9413	.68



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
48	MP1C	Mx	.000186	.68
49	MP1C	X	1.9413	5.33
50	MP1C	Mx	.000186	5.33
51	OVP1	X	3.1061	1
52	OVP1	Mx	-.0023	1

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N68	N69	N93	N91	Y	Two Way	-.0052
2	N106	N105A	N128	N130	Y	Two Way	-.0052
3	N6	N7	N87B	N87C	Y	Two Way	-.0052

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N68	N69	N93	N91	Y	Two Way	-.016
2	N106	N105A	N128	N130	Y	Two Way	-.016
3	N6	N7	N87B	N87C	Y	Two Way	-.016

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N68	N69	N93	N91	Y	Two Way	-.000202
2	N106	N105A	N128	N130	Y	Two Way	-.000202
3	N6	N7	N87B	N87C	Y	Two Way	-.000202

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N68	N69	N93	N91	Z	Two Way	-.000505
2	N106	N105A	N128	N130	Z	Two Way	-.000505
3	N6	N7	N87B	N87C	Z	Two Way	-.000505

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N68	N69	N93	N91	X	Two Way	.000505
2	N106	N105A	N128	N130	X	Two Way	.000505
3	N6	N7	N87B	N87C	X	Two Way	.000505

Envelope Joint Reactions

	Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N3	515.359	10	968.797	22	2417.345	1	1.092	21	.856	4	.343	22
2		-516.12	4	263.47	40	-1042.619	7	.302	66	-.855	10	-.187	4
3	N66	2131.1	9	1168.063	18	503.452	3	-.026	6	1.01	12	-.258	50
4		-945.416	3	304.396	50	-1193.159	20	-.942	48	-1.008	6	-1.248	18
5	N103	905.123	11	1161.078	13	643.464	1	-.13	8	.967	8	.862	20
6		-2094.579	5	302.291	49	-1330.814	7	-1.122	26	-.966	2	.167	49
7	N173	35.268	10	1642.425	13	-181.66	7	0	75	0	4	0	10
8		-35.227	4	137.114	7	-2229.647	13	0	1	0	10	0	4
9	N176A	-162.969	3	1634.596	21	1109.238	21	0	6	0	48	0	48
10		-1921.344	21	141.715	3	94.087	3	0	48	0	6	0	6
11	N179A	1929.631	17	1641.373	17	1114.096	17	0	8	0	8	0	8
12		165.461	11	143.752	11	95.542	11	0	26	0	26	0	26
13	Totals:	2558.661	10	7766.892	16	2719.996	1						
14		-2558.663	4	2078.129	72	-2719.994	7						



Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N3	-46.319	379.832	2417.345	.411	.011	.126
2	1	N66	-34.787	411.51	468.374	-.305	.451	-.305
3	1	N103	136.458	473.172	643.464	-.437	-.495	.301
4	1	N173	-.037	963.801	-1312.612	0	0	0
5	1	N176A	-408.739	356.263	267.673	0	0	0
6	1	N179A	353.431	311.191	235.752	0	0	0
7	1	Totals:	.008	2895.769	2719.996			
8	1	COG (ft):	X: -.006	Y: 1.174	Z: .045			
9	2	N3	-120.039	367.547	2274.033	.397	-.151	.011
10	2	N66	-756.201	438.844	502.68	-.254	-.176	-.346
11	2	N103	-823.168	469.323	261.51	-.504	-.966	.286
12	2	N173	-12.362	910.871	-1236.968	0	0	0
13	2	N176A	-218.34	191.33	140.023	0	0	0
14	2	N179A	589.355	517.854	380.961	0	0	0
15	2	Totals:	-1340.756	2895.769	2322.239			
16	2	COG (ft):	X: -.006	Y: 1.174	Z: .045			
17	3	N3	-391.588	349.882	1709.347	.381	.447	-.116
18	3	N66	-945.416	452.647	503.452	-.207	-.013	-.388
19	3	N103	-1568.88	446.498	-480.36	-.489	-.438	.29
20	3	N173	-27.335	771.831	-1044.879	0	0	0
21	3	N176A	-162.969	141.715	94.087	0	0	0
22	3	N179A	843.807	733.196	518.742	0	0	0
23	3	Totals:	-2252.381	2895.769	1300.39			
24	3	COG (ft):	X: -.006	Y: 1.174	Z: .045			
25	4	N3	-516.12	344.844	786.316	.382	.856	-.187
26	4	N66	-879.675	462.281	329.448	-.15	.1	-.449
27	4	N103	-1934.601	424.741	-1060.79	-.434	.132	.31
28	4	N173	-35.227	580.607	-789.794	0	0	0
29	4	N176A	-232.686	193.167	120.377	0	0	0
30	4	N179A	1039.647	890.13	614.423	0	0	0
31	4	Totals:	-2558.663	2895.769	-.02			
32	4	COG (ft):	X: -.006	Y: 1.174	Z: .045			
33	5	N3	-273.619	360.136	-167.335	.407	.316	-.163
34	5	N66	-588.851	475.556	-217.675	-.073	-.555	-.529
35	5	N103	-2094.579	413.508	-1250.096	-.38	-.074	.336
36	5	N173	-27.467	370.822	-508.441	0	0	0
37	5	N176A	-391.66	319.981	194.445	0	0	0
38	5	N179A	1126.944	955.766	650.525	0	0	0
39	5	Totals:	-2249.232	2895.769	-1298.577			
40	5	COG (ft):	X: -.006	Y: 1.174	Z: .045			
41	6	N3	-.033	378.327	-807.302	.43	-.239	-.084
42	6	N66	175.898	476	-849.856	-.026	-1.008	-.579
43	6	N103	-1971.654	401.787	-1321.615	-.303	-.185	.363
44	6	N173	-12.105	202.031	-274.259	0	0	0
45	6	N176A	-622.01	515.749	318.436	0	0	0
46	6	N179A	1090.95	921.874	615.542	0	0	0
47	6	Totals:	-1338.954	2895.769	-2319.053			
48	6	COG (ft):	X: -.006	Y: 1.174	Z: .045			
49	7	N3	46.013	388.228	-1042.619	.441	-.011	.01
50	7	N66	1222.108	453.243	-1151.535	-.046	-.449	-.567
51	7	N103	-1327.524	388.925	-1330.814	-.198	.495	.387
52	7	N173	.003	137.114	-181.66	0	0	0
53	7	N176A	-879.407	739.931	476.168	0	0	0
54	7	N179A	938.798	788.327	510.465	0	0	0
55	7	Totals:	-.009	2895.768	-2719.994			
56	7	COG (ft):	X: -.006	Y: 1.174	Z: .045			



