



STATE OF CONNECTICUT  
**CONNECTICUT SITING COUNCIL**

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**VIA ELECTRONIC MAIL**

December 29, 2023

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597  
[kbaldwin@rc.com](mailto:kbaldwin@rc.com)

RE: **TS-VER-121-230427** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 160 Witch Meadow Road, Salem, Connecticut. **Request for Project Changes.**

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) is in receipt of the correspondence dated December 4, 2023 regarding a project changes for the above-referenced tower share request approved by the Council on May 25, 2023.

Pursuant to Condition No. 1 of the Council's May 25, 2023 tower share approval, the request to change the model of the antenna to MT6413-77A and remote radio head to RF4461d-A3A due to the unavailability of the approved equipment models is hereby approved.

This approval applies only to the project changes in the correspondence dated December 4, 2023.

Please be advised that deviations from the standards established by the Council in the tower share approval are enforceable under the provisions of Connecticut General Statutes §16-50u.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman  
Executive Director

MAB/ANM/laf

c: The Honorable Ed Chmielewski, First Selectperson, Town of Salem ([selectman@salemct.gov](mailto:selectman@salemct.gov))

KENNETH C. BALDWIN

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Also admitted in Massachusetts  
and New York

December 4, 2023

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

**Re: TS-VER-121-230427 – Cellco Partnership d/b/a Verizon Wireless Request for an  
Order to Approve Tower Sharing at an Existing Telecommunications Facility at 160  
Witch Meadow Road, Salem, Connecticut**

### **Equipment Changes**

Dear Attorney Bachman:

On behalf of Cellco Partnership d/b/a Verizon Wireless (“Cellco”), I respectfully request Siting Council (“Council”) staff approval of a minor change of equipment at its 160 Witch Meadow Road wireless facility. Due to equipment availability issues, Cellco will install antenna Model MT6413-77A in lieu of Model MT6407-77A and remote radio head (RRH) Model RF4461d-13A in lieu of Model RF440d-13A as originally approved by the Council.

Attached is a revised set of project plans, specifications for the new antenna and RRH and an updated Structural Analysis Report confirming that the tower is capable of supporting this new equipment. Please contact me if you have any questions or need any additional information.

Sincerely,



Kenneth C. Baldwin

Copy to:

Tim Parks  
Michael Humphreys

28330414-v1

SBA APPROVED

By Stephen Roth at 6:35:52 AM, 11/17/2023

# verizon

20 ALEXANDER DRIVE, 2nd FLOOR  
WALLINGFORD, CT 06492

## SALEM NORTH CT

160 WITCH MEADOW ROAD  
SALEM, CT 06420  
NEW LONDON COUNTY

PROJECT TYPE: WIRELESS TELECOMMUNICATIONS  
COLLOCATION ON EXISTING 195'± MONPOLE

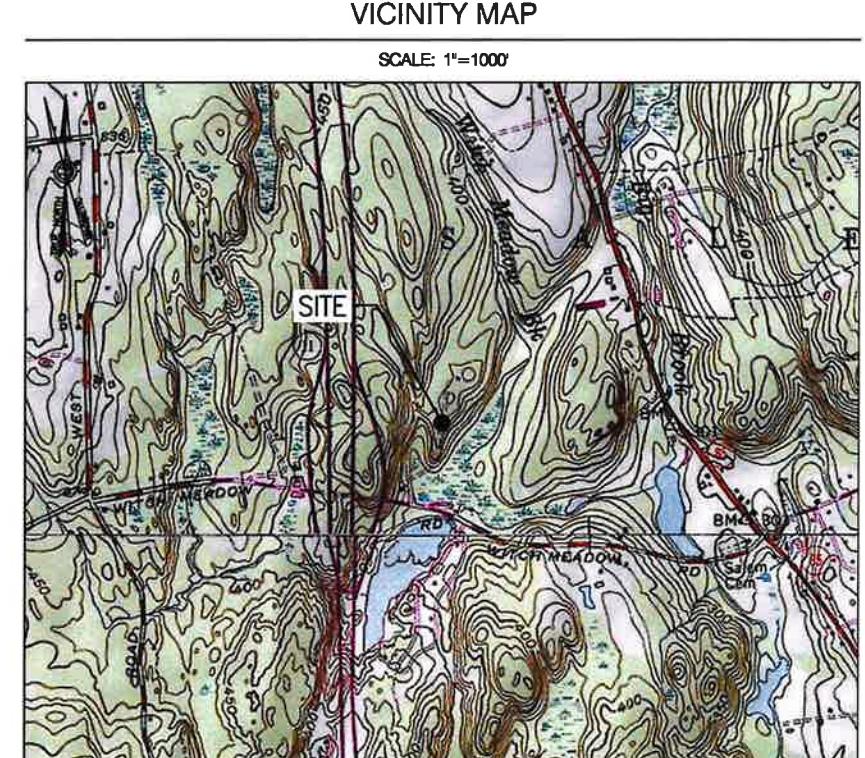
### SITE INFORMATION

VERIZON LOCATION CODE:	765831
VERIZON SITE NAME:	SALEM NORTH CT
SBA SITE NUMBER:	CT01916-S
SBA SITE NAME:	NORTH SALEM
SBA COLLO APP NUMBER:	239445, V1
MDG LOCATION ID:	5000916739
FUZE PROJECT ID:	16990572
SITE ADDRESS:	160 WITCH MEADOW ROAD SALEM, CT 06420
PROPERTY OWNER:	RONALD R. RENZ 44 MUSTANG DRIVE MONROE, CT 06468
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY	NEW LONDON, CT
ZONING DISTRICT:	(I) INDUSTRIAL
STRUCTURE TYPE:	MONPOLE
STRUCTURE HEIGHT:	195'±
STRUCTURE HEIGHT W/APPURTEMENT:	199'±
GROUND ELEVATION:	533'±
TOTAL AMSL:	732'±
SITE CONTROL POINT:	CENTER OF EXISTING MONPOLE N 41° 30' 10.18" (41.502828") (NAD '83) W 72° 17' 49.39" (-72.297053") (NAD '83)
ARCHITECT/ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

### GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
  - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
  - ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE
  - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

AT LEAST 72 HOURS PRIOR TO  
DIGGING, THE CONTRACTOR IS  
REQUIRED TO CALL DIG SAFE AT 811



### DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE I-91 NORTH TOWARD HARTFORD. TAKE EXIT 25-26 FOR CT-3 NORTH/GLASTONBURY/OLD WETHERSFIELD. BEAR LEFT TO TAKE EXIT 25 ONTO CT-3 NORTH TOWARD GLASTONBURY. TAKE EXIT ONTO CT-2 EAST TOWARD NORWICH. KEEP RIGHT AT FORK TO TAKE EXIT 19 FOR CT-11 SOUTH TOWARD NEW LONDON. FOLLOW SIGNS FOR NEW LONDON. TAKE EXIT 5 FOR WITCH MEADOW ROAD. TURN LEFT ONTO WITCH MEADOW ROAD. SITE IS LOCATED ON THE LEFT HAND SIDE.

### SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 09/13/23  
ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 03/28/23 (BY TOWER ENGINEERING SOLUTIONS)  
ANTENNA SUPPORT STRUCTURE (195'± MONPOLE) STRUCTURAL ANALYSIS DATE: 11/08/23  
(BY TOWER ENGINEERING SOLUTIONS)

**verizon**  
20 ALEXANDER DRIVE, 2nd FLOOR  
WALLINGFORD, CT 06492  
(203) 741-7338

**SBA**

SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01752  
(508) 251-0720

**C** CHAPPELL  
ENGINEERING  
ASSOCIATES, LLC  
R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



### SHEET INDEX

DWG.	DESCRIPTION	REV.
T01	TITLE SHEET	6
GN01	GENERAL NOTES	6
A01	SITE PLAN	6
A02	COMPOUND & EQUIPMENT PLAN	6
A03	ELEVATIONS & ANTENNA PLAN	6
A04	ANTENNA DETAILS	6
A05	EQUIPMENT DETAILS	6
A06	ICE CANOPY & H-FRAME DETAILS	6
RF01	RF DATA	6
RF02	RF PLUMBING DIAGRAM	6
RF03	RF COLOR CODE SPECIFICATIONS	6
E01	ELECTRICAL SPECIFICATIONS & NOTES	6
E02	EQUIPMENT COMPOUND UTILITY PLAN & DETAILS	6
E03	ELECTRIC/TELCO/FIBER DIAGRAMS & PANEL SCHEDULE	6
E04	SCHEMATIC GROUNDING PLAN & RISER DIAGRAM	6
E05	GROUNDING DETAILS	6

### DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

### PROJECT DESCRIPTION

- THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
- THIS FACILITY DOES NOT, NOR WILL IT CONSUME UNRECOVERABLE ENERGY.
- NO PORTABLE WATER SUPPLY IS OR WILL BE PROVIDED AT THIS LOCATION.
- NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

### SCOPE OF WORK

INSTALL:

- 1 LOW-PROFILE PLATFORM
- 3 SIDE-BY-SIDE ANTENNA MOUNT KITS
- 9 ANTENNAS
- 6 RADIOS
- 1 JUNCTION BOX
- 2 HYBRID CABLES & ASSOCIATED JUMPERS
- 1 CABLE ICE BRIDGE
- 1 GPS ANTENNA & ASSOCIATED CABLE
- 1 12'x22' CONCRETE PAD
- 1 EQUIPMENT CABINET
- 1 BATTERY CABINET
- 1 11'x10'x12'-6" ICE CANOPY
- 1 50KW DIESEL GENERATOR
- 1 HOFFMAN BOX
- 1 POWER TRANSFER LOAD CENTER

SALEM NORTH CT  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 765831  
MDG LOCATION ID: 5000916739  
FUZE PROJECT ID: 16990572

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
T01

#### GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR - VERIZON WIRELESS  
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)  
OWNER - VERIZON WIRELESS  
OEM - ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HEREIN ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC. 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACK FILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
15. CONSTRUCTION SHALL COMPLY WITH VERIZON WIRELESS NETWORK STANDARD #NSTD123 TO THE MAXIMUM EXTENT FEASIBLE UNLESS PRECLUDED OR LIMITED BY DESIGN SHOWN ON THESE DRAWINGS.
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

#### SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUB GRADE SHALL BE COMPAKTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE VERIZON WIRELESS SPECIFICATION FOR SITE SIGNAGE.

#### CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:  
CONCRETE CAST AGAINST EARTH ..... 3 IN.  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
  #6 AND LARGER ..... 2 IN.  
  #5 AND SMALLER & W/MF ..... 1 1/4 IN.  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER  
OR NOT CAST AGAINST THE GROUND:  
  SLAB AND WALL ..... 3/4 IN.  
  BEAMS AND COLUMNS ..... 1/2 IN.
5. A CHAMFER  $\frac{1}{4}$ " SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 2018 6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:  
  (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT;  
  (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

#### STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25252-000-3PS-GET-00001 UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS ( $\frac{1}{2}$ "") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE  $\frac{1}{2}$ " DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PROVIDED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

#### SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPAKTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SURFACE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E), AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

#### COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

#### CONSTRUCTION NOTES:

1. FIELD VERIFICATION:  
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:  
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
3. CABLE LADDER RACK:  
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

#### ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND TI CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANEL BOARD AND CIRCUIT ID'S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 800 V, OIL RESISTANT THIN OR THINW-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#16 AWG OR LARGER), 800 V, OIL RESISTANT THIN OR THINW-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #3 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TO CABLE (#34 AWG OR LARGER), 800 V, OIL RESISTANT THIN OR THINW-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
24. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 514A AND NEMA OS-1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS-1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS-2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

**verizon**

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(203) 741-7339

**SBA**



checked by: JMT  
Approved by: JMT

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REvised	CNC
5	09/11/23	CONSTRUCTION REvised	CNC
4	04/26/23	CONSTRUCTION REvised	CNC
3	03/20/23	CONSTRUCTION REvised	CNC
2	03/13/23	CONSTRUCTION REvised	CNC
1	01/19/23	ISSUED FOR CONSTRUCTION	CNC
0	01/09/23	ISSUED FOR REVIEW	CNC

PROJECT NAME & ADDRESS:  
**SALEM NORTH CT**  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 700051  
MDG LOCATION ID: 6000016758  
FUZE PROJECT ID: 16800572

SHEET TITLE: GENERAL NOTES  
SHEET NUMBER: GN01



APPROVED BY: MMT

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**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REHELD	CBC
5	08/11/23	CONSTRUCTION REHELD	CBC
4	04/26/23	CONSTRUCTION REHELD	CBC
3	03/20/23	CONSTRUCTION REHELD	CBC
2	03/13/23	CONSTRUCTION REHELD	CBC
1	01/19/23	ISSUED FOR CONSTRUCTION	CBC
	01/09/23	ISSUED FOR REVIEW	CBC

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**PROJECT NAME & ADDRESS**

**SALEM NORTH CT**

VZW LOCATION CODE:	788831
MDG LOCATION ID:	8000016739
FUZE PROJECT ID:	16880372

SHEET TITLE

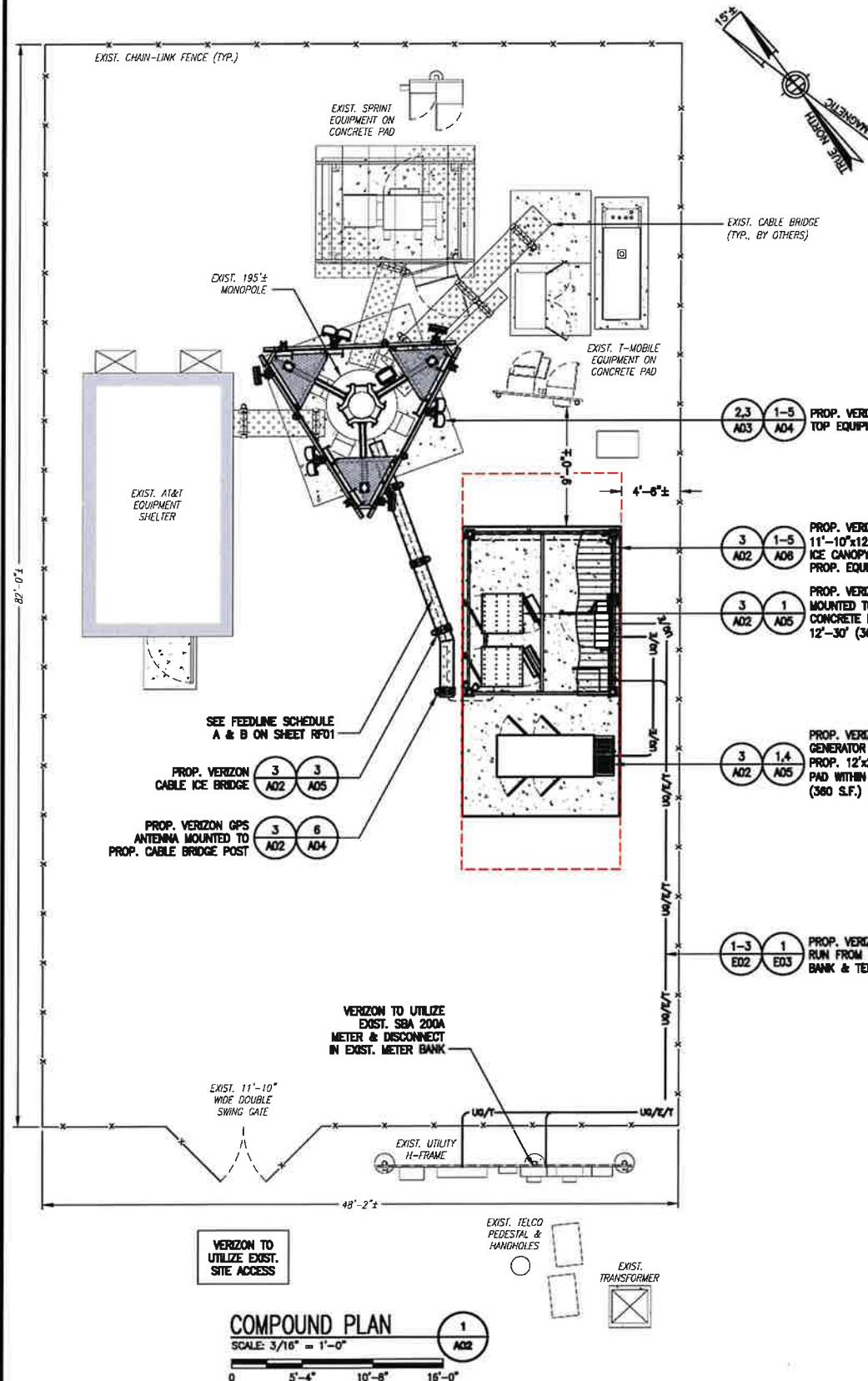
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**SHOOT NUMBER**

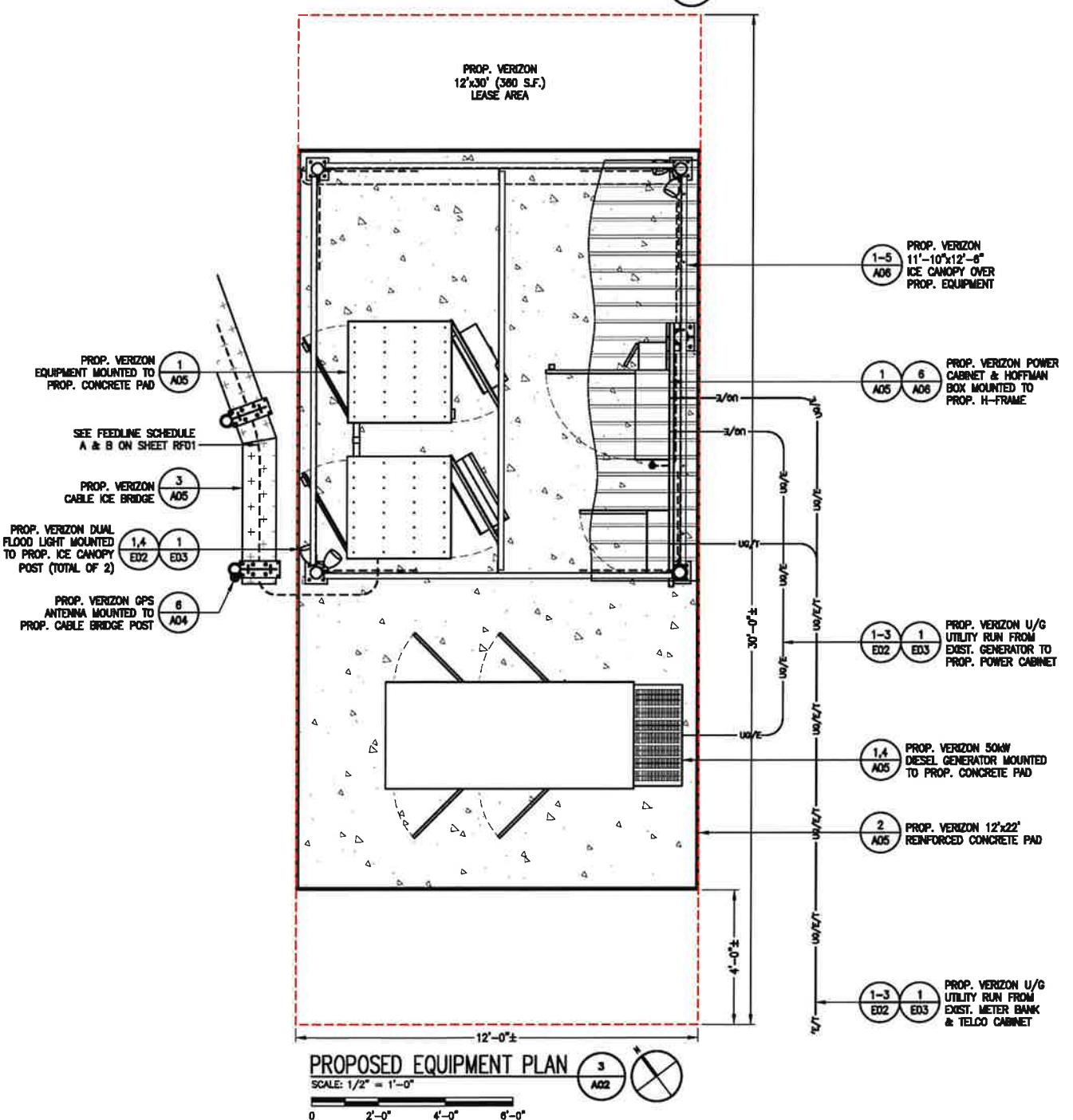
A01

**SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS, SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

**SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):**  
EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH SUFFICIENT TEST HOLES OR AS DIRECTED/REQUIRED BY SBA REGIONAL SITE MANAGER SHALL HAND-EXCAVATE ALL PROPOSED UNDERGROUND UTILITY TRENCHES. GENERAL CONTRACTOR RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF EXISTING UNDERGROUND UTILITIES, PHYSICAL DAMAGE REPAIR, AND SERVICE RESTORATION.



PROPOSED EQUIPMENT LOCATION PHOTO  
SCALE: N.T.S. 2 A02



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(508) 251-0720



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**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REvised	CNC
5	09/11/23	CONSTRUCTION REvised	CNC
4	04/28/23	CONSTRUCTION REvised	CNC
3	03/20/23	CONSTRUCTION REvised	CNC
2	03/13/23	CONSTRUCTION REvised	CNC
1	01/19/23	ISSUED FOR CONSTRUCTION	CNC
0	01/06/23	ISSUED FOR REVIEW	CNC

**PROJECT NAME & ADDRESS**

SALEM NORTH CT

160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 769831

MDG LOCATION ID: 5000916736

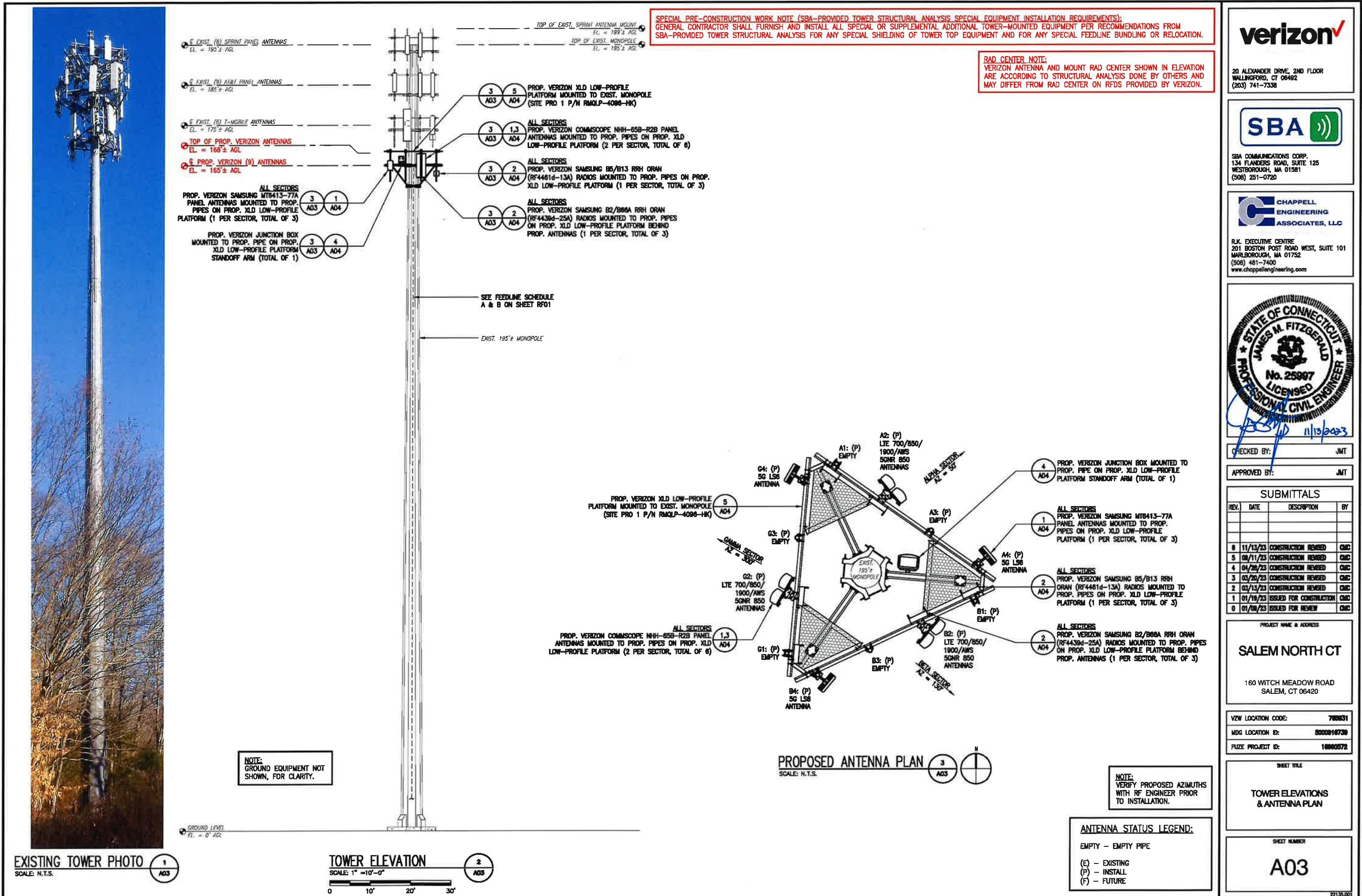
FUZE PROJECT ID: 16980572

**SHEET TITLE**

COMPOUND &  
EQUIPMENT PLAN

**SHEET NUMBER**

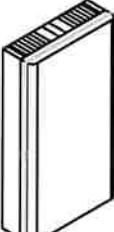
A02





**COMMSCOPE NHH-65B-R2B ANTENNA**

DIMENSIONS: 72.0'H x 11.9'W x 7.1'D  
WEIGHT: 43.7 lbs  
QUANTITY: 2 PER SECTOR, TOTAL OF 6  
SECTORS: ALPHA, BETA, GAMMA



**SAMSUNG MT6413-77A ANTENNA**

DIMENSIONS: 28.9'H x 15.8'W x 5.5'D  
WEIGHT: 57.3 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3  
SECTORS: ALPHA, BETA, GAMMA



**SAMSUNG RF4439d-25A B2/B66A RADIO**

DIMENSIONS: 15.0'H x 15.0'W x 10.0'D  
WEIGHT: 74.7 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3  
SECTORS: ALPHA, BETA, GAMMA



**SAMSUNG RF4461d-13A B5/B13 RADIO**

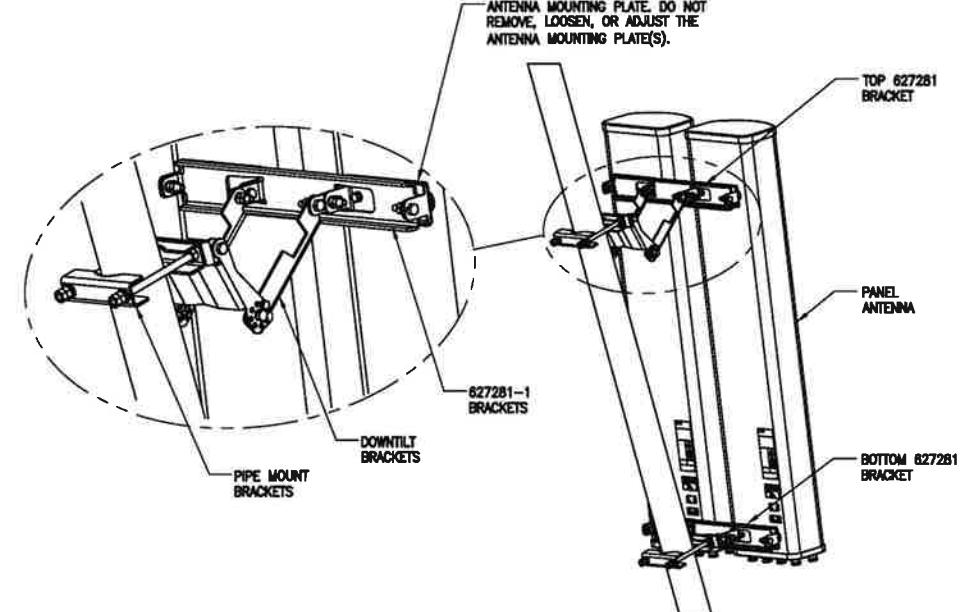
DIMENSIONS: 15.0'H x 15.0'W x 10.2'D  
WEIGHT: 79.1 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3  
SECTORS: ALPHA, BETA, GAMMA

**ANTENNA DETAILS**

SCALE: N.T.S.

**RADIO DETAILS**

SCALE: N.T.S.

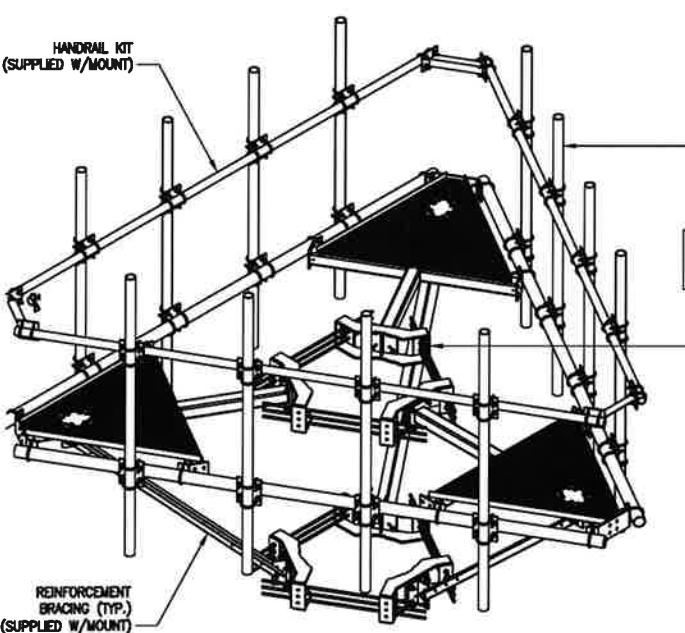


**TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT**

NOTE: MOUNT ANTENNA PER MANUFACTURER'S SPECIFICATIONS

**COMMSCOPE BSAWINT-SBS-1-2  
SIDE-BY-SIDE ANTENNA MOUNT BRACKET**

WEIGHT: 25.4 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3  
SECTORS: ALPHA, BETA, GAMMA

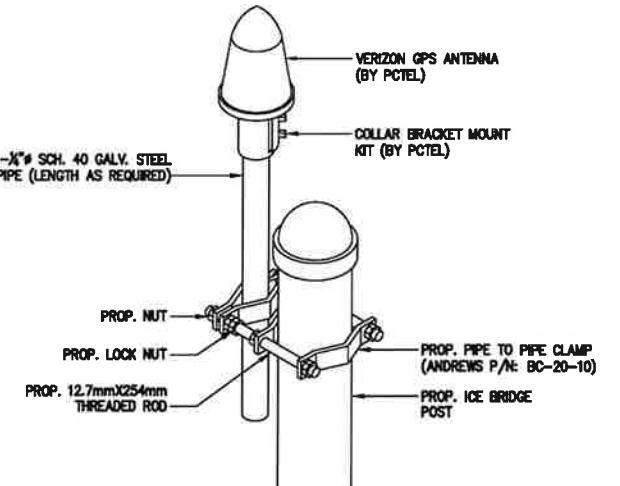


**SITE-PRO 1 14'-6" LOW-PROFILE CO-LOCATION PLATFORM W/HANDRAIL KIT**

PART NUMBER: RWOLP-1096-HK  
QUANTITY: TOTAL OF 1

**ANTENNA MOUNT DETAIL**

SCALE: N.T.S.



**GPS ANTENNA MOUNTING DETAIL**

NOTE:  
THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1½" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURBED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

**GPS ANTENNA MOUNTING DETAIL**

SCALE: N.T.S.



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STATE OF CONNECTICUT  
JAMES M. FITZGERALD  
No. 25997  
LICENSED PROFESSIONAL CIVIL ENGINEER  
11/13/2023

CHECKED BY: *JMT*

APPROVED BY: *JMT*

**SUBMITTALS**

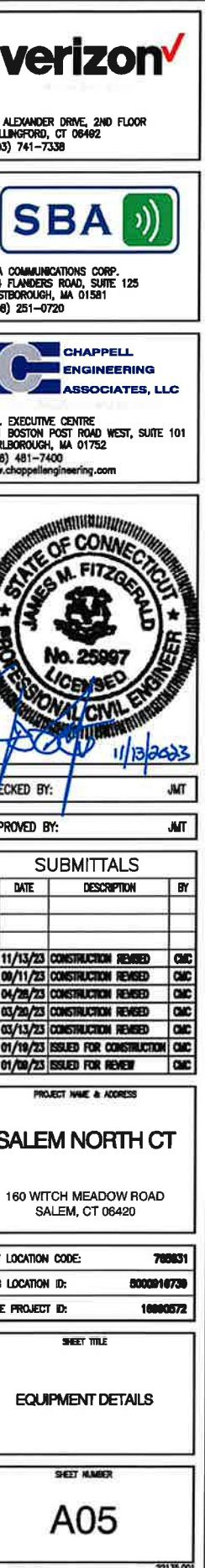
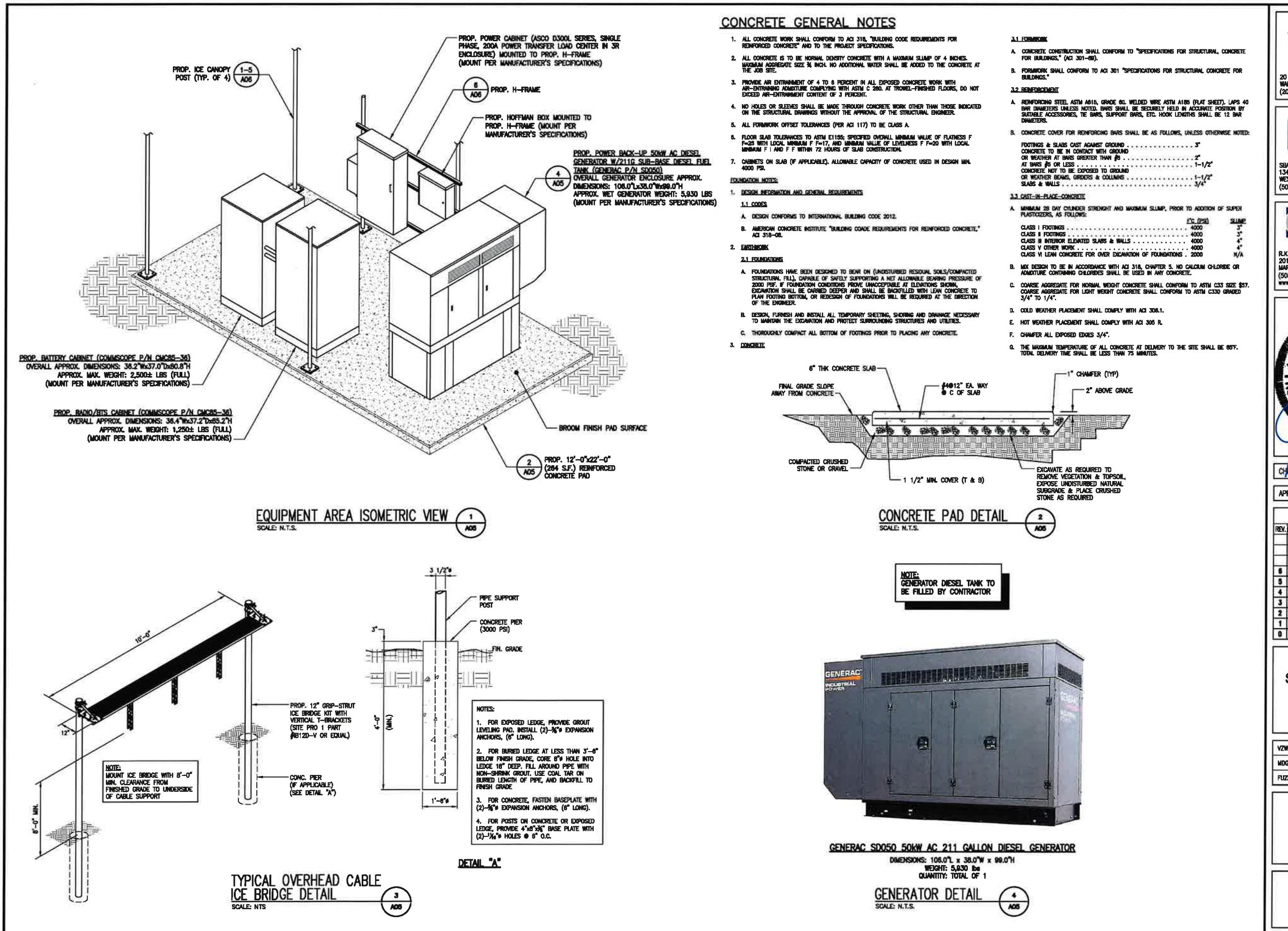
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3	04/26/23	CONSTRUCTION REvised	CNC
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0	01/09/23	ISSUED FOR REVIEW	CNC

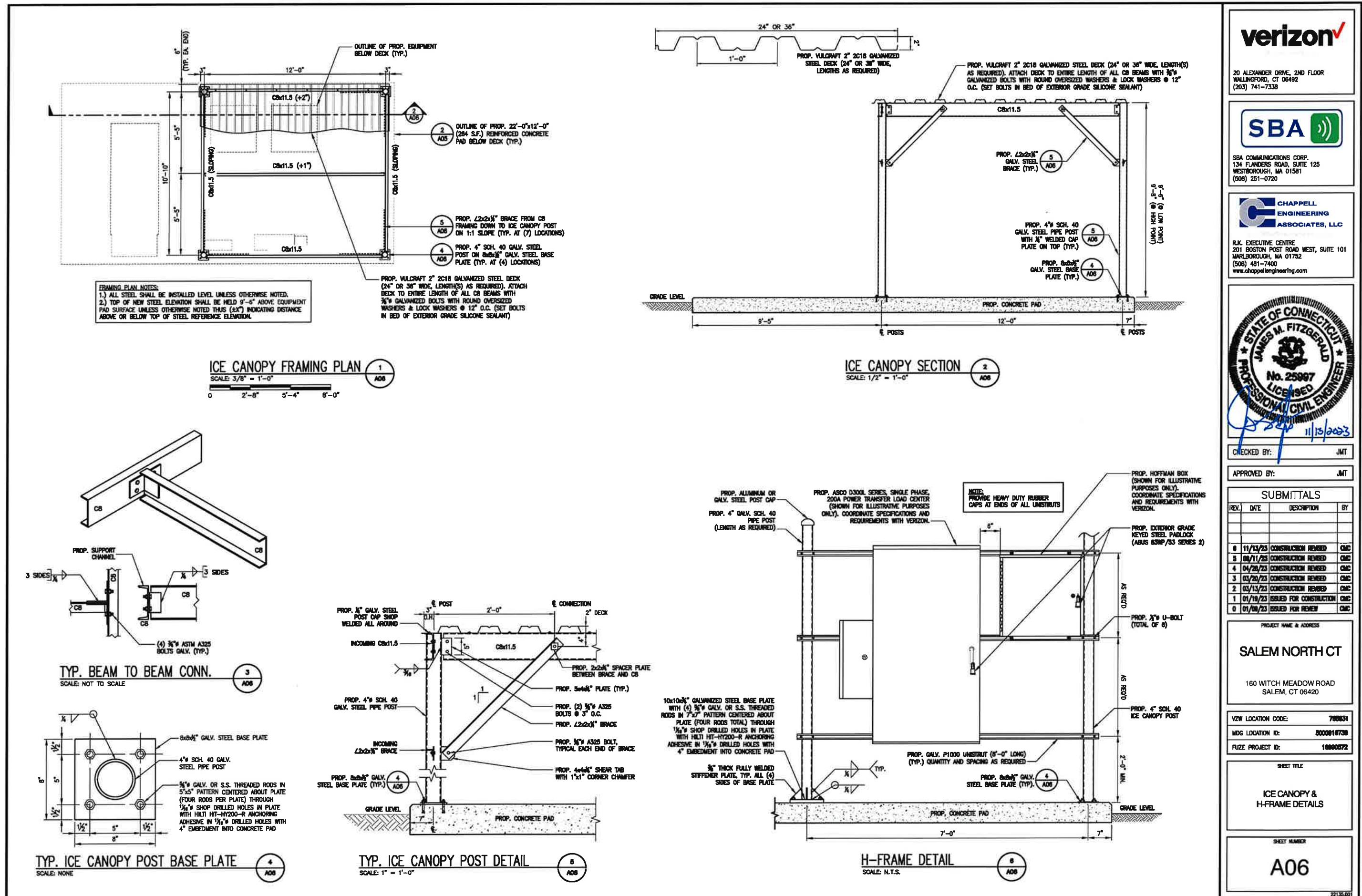
PROJECT NAME & ADDRESS  
**SALEM NORTH CT**  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 708831  
MDG LOCATION ID: 5000818738  
FUZE PROJECT ID: 16880572

SHEET TITLE  
**ANTENNA DETAILS**

SHEET NUMBER  
**A04**





FINAL EQUIPMENT CONFIGURATION													
SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	COMMSCOPE NHH-858-R2B ANTENNAS	2	50°	165° ± AGL	LTE 700/850/1900/NWS 850 5GNR	0°/0°/0°/0°	2°/2°/0°/2°	NEW	72.0	11.9	7.1	43.7	PROP. (2) 6x12 (1-1/8") HYBRIFLEX CABLES PROP. (8) 1x1 HYBRID JUMPERS PROP. (4) 1x4 HYBRID JUMPERS
	SAMSUNG MT8413-77A ANTENNA	1	50°	165° ± AGL	5G LS6	0°	1°	NEW	28.9	15.8	5.5	57.3	
BETA	COMMSCOPE NHH-858-R2B ANTENNAS	2	130°	165° ± AGL	LTE 700/850/1900/NWS 850 5GNR	0°/0°/0°/0°	2°/2°/0°/2°	NEW	72.0	11.9	7.1	43.7	
	SAMSUNG MT8413-77A ANTENNA	1	130°	165° ± AGL	5G LS6	0°	1°	NEW	28.9	15.8	5.5	57.3	
GAMMA	COMMSCOPE NHH-858-R2B ANTENNAS	2	300°	165° ± AGL	LTE 700/850/1900/NWS 850 5GNR	0°/0°/0°/0°	2°/2°/0°/2°	NEW	72.0	11.9	7.1	43.7	
	SAMSUNG MT8413-77A ANTENNA	1	300°	165° ± AGL	5G LS6	0°	1°	NEW	28.9	15.8	5.5	57.3	
ALL	SAMSUNG B5/B13 RRH ORAN (RF4461d-13A) RADIOS	3	-	-	-	NEW	NEW	NEW	15.0	15.0	10.2	79.1	R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 (508) 481-7400 www.chappellengineering.com
	SAMSUNG B2/B88A RRH ORAN (RF3339d-25A) RADIOS	3	-	-	-	NEW	NEW	NEW	15.0	15.0	10.0	74.7	
	OMP 12	1	-	-	-	NEW	NEW	NEW	29.8	16.5	12.8	32.0	

NOTES:  
1. "ETR" DENOTES "EXISTING TO REMAIN".  
2. "ETR" DENOTES "EXISTING TO BE REMOVED".  
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.  
4. INFORMATION IS BASED ON RFDS DATED 03/17/23.

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MARLBOROUGH, MA 01752  
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CHECKED BY: JMT  
APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REvised	CNC
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4	04/26/23	CONSTRUCTION REvised	CNC
3	03/26/23	CONSTRUCTION REvised	CNC
2	03/15/23	CONSTRUCTION REvised	CNC
1	01/19/23	CONSTRUCTION REvised	CNC
0	01/06/23	ISSUED FOR REVIEW	CNC

PROJECT NAME & ADDRESS  
SALEM NORTH CT  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 708831  
MDG LOCATION ID: 5000816739  
FUZE PROJECT ID: 18800572

RF DATA

RF01

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: N/A EXISTING TO BE REMOVED: N/A	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1/2" COAX CABLE FOR GPS ANTENNA (2) 6x12 (1-1/8") HYBRIFLEX CABLES (6) 1x1 HYBRID JUMPERS (4) 1x4 HYBRID JUMPERS	

NOTE:  
EXISTING VERIZON EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

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WESTBOROUGH, MA 01581  
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**C** CHAPPELL  
ENGINEERING  
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MARLBOROUGH, MA 01752  
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APPROVED BY: JMT

**SUBMITTALS**

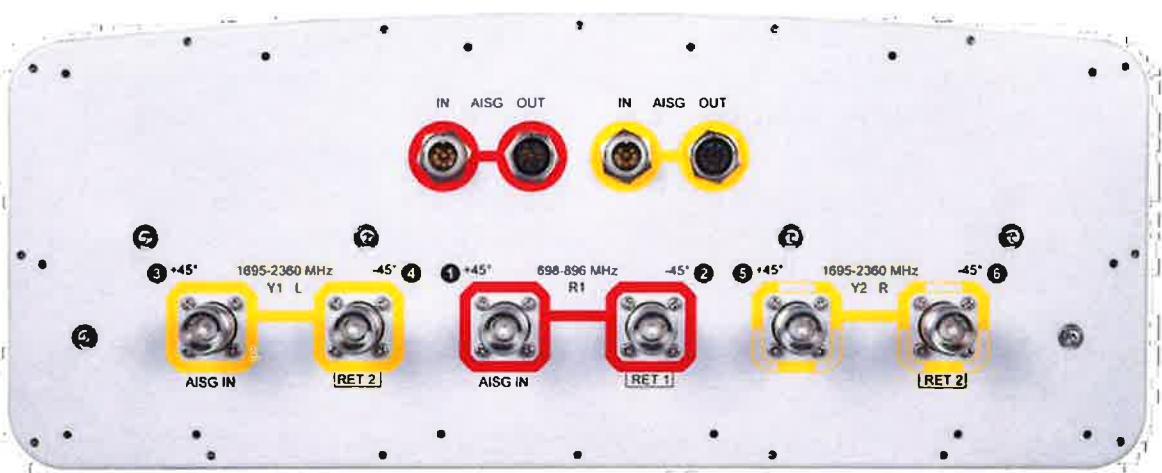
REV.	DATE	DESCRIPTION	BY
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5	08/11/23	CONSTRUCTION REvised	CNC
4	04/28/23	CONSTRUCTION REvised	CNC
3	03/20/23	CONSTRUCTION REvised	CNC
2	03/13/23	CONSTRUCTION REvised	CNC
1	01/19/23	ISSUED FOR CONSTRUCTION	CNC
0	01/09/23	ISSUED FOR REVIEW	CNC

PROJECT NAME & ADDRESS  
**SALEM NORTH CT**  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 703831  
MDG LOCATION ID: 5000916750  
PUZE PROJECT ID: 16000572

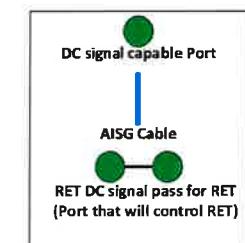
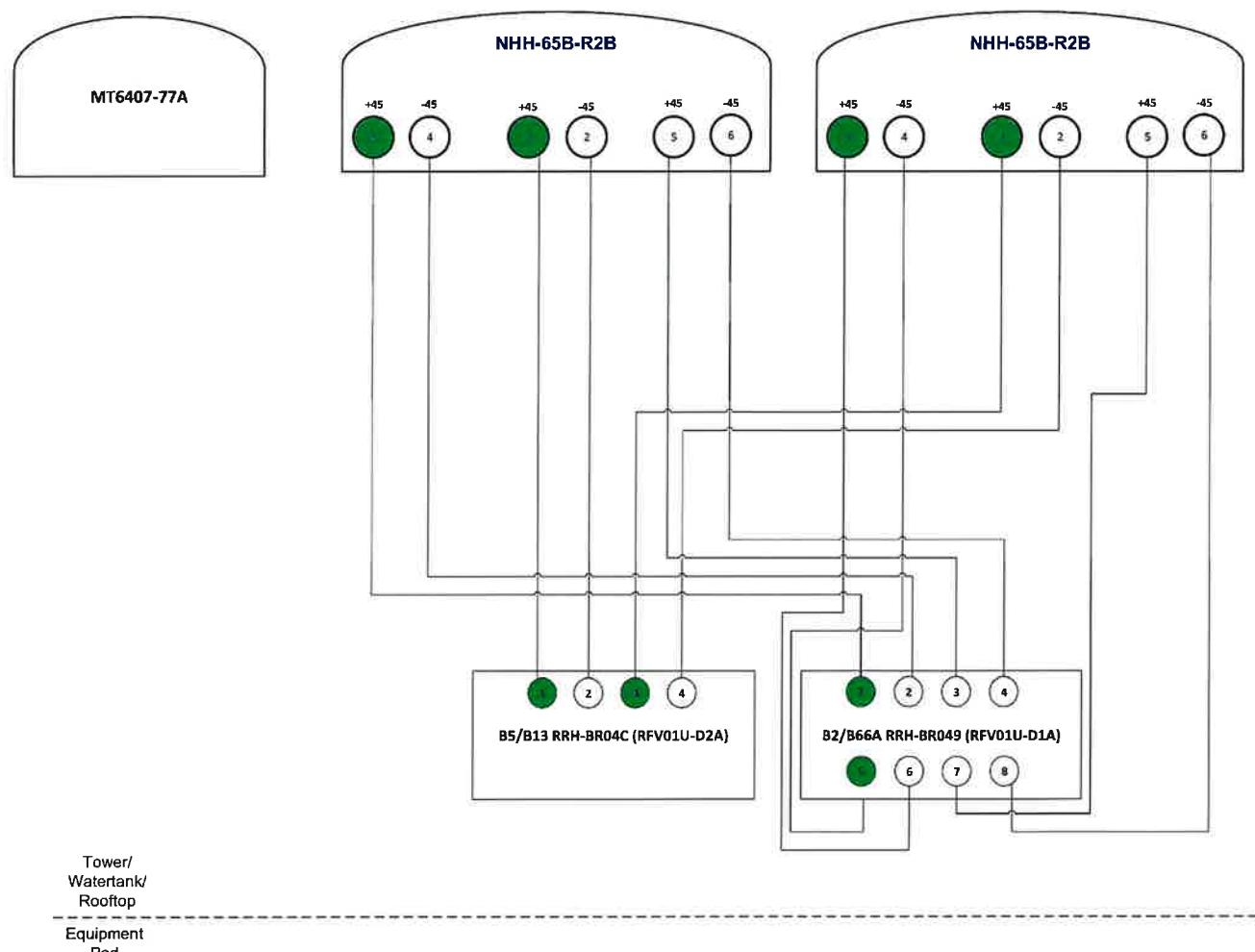
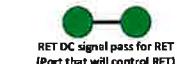
SHEET TITLE  
**RF PLUMBING  
DIAGRAM**

SHEET NUMBER  
**RF02**  
22135.00



**NHH-45B-R2B**

- Ports 1 & 2 are for 700MHz and 850MHz
- Ports 3, 4, 5, & 6 are for AWS/PCS (1695-2180 MHz)
- Smart Bias Tee (SBT) is through port 1 for low band and port 3 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET, only green port connection to green port will control RET.



**Comments:**

**Diagram shows configuration as viewed from below antennas**

**Cap and weatherproof unused antenna ports**

**CDMA not shown (not being changed)**

**All plumbing diagram colors are irrelevant except for AISG cable. (For the coax colors follow Coax Colors guide)**



CHECKED BY:  JMT

APPROVED BY:  JMT

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REVISED	CBC
5	09/11/23	CONSTRUCTION REVISED	CBC
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2	03/13/23	CONSTRUCTION REVISED	CBC
1	01/19/23	ISSUED FOR CONSTRUCTION	CBC
0	01/09/23	ISSUED FOR REVIEW	CBC

**PROJECT NAME & ADDRESS**

SALEM NORTH CT

160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 700031

MDG LOCATION ID: 8000016758

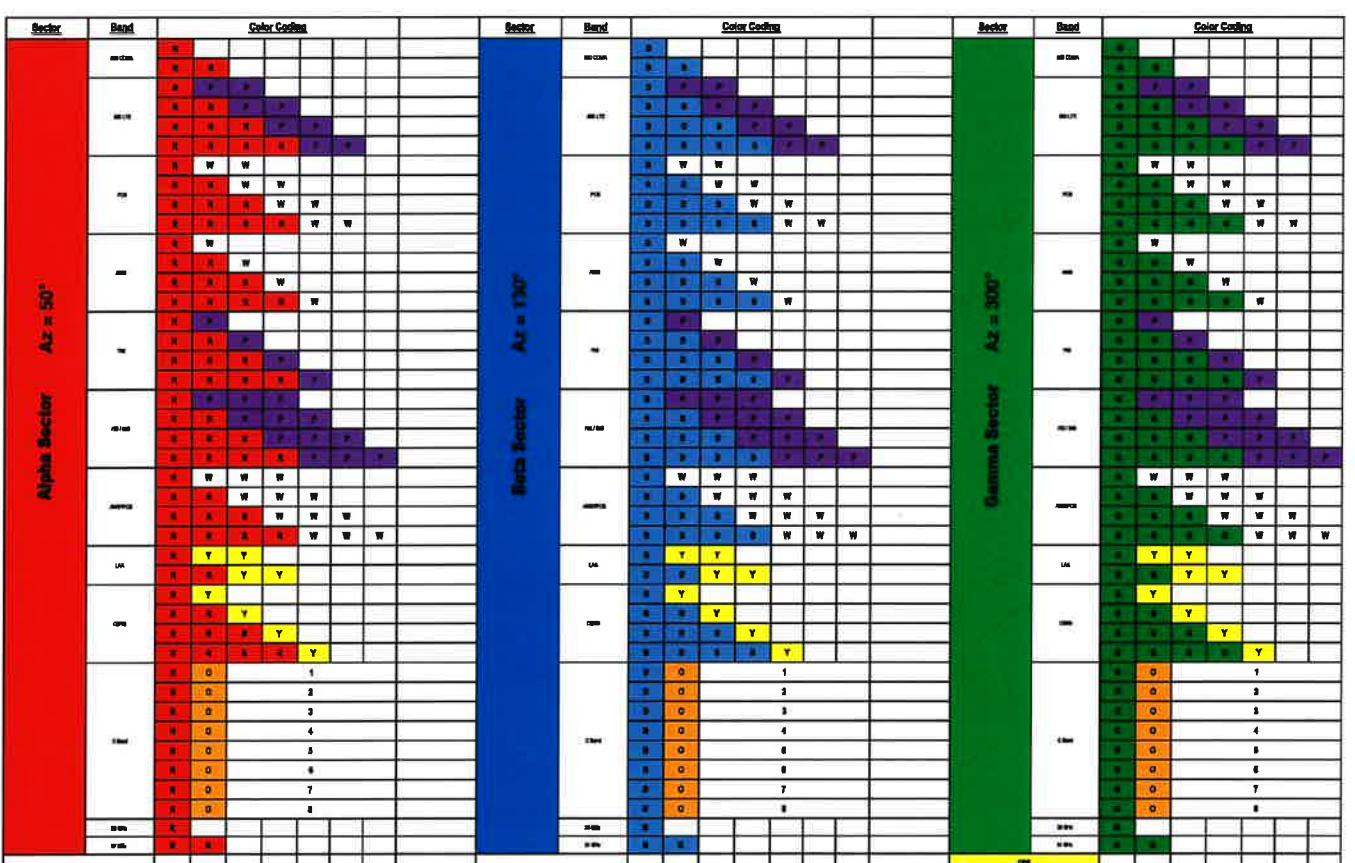
FUZE PROJECT ID: 18880572

**SHEET TITLE**

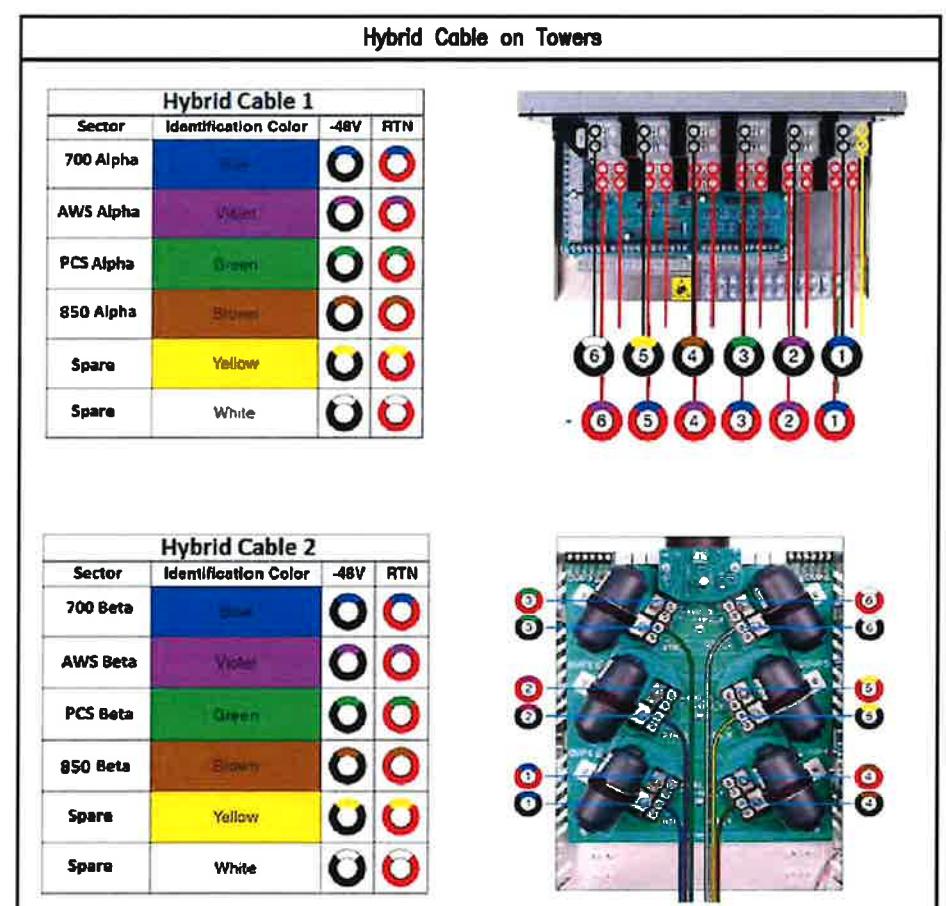
RF COLOR CODE  
SPECIFICATIONS

**SHEET NUMBER**

**RF03**



**CABLE NOTE:**  
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01  
FOR EXISTING & PROPOSED CABLE QUANTITIES.



## ELECTRICAL SPECIFICATIONS

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS REQUIRED TO MAKE READY FOR USE THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS. MAKE ALL NECESSARY CONNECTIONS AT PACKAGED EQUIPMENT.
- THE ELECTRICAL SYSTEMS SHALL BE SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. ALL MATERIAL AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THE WORK SHALL BE FURNISHED AT NO EXTRA COST.
- FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL, STATE AND NATIONAL CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
  - THE 2022 CONNECTICUT STATE BUILDING CODE
  - THE 2017 NATIONAL ELECTRICAL CODE (NFPA-70)
  - THE CONNECTICUT ELECTRIC CODE
  - THE NATIONAL ELECTRICAL CODE (ANSI C-2)
  - THE LIFE SAFETY CODE (NFPA 101)
  - STRUCTURE STANDARDS FOR ANTENNA SUPPORTING STRUCTURE AND ANTENNAS (TIA/EIA-222-G)
- MATERIALS AND EQUIPMENT SHALL BE NEW, UNUSED AND UNDERWRITERS' LABORATORIES, INC. LISTED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS IN A TIMELY FASHION, INCLUDING RESPONSIBILITY FOR DETERMINING AVAILABILITY/LEAD TIME FOR ALL NECESSARY EQUIPMENT.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES FOR PERMITS AND INSPECTIONS. WHERE NEW COMMERCIAL POWER SERVICE IS PROVIDED TO THE SITE, OR EXISTING SERVICE MUST BE MODIFIED, CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE ELECTRIC UTILITY, SHALL PERFORM ALL OF HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY, AND SHALL PAY ALL UTILITY SERVICE BACK CHARGES.
- ALL WIRING OUTSIDE SHALL BE INSTALLED IN HEAVY-GAUGE, (SCHEDULE 40) RIGID STEEL CONDUIT, HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE WITH AN ADDITIONAL FACTORY-APPLIED FINISH INSIDE AND OUTSIDE. CUT ENDS SHALL BE REAMED, THREADED AND COLD GALVANIZED. NO COMPRESSION FITTING WILL BE ACCEPTED.
- UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 AND INSTALLED NOT LESS THAN 30 INCHES BELOW FINISHED GRADE.
- WIRING INSTALLED IN THE BUILDING THAT IS SHOWN TO BE IN CONDUIT SHALL BE INSTALLED IN EMT. EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE.
- LIQUID TIGHT, FLEXIBLE METAL CONDUIT SHALL BE USED FOR ALL MOTOR TERMINATIONS AND FOR CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. FLEXIBLE METAL CONDUIT SHALL CONSIST OF A FLEXIBLE CORROSION RESISTANT METAL CORE WITH AN EXTRUDED, WATERLIGHT, SYNTHETIC JACKET. CONDUITS SMALLER THAN 1-1/2" SHALL HAVE A CONTINUOUS GROUND CONDUCTOR UNDER THE JACKET.
- NO CONDUIT SMALLER THAN 3/4" ELECTRICAL TRADE SIZE SHALL BE USED, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS. BOX SIZES SHALL BE 4" SQUARE MINIMUM, BUT NOT LESS THAN THAT REQUIRED BY THE CONNECTICUT ELECTRICAL CODE.
- FITTINGS AND EXPOSED SWITCH, OUTLET AND CONTROL STATION BOXES AND OTHER EXPOSED BOXES 4" SQUARE SHALL BE CAST OR MALLEABLE IRON WITH CADMIUM-ZINC FINISH AND CAST COVERS WITH STAINLESS STEEL SCREWS.
- FLUSH SWITCH AND OUTLET BOXES SHALL BE HOT-DIPPED GALVANIZED, PRERESSED STEEL WITH NYLON COVER PLATES, COLOR AS DETERMINED BY THE ENGINEER.
- EXCEPT AS OTHERWISE SHOWN, TERMINAL, JUNCTION AND FULL BOXES LARGER THAN 4" SQUARE SHALL BE SHEET STEEL. STEEL BOXES SHALL BE HOT-DIPPED GALVANIZED. BOXES AND COVERS SHALL NOT BE LESS THAN 14 GAUGE. METAL COVERS SHALL BE GASKETED AND FASTENED WITH STAINLESS STEEL HARDWARE.
- FITTINGS USED WITH LIQUID TIGHT, FLEXIBLE CONDUIT SHALL BE OF THE SCREW-IN, COMPRESSION TYPE WITH SEALING RING. FITTINGS LARGER THAN 1-1/4" SHALL BE FURNISHED WITH INTEGRAL GROUND LUGS.
- HANGERS, RODS, BACK PLATES, BEAM CLAMPS, ETC. SHALL BE GALVANIZED IRON OR STEEL. CONDUITS SHALL BE SUPPORTED AT LEAST EVERY 5 FEET.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS. CONDUIT RUNS SHALL BE STRAIGHT AND TRUE. CONDUIT SHALL BE SUPPORTED BY MEANS OF TWO-HOLE PIPE CLAMPS. BACK PLATES SHALL BE INSTALLED WHERE REQUIRED TO RAISE CONDUITS FROM THE SURFACE. MULTIPLE HORIZONTAL RUNS SHALL BE SUPPORTED ON TRAPEZE HANGERS WITH STEEL HORIZONTAL MEMBERS AND THREADED RODS NOT LESS THAN 3/8 INCHES IN DIAMETER. HANGERS SHALL BE ATTACHED TO STRUCTURAL STEEL BY MEANS OF BEAM CLAMPS. SPOT TYPE INSERTS SHALL BE USED IN CONCRETE.
- CONDUIT BENDS SHALL BE CAREFULLY MADE TO PREVENT DISTORTION OF THE CIRCULAR CROSS-SECTION. NO CONDUIT RUN SHALL HAVE MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN PULLING POINTS. CHANGES IN DIRECTION SHALL BE MADE WITH BENDS, STANDARD ELBOWS AND PULPBOXES. BENDS IN PARALLEL RUNS SHALL BE CONCENTRIC.
- CONDUIT SHALL NOT BE SUPPORTED FROM PIPING, PIPING SUPPORTS, DUCTWORK, SUSPENDED CEILING SUPPORTS OR MECHANICAL EQUIPMENT SUBJECT TO VIBRATION OR REMOVAL.
- THE ENDS OF ALL CONDUITS SHALL BE TIGHTLY PLUGGED DURING BUILDING CONSTRUCTION UNTIL WIRES ARE TO BE PULLED. SPARE CONDUITS SHALL BE FURNISHED WITH THREADED CAPS.
- CONDUITS SHALL BE TERMINATED AT UNGASKETED SHEET STEEL BOXES AND ENCLOSURES WITH DOUBLE LOCK NUTS AND SUITABLE BUSHINGS. BUSHINGS INSTALLED ON CONDUITS CONTAINING GROUND WIRES SHALL BE GROUNDING TYPE. CONDUITS SHALL BE TERMINATED AT GASKETED SHEET METAL BOXES AND ENCLOSURES WITH CONDUIT HUBS.
- CONDUCTORS SHALL BE ANNEALED, 99 PERCENT CONDUCTIVITY, SOFT-DRAWN COPPER. NO CONDUCTOR SMALLER THAN NO. 12 AWG SHALL BE USED, EXCEPT AS OTHERWISE NOTED.
- WIRE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE 600 VOLT, TYPE THHN. WIRE FOR CONTROL CIRCUITS SHALL BE 600 VOLT, TYPE THHN, NO. 14 AWG STRANDED. SERVICE CONDUCTORS AND FEEDERS SHALL BE TYPE XHHW. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID. NO. 8 AWG AND LARGER SHALL BE STRANDED.
- ALL CONDUCTORS SHALL BE CAREFULLY HANDLED TO AVOID KINKS OR DAMAGE TO INSULATION. LUBRICANTS SHALL BE USED TO FACILITATE WIRE PULLING. LUBRICANTS SHALL BE UL LISTED FOR USE WITH THE INSULATION SPECIFIED.
- ALL EQUIPMENT AND MATERIALS SHALL BE GROUNDED IN STRICT ACCORDANCE WITH THE CONNECTICUT ELECTRICAL CODE, AND THE STANDARD REQUIREMENTS OF VERIZON WIRELESS AND LUCENT.
- DISCONNECT SWITCHES SHALL BE 480 OR 240 VOLT, HEAVY-DUTY, QUICK-MAKE, QUICK BREAK, VISIBLE BLADE, 2 POLE WITH EXTERNAL OPERATING HANDLE AND FULL COVER INTERLOCK. SWITCHES INSTALLED OUTSIDE SHALL BE NEMA TYPE JR ENCLOSED.
- WALL SWITCHES SHALL BE SINGLE POLE 3-WAY OR 4-WAY, INDICATING, TOGGLE-ACTION, FLUSH, QUIET TYPE, SPECIFICATION GRADE, RATED 20 AMPERE, 120-277 VOLTS, COLOR AS DETERMINED BY ENGINEER.
- GENERAL PURPOSE RECEPTACLES SHALL BE DUPLEX, 2 POLE, 3 WIRE, STRAIGHT BLADE, NYLON FACE, GROUNDING TYPE, 20 AMPERE, 125 VOLT, SPECIFICATION GRADE. COLOR AS DETERMINED BY ENGINEER.
- PANELS SHALL BE PER DIRECTED BY THESE DRAWINGS WITH TYPED DIRECTORIES.
- CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL-MAGNETIC TYPE WITH PLUS SYMMETRICAL INTERRUPTING RATING OF NOT LESS THAN 22,000 AMPERE FOR 240 VOLT BREAKERS. ENCLOSED BREAKERS SHALL HAVE PADLOCKING PROVISIONS AND EXTERNAL OPERATING HANDLE WITH FULL COVER INTERLOCK. BREAKERS SHALL BE 1" MODULES MINIMUM.
- NAMEPLATES SHALL BE PROVIDED FOR ALL EQUIPMENT INDICATING VOLTAGE, PHASE, USE AND SOURCE OF ORIGIN. DEVICES SHALL BE LABELED INDICATING VOLTAGE AND BRANCH CIRCUIT. BRANCH CONDUCTORS SHALL BE LABELED INDICATING BRANCH CIRCUIT. FEEDER CONDUCTORS SHALL INDICATE PHASE.
- ALL EXTERIOR CONDUCTOR/LUG TERMINALS SHALL HAVE AN ANTI-OXIDANT APPLIED.
- ALL SPRING TYPE WIRE CONDUCTORS USED IN EXTERIOR BOXES SHALL BE SILICON FILLED.

- ELECTRICAL CONTRACTOR SHALL AS PART OF HIS WORK INCLUDE ALL FITTINGS, SLEEVES AND MINOR CUTTING REQUIRED FOR HIS WORK, INCLUDING FIRES-STOPPING.
- THE ELECTRICAL CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE HIS OWN, WHERE DIRECTED, STORAGE AND OFFICE SPACE.
- FIVE COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.
- ELECTRICAL CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR AND MATERIALS, SCAFFOLDING TOOL AND TRANSPORTATION NECESSARY FOR COMPLETE INSTALLATION.
- ELECTRICAL CONTRACTOR TO FURNISH ENGINEER ONE SET OF MYLARS OF "AS BUILT" DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY POWER & LIGHTING AS REQ'D.

## GENERAL NOTES

- CONTRACTOR SHALL VISIT THE SITE TO BECOME AWARE OF THE EXISTING CONDITIONS.
- BRANCH CIRCUIT RUNS 100 FT AND OVER SHALL BE #10 AWG CONDUCTORS.
- THESE DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHT, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PLUMBING CONTRACTORS AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT, THE POWER WIRING, THE CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS REQUIRED BY THIS CONTRACTOR FOR COMPLETELY OPERATIVE HVAC AND PLUMBING SYSTEMS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- INTERRUPTIONS TO THE EXISTING ELECTRICAL SERVICE FOR SPLICING CONNECTIONS, RENOVATION OF EXISTING DISTRIBUTION, BRANCH CIRCUITS, INSTALLATION OF NEW ELECTRIC SERVICE, AND SHALL BE AS SHORT AS POSSIBLE, AND TO THE CONVENIENCE OF THE OWNER.
- ALL CONDUIT SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED. NO INTERIOR HORIZONTAL CONDUIT BELOW 7'-8" AFF IN FINISHED SPACES.
- ALL WIRING TO BE 3/4", 2 1/2 & 3 1/2 GROUND, UNLESS OTHERWISE NOTED.
- NO BX OR ROMEX CABLE IS PERMITTED.
- ALL WIRING DEVICES AND EQUIPMENT SHALL BE 20A SPECIFICATION GRADE AND UL LISTED.
- ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
- ALL RECEPTACLE AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL SIZE EQUIPMENT GROUNDBOND CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
- ALL WALL PENETRATIONS FOR TELECO, POWER, AND GROUNDBOND SHALL REQUIRE PVC SLEEVES.
- ALL SWITCHES SHALL BE FORTY-EIGHT (48) INCHES AFF, UNLESS OTHERWISE NOTED.
- ALL RECEPTACLES SHALL BE EIGHTEEN (18) INCHES AFF, UNLESS OTHERWISE NOTED.
- ALL WIRING SHALL BE IN METAL RACEWAY & NO. 12 AWG COPPER MIN. UNLESS OTHERWISE NOTED.
- WIRE COLOR SHALL BE PER STANDARD CODING BY PHASE.
- FOR UTILITY BILLING, PLEASE SEND TO:  
VERIZON WIRELESS  
20 ALEXANDER DRIVE  
WALLINGFORD, CT 06492

## GROUNDING GENERAL NOTES

- ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
- ALL CONNECTIONS TO HALO GROUND RING AND ALL CABLE TRAY JUMPERS SHALL BE #8 AWG, INSULATED, STRANDED, COPPER WIRE.
- ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (T&B #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (T&B OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
- MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
- ALL GROUNDBOND WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
- CONNECT GROUND CONDUCTOR TO EXISTING GROUNDBOND SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUNDBOND CONNECTION.
- CONNECT TO HALO GROUND USING C-TAP (#54730).
- CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.

## LEGEND

### ELECTRICAL SYMBOLS

	METER
	GROUND ROD/TEST (OBSERVATION) WELL
	GROUND ROD
	CADWELD TYPE CONNECTION
	COMPRESSION TYPE CONNECTION
	GROUNDING WIRE
	REPRESENTS DETAIL NUMBER
	1'X4' SURFACE MTD. FLUORESCENT LIGHTING FIXTURE
	SELF CONTAINED EMERG. LIGHTING UNIT
	20A-120V-1P TOGGLE SWITCH
	MAGNETIC DOOR SWITCH (DOOR JAMB TYPE)
	20A-120V QUADRUPLEX RECEPTACLE, GROUNDBOND TYPE, 2-CKT. NO.
	20A-120V DUPLEX RECEPTACLE, GROUNDBOND TYPE. WP = WEATHERPROOF GFI = GROUND FAULT
	SIMPLEX RECEPTACLE, GROUNDBOND TYPE. TL = TWIST LOCK
	JUNCTION BOX
	PANELBOARD "P1"
	MOTOR - NUMERAL DENOTES HORSEPOWER
	WEATHER PROOF DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH - "JR" & "I" - NEMA ENCLOSURE
	THERMOSTAT "O" - HI TEMPERATURE ALARM THERMOSTAT
	HUMIDISTAT "O" - HI/LO HUMIDITY ALARM HUMIDISTAT
	COMBINATION SMOKE/HEAT DETECTOR WITH MINI HORN SIMPLEX CAT.#2098-9898 WITH FORM A & C CONTACTS
	HOMERUN TO PANEL (FURNISH & INSTALLED BY MECHANICAL)
	SURGE ARRESTOR - JOSLYN CAT. NO. 1455-85
	ABOVE FINISHED FLOOR
	MOTORIZED DAMPER
	EXPOSED CONDUIT 2 1/2-3 1/4"
	ALARM TERMINAL CABINET

\* EQUIPMENT FURNISHED AND INSTALLED BY OTHERS AND WIRED BY THIS CONTRACTOR

## ABBREVIATIONS

AWG	AMERICAN WIRE GAUGE
BOW	BARE COPPER WIRE
GPS	GLOBAL POSITIONING SYSTEM
PCS	PERSONAL COMMUNICATION SYSTEM
RHW	RACEWAY
TYP.	TYPICAL
RGS	RIGID GALVANIZED STEEL
EMT	ELECTRICAL METALLIC TUBING
DWG	DRAWING
EMR	INTERIOR GROUNDBOND (HALO)
GEN	GENERATOR
GR	GROWTH
CGBE	COAX GROUNDBOND EXTERNAL
CIGBE	COAX ISOLATED GROUNDBOND EXTERNAL
MGB	MASTER GROUNDBOND
PVC	RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
EBH	ETHERNET BACK HAUL

**verizon**

20 ALEXANDER DRIVE, 2ND FLOOR  
WALLINGFORD, CT 06492  
(203) 741-7338

**SBA**

**CHAPPELL**  
ENGINEERING  
ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellingengineering.com

  
No. 25997  
LICENSED  
PROFESSIONAL CIVIL ENGINEER  
11/13/23

PROJECT NAME & ADDRESS

**SALEM NORTH CT**

160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 760031  
MDC LOCATION ID: 6000016739  
FUZE PROJECT ID: 16000572

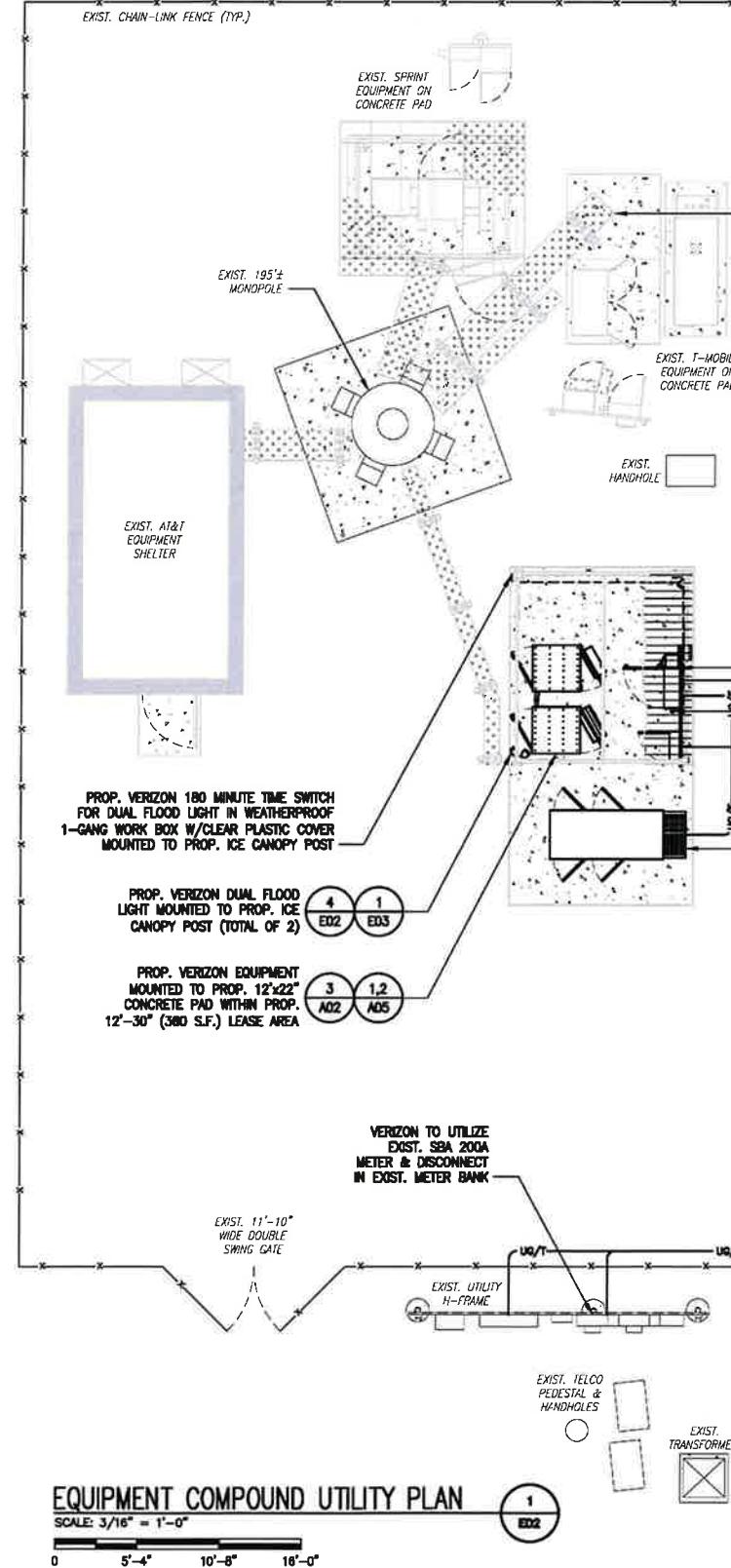
SHEET TITLE  
ELECTRICAL  
SPECIFICATIONS &  
NOTES

SHEET NUMBER  
E01

22133.001

**SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

**SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):**  
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EXIST. CABLE BRIDGE (TYP., BY OTHERS)

EXIST. HANDHOLE

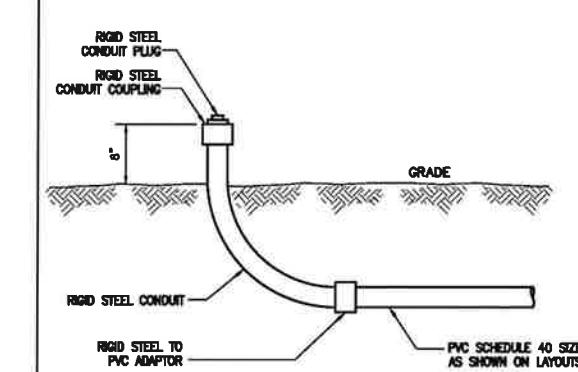
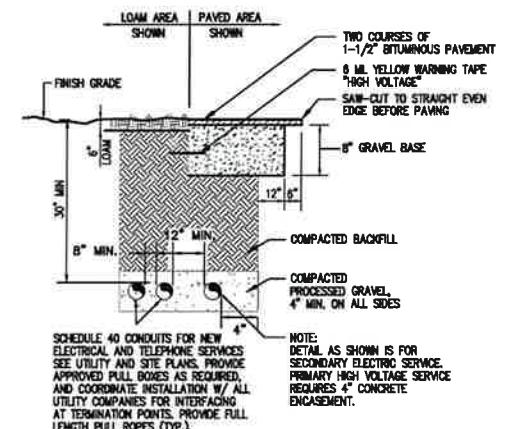
PROP. VERIZON POWER CABINET & HOFFMAN BOX MOUNTED TO PROP. H-FRAME

PROP. DUPLEX GFCI RECEPTACLE IN WEATHERPROOF 1-GANG WORK BOX W/CLEAR PLASTIC COVER

PROP. VERIZON U/G UTILITY RUN FROM EXIST. GENERATOR TO PROP. POWER CABINET

PROP. VERIZON 50KW DIESEL GENERATOR MOUNTED TO PROP. 12'x22' CONCRETE PAD WITHIN PROP. 12'-30' (360 S.F.) LEASE AREA

PROP. VERIZON U/G UTILITY RUN FROM EXIST. METER BANK & TELCO CABINET



MOUNT PER MANUFACTURER'S SPECIFICATIONS

**verizon**

20 ALEXANDER DRIVE, 2ND FLOOR  
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**SBA**

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**C** CHAPPELL  
ENGINEERING  
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CHECKED BY: JMT  
APPROVED BY: JMT

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
0	11/13/23	CONSTRUCTION REvised	CAC
5	09/11/23	CONSTRUCTION REvised	CAC
4	04/26/23	CONSTRUCTION REvised	CAC
3	03/20/23	CONSTRUCTION REvised	CAC
2	03/13/23	CONSTRUCTION REvised	CAC
1	01/19/23	ISSUED FOR CONSTRUCTION	CAC
0	01/06/23	ISSUED FOR REVIEW	CAC

PROJECT NAME & ADDRESS  
**SALEM NORTH CT**  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 706831  
MDG LOCATION ID: 6000916739  
FUZE PROJECT ID: 16880572

SHEET TITLE  
**EQUIPMENT COMPOUND  
UTILITY PLAN & DETAILS**

SHEET NUMBER  
**E02**

**verizon**

20 ALEXANDER DRIVE, 2ND FLOOR  
WALLINGFORD, CT 06492  
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**SBA**

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CHECKED BY: JMT  
APPROVED BY: JMT

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6	11/13/23	CONSTRUCTION REvised	CAC
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1	01/10/23	ISSUED FOR CONSTRUCTION	CAC
0	01/09/23	ISSUED FOR REVIEW	CAC

PROJECT NAME & ADDRESS

**SALEM NORTH CT**  
160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 769631

MDG LOCATION ID: 6000016738

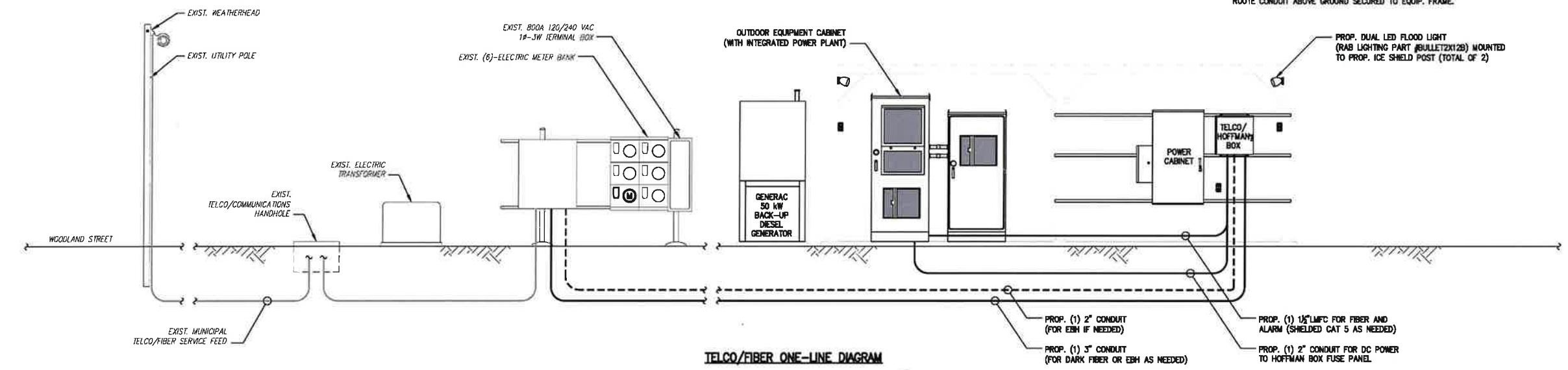
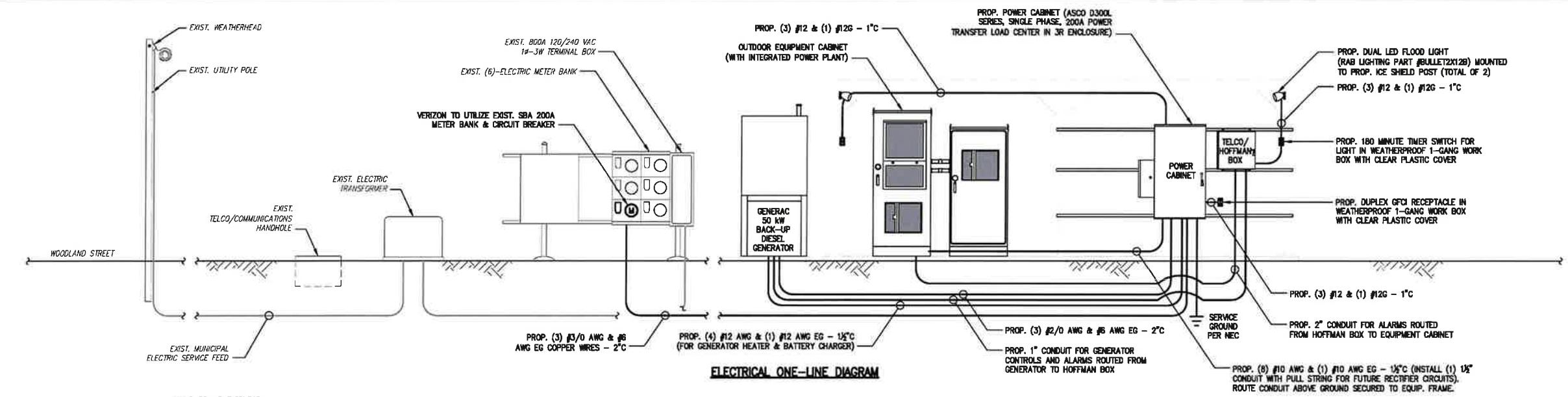
FUZE PROJECT ID: 16990572

SHEET TITLE

ELECTRIC/TELCO/FIBER  
DIAGRAMS & PANEL  
SCHEDULE

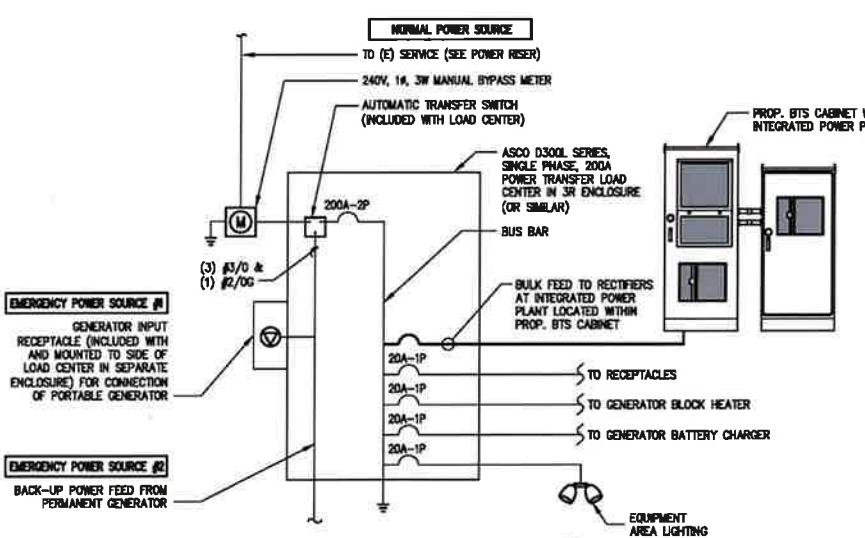
SHEET NUMBER

**E03**



**UTILITY ONE-LINE DIAGRAMS**

SCALE: NOT TO SCALE



SCALE: NOT TO SCALE

ASCO D300L SERIES, SINGLE PHASE, 200A POWER TRANSFER LOAD CENTER IN 3R ENCLOSURE				ELECTRICAL PANEL SCHEDULE			
65,000 ALC. NEMA 3R				65,000 ALC. NEMA 3R			
CKT #	DESCRIPTION	AMP	AMP	CKT #	DESCRIPTION	AMP	AMP
1	RECTIFIER #1	30	30	2	FUTURE RECTIFIER		
3				4			
5	RECTIFIER #2	30	30	6	FUTURE RECTIFIER		
7				8			
9	RECTIFIER #3	30	30	10	PAID LIGHTING		
11				12	BLANK		
13	RECTIFIER #4	30	30	14	BLANK		
15				16	BLANK		
17	GFCI RECEPTACLE/LIGHT	20	20	18	BLANK		
19	GENERATOR BLOCK HEATER	20	20	20	BLANK		
21	GENERATOR BATTERY CHARGER	20	20	22	BLANK		
23	BLANK	-	-	24	BLANK		
25	BLANK	-	-	26	BLANK		
27	BLANK	-	-	28	BLANK		
29	BLANK	-	-				

**ELECTRICAL PANEL SCHEDULE**

SCALE: NTS

ONE-LINE DIAGRAM NOTES:  
1) PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS INSIDE AND OUT.  
2) COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH VERIZON WIRELESS AND ELECTRIC COMPANY.  
3) ALL CONDUIT ROUTING SHOWN ON THESE DIAGRAMS IS SCHEMATIC IN NATURE AND INTENDED TO CONVEY GENERAL INTENT ONLY.  
4) ALL PROPOSED UTILITY DESIGN ELEMENTS SHOWN ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN TO BE PROVIDED BY UTILITY PROVIDERS AND VERIZON WIRELESS. CONTRACTOR SHALL OBTAIN A COPY OF THE FINAL UTILITY DESIGN BY UTILITY COMPANY PRIOR TO COMMENCEMENT OF WORK.