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
57	8	N3	121.477	400.442	-899.034	.455	.151	.126
58	8	N66	1942.599	426.192	-1184.418	-.097	.178	-.527
59	8	N103	-368.155	392.54	-950.134	-.13	.967	.402
60	8	N173	12.098	190.098	-257.353	0	0	0
61	8	N176A	-1070.066	904.894	603.581	0	0	0
62	8	N179A	702.801	581.602	365.119	0	0	0
63	8	Totals:	1340.755	2895.767	-2322.237			
64	8	COG (ft):	X: -.006	Y: 1.174	Z: .045			
65	9	N3	391.725	417.847	-333.288	.472	-.447	.253
66	9	N66	2131.1	412.412	-1186.909	-.143	.014	-.485
67	9	N103	379.047	415.572	-207.881	-.145	.439	.398
68	9	N173	27.45	329.099	-449.328	0	0	0
69	9	N176A	-1125.404	954.566	649.789	0	0	0
70	9	N179A	448.461	366.271	227.229	0	0	0
71	9	Totals:	2252.38	2895.767	-1300.388			
72	9	COG (ft):	X: -.006	Y: 1.174	Z: .045			
73	10	N3	515.359	422.66	590.553	.469	-.855	.323
74	10	N66	2064.798	402.727	-1014.392	-.2	-.1	-.424
75	10	N103	746.307	437.587	372.641	-.2	-.131	.379
76	10	N173	35.268	520.284	-704.319	0	0	0
77	10	N176A	-1055.614	903.158	623.698	0	0	0
78	10	N179A	252.543	209.35	131.841	0	0	0
79	10	Totals:	2558.661	2895.767	.022			
80	10	COG (ft):	X: -.006	Y: 1.174	Z: .045			
81	11	N3	272.314	407.566	1542.923	.446	-.314	.299
82	11	N66	1775.645	389.229	-466.779	-.277	.556	-.344
83	11	N103	905.123	448.866	563.373	-.254	.074	.353
84	11	N173	27.391	730.075	-985.706	0	0	0
85	11	N176A	-896.704	776.278	549.226	0	0	0
86	11	N179A	165.461	143.752	95.542	0	0	0
87	11	Totals:	2249.231	2895.767	1298.579			
88	11	COG (ft):	X: -.006	Y: 1.174	Z: .045			
89	12	N3	-2.178	389.671	2181.585	.423	.241	.22
90	12	N66	1012.285	388.547	165.657	-.323	1.01	-.294
91	12	N103	781.066	460.555	636.141	-.331	.184	.326
92	12	N173	12.351	898.86	-1219.944	0	0	0
93	12	N176A	-666.183	580.438	425.244	0	0	0
94	12	N179A	201.612	177.698	130.372	0	0	0
95	12	Totals:	1338.952	2895.767	2319.055			
96	12	COG (ft):	X: -.006	Y: 1.174	Z: .045			
97	13	N3	-6.16	955.11	2385.63	1.073	.036	.276
98	13	N66	1347.493	1145.473	-650.684	-.456	.176	-1.153
99	13	N103	-1329.761	1161.078	-576.876	-.994	-.127	.826
100	13	N173	.044	1642.425	-2229.647	0	0	0
101	13	N176A	-1681.914	1436.109	979.618	0	0	0
102	13	N179A	1670.3	1426.696	973.048	0	0	0
103	13	Totals:	.003	7766.891	881.088			
104	13	COG (ft):	X: -.009	Y: 1.117	Z: .069			
105	14	N3	-33.162	949.854	2338.408	1.067	.005	.235
106	14	N66	1105.593	1153.189	-627.64	-.44	-.002	-1.167
107	14	N103	-1637.443	1160.47	-705.285	-1.016	-.258	.82
108	14	N173	-3.141	1626.93	-2207.182	0	0	0
109	14	N176A	-1617.985	1381.621	937.728	0	0	0
110	14	N179A	1748.995	1494.828	1021.119	0	0	0
111	14	Totals:	-437.143	7766.892	757.148			
112	14	COG (ft):	X: -.009	Y: 1.117	Z: .069			
113	15	N3	-108.213	944.168	2151.024	1.062	.166	.194



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
114	15	N66	1024.399	1158.695	-629.567	-4.21	.018	-1.184
115	15	N103	-1891.361	1154.661	-936.93	-1.014	-.122	.82
116	15	N173	-7.419	1581.184	-2143.258	0	0	0
117	15	N176A	-1595.253	1362.166	920.948	0	0	0
118	15	N179A	1833.741	1566.017	1067.383	0	0	0
119	15	Totals:	-744.106	7766.892	429.602			
120	15	COG (ft):	X: -.009	Y: 1.117	Z: .069			
121	16	N3	-145.524	942.351	1844.155	1.062	.284	.17
122	16	N66	1047.257	1163.344	-688.673	-.398	.037	-1.207
123	16	N103	-2026.927	1148.111	-1129.944	-.995	.045	.827
124	16	N173	-9.722	1516.377	-2055.777	0	0	0
125	16	N176A	-1616.258	1377.638	929.427	0	0	0
126	16	N179A	1900.222	1619.071	1100.805	0	0	0
127	16	Totals:	-850.952	7766.892	-.007			
128	16	COG (ft):	X: -.009	Y: 1.117	Z: .069			
129	17	N3	-79.203	946.057	1525.58	1.069	.145	.175
130	17	N66	1163.535	1167.803	-858.069	-.372	-.137	-1.233
131	17	N103	-2077.652	1143.176	-1205.456	-.971	.016	.837
132	17	N173	-7.436	1446.769	-1961.497	0	0	0
133	17	N176A	-1671.716	1421.714	956.473	0	0	0
134	17	N179A	1929.631	1641.373	1114.096	0	0	0
135	17	Totals:	-742.841	7766.892	-428.874			
136	17	COG (ft):	X: -.009	Y: 1.117	Z: .069			
137	18	N3	7.419	951.517	1310.217	1.076	-.018	.202
138	18	N66	1420.386	1168.063	-1059.621	-.357	-.264	-1.248
139	18	N103	-2026.473	1138.265	-1223.157	-.942	-.002	.847
140	18	N173	-3.115	1392.079	-1884.9	0	0	0
141	18	N176A	-1750.313	1487.904	999.209	0	0	0
142	18	N179A	1915.674	1629.064	1102.371	0	0	0
143	18	Totals:	-436.422	7766.892	-755.881			
144	18	COG (ft):	X: -.009	Y: 1.117	Z: .069			
145	19	N3	35.341	956.101	1230.228	1.081	.018	.236
146	19	N66	1753.507	1162.156	-1170.249	-.361	-.121	-1.246
147	19	N103	-1817.33	1134.076	-1205.517	-.907	.178	.856
148	19	N173	.061	1370.07	-1853.206	0	0	0
149	19	N176A	-1834.665	1560.649	1050.569	0	0	0
150	19	N179A	1863.083	1583.838	1067.085	0	0	0
151	19	Totals:	-.002	7766.891	-881.09			
152	19	COG (ft):	X: -.009	Y: 1.117	Z: .069			
153	20	N3	62.514	961.348	1277.499	1.087	.049	.277
154	20	N66	1995.303	1154.473	-1193.159	-.377	.057	-1.232
155	20	N103	-1509.669	1134.66	-1077.244	-.885	.309	.862
156	20	N173	3.228	1385.574	-1875.681	0	0	0
157	20	N176A	-1898.613	1615.136	1092.437	0	0	0
158	20	N179A	1784.38	1515.7	1018.999	0	0	0
159	20	Totals:	437.144	7766.891	-757.15			
160	20	COG (ft):	X: -.009	Y: 1.117	Z: .069			
161	21	N3	137.451	967.004	1465.005	1.092	-.113	.319
162	21	N66	2076.419	1148.974	-1191.389	-.396	.037	-1.215
163	21	N103	-1255.599	1140.489	-845.577	-.887	.174	.861
164	21	N173	7.54	1431.321	-1939.601	0	0	0
165	21	N176A	-1921.344	1634.596	1109.238	0	0	0
166	21	N179A	1699.64	1444.507	972.719	0	0	0
167	21	Totals:	744.106	7766.891	-429.604			
168	21	COG (ft):	X: -.009	Y: 1.117	Z: .069			
169	22	N3	174.659	968.797	1771.956	1.092	-.23	.343
170	22	N66	2053.521	1144.317	-1132.446	-.419	.018	-1.192



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
171	22	N103	-1119.871	1147.069	-652.537	-.906	.006	.855
172	22	N173	9.834	1496.123	-2027.069	0	0	0
173	22	N176A	-1900.341	1619.134	1100.78	0	0	0
174	22	N179A	1633.151	1391.45	939.321	0	0	0
175	22	Totals:	850.953	7766.891	.005			
176	22	COG (ft):	X: -.009	Y: 1.117	Z: .069			
177	23	N3	108.276	965.11	2090.399	1.085	-.091	.337
178	23	N66	1937.412	1139.832	-963.018	-.445	.192	-1.166
179	23	N103	-1069.247	1152.013	-576.882	-.93	.035	.845
180	23	N173	7.534	1565.726	-2121.346	0	0	0
181	23	N176A	-1844.892	1575.057	1073.7	0	0	0
182	23	N179A	1603.76	1369.152	926.018	0	0	0
183	23	Totals:	742.842	7766.891	428.872			
184	23	COG (ft):	X: -.009	Y: 1.117	Z: .069			
185	24	N3	21.583	959.684	2305.617	1.078	.071	.311
186	24	N66	1680.698	1139.546	-761.427	-.461	.318	-1.151
187	24	N103	-1120.555	1156.918	-559.064	-.96	.053	.835
188	24	N173	3.24	1620.413	-2197.945	0	0	0
189	24	N176A	-1766.277	1508.859	1030.965	0	0	0
190	24	N179A	1617.733	1381.47	937.733	0	0	0
191	24	Totals:	436.423	7766.891	755.879			
192	24	COG (ft):	X: -.009	Y: 1.117	Z: .069			
193	25	N3	-1.297	292.522	782.079	.332	.007	-.026
194	25	N66	523.421	565.45	-277.259	-.415	.03	-.45
195	25	N103	-1144.26	673.768	-622.843	-1.118	-.027	.241
196	25	N173	.002	571.613	-775.787	0	0	0
197	25	N176A	-606.83	517.731	352.332	0	0	0
198	25	N179A	1228.963	1024.689	711.476	0	0	0
199	25	Totals:	0	3645.773	169.999			
200	25	COG (ft):	X: .715	Y: .933	Z: .884			
201	26	N3	-5.955	291.76	773.116	.331	-.003	-.033
202	26	N66	478.358	567.15	-275.155	-.412	-.01	-.452
203	26	N103	-1204.224	673.544	-646.655	-1.122	-.056	.24
204	26	N173	-.761	568.304	-771.059	0	0	0
205	26	N176A	-594.923	507.422	344.36	0	0	0
206	26	N179A	1243.705	1037.593	720.534	0	0	0
207	26	Totals:	-83.8	3645.773	145.14			
208	26	COG (ft):	X: .715	Y: .933	Z: .884			
209	27	N3	-22.889	290.668	737.787	.33	.034	-.041
210	27	N66	466.555	568.006	-275.058	-.409	0	-.455
211	27	N103	-1250.853	672.13	-693.041	-1.121	-.023	.24
212	27	N173	-1.708	559.614	-759.054	0	0	0
213	27	N176A	-591.461	504.318	341.48	0	0	0
214	27	N179A	1259.584	1051.038	729.155	0	0	0
215	27	Totals:	-140.773	3645.773	81.27			
216	27	COG (ft):	X: .715	Y: .933	Z: .884			
217	28	N3	-30.645	290.361	680.078	.33	.06	-.045
218	28	N66	470.671	568.608	-285.885	-.406	.008	-.459
219	28	N103	-1273.742	670.779	-729.33	-1.118	.012	.241
220	28	N173	-2.2	547.663	-743.113	0	0	0
221	28	N176A	-595.812	507.525	343.113	0	0	0
222	28	N179A	1271.81	1060.838	735.136	0	0	0
223	28	Totals:	-159.918	3645.773	-.001			
224	28	COG (ft):	X: .715	Y: .933	Z: .884			
225	29	N3	-15.475	291.313	620.511	.332	.026	-.044
226	29	N66	488.792	569.447	-320.086	-.401	-.033	-.464
227	29	N103	-1283.712	670.084	-741.192	-1.115	0	.243



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
228	29	N173	-1.711	534.548	-725.524	0	0	0
229	29	N176A	-605.737	515.445	347.748	0	0	0
230	29	N179A	1277.264	1064.936	737.387	0	0	0
231	29	Totals:	-140.579	3645.773	-81.156			
232	29	COG (ft):	X: .715	Y: .933	Z: .884			
233	30	N3	1.651	292.446	580.543	.333	-.009	-.039
234	30	N66	536.545	569.481	-359.605	-.398	-.062	-.467
235	30	N103	-1276.007	669.357	-745.692	-1.11	-.007	.245
236	30	N173	-.761	523.993	-710.878	0	0	0
237	30	N176A	-620.132	527.678	355.493	0	0	0
238	30	N179A	1275.016	1062.819	735.198	0	0	0
239	30	Totals:	-83.687	3645.773	-144.941			
240	30	COG (ft):	X: .715	Y: .933	Z: .884			
241	31	N3	4.473	293.066	565.821	.334	.006	-.033
242	31	N66	601.958	568.047	-378.488	-.399	-.027	-.466
243	31	N103	-1235.732	668.56	-746.236	-1.103	.035	.246
244	31	N173	.004	519.933	-705.085	0	0	0
245	31	N176A	-636.217	541.686	365.345	0	0	0
246	31	N179A	1265.513	1054.481	728.645	0	0	0
247	31	Totals:	0	3645.773	-169.998			
248	31	COG (ft):	X: .715	Y: .933	Z: .884			
249	32	N3	9.138	293.828	574.785	.335	.016	-.026
250	32	N66	647.017	566.349	-380.586	-.402	.013	-.464
251	32	N103	-1175.769	668.783	-722.428	-1.099	.065	.247
252	32	N173	.767	523.242	-709.813	0	0	0
253	32	N176A	-648.125	551.995	373.315	0	0	0
254	32	N179A	1250.771	1041.577	719.587	0	0	0
255	32	Totals:	83.799	3645.773	-145.14			
256	32	COG (ft):	X: .715	Y: .933	Z: .884			
257	33	N3	26.066	294.919	610.119	.336	-.022	-.018
258	33	N66	658.817	565.493	-380.69	-.405	.002	-.461
259	33	N103	-1129.134	670.198	-676.041	-1.1	.032	.247
260	33	N173	1.715	531.932	-721.817	0	0	0
261	33	N176A	-651.586	555.099	376.196	0	0	0
262	33	N179A	1234.893	1028.132	710.965	0	0	0
263	33	Totals:	140.772	3645.773	-81.269			
264	33	COG (ft):	X: .715	Y: .933	Z: .884			
265	34	N3	33.819	295.225	667.831	.336	-.047	-.013
266	34	N66	654.699	564.891	-369.868	-.409	-.005	-.457
267	34	N103	-1106.239	671.55	-639.752	-1.103	-.004	.246
268	34	N173	2.207	543.883	-737.758	0	0	0
269	34	N176A	-647.235	551.892	374.564	0	0	0
270	34	N179A	1222.667	1018.332	704.985	0	0	0
271	34	Totals:	159.917	3645.773	.002			
272	34	COG (ft):	X: .715	Y: .933	Z: .884			
273	35	N3	18.647	294.274	727.393	.334	-.013	-.015
274	35	N66	636.585	564.051	-335.666	-.414	.036	-.452
275	35	N103	-1096.274	672.245	-627.884	-1.107	.009	.244
276	35	N173	1.718	556.998	-755.348	0	0	0
277	35	N176A	-637.311	543.972	369.928	0	0	0
278	35	N179A	1217.214	1014.234	702.734	0	0	0
279	35	Totals:	140.579	3645.773	81.156			
280	35	COG (ft):	X: .715	Y: .933	Z: .884			
281	36	N3	1.517	293.142	767.356	.333	.021	-.02
282	36	N66	588.838	564.016	-296.146	-.416	.065	-.449
283	36	N103	-1103.983	672.972	-623.379	-1.112	.016	.242
284	36	N173	.768	567.553	-769.994	0	0	0



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
285	36	N176A	-622.915	531.739	362.183	0	0	0
286	36	N179A	1219.462	1016.351	704.921	0	0	0
287	36	Totals:	83.686	3645.773	144.941			
288	36	COG (ft):	X: .715	Y: .933	Z: .884			
289	37	N3	-2.779	265.636	787.683	.305	0	.09
290	37	N66	732.351	763.306	-395.041	-.941	.031	-.405
291	37	N103	-664.669	735.79	-349.089	-.971	-.033	.339
292	37	N173	-.004	569.969	-773.458	0	0	0
293	37	N176A	-808.381	681.979	468.688	0	0	0
294	37	N179A	743.483	629.09	431.214	0	0	0
295	37	Totals:	0	3645.77	169.998			
296	37	COG (ft):	X: -.082	Y: .933	Z: .884			
297	38	N3	-7.434	264.872	778.729	.304	-.01	.083
298	38	N66	687.281	765.009	-392.945	-.938	-.009	-.408
299	38	N103	-724.637	735.559	-372.921	-.975	-.063	.338
300	38	N173	-.768	566.661	-768.731	0	0	0
301	38	N176A	-796.467	671.667	460.719	0	0	0
302	38	N179A	758.224	642.002	440.287	0	0	0
303	38	Totals:	-83.8	3645.77	145.139			
304	38	COG (ft):	X: -.082	Y: .933	Z: .884			
305	39	N3	-24.368	263.778	743.414	.303	.028	.075
306	39	N66	675.479	765.873	-392.849	-.935	.002	-.41
307	39	N103	-771.273	734.14	-419.298	-.974	-.03	.338
308	39	N173	-1.715	557.971	-756.728	0	0	0
309	39	N176A	-793.003	668.56	457.834	0	0	0
310	39	N179A	774.107	655.447	448.895	0	0	0
311	39	Totals:	-140.772	3645.77	81.268			
312	39	COG (ft):	X: -.082	Y: .933	Z: .884			
313	40	N3	-32.127	263.47	685.72	.303	.053	.07
314	40	N66	679.598	766.483	-403.68	-.931	.009	-.414
315	40	N103	-794.161	732.788	-455.575	-.971	.006	.34
316	40	N173	-2.206	546.022	-740.789	0	0	0
317	40	N176A	-797.352	671.765	459.463	0	0	0
318	40	N179A	786.331	665.242	454.86	0	0	0
319	40	Totals:	-159.918	3645.77	-.002			
320	40	COG (ft):	X: -.082	Y: .933	Z: .884			
321	41	N3	-16.958	264.419	626.17	.304	.019	.072
322	41	N66	697.711	767.337	-437.89	-.926	-.032	-.419
323	41	N103	-804.118	732.091	-467.444	-.968	-.007	.341
324	41	N173	-1.717	532.911	-723.205	0	0	0
325	41	N176A	-807.267	679.679	464.099	0	0	0
326	41	N179A	791.77	669.333	457.113	0	0	0
327	41	Totals:	-140.579	3645.77	-81.157			
328	41	COG (ft):	X: -.082	Y: .933	Z: .884			
329	42	N3	.166	265.55	586.217	.306	-.015	.077
330	42	N66	745.456	767.386	-477.415	-.924	-.061	-.422
331	42	N103	-796.398	731.363	-471.948	-.963	-.014	.343
332	42	N173	-.767	522.36	-708.565	0	0	0
333	42	N176A	-821.652	691.905	471.844	0	0	0
334	42	N179A	789.508	667.206	454.924	0	0	0
335	42	Totals:	-83.687	3645.77	-144.942			
336	42	COG (ft):	X: -.082	Y: .933	Z: .884			
337	43	N3	2.984	266.171	571.498	.307	-.001	.083
338	43	N66	810.872	765.96	-496.294	-.925	-.026	-.422
339	43	N103	-756.117	730.569	-472.469	-.956	.028	.344
340	43	N173	-.002	518.302	-702.774	0	0	0
341	43	N176A	-837.739	705.911	481.691	0	0	0