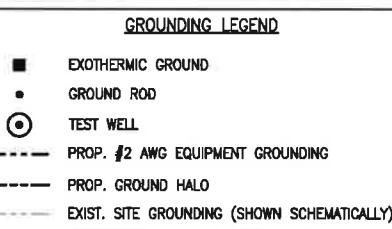
UTILITY CONTACTS	
ELECTRICAL:	EVERSOURCE ENERGY 247 SODON DRIVE, SE 210 WESTWOOD, MA 02090 (781) 441-3810
TELEPHONE:	VERIZON 185 FRANKLIN STREET BOSTON, MA 02107 (800) 941-9800

MAKE ALL CONNECTIONS AS PER UTILITY COMPANY'S REQUIREMENTS.

22138.001

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### ELECTRICAL AND GROUNDING NOTES:

#### ELECTRICAL

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. SERVICE TO EQUIP. SHALL BE 120/240 VAC, 200 AMP, 1 $\phi$ , 60 Hz.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (COLDWELD) CONNECTIONS.
6. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (COLDWELD).
7. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
8. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
9. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
10. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
11. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" x 10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 48" BELOW FINAL GRADE.
12. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
13. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
14. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
15. ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON AND INSTALLED BY CONTRACTOR.

**verizon**  
20 ALEXANDER DRIVE, 2ND FLOOR  
WALLINGFORD, CT 06492  
(203) 741-7338

**SBA**

SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
(508) 251-0720

**CHAPPELL  
ENGINEERING  
ASSOCIATES, LLC**

R.J. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellingengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

### SUBMITTALS

REV.	DATE	DESCRIPTION	BY
6	11/13/23	CONSTRUCTION REvised	CAC
5	09/11/23	CONSTRUCTION REvised	CAC
4	04/26/23	CONSTRUCTION REvised	CAC
3	03/29/23	CONSTRUCTION REvised	CAC
2	03/13/23	CONSTRUCTION REvised	CAC
1	01/19/23	ISSUED FOR CONSTRUCTION	CAC
0	01/09/23	ISSUED FOR REVIEW	CAC

### PROJECT NAME & ADDRESS

SALEM NORTH CT

160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 700031

MDG LOCATION ID: 6000816738

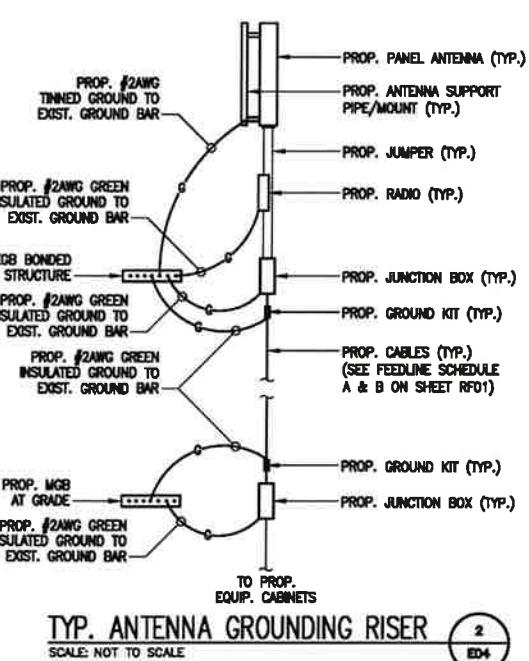
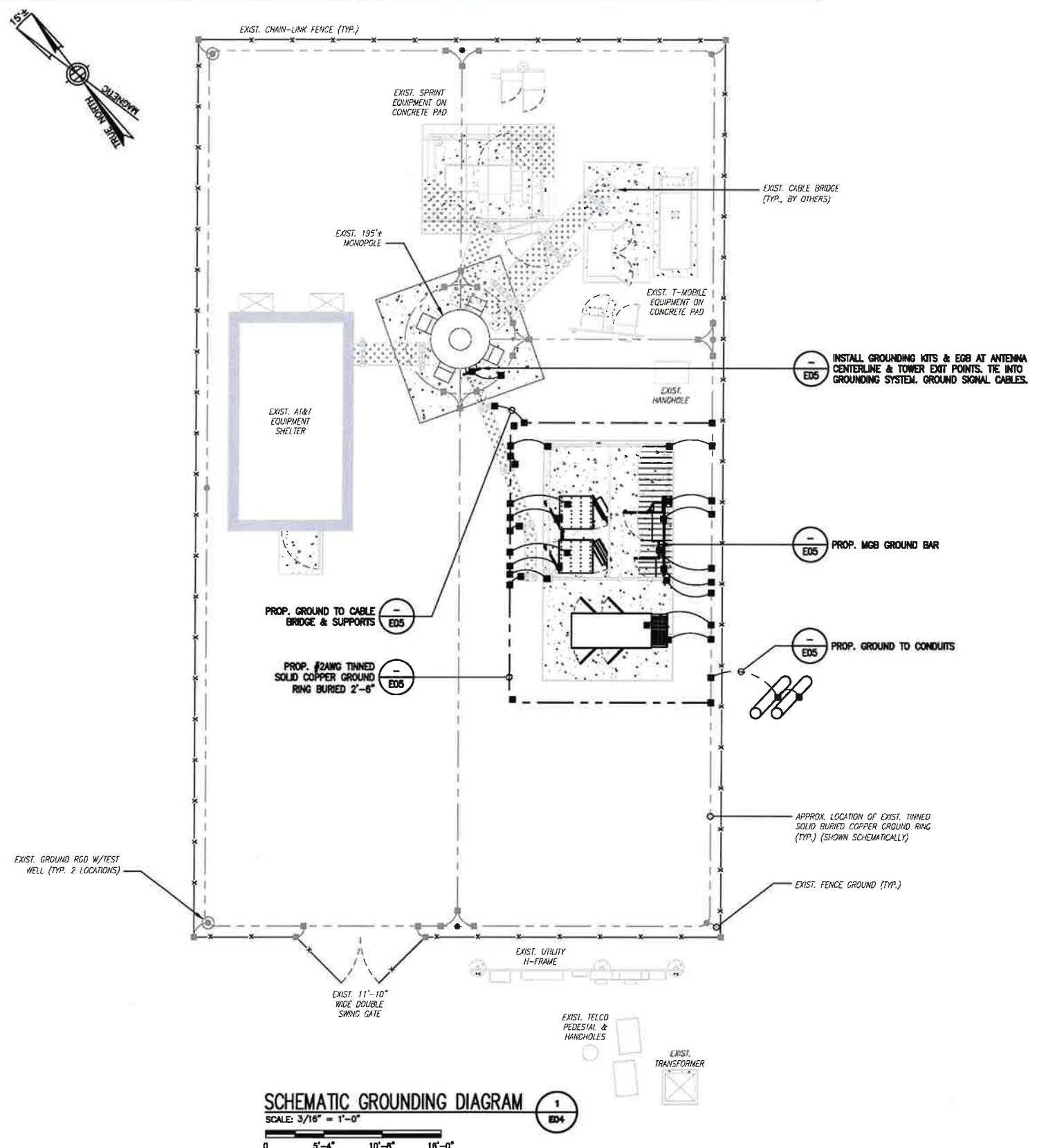
FUZE PROJECT ID: 16880572

### SHEET TITLE

SCHEMATIC  
GROUNDING PLAN &  
RISER DIAGRAM

### SHEET NUMBER

E04



20 ALEXANDER DRIVE, 2ND FLOOR  
WALLINGFORD, CT 06492  
(203) 741-7338



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MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappelleengineering.com



checked by: JMT  
Approved by: JMT

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
8	11/13/23	CONSTRUCTION REvised	CNC
5	09/11/23	CONSTRUCTION REvised	CNC
4	06/29/23	CONSTRUCTION REvised	CNC
3	03/20/23	CONSTRUCTION REvised	CNC
2	03/13/23	CONSTRUCTION REvised	CNC
1	01/19/23	CONSTRUCTION REvised	CNC
0	01/06/23	ISSUED FOR CONSTRUCTION	CNC

**PROJECT NAME & ADDRESS**

SALEM NORTH CT

160 WITCH MEADOW ROAD  
SALEM, CT 06420

VZW LOCATION CODE: 700031

MDG LOCATION ID: 8000916738

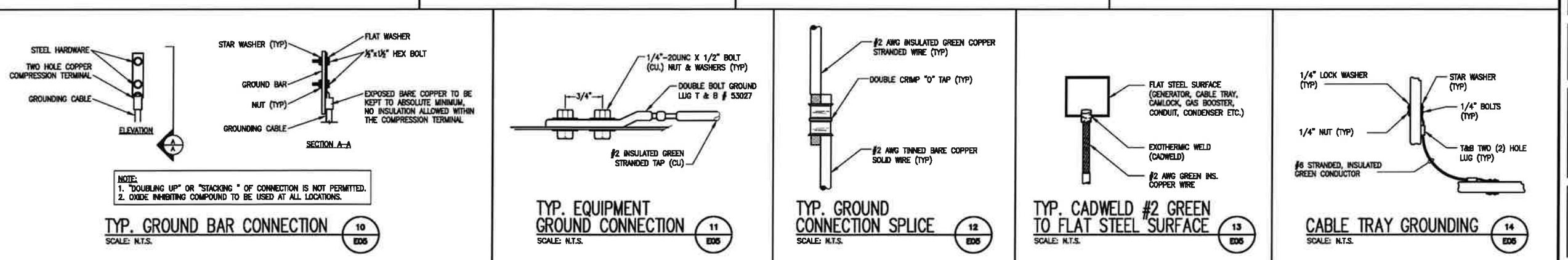
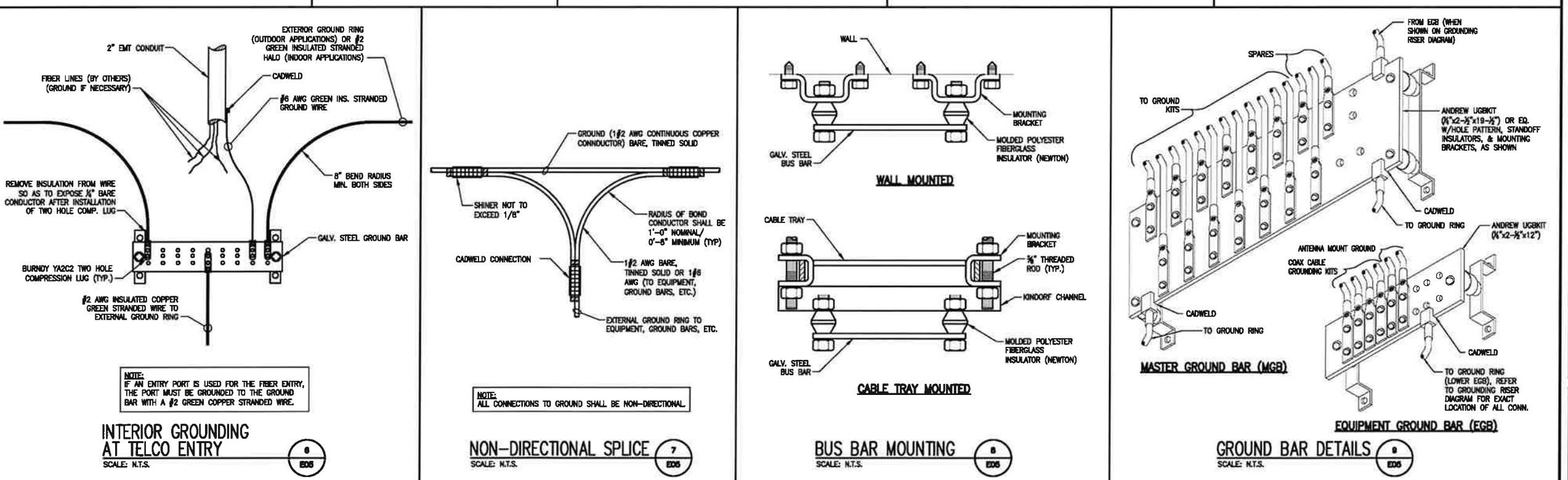
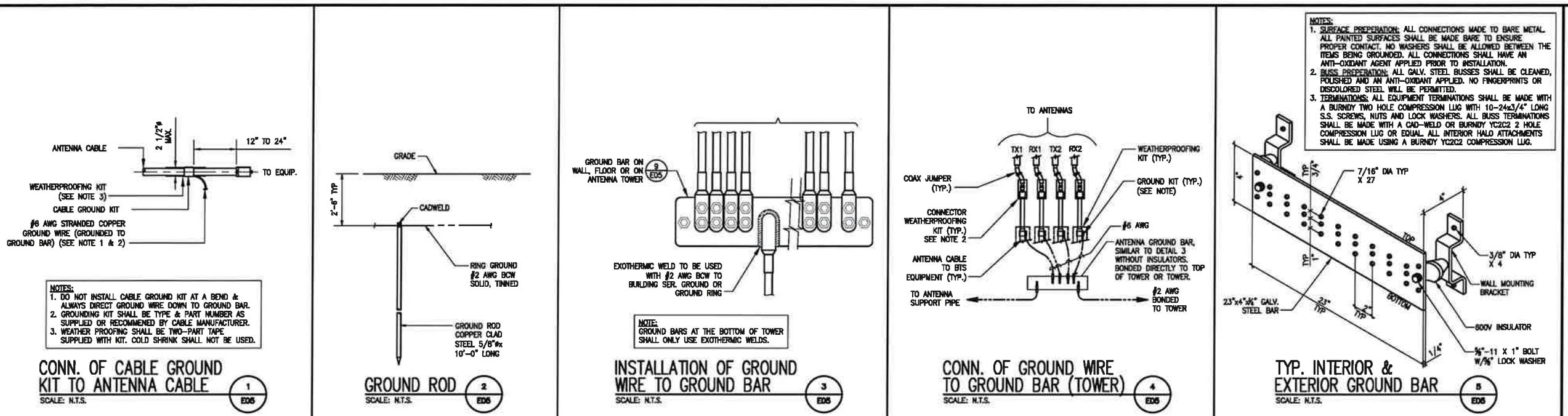
FUZE PROJECT ID: 16800572

**SHEET TITLE**

**GROUNDING DETAILS**

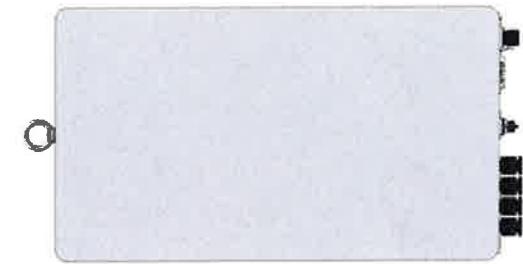
**SHEET NUMBER**

E05



# C-band 64T64R

## Gen 2



Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 ~ 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready) / 40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
ERP	80.5 dBm @ 320W (55 dBm + 25.5 dB)
Conductive Power	320W
Spectrum Analyzer	Tx/Rx support
RX Sensitivity	Typical -97.8dBm @ (1Rx, 18.36MHz with 30kHz 51.98s)
Modulation	DL 256QAM support, (DL 1024QAM with 1-2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1.287W (100% load, room temp.)
Size (WHD)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)
Volume	41.1L
Weight	26kg (57.3 lb)
Operating Temperature	-40°C ~ 55°C (w/o solar load)
Cooling	Natural convection
	3GPP 38.104
Unwanted Emission	FCC 47 CFR 27.53 : < -13dBm/MHz
mechanical design can be subject to change	< -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4.040 ~ 4.050 MHz, < -60 dBm /MHz @ above 4.050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

※ Preliminary Design: External appearance and mechanical design can be subject to change

### Gen 2 64T64R C-band Dimensions

Size (WxHxD)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)
Weight	26kg (57.3 lb)

# 700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

## Specifications

Item	Specification	
Air Interface	LTE, NR(HW resource ready)	
Band	Band13 (700MHz) DL: 746~756MHz UL: 777~877MHz	Band5 (850MHz) DL: 869~894MHz UL: 824~849MHz
Frequency	10MHz	2MHz
IBW	10MHz	2MHz
OBW	10MHz	2MHz
Carrier Bandwidth	LTE/NR 5~10MHz	LTE 5~10MHz NR 5/10/15/20MHz
# of carriers	2C*	3C
Total # of carriers	4C + B13 (SDL) 1 IC 4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector	Total: 320W
RF Chain		
RF Output Power	4 x 40W or 2 x 60W	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support	
RX Sensitivity	Typ. -104.5dBm @ 1Rx (25RBs 5MHz)	
Modulation	256QAM support, (1024QAM with 1~2dB power back-off)	
Input Power	-48VDC (-38VDC to -57VDC)	
Power Consumption	1,165 Watt @ 100% RF load, (room temperature 380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)	
Size (WxHxD)	37.5 L	
Volume	35.9 kg (79.1 lb)	
Weight (W/o Solar Shield & finger guard)	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)	
Operating Temperature	Natural convection	
Cooling	3GPP 36.104 FCC 47 CFR 27.53 c, f	3GPP 36.104 FCC 47 CFR 22.917
Unwanted Emission		-69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not supported	
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)	
RET & TMA Interface	AIIG 3.0	
Bias-T	4 ports (2 ports per band)	
Mounting Options	Pole, wall	
NB-IoT	2GB+2IB or 4IB	2SA+2GB or 2GB+2IB or 4GB
PIM Cancellation	Support	
# of antenna port	4	
External Alarm		
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)	
CPRI compression	Not Support	



\* 5MHz supporting in B13(700MHz) depends on 3GPP std. and UE capability.  
External filters in interferer and victim sides for Mexican border to support 5MHz service need to be considered.  
\*\* Finger guard is not needed.



**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## Structural Analysis Report

**Existing 195 ft Nudd Corporation Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT01916-S**

**Customer Site Name: North Salem**

**Carrier Name: Verizon (App#: 239445, V1)**

**Carrier Site ID / Name: 5000916739 / Salem North CT**

**Site Location: 160 Witch Meadow Road**

**Salem, Connecticut**

**New London County**

**Latitude: 41.502828**

**Longitude: -72.297052**



11/8/2023

### Analysis Result:

**Max Structural Usage: 96.2% [Pass]**

**Max Foundation Usage: 41.0% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: N/A**

**Report Prepared By: Sital Shrestha**



**Tower Engineering Solutions**

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1320 Greenway Drive, Suite 600, Irving, Texas 75038

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### **Analysis Result:**

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**Max Foundation Usage: 41.0% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: N/A**

**Report Prepared By: Sital Shrestha**

## **Introduction**

The purpose of this report is to summarize the analysis results on the 195 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## **Sources of Information**

<b>Tower Drawings</b>	Nudd Corporation, Project #7014 dated February 2, 2000
<b>Foundation Drawing</b>	Nudd Corporation, Project #7014 dated February 2, 2000
<b>Geotechnical Report</b>	FDH Engineering, Project #1207124EG1 dated August 10, 2012
<b>Modification Drawings</b>	Semaan Engineering, Project #CT-01916 dated May 6, 2002 FDH Engineering, Inc., Project #13SBAH1400 dated September 25, 2013 TES, PCI, Job# 93520, Dated 06/29/20

## **Analysis Criteria**

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

<b>Wind Speed Used in the Analysis:</b>	123.0 mph (3-Sec. Gust) (Ultimate wind speed)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Service Load Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_s = 0.206, S_1 = 0.055$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

## Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	195.0	3	RFS APXVTM14-C-I20 - Panel	Platform w/ Handrail Site Pro Modification Kits: (1) HRK-14 (1) PRK-SFS-H-L (1) PRK-1245L	(4) 1-1/4" Fiber	Sprint Nextel
2		3	Commscope NNVV-65B-R4 - Panel			
3		3	ALU 1900 Mhz - RRU			
4		6	ALU 800 Mhz - RRU			
5		3	ALU TD-RRH8x20-25 - RRU			
6	185.0	3	Powerwave 7770 - Panel	(3) Modified Sector Frame [(3) SitePro 1 SFS-L w/ handrail kit] (3) SitePro 1 HRK14-3HD (3) SitePro 1 PRK-SFS-L (3) Horizontal Pipe (6) Pipe Mast	(12) 1 1/4" (4) 2" Conduit * (1) 1/2"	AT&T
7		3	Ericsson 4449 B5/B12 RRU			
8		6	Powerwave LGP21401 TMA			
9		6	Powerwave LGP21903 Diplexer			
10		6	Cci DMP65R-BU8DA - Panel			
11		3	Ericsson RRUS 4478 B14 RRU			
12		3	Ericsson RRUS 8843 B2 B66A RRU			
13		1	Raycap DC6-48-60-18-8F SP			
14		1	Raycap DC6-48-60-18-8C SP			
15		1	Raycap DC6-48-60-0-8C-EV SP			
16	175.0	3	RFS APX16DWV-16DWVS-E-A20 - Panel	Modified Low Profile Platform w/ Add Support Rail with End Connection Kit (MS-HRECP-35)	(2) 1 5/8" Hybrid (1) 1-1/4" Hybrid	T-Mobile
17		3	RFS APXVAALL24_43-U-NA20 - Panel			
18		3	Ericsson 4449 B71 + B85			
19		6	Ericsson RRUS11 B2			
20		3	Ericsson RRUS11 B4			
21		3	Commscope LNX-6515DS-A1M - Panel			
-	165.0	15	Commscope NHH-65B-R2B - Panel	Platform w/ Handrail (SitePro1 RMQLP-4096-HK) + (3) Commscope BSAMNT-SBS-1-2]	(12) 1 5/8"	Verizon
-		6	Samsung MT6407-77A - Panel			
-		12	Samsung B2/B66A RRH-BR049 (RFV01U-D1A) - RRU			
-		12	Samsung B5/B13 RRH-BR04C (RFV01U-D2A) - RRU			
-		9	Raycap RVZDC-6627-PF-48 - OVP			

\* (1) 2" Conduit housing (2) 3/4" DC Power & (1) 1/2" Fiber cables.

(1) 2" Conduit housing (1) 1/2" Fiber cable.

(2) 2" Conduits housing (4) 3/4" DC Power cables.

### **Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines**

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
22	165.0	15	Commscope NHH-65B-R2B- Panel	Platform w/ Handrail (SitePro1 RMQLP-4096-HK) + (3) Commscope BSAMNT-SBS-1-2]	(10) 1 5/8" Coax (2) 1 5/8" Hybrid	Verizon
23		6	Samsung MT6413-77A- Panel			
24		12	Samsung B2/B66A RRH ORAN (RF4439d-25A)- RRH			
25		12	Samsung RF4461d-13A- RRH			
26		9	Raycap RVZDC-6627-PF-48- OVP			

See the attached coax layout for the line placement considered in the analysis.

## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>96.2%</b>	<b>59.0%</b>	<b>94.7%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	6332.0	41.8	74.3

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

## **Service Load Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.9638 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

## **Standard Conditions**

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

# Usage Diagram - Max Ratio 96.19% at 140.0ft

**Structure:** CT01916-S-SBA  
**Site Name:** North Salem  
**Height:** 195.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-H  
**Exposure:** B  
**Gh:** 1.1

11/8/2023

Page: 1

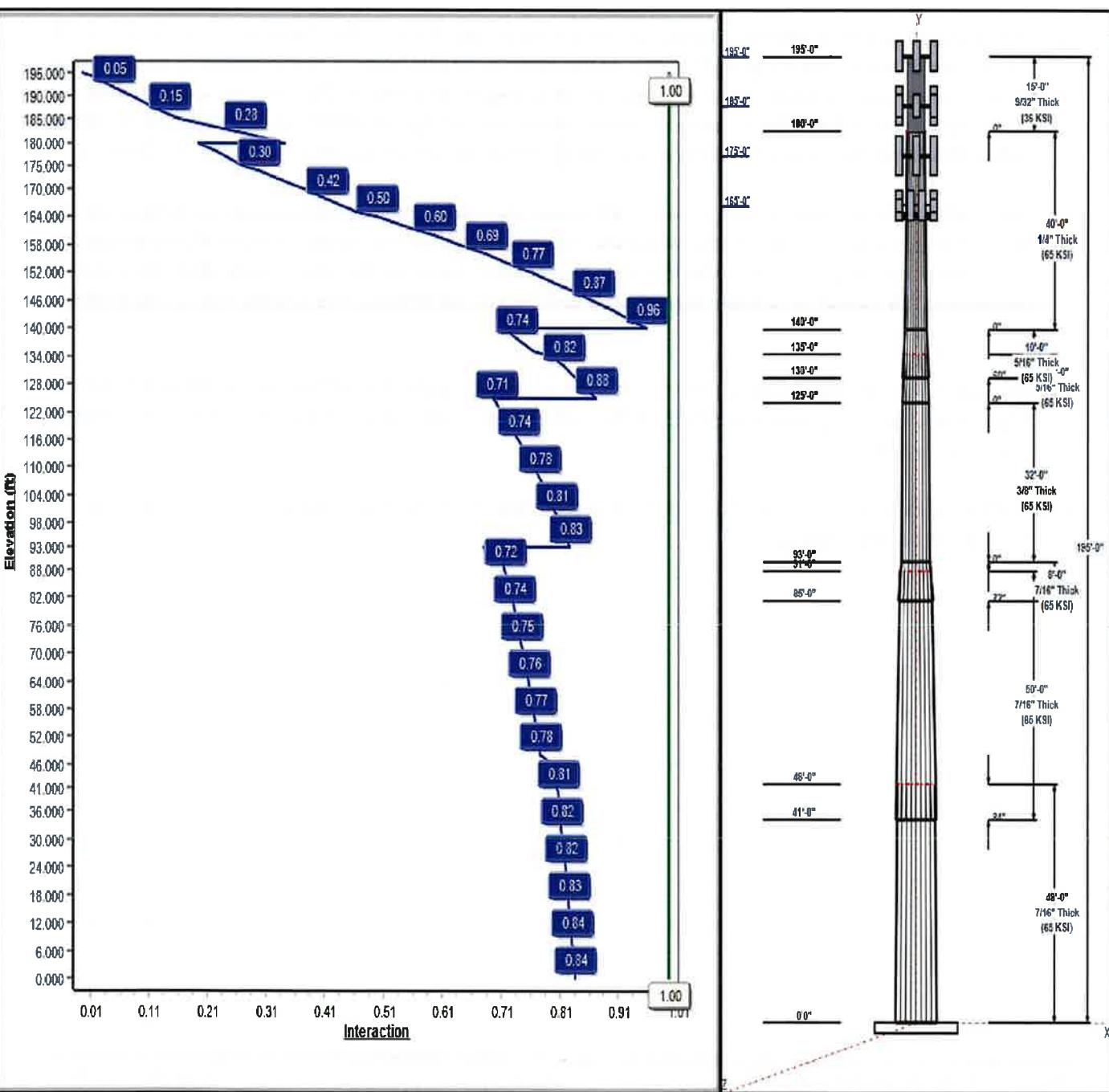


Dead Load Factor: 1.20  
Wind Load Factor: 1.00

**Load Case : 1.2D + 1.0W 123 mph Wind**



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# Structure: CT01916-S-SBA

**Type:** Custom  
**Site Name:** North Salem  
**Height:** 195.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.23819

11/8/2023

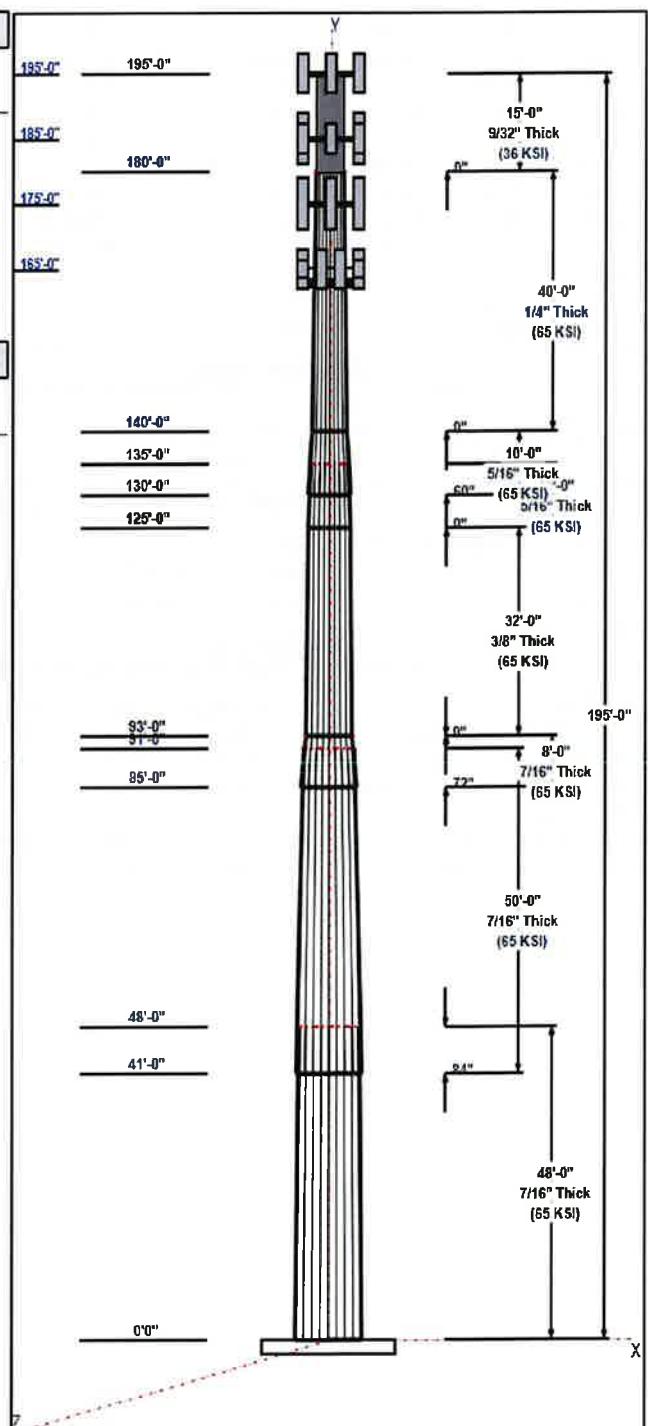


Page: 2

Shaft Properties							
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	53.07	64.50	0.438		0.23819	65
2	50.00	43.70	55.61	0.438	Slip	0.23819	65
3	8.00	44.10	46.00	0.438	Slip	0.23819	65
4	32.00	36.48	44.10	0.375	Butt	0.23819	65
5	10.00	34.09	36.48	0.313	Butt	0.23819	65
6	10.00	33.53	35.91	0.313	Slip	0.23819	65
7	40.00	24.00	33.53	0.250	Butt	0.23819	65
8	15.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
195.00	195.00	3	1900MHz RRH (65MHz)	Sprint Nextel
195.00	195.00	6	800 MHz RRH	Sprint Nextel
195.00	195.00	3	TD-RRH8x20-25	Sprint Nextel
195.00	195.00	1	Low Profile	Sprint Nextel
195.00	195.00	1	PRK-1245 (kicker kit)	Sprint Nextel
195.00	195.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
195.00	195.00	1	HRK12 (Handrail Kit)	Sprint Nextel
195.00	195.00	3	APXVTM14-C-120	Sprint Nextel
195.00	195.00	3	NNVV-65B-R4	Sprint Nextel
185.00	185.00	3	Powerwave 7770	AT&T
185.00	185.00	3	Ericsson 4449 B5/B12	AT&T
185.00	185.00	6	Powerwave LGP21401	AT&T
185.00	185.00	6	Powerwave LGP21903	AT&T
185.00	185.00	1	Sector Frames	AT&T
185.00	185.00	6	Cci DMP65R-BU8DA	AT&T
185.00	185.00	1	(3) SitePro 1 PRK-SFS-L &	AT&T
185.00	185.00	1	(3) SitePro 1 SFS-L with	AT&T
185.00	185.00	1	(3) SitePro 1 HRK14-3HD	AT&T
185.00	185.00	3	Ericsson RRUS 4478 B14	AT&T
185.00	185.00	3	Ericsson RRUS 8843 B2	AT&T
185.00	185.00	1	Raycap DC6-48-60-18-8F	AT&T
185.00	185.00	1	Raycap DC6-48-60-18-8C	AT&T
185.00	185.00	1	Raycap	AT&T
175.00	175.00	3	RFS	T-Mobile
175.00	175.00	3	RFS	T-Mobile
175.00	175.00	1	Platform w/ Hand Rail	T-Mobile
175.00	175.00	6	Ericsson RRUS11 B2	T-Mobile
175.00	175.00	3	Ericsson RRUS11 B4	T-Mobile
175.00	175.00	3	Ericsson 4449 B71 + B85	T-Mobile
175.00	175.00	3	Commscope	T-Mobile
165.00	165.00	15	Commscope	Verizon
165.00	165.00	6	Samsung MT6407-77A	Verizon
165.00	165.00	12	Samsung B2/B66A RRH	Verizon
165.00	165.00	12	Samsung RF4461d-13A	Verizon
165.00	165.00	9	Raycap	Verizon
165.00	165.00	1	RMQLP-4096-HK Plat. +	Verizon
165.00	165.00	3	BSAMNT-SBS-1-2	Verizon



## Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	195.00	Inside	1-1/4" Fiber	Sprint

## Structure: CT01916-S-SBA

**Type:** Custom  
**Site Name:** North Salem  
**Height:** 195.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.00000

11/8/2023

Page: 3



0.00	185.00	Inside	1 1/4" Coax	AT&T
0.00	185.00	Inside	1/2" Coax	AT&T
0.00	185.00	Inside	1/2" Fiber	AT&T
0.00	185.00	Inside	2" Conduit	AT&T
0.00	185.00	Inside	3/4" DC	AT&T
177.75	182.25	Outside	(3) Bypass Stiffeners	
0.00	175.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	175.00	Inside	1.9" Fiber	T-Mobile
0.00	165.00	Inside	1 5/8" Coax	Verizon
0.00	165.00	Inside	1 5/8" Hybrid	Verizon
0.00	143.00	Outside	(4) C6x10.5	
0.00	55.00	Outside	(4) C5x9	

### Anchor Bolts

Qty	Specifications	Grade	
		(ksi)	Arrangement
29	2.00" A687	105.0	Radial

### Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	64.5	50.0	Round

### Reactions

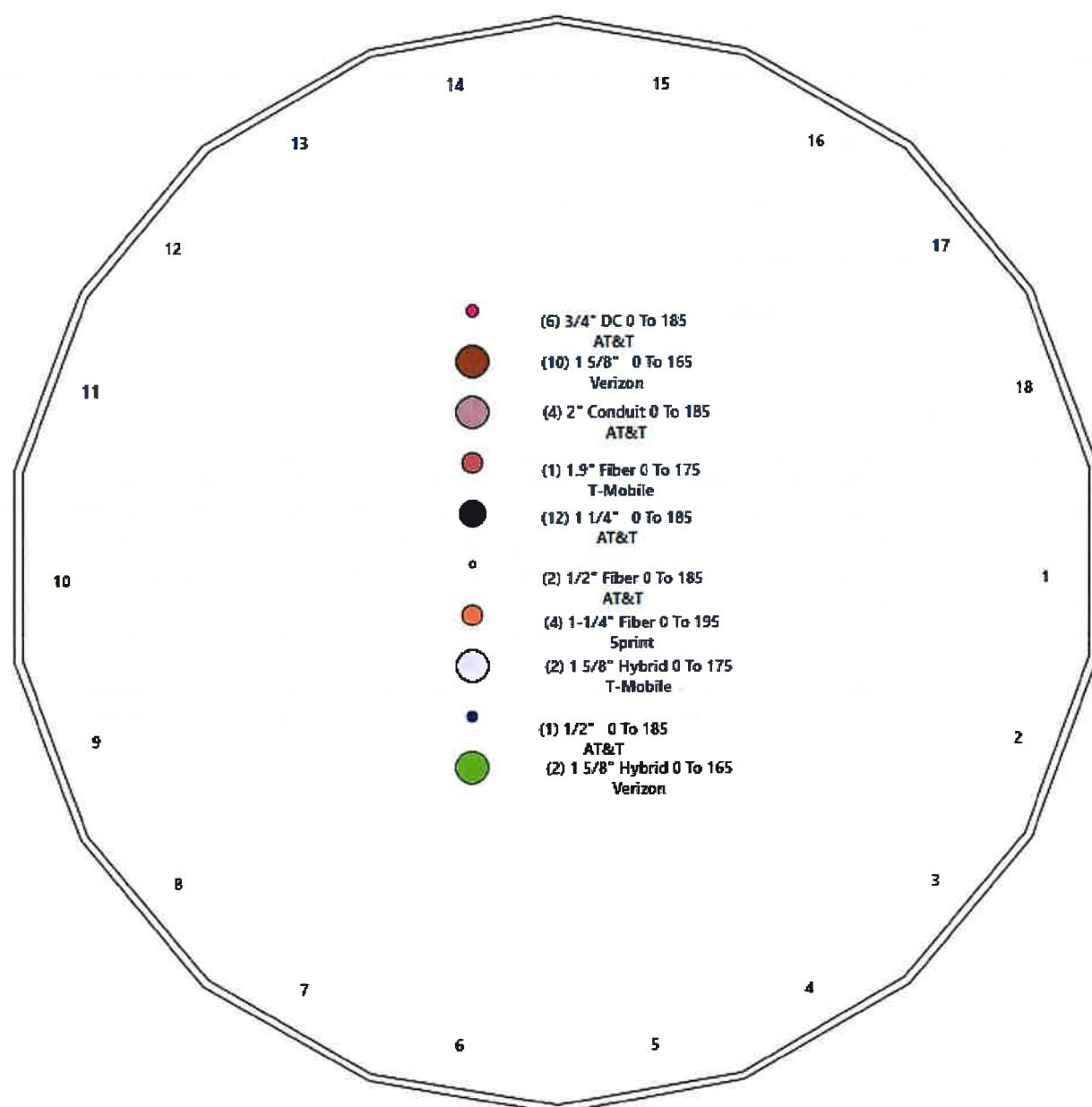
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 123 mph Wind	6332.0	41.8	74.3
0.9D + 1.0W 123 mph Wind	6206.4	41.8	55.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1654.0	11.1	101.6
1.2D + 1.0Ev + 1.0Eh	151.5	0.8	77.1
0.9D + 1.0Ev + 1.0Eh	148.5	0.8	58.4
1.0D + 1.0W 60 mph Wind	1342.2	9.0	61.9

## Structure: CT01916-S-SBA - Coax Line Placement

Type: Monopole  
Site Name: North Salem  
Height: 195.00 (ft)

11/8/2023

Page: 4



## Shaft Properties

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 5



Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.4375	65		0.00	13,233
2	18	50.000	0.4375	65	Slip	84.00	11,627
3	18	8.000	0.4375	65	Slip	72.00	1,686
4	18	32.000	0.3750	65	Flange	0.00	5,173
5	18	10.000	0.3125	65	Flange	0.00	1,180
6	18	10.000	0.3125	65	Slip	60.00	1,161
7	18	40.000	0.2500	65	Flange	0.00	3,080
8	R	15.000	0.2810	36	Flange	0.00	1,069
<b>Total Shaft Weight:</b>							<b>38,209</b>