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
342	43	N179A	780.002	658.858	448.349	0	0	0
343	43	Totals:	0	3645.77	-170			
344	43	COG (ft):	X: -.082	Y: .933	Z: .884			
345	44	N3	7.646	266.934	580.452	.307	.009	.09
346	44	N66	855.939	764.258	-498.384	-.928	.014	-.419
347	44	N103	-696.151	730.799	-448.642	-.952	.058	.345
348	44	N173	.761	521.61	-707.502	0	0	0
349	44	N176A	-849.654	716.223	489.658	0	0	0
350	44	N179A	765.26	645.946	439.276	0	0	0
351	44	Totals:	83.8	3645.77	-145.141			
352	44	COG (ft):	X: -.082	Y: .933	Z: .884			
353	45	N3	24.574	268.026	615.772	.308	-.028	.098
354	45	N66	867.738	763.394	-498.486	-.931	.003	-.416
355	45	N103	-649.509	732.219	-402.264	-.953	.025	.345
356	45	N173	1.709	530.3	-719.504	0	0	0
357	45	N176A	-853.118	719.33	492.544	0	0	0
358	45	N179A	749.378	632.5	430.668	0	0	0
359	45	Totals:	140.772	3645.77	-81.27			
360	45	COG (ft):	X: -.082	Y: .933	Z: .884			
361	46	N3	32.329	268.334	673.469	.308	-.054	.102
362	46	N66	863.617	762.783	-487.662	-.934	-.004	-.413
363	46	N103	-626.614	733.572	-365.986	-.956	-.011	.344
364	46	N173	2.2	542.249	-735.442	0	0	0
365	46	N176A	-848.768	716.125	490.917	0	0	0
366	46	N179A	737.153	622.706	424.704	0	0	0
367	46	Totals:	159.918	3645.77	0			
368	46	COG (ft):	X: -.082	Y: .933	Z: .884			
369	47	N3	17.158	267.386	733.014	.307	-.02	.101
370	47	N66	845.51	761.929	-453.449	-.939	.037	-.408
371	47	N103	-616.663	734.269	-354.111	-.96	.002	.342
372	47	N173	1.711	555.36	-753.027	0	0	0
373	47	N176A	-838.854	708.211	486.278	0	0	0
374	47	N179A	731.715	618.615	422.45	0	0	0
375	47	Totals:	140.579	3645.77	81.155			
376	47	COG (ft):	X: -.082	Y: .933	Z: .884			
377	48	N3	.031	266.255	772.961	.305	.015	.096
378	48	N66	797.771	761.879	-413.923	-.942	.066	-.405
379	48	N103	-624.387	734.997	-349.603	-.965	.009	.341
380	48	N173	.762	565.911	-767.667	0	0	0
381	48	N176A	-824.468	695.985	478.533	0	0	0
382	48	N179A	733.978	620.742	424.638	0	0	0
383	48	Totals:	83.687	3645.77	144.94			
384	48	COG (ft):	X: -.082	Y: .933	Z: .884			
385	49	N3	-3.411	367.742	663.688	.41	.01	.04
386	49	N66	564.476	440.9	-330.097	-.18	-.009	-.444
387	49	N103	-1209.258	302.291	-697.057	-.353	.001	.167
388	49	N173	.003	548.934	-744.915	0	0	0
389	49	N176A	-635.812	541.356	367.095	0	0	0
390	49	N179A	1284.001	1069.543	741.288	0	0	0
391	49	Totals:	0	3270.767	.001			
392	49	COG (ft):	X: .711	Y: 1.04	Z: .513			
393	50	N3	3.205	367.554	664.351	.41	-.011	.098
394	50	N66	1206.999	304.396	-695.192	-.215	-.002	-.258
395	50	N103	-565.449	439.862	-331.212	-.323	.008	.352
396	50	N173	-.009	549.31	-745.446	0	0	0
397	50	N176A	-1281.509	1067.518	739.864	0	0	0
398	50	N179A	636.762	542.128	367.637	0	0	0



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
399	50	Totals:	0	3270.767	0			
400	50	COG (ft):	X: -.722	Y: 1.04	Z: .513			
401	51	N3	-.038	447.826	801.353	.497	0	.08
402	51	N66	691.129	504.436	-398.526	-.204	0	-.509
403	51	N103	-693.423	502.868	-400.305	-.37	0	.402
404	51	N173	-.004	642.275	-871.703	0	0	0
405	51	N176A	-751.567	639.546	433.922	0	0	0
406	51	N179A	753.902	641.446	435.26	0	0	0
407	51	Totals:	0	3378.396	.001			
408	51	COG (ft):	X: -.006	Y: 1.174	Z: .045			
409	52	N3	-1.796	394.833	872.686	.437	.001	.075
410	52	N66	557.995	445.079	-284.792	-.195	.039	-.44
411	52	N103	-554.223	448.165	-280.953	-.34	-.04	.351
412	52	N173	-.003	603.965	-819.958	0	0	0
413	52	N176A	-644.915	549.517	374.202	0	0	0
414	52	N179A	642.942	547.906	373.056	0	0	0
415	52	Totals:	0	2989.466	234.241			
416	52	COG (ft):	X: -.006	Y: 1.174	Z: .045			
417	53	N3	-18.514	393.729	853.008	.436	.022	.064
418	53	N66	495.93	446.8	-265.716	-.191	.022	-.444
419	53	N103	-628.652	447.479	-319.161	-.344	-.046	.349
420	53	N173	-.931	600.144	-814.794	0	0	0
421	53	N176A	-628.792	535.617	364.109	0	0	0
422	53	N179A	663.837	565.696	385.406	0	0	0
423	53	Totals:	-117.121	2989.466	202.852			
424	53	COG (ft):	X: -.006	Y: 1.174	Z: .045			
425	54	N3	-30.282	393.306	794.776	.436	.038	.055
426	54	N66	464.851	448.404	-269.933	-.185	-.001	-.45
427	54	N103	-699.037	446.123	-366.756	-.343	-.04	.348
428	54	N173	-1.611	587.801	-797.989	0	0	0
429	54	N176A	-622.382	529.838	359.336	0	0	0
430	54	N179A	685.606	583.994	397.686	0	0	0
431	54	Totals:	-202.854	2989.466	117.12			
432	54	COG (ft):	X: -.006	Y: 1.174	Z: .045			
433	55	N3	-33.948	393.678	713.579	.437	.043	.05
434	55	N66	473.08	449.461	-296.313	-.177	-.024	-.455
435	55	N103	-746.534	444.46	-410.993	-.339	-.023	.35
436	55	N173	-1.86	570.239	-774.041	0	0	0
437	55	N176A	-627.4	533.726	361.161	0	0	0
438	55	N179A	702.418	597.901	406.608	0	0	0
439	55	Totals:	-234.243	2989.466	0			
440	55	COG (ft):	X: -.006	Y: 1.174	Z: .045			
441	56	N3	-28.525	394.746	631.176	.439	.036	.051
442	56	N66	518.424	449.688	-337.789	-.171	-.041	-.46
443	56	N103	-758.404	442.935	-440.014	-.331	0	.353
444	56	N173	-1.611	552.166	-749.368	0	0	0
445	56	N176A	-642.505	546.242	369.097	0	0	0
446	56	N179A	709.766	603.688	409.779	0	0	0
447	56	Totals:	-202.855	2989.465	-117.119			
448	56	COG (ft):	X: -.006	Y: 1.174	Z: .045			
449	57	N3	-15.467	396.223	569.654	.441	.02	.057
450	57	N66	588.715	449.024	-383.239	-.167	-.046	-.462
451	57	N103	-731.478	441.957	-446.047	-.322	.022	.356
452	57	N173	-.932	538.426	-730.584	0	0	0
453	57	N176A	-663.645	564.029	381.015	0	0	0
454	57	N179A	705.683	599.806	406.351	0	0	0
455	57	Totals:	-117.123	2989.465	-202.851			



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
456	57	COG (ft):	X: -.006	Y: 1.174	Z: .045			
457	58	N3	1.729	397.713	545.488	.442	-.002	.066
458	58	N66	665.132	447.65	-420.495	-.167	-.039	-.461
459	58	N103	-672.963	441.788	-427.479	-.315	.039	.36
460	58	N173	-.003	532.698	-722.718	0	0	0
461	58	N176A	-685.159	582.323	393.724	0	0	0
462	58	N179A	691.263	587.295	397.241	0	0	0
463	58	Totals:	-.001	2989.465	-234.239			
464	58	COG (ft):	X: -.006	Y: 1.174	Z: .045			
465	59	N3	18.452	398.816	565.171	.443	-.023	.077
466	59	N66	727.189	445.931	-439.568	-.17	-.022	-.457
467	59	N103	-598.534	442.473	-389.277	-.311	.045	.362
468	59	N173	.926	536.519	-727.883	0	0	0
469	59	N176A	-701.281	596.221	403.817	0	0	0
470	59	N179A	670.368	569.505	384.889	0	0	0
471	59	Totals:	117.12	2989.465	-202.85			
472	59	COG (ft):	X: -.006	Y: 1.174	Z: .045			
473	60	N3	30.219	399.236	623.411	.444	-.038	.086
474	60	N66	758.264	444.328	-435.354	-.177	.002	-.452
475	60	N103	-528.142	443.83	-341.684	-.312	.039	.362
476	60	N173	1.605	548.864	-744.689	0	0	0
477	60	N176A	-707.692	602	408.59	0	0	0
478	60	N179A	648.599	551.206	372.608	0	0	0
479	60	Totals:	202.853	2989.465	-117.118			
480	60	COG (ft):	X: -.006	Y: 1.174	Z: .045			
481	61	N3	33.88	398.863	704.611	.443	-.043	.091
482	61	N66	750.037	443.27	-408.98	-.184	.024	-.446
483	61	N103	-480.639	445.495	-297.442	-.317	.023	.361
484	61	N173	1.853	566.426	-768.637	0	0	0
485	61	N176A	-702.675	598.113	406.764	0	0	0
486	61	N179A	631.786	537.298	363.686	0	0	0
487	61	Totals:	234.242	2989.465	.002			
488	61	COG (ft):	X: -.006	Y: 1.174	Z: .045			
489	62	N3	28.452	397.796	787.008	.441	-.037	.09
490	62	N66	704.7	443.041	-367.508	-.191	.041	-.442
491	62	N103	-468.769	447.021	-268.415	-.324	0	.358
492	62	N173	1.604	584.498	-793.309	0	0	0
493	62	N176A	-687.571	585.598	398.829	0	0	0
494	62	N179A	624.438	531.511	360.516	0	0	0
495	62	Totals:	202.854	2989.465	117.121			
496	62	COG (ft):	X: -.006	Y: 1.174	Z: .045			
497	63	N3	15.395	396.322	848.523	.439	-.02	.084
498	63	N66	634.414	443.703	-322.054	-.194	.046	-.44
499	63	N103	-495.702	447.998	-262.38	-.333	-.023	.355
500	63	N173	.925	598.237	-812.092	0	0	0
501	63	N176A	-666.431	567.812	386.911	0	0	0
502	63	N179A	628.521	535.394	363.945	0	0	0
503	63	Totals:	117.121	2989.465	202.853			
504	63	COG (ft):	X: -.006	Y: 1.174	Z: .045			
505	64	N3	-1.787	274.023	656.419	.303	.001	.053
506	64	N66	371.587	309.012	-177.287	-.139	.039	-.303
507	64	N103	-367.2	312.519	-172.963	-.24	-.04	.243
508	64	N173	-.002	430.671	-584.744	0	0	0
509	64	N176A	-442.184	377.011	257.159	0	0	0
510	64	N179A	439.587	374.893	255.656	0	0	0
511	64	Totals:	0	2078.129	234.24			
512	64	COG (ft):	X: -.006	Y: 1.174	Z: .045			



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
513	65	N3	-18.515	272.921	636.752	.302	.023	.042
514	65	N66	309.543	310.736	-158.233	-136	.022	-.307
515	65	N103	-441.595	311.828	-211.15	-.244	-.046	.241
516	65	N173	-.932	426.853	-579.586	0	0	0
517	65	N176A	-426.081	363.126	247.075	0	0	0
518	65	N179A	460.459	392.665	267.994	0	0	0
519	65	Totals:	-117.121	2078.129	202.852			
520	65	COG (ft):	X: -.006	Y: 1.174	Z: .045			
521	66	N3	-30.289	272.501	578.55	.302	.038	.034
522	66	N66	278.468	312.341	-162.465	-.129	-.001	-.312
523	66	N103	-511.942	310.468	-258.729	-.244	-.04	.24
524	66	N173	-1.613	414.522	-562.799	0	0	0
525	66	N176A	-419.68	357.353	242.304	0	0	0
526	66	N179A	482.203	410.944	280.259	0	0	0
527	66	Totals:	-202.854	2078.129	117.12			
528	66	COG (ft):	X: -.006	Y: 1.174	Z: .045			
529	67	N3	-33.956	272.877	497.393	.303	.043	.029
530	67	N66	286.683	313.396	-188.848	-.122	-.024	-.318
531	67	N103	-559.409	308.802	-302.959	-.239	-.023	.241
532	67	N173	-1.863	396.979	-538.878	0	0	0
533	67	N176A	-424.695	361.237	244.124	0	0	0
534	67	N179A	498.997	424.837	289.168	0	0	0
535	67	Totals:	-234.243	2078.129	0			
536	67	COG (ft):	X: -.006	Y: 1.174	Z: .045			
537	68	N3	-28.529	273.949	415.03	.305	.036	.029
538	68	N66	331.998	313.619	-230.315	-.116	-.041	-.322
539	68	N103	-571.264	307.277	-331.983	-.231	0	.244
540	68	N173	-1.614	378.925	-514.234	0	0	0
541	68	N176A	-439.785	373.741	252.049	0	0	0
542	68	N179A	506.338	430.617	292.332	0	0	0
543	68	Totals:	-202.855	2078.129	-117.12			
544	68	COG (ft):	X: -.006	Y: 1.174	Z: .045			
545	69	N3	-15.462	275.429	353.538	.307	.02	.035
546	69	N66	402.254	312.952	-275.745	-.112	-.046	-.325
547	69	N103	-544.343	306.3	-338.03	-.222	.022	.248
548	69	N173	-.933	365.199	-495.472	0	0	0
549	69	N176A	-460.901	391.509	263.954	0	0	0
550	69	N179A	502.262	426.739	288.905	0	0	0
551	69	Totals:	-117.122	2078.129	-202.851			
552	69	COG (ft):	X: -.006	Y: 1.174	Z: .045			
553	70	N3	1.745	276.92	329.383	.308	-.002	.045
554	70	N66	478.638	311.573	-312.977	-.112	-.039	-.324
555	70	N103	-485.851	306.134	-319.482	-.215	.039	.251
556	70	N173	-.002	359.477	-487.615	0	0	0
557	70	N176A	-482.39	409.785	276.649	0	0	0
558	70	N179A	487.859	414.24	279.803	0	0	0
559	70	Totals:	-.001	2078.129	-234.239			
560	70	COG (ft):	X: -.006	Y: 1.174	Z: .045			
561	71	N3	18.477	278.021	349.056	.309	-.023	.056
562	71	N66	540.674	309.851	-332.027	-.115	-.022	-.32
563	71	N103	-411.456	306.824	-281.301	-.211	.045	.254
564	71	N173	.93	363.295	-492.774	0	0	0
565	71	N176A	-498.493	423.669	286.732	0	0	0
566	71	N179A	466.988	396.469	267.464	0	0	0
567	71	Totals:	117.12	2078.129	-202.85			
568	71	COG (ft):	X: -.006	Y: 1.174	Z: .045			
569	72	N3	30.251	278.438	407.266	.309	-.038	.065