Bottom							Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	I <sub>x</sub> (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	I <sub>x</sub> (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper
1	64.50	0.00	88.96	46124.76	24.59	147.43	53.07	48.00	73.08	25574.1	19.98	121.3	0.238194
2	55.61	41.00	76.61	29462.36	21.00	127.11	43.70	91.00	60.07	14204.8	16.20	99.88	0.238194
3	46.00	85.00	63.27	16597.56	17.13	105.15	44.10	93.00	60.63	14601.1	16.36	100.8	0.238194
4	44.10	93.00	52.04	12569.07	19.32	117.59	36.48	125.00	42.97	7074.93	15.74	97.27	0.238194
5	36.48	125.0	35.87	5926.45	19.17	116.72	34.09	135.00	33.51	4830.83	17.83	109.1	0.238194
6	35.91	130.0	35.31	5652.53	18.85	114.91	33.53	140.00	32.94	4592.07	17.51	107.2	0.238194
7	33.53	140.0	26.40	3694.43	22.24	134.11	24.00	180.00	18.84	1343.00	15.52	96.00	0.238194
8	24.00	180.0	20.94	1473.63	0.00	85.41	24.00	195.00	20.94	1473.63	0.00	85.41	0.000000

## Load Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 6



### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	195.00	1900MHz RRH (65MHz)	3	60.00	2.77	0.50	117.10	3.638	0.50	0.00	0.00
2	195.00	800 MHz RRH	6	53.00	2.49	0.50	103.62	3.273	0.50	0.00	0.00
3	195.00	TD-RRH8x20-25	3	70.00	4.05	0.50	140.71	4.592	0.50	0.00	0.00
4	195.00	Low Profile Platform-Round	1	1800.00	26.00	1.00	2874.97	40.285	1.00	0.00	0.00
5	195.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	687.03	16.308	1.00	0.00	0.00
6	195.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	449.77	11.502	1.00	0.00	0.00
7	195.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	474.29	11.265	1.00	0.00	0.00
8	195.00	APXVTM14-C-I20	3	56.20	6.34	0.78	159.07	7.086	0.81	0.00	0.00
9	195.00	NNVV-65B-R4	3	77.40	12.27	0.73	272.83	13.267	0.76	0.00	0.00
10	185.00	Powerwave 7770	3	35.00	5.50	0.73	120.43	6.210	0.73	0.00	0.00
11	185.00	Ericsson 4449 B5/B12 RRU	3	71.00	1.97	0.50	107.34	2.343	0.50	0.00	0.00
12	185.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.50	31.12	1.859	0.50	0.00	0.00
13	185.00	Powerwave LGP21903 Diplexer	6	5.50	0.27	0.50	11.24	0.541	0.50	0.00	0.00
14	185.00	Sector Frames	1	1500.00	22.00	1.00	2391.10	34.024	1.00	0.00	0.00
15	185.00	Cci DMP65R-BU8DA	6	96.00	17.87	0.73	341.43	19.094	0.73	0.00	0.00
16	185.00	(3) SitePro 1 PRK-SFS-L & (6) Pipe	1	230.00	6.70	1.00	448.62	11.476	1.00	0.00	0.00
17	185.00	(3) SitePro 1 SFS-L with handrail kit	1	514.00	10.00	1.00	929.28	16.654	1.00	0.00	0.00
18	185.00	(3) SitePro 1 HRK14-3HD & (3)	1	406.61	9.75	1.00	735.12	16.237	1.00	0.00	0.00
19	185.00	Ericsson RRUS 4478 B14 RRU	3	59.90	1.84	0.50	91.90	2.199	0.50	0.00	0.00
20	185.00	Ericsson RRUS 8843 B2 B66A	3	72.00	1.64	0.50	103.89	1.978	0.50	0.00	0.00
21	185.00	Raycap DC6-48-60-18-8F	1	31.80	0.92	0.50	73.89	1.218	0.50	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	20.00	1.26	0.50	55.92	1.709	0.50	0.00	0.00
23	185.00	Raycap DC6-48-60-0-8C-EV	1	16.00	4.78	0.50	100.24	5.382	0.50	0.00	0.00
24	175.00	RFS APX16DWV-16DWVS-E-A20	3	40.70	6.46	0.62	126.71	7.198	0.62	0.00	0.00
25	175.00	RFS APXVAALL24_43-U-NA20	3	122.80	20.24	0.70	394.22	21.511	0.70	0.00	0.00
26	175.00	Platform w/ Hand Rail	1	1600.00	32.00	1.00	3021.64	50.905	1.00	0.00	0.00
27	175.00	Ericsson RRUS11 B2	6	50.60	2.52	0.50	104.61	3.229	0.50	0.00	0.00
28	175.00	Ericsson RRUS11 B4	3	50.60	2.52	0.50	104.61	3.229	0.50	0.00	0.00
29	175.00	Ericsson 4449 B71 + B85	3	71.00	1.97	0.67	107.14	2.341	0.67	0.00	0.00
30	175.00	Commscope LNX-6515DS-A1M	3	49.80	11.47	0.80	205.21	13.682	0.80	0.00	0.00
31	165.00	Commscope NHH-65B-R2B	15	43.65	8.08	0.83	170.93	8.929	0.83	0.00	0.00
32	165.00	Samsung MT6407-77A	6	79.40	3.86	0.70	143.02	4.407	0.70	0.00	0.00
33	165.00	Samsung B2/B66A RRH ORAN	12	74.70	1.87	0.50	122.24	2.244	0.50	0.00	0.00
34	165.00	Samsung RF4461d-13A	12	79.10	1.87	0.50	127.21	2.244	0.50	0.00	0.00
35	165.00	Raycap RVZDC-6627-PF-48	9	32.00	4.06	0.50	108.68	4.613	0.50	0.00	0.00
36	165.00	RMQLP-4096-HK Plat. + HR/Kicker	1	2810.05	51.70	1.00	4790.49	77.449	1.00	0.00	0.00
37	165.00	BSAMNT-SBS-1-2	3	25.60	0.00	0.75	37.63	0.000	0.75	0.00	0.00

**Totals:** 139    17,051.04    34,244.42

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	195.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	185.00	(12) 1 1/4" Coax	0.00	Inside
0.00	185.00	(1) 1/2" Coax	0.00	Inside
0.00	185.00	(2) 1/2" Fiber	0.00	Inside

## Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice		Ice		Hor. Ecc. (ft)	Vert Ecc (ft)		
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	185.00	(4) 2" Conduit		0.00		Inside					
0.00	185.00	(6) 3/4" DC		0.00		Inside					
177.7	182.25	(3) (3) Bypass Stiffeners		12.60		Outside					
0.00	175.00	(2) 1 5/8" Hybrid		0.00		Inside					
0.00	175.00	(1) 1.9" Fiber		0.00		Inside					
0.00	165.00	(10) 1 5/8" Coax		0.00		Inside					
0.00	165.00	(2) 1 5/8" Hybrid		0.00		Inside					
0.00	143.00	(4) (4) C6x10.5		4.00		Outside					
0.00	55.00	(4) (4) C5x9		0.00		Outside					

## Shaft Section Properties

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023
<b>Site Name:</b> North Salem	<b>Exposure:</b> B	
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		Page: 8



Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
2.00		0.4375	64.024	88.294	45103.4	24.39	146.34	72.7	1387.	603.1
4.00		0.4375	63.547	87.633	44097.2	24.20	145.25	72.9	1366.	598.6
6.00		0.4375	63.071	86.971	43106.1	24.01	144.16	73.2	1346.	594.1
8.00		0.4375	62.594	86.310	42130.0	23.82	143.07	73.4	1325.	589.6
10.00		0.4375	62.118	85.648	41168.7	23.63	141.98	73.6	1305.	585.1
12.00		0.4375	61.642	84.987	40222.2	23.43	140.90	73.8	1285.	580.6
14.00		0.4375	61.165	84.325	39290.2	23.24	139.81	74.1	1265.	576.1
16.00		0.4375	60.689	83.664	38372.8	23.05	138.72	74.3	1245.	571.6
18.00		0.4375	60.213	83.002	37469.8	22.86	137.63	74.5	1225.	567.1
20.00		0.4375	59.736	82.341	36581.0	22.67	136.54	74.7	1206.	562.6
22.00		0.4375	59.260	81.679	35706.5	22.47	135.45	75.0	1186.	558.1
24.00		0.4375	58.783	81.018	34845.9	22.28	134.36	75.2	1167.	553.6
26.00		0.4375	58.307	80.356	33999.3	22.09	133.27	75.4	1148.	549.1
28.00		0.4375	57.831	79.695	33166.6	21.90	132.18	75.6	1129.	544.6
30.00		0.4375	57.354	79.033	32347.5	21.71	131.10	75.9	1110.	540.1
32.00		0.4375	56.878	78.372	31542.0	21.51	130.01	76.1	1092.	535.6
34.00		0.4375	56.401	77.710	30750.1	21.32	128.92	76.3	1073.	531.1
36.00		0.4375	55.925	77.049	29971.5	21.13	127.83	76.5	1055.	526.6
38.00		0.4375	55.449	76.387	29206.1	20.94	126.74	76.8	1037.	522.1
40.00		0.4375	54.972	75.726	28453.9	20.75	125.65	77.0	1019.	517.6
41.00	Bot - Section 2	0.4375	54.734	75.395	28082.7	20.65	125.11	77.1	1010.	257.1
42.00		0.4375	54.496	75.064	27714.7	20.55	124.56	77.2	1001.	516.1
44.00		0.4375	54.019	74.403	26988.4	20.36	123.47	77.5	984.0	1025.5
46.00		0.4375	53.543	73.741	26275.0	20.17	122.38	77.7	966.5	1016.5
48.00	Top - Section 1	0.4375	53.942	74.295	26871.1	20.33	123.30	0.0	0.0	1007.5
50.00		0.4375	53.465	73.633	26159.7	20.14	122.21	77.7	963.7	503.4
52.00		0.4375	52.989	72.972	25461.0	19.95	121.12	77.9	946.4	498.9
54.00		0.4375	52.513	72.310	24774.8	19.75	120.03	78.2	929.2	494.4
56.00		0.4375	52.036	71.649	24101.1	19.56	118.94	78.4	912.2	489.9
58.00		0.4375	51.560	70.987	23439.7	19.37	117.85	78.6	895.4	485.4
60.00		0.4375	51.083	70.326	22790.5	19.18	116.76	78.8	878.7	480.9
62.00		0.4375	50.607	69.664	22153.4	18.99	115.67	79.1	862.2	476.4
64.00		0.4375	50.131	69.003	21528.3	18.79	114.58	79.3	845.8	471.9
66.00		0.4375	49.654	68.341	20915.1	18.60	113.50	79.5	829.6	467.3
68.00		0.4375	49.178	67.680	20313.6	18.41	112.41	79.7	813.6	462.8
70.00		0.4375	48.701	67.018	19723.7	18.22	111.32	80.0	797.7	458.3
72.00		0.4375	48.225	66.357	19145.4	18.03	110.23	80.2	781.9	453.8
74.00		0.4375	47.749	65.695	18578.6	17.83	109.14	80.4	766.4	449.3
76.00		0.4375	47.272	65.034	18023.0	17.64	108.05	80.7	750.9	444.8
78.00		0.4375	46.796	64.372	17478.6	17.45	106.96	80.9	735.7	440.3
80.00		0.4375	46.319	63.711	16945.2	17.26	105.87	81.1	720.6	435.8
82.00		0.4375	45.843	63.049	16422.9	17.07	104.78	81.3	705.6	431.3
84.00		0.4375	45.367	62.388	15911.4	16.87	103.70	81.6	690.8	426.8
85.00	Bot - Section 3	0.4375	45.128	62.057	15659.6	16.78	103.15	81.7	683.5	211.7
86.00		0.4375	44.890	61.726	15410.6	16.68	102.61	81.8	676.2	425.3
88.00		0.4375	44.414	61.065	14920.4	16.49	101.52	82.0	661.7	843.9
90.00		0.4375	43.938	60.403	14440.8	16.30	100.43	82.2	647.3	834.9
91.00	Top - Section 2	0.4375	44.574	61.287	15084.3	16.55	101.88	0.0	0.0	414.1
92.00		0.4375	44.336	60.957	14841.4	16.46	101.34	82.0	659.3	208.0

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
93.00	Top - Section 3	0.4375	44.098	60.626	14601.1	16.36	100.80	82.2	652.2	206.9
93.00	Bot - Section 4	0.3750	44.098	52.039	12569.1	19.09	117.59	78.7	561.4	
94.00		0.3750	43.860	51.756	12364.8	19.21	116.96	78.8	555.3	176.6
96.00		0.3750	43.383	51.189	11962.8	18.99	115.69	79.1	543.1	350.3
98.00		0.3750	42.907	50.622	11569.7	18.76	114.42	79.3	531.1	346.4
100.00		0.3750	42.431	50.055	11185.3	18.54	113.15	79.6	519.2	342.6
102.00		0.3750	41.954	49.488	10809.4	18.32	111.88	79.9	507.5	338.7
104.00		0.3750	41.478	48.921	10442.1	18.09	110.61	80.1	495.9	334.9
106.00		0.3750	41.001	48.354	10083.2	17.87	109.34	80.4	484.4	331.0
108.00		0.3750	40.525	47.787	9732.7	17.64	108.07	80.6	473.0	327.1
110.00		0.3750	40.049	47.220	9390.3	17.42	106.80	80.9	461.8	323.3
112.00		0.3750	39.572	46.653	9056.1	17.20	105.53	81.2	450.7	319.4
114.00		0.3750	39.096	46.086	8729.9	16.97	104.26	81.4	439.8	315.6
116.00		0.3750	38.619	45.519	8411.6	16.75	102.99	81.7	429.0	311.7
118.00		0.3750	38.143	44.952	8101.2	16.52	101.71	82.0	418.3	307.9
120.00		0.3750	37.667	44.385	7798.5	16.30	100.44	82.2	407.8	304.0
122.00		0.3750	37.190	43.818	7503.4	16.08	99.17	82.5	397.4	300.1
124.00		0.3750	36.714	43.251	7215.9	15.85	97.90	82.5	387.1	296.3
125.00	Top - Section 4	0.3750	36.476	42.967	7074.9	15.74	97.27	82.5	382.0	146.7
125.00	Bot - Section 5	0.3125	36.476	35.868	5926.5	18.89	116.72	78.9	320.0	
126.00		0.3125	36.237	35.632	5810.1	19.04	115.96	79.0	315.8	121.6
128.00		0.3125	35.761	35.159	5582.0	18.77	114.44	79.3	307.4	240.9
130.00	Bot - Section 6	0.3125	35.285	34.687	5360.0	18.50	112.91	79.6	299.2	237.7
132.00		0.3125	34.808	34.214	5143.9	18.23	111.39	80.0	291.1	473.1
134.00		0.3125	34.332	33.742	4933.7	17.96	109.86	80.3	283.0	466.7
135.00	Top - Section 5	0.3125	34.719	34.125	5104.0	18.18	111.10	0.0	0.0	230.9
136.00		0.3125	34.481	33.889	4998.7	18.04	110.34	80.2	285.5	115.7
138.00		0.3125	34.004	33.417	4792.5	17.78	108.81	80.5	277.6	229.0
140.00	Top - Section 6	0.3125	33.528	32.944	4592.1	17.51	107.29	80.8	269.8	225.8
140.00	Bot - Section 7	0.2500	33.528	26.405	3694.4	21.88	134.11	75.2	217.0	
142.00		0.2500	33.051	26.027	3538.0	21.90	132.21	75.6	210.8	178.4
144.00		0.2500	32.575	25.649	3386.1	21.56	130.30	76.0	204.7	175.8
146.00		0.2500	32.099	25.271	3238.6	21.23	128.39	76.4	198.7	173.3
148.00		0.2500	31.622	24.893	3095.4	20.89	126.49	76.8	192.8	170.7
150.00		0.2500	31.146	24.515	2956.5	20.56	124.58	77.2	187.0	168.1
152.00		0.2500	30.669	24.137	2821.9	20.22	122.68	77.6	181.2	165.6
154.00		0.2500	30.193	23.759	2691.4	19.88	120.77	78.0	175.6	163.0
156.00		0.2500	29.717	23.381	2564.9	19.55	118.87	78.4	170.0	160.4
158.00		0.2500	29.240	23.003	2442.5	19.21	116.96	78.8	164.5	157.8
160.00		0.2500	28.764	22.625	2324.1	18.88	115.06	79.2	159.1	155.3
162.00		0.2500	28.288	22.247	2209.5	18.54	113.15	79.6	153.8	152.7
164.00		0.2500	27.811	21.869	2098.8	18.20	111.24	80.0	148.6	150.1
165.00		0.2500	27.573	21.680	2044.9	18.04	110.29	80.2	146.1	74.1
166.00		0.2500	27.335	21.491	1991.9	17.87	109.34	80.4	143.5	73.5
168.00		0.2500	26.858	21.113	1888.6	17.53	107.43	80.8	138.5	145.0
170.00		0.2500	26.382	20.735	1789.0	17.20	105.53	81.2	133.6	142.4
172.00		0.2500	25.906	20.357	1692.9	16.86	103.62	81.6	128.7	139.8
174.00		0.2500	25.429	19.979	1600.3	16.52	101.72	82.0	124.0	137.3
175.00		0.2500	25.191	19.790	1555.3	16.36	100.76	82.2	121.6	67.7
176.00		0.2500	24.953	19.601	1511.2	16.19	99.81	82.4	119.3	67.0
178.00		0.2500	24.476	19.223	1425.4	15.85	97.91	82.5	114.7	132.1
180.00	Top - Section 7	0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	129.5
180.00	Bot - Section 8	0.2810	24.000	20.939	1473.6	13.80	85.41	36.0	122.8	
182.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5
184.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5
185.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	71.3
186.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	71.3
188.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5
190.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5
192.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in <sup>2</sup> )	I <sub>x</sub> (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F <sub>py</sub> (ksi)	S (in <sup>3</sup> )	Weight (lb)
194.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	142.5
195.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	71.3
										38209.1

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 11

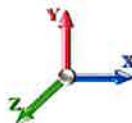


**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00

**Iterations** 32



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	25.445	27.99	558.28	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	25.445	27.99	554.15	0.630	0.000	2.00	10.876	6.85	191.8	0.0	723.8
4.00		1.00	0.70	25.445	27.99	550.03	0.630	0.000	2.00	10.795	6.80	190.4	0.0	718.4
6.00		1.00	0.70	25.445	27.99	545.91	0.630	0.000	2.00	10.714	6.75	188.9	0.0	713.0
8.00		1.00	0.70	25.445	27.99	541.78	0.630	0.000	2.00	10.634	6.70	187.5	0.0	707.6
10.00		1.00	0.70	25.445	27.99	537.66	0.630	0.000	2.00	10.553	6.65	186.1	0.0	702.2
12.00		1.00	0.70	25.445	27.99	533.54	0.630	0.000	2.00	10.472	6.60	184.7	0.0	696.8
14.00		1.00	0.70	25.445	27.99	529.41	0.630	0.000	2.00	10.392	6.55	183.2	0.0	691.4
16.00		1.00	0.70	25.445	27.99	525.29	0.630	0.000	2.00	10.311	6.50	181.8	0.0	686.0
18.00		1.00	0.70	25.445	27.99	521.17	0.630	0.000	2.00	10.231	6.45	180.4	0.0	680.6
20.00		1.00	0.70	25.445	27.99	517.04	0.630	0.000	2.00	10.150	6.39	179.0	0.0	675.1
22.00		1.00	0.70	25.445	27.99	512.92	0.630	0.000	2.00	10.069	6.34	177.6	0.0	669.7
24.00		1.00	0.70	25.445	27.99	508.80	0.630	0.000	2.00	9.989	6.29	176.1	0.0	664.3
26.00		1.00	0.70	25.445	27.99	504.67	0.630	0.000	2.00	9.908	6.24	174.7	0.0	658.9
28.00		1.00	0.70	25.445	27.99	500.55	0.630	0.000	2.00	9.827	6.19	173.3	0.0	653.5
30.00		1.00	0.70	25.467	28.01	496.64	0.630	0.000	2.00	9.747	6.14	172.0	0.0	648.1
32.00		1.00	0.71	25.941	28.53	497.07	0.630	0.000	2.00	9.666	6.09	173.8	0.0	642.7
34.00		1.00	0.73	26.394	29.03	497.20	0.630	0.000	2.00	9.586	6.04	175.3	0.0	637.3
36.00		1.00	0.74	26.829	29.51	497.04	0.630	0.000	2.00	9.505	5.99	176.7	0.0	631.9
38.00		1.00	0.75	27.246	29.97	496.63	0.630	0.000	2.00	9.424	5.94	177.9	0.0	626.5
40.00		1.00	0.76	27.649	30.41	495.98	0.630	0.000	2.00	9.344	5.89	179.0	0.0	621.1
41.00 Bot - Section 2		1.00	0.77	27.844	30.63	495.58	0.630	0.000	1.00	4.642	2.92	89.6	0.0	308.5
42.00		1.00	0.77	28.037	30.84	495.12	0.630	0.000	1.00	4.695	2.96	91.2	0.0	619.3
44.00		1.00	0.78	28.412	31.25	494.07	0.630	0.000	2.00	9.331	5.88	183.7	0.0	1230.6
46.00		1.00	0.79	28.775	31.65	492.83	0.630	0.000	2.00	9.250	5.83	184.5	0.0	1219.8
48.00 Top - Section 1		1.00	0.80	29.127	32.04	491.42	0.630	0.000	2.00	9.169	5.78	185.1	0.0	1209.0
50.00		1.00	0.81	29.469	32.42	498.01	0.630	0.000	2.00	9.089	5.73	185.6	0.0	604.0
52.00		1.00	0.82	29.801	32.78	496.35	0.630	0.000	2.00	9.008	5.68	186.0	0.0	598.6
54.00		1.00	0.83	30.124	33.14	494.54	0.630	0.000	2.00	8.927	5.62	186.4	0.0	593.2
56.00		1.00	0.84	30.439	33.48	492.61	0.630	0.000	2.00	8.847	5.57	186.6	0.0	587.8
58.00		1.00	0.85	30.745	33.82	490.55	0.630	0.000	2.00	8.766	5.52	186.8	0.0	582.4
60.00		1.00	0.85	31.045	34.15	488.38	0.630	0.000	2.00	8.686	5.47	186.9	0.0	577.0
62.00		1.00	0.86	31.337	34.47	486.10	0.630	0.000	2.00	8.605	5.42	186.9	0.0	571.6
64.00		1.00	0.87	31.622	34.78	483.71	0.630	0.000	2.00	8.524	5.37	186.8	0.0	566.2
66.00		1.00	0.88	31.902	35.09	481.22	0.630	0.000	2.00	8.444	5.32	186.7	0.0	560.8
68.00		1.00	0.89	32.175	35.39	478.64	0.630	0.000	2.00	8.363	5.27	186.5	0.0	555.4
70.00		1.00	0.89	32.442	35.69	475.97	0.630	0.000	2.00	8.282	5.22	186.2	0.0	550.0
72.00		1.00	0.90	32.705	35.97	473.22	0.630	0.000	2.00	8.202	5.17	185.9	0.0	544.6
74.00		1.00	0.91	32.962	36.26	470.38	0.630	0.000	2.00	8.121	5.12	185.5	0.0	539.2
76.00		1.00	0.91	33.214	36.54	467.47	0.630	0.000	2.00	8.041	5.07	185.1	0.0	533.8
78.00		1.00	0.92	33.461	36.81	464.48	0.630	0.000	2.00	7.960	5.01	184.6	0.0	528.4
80.00		1.00	0.93	33.704	37.07	461.41	0.630	0.000	2.00	7.879	4.96	184.0	0.0	523.0
82.00		1.00	0.93	33.943	37.34	458.28	0.630	0.000	2.00	7.799	4.91	183.4	0.0	517.6
84.00		1.00	0.94	34.177	37.59	455.08	0.630	0.000	2.00	7.718	4.86	182.8	0.0	512.2
85.00 Bot - Section 3		1.00	0.94	34.293	37.72	453.46	0.630	0.000	1.00	3.829	2.41	91.0	0.0	254.1
86.00		1.00	0.95	34.408	37.85	451.82	0.630	0.000	1.00	3.883	2.45	92.6	0.0	510.4
88.00		1.00	0.95	34.634	38.10	448.50	0.630	0.000	2.00	7.705	4.85	184.9	0.0	1012.7

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 12



90.00		1.00	0.96	34.858	38.34	445.11	0.630	0.000	2.00	7.624	4.80	184.2	0.0	1001.9
91.00	Top - Section 2	1.00	0.96	34.968	38.46	443.40	0.630	0.000	1.00	3.782	2.38	91.6	0.0	496.9
92.00		1.00	0.96	35.077	38.58	450.56	0.630	0.000	1.00	3.762	2.37	91.4	0.0	249.6
93.00	Top - Section 3	1.00	0.97	35.186	38.70	448.83	0.630	0.000	1.00	3.742	2.36	91.2	0.0	248.2
94.00		1.00	0.97	35.293	38.82	447.09	0.630	0.000	1.00	3.721	2.34	91.0	0.0	211.9
96.00		1.00	0.98	35.506	39.06	443.57	0.630	0.000	2.00	7.382	4.65	181.7	0.0	420.4
98.00		1.00	0.98	35.716	39.29	439.99	0.630	0.000	2.00	7.302	4.60	180.7	0.0	415.7
100.00		1.00	0.99	35.923	39.52	436.36	0.630	0.000	2.00	7.221	4.55	179.8	0.0	411.1
102.00		1.00	0.99	36.127	39.74	432.69	0.630	0.000	2.00	7.141	4.50	178.8	0.0	406.5
104.00		1.00	1.00	36.328	39.96	428.96	0.630	0.000	2.00	7.060	4.45	177.7	0.0	401.8
106.00		1.00	1.00	36.526	40.18	425.19	0.630	0.000	2.00	6.979	4.40	176.7	0.0	397.2
108.00		1.00	1.01	36.721	40.39	421.37	0.630	0.000	2.00	6.899	4.35	175.6	0.0	392.6
110.00		1.00	1.02	36.914	40.61	417.51	0.630	0.000	2.00	6.818	4.30	174.4	0.0	387.9
112.00		1.00	1.02	37.105	40.82	413.61	0.630	0.000	2.00	6.737	4.24	173.2	0.0	383.3
114.00		1.00	1.03	37.293	41.02	409.67	0.630	0.000	2.00	6.657	4.19	172.0	0.0	378.7
116.00		1.00	1.03	37.479	41.23	405.68	0.630	0.000	2.00	6.576	4.14	170.8	0.0	374.1
118.00		1.00	1.04	37.662	41.43	401.66	0.630	0.000	2.00	6.496	4.09	169.5	0.0	369.4
120.00		1.00	1.04	37.844	41.63	397.59	0.630	0.000	2.00	6.415	4.04	168.2	0.0	364.8
122.00		1.00	1.05	38.023	41.83	393.49	0.630	0.000	2.00	6.334	3.99	166.9	0.0	360.2
124.00		1.00	1.05	38.200	42.02	389.36	0.630	0.000	2.00	6.254	3.94	165.6	0.0	355.5
125.00	Top - Section 4	1.00	1.05	38.288	42.12	387.27	0.630	0.000	1.00	3.097	1.95	82.2	0.0	176.0
126.00		1.00	1.06	38.375	42.21	385.18	0.630	0.000	1.00	3.076	1.94	81.8	0.0	146.0
128.00		1.00	1.06	38.548	42.40	380.98	0.630	0.000	2.00	6.092	3.84	162.8	0.0	289.1
130.00	Bot - Section 6	1.00	1.07	38.719	42.59	376.73	0.630	0.000	2.00	6.012	3.79	161.3	0.0	285.2
132.00		1.00	1.07	38.888	42.78	372.46	0.630	0.000	2.00	6.037	3.80	162.7	0.0	567.8
134.00		1.00	1.07	39.056	42.96	368.15	0.630	0.000	2.00	5.956	3.75	161.2	0.0	560.0
135.00	Top - Section 5	1.00	1.08	39.139	43.05	365.99	0.630	0.000	1.00	2.948	1.86	80.0	0.0	277.1
136.00		1.00	1.08	39.221	43.14	370.53	0.630	0.000	1.00	2.928	1.84	79.6	0.0	138.9
138.00		1.00	1.08	39.385	43.32	366.17	0.630	0.000	2.00	5.795	3.65	158.2	0.0	274.8
140.00	Top - Section 6	1.00	1.09	39.548	43.50	361.79	0.630	0.000	2.00	5.714	3.60	156.6	0.0	271.0
142.00		1.00	1.09	39.708	43.68	357.37	0.630	0.000	2.00	5.634	3.55	155.0	0.0	214.1
144.00		1.00	1.10	39.867	43.85	352.92	0.630	0.000	2.00	5.553	3.50	153.4	0.0	211.0
146.00		1.00	1.10	40.025	44.03	348.45	0.630	0.000	2.00	5.473	3.45	151.8	0.0	207.9
148.00		1.00	1.11	40.181	44.20	343.94	0.630	0.000	2.00	5.392	3.40	150.1	0.0	204.8
150.00		1.00	1.11	40.335	44.37	339.41	0.630	0.000	2.00	5.311	3.35	148.5	0.0	201.7
152.00		1.00	1.11	40.488	44.54	334.85	0.630	0.000	2.00	5.231	3.30	146.8	0.0	198.7
154.00		1.00	1.12	40.639	44.70	330.27	0.630	0.000	2.00	5.150	3.24	145.0	0.0	195.6
156.00		1.00	1.12	40.790	44.87	325.66	0.630	0.000	2.00	5.069	3.19	143.3	0.0	192.5
158.00		1.00	1.13	40.938	45.03	321.02	0.630	0.000	2.00	4.989	3.14	141.5	0.0	189.4
160.00		1.00	1.13	41.086	45.19	316.36	0.630	0.000	2.00	4.908	3.09	139.7	0.0	186.3
162.00		1.00	1.13	41.232	45.35	311.67	0.630	0.000	2.00	4.828	3.04	137.9	0.0	183.2
164.00		1.00	1.14	41.377	45.51	306.96	0.630	0.000	2.00	4.747	2.99	136.1	0.0	180.1
165.00	Appurtenance(s)	1.00	1.14	41.448	45.59	304.59	0.630	0.000	1.00	2.343	1.48	67.3	0.0	88.9
166.00		1.00	1.14	41.520	45.67	302.22	0.630	0.000	1.00	2.323	1.46	66.8	0.0	88.1
168.00		1.00	1.15	41.662	45.83	297.47	0.630	0.000	2.00	4.586	2.89	132.4	0.0	174.0
170.00		1.00	1.15	41.804	45.98	292.68	0.630	0.000	2.00	4.505	2.84	130.5	0.0	170.9
172.00		1.00	1.15	41.943	46.14	287.88	0.630	0.000	2.00	4.425	2.79	128.6	0.0	167.8
174.00		1.00	1.16	42.082	46.29	283.05	0.630	0.000	2.00	4.344	2.74	126.7	0.0	164.7
175.00	Appurtenance(s)	1.00	1.16	42.151	46.37	280.63	0.630	0.000	1.00	2.142	1.35	62.6	0.0	81.2
176.00		1.00	1.16	42.220	46.44	278.20	0.630	0.000	1.00	2.122	1.34	62.1	0.0	80.4
178.00		1.00	1.17	42.356	46.59	273.33	0.630	0.000	2.00	4.183	2.64	122.8	0.0	158.5
180.00	Top - Section 7	1.00	1.17	42.492	46.74	268.44	0.630	0.000	2.00	4.102	2.58	120.8	0.0	155.4
182.00		1.00	1.17	42.626	46.89	264.78	0.450	0.000	2.00	4.000	1.80	84.4	0.0	171.0
184.00		1.00	1.18	42.759	47.04	265.19	0.450	0.000	2.00	4.000	1.80	84.7	0.0	171.0
185.00	Appurtenance(s)	1.00	1.18	42.826	47.11	265.40	0.450	0.000	1.00	2.000	0.90	42.4	0.0	85.5
186.00		1.00	1.18	42.892	47.18	265.60	0.450	0.000	1.00	2.000	0.90	42.5	0.0	85.5
188.00		1.00	1.18	43.023	47.33	266.01	0.450	0.000	2.00	4.000	1.80	85.2	0.0	171.0

## Wind Loading - Shaft

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023									
<b>Site Name:</b> North Salem	<b>Exposure:</b> B										
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00										
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil										
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II									
		<b>Page:</b> 13									
190.00	1.00	1.19 43.153 47.47	266.41	0.450	0.000	2.00	4.000	1.80	85.4	0.0	171.0
192.00	1.00	1.19 43.283 47.61	266.81	0.450	0.000	2.00	4.000	1.80	85.7	0.0	171.0
194.00	1.00	1.19 43.411 47.75	267.21	0.450	0.000	2.00	4.000	1.80	86.0	0.0	171.0
195.00 Appurtenance(s)	1.00	1.20 43.475 47.82	267.40	0.450	0.000	1.00	2.000	0.90	43.0	0.0	85.5
					<b>Totals:</b>	<b>195.00</b>			<b>15,911.9</b>		<b>45,850.9</b>



## Discrete Appurtenance Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 14



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	HRK12 (Handrail Kit)	1	43.475	47.822	1.00	1.00	6.75	314.06	0.000	0.000	322.80	0.00	0.00
2	195.00	Low Profile	1	43.475	47.822	1.00	1.00	26.00	2160.00	0.000	0.000	1243.38	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	43.475	47.822	1.00	1.00	9.50	557.89	0.000	0.000	454.31	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	43.475	47.822	1.00	1.00	6.70	276.00	0.000	0.000	320.41	0.00	0.00
5	195.00	TD-RRH8x20-25	3	43.475	47.822	0.50	1.00	6.07	252.00	0.000	0.000	290.52	0.00	0.00
6	195.00	NNVV-65B-R4	3	43.475	47.822	0.73	1.00	26.87	278.64	0.000	0.000	1285.05	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	43.475	47.822	0.50	1.00	4.16	216.00	0.000	0.000	198.70	0.00	0.00
8	195.00	800 MHz RRH	6	43.475	47.822	0.50	1.00	7.47	381.60	0.000	0.000	357.23	0.00	0.00
9	195.00	APXVTM14-C-I20	3	43.475	47.822	0.78	1.00	14.84	202.32	0.000	0.000	709.47	0.00	0.00
10	185.00	(3) SitePro 1 PRK-SFS-L	1	42.826	47.108	0.80	0.80	5.36	276.00	0.000	0.000	252.50	0.00	0.00
11	185.00	Powerwave LGP21903	6	42.826	47.108	0.40	0.80	0.65	39.60	0.000	0.000	30.53	0.00	0.00
12	185.00	Sector Frames	1	42.826	47.108	1.00	1.00	22.00	1800.00	0.000	0.000	1036.38	0.00	0.00
13	185.00	Cci DMP65R-BU8DA	6	42.826	47.108	0.58	0.80	62.62	691.20	0.000	0.000	2949.76	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	42.826	47.108	0.40	0.80	2.21	215.64	0.000	0.000	104.02	0.00	0.00
15	185.00	(3) SitePro 1 SFS-L with	1	42.826	47.108	0.80	0.80	8.00	616.80	0.000	0.000	376.87	0.00	0.00
16	185.00	(3) SitePro 1 HRK14-3HD	1	42.826	47.108	0.80	0.80	7.80	487.93	0.000	0.000	367.44	0.00	0.00
17	185.00	Ericsson RRUS 8843 B2	3	42.826	47.108	0.40	0.80	1.97	259.20	0.000	0.000	92.71	0.00	0.00
18	185.00	Raycap DC6-48-60-18-8F	1	42.826	47.108	0.40	0.80	0.37	38.16	0.000	0.000	17.34	0.00	0.00
19	185.00	Powerwave LGP21401	6	42.826	47.108	0.40	0.80	3.10	101.52	0.000	0.000	145.85	0.00	0.00
20	185.00	Powerwave 7770	3	42.826	47.108	0.58	0.80	9.64	126.00	0.000	0.000	453.94	0.00	0.00
21	185.00	Raycap	1	42.826	47.108	0.40	0.80	1.91	19.20	0.000	0.000	90.07	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	42.826	47.108	0.40	0.80	0.50	24.00	0.000	0.000	23.74	0.00	0.00
23	185.00	Ericsson 4449 B5/B12	3	42.826	47.108	0.40	0.80	2.36	255.60	0.000	0.000	111.36	0.00	0.00
24	175.00	RFS	3	42.151	46.366	0.50	0.80	9.61	146.52	0.000	0.000	445.69	0.00	0.00
25	175.00	Platform w/ Hand Rail	1	42.151	46.366	1.00	1.00	32.00	1920.00	0.000	0.000	1483.72	0.00	0.00
26	175.00	Ericsson RRUS11 B2	6	42.151	46.366	0.40	0.80	6.05	364.32	0.000	0.000	280.42	0.00	0.00
27	175.00	Ericsson RRUS11 B4	3	42.151	46.366	0.40	0.80	3.02	182.16	0.000	0.000	140.21	0.00	0.00
28	175.00	RFS	3	42.151	46.366	0.56	0.80	34.00	442.08	0.000	0.000	1576.60	0.00	0.00
29	175.00	Ericsson 4449 B71 + B85	3	42.151	46.366	0.54	0.80	3.17	255.60	0.000	0.000	146.88	0.00	0.00
30	175.00	Commscope	3	42.151	46.366	0.64	0.80	22.02	179.28	0.000	0.000	1021.10	0.00	0.00
31	165.00	BSAMNT-SBS-1-2	3	41.448	45.593	0.56	0.75	0.00	92.16	0.000	0.000	0.00	0.00	0.00
32	165.00	RMQLP-4096-HK Plat. +	1	41.448	45.593	1.00	1.00	51.70	3372.06	0.000	0.000	2357.17	0.00	0.00
33	165.00	Raycap	9	41.448	45.593	0.38	0.75	13.70	345.60	0.000	0.000	624.74	0.00	0.00
34	165.00	Samsung RF4461d-13A	12	41.448	45.593	0.38	0.75	8.42	1139.04	0.000	0.000	383.67	0.00	0.00
35	165.00	Samsung B2/B66A RRH	12	41.448	45.593	0.38	0.75	8.42	1075.68	0.000	0.000	383.67	0.00	0.00
36	165.00	Samsung MT6407-77A	6	41.448	45.593	0.52	0.75	12.16	571.68	0.000	0.000	554.37	0.00	0.00
37	165.00	Commscope	15	41.448	45.593	0.62	0.75	75.45	785.70	0.000	0.000	3439.88	0.00	0.00

Totals: 20,461.25

24,072.49

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Site Name:** North Salem

**Height:** 195.00 (ft)

**Base Elev:** 0.000 (ft)

**Gh:** 1.1

**Code:** TIA-222-H

11/8/2023

**Exposure:** B

**Crest Height:** 0.00

**Site Class:** D - Stiff Soil

**Topography:** 1

**Struct Class:** II

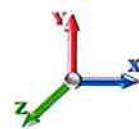
Page: 15



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 32

<b>Elev (ft)</b>	<b>Description</b>	<b>Lateral FX (-) (lb)</b>	<b>Axial FY (-) (lb)</b>	<b>Torsion MY (lb-ft)</b>	<b>Moment MZ (lb-ft)</b>
0.00		0.00	0.00	0.00	0.00
2.00		212.66	813.75	0.00	0.00
4.00		211.24	808.34	0.00	0.00
6.00		209.82	802.94	0.00	0.00
8.00		208.40	797.54	0.00	0.00
10.00		206.98	792.14	0.00	0.00
12.00		205.56	786.73	0.00	0.00
14.00		204.13	781.33	0.00	0.00
16.00		202.71	775.93	0.00	0.00
18.00		201.29	770.53	0.00	0.00
20.00		199.87	765.13	0.00	0.00
22.00		198.45	759.72	0.00	0.00
24.00		197.03	754.32	0.00	0.00
26.00		195.60	748.92	0.00	0.00
28.00		194.18	743.52	0.00	0.00
30.00		192.91	738.11	0.00	0.00
32.00		194.86	732.71	0.00	0.00
34.00		196.60	727.31	0.00	0.00
36.00		198.17	721.91	0.00	0.00
38.00		199.56	716.50	0.00	0.00
40.00		200.80	711.10	0.00	0.00
41.00		100.49	353.53	0.00	0.00
42.00		102.19	664.32	0.00	0.00
44.00		205.79	1320.54	0.00	0.00
46.00		206.67	1309.74	0.00	0.00
48.00		207.43	1298.93	0.00	0.00
50.00		208.09	694.01	0.00	0.00
52.00		208.64	688.61	0.00	0.00
54.00		209.10	683.21	0.00	0.00
56.00		209.46	677.81	0.00	0.00
58.00		209.74	672.40	0.00	0.00
60.00		209.93	667.00	0.00	0.00
62.00		210.05	661.60	0.00	0.00
64.00		210.09	656.20	0.00	0.00
66.00		210.06	650.80	0.00	0.00
68.00		209.96	645.39	0.00	0.00
70.00		209.80	639.99	0.00	0.00
72.00		209.57	634.59	0.00	0.00
74.00		209.28	629.19	0.00	0.00
76.00		208.94	623.78	0.00	0.00
78.00		208.53	618.38	0.00	0.00
80.00		208.08	612.98	0.00	0.00
82.00		207.57	607.58	0.00	0.00
84.00		207.01	602.18	0.00	0.00
85.00		103.12	299.06	0.00	0.00
86.00		104.73	555.40	0.00	0.00
88.00		209.30	1102.69	0.00	0.00

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 16



90.00		208.62	1091.88	0.00	0.00
91.00		103.89	541.89	0.00	0.00
92.00		103.70	294.57	0.00	0.00
93.00		103.52	293.22	0.00	0.00
94.00		103.32	256.90	0.00	0.00
96.00		206.33	510.33	0.00	0.00
98.00		205.48	505.70	0.00	0.00
100.00		204.59	501.07	0.00	0.00
102.00		203.66	496.44	0.00	0.00
104.00		202.69	491.81	0.00	0.00
106.00		201.69	487.18	0.00	0.00
108.00		200.65	482.55	0.00	0.00
110.00		199.58	477.92	0.00	0.00
112.00		198.47	473.29	0.00	0.00
114.00		197.33	468.66	0.00	0.00
116.00		196.15	464.03	0.00	0.00
118.00		194.95	459.40	0.00	0.00
120.00		193.71	454.77	0.00	0.00
122.00		192.44	450.14	0.00	0.00
124.00		191.14	445.51	0.00	0.00
125.00		94.98	221.02	0.00	0.00
126.00		94.64	190.97	0.00	0.00
128.00		188.46	379.04	0.00	0.00
130.00		187.08	375.18	0.00	0.00
132.00		188.52	657.73	0.00	0.00
134.00		187.09	650.01	0.00	0.00
135.00		92.91	322.11	0.00	0.00
136.00		92.55	183.85	0.00	0.00
138.00		184.16	364.81	0.00	0.00
140.00		182.66	360.95	0.00	0.00
142.00		181.13	304.07	0.00	0.00
144.00		166.50	300.99	0.00	0.00
146.00		151.79	297.90	0.00	0.00
148.00		150.14	294.81	0.00	0.00
150.00		148.46	291.73	0.00	0.00
152.00		146.76	288.64	0.00	0.00
154.00		145.04	285.55	0.00	0.00
156.00		143.30	282.46	0.00	0.00
158.00		141.54	279.38	0.00	0.00
160.00		139.75	276.29	0.00	0.00
162.00		137.94	273.20	0.00	0.00
164.00		136.12	270.12	0.00	0.00
165.00	(58) attachments	7810.81	7515.82	0.00	0.00
		66.84	118.01	0.00	0.00
		132.40	233.70	0.00	0.00
		130.51	230.61	0.00	0.00
		128.61	227.53	0.00	0.00
		126.68	224.44	0.00	0.00
175.00	(22) attachments	5157.19	3601.02	0.00	0.00
		62.07	106.51	0.00	0.00
		130.11	210.70	0.00	0.00
		179.69	207.61	0.00	0.00
		143.48	223.17	0.00	0.00
		92.07	223.17	0.00	0.00
185.00	(37) attachments	6094.90	5062.44	0.00	0.00
		42.46	90.08	0.00	0.00
		85.19	180.16	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023
<b>Site Name:</b> North Salem	<b>Exposure:</b> B	
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 17