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
570	72	N66	571.744	308.248	-327.799	-.122	.002	-.315
571	72	N103	-341.102	308.186	-233.724	-.212	.039	.254
572	72	N173	1.611	375.627	-509.562	0	0	0
573	72	N176A	-504.894	429.442	291.502	0	0	0
574	72	N179A	445.243	378.188	255.198	0	0	0
575	72	Totals:	202.853	2078.129	-117.118			
576	72	COG (ft):	X: -.006	Y: 1.174	Z: .045			
577	73	N3	33.912	278.06	488.425	.309	-.043	.069
578	73	N66	563.531	307.191	-301.422	-.129	.024	-.309
579	73	N103	-293.629	309.853	-189.49	-.217	.023	.253
580	73	N173	1.86	393.17	-533.482	0	0	0
581	73	N176A	-499.881	425.558	289.682	0	0	0
582	73	N179A	428.448	364.295	246.288	0	0	0
583	73	Totals:	234.242	2078.129	.001			
584	73	COG (ft):	X: -.006	Y: 1.174	Z: .045			
585	74	N3	28.48	276.989	570.782	.307	-.037	.069
586	74	N66	518.223	306.966	-259.959	-.136	.041	-.304
587	74	N103	-281.774	311.38	-160.459	-.225	0	.25
588	74	N173	1.61	411.224	-558.125	0	0	0
589	74	N176A	-484.792	413.056	281.757	0	0	0
590	74	N179A	421.107	358.514	243.125	0	0	0
591	74	Totals:	202.854	2078.129	117.121			
592	74	COG (ft):	X: -.006	Y: 1.174	Z: .045			
593	75	N3	15.414	275.512	632.267	.305	-.02	.063
594	75	N66	447.972	307.632	-214.525	-.139	.046	-.302
595	75	N103	-308.702	312.355	-154.41	-.233	-.023	.246
596	75	N173	.929	424.949	-576.887	0	0	0
597	75	N176A	-463.675	395.287	269.854	0	0	0
598	75	N179A	425.184	362.393	246.554	0	0	0
599	75	Totals:	117.122	2078.129	202.853			
600	75	COG (ft):	X: -.006	Y: 1.174	Z: .045			

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

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....	LC	phi*Pnc...	phi*Pnt ...	phi*Mn y...	phi*Mn...	Cb	Eqn	
1	M1	PIPE_3.0	.166	2....	28	.059	4....	24	28250....	65205	5.749	5.749	2.704	H1-...
2	M4	HSS4X4...	.090	0	16	.050	0 y	22	124657...	139518	16.181	16.181	2.472	H1-...
3	M10	HSS4X4...	.107	2....	14	.046	2....	y 22	136263...	139518	16.181	16.181	1.717	H1-...
4	MP1A	PIPE_2.0	.246	4.5	4	.085	1....	6	14916....	32130	1.872	1.872	1.932	H1-...
5	M43	HSS4X4...	.103	0	24	.031	0 y	16	136263...	139518	16.181	16.181	1.667	H1-...
6	M46	PL1/2x6	.101	.516	12	.120	.516y	13	66009....	97200	1.012	12.15	1.247	H1-...
7	M51B	L2x2x3	.116	2....	20	.013	4....	y 16	9823.122	23392.8	.558	1.077	1.149	H2-1
8	M52B	L2x2x3	.111	1....	18	.014	4....	y 21	9823.122	23392.8	.558	1.077	1.149	H2-1
9	M76	PL3/8x6	.101	0	10	.080	0 y	13	70647....	72900	.57	9.113	1.187	H1-...
10	M77	PL3/8x6	.130	.167	8	.220	0 y	24	71583....	72900	.57	9.113	2.238	H1-...
11	M80	PL1/2x6	.032	.112	1	.110	0 y	24	96757....	97200	1.012	12.15	1.157	H1-...
12	M84	PL3/8x6	.130	0	12	.157	0 y	20	70647....	72900	.57	9.113	1.228	H1-...
13	M85	PL3/8x6	.124	.167	6	.189	0 y	14	71583....	72900	.57	9.113	1.278	H1-...
14	M91	PL1/2x6	.034	.112	1	.063	0 y	14	96757....	97200	1.012	12.15	1.168	H1-...
15	M100	PIPE_2.5	.113	2....	8	.047	10..	8	14558....	50715	3.596	3.596	1.575	H1-...
16	M123	L3X3X4	.188	0	2	.030	0 y	10	41877....	46656	1.688	3.756	1.744	H2-1
17	M44	HSS4X4...	.102	0	24	.065	0 y	48	124657...	139518	16.181	16.181	2.538	H1-...
18	M45	HSS4X4...	.107	2....	22	.046	2....	y 18	136263...	139518	16.181	16.181	1.714	H1-...
19	M46A	HSS4X4...	.102	0	20	.031	0 y	24	136263...	139518	16.181	16.181	1.665	H1-...
20	M47	PL1/2x6	.099	.516	8	.118	.516y	21	66009....	97200	1.012	12.15	1.245	H1-...
21	M50A	L2x2x3	.116	2....	16	.013	4....	y 24	9823.122	23392.8	.558	1.077	1.149	H2-1



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777447
 Model Name : Antenna Mount Analysis

Jan 10, 2024
 5:06 PM
 Checked By: _____

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

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....	LC	phi*Pnc...	phi*Pnt...	phi*Mn v...	phi*Mn...	Cb	Eqn	
22	M51C	L2x2x3	.110	1....	14	.014	0 y	17	9823.122	23392.8	.558	1.077	1.149	H2-1
23	M55	PL3/8x6	.115	0	6	.093	0 y	39	70647....	72900	.57	9.113	1.192	H1-..
24	M56	PL3/8x6	.124	.167	4	.222	0 y	20	71583....	72900	.57	9.113	2.248	H1-..
25	M58A	PL1/2x6	.031	.112	9	.106	0 y	20	96757....	97200	1.012	12.15	1.158	H1-..
26	M60	PL3/8x6	.128	0	8	.160	0 y	16	70647....	72900	.57	9.113	1.231	H1-..
27	M61	PL3/8x6	.122	.167	2	.196	0 y	46	71583....	72900	.57	9.113	1.28	H1-..
28	M63	PL1/2x6	.032	.112	9	.117	0 y	50	96757....	97200	1.012	12.15	1.167	H1-..
29	OVP1	PIPE 2.0	.087	2	19	.040	2	10	28843....	32130	1.872	1.872	1.923	H1-..
30	M73	HSS4X4...	.099	0	20	.080	0 y	26	124657...	139518	16.181	16.181	2.539	H1-..
31	M74	HSS4X4...	.106	2....	18	.045	2....	y 14	136263...	139518	16.181	16.181	1.717	H1-..
32	M75	HSS4X4...	.102	0	16	.031	0 y	20	136263...	139518	16.181	16.181	1.665	H1-..
33	M76A	PL1/2x6	.096	.516	4	.119	.516y	17	66009....	97200	1.012	12.15	1.249	H1-..
34	M79A	L2x2x3	.116	2....	24	.013	4....	y 20	9823.122	23392.8	.558	1.077	1.149	H2-1
35	M80A	L2x2x3	.111	1....	22	.014	4....	y 13	9823.122	23392.8	.558	1.077	1.149	H2-1
36	M84A	PL3/8x6	.106	0	2	.154	0 y	29	70647....	72900	.57	9.113	1.189	H1-..
37	M85A	PL3/8x6	.129	.167	12	.218	0 y	16	71583....	72900	.57	9.113	2.249	H1-..
38	M87	PL1/2x6	.031	.112	5	.132	0 y	49	96757....	97200	1.012	12.15	1.159	H1-..
39	M89	PL3/8x6	.122	0	4	.162	0 y	24	70647....	72900	.57	9.113	1.232	H1-..
40	M90	PL3/8x6	.119	.167	10	.188	0 y	18	71583....	72900	.57	9.113	1.287	H1-..
41	M92A	PL1/2x6	.032	.112	5	.061	0 y	18	96757....	97200	1.012	12.15	1.165	H1-..
42	OVP2	PIPE 2.0	.067	2	7	.030	2	4	28843....	32130	1.872	1.872	1.923	H1-..
43	MP2A	PIPE 2.0	.209	4....	10	.046	1....	3	20804....	32130	1.872	1.872	1.56	H1-..
44	MP3A	PIPE 2.0	.209	4....	10	.076	4....	8	20804....	32130	1.872	1.872	1.595	H1-..
45	M93A	PIPE 3.0	.150	2....	24	.059	4....	20	28250....	65205	5.749	5.749	2.445	H1-..
46	MP1C	PIPE 2.0	.254	4.5	12	.084	1....	2	14916....	32130	1.872	1.872	2.045	H1-..
47	M96A	PIPE 2.5	.118	10..	6	.045	10..	4	14558....	50715	3.596	3.596	1.47	H1-..
48	MP2C	PIPE 2.0	.217	4....	6	.047	1....	11	20804....	32130	1.872	1.872	1.579	H1-..
49	MP3C	PIPE 2.0	.216	4....	6	.075	4....	4	20804....	32130	1.872	1.872	1.587	H1-..
50	M106	PIPE 3.0	.144	2....	20	.058	4....	16	28250....	65205	5.749	5.749	2.351	H1-..
51	MP1B	PIPE 2.0	.254	4.5	8	.082	1....	10	14916....	32130	1.872	1.872	1.859	H1-..
52	M109	PIPE 2.5	.119	10..	2	.049	10..	12	14558....	50715	3.596	3.596	1.458	H1-..
53	MP2B	PIPE 2.0	.220	4....	2	.048	1....	7	20804....	32130	1.872	1.872	1.515	H1-..
54	MP3B	PIPE 2.0	.218	4....	2	.075	4....	12	20804....	32130	1.872	1.872	1.624	H1-..
55	M119	L3X3X4	.186	0	11	.031	0 y	6	41877....	46656	1.688	3.756	2.178	H2-1
56	M120	L3X3X4	.190	0	7	.031	0 y	2	41877....	46656	1.688	3.756	2.183	H2-1
57	M119A	LL3x3x3x3	.058	5....	13	.004	0 y	22	47592....	70632	5.543	3.751	1	H1-..
58	M120A	LL3x3x3x3	.058	5....	21	.004	0 y	18	47592....	70632	5.543	3.751	1	H1-..
59	M121	LL3x3x3x3	.058	5....	17	.004	0 y	14	47592....	70632	5.543	3.751	1	H1-..

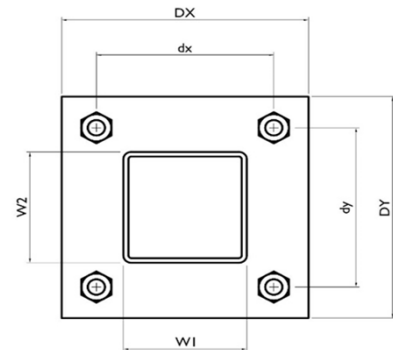
I. Mount-to-Tower Connection Check

Custom Orientation Required

Tower Connection Bolt Checks

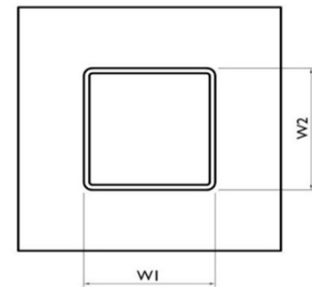
Bolt Orientation

Bolt Quantity per Reaction:	4
d_x (in) (Delta X of typ. bolt config. sketch) :	6
d_y (in) (Delta Y of typ. bolt config. sketch) :	6
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	1.9
Required Shear Strength / bolt (kips):	0.6
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	9.7%



Tower Connection Baseplate Checks

Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	8.5
Plate Height, D_y (in):	8.5
W_1 (in):	4
W_2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.75
Length of Yield Line, L_y (in):	6.34
Bolt Eccentricity, e (in):	1.65
M_u (kip-in):	3.30
$\Phi * M_n$ (kip-in):	28.86
Plate Bending Utilization:	11.4%



Tower Connection Weld Checks

Weld Shape:
 Weld Stiffener Configuration:
 Weld Size (1/16 in):
 W1 (in):
 W2 (in):
 Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in)
 c_y (in)
 Required combined strength (kip/in):
 Weld Capacity (kip/in):
 Weld Utilization:

Yes
Rectangle
None
5
4
4
16.00
21.33
21.33
85.33
2.25
2.25
0.67
6.96
9.7%

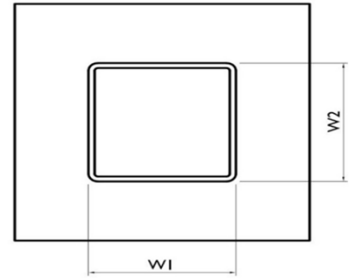


EXHIBIT 5





326 TRYON ROAD
RALEIGH, NC 27607
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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:

283425

Site Name:

Woodstock 2 CT

Location:

Woodstock Valley, Connecticut

Tenants:

AT&T Mobility, Dish Wireless, & Verizon Wireless

Prepared For:

American Tower, Inc.
Woburn, Massachusetts

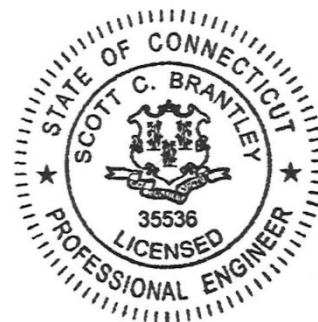
April 30th, 2024

68458 P-426448

Prepared By:

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

Approved By:





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Contents

DISCLAIMER NOTICE	3
INTRODUCTION	4
SITE AND FACILITY CONSIDERATIONS.....	4
POWER DENSITY CALCULATIONS.....	4
SITE MITIGATION & CONTROL	5
COMPLIANCE DETERMINATION.....	5
APPENDIX 1 SITE PHOTOS.....	6
APPENDIX 2.1 ANTENNA INVENTORY	7
APPENDIX 3.1 MPE LIMIT STUDY.....	8
APPENDIX 3.2 MPE LIMIT STUDY.....	9
APPENDIX 4 INFORMATION PERTAINING TO MPE STUDIES.....	10
APPENDIX 5 MPE STANDARDS METHODOLOGY.....	12



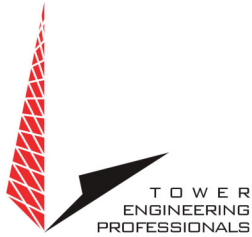
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RALIEGH, NORTH CAROLINA



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Non-Ionizing Electromagnetic Radiation (NIER) Study

283425 Woodstock 2 CT
Woodstock Valley, 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.

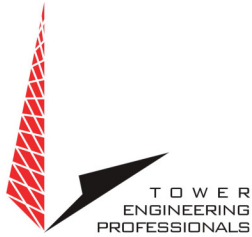
SITE AND FACILITY CONSIDERATIONS

Site 283425 Woodstock 2 CT is located at 350 Rout 198, in Woodstock Valley, Connecticut at coordinates 41.939436, -72.082017. The support structure is a 114' monopole. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are AT&T Mobility (AT&T), Dish Wireless (Dish), & 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 100' from the base of the tower with a height of 6' above ground level was used, beyond 100' 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 283425 Woodstock 2 CT.RF NIER Study 8/15/23.
- 283425 Application received 8/15/23.
- 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.

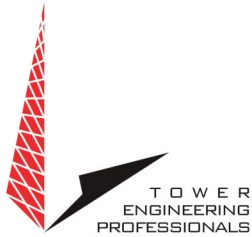
COMPLIANCE DETERMINATION

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

APPENDIX 1 Site Photos



Aerial View of Site

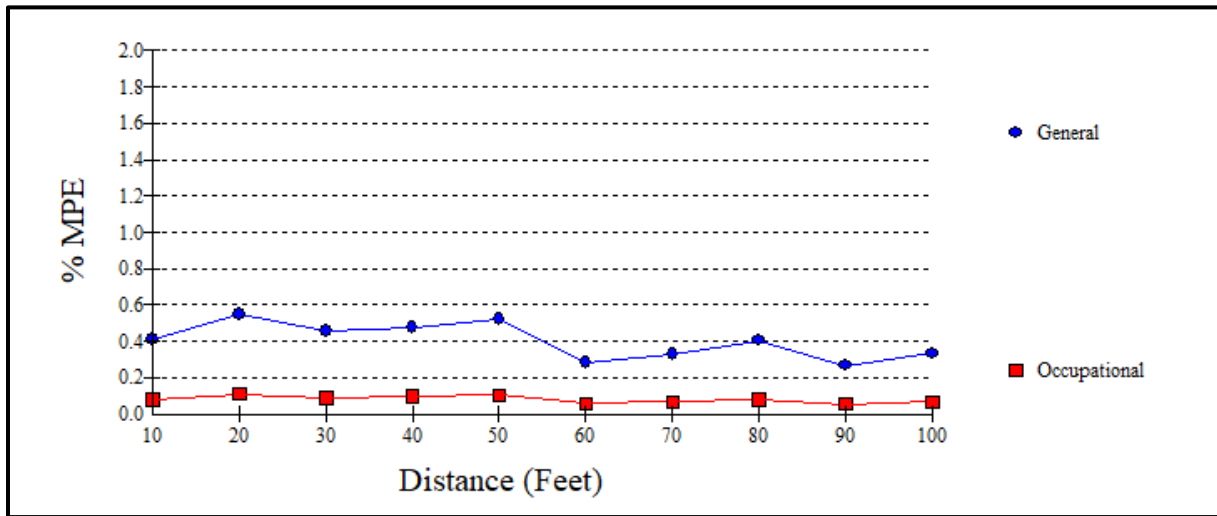


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Appendix 2 Antenna Inventory