190.00	85.44	180.16	0.00	0.00
192.00	85.70	180.16	0.00	0.00
194.00	85.95	180.16	0.00	0.00
195.00 (22) attachments	5224.91	4728.60	0.00	0.00
<b>Totals:</b>	<b>41,792.85</b>	<b>74,340.48</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

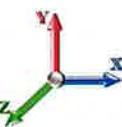
Page: 18



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations**

32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
2.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
4.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
4.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
6.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
6.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
8.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
8.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
10.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
10.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
12.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
12.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
14.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
14.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
16.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
16.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
18.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
18.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
20.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
20.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
22.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
22.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
24.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
24.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
26.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
26.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
28.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89	0.00
28.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00	0.00
30.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.467	20.90	0.00
30.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.467	0.00	0.00
32.00	(4) C6x10.5	Yes	2.00	1.109	4.00	0.67	0.74	0.000	0.000	25.941	21.09	0.00
32.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.941	0.00	0.00
34.00	(4) C6x10.5	Yes	2.00	1.099	4.00	0.67	0.73	0.000	0.000	26.394	21.27	0.00
34.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00	0.00
36.00	(4) C6x10.5	Yes	2.00	1.090	4.00	0.67	0.73	0.000	0.000	26.829	21.45	0.00
36.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.829	0.00	0.00
38.00	(4) C6x10.5	Yes	2.00	1.082	4.00	0.67	0.72	0.000	0.000	27.246	21.62	0.00
38.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.246	0.00	0.00
40.00	(4) C6x10.5	Yes	2.00	1.074	4.00	0.67	0.72	0.000	0.000	27.649	21.77	0.00
40.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.649	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	1.070	4.00	0.33	0.36	0.000	0.000	27.844	10.93	0.00
41.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.844	0.00	0.00
42.00	(4) C6x10.5	Yes	1.00	1.066	4.00	0.33	0.36	0.000	0.000	28.037	10.96	0.00
42.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.037	0.00	0.00
44.00	(4) C6x10.5	Yes	2.00	1.059	4.00	0.67	0.71	0.000	0.000	28.412	22.07	0.00
44.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.412	0.00	0.00
46.00	(4) C6x10.5	Yes	2.00	1.053	4.00	0.67	0.70	0.000	0.000	28.775	22.21	0.00

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

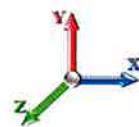
Page: 19



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 32

<b>Top Elev (ft)</b>	<b>Description</b>	<b>Wind Exposed</b>	<b>Length (ft)</b>	<b>Ca</b>	<b>Exposed Width (in)</b>	<b>Area (sqft)</b>	<b>CaAa (sqft)</b>	<b>Ra</b>	<b>Cf Adjust Factor</b>	<b>qz (psf)</b>	<b>F X (lb)</b>	<b>Dead Load (lb)</b>
46.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.775	0.00	0.00
48.00	(4) C6x10.5	Yes	2.00	1.046	4.00	0.67	0.70	0.000	0.000	29.127	22.35	0.00
48.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	1.040	4.00	0.67	0.69	0.000	0.000	29.469	22.48	0.00
50.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.469	0.00	0.00
52.00	(4) C6x10.5	Yes	2.00	1.034	4.00	0.67	0.69	0.000	0.000	29.801	22.61	0.00
52.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.801	0.00	0.00
54.00	(4) C6x10.5	Yes	2.00	1.029	4.00	0.67	0.69	0.000	0.000	30.124	22.73	0.00
54.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.124	0.00	0.00
56.00	(4) C6x10.5	Yes	2.00	1.024	4.00	0.67	0.68	0.000	0.000	30.439	22.85	0.00
56.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.439	0.00	0.00
58.00	(4) C6x10.5	Yes	2.00	1.018	4.00	0.67	0.68	0.000	0.000	30.745	22.96	0.00
60.00	(4) C6x10.5	Yes	2.00	1.013	4.00	0.67	0.68	0.000	0.000	31.045	23.07	0.00
62.00	(4) C6x10.5	Yes	2.00	1.009	4.00	0.67	0.67	0.000	0.000	31.337	23.18	0.00
64.00	(4) C6x10.5	Yes	2.00	1.004	4.00	0.67	0.67	0.000	0.000	31.622	23.29	0.00
66.00	(4) C6x10.5	Yes	2.00	1.000	4.00	0.67	0.67	0.000	0.000	31.902	23.39	0.00
68.00	(4) C6x10.5	Yes	2.00	0.996	4.00	0.67	0.66	0.000	0.000	32.175	23.49	0.00
70.00	(4) C6x10.5	Yes	2.00	0.991	4.00	0.67	0.66	0.000	0.000	32.442	23.59	0.00
72.00	(4) C6x10.5	Yes	2.00	0.987	4.00	0.67	0.66	0.000	0.000	32.705	23.68	0.00
74.00	(4) C6x10.5	Yes	2.00	0.984	4.00	0.67	0.66	0.000	0.000	32.962	23.77	0.00
76.00	(4) C6x10.5	Yes	2.00	0.980	4.00	0.67	0.65	0.000	0.000	33.214	23.87	0.00
78.00	(4) C6x10.5	Yes	2.00	0.976	4.00	0.67	0.65	0.000	0.000	33.461	23.95	0.00
80.00	(4) C6x10.5	Yes	2.00	0.973	4.00	0.67	0.65	0.000	0.000	33.704	24.04	0.00
82.00	(4) C6x10.5	Yes	2.00	0.969	4.00	0.67	0.65	0.000	0.000	33.943	24.13	0.00
84.00	(4) C6x10.5	Yes	2.00	0.966	4.00	0.67	0.64	0.000	0.000	34.177	24.21	0.00
85.00	(4) C6x10.5	Yes	1.00	0.964	4.00	0.33	0.32	0.000	0.000	34.293	12.12	0.00
86.00	(4) C6x10.5	Yes	1.00	0.963	4.00	0.33	0.32	0.000	0.000	34.408	12.15	0.00
88.00	(4) C6x10.5	Yes	2.00	0.960	4.00	0.67	0.64	0.000	0.000	34.634	24.37	0.00
90.00	(4) C6x10.5	Yes	2.00	0.956	4.00	0.67	0.64	0.000	0.000	34.858	24.45	0.00
91.00	(4) C6x10.5	Yes	1.00	0.955	4.00	0.33	0.32	0.000	0.000	34.968	12.24	0.00
92.00	(4) C6x10.5	Yes	1.00	0.953	4.00	0.33	0.32	0.000	0.000	35.077	12.26	0.00
93.00	(4) C6x10.5	Yes	1.00	0.952	4.00	0.33	0.32	0.000	0.000	35.186	12.28	0.00
94.00	(4) C6x10.5	Yes	1.00	0.951	4.00	0.33	0.32	0.000	0.000	35.293	12.30	0.00
96.00	(4) C6x10.5	Yes	2.00	0.948	4.00	0.67	0.63	0.000	0.000	35.506	24.67	0.00
98.00	(4) C6x10.5	Yes	2.00	0.945	4.00	0.67	0.63	0.000	0.000	35.716	24.75	0.00
100.00	(4) C6x10.5	Yes	2.00	0.942	4.00	0.67	0.63	0.000	0.000	35.923	24.82	0.00
102.00	(4) C6x10.5	Yes	2.00	0.939	4.00	0.67	0.63	0.000	0.000	36.127	24.89	0.00
104.00	(4) C6x10.5	Yes	2.00	0.937	4.00	0.67	0.62	0.000	0.000	36.328	24.96	0.00
106.00	(4) C6x10.5	Yes	2.00	0.934	4.00	0.67	0.62	0.000	0.000	36.526	25.03	0.00
108.00	(4) C6x10.5	Yes	2.00	0.932	4.00	0.67	0.62	0.000	0.000	36.721	25.09	0.00
110.00	(4) C6x10.5	Yes	2.00	0.929	4.00	0.67	0.62	0.000	0.000	36.914	25.16	0.00
112.00	(4) C6x10.5	Yes	2.00	0.927	4.00	0.67	0.62	0.000	0.000	37.105	25.22	0.00
114.00	(4) C6x10.5	Yes	2.00	0.925	4.00	0.67	0.62	0.000	0.000	37.293	25.29	0.00
116.00	(4) C6x10.5	Yes	2.00	0.922	4.00	0.67	0.61	0.000	0.000	37.479	25.35	0.00
118.00	(4) C6x10.5	Yes	2.00	0.920	4.00	0.67	0.61	0.000	0.000	37.662	25.41	0.00
120.00	(4) C6x10.5	Yes	2.00	0.918	4.00	0.67	0.61	0.000	0.000	37.844	25.47	0.00
122.00	(4) C6x10.5	Yes	2.00	0.916	4.00	0.67	0.61	0.000	0.000	38.023	25.53	0.00

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 20



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00

**Iterations**

32



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
124.00	(4) C6x10.5	Yes	2.00	0.914	4.00	0.67	0.61	0.000	0.000	38.200	25.59	0.00
125.00	(4) C6x10.5	Yes	1.00	0.913	4.00	0.33	0.30	0.000	0.000	38.288	12.81	0.00
126.00	(4) C6x10.5	Yes	1.00	0.912	4.00	0.33	0.30	0.000	0.000	38.375	12.83	0.00
128.00	(4) C6x10.5	Yes	2.00	0.909	4.00	0.67	0.61	0.000	0.000	38.548	25.71	0.00
130.00	(4) C6x10.5	Yes	2.00	0.907	4.00	0.67	0.60	0.000	0.000	38.719	25.77	0.00
132.00	(4) C6x10.5	Yes	2.00	0.906	4.00	0.67	0.60	0.000	0.000	38.888	25.82	0.00
134.00	(4) C6x10.5	Yes	2.00	0.904	4.00	0.67	0.60	0.000	0.000	39.056	25.88	0.00
135.00	(4) C6x10.5	Yes	1.00	0.903	4.00	0.33	0.30	0.000	0.000	39.139	12.95	0.00
136.00	(4) C6x10.5	Yes	1.00	0.902	4.00	0.33	0.30	0.000	0.000	39.221	12.97	0.00
138.00	(4) C6x10.5	Yes	2.00	0.900	4.00	0.67	0.60	0.000	0.000	39.385	25.99	0.00
140.00	(4) C6x10.5	Yes	2.00	0.898	4.00	0.67	0.60	0.000	0.000	39.548	26.04	0.00
142.00	(4) C6x10.5	Yes	2.00	0.896	4.00	0.67	0.60	0.000	0.000	39.708	26.09	0.00
144.00	(4) C6x10.5	Yes	1.00	0.894	4.00	0.33	0.30	0.000	0.000	39.867	13.07	0.00
178.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	42.356	7.34	0.00
180.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	42.492	58.89	0.00
182.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	42.626	59.08	0.00
184.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	42.759	7.41	0.00
<b>Totals:</b>										<b>1,808.4</b>	<b>0.0</b>	

## Calculated Forces

Structure: CT01916-S-SBA

Site Name: North Salem

Height: 195.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

11/8/2023

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Topography: 1

Struct Class: II

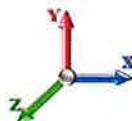
Page: 21



Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations

32

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-74.31	-41.85	0.00	-6331.9	0.00	6331.97	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.840
2.00	-73.44	-41.73	0.00	-6248.2	0.00	6248.28	5777.89	1549.56	8174.96	7566.71	0.02	-0.078	0.000	0.839
4.00	-72.58	-41.62	0.00	-6164.8	0.00	6164.82	5752.42	1537.95	8052.92	7476.52	0.07	-0.156	0.000	0.838
6.00	-71.72	-41.51	0.00	-6081.5	0.00	6081.59	5726.67	1526.34	7931.81	7386.49	0.15	-0.235	0.000	0.837
8.00	-70.86	-41.39	0.00	-5998.5	0.00	5998.58	5700.65	1514.73	7811.61	7296.62	0.27	-0.315	0.000	0.835
10.00	-70.01	-41.28	0.00	-5915.8	0.00	5915.80	5674.37	1503.12	7692.32	7206.92	0.41	-0.395	0.000	0.834
12.00	-69.17	-41.17	0.00	-5833.2	0.00	5833.24	5647.82	1491.51	7573.96	7117.40	0.60	-0.476	0.000	0.833
14.00	-68.33	-41.05	0.00	-5750.9	0.00	5750.91	5620.99	1479.91	7456.51	7028.07	0.82	-0.558	0.000	0.831
16.00	-67.50	-40.94	0.00	-5668.8	0.00	5668.81	5593.90	1468.30	7339.98	6938.94	1.07	-0.641	0.000	0.830
18.00	-66.67	-40.83	0.00	-5586.9	0.00	5586.93	5566.54	1456.69	7224.37	6850.01	1.35	-0.724	0.000	0.828
20.00	-65.85	-40.71	0.00	-5505.2	0.00	5505.28	5538.91	1445.08	7109.68	6761.30	1.68	-0.809	0.000	0.827
22.00	-65.03	-40.60	0.00	-5423.8	0.00	5423.85	5511.02	1433.47	6995.90	6672.80	2.03	-0.894	0.000	0.825
24.00	-64.22	-40.49	0.00	-5342.6	0.00	5342.65	5482.85	1421.86	6883.05	6584.53	2.43	-0.979	0.000	0.824
26.00	-63.41	-40.38	0.00	-5261.6	0.00	5261.67	5454.41	1410.25	6771.11	6496.50	2.86	-1.066	0.000	0.822
28.00	-62.61	-40.26	0.00	-5180.9	0.00	5180.92	5425.71	1398.64	6660.08	6408.72	3.32	-1.153	0.000	0.821
30.00	-61.81	-40.15	0.00	-5100.4	0.00	5100.40	5396.74	1387.03	6549.98	6321.18	3.82	-1.242	0.000	0.819
32.00	-61.02	-40.04	0.00	-5020.1	0.00	5020.10	5367.49	1375.42	6440.79	6233.91	4.36	-1.331	0.000	0.818
34.00	-60.24	-39.92	0.00	-4940.0	0.00	4940.03	5337.98	1363.81	6332.52	6146.90	4.94	-1.420	0.000	0.816
36.00	-59.46	-39.79	0.00	-4860.2	0.00	4860.20	5308.20	1352.20	6225.17	6060.17	5.56	-1.511	0.000	0.814
38.00	-58.68	-39.67	0.00	-4780.6	0.00	4780.61	5278.15	1340.59	6118.74	5973.73	6.21	-1.603	0.000	0.812
40.00	-57.93	-39.52	0.00	-4701.2	0.00	4701.28	5247.84	1328.98	6013.22	5887.58	6.90	-1.695	0.000	0.810
41.00	-57.55	-39.45	0.00	-4661.7	0.00	4661.76	5232.58	1323.18	5960.81	5844.61	7.26	-1.742	0.000	0.810
42.00	-56.84	-39.40	0.00	-4622.3	0.00	4622.31	5217.25	1317.37	5908.62	5801.72	7.63	-1.789	0.000	0.809
44.00	-55.46	-39.25	0.00	-4543.5	0.00	4543.50	5186.39	1305.76	5804.94	5716.18	8.40	-1.883	0.000	0.806
46.00	-54.09	-39.09	0.00	-4465.0	0.00	4465.02	5155.27	1294.16	5702.18	5630.95	9.21	-1.978	0.000	0.804
48.00	-52.74	-38.92	0.00	-4386.8	0.00	4386.85	5181.33	1303.87	5788.10	5702.24	10.06	-2.074	0.000	0.780
50.00	-51.99	-38.77	0.00	-4309.0	0.00	4309.01	5150.16	1292.26	5685.49	5617.06	10.95	-2.170	0.000	0.778
52.00	-51.25	-38.62	0.00	-4231.4	0.00	4231.46	5118.73	1280.65	5583.79	5532.21	11.88	-2.263	0.000	0.776
54.00	-50.51	-38.47	0.00	-4154.2	0.00	4154.22	5087.02	1269.04	5483.02	5447.69	12.85	-2.357	0.000	0.773
56.00	-49.78	-38.31	0.00	-4077.2	0.00	4077.29	5055.04	1257.43	5383.16	5363.51	13.85	-2.452	0.000	0.771
58.00	-49.05	-38.16	0.00	-4000.6	0.00	4000.67	5022.80	1245.82	5284.21	5279.69	14.90	-2.547	0.000	0.768
60.00	-48.33	-38.00	0.00	-3924.3	0.00	3924.36	4990.29	1234.21	5186.19	5196.21	15.99	-2.643	0.000	0.766
62.00	-47.61	-37.84	0.00	-3848.3	0.00	3848.36	4957.51	1222.60	5089.08	5113.11	17.12	-2.740	0.000	0.763
64.00	-46.90	-37.68	0.00	-3772.6	0.00	3772.69	4924.46	1210.99	4992.89	5030.38	18.29	-2.838	0.000	0.760
66.00	-46.20	-37.51	0.00	-3697.3	0.00	3697.34	4891.14	1199.39	4897.62	4948.02	19.49	-2.937	0.000	0.758
68.00	-45.50	-37.35	0.00	-3622.3	0.00	3622.32	4857.55	1187.78	4803.27	4866.06	20.75	-3.036	0.000	0.755
70.00	-44.81	-37.18	0.00	-3547.6	0.00	3547.62	4823.69	1176.17	4709.83	4784.49	22.04	-3.137	0.000	0.752
72.00	-44.12	-37.02	0.00	-3473.2	0.00	3473.25	4789.56	1164.56	4617.32	4703.33	23.37	-3.238	0.000	0.749
74.00	-43.44	-36.85	0.00	-3399.2	0.00	3399.21	4755.17	1152.95	4525.72	4622.58	24.75	-3.340	0.000	0.746
76.00	-42.76	-36.68	0.00	-3325.5	0.00	3325.51	4720.51	1141.34	4435.03	4542.26	26.17	-3.443	0.000	0.742
78.00	-42.09	-36.51	0.00	-3252.1	0.00	3252.15	4685.57	1129.73	4345.27	4462.36	27.64	-3.547	0.000	0.739
80.00	-41.43	-36.34	0.00	-3179.1	0.00	3179.12	4650.37	1118.12	4256.42	4382.90	29.15	-3.652	0.000	0.735
82.00	-40.77	-36.17	0.00	-3106.4	0.00	3106.44	4614.90	1106.51	4168.49	4303.88	30.70	-3.757	0.000	0.732
84.00	-40.13	-35.98	0.00	-3034.0	0.00	3034.09	4579.16	1094.90	4081.48	4225.32	32.29	-3.863	0.000	0.728
85.00	-39.80	-35.90	0.00	-2998.1	0.00	2998.11	4561.19	1089.10	4038.32	4186.21	33.11	-3.917	0.000	0.726
86.00	-39.21	-35.81	0.00	-2962.2	0.00	2962.22	4543.15	1083.29	3995.39	4147.21	33.93	-3.972	0.000	0.724
88.00	-38.05	-35.60	0.00	-2890.6	0.00	2890.60	4506.88	1071.68	3910.21	4069.58	35.62	-4.080	0.000	0.720
90.00	-36.93	-35.36	0.00	-2819.4	0.00	2819.41	4470.33	1060.07	3825.95	3992.42	37.35	-4.188	0.000	0.716

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 22



Gh	1.1	Topography	1	Struct Class	II	Page	22							
91.00	-36.36	-35.25	0.00	-2784.0	0.00	2784.05	4519.12	1075.59	3938.79	4095.67	38.23	-4.244	0.000	0.689
92.00	-36.04	-35.16	0.00	-2748.8	0.00	2748.80	4500.93	1069.79	3896.39	4056.95	39.13	-4.299	0.000	0.687
93.00	-35.73	-35.07	0.00	-2713.6	0.00	2713.63	4482.67	1063.98	3854.22	4018.35	40.03	-4.351	0.000	0.684
93.00	-35.73	-35.07	0.00	-2713.6	0.00	2713.63	3684.61	913.29	3313.08	3312.42	40.03	-4.351	0.000	0.830
94.00	-35.42	-35.00	0.00	-2678.5	0.00	2678.57	3670.68	908.31	3277.08	3281.76	40.95	-4.404	0.000	0.827
96.00	-34.86	-34.83	0.00	-2608.5	0.00	2608.57	3642.60	898.36	3205.67	3220.68	42.82	-4.526	0.000	0.821
98.00	-34.30	-34.66	0.00	-2538.9	0.00	2538.91	3614.26	888.41	3135.05	3159.91	44.74	-4.648	0.000	0.814
100.00	-33.74	-34.49	0.00	-2469.6	0.00	2469.60	3585.64	878.46	3065.22	3099.48	46.71	-4.771	0.000	0.808
102.00	-33.19	-34.31	0.00	-2400.6	0.00	2400.63	3556.76	868.51	2996.17	3039.38	48.73	-4.895	0.000	0.801
104.00	-32.64	-34.14	0.00	-2332.0	0.00	2332.00	3527.61	858.56	2927.90	2979.62	50.81	-5.020	0.000	0.793
106.00	-32.10	-33.97	0.00	-2263.7	0.00	2263.72	3498.19	848.61	2860.43	2920.21	52.94	-5.145	0.000	0.786
108.00	-31.56	-33.79	0.00	-2195.7	0.00	2195.79	3468.50	838.66	2793.74	2861.17	55.12	-5.271	0.000	0.778
110.00	-31.03	-33.62	0.00	-2128.2	0.00	2128.21	3438.54	828.71	2727.83	2802.49	57.35	-5.397	0.000	0.770
112.00	-30.50	-33.44	0.00	-2060.9	0.00	2060.98	3408.31	818.76	2662.72	2744.18	59.63	-5.524	0.000	0.762
114.00	-29.98	-33.27	0.00	-1994.0	0.00	1994.09	3377.82	808.81	2598.39	2686.26	61.97	-5.651	0.000	0.753
116.00	-29.47	-33.09	0.00	-1927.5	0.00	1927.56	3347.05	798.86	2534.84	2628.73	64.36	-5.779	0.000	0.744
118.00	-28.96	-32.92	0.00	-1861.3	0.00	1861.38	3316.02	788.90	2472.09	2571.60	66.81	-5.907	0.000	0.734
120.00	-28.45	-32.74	0.00	-1795.5	0.00	1795.55	3284.72	778.95	2410.12	2514.88	69.31	-6.036	0.000	0.724
122.00	-27.95	-32.56	0.00	-1730.0	0.00	1730.07	3253.15	769.00	2348.93	2458.58	71.86	-6.164	0.000	0.714
124.00	-27.47	-32.37	0.00	-1664.9	0.00	1664.94	3213.32	759.05	2288.53	2396.73	74.46	-6.293	0.000	0.705
125.00	-27.23	-32.28	0.00	-1632.5	0.00	1632.57	3192.26	754.08	2258.63	2365.26	75.79	-6.358	0.000	0.701
125.00	-27.23	-32.28	0.00	-1632.5	0.00	1632.57	2545.46	629.48	1888.72	1892.56	75.79	-6.358	0.000	0.876
126.00	-26.99	-32.22	0.00	-1600.2	0.00	1600.29	2533.76	625.34	1863.92	1871.35	77.12	-6.423	0.000	0.868
128.00	-26.55	-32.06	0.00	-1535.8	0.00	1535.85	2510.17	617.05	1814.81	1829.12	79.84	-6.577	0.000	0.853
130.00	-26.11	-31.90	0.00	-1471.7	0.00	1471.73	2486.30	608.75	1766.36	1787.17	82.62	-6.730	0.000	0.837
132.00	-25.39	-31.70	0.00	-1407.9	0.00	1407.92	2462.17	600.46	1718.57	1745.51	85.47	-6.883	0.000	0.820
134.00	-24.71	-31.49	0.00	-1344.5	0.00	1344.52	2437.77	592.17	1671.43	1704.13	88.38	-7.035	0.000	0.802
135.00	-24.36	-31.39	0.00	-1313.0	0.00	1313.03	2457.60	598.90	1709.65	1737.70	89.86	-7.112	0.000	0.768
136.00	-24.13	-31.32	0.00	-1281.6	0.00	1281.64	2445.41	594.76	1686.06	1717.00	91.35	-7.188	0.000	0.759
138.00	-23.71	-31.15	0.00	-1219.0	0.00	1219.00	2420.82	586.46	1639.37	1675.83	94.39	-7.330	0.000	0.740
140.00	-23.30	-30.98	0.00	-1156.6	0.00	1156.69	2395.97	578.17	1593.34	1634.95	97.48	-7.471	0.000	0.720
140.00	-23.30	-30.98	0.00	-1156.6	0.00	1156.69	1788.19	463.41	1279.47	1224.81	97.48	-7.471	0.000	0.962
142.00	-22.94	-30.82	0.00	-1094.7	0.00	1094.73	1771.85	456.77	1243.10	1196.12	100.63	-7.611	0.000	0.933
144.00	-22.57	-30.69	0.00	-1033.0	0.00	1033.08	1755.23	450.14	1207.26	1167.57	103.85	-7.782	0.000	0.902
146.00	-22.21	-30.56	0.00	-971.71	0.00	971.71	1738.36	443.51	1171.94	1139.16	107.13	-7.951	0.000	0.871
148.00	-21.85	-30.43	0.00	-910.60	0.00	910.60	1721.21	436.87	1137.14	1110.92	110.49	-8.116	0.000	0.837
150.00	-21.50	-30.30	0.00	-849.73	0.00	849.73	1703.79	430.24	1102.87	1082.85	113.91	-8.278	0.000	0.802
152.00	-21.16	-30.17	0.00	-789.13	0.00	789.13	1686.10	423.60	1069.12	1054.96	117.40	-8.435	0.000	0.766
154.00	-20.82	-30.04	0.00	-728.78	0.00	728.78	1668.15	416.97	1035.89	1027.24	120.96	-8.588	0.000	0.727
156.00	-20.48	-29.91	0.00	-668.69	0.00	668.69	1649.92	410.34	1003.19	999.72	124.58	-8.736	0.000	0.687
158.00	-20.16	-29.78	0.00	-608.87	0.00	608.87	1631.43	403.70	971.02	972.40	128.25	-8.878	0.000	0.644
160.00	-19.84	-29.64	0.00	-549.32	0.00	549.32	1612.67	397.07	939.37	945.29	131.99	-9.013	0.000	0.599
162.00	-19.53	-29.50	0.00	-490.04	0.00	490.04	1593.64	390.43	908.24	918.39	135.78	-9.140	0.000	0.552
164.00	-19.24	-29.36	0.00	-431.03	0.00	431.03	1574.34	383.80	877.64	891.72	139.62	-9.259	0.000	0.501
165.00	-13.06	-20.45	0.00	-401.68	0.00	401.68	1564.59	380.48	862.54	878.47	141.55	-9.315	0.000	0.468
166.00	-12.93	-20.38	0.00	-381.23	0.00	381.23	1554.77	377.17	847.56	865.27	143.50	-9.369	0.000	0.452
168.00	-12.68	-20.23	0.00	-340.47	0.00	340.47	1534.93	370.53	818.01	839.07	147.43	-9.473	0.000	0.417
170.00	-12.44	-20.09	0.00	-300.01	0.00	300.01	1514.83	363.90	788.98	813.12	151.40	-9.569	0.000	0.380
172.00	-12.21	-19.94	0.00	-259.84	0.00	259.84	1494.45	357.26	760.48	787.42	155.41	-9.658	0.000	0.341
174.00	-11.99	-19.79	0.00	-219.96	0.00	219.96	1473.81	350.63	732.50	761.98	159.46	-9.739	0.000	0.300
175.00	-9.31	-14.10	0.00	-200.17	0.00	200.17	1463.38	347.31	718.70	749.37	161.49	-9.776	0.000	0.275
176.00	-9.20	-14.03	0.00	-186.07	0.00	186.07	1452.89	344.00	705.04	736.82	163.53	-9.811	0.000	0.261
178.00	-9.00	-13.88	0.00	-158.01	0.00	158.01	1428.17	337.36	678.11	710.17	167.64	-9.876	0.000	0.230
180.00	-8.82	-13.67	0.00	-130.26	0.00	130.26	1400.09	330.73	651.70	682.38	171.77	-9.934	0.000	0.199
180.00	-8.82	-13.67	0.00	-130.26	0.00	130.26	678.42	203.53	25205.7	396.30	171.77	-9.934	0.000	0.346
182.00	-8.61	-13.50	0.00	-102.92	0.00	102.92	678.42	203.53	25205.7	396.30	175.92	-9.983	0.000	0.277
184.00	-8.40	-13.37	0.00	-75.92	0.00	75.92	678.42	203.53	25205.7	396.30	180.09	-10.018	0.000	0.208

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 23



185.00	-4.48	-6.49	0.00	-62.55	0.00	62.55	678.42	203.53	25205.7	396.30	182.18	-10.031	0.000	0.165
186.00	-4.39	-6.43	0.00	-56.06	0.00	56.06	678.42	203.53	25205.7	396.30	184.27	-10.042	0.000	0.149
188.00	-4.23	-6.32	0.00	-43.20	0.00	43.20	678.42	203.53	25205.7	396.30	188.46	-10.062	0.000	0.116
190.00	-4.07	-6.20	0.00	-30.56	0.00	30.56	678.42	203.53	25205.7	396.30	192.66	-10.076	0.000	0.084
192.00	-3.90	-6.09	0.00	-18.15	0.00	18.15	678.42	203.53	25205.7	396.30	196.86	-10.085	0.000	0.052
194.00	-3.74	-5.97	0.00	-5.97	0.00	5.97	678.42	203.53	25205.7	396.30	201.06	-10.090	0.000	0.021
195.00	0.00	-5.22	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	203.17	-10.090	0.000	0.001

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

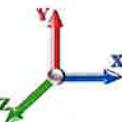
Page: 24



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations**

31

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	25.445	27.99	558.28	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	25.445	27.99	554.15	0.630	0.000	2.00	10.876	6.85	191.8	0.0	542.8
4.00		1.00	0.70	25.445	27.99	550.03	0.630	0.000	2.00	10.795	6.80	190.4	0.0	538.8
6.00		1.00	0.70	25.445	27.99	545.91	0.630	0.000	2.00	10.714	6.75	188.9	0.0	534.7
8.00		1.00	0.70	25.445	27.99	541.78	0.630	0.000	2.00	10.634	6.70	187.5	0.0	530.7
10.00		1.00	0.70	25.445	27.99	537.66	0.630	0.000	2.00	10.553	6.65	186.1	0.0	526.6
12.00		1.00	0.70	25.445	27.99	533.54	0.630	0.000	2.00	10.472	6.60	184.7	0.0	522.6
14.00		1.00	0.70	25.445	27.99	529.41	0.630	0.000	2.00	10.392	6.55	183.2	0.0	518.5
16.00		1.00	0.70	25.445	27.99	525.29	0.630	0.000	2.00	10.311	6.50	181.8	0.0	514.5
18.00		1.00	0.70	25.445	27.99	521.17	0.630	0.000	2.00	10.231	6.45	180.4	0.0	510.4
20.00		1.00	0.70	25.445	27.99	517.04	0.630	0.000	2.00	10.150	6.39	179.0	0.0	506.4
22.00		1.00	0.70	25.445	27.99	512.92	0.630	0.000	2.00	10.069	6.34	177.6	0.0	502.3
24.00		1.00	0.70	25.445	27.99	508.80	0.630	0.000	2.00	9.989	6.29	176.1	0.0	498.3
26.00		1.00	0.70	25.445	27.99	504.67	0.630	0.000	2.00	9.908	6.24	174.7	0.0	494.2
28.00		1.00	0.70	25.445	27.99	500.55	0.630	0.000	2.00	9.827	6.19	173.3	0.0	490.2
30.00		1.00	0.70	25.467	28.01	496.64	0.630	0.000	2.00	9.747	6.14	172.0	0.0	486.1
32.00		1.00	0.71	25.941	28.53	497.07	0.630	0.000	2.00	9.666	6.09	173.8	0.0	482.1
34.00		1.00	0.73	26.394	29.03	497.20	0.630	0.000	2.00	9.586	6.04	175.3	0.0	478.0
36.00		1.00	0.74	26.829	29.51	497.04	0.630	0.000	2.00	9.505	5.99	176.7	0.0	473.9
38.00		1.00	0.75	27.246	29.97	496.63	0.630	0.000	2.00	9.424	5.94	177.9	0.0	469.9
40.00		1.00	0.76	27.649	30.41	495.98	0.630	0.000	2.00	9.344	5.89	179.0	0.0	465.8
41.00 Bot - Section 2		1.00	0.77	27.844	30.63	495.58	0.630	0.000	1.00	4.642	2.92	89.6	0.0	231.4
42.00		1.00	0.77	28.037	30.84	495.12	0.630	0.000	1.00	4.695	2.96	91.2	0.0	464.5
44.00		1.00	0.78	28.412	31.25	494.07	0.630	0.000	2.00	9.331	5.88	183.7	0.0	922.9
46.00		1.00	0.79	28.775	31.65	492.83	0.630	0.000	2.00	9.250	5.83	184.5	0.0	914.8
48.00 Top - Section 1		1.00	0.80	29.127	32.04	491.42	0.630	0.000	2.00	9.169	5.78	185.1	0.0	906.7
50.00		1.00	0.81	29.469	32.42	498.01	0.630	0.000	2.00	9.089	5.73	185.6	0.0	453.0
52.00		1.00	0.82	29.801	32.78	496.35	0.630	0.000	2.00	9.008	5.68	186.0	0.0	449.0
54.00		1.00	0.83	30.124	33.14	494.54	0.630	0.000	2.00	8.927	5.62	186.4	0.0	444.9
56.00		1.00	0.84	30.439	33.48	492.61	0.630	0.000	2.00	8.847	5.57	186.6	0.0	440.9
58.00		1.00	0.85	30.745	33.82	490.55	0.630	0.000	2.00	8.766	5.52	186.8	0.0	436.8
60.00		1.00	0.85	31.045	34.15	488.38	0.630	0.000	2.00	8.686	5.47	186.9	0.0	432.8
62.00		1.00	0.86	31.337	34.47	486.10	0.630	0.000	2.00	8.605	5.42	186.9	0.0	428.7
64.00		1.00	0.87	31.622	34.78	483.71	0.630	0.000	2.00	8.524	5.37	186.8	0.0	424.7
66.00		1.00	0.88	31.902	35.09	481.22	0.630	0.000	2.00	8.444	5.32	186.7	0.0	420.6
68.00		1.00	0.89	32.175	35.39	478.64	0.630	0.000	2.00	8.363	5.27	186.5	0.0	416.6
70.00		1.00	0.89	32.442	35.69	475.97	0.630	0.000	2.00	8.282	5.22	186.2	0.0	412.5
72.00		1.00	0.90	32.705	35.97	473.22	0.630	0.000	2.00	8.202	5.17	185.9	0.0	408.5
74.00		1.00	0.91	32.962	36.26	470.38	0.630	0.000	2.00	8.121	5.12	185.5	0.0	404.4
76.00		1.00	0.91	33.214	36.54	467.47	0.630	0.000	2.00	8.041	5.07	185.1	0.0	400.4
78.00		1.00	0.92	33.461	36.81	464.48	0.630	0.000	2.00	7.960	5.01	184.6	0.0	396.3
80.00		1.00	0.93	33.704	37.07	461.41	0.630	0.000	2.00	7.879	4.96	184.0	0.0	392.3
82.00		1.00	0.93	33.943	37.34	458.28	0.630	0.000	2.00	7.799	4.91	183.4	0.0	388.2
84.00		1.00	0.94	34.177	37.59	455.08	0.630	0.000	2.00	7.718	4.86	182.8	0.0	384.1
85.00 Bot - Section 3		1.00	0.94	34.293	37.72	453.46	0.630	0.000	1.00	3.829	2.41	91.0	0.0	190.6
86.00		1.00	0.95	34.408	37.85	451.82	0.630	0.000	1.00	3.883	2.45	92.6	0.0	382.8
88.00		1.00	0.95	34.634	38.10	448.50	0.630	0.000	2.00	7.705	4.85	184.9	0.0	759.5

## Wind Loading - Shaft

<b>Structure:</b>	CT01916-S-SBA	<b>Code:</b>	TIA-222-H	11/8/2023
<b>Site Name:</b>	North Salem	<b>Exposure:</b>	B	
<b>Height:</b>	195.00 (ft)	<b>Crest Height:</b>	0.00	
<b>Base Elev:</b>	0.000 (ft)	<b>Site Class:</b>	D - Stiff Soil	
<b>Gh:</b>	1.1	<b>Topography:</b>	1	<b>Struct Class:</b> II
				<b>Page:</b> 25
90.00	1.00	0.96 34.858	38.34	445.11 0.630 0.000 2.00 7.624 4.80 184.2 0.0 751.4
91.00 Top - Section 2	1.00	0.96 34.968	38.46	443.40 0.630 0.000 1.00 3.782 2.38 91.6 0.0 372.7
92.00	1.00	0.96 35.077	38.58	450.56 0.630 0.000 1.00 3.762 2.37 91.4 0.0 187.2
93.00 Top - Section 3	1.00	0.97 35.186	38.70	448.83 0.630 0.000 1.00 3.742 2.36 91.2 0.0 186.2
94.00	1.00	0.97 35.293	38.82	447.09 0.630 0.000 1.00 3.721 2.34 91.0 0.0 158.9
96.00	1.00	0.98 35.506	39.06	443.57 0.630 0.000 2.00 7.382 4.65 181.7 0.0 315.3
98.00	1.00	0.98 35.716	39.29	439.99 0.630 0.000 2.00 7.302 4.60 180.7 0.0 311.8
100.00	1.00	0.99 35.923	39.52	436.36 0.630 0.000 2.00 7.221 4.55 179.8 0.0 308.3
102.00	1.00	0.99 36.127	39.74	432.69 0.630 0.000 2.00 7.141 4.50 178.8 0.0 304.8
104.00	1.00	1.00 36.328	39.96	428.96 0.630 0.000 2.00 7.060 4.45 177.7 0.0 301.4
106.00	1.00	1.00 36.526	40.18	425.19 0.630 0.000 2.00 6.979 4.40 176.7 0.0 297.9
108.00	1.00	1.01 36.721	40.39	421.37 0.630 0.000 2.00 6.899 4.35 175.6 0.0 294.4
110.00	1.00	1.02 36.914	40.61	417.51 0.630 0.000 2.00 6.818 4.30 174.4 0.0 291.0
112.00	1.00	1.02 37.105	40.82	413.61 0.630 0.000 2.00 6.737 4.24 173.2 0.0 287.5
114.00	1.00	1.03 37.293	41.02	409.67 0.630 0.000 2.00 6.657 4.19 172.0 0.0 284.0
116.00	1.00	1.03 37.479	41.23	405.68 0.630 0.000 2.00 6.576 4.14 170.8 0.0 280.5
118.00	1.00	1.04 37.662	41.43	401.66 0.630 0.000 2.00 6.496 4.09 169.5 0.0 277.1
120.00	1.00	1.04 37.844	41.63	397.59 0.630 0.000 2.00 6.415 4.04 168.2 0.0 273.6
122.00	1.00	1.05 38.023	41.83	393.49 0.630 0.000 2.00 6.334 3.99 166.9 0.0 270.1
124.00	1.00	1.05 38.200	42.02	389.36 0.630 0.000 2.00 6.254 3.94 165.6 0.0 266.6
125.00 Top - Section 4	1.00	1.05 38.288	42.12	387.27 0.630 0.000 1.00 3.097 1.95 82.2 0.0 132.0
126.00	1.00	1.06 38.375	42.21	385.18 0.630 0.000 1.00 3.076 1.94 81.8 0.0 109.5
128.00	1.00	1.06 38.548	42.40	380.98 0.630 0.000 2.00 6.092 3.84 162.8 0.0 216.8
130.00 Bot - Section 6	1.00	1.07 38.719	42.59	376.73 0.630 0.000 2.00 6.012 3.79 161.3 0.0 213.9
132.00	1.00	1.07 38.888	42.78	372.46 0.630 0.000 2.00 6.037 3.80 162.7 0.0 425.8
134.00	1.00	1.07 39.056	42.96	368.15 0.630 0.000 2.00 5.956 3.75 161.2 0.0 420.0
135.00 Top - Section 5	1.00	1.08 39.139	43.05	365.99 0.630 0.000 1.00 2.948 1.86 80.0 0.0 207.8
136.00	1.00	1.08 39.221	43.14	370.53 0.630 0.000 1.00 2.928 1.84 79.6 0.0 104.1
138.00	1.00	1.08 39.385	43.32	366.17 0.630 0.000 2.00 5.795 3.65 158.2 0.0 206.1
140.00 Top - Section 6	1.00	1.09 39.548	43.50	361.79 0.630 0.000 2.00 5.714 3.60 156.6 0.0 203.2
142.00	1.00	1.09 39.708	43.68	357.37 0.630 0.000 2.00 5.634 3.55 155.0 0.0 160.6
144.00	1.00	1.10 39.867	43.85	352.92 0.630 0.000 2.00 5.553 3.50 153.4 0.0 158.3
146.00	1.00	1.10 40.025	44.03	348.45 0.630 0.000 2.00 5.473 3.45 151.8 0.0 155.9
148.00	1.00	1.11 40.181	44.20	343.94 0.630 0.000 2.00 5.392 3.40 150.1 0.0 153.6
150.00	1.00	1.11 40.335	44.37	339.41 0.630 0.000 2.00 5.311 3.35 148.5 0.0 151.3
152.00	1.00	1.11 40.488	44.54	334.85 0.630 0.000 2.00 5.231 3.30 146.8 0.0 149.0
154.00	1.00	1.12 40.639	44.70	330.27 0.630 0.000 2.00 5.150 3.24 145.0 0.0 146.7
156.00	1.00	1.12 40.790	44.87	325.66 0.630 0.000 2.00 5.069 3.19 143.3 0.0 144.4
158.00	1.00	1.13 40.938	45.03	321.02 0.630 0.000 2.00 4.989 3.14 141.5 0.0 142.1
160.00	1.00	1.13 41.086	45.19	316.36 0.630 0.000 2.00 4.908 3.09 139.7 0.0 139.7
162.00	1.00	1.13 41.232	45.35	311.67 0.630 0.000 2.00 4.828 3.04 137.9 0.0 137.4
164.00	1.00	1.14 41.377	45.51	306.96 0.630 0.000 2.00 4.747 2.99 136.1 0.0 135.1
165.00 Appurtenance(s)	1.00	1.14 41.448	45.59	304.59 0.630 0.000 1.00 2.343 1.48 67.3 0.0 66.7
166.00	1.00	1.14 41.520	45.67	302.22 0.630 0.000 1.00 2.323 1.46 66.8 0.0 66.1
168.00	1.00	1.15 41.662	45.83	297.47 0.630 0.000 2.00 4.586 2.89 132.4 0.0 130.5
170.00	1.00	1.15 41.804	45.98	292.68 0.630 0.000 2.00 4.505 2.84 130.5 0.0 128.2
172.00	1.00	1.15 41.943	46.14	287.88 0.630 0.000 2.00 4.425 2.79 128.6 0.0 125.8
174.00	1.00	1.16 42.082	46.29	283.05 0.630 0.000 2.00 4.344 2.74 126.7 0.0 123.5
175.00 Appurtenance(s)	1.00	1.16 42.151	46.37	280.63 0.630 0.000 1.00 2.142 1.35 62.6 0.0 60.9
176.00	1.00	1.16 42.220	46.44	278.20 0.630 0.000 1.00 2.122 1.34 62.1 0.0 60.3
178.00	1.00	1.17 42.356	46.59	273.33 0.630 0.000 2.00 4.183 2.64 122.8 0.0 118.9
180.00 Top - Section 7	1.00	1.17 42.492	46.74	268.44 0.630 0.000 2.00 4.102 2.58 120.8 0.0 116.6
182.00	1.00	1.17 42.626	46.89	264.78 0.450 0.000 2.00 4.000 1.80 84.4 0.0 128.3
184.00	1.00	1.18 42.759	47.04	265.19 0.450 0.000 2.00 4.000 1.80 84.7 0.0 128.3
185.00 Appurtenance(s)	1.00	1.18 42.826	47.11	265.40 0.450 0.000 1.00 2.000 0.90 42.4 0.0 64.1
186.00	1.00	1.18 42.892	47.18	265.60 0.450 0.000 1.00 2.000 0.90 42.5 0.0 64.1
188.00	1.00	1.18 43.023	47.33	266.01 0.450 0.000 2.00 4.000 1.80 85.2 0.0 128.3

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA      **Code:** TIA-222-H      **Date:** 11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 26

190.00	1.00	1.19	43.153	47.47	266.41	0.450	0.000	2.00	4.000	1.80	85.4	0.0	128.3
192.00	1.00	1.19	43.283	47.61	266.81	0.450	0.000	2.00	4.000	1.80	85.7	0.0	128.3
194.00	1.00	1.19	43.411	47.75	267.21	0.450	0.000	2.00	4.000	1.80	86.0	0.0	128.3
195.00 Appurtenance(s)	1.00	1.20	43.475	47.82	267.40	0.450	0.000	1.00	2.000	0.90	43.0	0.0	64.1

## Discrete Appurtenance Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

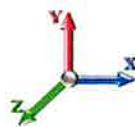
Page: 27



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations**

31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	HRK12 (Handrail Kit)	1	43.475	47.822	1.00	1.00	6.75	235.55	0.000	0.000	322.80	0.00	0.00
2	195.00	Low Profile	1	43.475	47.822	1.00	1.00	26.00	1620.00	0.000	0.000	1243.38	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	43.475	47.822	1.00	1.00	9.50	418.42	0.000	0.000	454.31	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	43.475	47.822	1.00	1.00	6.70	207.00	0.000	0.000	320.41	0.00	0.00
5	195.00	TD-RRH8x20-25	3	43.475	47.822	0.50	1.00	6.07	189.00	0.000	0.000	290.52	0.00	0.00
6	195.00	NNVV-65B-R4	3	43.475	47.822	0.73	1.00	26.87	208.98	0.000	0.000	1285.05	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	43.475	47.822	0.50	1.00	4.16	162.00	0.000	0.000	198.70	0.00	0.00
8	195.00	800 MHz RRH	6	43.475	47.822	0.50	1.00	7.47	286.20	0.000	0.000	357.23	0.00	0.00
9	195.00	APXVTM14-C-I20	3	43.475	47.822	0.78	1.00	14.84	151.74	0.000	0.000	709.47	0.00	0.00
10	185.00	(3) SitePro 1 PRK-SFS-L	1	42.826	47.108	0.80	0.80	5.36	207.00	0.000	0.000	252.50	0.00	0.00
11	185.00	Powerwave LGP21903	6	42.826	47.108	0.40	0.80	0.65	29.70	0.000	0.000	30.53	0.00	0.00
12	185.00	Sector Frames	1	42.826	47.108	1.00	1.00	22.00	1350.00	0.000	0.000	1036.38	0.00	0.00
13	185.00	Cci DMP65R-BU8DA	6	42.826	47.108	0.58	0.80	62.62	518.40	0.000	0.000	2949.76	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	42.826	47.108	0.40	0.80	2.21	161.73	0.000	0.000	104.02	0.00	0.00
15	185.00	(3) SitePro 1 SFS-L with	1	42.826	47.108	0.80	0.80	8.00	462.60	0.000	0.000	376.87	0.00	0.00
16	185.00	(3) SitePro 1 HRK14-3HD	1	42.826	47.108	0.80	0.80	7.80	365.95	0.000	0.000	367.44	0.00	0.00
17	185.00	Ericsson RRUS 8843 B2	3	42.826	47.108	0.40	0.80	1.97	194.40	0.000	0.000	92.71	0.00	0.00
18	185.00	Raycap DC6-48-60-18-8F	1	42.826	47.108	0.40	0.80	0.37	28.62	0.000	0.000	17.34	0.00	0.00
19	185.00	Powerwave LGP21401	6	42.826	47.108	0.40	0.80	3.10	76.14	0.000	0.000	145.85	0.00	0.00
20	185.00	Powerwave 7770	3	42.826	47.108	0.58	0.80	9.64	94.50	0.000	0.000	453.94	0.00	0.00
21	185.00	Raycap	1	42.826	47.108	0.40	0.80	1.91	14.40	0.000	0.000	90.07	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	42.826	47.108	0.40	0.80	0.50	18.00	0.000	0.000	23.74	0.00	0.00
23	185.00	Ericsson 4449 B5/B12	3	42.826	47.108	0.40	0.80	2.36	191.70	0.000	0.000	111.36	0.00	0.00
24	175.00	RFS	3	42.151	46.366	0.50	0.80	9.61	109.89	0.000	0.000	445.69	0.00	0.00
25	175.00	Platform w/ Hand Rail	1	42.151	46.366	1.00	1.00	32.00	1440.00	0.000	0.000	1483.72	0.00	0.00
26	175.00	Ericsson RRUS11 B2	6	42.151	46.366	0.40	0.80	6.05	273.24	0.000	0.000	280.42	0.00	0.00
27	175.00	Ericsson RRUS11 B4	3	42.151	46.366	0.40	0.80	3.02	136.62	0.000	0.000	140.21	0.00	0.00
28	175.00	RFS	3	42.151	46.366	0.56	0.80	34.00	331.56	0.000	0.000	1576.60	0.00	0.00
29	175.00	Ericsson 4449 B71 + B85	3	42.151	46.366	0.54	0.80	3.17	191.70	0.000	0.000	146.88	0.00	0.00
30	175.00	Commscope	3	42.151	46.366	0.64	0.80	22.02	134.46	0.000	0.000	1021.10	0.00	0.00
31	165.00	BSAMNT-SBS-1-2	3	41.448	45.593	0.56	0.75	0.00	69.12	0.000	0.000	0.00	0.00	0.00
32	165.00	RMQLP-4096-HK Plat. +	1	41.448	45.593	1.00	1.00	51.70	2529.05	0.000	0.000	2357.17	0.00	0.00
33	165.00	Raycap	9	41.448	45.593	0.38	0.75	13.70	259.20	0.000	0.000	624.74	0.00	0.00
34	165.00	Samsung RF4461d-13A	12	41.448	45.593	0.38	0.75	8.42	854.28	0.000	0.000	383.67	0.00	0.00
35	165.00	Samsung B2/B66A RRH	12	41.448	45.593	0.38	0.75	8.42	806.76	0.000	0.000	383.67	0.00	0.00
36	165.00	Samsung MT6407-77A	6	41.448	45.593	0.52	0.75	12.16	428.76	0.000	0.000	554.37	0.00	0.00
37	165.00	Commscope	15	41.448	45.593	0.62	0.75	75.45	589.27	0.000	0.000	3439.88	0.00	0.00

Totals: 15,345.94

24,072.49

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 28



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations**

31

<b>Elev (ft)</b>	<b>Description</b>	<b>Lateral FX (-) (lb)</b>	<b>Axial FY (-) (lb)</b>	<b>Torsion MY (lb-ft)</b>	<b>Moment MZ (lb-ft)</b>
0.00		0.00	0.00	0.00	0.00
2.00		212.66	610.31	0.00	0.00
4.00		211.24	606.26	0.00	0.00
6.00		209.82	602.21	0.00	0.00
8.00		208.40	598.15	0.00	0.00
10.00		206.98	594.10	0.00	0.00
12.00		205.56	590.05	0.00	0.00
14.00		204.13	586.00	0.00	0.00
16.00		202.71	581.95	0.00	0.00
18.00		201.29	577.90	0.00	0.00
20.00		199.87	573.84	0.00	0.00
22.00		198.45	569.79	0.00	0.00
24.00		197.03	565.74	0.00	0.00
26.00		195.60	561.69	0.00	0.00
28.00		194.18	557.64	0.00	0.00
30.00		192.91	553.59	0.00	0.00
32.00		194.86	549.53	0.00	0.00
34.00		196.60	545.48	0.00	0.00
36.00		198.17	541.43	0.00	0.00
38.00		199.56	537.38	0.00	0.00
40.00		200.80	533.33	0.00	0.00
41.00		100.49	265.14	0.00	0.00
42.00		102.19	498.24	0.00	0.00
44.00		205.79	990.41	0.00	0.00
46.00		206.67	982.30	0.00	0.00
48.00		207.43	974.20	0.00	0.00
50.00		208.09	520.51	0.00	0.00
52.00		208.64	516.46	0.00	0.00
54.00		209.10	512.41	0.00	0.00
56.00		209.46	508.36	0.00	0.00
58.00		209.74	504.30	0.00	0.00
60.00		209.93	500.25	0.00	0.00
62.00		210.05	496.20	0.00	0.00
64.00		210.09	492.15	0.00	0.00
66.00		210.06	488.10	0.00	0.00
68.00		209.96	484.04	0.00	0.00
70.00		209.80	479.99	0.00	0.00
72.00		209.57	475.94	0.00	0.00
74.00		209.28	471.89	0.00	0.00
76.00		208.94	467.84	0.00	0.00
78.00		208.53	463.79	0.00	0.00
80.00		208.08	459.73	0.00	0.00
82.00		207.57	455.68	0.00	0.00
84.00		207.01	451.63	0.00	0.00
85.00		103.12	224.30	0.00	0.00
86.00		104.73	416.55	0.00	0.00
88.00		209.30	827.02	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b>	CT01916-S-SBA	<b>Code:</b>	TIA-222-H	11/8/2023
<b>Site Name:</b>	North Salem	<b>Exposure:</b>	B	
<b>Height:</b>	195.00 (ft)	<b>Crest Height:</b>	0.00	
<b>Base Elev:</b>	0.000 (ft)	<b>Site Class:</b>	D - Stiff Soil	
<b>Gh:</b>	1.1	<b>Topography:</b>	1	<b>Struct Class:</b> II
				Page: 29
90.00	208.62	818.91	0.00	0.00
91.00	103.89	406.42	0.00	0.00
92.00	103.70	220.93	0.00	0.00
93.00	103.52	219.91	0.00	0.00
94.00	103.32	192.68	0.00	0.00
96.00	206.33	382.75	0.00	0.00
98.00	205.48	379.28	0.00	0.00
100.00	204.59	375.80	0.00	0.00
102.00	203.66	372.33	0.00	0.00
104.00	202.69	368.86	0.00	0.00
106.00	201.69	365.39	0.00	0.00
108.00	200.65	361.91	0.00	0.00
110.00	199.58	358.44	0.00	0.00
112.00	198.47	354.97	0.00	0.00
114.00	197.33	351.49	0.00	0.00
116.00	196.15	348.02	0.00	0.00
118.00	194.95	344.55	0.00	0.00
120.00	193.71	341.08	0.00	0.00
122.00	192.44	337.60	0.00	0.00
124.00	191.14	334.13	0.00	0.00
125.00	94.98	165.76	0.00	0.00
126.00	94.64	143.23	0.00	0.00
128.00	188.46	284.28	0.00	0.00
130.00	187.08	281.39	0.00	0.00
132.00	188.52	493.30	0.00	0.00
134.00	187.09	487.51	0.00	0.00
135.00	92.91	241.58	0.00	0.00
136.00	92.55	137.89	0.00	0.00
138.00	184.16	273.61	0.00	0.00
140.00	182.66	270.71	0.00	0.00
142.00	181.13	228.05	0.00	0.00
144.00	166.50	225.74	0.00	0.00
146.00	151.79	223.42	0.00	0.00
148.00	150.14	221.11	0.00	0.00
150.00	148.46	218.79	0.00	0.00
152.00	146.76	216.48	0.00	0.00
154.00	145.04	214.16	0.00	0.00
156.00	143.30	211.85	0.00	0.00
158.00	141.54	209.53	0.00	0.00
160.00	139.75	207.22	0.00	0.00
162.00	137.94	204.90	0.00	0.00
164.00	136.12	202.59	0.00	0.00
165.00	(58) attachments	7810.81	5636.87	0.00
		66.84	88.51	0.00
		132.40	175.28	0.00
		130.51	172.96	0.00
		128.61	170.65	0.00
		126.68	168.33	0.00
175.00	(22) attachments	5157.19	2700.77	0.00
		62.07	79.88	0.00
		130.11	158.02	0.00
		179.69	155.71	0.00
		143.48	167.38	0.00
		92.07	167.38	0.00
185.00	(37) attachments	6094.90	3796.83	0.00
		42.46	67.56	0.00
		85.19	135.12	0.00



## Total Applied Force Summary

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023		
<b>Site Name:</b> North Salem	<b>Exposure:</b> B			
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00			
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil			
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II		
		Page: 30		
190.00	85.44	135.12	0.00	0.00
192.00	85.70	135.12	0.00	0.00
194.00	85.95	135.12	0.00	0.00
195.00 (22) attachments	5224.91	3546.45	0.00	0.00
<b>Totals:</b>	<b>41,792.85</b>	<b>55,755.36</b>	<b>0.00</b>	<b>0.00</b>



## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 31



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 31

<b>Top Elev (ft)</b>	<b>Description</b>	<b>Wind Exposed</b>	<b>Length (ft)</b>	<b>Exposed Width (in)</b>	<b>Area (sqft)</b>	<b>CaAa (sqft)</b>	<b>Ra</b>	<b>Cf Adjust Factor</b>	<b>qz (psf)</b>	<b>F X (lb)</b>	<b>Dead Load (lb)</b>
2.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
2.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
4.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
4.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
6.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
6.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
8.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
8.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
10.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
10.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
12.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
12.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
14.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
14.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
16.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
16.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
18.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
18.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
20.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
20.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
22.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
22.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
24.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
24.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
26.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
26.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
28.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.445	20.89
28.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.445	0.00
30.00	(4) C6x10.5	Yes	2.00	1.119	4.00	0.67	0.75	0.000	0.000	25.467	20.90
30.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.467	0.00
32.00	(4) C6x10.5	Yes	2.00	1.109	4.00	0.67	0.74	0.000	0.000	25.941	21.09
32.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.941	0.00
34.00	(4) C6x10.5	Yes	2.00	1.099	4.00	0.67	0.73	0.000	0.000	26.394	21.27
34.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00
36.00	(4) C6x10.5	Yes	2.00	1.090	4.00	0.67	0.73	0.000	0.000	26.829	21.45
36.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.829	0.00
38.00	(4) C6x10.5	Yes	2.00	1.082	4.00	0.67	0.72	0.000	0.000	27.246	21.62
38.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.246	0.00
40.00	(4) C6x10.5	Yes	2.00	1.074	4.00	0.67	0.72	0.000	0.000	27.649	21.77
40.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.649	0.00
41.00	(4) C6x10.5	Yes	1.00	1.070	4.00	0.33	0.36	0.000	0.000	27.844	10.93
41.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.844	0.00
42.00	(4) C6x10.5	Yes	1.00	1.066	4.00	0.33	0.36	0.000	0.000	28.037	10.96
42.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.037	0.00
44.00	(4) C6x10.5	Yes	2.00	1.059	4.00	0.67	0.71	0.000	0.000	28.412	22.07
44.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.412	0.00
46.00	(4) C6x10.5	Yes	2.00	1.053	4.00	0.67	0.70	0.000	0.000	28.775	22.21

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

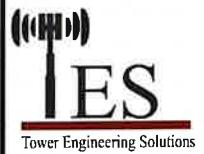
**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

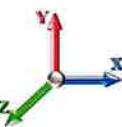
Page: 32



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations**

31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
46.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.775	0.00	0.00
48.00	(4) C6x10.5	Yes	2.00	1.046	4.00	0.67	0.70	0.000	0.000	29.127	22.35	0.00
48.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	1.040	4.00	0.67	0.69	0.000	0.000	29.469	22.48	0.00
50.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.469	0.00	0.00
52.00	(4) C6x10.5	Yes	2.00	1.034	4.00	0.67	0.69	0.000	0.000	29.801	22.61	0.00
52.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.801	0.00	0.00
54.00	(4) C6x10.5	Yes	2.00	1.029	4.00	0.67	0.69	0.000	0.000	30.124	22.73	0.00
54.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.124	0.00	0.00
56.00	(4) C6x10.5	Yes	2.00	1.024	4.00	0.67	0.68	0.000	0.000	30.439	22.85	0.00
56.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.439	0.00	0.00
58.00	(4) C6x10.5	Yes	2.00	1.018	4.00	0.67	0.68	0.000	0.000	30.745	22.96	0.00
60.00	(4) C6x10.5	Yes	2.00	1.013	4.00	0.67	0.68	0.000	0.000	31.045	23.07	0.00
62.00	(4) C6x10.5	Yes	2.00	1.009	4.00	0.67	0.67	0.000	0.000	31.337	23.18	0.00
64.00	(4) C6x10.5	Yes	2.00	1.004	4.00	0.67	0.67	0.000	0.000	31.622	23.29	0.00
66.00	(4) C6x10.5	Yes	2.00	1.000	4.00	0.67	0.67	0.000	0.000	31.902	23.39	0.00
68.00	(4) C6x10.5	Yes	2.00	0.996	4.00	0.67	0.66	0.000	0.000	32.175	23.49	0.00
70.00	(4) C6x10.5	Yes	2.00	0.991	4.00	0.67	0.66	0.000	0.000	32.442	23.59	0.00
72.00	(4) C6x10.5	Yes	2.00	0.987	4.00	0.67	0.66	0.000	0.000	32.705	23.68	0.00
74.00	(4) C6x10.5	Yes	2.00	0.984	4.00	0.67	0.66	0.000	0.000	32.962	23.77	0.00
76.00	(4) C6x10.5	Yes	2.00	0.980	4.00	0.67	0.65	0.000	0.000	33.214	23.87	0.00
78.00	(4) C6x10.5	Yes	2.00	0.976	4.00	0.67	0.65	0.000	0.000	33.461	23.95	0.00
80.00	(4) C6x10.5	Yes	2.00	0.973	4.00	0.67	0.65	0.000	0.000	33.704	24.04	0.00
82.00	(4) C6x10.5	Yes	2.00	0.969	4.00	0.67	0.65	0.000	0.000	33.943	24.13	0.00
84.00	(4) C6x10.5	Yes	2.00	0.966	4.00	0.67	0.64	0.000	0.000	34.177	24.21	0.00
85.00	(4) C6x10.5	Yes	1.00	0.964	4.00	0.33	0.32	0.000	0.000	34.293	12.12	0.00
86.00	(4) C6x10.5	Yes	1.00	0.963	4.00	0.33	0.32	0.000	0.000	34.408	12.15	0.00
88.00	(4) C6x10.5	Yes	2.00	0.960	4.00	0.67	0.64	0.000	0.000	34.634	24.37	0.00
90.00	(4) C6x10.5	Yes	2.00	0.956	4.00	0.67	0.64	0.000	0.000	34.858	24.45	0.00
91.00	(4) C6x10.5	Yes	1.00	0.955	4.00	0.33	0.32	0.000	0.000	34.968	12.24	0.00
92.00	(4) C6x10.5	Yes	1.00	0.953	4.00	0.33	0.32	0.000	0.000	35.077	12.26	0.00
93.00	(4) C6x10.5	Yes	1.00	0.952	4.00	0.33	0.32	0.000	0.000	35.186	12.28	0.00
94.00	(4) C6x10.5	Yes	1.00	0.951	4.00	0.33	0.32	0.000	0.000	35.293	12.30	0.00
96.00	(4) C6x10.5	Yes	2.00	0.948	4.00	0.67	0.63	0.000	0.000	35.506	24.67	0.00
98.00	(4) C6x10.5	Yes	2.00	0.945	4.00	0.67	0.63	0.000	0.000	35.716	24.75	0.00
100.00	(4) C6x10.5	Yes	2.00	0.942	4.00	0.67	0.63	0.000	0.000	35.923	24.82	0.00
102.00	(4) C6x10.5	Yes	2.00	0.939	4.00	0.67	0.63	0.000	0.000	36.127	24.89	0.00
104.00	(4) C6x10.5	Yes	2.00	0.937	4.00	0.67	0.62	0.000	0.000	36.328	24.96	0.00
106.00	(4) C6x10.5	Yes	2.00	0.934	4.00	0.67	0.62	0.000	0.000	36.526	25.03	0.00
108.00	(4) C6x10.5	Yes	2.00	0.932	4.00	0.67	0.62	0.000	0.000	36.721	25.09	0.00
110.00	(4) C6x10.5	Yes	2.00	0.929	4.00	0.67	0.62	0.000	0.000	36.914	25.16	0.00
112.00	(4) C6x10.5	Yes	2.00	0.927	4.00	0.67	0.62	0.000	0.000	37.105	25.22	0.00
114.00	(4) C6x10.5	Yes	2.00	0.925	4.00	0.67	0.62	0.000	0.000	37.293	25.29	0.00
116.00	(4) C6x10.5	Yes	2.00	0.922	4.00	0.67	0.61	0.000	0.000	37.479	25.35	0.00
118.00	(4) C6x10.5	Yes	2.00	0.920	4.00	0.67	0.61	0.000	0.000	37.662	25.41	0.00
120.00	(4) C6x10.5	Yes	2.00	0.918	4.00	0.67	0.61	0.000	0.000	37.844	25.47	0.00
122.00	(4) C6x10.5	Yes	2.00	0.916	4.00	0.67	0.61	0.000	0.000	38.023	25.53	0.00

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

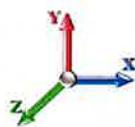
Page: 33



**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 31

<b>Top Elev (ft)</b>	<b>Description</b>	<b>Wind Exposed</b>	<b>Length (ft)</b>	<b>Ca</b>	<b>Exposed Width (in)</b>	<b>Area (sqft)</b>	<b>CaAa (sqft)</b>	<b>Ra</b>	<b>Cf Adjust Factor</b>	<b>qz (psf)</b>	<b>F X (lb)</b>	<b>Dead Load (lb)</b>
124.00	(4) C6x10.5	Yes	2.00	0.914	4.00	0.67	0.61	0.000	0.000	38.200	25.59	0.00
125.00	(4) C6x10.5	Yes	1.00	0.913	4.00	0.33	0.30	0.000	0.000	38.288	12.81	0.00
126.00	(4) C6x10.5	Yes	1.00	0.912	4.00	0.33	0.30	0.000	0.000	38.375	12.83	0.00
128.00	(4) C6x10.5	Yes	2.00	0.909	4.00	0.67	0.61	0.000	0.000	38.548	25.71	0.00
130.00	(4) C6x10.5	Yes	2.00	0.907	4.00	0.67	0.60	0.000	0.000	38.719	25.77	0.00
132.00	(4) C6x10.5	Yes	2.00	0.906	4.00	0.67	0.60	0.000	0.000	38.888	25.82	0.00
134.00	(4) C6x10.5	Yes	2.00	0.904	4.00	0.67	0.60	0.000	0.000	39.056	25.88	0.00
135.00	(4) C6x10.5	Yes	1.00	0.903	4.00	0.33	0.30	0.000	0.000	39.139	12.95	0.00
136.00	(4) C6x10.5	Yes	1.00	0.902	4.00	0.33	0.30	0.000	0.000	39.221	12.97	0.00
138.00	(4) C6x10.5	Yes	2.00	0.900	4.00	0.67	0.60	0.000	0.000	39.385	25.99	0.00
140.00	(4) C6x10.5	Yes	2.00	0.898	4.00	0.67	0.60	0.000	0.000	39.548	26.04	0.00
142.00	(4) C6x10.5	Yes	2.00	0.896	4.00	0.67	0.60	0.000	0.000	39.708	26.09	0.00
144.00	(4) C6x10.5	Yes	1.00	0.894	4.00	0.33	0.30	0.000	0.000	39.867	13.07	0.00
178.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	42.356	7.34	0.00
180.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	42.492	58.89	0.00
182.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	42.626	59.08	0.00
184.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	42.759	7.41	0.00
<b>Totals:</b>										<b>1,808.4</b>	<b>0.0</b>	

## Calculated Forces

Structure: CT01916-S-SBA

Code: TIA-222-H

11/8/2023

Site Name: North Salem

Exposure: B

Height: 195.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

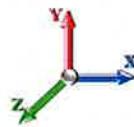
Page: 34



Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations

31

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-55.73	-41.83	0.00	-6206.4	0.00	6206.44	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.821
2.00	-55.06	-41.69	0.00	-6122.7	0.00	6122.78	5777.89	1549.56	8174.96	7566.71	0.02	-0.076	0.000	0.819
4.00	-54.40	-41.55	0.00	-6039.4	0.00	6039.41	5752.42	1537.95	8052.92	7476.52	0.07	-0.153	0.000	0.818
6.00	-53.74	-41.41	0.00	-5956.3	0.00	5956.30	5726.67	1526.34	7931.81	7386.49	0.15	-0.230	0.000	0.816
8.00	-53.09	-41.27	0.00	-5873.4	0.00	5873.48	5700.65	1514.73	7811.61	7296.62	0.26	-0.308	0.000	0.815
10.00	-52.44	-41.14	0.00	-5790.9	0.00	5790.94	5674.37	1503.12	7692.32	7206.92	0.41	-0.387	0.000	0.814
12.00	-51.79	-41.00	0.00	-5708.6	0.00	5708.67	5647.82	1491.51	7573.96	7117.40	0.59	-0.466	0.000	0.812
14.00	-51.15	-40.86	0.00	-5626.6	0.00	5626.67	5620.99	1479.91	7456.51	7028.07	0.80	-0.547	0.000	0.810
16.00	-50.51	-40.72	0.00	-5544.9	0.00	5544.95	5593.90	1468.30	7339.98	6938.94	1.05	-0.628	0.000	0.809
18.00	-49.88	-40.59	0.00	-5463.5	0.00	5463.51	5566.54	1456.69	7224.37	6850.01	1.33	-0.709	0.000	0.807
20.00	-49.25	-40.45	0.00	-5382.3	0.00	5382.34	5538.91	1445.08	7109.68	6761.30	1.64	-0.792	0.000	0.806
22.00	-48.62	-40.31	0.00	-5301.4	0.00	5301.44	5511.02	1433.47	6995.90	6672.80	1.99	-0.875	0.000	0.804
24.00	-48.00	-40.18	0.00	-5220.8	0.00	5220.81	5482.85	1421.86	6883.05	6584.53	2.38	-0.958	0.000	0.802
26.00	-47.39	-40.04	0.00	-5140.4	0.00	5140.45	5454.41	1410.25	6771.11	6496.50	2.80	-1.043	0.000	0.801
28.00	-46.77	-39.91	0.00	-5060.3	0.00	5060.36	5425.71	1398.64	6660.08	6408.72	3.25	-1.128	0.000	0.799
30.00	-46.16	-39.78	0.00	-4980.5	0.00	4980.55	5396.74	1387.03	6549.98	6321.18	3.74	-1.215	0.000	0.797
32.00	-45.56	-39.64	0.00	-4901.0	0.00	4901.00	5367.49	1375.42	6440.79	6233.91	4.27	-1.301	0.000	0.796
34.00	-44.96	-39.50	0.00	-4821.7	0.00	4821.72	5337.98	1363.81	6332.52	6146.90	4.84	-1.389	0.000	0.794
36.00	-44.36	-39.35	0.00	-4742.7	0.00	4742.73	5308.20	1352.20	6225.17	6060.17	5.44	-1.478	0.000	0.792
38.00	-43.77	-39.21	0.00	-4664.0	0.00	4664.02	5278.15	1340.59	6118.74	5973.73	6.08	-1.567	0.000	0.790
40.00	-43.19	-39.04	0.00	-4585.6	0.00	4585.60	5247.84	1328.98	6013.22	5887.58	6.75	-1.657	0.000	0.788
41.00	-42.90	-38.97	0.00	-4546.5	0.00	4546.56	5232.58	1323.18	5960.81	5844.61	7.10	-1.703	0.000	0.787
42.00	-42.36	-38.90	0.00	-4507.5	0.00	4507.59	5217.25	1317.37	5908.62	5801.72	7.47	-1.749	0.000	0.786
44.00	-41.31	-38.73	0.00	-4429.7	0.00	4429.78	5186.39	1305.76	5804.94	5716.18	8.22	-1.840	0.000	0.784
46.00	-40.27	-38.56	0.00	-4352.3	0.00	4352.31	5155.27	1294.16	5702.18	5630.95	9.01	-1.933	0.000	0.782
48.00	-39.24	-38.38	0.00	-4275.1	0.00	4275.19	5181.33	1303.87	5788.10	5702.24	9.84	-2.026	0.000	0.758
50.00	-38.67	-38.22	0.00	-4198.4	0.00	4198.43	5150.16	1292.26	5685.49	5617.06	10.71	-2.121	0.000	0.756
52.00	-38.10	-38.05	0.00	-4121.9	0.00	4121.99	5118.73	1280.65	5583.79	5532.21	11.62	-2.211	0.000	0.753
54.00	-37.54	-37.88	0.00	-4045.8	0.00	4045.88	5087.02	1269.04	5483.02	5447.69	12.56	-2.302	0.000	0.751
56.00	-36.98	-37.71	0.00	-3970.1	0.00	3970.12	5055.04	1257.43	5383.16	5363.51	13.55	-2.394	0.000	0.748
58.00	-36.42	-37.54	0.00	-3894.6	0.00	3894.69	5022.80	1245.82	5284.21	5279.69	14.57	-2.487	0.000	0.746
60.00	-35.87	-37.37	0.00	-3819.6	0.00	3819.61	4990.29	1234.21	5186.19	5196.21	15.63	-2.581	0.000	0.743
62.00	-35.32	-37.19	0.00	-3744.8	0.00	3744.88	4957.51	1222.60	5089.08	5113.11	16.73	-2.675	0.000	0.740
64.00	-34.78	-37.02	0.00	-3670.4	0.00	3670.49	4924.46	1210.99	4992.89	5030.38	17.87	-2.771	0.000	0.738
66.00	-34.24	-36.84	0.00	-3596.4	0.00	3596.45	4891.14	1199.39	4897.62	4948.02	19.05	-2.867	0.000	0.735
68.00	-33.70	-36.67	0.00	-3522.7	0.00	3522.77	4857.55	1187.78	4803.27	4866.06	20.28	-2.963	0.000	0.732
70.00	-33.17	-36.49	0.00	-3449.4	0.00	3449.44	4823.69	1176.17	4709.83	4784.49	21.54	-3.061	0.000	0.729
72.00	-32.65	-36.31	0.00	-3376.4	0.00	3376.46	4789.56	1164.56	4617.32	4703.33	22.84	-3.159	0.000	0.726
74.00	-32.12	-36.13	0.00	-3303.8	0.00	3303.84	4755.17	1152.95	4525.72	4622.58	24.19	-3.259	0.000	0.722
76.00	-31.61	-35.95	0.00	-3231.5	0.00	3231.59	4720.51	1141.34	4435.03	4542.26	25.57	-3.359	0.000	0.719
78.00	-31.09	-35.77	0.00	-3159.6	0.00	3159.69	4685.57	1129.73	4345.27	4462.36	27.00	-3.460	0.000	0.716
80.00	-30.58	-35.59	0.00	-3088.1	0.00	3088.15	4650.37	1118.12	4256.42	4382.90	28.47	-3.561	0.000	0.712
82.00	-30.08	-35.41	0.00	-3016.9	0.00	3016.98	4614.90	1106.51	4168.49	4303.88	29.98	-3.664	0.000	0.709
84.00	-29.59	-35.21	0.00	-2946.1	0.00	2946.17	4579.16	1094.90	4081.48	4225.32	31.54	-3.767	0.000	0.705
85.00	-29.34	-35.12	0.00	-2910.9	0.00	2910.96	4561.19	1089.10	4038.32	4186.21	32.33	-3.820	0.000	0.703
86.00	-28.89	-35.03	0.00	-2875.8	0.00	2875.84	4543.15	1083.29	3995.39	4147.21	33.14	-3.872	0.000	0.701
88.00	-28.01	-34.81	0.00	-2805.7	0.00	2805.78	4506.88	1071.68	3910.21	4069.58	34.78	-3.977	0.000	0.697
90.00	-27.16	-34.59	0.00	-2736.1	0.00	2736.16	4470.33	1060.07	3825.95	3992.42	36.47	-4.083	0.000	0.692

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:**

1

**Struct Class:**

II

Page: 35



Gh	X	Y	Z	Exposure	Height	Base Elev	Struct Class	Page						
91.00	-26.73	-34.48	0.00	-2701.5	0.00	2701.57	4519.12	1075.59	3938.79	4095.67	37.33	-4.136	0.000	0.667
92.00	-26.49	-34.38	0.00	-2667.1	0.00	2667.10	4500.93	1069.79	3896.39	4056.95	38.20	-4.190	0.000	0.664
93.00	-26.25	-34.29	0.00	-2632.7	0.00	2632.72	4482.67	1063.98	3854.22	4018.35	39.09	-4.241	0.000	0.662
93.00	-26.25	-34.29	0.00	-2632.7	0.00	2632.72	3684.61	913.29	3313.08	3312.42	39.09	-4.241	0.000	0.803
94.00	-26.01	-34.21	0.00	-2598.4	0.00	2598.43	3670.68	908.31	3277.08	3281.76	39.98	-4.292	0.000	0.800
96.00	-25.57	-34.03	0.00	-2530.0	0.00	2530.02	3642.60	898.36	3205.67	3220.68	41.80	-4.410	0.000	0.794
98.00	-25.14	-33.84	0.00	-2461.9	0.00	2461.97	3614.26	888.41	3135.05	3159.91	43.67	-4.529	0.000	0.788
100.00	-24.71	-33.66	0.00	-2394.2	0.00	2394.28	3585.64	878.46	3065.22	3099.48	45.59	-4.648	0.000	0.781
102.00	-24.29	-33.48	0.00	-2326.9	0.00	2326.96	3556.76	868.51	2996.17	3039.38	47.56	-4.768	0.000	0.774
104.00	-23.87	-33.30	0.00	-2260.0	0.00	2260.01	3527.61	858.56	2927.90	2979.62	49.59	-4.889	0.000	0.767
106.00	-23.45	-33.11	0.00	-2193.4	0.00	2193.42	3498.19	848.61	2860.43	2920.21	51.66	-5.010	0.000	0.759
108.00	-23.04	-32.93	0.00	-2127.1	0.00	2127.19	3468.50	838.66	2793.74	2861.17	53.78	-5.132	0.000	0.752
110.00	-22.63	-32.75	0.00	-2061.3	0.00	2061.33	3438.54	828.71	2727.83	2802.49	55.95	-5.254	0.000	0.744
112.00	-22.22	-32.57	0.00	-1995.8	0.00	1995.83	3408.31	818.76	2662.72	2744.18	58.18	-5.377	0.000	0.735
114.00	-21.82	-32.38	0.00	-1930.7	0.00	1930.70	3377.82	808.81	2598.39	2686.26	60.45	-5.501	0.000	0.727
116.00	-21.43	-32.20	0.00	-1865.9	0.00	1865.94	3347.05	798.86	2534.84	2628.73	62.78	-5.624	0.000	0.718
118.00	-21.03	-32.02	0.00	-1801.5	0.00	1801.54	3316.02	788.90	2472.09	2571.60	65.16	-5.749	0.000	0.709
120.00	-20.65	-31.84	0.00	-1737.5	0.00	1737.51	3284.72	778.95	2410.12	2514.88	67.59	-5.873	0.000	0.699
122.00	-20.26	-31.65	0.00	-1673.8	0.00	1673.84	3253.15	769.00	2348.93	2458.58	70.08	-5.997	0.000	0.689
124.00	-19.90	-31.46	0.00	-1610.5	0.00	1610.53	3213.32	759.05	2288.53	2396.73	72.61	-6.122	0.000	0.680
125.00	-19.71	-31.37	0.00	-1579.0	0.00	1579.07	3192.26	754.08	2258.63	2365.26	73.90	-6.185	0.000	0.676
125.00	-19.71	-31.37	0.00	-1579.0	0.00	1579.07	2545.46	629.48	1888.72	1892.56	73.90	-6.185	0.000	0.845
126.00	-19.52	-31.30	0.00	-1547.7	0.00	1547.70	2533.76	625.34	1863.92	1871.35	75.20	-6.248	0.000	0.837
128.00	-19.18	-31.13	0.00	-1485.1	0.00	1485.11	2510.17	617.05	1814.81	1829.12	77.84	-6.396	0.000	0.822
130.00	-18.84	-30.96	0.00	-1422.8	0.00	1422.85	2486.30	608.75	1766.36	1787.17	80.55	-6.544	0.000	0.806
132.00	-18.29	-30.76	0.00	-1360.9	0.00	1360.94	2462.17	600.46	1718.57	1745.51	83.32	-6.692	0.000	0.790
134.00	-17.77	-30.55	0.00	-1299.4	0.00	1299.41	2437.77	592.17	1671.43	1704.13	86.14	-6.839	0.000	0.772
135.00	-17.50	-30.45	0.00	-1268.8	0.00	1268.86	2457.60	598.90	1709.65	1737.70	87.58	-6.913	0.000	0.740
136.00	-17.32	-30.38	0.00	-1238.4	0.00	1238.41	2445.41	594.76	1686.06	1717.00	89.03	-6.987	0.000	0.731
138.00	-17.00	-30.20	0.00	-1177.6	0.00	1177.65	2420.82	586.46	1639.37	1675.83	91.98	-7.125	0.000	0.712
140.00	-16.68	-30.03	0.00	-1117.2	0.00	1117.25	2395.97	578.17	1593.34	1634.95	94.99	-7.261	0.000	0.693
140.00	-16.68	-30.03	0.00	-1117.2	0.00	1117.25	1788.19	463.41	1279.47	1224.81	94.99	-7.261	0.000	0.926
142.00	-16.40	-29.86	0.00	-1057.2	0.00	1057.20	1771.85	456.77	1243.10	1196.12	98.05	-7.395	0.000	0.897
144.00	-16.11	-29.71	0.00	-997.47	0.00	997.47	1755.23	450.14	1207.26	1167.57	101.18	-7.561	0.000	0.868
146.00	-15.83	-29.58	0.00	-938.05	0.00	938.05	1738.36	443.51	1171.94	1139.16	104.37	-7.723	0.000	0.837
148.00	-15.55	-29.44	0.00	-878.89	0.00	878.89	1721.21	436.87	1137.14	1110.92	107.63	-7.883	0.000	0.805
150.00	-15.27	-29.31	0.00	-820.01	0.00	820.01	1703.79	430.24	1102.87	1082.85	110.96	-8.039	0.000	0.771
152.00	-15.00	-29.17	0.00	-761.40	0.00	761.40	1686.10	423.60	1069.12	1054.96	114.35	-8.191	0.000	0.735
154.00	-14.74	-29.03	0.00	-703.06	0.00	703.06	1668.15	416.97	1035.89	1027.24	117.80	-8.339	0.000	0.698
156.00	-14.48	-28.90	0.00	-645.00	0.00	645.00	1649.92	410.34	1003.19	999.72	121.32	-8.481	0.000	0.659
158.00	-14.23	-28.76	0.00	-587.21	0.00	587.21	1631.43	403.70	971.02	972.40	124.89	-8.618	0.000	0.618
160.00	-13.98	-28.62	0.00	-529.70	0.00	529.70	1612.67	397.07	939.37	945.29	128.51	-8.748	0.000	0.574
162.00	-13.74	-28.48	0.00	-472.46	0.00	472.46	1593.64	390.43	908.24	918.39	132.19	-8.871	0.000	0.528
164.00	-13.52	-28.33	0.00	-415.50	0.00	415.50	1574.34	383.80	877.64	891.72	135.92	-8.985	0.000	0.480
165.00	-9.16	-19.74	0.00	-387.17	0.00	387.17	1564.59	380.48	862.54	878.47	137.80	-9.040	0.000	0.449
166.00	-9.06	-19.68	0.00	-367.43	0.00	367.43	1554.77	377.17	847.56	865.27	139.69	-9.092	0.000	0.433
168.00	-8.87	-19.53	0.00	-328.07	0.00	328.07	1534.93	370.53	818.01	839.07	143.50	-9.191	0.000	0.400
170.00	-8.69	-19.39	0.00	-289.01	0.00	289.01	1514.83	363.90	788.98	813.12	147.36	-9.284	0.000	0.364
172.00	-8.52	-19.25	0.00	-250.23	0.00	250.23	1494.45	357.26	760.48	787.42	151.25	-9.370	0.000	0.326
174.00	-8.35	-19.10	0.00	-211.74	0.00	211.74	1473.81	350.63	732.50	761.98	155.18	-9.448	0.000	0.287
175.00	-6.53	-13.58	0.00	-192.63	0.00	192.63	1463.38	347.31	718.70	749.37	157.15	-9.484	0.000	0.263
176.00	-6.45	-13.51	0.00	-179.06	0.00	179.06	1452.89	344.00	705.04	736.82	159.13	-9.518	0.000	0.249
178.00	-6.30	-13.36	0.00	-152.05	0.00	152.05	1428.17	337.36	678.11	710.17	163.11	-9.580	0.000	0.220
180.00	-6.16	-13.16	0.00	-125.33	0.00	125.33	1400.09	330.73	651.70	682.38	167.12	-9.635	0.000	0.190
180.00	-6.16	-13.16	0.00	-125.33	0.00	125.33	678.42	203.53	25205.7	396.30	167.12	-9.635	0.000	0.330
182.00	-6.01	-13.00	0.00	-99.01	0.00	99.01	678.42	203.53	25205.7	396.30	171.15	-9.683	0.000	0.263
184.00	-5.86	-12.88	0.00	-73.02	0.00	73.02	678.42	203.53	25205.7	396.30	175.19	-9.716	0.000	0.197