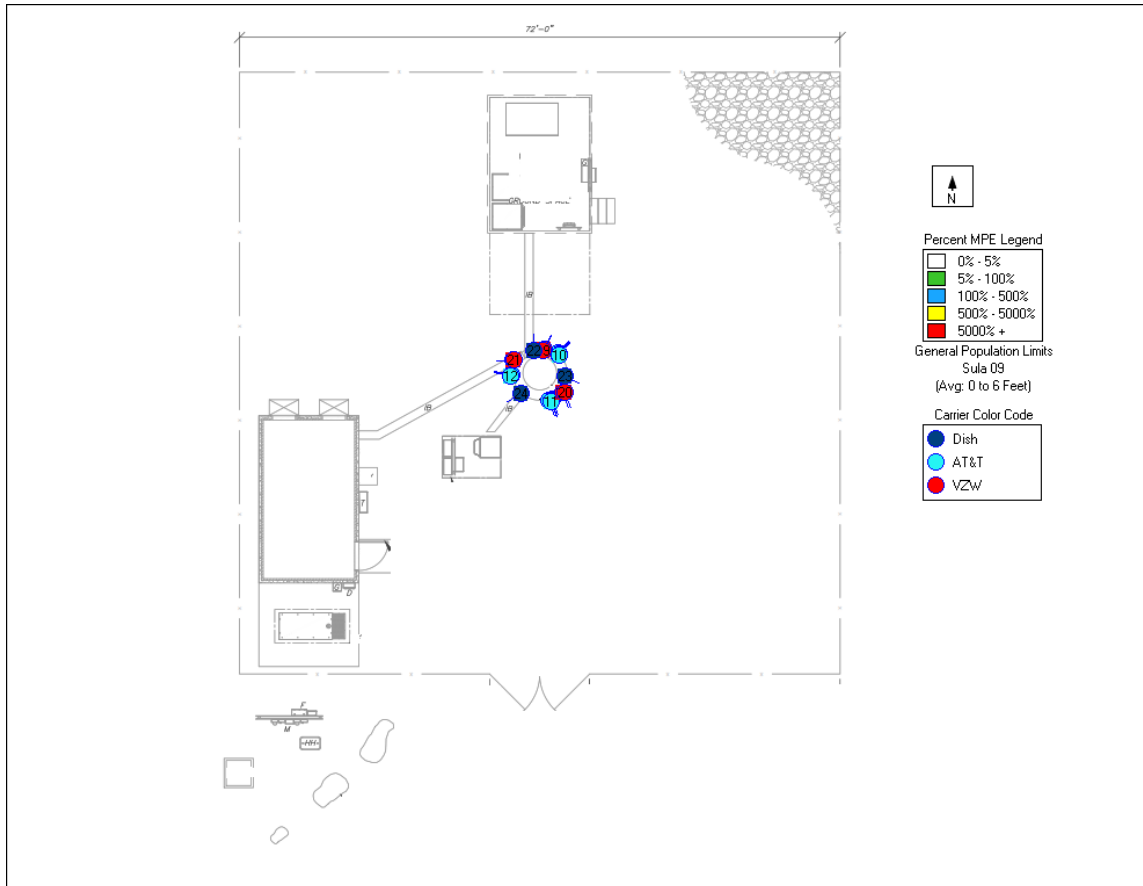
283425 Woodstock 2 CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	CCI	HPA-65R-BUU-H8	1900	040	19229	105.0
2	AT&T	CCI	HPA-65R-BUU-H8	1900	160	19229	105.0
3	AT&T	CCI	HPA-65R-BUU-H8	1900	280	19229	105.0
4	AT&T	CCI	HPA-65R-BUU-H8	1900	040	19229	105.0
5	AT&T	CCI	HPA-65R-BUU-H8	1900	160	19229	105.0
6	AT&T	CCI	HPA-65R-BUU-H8	1900	280	19229	105.0
7	AT&T	CCI	HPA-65R-BUU-H8	1900	040	19229	105.0
8	AT&T	CCI	HPA-65R-BUU-H8	1900	160	19229	105.0
9	AT&T	CCI	HPA-65R-BUU-H8	1900	280	19229	105.0
10	AT&T	CCI	HPA-65R-BUU-H8	1900	040	19229	105.0
11	AT&T	CCI	HPA-65R-BUU-H8	1900	160	19229	105.0
12	AT&T	CCI	HPA-65R-BUU-H8	1900	280	19229	105.0
13	VZW	Samsung	MT6407-77A	3700	030	18286	93.0
14	VZW	Samsung	MT6407-77A	3700	160	18286	93.0
15	VZW	Samsung	MT6407-77A	3700	265	18286	93.0
16	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	030	35085	93.0
17	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	160	35085	93.0
18	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	265	35085	93.0
19	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	030	35085	93.0
20	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	160	35085	93.0
21	VZW	Andrew	SBNHH 1D65-B	700/1900/2100	265	35085	93.0
22	Dish	JMA	MX08FRO665-21	600/1900/2100	000	48332	83.0
23	Dish	JMA	MX08FRO665-21	600/1900/2100	120	48332	83.0
24	Dish	JMA	MX08FRO665-21	600/1900/2100	240	48332	83.0

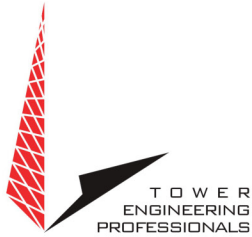
Appendix 3.1 MPE Limit Study



Maximum Power Density (@50'):	0.0033 mW/cm ²
General Population MPE (@50'):	0.5199%
Occupational MPE (@50'):	0.1040%

Appendix 3.2 MPE Limit Study





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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.

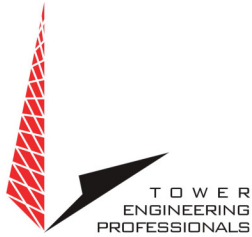


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MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm^2), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting 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.

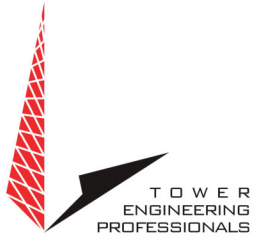


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Appendix 5 MPE Standards Methodology

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.

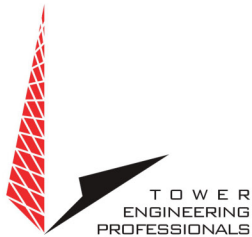


The FCC's limits for exposure at different frequencies are shown in the following Tables.

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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F ²	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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F ²	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



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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

θ_{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



DOCKET NO. 423 – North Atlantic Towers, LLC, and New	}	Connecticut
Cingular Wireless PCS, LLC Application for a Certificate of	}	Siting
Environmental Compatibility and Public Need for the	}	Council
construction, maintenance, and operation of a	}	
telecommunications facility located off Route 198, Woodstock,	}	
Connecticut.		June 21, 2012

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to North Atlantic Towers, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility off Route 198 in Woodstock, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council’s record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T and other entities, both public and private, but such tower shall not exceed a height of 110 feet above ground level. The height at the top of AT&T’s antennas shall not exceed 110 feet above ground level.
2. The revised access road from Route 171 shall be used for construction and operation of the site.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Woodstock for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b. construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
4. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities’ antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Woodstock. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Woodstock Villager and the Norwich Bulletin.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

New Cingular Wireless PCS, LLC &
North Atlantic Towers, LLC

Its Representative

Christopher B. Fisher, Esq.
Lucia Chiochio, Esq.
Cuddy & Feder LLP

EXHIBIT 7