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 36



185.00	-3.15	-6.23	0.00	-60.14	0.00	60.14	678.42	203.53	25205.7	396.30	177.22	-9.729	0.000	0.157
186.00	-3.09	-6.18	0.00	-53.91	0.00	53.91	678.42	203.53	25205.7	396.30	179.25	-9.740	0.000	0.141
188.00	-2.96	-6.07	0.00	-41.55	0.00	41.55	678.42	203.53	25205.7	396.30	183.32	-9.758	0.000	0.110
190.00	-2.84	-5.97	0.00	-29.40	0.00	29.40	678.42	203.53	25205.7	396.30	187.39	-9.772	0.000	0.079
192.00	-2.73	-5.86	0.00	-17.47	0.00	17.47	678.42	203.53	25205.7	396.30	191.46	-9.781	0.000	0.049
194.00	-2.61	-5.75	0.00	-5.75	0.00	5.75	678.42	203.53	25205.7	396.30	195.54	-9.786	0.000	0.019
195.00	0.00	-5.22	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	197.58	-9.786	0.000	0.001

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

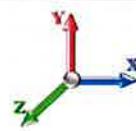
Page: 37



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 31

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.205	4.63	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	4.205	4.63	0.00	1.200	0.756	2.00	11.127	13.35	61.8	121.4	845.2
4.00		1.00	0.70	4.205	4.63	0.00	1.200	0.810	2.00	11.065	13.28	61.4	129.3	847.6
6.00		1.00	0.70	4.205	4.63	0.00	1.200	0.843	2.00	10.995	13.19	61.0	133.7	846.7
8.00		1.00	0.70	4.205	4.63	0.00	1.200	0.868	2.00	10.923	13.11	60.6	136.6	844.2
10.00		1.00	0.70	4.205	4.63	0.00	1.200	0.887	2.00	10.849	13.02	60.2	138.7	840.9
12.00		1.00	0.70	4.205	4.63	0.00	1.200	0.904	2.00	10.774	12.93	59.8	140.2	837.0
14.00		1.00	0.70	4.205	4.63	0.00	1.200	0.918	2.00	10.698	12.84	59.4	141.3	832.7
16.00		1.00	0.70	4.205	4.63	0.00	1.200	0.930	2.00	10.621	12.75	59.0	142.2	828.1
18.00		1.00	0.70	4.205	4.63	0.00	1.200	0.941	2.00	10.544	12.65	58.5	142.8	823.3
20.00		1.00	0.70	4.205	4.63	0.00	1.200	0.951	2.00	10.467	12.56	58.1	143.2	818.3
22.00		1.00	0.70	4.205	4.63	0.00	1.200	0.960	2.00	10.389	12.47	57.7	143.4	813.2
24.00		1.00	0.70	4.205	4.63	0.00	1.200	0.969	2.00	10.312	12.37	57.2	143.6	807.9
26.00		1.00	0.70	4.205	4.63	0.00	1.200	0.976	2.00	10.234	12.28	56.8	143.6	802.5
28.00		1.00	0.70	4.205	4.63	0.00	1.200	0.984	2.00	10.155	12.19	56.4	143.5	797.1
30.00		1.00	0.70	4.208	4.63	0.00	1.200	0.991	2.00	10.077	12.09	56.0	143.4	791.5
32.00		1.00	0.71	4.287	4.72	0.00	1.200	0.997	2.00	9.998	12.00	56.6	143.1	785.9
34.00		1.00	0.73	4.362	4.80	0.00	1.200	1.003	2.00	9.920	11.90	57.1	142.8	780.2
36.00		1.00	0.74	4.433	4.88	0.00	1.200	1.009	2.00	9.841	11.81	57.6	142.5	774.4
38.00		1.00	0.75	4.502	4.95	0.00	1.200	1.014	2.00	9.762	11.71	58.0	142.0	768.6
40.00		1.00	0.76	4.569	5.03	0.00	1.200	1.019	2.00	9.683	11.62	58.4	141.6	762.7
41.00 Bot - Section 2		1.00	0.77	4.601	5.06	0.00	1.200	1.022	1.00	4.812	5.77	29.2	70.7	379.2
42.00		1.00	0.77	4.633	5.10	0.00	1.200	1.024	1.00	4.866	5.84	29.8	71.7	691.0
44.00		1.00	0.78	4.695	5.16	0.00	1.200	1.029	2.00	9.674	11.61	60.0	142.8	1373.3
46.00		1.00	0.79	4.755	5.23	0.00	1.200	1.034	2.00	9.594	11.51	60.2	142.2	1362.0
48.00 Top - Section 1		1.00	0.80	4.813	5.29	0.00	1.200	1.038	2.00	9.515	11.42	60.5	141.6	1350.5
50.00		1.00	0.81	4.870	5.36	0.00	1.200	1.042	2.00	9.436	11.32	60.7	140.9	745.0
52.00		1.00	0.82	4.924	5.42	0.00	1.200	1.047	2.00	9.357	11.23	60.8	140.3	738.9
54.00		1.00	0.83	4.978	5.48	0.00	1.200	1.050	2.00	9.278	11.13	61.0	139.6	732.8
56.00		1.00	0.84	5.030	5.53	0.00	1.200	1.054	2.00	9.198	11.04	61.1	138.8	726.7
58.00		1.00	0.85	5.081	5.59	0.00	1.200	1.058	2.00	9.119	10.94	61.2	138.1	720.5
60.00		1.00	0.85	5.130	5.64	0.00	1.200	1.062	2.00	9.039	10.85	61.2	137.3	714.3
62.00		1.00	0.86	5.178	5.70	0.00	1.200	1.065	2.00	8.960	10.75	61.2	136.5	708.1
64.00		1.00	0.87	5.225	5.75	0.00	1.200	1.068	2.00	8.880	10.66	61.3	135.7	701.9
66.00		1.00	0.88	5.272	5.80	0.00	1.200	1.072	2.00	8.801	10.56	61.2	134.8	695.7
68.00		1.00	0.89	5.317	5.85	0.00	1.200	1.075	2.00	8.721	10.47	61.2	134.0	689.4
70.00		1.00	0.89	5.361	5.90	0.00	1.200	1.078	2.00	8.642	10.37	61.2	133.1	683.1
72.00		1.00	0.90	5.404	5.94	0.00	1.200	1.081	2.00	8.562	10.27	61.1	132.2	676.8
74.00		1.00	0.91	5.447	5.99	0.00	1.200	1.084	2.00	8.483	10.18	61.0	131.3	670.5
76.00		1.00	0.91	5.488	6.04	0.00	1.200	1.087	2.00	8.403	10.08	60.9	130.4	664.2
78.00		1.00	0.92	5.529	6.08	0.00	1.200	1.090	2.00	8.323	9.99	60.7	129.4	657.8
80.00		1.00	0.93	5.569	6.13	0.00	1.200	1.093	2.00	8.244	9.89	60.6	128.5	651.5
82.00		1.00	0.93	5.609	6.17	0.00	1.200	1.095	2.00	8.164	9.80	60.4	127.5	645.1
84.00		1.00	0.94	5.648	6.21	0.00	1.200	1.098	2.00	8.084	9.70	60.3	126.5	638.7
85.00 Bot - Section 3		1.00	0.94	5.667	6.23	0.00	1.200	1.099	1.00	4.012	4.81	30.0	63.0	317.1
86.00		1.00	0.95	5.686	6.25	0.00	1.200	1.101	1.00	4.066	4.88	30.5	64.0	574.4
88.00		1.00	0.95	5.723	6.30	0.00	1.200	1.103	2.00	8.073	9.69	61.0	126.9	1139.6

## Wind Loading - Shaft

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023	
<b>Site Name:</b> North Salem	<b>Exposure:</b> B		
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00		
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil		
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II	<b>Page:</b> 38
90.00	1.00	0.96 5.760 6.34	0.00 1.200 1.106 2.00 7.993 9.59 60.8 125.9 1127.8
91.00 Top - Section 2	1.00	0.96 5.778 6.36	0.00 1.200 1.107 1.00 3.966 4.76 30.3 62.7 559.6
92.00	1.00	0.96 5.796 6.38	0.00 1.200 1.108 1.00 3.946 4.74 30.2 62.4 312.0
93.00 Top - Section 3	1.00	0.97 5.814 6.40	0.00 1.200 1.109 1.00 3.926 4.71 30.1 62.2 310.4
94.00	1.00	0.97 5.832 6.42	0.00 1.200 1.110 1.00 3.906 4.69 30.1 61.9 273.8
96.00	1.00	0.98 5.867 6.45	0.00 1.200 1.113 2.00 7.753 9.30 60.0 122.8 543.2
98.00	1.00	0.98 5.902 6.49	0.00 1.200 1.115 2.00 7.673 9.21 59.8 121.7 537.5
100.00	1.00	0.99 5.936 6.53	0.00 1.200 1.117 2.00 7.594 9.11 59.5 120.7 531.8
102.00	1.00	0.99 5.970 6.57	0.00 1.200 1.119 2.00 7.514 9.02 59.2 119.6 526.1
104.00	1.00	1.00 6.003 6.60	0.00 1.200 1.122 2.00 7.434 8.92 58.9 118.5 520.3
106.00	1.00	1.00 6.036 6.64	0.00 1.200 1.124 2.00 7.354 8.82 58.6 117.4 514.6
108.00	1.00	1.01 6.068 6.67	0.00 1.200 1.126 2.00 7.274 8.73 58.3 116.3 508.9
110.00	1.00	1.02 6.100 6.71	0.00 1.200 1.128 2.00 7.194 8.63 57.9 115.2 503.1
112.00	1.00	1.02 6.131 6.74	0.00 1.200 1.130 2.00 7.114 8.54 57.6 114.1 497.4
114.00	1.00	1.03 6.163 6.78	0.00 1.200 1.132 2.00 7.034 8.44 57.2 112.9 491.6
116.00	1.00	1.03 6.193 6.81	0.00 1.200 1.134 2.00 6.954 8.34 56.9 111.8 485.9
118.00	1.00	1.04 6.224 6.85	0.00 1.200 1.136 2.00 6.874 8.25 56.5 110.7 480.1
120.00	1.00	1.04 6.253 6.88	0.00 1.200 1.138 2.00 6.794 8.15 56.1 109.5 474.3
122.00	1.00	1.05 6.283 6.91	0.00 1.200 1.140 2.00 6.714 8.06 55.7 108.3 468.5
124.00	1.00	1.05 6.312 6.94	0.00 1.200 1.142 2.00 6.634 7.96 55.3 107.2 462.7
125.00 Top - Section 4	1.00	1.05 6.327 6.96	0.00 1.200 1.142 1.00 3.287 3.94 27.5 53.3 229.3
126.00	1.00	1.06 6.341 6.98	0.00 1.200 1.143 1.00 3.267 3.92 27.3 53.0 199.0
128.00	1.00	1.06 6.370 7.01	0.00 1.200 1.145 2.00 6.474 7.77 54.4 104.8 393.9
130.00 Bot - Section 6	1.00	1.07 6.398 7.04	0.00 1.200 1.147 2.00 6.394 7.67 54.0 103.6 388.8
132.00	1.00	1.07 6.426 7.07	0.00 1.200 1.149 2.00 6.420 7.70 54.5 104.2 672.0
134.00	1.00	1.07 6.454 7.10	0.00 1.200 1.150 2.00 6.340 7.61 54.0 103.0 663.1
135.00 Top - Section 5	1.00	1.08 6.468 7.11	0.00 1.200 1.151 1.00 3.140 3.77 26.8 51.2 328.3
136.00	1.00	1.08 6.481 7.13	0.00 1.200 1.152 1.00 3.120 3.74 26.7 50.9 189.8
138.00	1.00	1.08 6.508 7.16	0.00 1.200 1.154 2.00 6.180 7.42 53.1 100.6 375.4
140.00 Top - Section 6	1.00	1.09 6.535 7.19	0.00 1.200 1.155 2.00 6.100 7.32 52.6 99.4 370.4
142.00	1.00	1.09 6.562 7.22	0.00 1.200 1.157 2.00 6.020 7.22 52.1 98.2 312.3
144.00	1.00	1.10 6.588 7.25	0.00 1.200 1.159 2.00 5.939 7.13 51.6 96.9 307.9
146.00	1.00	1.10 6.614 7.28	0.00 1.200 1.160 2.00 5.859 7.03 51.2 95.7 303.6
148.00	1.00	1.11 6.640 7.30	0.00 1.200 1.162 2.00 5.779 6.94 50.7 94.5 299.3
150.00	1.00	1.11 6.665 7.33	0.00 1.200 1.163 2.00 5.699 6.84 50.1 93.2 295.0
152.00	1.00	1.11 6.690 7.36	0.00 1.200 1.165 2.00 5.619 6.74 49.6 92.0 290.6
154.00	1.00	1.12 6.715 7.39	0.00 1.200 1.167 2.00 5.539 6.65 49.1 90.7 286.3
156.00	1.00	1.12 6.740 7.41	0.00 1.200 1.168 2.00 5.459 6.55 48.6 89.5 281.9
158.00	1.00	1.13 6.765 7.44	0.00 1.200 1.170 2.00 5.379 6.45 48.0 88.2 277.6
160.00	1.00	1.13 6.789 7.47	0.00 1.200 1.171 2.00 5.299 6.36 47.5 86.9 273.2
162.00	1.00	1.13 6.813 7.49	0.00 1.200 1.172 2.00 5.218 6.26 46.9 85.6 268.9
164.00	1.00	1.14 6.837 7.52	0.00 1.200 1.174 2.00 5.138 6.17 46.4 84.4 264.5
165.00 Appurtenance(s)	1.00	1.14 6.849 7.53	0.00 1.200 1.175 1.00 2.539 3.05 23.0 41.9 130.8
166.00	1.00	1.14 6.861 7.55	0.00 1.200 1.175 1.00 2.519 3.02 22.8 41.5 129.7
168.00	1.00	1.15 6.885 7.57	0.00 1.200 1.177 2.00 4.978 5.97 45.2 81.8 255.8
170.00	1.00	1.15 6.908 7.60	0.00 1.200 1.178 2.00 4.898 5.88 44.7 80.5 251.4
172.00	1.00	1.15 6.931 7.62	0.00 1.200 1.180 2.00 4.818 5.78 44.1 79.2 247.0
174.00	1.00	1.16 6.954 7.65	0.00 1.200 1.181 2.00 4.738 5.69 43.5 77.9 242.6
175.00 Appurtenance(s)	1.00	1.16 6.965 7.66	0.00 1.200 1.182 1.00 2.339 2.81 21.5 38.6 119.8
176.00	1.00	1.16 6.977 7.67	0.00 1.200 1.182 1.00 2.319 2.78 21.4 38.3 118.7
178.00	1.00	1.17 6.999 7.70	0.00 1.200 1.184 2.00 4.577 5.49 42.3 75.3 233.8
180.00 Top - Section 7	1.00	1.17 7.022 7.72	0.00 1.200 1.185 2.00 4.497 5.40 41.7 74.0 229.4
182.00	1.00	1.17 7.044 7.75	0.00 1.200 1.186 2.00 4.395 5.27 40.9 73.0 244.0
184.00	1.00	1.18 7.066 7.77	0.00 1.200 1.187 2.00 4.396 5.27 41.0 73.1 244.1
185.00 Appurtenance(s)	1.00	1.18 7.077 7.78	0.00 1.200 1.188 1.00 2.198 2.64 20.5 36.6 122.1
186.00	1.00	1.18 7.088 7.80	0.00 1.200 1.189 1.00 2.198 2.64 20.6 36.6 122.1
188.00	1.00	1.18 7.109 7.82	0.00 1.200 1.190 2.00 4.397 5.28 41.3 73.2 244.2

## Wind Loading - Shaft

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023									
<b>Site Name:</b> North Salem	<b>Exposure:</b> B										
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00										
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil										
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II									
		<b>Page:</b> 39									
190.00	1.00	1.19 7.131 7.84	0.00	1.200	1.191	2.00	4.397	5.28	41.4	73.3	244.3
192.00	1.00	1.19 7.152 7.87	0.00	1.200	1.193	2.00	4.398	5.28	41.5	73.4	244.4
194.00	1.00	1.19 7.173 7.89	0.00	1.200	1.194	2.00	4.398	5.28	41.6	73.5	244.5
195.00 Appurtenance(s)	1.00	1.20 7.184 7.90	0.00	1.200	1.194	1.00	2.199	2.64	20.9	36.8	122.3
					<b>Totals:</b>	<b>195.00</b>		<b>5,360.9</b>			<b>57,087.8</b>



Tower Engineering Solutions

## Discrete Appurtenance Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

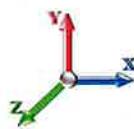
Page: 40



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations**

31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	HRK12 (Handrail Kit)	1	7.184	7.902	1.00	1.00	11.26	788.35	0.000	0.000	89.02	0.00	0.00
2	195.00	Low Profile	1	7.184	7.902	1.00	1.00	40.29	3234.97	0.000	0.000	318.35	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	7.184	7.902	1.00	1.00	16.31	684.92	0.000	0.000	128.87	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	7.184	7.902	1.00	1.00	11.50	394.77	0.000	0.000	90.89	0.00	0.00
5	195.00	TD-RRH8x20-25	3	7.184	7.902	0.50	1.00	6.89	464.14	0.000	0.000	54.44	0.00	0.00
6	195.00	NNVV-65B-R4	3	7.184	7.902	0.76	1.00	30.25	667.54	0.000	0.000	239.03	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	7.184	7.902	0.50	1.00	5.46	315.61	0.000	0.000	43.13	0.00	0.00
8	195.00	800 MHz RRH	6	7.184	7.902	0.50	1.00	9.82	558.71	0.000	0.000	77.59	0.00	0.00
9	195.00	APXVTM14-C-I20	3	7.184	7.902	0.81	1.00	17.22	510.93	0.000	0.000	136.08	0.00	0.00
10	185.00	(3) SitePro 1 PRK-SFS-L	1	7.077	7.784	0.80	0.80	9.18	393.62	0.000	0.000	71.47	0.00	0.00
11	185.00	Powerwave LGP21903	6	7.077	7.784	0.40	0.80	1.30	59.63	0.000	0.000	10.10	0.00	0.00
12	185.00	Sector Frames	1	7.077	7.784	1.00	1.00	34.02	2391.10	0.000	0.000	264.86	0.00	0.00
13	185.00	Cci DMP65R-BU8DA	6	7.077	7.784	0.58	0.80	66.90	2163.78	0.000	0.000	520.82	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	7.077	7.784	0.40	0.80	2.64	276.53	0.000	0.000	20.54	0.00	0.00
15	185.00	(3) SitePro 1 SFS-L with	1	7.077	7.784	0.80	0.80	13.32	1546.08	0.000	0.000	103.71	0.00	0.00
16	185.00	(3) SitePro 1 HRK14-3HD	1	7.077	7.784	0.80	0.80	12.99	1223.06	0.000	0.000	101.12	0.00	0.00
17	185.00	Ericsson RRUS 8843 B2	3	7.077	7.784	0.40	0.80	2.37	318.87	0.000	0.000	18.48	0.00	0.00
18	185.00	Raycap DC6-48-60-18-8F	1	7.077	7.784	0.40	0.80	0.49	62.55	0.000	0.000	3.79	0.00	0.00
19	185.00	Powerwave LGP21401	6	7.077	7.784	0.40	0.80	4.46	161.04	0.000	0.000	34.73	0.00	0.00
20	185.00	Powerwave 7770	3	7.077	7.784	0.58	0.80	10.88	382.29	0.000	0.000	84.70	0.00	0.00
21	185.00	Raycap	1	7.077	7.784	0.40	0.80	2.15	73.64	0.000	0.000	16.76	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	7.077	7.784	0.40	0.80	0.68	44.82	0.000	0.000	5.32	0.00	0.00
23	185.00	Ericsson 4449 B5/B12	3	7.077	7.784	0.40	0.80	2.81	323.82	0.000	0.000	21.88	0.00	0.00
24	175.00	RFS	3	6.965	7.662	0.50	0.80	10.71	404.56	0.000	0.000	82.06	0.00	0.00
25	175.00	Platform w/ Hand Rail	1	6.965	7.662	1.00	1.00	50.90	2741.64	0.000	0.000	390.02	0.00	0.00
26	175.00	Ericsson RRUS11 B2	6	6.965	7.662	0.40	0.80	7.75	688.36	0.000	0.000	59.38	0.00	0.00
27	175.00	Ericsson RRUS11 B4	3	6.965	7.662	0.40	0.80	3.88	344.18	0.000	0.000	29.69	0.00	0.00
28	175.00	RFS	3	6.965	7.662	0.56	0.80	36.14	1256.34	0.000	0.000	276.89	0.00	0.00
29	175.00	Ericsson 4449 B71 + B85	3	6.965	7.662	0.54	0.80	3.76	323.22	0.000	0.000	28.84	0.00	0.00
30	175.00	Commscope	3	6.965	7.662	0.64	0.80	26.27	448.11	0.000	0.000	201.27	0.00	0.00
31	165.00	BSAMNT-SBS-1-2	3	6.849	7.534	0.56	0.75	0.00	125.54	0.000	0.000	0.00	0.00	0.00
32	165.00	RMQLP-4096-HK Plat. +	1	6.849	7.534	1.00	1.00	77.45	4762.55	0.000	0.000	583.50	0.00	0.00
33	165.00	Raycap	9	6.849	7.534	0.38	0.75	15.57	808.91	0.000	0.000	117.30	0.00	0.00
34	165.00	Samsung RF4461d-13A	12	6.849	7.534	0.38	0.75	10.10	1716.37	0.000	0.000	76.09	0.00	0.00
35	165.00	Samsung B2/B66A RRH	12	6.849	7.534	0.38	0.75	10.10	1646.21	0.000	0.000	76.09	0.00	0.00
36	165.00	Samsung MT6407-77A	6	6.849	7.534	0.52	0.75	13.88	953.40	0.000	0.000	104.60	0.00	0.00
37	165.00	Commscope	15	6.849	7.534	0.62	0.75	83.37	2694.87	0.000	0.000	628.13	0.00	0.00

Totals: 35,955.02

5,109.54

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Site Name:** North Salem

**Height:** 195.00 (ft)

**Base Elev:** 0.000 (ft)

**Gh:** 1.1

**Topography:** 1

**Code:** TIA-222-H

11/8/2023

**Exposure:** B

**Crest Height:** 0.00

**Site Class:** D - Stiff Soil

**Struct Class:** II

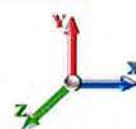
Page: 41



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 31

<b>Elev (ft)</b>	<b>Description</b>	<b>Lateral FX (-) (lb)</b>	<b>Axial FY (-) (lb)</b>	<b>Torsion MY (lb-ft)</b>	<b>Moment MZ (lb-ft)</b>
0.00		0.00	0.00	0.00	0.00
2.00		66.86	944.87	0.00	0.00
4.00		66.61	948.17	0.00	0.00
6.00		66.29	947.72	0.00	0.00
8.00		65.93	945.64	0.00	0.00
10.00		65.56	942.63	0.00	0.00
12.00		65.17	939.02	0.00	0.00
14.00		64.77	934.98	0.00	0.00
16.00		64.37	930.61	0.00	0.00
18.00		63.96	925.99	0.00	0.00
20.00		63.55	921.17	0.00	0.00
22.00		63.14	916.18	0.00	0.00
24.00		62.72	911.05	0.00	0.00
26.00		62.31	905.81	0.00	0.00
28.00		61.88	900.45	0.00	0.00
30.00		61.51	895.01	0.00	0.00
32.00		62.23	889.48	0.00	0.00
34.00		62.87	883.89	0.00	0.00
36.00		63.46	878.23	0.00	0.00
38.00		63.99	872.51	0.00	0.00
40.00		64.47	866.74	0.00	0.00
41.00		32.28	431.24	0.00	0.00
42.00		32.84	743.04	0.00	0.00
44.00		66.21	1477.53	0.00	0.00
46.00		66.57	1466.23	0.00	0.00
48.00		66.89	1454.90	0.00	0.00
50.00		67.17	849.41	0.00	0.00
52.00		67.42	843.41	0.00	0.00
54.00		67.64	837.38	0.00	0.00
56.00		67.83	825.34	0.00	0.00
58.00		67.99	813.22	0.00	0.00
60.00		68.12	807.06	0.00	0.00
62.00		68.23	800.88	0.00	0.00
64.00		68.31	794.68	0.00	0.00
66.00		68.37	788.45	0.00	0.00
68.00		68.40	782.21	0.00	0.00
70.00		68.41	775.94	0.00	0.00
72.00		68.41	769.66	0.00	0.00
74.00		68.38	763.37	0.00	0.00
76.00		68.33	757.05	0.00	0.00
78.00		68.27	750.72	0.00	0.00
80.00		68.18	744.38	0.00	0.00
82.00		68.08	738.02	0.00	0.00
84.00		67.96	731.65	0.00	0.00
85.00		33.87	363.56	0.00	0.00
86.00		34.40	620.84	0.00	0.00
88.00		68.80	1232.58	0.00	0.00

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

11/8/2023

**Site Name:** North Salem

**Code:** TIA-222-H

**Height:** 195.00 (ft)

**Exposure:** B

**Base Elev:** 0.000 (ft)

**Crest Height:** 0.00

**Gh:** 1.1

**Topography:** 1

**Site Class:** D - Stiff Soil

Page: 42



90.00		68.64	1220.78	0.00
91.00		34.20	606.08	0.00
92.00		34.16	358.51	0.00
93.00		34.11	356.90	0.00
94.00		34.06	320.33	0.00
96.00		68.08	636.16	0.00
98.00		67.87	630.48	0.00
100.00		67.64	624.79	0.00
102.00		67.40	619.10	0.00
104.00		67.15	613.39	0.00
106.00		66.89	607.67	0.00
108.00		66.61	601.95	0.00
110.00		66.32	596.22	0.00
112.00		66.02	590.48	0.00
114.00		65.71	584.73	0.00
116.00		65.39	578.97	0.00
118.00		65.06	573.20	0.00
120.00		64.72	567.43	0.00
122.00		64.37	561.65	0.00
124.00		64.00	555.86	0.00
125.00		31.83	275.90	0.00
126.00		31.73	245.56	0.00
128.00		63.25	487.06	0.00
130.00		62.86	482.02	0.00
132.00		63.36	765.17	0.00
134.00		62.96	756.26	0.00
135.00		31.29	374.94	0.00
136.00		31.18	236.38	0.00
138.00		62.12	468.66	0.00
140.00		61.69	463.60	0.00
142.00		61.25	405.51	0.00
144.00		56.23	399.56	0.00
146.00		51.15	393.60	0.00
148.00		50.65	389.27	0.00
150.00		50.14	384.94	0.00
152.00		49.62	380.61	0.00
154.00		49.10	376.27	0.00
156.00		48.57	371.92	0.00
158.00		48.03	367.57	0.00
160.00		47.48	363.21	0.00
162.00		46.93	358.85	0.00
164.00		46.37	354.49	0.00
165.00	(58) attachments	1608.67	12883.62	0.00
166.00		22.81	159.55	0.00
168.00		45.24	315.50	0.00
170.00		44.66	311.12	0.00
172.00		44.08	306.74	0.00
174.00		43.49	302.35	0.00
175.00	(22) attachments	1089.66	6356.10	0.00
176.00		21.35	144.81	0.00
178.00		45.17	286.43	0.00
180.00		64.80	285.03	0.00
182.00		64.07	299.61	0.00
184.00		43.91	296.68	0.00
185.00	(37) attachments	1298.81	9568.98	0.00
186.00		20.57	126.66	0.00
188.00		41.26	253.41	0.00

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 43

190.00		41.39	253.49	0.00	0.00
192.00		41.52	253.57	0.00	0.00
194.00		41.64	253.65	0.00	0.00
195.00	(22) attachments	1198.25	7746.77	0.00	0.00
	<b>Totals:</b>	<b>11,036.59</b>	<b>701,573.00</b>	<b>0.00</b>	<b>0.00</b>
			2		



# Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

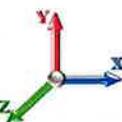
Page: 44



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations**

31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.92	1.10	0.000	0.000	4.205	5.10	1.39
2.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	8.31
4.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.94	1.12	0.000	0.000	4.205	5.20	1.60
4.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	8.94
6.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.95	1.14	0.000	0.000	4.205	5.26	1.74
6.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	9.34
8.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.96	1.15	0.000	0.000	4.205	5.31	1.84
8.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	9.63
10.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.96	1.15	0.000	0.000	4.205	5.34	1.92
10.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	9.87
12.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.97	1.16	0.000	0.000	4.205	5.37	2.00
12.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.07
14.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.97	1.17	0.000	0.000	4.205	5.40	2.06
14.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.24
16.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.98	1.17	0.000	0.000	4.205	5.42	2.11
16.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.39
18.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.98	1.18	0.000	0.000	4.205	5.44	2.16
18.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.53
20.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.98	1.18	0.000	0.000	4.205	5.46	2.21
20.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.65
22.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.99	1.18	0.000	0.000	4.205	5.48	2.25
22.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.77
24.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.99	1.19	0.000	0.000	4.205	5.49	2.29
24.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.87
26.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.99	1.19	0.000	0.000	4.205	5.51	2.33
26.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	10.97
28.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.99	1.19	0.000	0.000	4.205	5.52	2.36
28.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.205	0.00	11.06
30.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.00	1.20	0.000	0.000	4.208	5.54	2.40
30.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.208	0.00	11.14
32.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.00	1.20	0.000	0.000	4.287	5.65	2.43
32.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.287	0.00	11.23
34.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.00	1.20	0.000	0.000	4.362	5.76	2.46
34.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.362	0.00	11.30
36.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.00	1.20	0.000	0.000	4.433	5.87	2.49
36.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.433	0.00	11.38
38.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.00	1.21	0.000	0.000	4.502	5.97	2.51
38.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.502	0.00	11.44
40.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.01	1.21	0.000	0.000	4.569	6.07	2.54
40.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.569	0.00	11.51
41.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.50	0.60	0.000	0.000	4.601	3.06	1.28
41.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.601	0.00	5.77
42.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.50	0.60	0.000	0.000	4.633	3.08	1.28
42.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.633	0.00	5.79
44.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.01	1.21	0.000	0.000	4.695	6.26	2.59
44.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.695	0.00	11.64
46.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.01	1.21	0.000	0.000	4.755	6.35	2.61

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 45

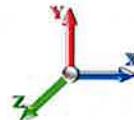


**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00

**Iterations** 31



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
46.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.755	0.00	11.69
48.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.01	1.22	0.000	0.000	4.813	6.43	2.63
48.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.813	0.00	11.75
50.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.01	1.22	0.000	0.000	4.870	6.52	2.66
50.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.870	0.00	11.81
52.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.22	0.000	0.000	4.924	6.60	2.68
52.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.924	0.00	11.86
54.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.22	0.000	0.000	4.978	6.68	2.70
54.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.978	0.00	11.91
56.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.22	0.000	0.000	5.030	6.76	2.72
56.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.030	0.00	5.98
58.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.22	0.000	0.000	5.081	6.84	2.74
60.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.22	0.000	0.000	5.130	6.91	2.75
62.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.23	0.000	0.000	5.178	6.98	2.77
64.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.23	0.000	0.000	5.225	7.06	2.79
66.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.23	0.000	0.000	5.272	7.12	2.81
68.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.02	1.23	0.000	0.000	5.317	7.19	2.82
70.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.23	0.000	0.000	5.361	7.26	2.84
72.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.23	0.000	0.000	5.404	7.33	2.86
74.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.23	0.000	0.000	5.447	7.39	2.87
76.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.23	0.000	0.000	5.488	7.45	2.89
78.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.24	0.000	0.000	5.529	7.52	2.90
80.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.24	0.000	0.000	5.569	7.58	2.92
82.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.24	0.000	0.000	5.609	7.64	2.93
84.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.24	0.000	0.000	5.648	7.70	2.95
85.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.667	3.86	1.48
86.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.686	3.88	1.48
88.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.03	1.24	0.000	0.000	5.723	7.81	2.97
90.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.24	0.000	0.000	5.760	7.87	2.99
91.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.778	3.95	1.50
92.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.796	3.96	1.50
93.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.814	3.98	1.50
94.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.62	0.000	0.000	5.832	3.99	1.51
96.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	5.867	8.04	3.03
98.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	5.902	8.09	3.04
100.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	5.936	8.14	3.05
102.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	5.970	8.19	3.06
104.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.003	8.25	3.07
106.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.036	8.30	3.09
108.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.068	8.35	3.10
110.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.100	8.40	3.11
112.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.131	8.44	3.12
114.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.163	8.49	3.13
116.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.04	1.25	0.000	0.000	6.193	8.54	3.14
118.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.25	0.000	0.000	6.224	8.59	3.15
120.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.253	8.63	3.16
122.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.283	8.68	3.17

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 46



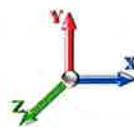
**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00

**Iterations**

31



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
124.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.312	8.73	3.18
125.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.63	0.000	0.000	6.327	4.37	1.59
126.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.52	0.63	0.000	0.000	6.341	4.39	1.60
128.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.370	8.82	3.20
130.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.398	8.86	3.21
132.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.426	8.90	3.22
134.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.454	8.95	3.23
135.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.53	0.63	0.000	0.000	6.468	4.48	1.62
136.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.53	0.63	0.000	0.000	6.481	4.49	1.62
138.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.508	9.03	3.25
140.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.535	9.07	3.26
142.00	(4) C6x10.5	Yes	2.00	1.200	4.00	1.05	1.26	0.000	0.000	6.562	9.11	3.27
144.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.53	0.63	0.000	0.000	6.588	4.58	1.64
178.00	(3) Bypass Stiffeners	Yes	0.25	1.200	12.60	0.31	0.37	0.000	0.000	6.999	2.88	0.43
180.00	(3) Bypass Stiffeners	Yes	2.00	1.200	12.60	2.49	2.99	0.000	0.000	7.022	23.12	3.43
182.00	(3) Bypass Stiffeners	Yes	2.00	1.200	12.60	2.50	2.99	0.000	0.000	7.044	23.20	3.44
184.00	(3) Bypass Stiffeners	Yes	0.25	1.200	12.60	0.31	0.37	0.000	0.000	7.066	2.91	0.43
<b>Totals:</b>										<b>566.2</b>	<b>501.9</b>	

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

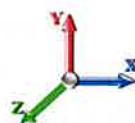
Page: 47



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations**

31

Seg Elev (ft)	Pu (kips)	Vu (kips)	Tu (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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-101.5	-11.05	0.00	-1653.9	0.00	1653.97	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.234
2.00	-100.6	-11.02	0.00	-1631.8	0.00	1631.87	5777.89	1549.56	8174.96	7566.71	0.00	-0.020	0.000	0.233
4.00	-99.67	-10.99	0.00	-1609.8	0.00	1609.82	5752.42	1537.95	8052.92	7476.52	0.02	-0.041	0.000	0.233
6.00	-98.72	-10.96	0.00	-1587.8	0.00	1587.84	5726.67	1526.34	7931.81	7386.49	0.04	-0.061	0.000	0.232
8.00	-97.77	-10.93	0.00	-1565.9	0.00	1565.92	5700.65	1514.73	7811.61	7296.62	0.07	-0.082	0.000	0.232
10.00	-96.82	-10.90	0.00	-1544.0	0.00	1544.06	5674.37	1503.12	7692.32	7206.92	0.11	-0.103	0.000	0.231
12.00	-95.88	-10.87	0.00	-1522.2	0.00	1522.26	5647.82	1491.51	7573.96	7117.40	0.16	-0.124	0.000	0.231
14.00	-94.94	-10.83	0.00	-1500.5	0.00	1500.53	5620.99	1479.91	7456.51	7028.07	0.21	-0.146	0.000	0.230
16.00	-94.01	-10.80	0.00	-1478.8	0.00	1478.86	5593.90	1468.30	7339.98	6938.94	0.28	-0.167	0.000	0.230
18.00	-93.08	-10.77	0.00	-1457.2	0.00	1457.26	5566.54	1456.69	7224.37	6850.01	0.35	-0.189	0.000	0.230
20.00	-92.15	-10.74	0.00	-1435.7	0.00	1435.71	5538.91	1445.08	7109.68	6761.30	0.44	-0.211	0.000	0.229
22.00	-91.23	-10.71	0.00	-1414.2	0.00	1414.23	5511.02	1433.47	6995.90	6672.80	0.53	-0.233	0.000	0.229
24.00	-90.32	-10.68	0.00	-1392.8	0.00	1392.81	5482.85	1421.86	6883.05	6584.53	0.63	-0.256	0.000	0.228
26.00	-89.41	-10.65	0.00	-1371.4	0.00	1371.46	5454.41	1410.25	6771.11	6496.50	0.75	-0.278	0.000	0.228
28.00	-88.50	-10.62	0.00	-1350.1	0.00	1350.16	5425.71	1398.64	6660.08	6408.72	0.87	-0.301	0.000	0.227
30.00	-87.60	-10.59	0.00	-1328.9	0.00	1328.93	5396.74	1387.03	6549.98	6321.18	1.00	-0.324	0.000	0.227
32.00	-86.71	-10.55	0.00	-1307.7	0.00	1307.76	5367.49	1375.42	6440.79	6233.91	1.14	-0.347	0.000	0.226
34.00	-85.82	-10.52	0.00	-1286.6	0.00	1286.66	5337.98	1363.81	6332.52	6146.90	1.29	-0.370	0.000	0.225
36.00	-84.94	-10.49	0.00	-1265.6	0.00	1265.62	5308.20	1352.20	6225.17	6060.17	1.45	-0.394	0.000	0.225
38.00	-84.06	-10.45	0.00	-1244.6	0.00	1244.65	5278.15	1340.59	6118.74	5973.73	1.62	-0.418	0.000	0.224
40.00	-83.19	-10.41	0.00	-1223.7	0.00	1223.75	5247.84	1328.98	6013.22	5887.58	1.80	-0.442	0.000	0.224
41.00	-82.76	-10.39	0.00	-1213.3	0.00	1213.34	5232.58	1323.18	5980.81	5844.81	1.89	-0.454	0.000	0.223
42.00	-82.01	-10.38	0.00	-1202.9	0.00	1202.96	5217.25	1317.37	5908.62	5801.72	1.99	-0.466	0.000	0.223
44.00	-80.53	-10.33	0.00	-1182.2	0.00	1182.21	5186.39	1305.76	5804.94	5716.18	2.19	-0.491	0.000	0.222
46.00	-79.06	-10.29	0.00	-1161.5	0.00	1161.54	5155.27	1294.16	5702.18	5630.95	2.40	-0.516	0.000	0.222
48.00	-77.60	-10.24	0.00	-1140.9	0.00	1140.97	5181.33	1303.87	5788.10	5702.24	2.62	-0.541	0.000	0.215
50.00	-76.75	-10.20	0.00	-1120.4	0.00	1120.49	5150.16	1292.26	5685.49	5617.06	2.86	-0.566	0.000	0.214
52.00	-75.90	-10.15	0.00	-1100.1	0.00	1100.10	5118.73	1280.65	5583.79	5532.21	3.10	-0.590	0.000	0.214
54.00	-75.06	-10.11	0.00	-1079.7	0.00	1079.79	5087.02	1269.04	5483.02	5447.69	3.35	-0.614	0.000	0.213
56.00	-74.23	-10.06	0.00	-1059.5	0.00	1059.58	5055.04	1257.43	5383.16	5363.51	3.61	-0.639	0.000	0.212
58.00	-73.42	-10.02	0.00	-1039.4	0.00	1039.45	5022.80	1245.82	5284.21	5279.69	3.89	-0.664	0.000	0.212
60.00	-72.61	-9.97	0.00	-1019.4	0.00	1019.41	4990.29	1234.21	5186.19	5196.21	4.17	-0.689	0.000	0.211
62.00	-71.80	-9.93	0.00	-999.46	0.00	999.46	4957.51	1222.60	5089.08	5113.11	4.46	-0.714	0.000	0.210
64.00	-71.00	-9.88	0.00	-979.61	0.00	979.61	4924.46	1210.99	4992.89	5030.38	4.77	-0.739	0.000	0.209
66.00	-70.21	-9.83	0.00	-959.85	0.00	959.85	4891.14	1199.39	4897.62	4948.02	5.08	-0.765	0.000	0.208
68.00	-69.43	-9.79	0.00	-940.19	0.00	940.19	4857.55	1187.78	4803.27	4866.06	5.41	-0.791	0.000	0.208
70.00	-68.65	-9.74	0.00	-920.62	0.00	920.62	4823.69	1176.17	4709.83	4784.49	5.75	-0.817	0.000	0.207
72.00	-67.87	-9.69	0.00	-901.14	0.00	901.14	4789.56	1164.56	4617.32	4703.33	6.09	-0.843	0.000	0.206
74.00	-67.11	-9.64	0.00	-881.77	0.00	881.77	4755.17	1152.95	4525.72	4622.58	6.45	-0.869	0.000	0.205
76.00	-66.35	-9.59	0.00	-862.48	0.00	862.48	4720.51	1141.34	4435.03	4542.26	6.82	-0.896	0.000	0.204
78.00	-65.59	-9.54	0.00	-843.30	0.00	843.30	4685.57	1129.73	4345.27	4462.36	7.20	-0.923	0.000	0.203
80.00	-64.85	-9.49	0.00	-824.22	0.00	824.22	4650.37	1118.12	4256.42	4382.90	7.60	-0.950	0.000	0.202
82.00	-64.10	-9.44	0.00	-805.23	0.00	805.23	4614.90	1106.51	4168.49	4303.88	8.00	-0.978	0.000	0.201
84.00	-63.37	-9.39	0.00	-786.35	0.00	786.35	4579.16	1094.90	4081.48	4225.32	8.42	-1.005	0.000	0.200
85.00	-63.01	-9.36	0.00	-776.96	0.00	776.96	4561.19	1089.10	4038.32	4186.21	8.63	-1.019	0.000	0.199
86.00	-62.38	-9.34	0.00	-767.60	0.00	767.60	4543.15	1083.29	3995.39	4147.21	8.84	-1.033	0.000	0.199
88.00	-61.15	-9.28	0.00	-748.93	0.00	748.93	4506.88	1071.68	3910.21	4069.58	9.28	-1.061	0.000	0.198
90.00	-59.92	-9.21	0.00	-730.37	0.00	730.37	4470.33	1060.07	3825.95	3992.42	9.73	-1.089	0.000	0.196

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil



**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 48

Gh	-59.32	-9.18	0.00	-721.17	0.00	721.17	4519.12	1075.59	3938.79	4095.67	9.96	-1.104	0.000	0.189
92.00	-58.96	-9.15	0.00	-711.99	0.00	711.99	4500.93	1069.79	3896.39	4056.95	10.20	-1.118	0.000	0.189
93.00	-58.60	-9.12	0.00	-702.84	0.00	702.84	4482.67	1063.98	3854.22	4018.35	10.43	-1.132	0.000	0.188
93.00	-58.60	-9.12	0.00	-702.84	0.00	702.84	3684.61	913.29	3313.08	3312.42	10.43	-1.132	0.000	0.228
94.00	-58.27	-9.11	0.00	-693.72	0.00	693.72	3670.68	908.31	3277.08	3281.76	10.67	-1.145	0.000	0.227
96.00	-57.64	-9.06	0.00	-675.51	0.00	675.51	3642.60	898.36	3205.67	3220.68	11.16	-1.177	0.000	0.226
98.00	-57.00	-9.01	0.00	-657.40	0.00	657.40	3614.26	888.41	3135.05	3159.91	11.66	-1.208	0.000	0.224
100.00	-56.37	-8.96	0.00	-639.39	0.00	639.39	3585.64	878.46	3065.22	3099.48	12.17	-1.240	0.000	0.222
102.00	-55.75	-8.91	0.00	-621.47	0.00	621.47	3556.76	868.51	2996.17	3039.38	12.70	-1.272	0.000	0.220
104.00	-55.13	-8.86	0.00	-603.66	0.00	603.66	3527.61	858.56	2927.90	2979.62	13.24	-1.305	0.000	0.218
106.00	-54.52	-8.81	0.00	-585.95	0.00	585.95	3498.19	848.61	2860.43	2920.21	13.79	-1.337	0.000	0.216
108.00	-53.92	-8.76	0.00	-568.33	0.00	568.33	3468.50	838.66	2793.74	2861.17	14.36	-1.370	0.000	0.214
110.00	-53.32	-8.71	0.00	-550.82	0.00	550.82	3438.54	828.71	2727.83	2802.49	14.94	-1.402	0.000	0.212
112.00	-52.72	-8.66	0.00	-533.40	0.00	533.40	3408.31	818.76	2662.72	2744.18	15.53	-1.435	0.000	0.210
114.00	-52.14	-8.61	0.00	-516.09	0.00	516.09	3377.82	808.81	2598.39	2686.26	16.14	-1.468	0.000	0.208
116.00	-51.55	-8.56	0.00	-498.88	0.00	498.88	3347.05	798.86	2534.84	2628.73	16.76	-1.501	0.000	0.205
118.00	-50.98	-8.51	0.00	-481.77	0.00	481.77	3316.02	788.90	2472.09	2571.60	17.40	-1.534	0.000	0.203
120.00	-50.41	-8.45	0.00	-464.76	0.00	464.76	3284.72	778.95	2410.12	2514.88	18.05	-1.568	0.000	0.200
122.00	-49.84	-8.40	0.00	-447.85	0.00	447.85	3253.15	769.00	2348.93	2458.58	18.71	-1.601	0.000	0.198
124.00	-49.29	-8.35	0.00	-431.04	0.00	431.04	3213.32	759.05	2288.53	2396.73	19.39	-1.634	0.000	0.195
125.00	-49.01	-8.32	0.00	-422.70	0.00	422.70	3192.26	754.08	2258.63	2365.26	19.73	-1.651	0.000	0.194
125.00	-49.01	-8.32	0.00	-422.70	0.00	422.70	2545.46	629.48	1888.72	1892.56	19.73	-1.651	0.000	0.243
126.00	-48.76	-8.31	0.00	-414.38	0.00	414.38	2533.76	625.34	1863.92	1871.35	20.08	-1.668	0.000	0.241
128.00	-48.27	-8.26	0.00	-397.77	0.00	397.77	2510.17	617.05	1814.81	1829.12	20.79	-1.708	0.000	0.237
130.00	-47.78	-8.22	0.00	-381.24	0.00	381.24	2486.30	608.75	1766.36	1787.17	21.51	-1.747	0.000	0.233
132.00	-47.02	-8.16	0.00	-364.81	0.00	364.81	2462.17	600.46	1718.57	1745.51	22.25	-1.787	0.000	0.228
134.00	-46.26	-8.10	0.00	-348.48	0.00	348.48	2437.77	592.17	1671.43	1704.13	23.01	-1.826	0.000	0.224
135.00	-45.88	-8.07	0.00	-340.38	0.00	340.38	2457.60	598.90	1709.65	1737.70	23.40	-1.846	0.000	0.215
136.00	-45.64	-8.06	0.00	-332.31	0.00	332.31	2445.41	594.76	1686.06	1717.00	23.78	-1.866	0.000	0.212
138.00	-45.17	-8.01	0.00	-316.20	0.00	316.20	2420.82	586.46	1639.37	1675.83	24.57	-1.903	0.000	0.208
140.00	-44.70	-7.96	0.00	-300.19	0.00	300.19	2395.97	578.17	1593.34	1634.95	25.38	-1.940	0.000	0.202
140.00	-44.70	-7.96	0.00	-300.19	0.00	300.19	1788.19	463.41	1279.47	1224.81	25.38	-1.940	0.000	0.270
142.00	-44.30	-7.92	0.00	-284.27	0.00	284.27	1771.85	456.77	1243.10	1196.12	26.20	-1.976	0.000	0.263
144.00	-43.89	-7.88	0.00	-268.44	0.00	268.44	1755.23	450.14	1207.26	1167.57	27.04	-2.020	0.000	0.255
146.00	-43.49	-7.85	0.00	-252.68	0.00	252.68	1738.36	443.51	1171.94	1139.16	27.89	-2.064	0.000	0.247
148.00	-43.10	-7.81	0.00	-236.99	0.00	236.99	1721.21	436.87	1137.14	1110.92	28.77	-2.107	0.000	0.239
150.00	-42.71	-7.78	0.00	-221.36	0.00	221.36	1703.79	430.24	1102.87	1082.85	29.66	-2.149	0.000	0.230
152.00	-42.33	-7.75	0.00	-205.80	0.00	205.80	1686.10	423.60	1069.12	1054.96	30.57	-2.190	0.000	0.221
154.00	-41.95	-7.71	0.00	-190.31	0.00	190.31	1668.15	416.97	1035.89	1027.24	31.49	-2.230	0.000	0.211
156.00	-41.57	-7.68	0.00	-174.89	0.00	174.89	1649.92	410.34	1003.19	999.72	32.44	-2.269	0.000	0.200
158.00	-41.20	-7.64	0.00	-159.53	0.00	159.53	1631.43	403.70	971.02	972.40	33.39	-2.306	0.000	0.190
160.00	-40.84	-7.60	0.00	-144.26	0.00	144.26	1612.67	397.07	939.37	945.29	34.37	-2.341	0.000	0.178
162.00	-40.48	-7.56	0.00	-129.05	0.00	129.05	1593.64	390.43	908.24	918.39	35.36	-2.375	0.000	0.166
164.00	-40.12	-7.52	0.00	-113.93	0.00	113.93	1574.34	383.80	877.64	891.72	36.36	-2.406	0.000	0.154
165.00	-27.32	-5.38	0.00	-106.41	0.00	106.41	1564.59	380.48	862.54	878.47	36.86	-2.421	0.000	0.139
166.00	-27.16	-5.36	0.00	-101.03	0.00	101.03	1554.77	377.17	847.56	865.27	37.37	-2.435	0.000	0.134
168.00	-26.84	-5.31	0.00	-90.32	0.00	90.32	1534.93	370.53	818.01	839.07	38.40	-2.463	0.000	0.125
170.00	-26.53	-5.26	0.00	-79.70	0.00	79.70	1514.83	363.90	788.98	813.12	39.43	-2.488	0.000	0.116
172.00	-26.22	-5.22	0.00	-69.18	0.00	69.18	1494.45	357.26	760.48	787.42	40.48	-2.512	0.000	0.106
174.00	-25.92	-5.17	0.00	-58.75	0.00	58.75	1473.81	350.63	732.50	761.98	41.54	-2.534	0.000	0.095
175.00	-19.62	-3.80	0.00	-53.58	0.00	53.58	1463.38	347.31	718.70	749.37	42.07	-2.544	0.000	0.085
176.00	-19.47	-3.78	0.00	-49.79	0.00	49.79	1452.89	344.00	705.04	736.82	42.60	-2.553	0.000	0.081
178.00	-19.19	-3.72	0.00	-42.23	0.00	42.23	1428.17	337.36	678.11	710.17	43.68	-2.570	0.000	0.073
180.00	-18.91	-3.65	0.00	-34.79	0.00	34.79	1400.09	330.73	651.70	682.38	44.76	-2.586	0.000	0.065
180.00	-18.91	-3.65	0.00	-34.79	0.00	34.79	678.42	203.53	25205.7	396.30	44.76	-2.586	0.000	0.116
182.00	-18.61	-3.58	0.00	-27.49	0.00	27.49	678.42	203.53	25205.7	396.30	45.84	-2.599	0.000	0.097
184.00	-18.32	-3.52	0.00	-20.33	0.00	20.33	678.42	203.53	25205.7	396.30	46.93	-2.608	0.000	0.079

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 49



Tower Engineering Solutions

185.00	-8.82	-1.79	0.00	-16.81	0.00	16.81	678.42	203.53	25205.7	396.30	47.48	-2.612	0.000	0.055
186.00	-8.69	-1.76	0.00	-15.02	0.00	15.02	678.42	203.53	25205.7	396.30	48.03	-2.615	0.000	0.051
188.00	-8.44	-1.71	0.00	-11.50	0.00	11.50	678.42	203.53	25205.7	396.30	49.12	-2.620	0.000	0.042
190.00	-8.19	-1.66	0.00	-8.08	0.00	8.08	678.42	203.53	25205.7	396.30	50.22	-2.624	0.000	0.033
192.00	-7.94	-1.61	0.00	-4.76	0.00	4.76	678.42	203.53	25205.7	396.30	51.32	-2.626	0.000	0.024
194.00	-7.68	-1.55	0.00	-1.55	0.00	1.55	678.42	203.53	25205.7	396.30	52.42	-2.627	0.000	0.015
195.00	0.00	-1.20	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	52.97	-2.627	0.000	0.000

## Seismic Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 50



**Load Case:** 1.2D + 1.0Ev + 1.0Eh

**Gust Response Factor** 1.10

**Sds** 0.22

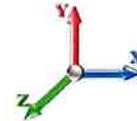
**Iterations** 27

**Dead Load Factor** 1.20 **Seismic Load Factor** 1.00 **Sd1** 0.09

**Ss** 0.21

**Wind Load Factor** 0.00 **Structure Frequency (f1)** 0.25 **SA** 0.02 **Seismic Importance Factor** 1.00

**S1** 0.06



<b>Top Elev (ft)</b>	<b>Description</b>	<b>Wz</b>	<b>Hz</b>	<b>Vertical Ev</b>	<b>Lateral Fs</b>	<b>R:</b> 1.50
		(lb)	(lb)	(lb)	(lb)	
0.00		0.00	0.00	0.00	0.00	
2.00		693.12	1.00	30.46	0.00	
4.00		688.62	3.00	30.26	0.00	
6.00		684.11	5.00	30.06	0.00	
8.00		679.61	7.00	29.87	0.01	
10.00		675.11	9.00	29.67	0.01	
12.00		670.61	11.00	29.47	0.02	
14.00		666.11	13.00	29.27	0.02	
16.00		661.60	15.00	29.08	0.03	
18.00		657.10	17.00	28.88	0.04	
20.00		652.60	19.00	28.68	0.05	
22.00		648.10	21.00	28.48	0.06	
24.00		643.60	23.00	28.28	0.07	
26.00		639.09	25.00	28.09	0.08	
28.00		634.59	27.00	27.89	0.09	
30.00		630.09	29.00	27.69	0.10	
32.00		625.59	31.00	27.49	0.11	
34.00		621.09	33.00	27.29	0.13	
36.00		616.59	35.00	27.10	0.14	
38.00		612.08	37.00	26.90	0.15	
40.00		607.58	39.00	26.70	0.17	
41.00	Bot - Section 2	302.10	40.50	13.28	0.04	
42.00		561.10	41.50	24.66	0.16	
44.00		1115.4	43.00	49.02	0.69	
46.00		1106.4	45.00	48.62	0.74	
48.00	Top - Section 1	1097.4	47.00	48.23	0.79	
50.00		593.34	49.00	26.08	0.25	
52.00		588.84	51.00	25.88	0.27	
54.00		584.34	53.00	25.68	0.29	
56.00		579.84	55.00	25.48	0.30	
58.00		575.33	57.00	25.28	0.32	
60.00		570.83	59.00	25.09	0.34	
62.00		566.33	61.00	24.89	0.36	
64.00		561.83	63.00	24.69	0.37	
66.00		557.33	65.00	24.49	0.39	
68.00		552.82	67.00	24.29	0.41	
70.00		548.32	69.00	24.10	0.43	
72.00		543.82	71.00	23.90	0.45	
74.00		539.32	73.00	23.70	0.46	
76.00		534.82	75.00	23.50	0.48	
78.00		530.31	77.00	23.31	0.50	
80.00		525.81	79.00	23.11	0.52	
82.00		521.31	81.00	22.91	0.53	
84.00		516.81	83.00	22.71	0.55	
85.00	Bot - Section 3	256.72	84.50	11.28	0.14	
86.00		470.33	85.50	20.67	0.48	

## Seismic Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Site Name:** North Salem

**Height:** 195.00 (ft)

**Base Elev:** 0.000 (ft)

**Gh:** 1.1

**Code:** TIA-222-H

11/8/2023

**Exposure:** B

**Crest Height:** 0.00

**Site Class:** D - Stiff Soil

**Topography:** 1

**Struct Class:** II

Page: 51



Tower Engineering Solutions

88.00	933.90	87.00	41.04	1.97
90.00	924.90	89.00	40.65	2.02
91.00 Top - Section 2	459.07	90.50	20.17	0.52
92.00	252.97	91.50	11.12	0.16
93.00 Top - Section 3	251.85	92.50	11.07	0.16
94.00	221.58	93.50	9.74	0.13
96.00	440.27	95.00	19.35	0.52
98.00	436.42	97.00	19.18	0.54
100.00	432.56	99.00	19.01	0.55
102.00	428.70	101.00	18.84	0.56
104.00	424.84	103.00	18.67	0.57
106.00	420.98	105.00	18.50	0.58
108.00	417.12	107.00	18.33	0.60
110.00	413.26	109.00	18.16	0.61
112.00	409.40	111.00	17.99	0.62
114.00	405.54	113.00	17.82	0.63
116.00	401.69	115.00	17.65	0.64
118.00	397.83	117.00	17.48	0.65
120.00	393.97	119.00	17.31	0.66
122.00	390.11	121.00	17.14	0.67
124.00	386.25	123.00	16.97	0.67
125.00 Top - Section 4	191.68	124.50	8.42	0.17
126.00	166.64	125.50	7.32	0.13
128.00	330.86	127.00	14.54	0.53
130.00 Bot - Section 6	327.65	129.00	14.40	0.53
132.00	563.11	131.00	24.75	1.63
134.00	556.67	133.00	24.46	1.64
135.00 Top - Section 5	275.93	134.50	12.13	0.41
136.00	160.71	135.50	7.06	0.14
138.00	319.00	137.00	14.02	0.57
140.00 Top - Section 6	315.79	139.00	13.88	0.58
142.00	268.39	141.00	11.79	0.43
144.00	265.82	143.00	11.68	0.43
146.00	263.25	145.00	11.57	0.44
148.00	260.67	147.00	11.46	0.44
150.00	258.10	149.00	11.34	0.44
152.00	255.53	151.00	11.23	0.44
154.00	252.96	153.00	11.12	0.45
156.00	250.38	155.00	11.00	0.45
158.00	247.81	157.00	10.89	0.45
160.00	245.24	159.00	10.78	0.45
162.00	242.67	161.00	10.66	0.46
164.00	240.09	163.00	10.55	0.46
165.00 Appurtenance(s)	6270.6	164.50	275.58	317.90
166.00	103.32	165.50	4.54	0.09
168.00	204.71	167.00	9.00	0.35
170.00	202.14	169.00	8.88	0.35
172.00	199.56	171.00	8.77	0.35
174.00	196.99	173.00	8.66	0.35
175.00 Appurtenance(s)	3005.8	174.50	132.10	82.20
176.00	93.10	175.50	4.09	0.08
178.00	184.28	177.00	8.10	0.32
180.00 Top - Section 7	181.70	179.00	7.99	0.32
182.00	194.67	181.00	8.55	0.37
184.00	194.67	183.00	8.55	0.38
185.00 Appurtenance(s)	4223.0	184.50	185.59	181.37
186.00	75.83	185.50	3.33	0.06

## Seismic Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 52

188.00	151.66	187.00	6.66	0.24
190.00	151.66	189.00	6.66	0.25
192.00	151.66	191.00	6.66	0.25
194.00	151.66	193.00	6.66	0.26
195.00 Appurtenance(s)	3941.2	194.50	173.21	175.56

**Totals:** 63,288.5

2,781.3

798.2

Total Wind: 41,792.8



## Calculated Forces

Structure: CT01916-S-SBA

Code: TIA-222-H

11/8/2023

Site Name: North Salem

Exposure: B

Height: 195.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 53



Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Sds 0.22

Iterations 27

Dead Load Factor 1.20 Seismic Load Factor

1.00 Sd1 0.09

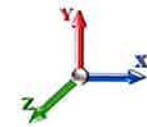
Ss 0.21

S1 0.06

Wind Load Factor 0.00 Structure Frequency (f1)

0.25 SA 0.02

Seismic Importance 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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-77.12	-0.80	0.00	-151.51	0.00	151.51	5803.10	1561.17	8297.91	7657.05	0.00	0.00	0.00	0.033
2.00	-76.28	-0.80	0.00	-149.92	0.00	149.92	5777.89	1549.56	8174.96	7566.71	0.00	0.00	0.00	0.033
4.00	-75.44	-0.80	0.00	-148.32	0.00	148.32	5752.42	1537.95	8052.92	7476.52	0.00	0.00	0.00	0.033
6.00	-74.61	-0.80	0.00	-146.71	0.00	146.71	5726.67	1526.34	7931.81	7386.49	0.00	-0.01	0.033	
8.00	-73.78	-0.81	0.00	-145.10	0.00	145.10	5700.65	1514.73	7811.61	7296.62	0.01	-0.01	0.033	
10.00	-72.96	-0.81	0.00	-143.49	0.00	143.49	5674.37	1503.12	7692.32	7206.92	0.01	-0.01	0.033	
12.00	-72.14	-0.81	0.00	-141.87	0.00	141.87	5647.82	1491.51	7573.96	7117.40	0.01	-0.01	0.033	
14.00	-71.33	-0.81	0.00	-140.24	0.00	140.24	5620.99	1479.91	7456.51	7028.07	0.02	-0.01	0.033	
16.00	-70.52	-0.82	0.00	-138.62	0.00	138.62	5593.90	1468.30	7339.98	6938.94	0.03	-0.02	0.033	
18.00	-69.73	-0.82	0.00	-136.98	0.00	136.98	5566.54	1456.69	7224.37	6850.01	0.03	-0.02	0.033	
20.00	-68.93	-0.82	0.00	-135.34	0.00	135.34	5538.91	1445.08	7109.68	6761.30	0.04	-0.02	0.032	
22.00	-68.14	-0.82	0.00	-133.70	0.00	133.70	5511.02	1433.47	6995.90	6672.80	0.05	-0.02	0.032	
24.00	-67.36	-0.83	0.00	-132.06	0.00	132.06	5482.85	1421.86	6883.05	6584.53	0.06	-0.02	0.032	
26.00	-66.58	-0.83	0.00	-130.41	0.00	130.41	5454.41	1410.25	6771.11	6496.50	0.07	-0.03	0.032	
28.00	-65.81	-0.83	0.00	-128.75	0.00	128.75	5425.71	1398.64	6660.08	6408.72	0.08	-0.03	0.032	
30.00	-65.05	-0.83	0.00	-127.09	0.00	127.09	5396.74	1387.03	6549.98	6321.18	0.09	-0.03	0.032	
32.00	-64.29	-0.83	0.00	-125.43	0.00	125.43	5367.49	1375.42	6440.79	6233.91	0.11	-0.03	0.032	
34.00	-63.53	-0.84	0.00	-123.76	0.00	123.76	5337.98	1363.81	6332.52	6146.90	0.12	-0.03	0.032	
36.00	-62.78	-0.84	0.00	-122.09	0.00	122.09	5308.20	1352.20	6225.17	6060.17	0.14	-0.04	0.032	
38.00	-62.04	-0.84	0.00	-120.42	0.00	120.42	5278.15	1340.59	6118.74	5973.73	0.15	-0.04	0.032	
40.00	-61.30	-0.84	0.00	-118.74	0.00	118.74	5247.84	1328.98	6013.22	5887.58	0.17	-0.04	0.032	
41.00	-60.93	-0.84	0.00	-117.90	0.00	117.90	5232.58	1323.18	5960.81	5844.61	0.18	-0.04	0.032	
42.00	-60.25	-0.84	0.00	-117.06	0.00	117.06	5217.25	1317.37	5908.62	5801.72	0.19	-0.04	0.032	
44.00	-58.88	-0.84	0.00	-115.37	0.00	115.37	5186.39	1305.76	5804.94	5716.18	0.21	-0.05	0.032	
46.00	-57.52	-0.84	0.00	-113.69	0.00	113.69	5155.27	1294.16	5702.18	5630.95	0.23	-0.05	0.031	
48.00	-56.17	-0.84	0.00	-112.00	0.00	112.00	5181.33	1303.87	5788.10	5702.24	0.25	-0.05	0.030	
50.00	-55.45	-0.85	0.00	-110.31	0.00	110.31	5150.16	1292.26	5685.49	5617.06	0.27	-0.05	0.030	
52.00	-54.74	-0.85	0.00	-108.62	0.00	108.62	5118.73	1280.65	5583.79	5532.21	0.29	-0.06	0.030	
54.00	-54.03	-0.85	0.00	-106.93	0.00	106.93	5087.02	1269.04	5483.02	5447.69	0.32	-0.06	0.030	
56.00	-53.32	-0.85	0.00	-105.23	0.00	105.23	5055.04	1257.43	5383.16	5363.51	0.34	-0.06	0.030	
58.00	-52.63	-0.85	0.00	-103.53	0.00	103.53	5022.80	1245.82	5284.21	5279.69	0.37	-0.06	0.030	
60.00	-51.93	-0.85	0.00	-101.83	0.00	101.83	4990.29	1234.21	5186.19	5196.21	0.39	-0.07	0.030	
62.00	-51.25	-0.85	0.00	-100.13	0.00	100.13	4957.51	1222.60	5089.08	5113.11	0.42	-0.07	0.030	
64.00	-50.57	-0.85	0.00	-98.42	0.00	98.42	4924.46	1210.99	4992.89	5030.38	0.45	-0.07	0.030	
66.00	-49.89	-0.86	0.00	-96.71	0.00	96.71	4891.14	1199.39	4897.62	4948.02	0.48	-0.07	0.030	
68.00	-49.22	-0.86	0.00	-95.00	0.00	95.00	4857.55	1187.78	4803.27	4866.06	0.51	-0.08	0.030	
70.00	-48.56	-0.86	0.00	-93.29	0.00	93.29	4823.69	1176.17	4709.83	4784.49	0.55	-0.08	0.030	
72.00	-47.90	-0.86	0.00	-91.58	0.00	91.58	4789.56	1164.56	4617.32	4703.33	0.58	-0.08	0.029	
74.00	-47.25	-0.86	0.00	-89.86	0.00	89.86	4755.17	1152.95	4525.72	4622.58	0.61	-0.08	0.029	
76.00	-46.60	-0.86	0.00	-88.14	0.00	88.14	4720.51	1141.34	4435.03	4542.26	0.65	-0.09	0.029	
78.00	-45.96	-0.86	0.00	-86.42	0.00	86.42	4685.57	1129.73	4345.27	4462.36	0.69	-0.09	0.029	
80.00	-45.32	-0.86	0.00	-84.70	0.00	84.70	4650.37	1118.12	4256.42	4382.90	0.72	-0.09	0.029	
82.00	-44.69	-0.86	0.00	-82.98	0.00	82.98	4614.90	1106.51	4168.49	4303.88	0.76	-0.10	0.029	
84.00	-44.06	-0.86	0.00	-81.26	0.00	81.26	4579.16	1094.90	4081.48	4225.32	0.80	-0.10	0.029	
85.00	-43.75	-0.86	0.00	-80.40	0.00	80.40	4561.19	1089.10	4038.32	4186.21	0.83	-0.10	0.029	
86.00	-43.18	-0.86	0.00	-79.54	0.00	79.54	4543.15	1083.29	3995.39	4147.21	0.85	-0.10	0.029	
88.00	-42.03	-0.86	0.00	-77.81	0.00	77.81	4506.88	1071.68	3910.21	4069.58	0.89	-0.10	0.028	

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 54



Gh	1.1	Topography	1	Struct Class	II	Page	54						
90.00	-40.90	-0.86	0.00	-76.09	0.00	76.09	4470.33	1060.07	3825.95	3992.42	0.93	-0.11	0.028
91.00	-40.34	-0.86	0.00	-75.23	0.00	75.23	4519.12	1075.59	3938.79	4095.67	0.96	-0.11	0.027
92.00	-40.03	-0.86	0.00	-74.38	0.00	74.38	4500.93	1069.79	3896.39	4056.95	0.98	-0.11	0.027
93.00	-39.73	-0.86	0.00	-73.52	0.00	73.52	4482.67	1063.98	3854.22	4018.35	1.00	-0.11	0.027
93.00	-39.73	-0.86	0.00	-73.52	0.00	73.52	3684.61	913.29	3313.08	3312.42	1.00	-0.11	0.033
94.00	-39.46	-0.86	0.00	-72.66	0.00	72.66	3670.68	908.31	3277.08	3281.76	1.03	-0.11	0.033
96.00	-38.93	-0.86	0.00	-70.94	0.00	70.94	3642.60	898.36	3205.67	3220.68	1.07	-0.12	0.033
98.00	-38.41	-0.86	0.00	-69.22	0.00	69.22	3614.26	888.41	3135.05	3159.91	1.12	-0.12	0.033
100.00	-37.89	-0.86	0.00	-67.50	0.00	67.50	3585.64	878.46	3065.22	3099.48	1.17	-0.12	0.032
102.00	-37.37	-0.86	0.00	-65.78	0.00	65.78	3556.76	868.51	2996.17	3039.38	1.23	-0.13	0.032
104.00	-36.86	-0.86	0.00	-64.06	0.00	64.06	3527.61	858.56	2927.90	2979.62	1.28	-0.13	0.032
106.00	-36.36	-0.86	0.00	-62.34	0.00	62.34	3498.19	848.61	2860.43	2920.21	1.33	-0.13	0.032
108.00	-35.86	-0.86	0.00	-60.61	0.00	60.61	3468.50	838.66	2793.74	2861.17	1.39	-0.14	0.032
110.00	-35.36	-0.86	0.00	-58.89	0.00	58.89	3438.54	828.71	2727.83	2802.49	1.45	-0.14	0.031
112.00	-34.87	-0.86	0.00	-57.16	0.00	57.16	3408.31	818.76	2662.72	2744.18	1.51	-0.14	0.031
114.00	-34.38	-0.86	0.00	-55.43	0.00	55.43	3377.82	808.81	2598.39	2686.26	1.57	-0.15	0.031
116.00	-33.90	-0.86	0.00	-53.71	0.00	53.71	3347.05	798.86	2534.84	2628.73	1.63	-0.15	0.031
118.00	-33.42	-0.86	0.00	-51.98	0.00	51.98	3316.02	788.90	2472.09	2571.60	1.70	-0.15	0.030
120.00	-32.95	-0.86	0.00	-50.25	0.00	50.25	3284.72	778.95	2410.12	2514.88	1.76	-0.16	0.030
122.00	-32.48	-0.86	0.00	-48.52	0.00	48.52	3253.15	769.00	2348.93	2458.58	1.83	-0.16	0.030
124.00	-32.02	-0.86	0.00	-46.79	0.00	46.79	3213.32	759.05	2288.53	2396.73	1.90	-0.16	0.029
125.00	-31.79	-0.86	0.00	-45.93	0.00	45.93	3192.26	754.08	2258.63	2365.26	1.93	-0.17	0.029
125.00	-31.79	-0.86	0.00	-45.93	0.00	45.93	2545.46	629.48	1888.72	1892.56	1.93	-0.17	0.037
126.00	-31.59	-0.87	0.00	-45.06	0.00	45.06	2533.76	625.34	1863.92	1871.35	1.97	-0.17	0.037
128.00	-31.20	-0.87	0.00	-43.33	0.00	43.33	2510.17	617.05	1814.81	1829.12	2.04	-0.17	0.036
130.00	-30.81	-0.87	0.00	-41.60	0.00	41.60	2486.30	608.75	1766.36	1787.17	2.11	-0.18	0.036
132.00	-30.13	-0.87	0.00	-39.87	0.00	39.87	2462.17	600.46	1718.57	1745.51	2.19	-0.18	0.035
134.00	-29.45	-0.86	0.00	-38.14	0.00	38.14	2437.77	592.17	1671.43	1704.13	2.26	-0.19	0.034
135.00	-29.12	-0.86	0.00	-37.28	0.00	37.28	2457.60	598.90	1709.65	1737.70	2.30	-0.19	0.033
136.00	-28.93	-0.86	0.00	-36.41	0.00	36.41	2445.41	594.76	1686.06	1717.00	2.34	-0.19	0.033
138.00	-28.55	-0.86	0.00	-34.69	0.00	34.69	2420.82	586.46	1639.37	1675.83	2.42	-0.19	0.032
140.00	-28.17	-0.86	0.00	-32.96	0.00	32.96	2395.97	578.17	1593.34	1634.95	2.50	-0.20	0.032
140.00	-28.17	-0.86	0.00	-32.96	0.00	32.96	1788.19	463.41	1279.47	1224.81	2.50	-0.20	0.043
142.00	-27.86	-0.86	0.00	-31.23	0.00	31.23	1771.85	456.77	1243.10	1196.12	2.59	-0.20	0.042
144.00	-27.55	-0.87	0.00	-29.51	0.00	29.51	1755.23	450.14	1207.26	1167.57	2.67	-0.21	0.041
146.00	-27.24	-0.87	0.00	-27.77	0.00	27.77	1738.36	443.51	1171.94	1139.16	2.76	-0.21	0.040
148.00	-26.93	-0.87	0.00	-26.04	0.00	26.04	1721.21	436.87	1137.14	1110.92	2.85	-0.22	0.039
150.00	-26.63	-0.87	0.00	-24.31	0.00	24.31	1703.79	430.24	1102.87	1082.85	2.94	-0.22	0.038
152.00	-26.33	-0.87	0.00	-22.58	0.00	22.58	1686.10	423.60	1069.12	1054.96	3.04	-0.23	0.037
154.00	-26.03	-0.87	0.00	-20.84	0.00	20.84	1668.15	416.97	1035.89	1027.24	3.13	-0.23	0.036
156.00	-25.74	-0.87	0.00	-19.11	0.00	19.11	1649.92	410.34	1003.19	999.72	3.23	-0.23	0.035
158.00	-25.45	-0.87	0.00	-17.37	0.00	17.37	1631.43	403.70	971.02	972.40	3.33	-0.24	0.033
160.00	-25.16	-0.87	0.00	-15.63	0.00	15.63	1612.67	397.07	939.37	945.29	3.43	-0.24	0.032
162.00	-24.87	-0.87	0.00	-13.90	0.00	13.90	1593.64	390.43	908.24	918.39	3.53	-0.25	0.031
164.00	-24.59	-0.87	0.00	-12.16	0.00	12.16	1574.34	383.80	877.64	891.72	3.64	-0.25	0.029
165.00	-16.80	-0.52	0.00	-11.29	0.00	11.29	1564.59	380.48	862.54	878.47	3.69	-0.25	0.024
166.00	-16.68	-0.52	0.00	-10.78	0.00	10.78	1554.77	377.17	847.56	865.27	3.74	-0.25	0.023
168.00	-16.44	-0.52	0.00	-9.74	0.00	9.74	1534.93	370.53	818.01	839.07	3.85	-0.26	0.022
170.00	-16.20	-0.52	0.00	-8.71	0.00	8.71	1514.83	363.90	788.98	813.12	3.96	-0.26	0.021
172.00	-15.96	-0.51	0.00	-7.68	0.00	7.68	1494.45	357.26	760.48	787.42	4.06	-0.26	0.020
174.00	-15.73	-0.51	0.00	-6.65	0.00	6.65	1473.81	350.63	732.50	761.98	4.17	-0.26	0.019
175.00	-12.00	-0.41	0.00	-6.14	0.00	6.14	1463.38	347.31	718.70	749.37	4.23	-0.26	0.016
176.00	-11.89	-0.41	0.00	-5.73	0.00	5.73	1452.89	344.00	705.04	736.82	4.28	-0.27	0.016
178.00	-11.67	-0.41	0.00	-4.90	0.00	4.90	1428.17	337.36	678.11	710.17	4.40	-0.27	0.015
180.00	-11.45	-0.41	0.00	-4.07	0.00	4.07	1400.09	330.73	651.70	682.38	4.51	-0.27	0.014
180.00	-11.45	-0.41	0.00	-4.07	0.00	4.07	678.42	203.53	2520.57	396.30	4.62	-0.27	0.027
182.00	-11.22	-0.41	0.00	-3.25	0.00	3.25	678.42	203.53	2520.57	396.30	4.62	-0.27	0.025

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 55



Gh	1.1	Topography	1	Struct Class	II	Page	55						
184.00	-10.99	-0.41	0.00	-2.43	0.00	2.43	678.42	203.53	25205.7	396.30	4.74	-0.27	0.022
185.00	-5.74	-0.20	0.00	-2.02	0.00	2.02	678.42	203.53	25205.7	396.30	4.79	-0.27	0.014
186.00	-5.65	-0.20	0.00	-1.81	0.00	1.81	678.42	203.53	25205.7	396.30	4.85	-0.27	0.013
188.00	-5.46	-0.20	0.00	-1.41	0.00	1.41	678.42	203.53	25205.7	396.30	4.96	-0.27	0.012
190.00	-5.27	-0.20	0.00	-1.00	0.00	1.00	678.42	203.53	25205.7	396.30	5.08	-0.27	0.010
192.00	-5.09	-0.20	0.00	-0.60	0.00	0.60	678.42	203.53	25205.7	396.30	5.19	-0.27	0.009
194.00	-4.90	-0.20	0.00	-0.20	0.00	0.20	678.42	203.53	25205.7	396.30	5.31	-0.27	0.008
195.00	0.00	-0.18	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	5.37	-0.27	0.000

## Seismic Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 56



**Load Case:** 0.9D + 1.0Ev + 1.0Eh

**Iterations** 27

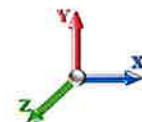
**Gust Response Factor** 1.10

**Ss** 0.21

**Dead Load Factor** 0.90 **Seismic Load Factor** 1.00 **Sd1** 0.09

**S1** 0.06

**Wind Load Factor** 0.00 **Structure Frequency (f1)** 0.25 **SA** 0.02 **Seismic Importance Factor** 1.00



<b>Top Elev (ft)</b>	<b>Description</b>	<b>Wz (lb)</b>	<b>Hz (lb)</b>	<b>Vertical Ev (lb)</b>	<b>Lateral Fs (lb)</b>	<b>R: 1.50</b>
0.00		0.00	0.00	0.00	0.00	
2.00		670.62	1.00	29.47	0.00	
4.00		666.12	3.00	29.27	0.00	
6.00		661.62	5.00	29.08	0.00	
8.00		657.12	7.00	28.88	0.01	
10.00		652.62	9.00	28.68	0.01	
12.00		648.11	11.00	28.48	0.02	
14.00		643.61	13.00	28.28	0.02	
16.00		639.11	15.00	28.09	0.03	
18.00		634.61	17.00	27.89	0.04	
20.00		630.11	19.00	27.69	0.04	
22.00		625.60	21.00	27.49	0.05	
24.00		621.10	23.00	27.30	0.06	
26.00		616.60	25.00	27.10	0.07	
28.00		612.10	27.00	26.90	0.08	
30.00		607.60	29.00	26.70	0.09	
32.00		603.09	31.00	26.50	0.11	
34.00		598.59	33.00	26.31	0.12	
36.00		594.09	35.00	26.11	0.13	
38.00		589.59	37.00	25.91	0.14	
40.00		585.09	39.00	25.71	0.16	
41.00	Bot - Section 2	290.86	40.50	12.78	0.04	
42.00		549.85	41.50	24.16	0.16	
44.00		1092.9	43.00	48.03	0.67	
46.00		1083.9	45.00	47.64	0.72	
48.00	Top - Section 1	1074.9	47.00	47.24	0.77	
50.00		570.85	49.00	25.09	0.24	
52.00		566.34	51.00	24.89	0.25	
54.00		561.84	53.00	24.69	0.27	
56.00		557.34	55.00	24.49	0.28	
58.00		552.84	57.00	24.30	0.30	
60.00		548.34	59.00	24.10	0.32	
62.00		543.84	61.00	23.90	0.33	
64.00		539.33	63.00	23.70	0.35	
66.00		534.83	65.00	23.50	0.36	
68.00		530.33	67.00	23.31	0.38	
70.00		525.83	69.00	23.11	0.40	
72.00		521.33	71.00	22.91	0.41	
74.00		516.82	73.00	22.71	0.43	
76.00		512.32	75.00	22.51	0.44	
78.00		507.82	77.00	22.32	0.46	
80.00		503.32	79.00	22.12	0.48	
82.00		498.82	81.00	21.92	0.49	
84.00		494.31	83.00	21.72	0.51	
85.00	Bot - Section 3	245.47	84.50	10.79	0.13	
86.00		459.08	85.50	20.18	0.46	

## Seismic Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 57



88.00	911.41	87.00	40.05	1.89
90.00	902.40	89.00	39.66	1.94
91.00 Top - Section 2	447.83	90.50	19.68	0.49
92.00	241.73	91.50	10.62	0.15
93.00 Top - Section 3	240.60	92.50	10.57	0.15
94.00	210.34	93.50	9.24	0.12
96.00	417.78	95.00	18.36	0.47
98.00	413.92	97.00	18.19	0.49
100.00	410.06	99.00	18.02	0.50
102.00	406.20	101.00	17.85	0.51
104.00	402.34	103.00	17.68	0.52
106.00	398.49	105.00	17.51	0.53
108.00	394.63	107.00	17.34	0.54
110.00	390.77	109.00	17.17	0.55
112.00	386.91	111.00	17.00	0.56
114.00	383.05	113.00	16.83	0.56
116.00	379.19	115.00	16.66	0.57
118.00	375.33	117.00	16.49	0.58
120.00	371.47	119.00	16.33	0.59
122.00	367.62	121.00	16.16	0.60
124.00	363.76	123.00	15.99	0.60
125.00 Top - Section 4	180.43	124.50	7.93	0.15
126.00	155.39	125.50	6.83	0.11
128.00	308.37	127.00	13.55	0.46
130.00 Bot - Section 6	305.15	129.00	13.41	0.47
132.00	540.61	131.00	23.76	1.51
134.00	534.18	133.00	23.48	1.52
135.00 Top - Section 5	264.68	134.50	11.63	0.38
136.00	149.46	135.50	6.57	0.12
138.00	296.51	137.00	13.03	0.50
140.00 Top - Section 6	293.29	139.00	12.89	0.50
142.00	245.90	141.00	10.81	0.36
144.00	243.32	143.00	10.69	0.36
146.00	240.75	145.00	10.58	0.37
148.00	238.18	147.00	10.47	0.37
150.00	235.61	149.00	10.35	0.37
152.00	233.03	151.00	10.24	0.37
154.00	230.46	153.00	10.13	0.37
156.00	227.89	155.00	10.01	0.38
158.00	225.32	157.00	9.90	0.38
160.00	222.74	159.00	9.79	0.38
162.00	220.17	161.00	9.68	0.38
164.00	217.60	163.00	9.56	0.38
165.00 Appurtenance(s)	6259.4	164.50	275.08	319.24
166.00	95.85	165.50	4.21	0.08
168.00	189.77	167.00	8.34	0.30
170.00	187.20	169.00	8.23	0.30
172.00	184.63	171.00	8.11	0.30
174.00	182.06	173.00	8.00	0.30
175.00 Appurtenance(s)	2998.3	174.50	131.77	82.43
176.00	86.58	175.50	3.80	0.07
178.00	171.23	177.00	7.53	0.28
180.00 Top - Section 7	168.66	179.00	7.41	0.27
182.00	181.63	181.00	7.98	0.33
184.00	181.63	183.00	7.98	0.33
185.00 Appurtenance(s)	4216.5	184.50	185.30	182.23
186.00	74.68	185.50	3.28	0.06

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	11/8/2023	 <b>TES</b> <small>Tower Engineering Solutions</small>		
<b>Site Name:</b> North Salem	<b>Exposure:</b> B				
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00				
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil				
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II			
			<b>Page:</b> 58		
188.00	149.37	187.00	6.56	0.23	
190.00	149.37	189.00	6.56	0.24	
192.00	149.37	191.00	6.56	0.25	
194.00	149.37	193.00	6.56	0.25	
195.00 Appurtenance(s)	3940.1	194.50	173.15	176.84	
	<b>Totals:</b>	<b>61,281.4</b>	<b>2,693.1</b>	<b>798.2</b>	
					<b>Total Wind:</b> <b>41,792.8</b>

## Calculated Forces

Structure: CT01916-S-SBA

Code: TIA-222-H

11/8/2023

Site Name: North Salem

Exposure: B

Height: 195.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 59



Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 27

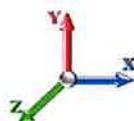
Gust Response Factor 1.10

Ss 0.21

Dead Load Factor 0.90 Seismic Load Factor 1.00 Sd1 0.09

S1 0.06

Wind Load Factor 0.00 Structure Frequency (f1) 0.25 SA 0.02 Seismic Importance 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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-58.45	-0.80	0.00	-148.47	0.00	148.47	5803.10	1561.17	8297.91	7657.05	0.00	0.00	0.00	0.029
2.00	-57.81	-0.80	0.00	-146.87	0.00	146.87	5777.89	1549.56	8174.96	7566.71	0.00	0.00	0.00	0.029
4.00	-57.17	-0.80	0.00	-145.27	0.00	145.27	5752.42	1537.95	8052.92	7476.52	0.00	0.00	0.00	0.029
6.00	-56.54	-0.80	0.00	-143.67	0.00	143.67	5726.67	1526.34	7931.81	7386.49	0.00	-0.01	0.00	0.029
8.00	-55.91	-0.80	0.00	-142.07	0.00	142.07	5700.65	1514.73	7811.61	7296.62	0.01	-0.01	0.00	0.029
10.00	-55.29	-0.81	0.00	-140.46	0.00	140.46	5674.37	1503.12	7692.32	7206.92	0.01	-0.01	0.00	0.029
12.00	-54.67	-0.81	0.00	-138.84	0.00	138.84	5647.82	1491.51	7573.96	7117.40	0.01	-0.01	0.00	0.029
14.00	-54.06	-0.81	0.00	-137.23	0.00	137.23	5620.99	1479.91	7456.51	7028.07	0.02	-0.01	0.00	0.029
16.00	-53.45	-0.81	0.00	-135.61	0.00	135.61	5593.90	1468.30	7339.98	6938.94	0.03	-0.02	0.00	0.029
18.00	-52.84	-0.81	0.00	-133.99	0.00	133.99	5566.54	1456.69	7224.37	6850.01	0.03	-0.02	0.00	0.029
20.00	-52.24	-0.81	0.00	-132.36	0.00	132.36	5538.91	1445.08	7109.68	6761.30	0.04	-0.02	0.00	0.029
22.00	-51.64	-0.82	0.00	-130.73	0.00	130.73	5511.02	1433.47	6995.90	6672.80	0.05	-0.02	0.00	0.029
24.00	-51.05	-0.82	0.00	-129.10	0.00	129.10	5482.85	1421.86	6883.05	6584.53	0.06	-0.02	0.00	0.029
26.00	-50.46	-0.82	0.00	-127.46	0.00	127.46	5454.41	1410.25	6771.11	6496.50	0.07	-0.03	0.00	0.029
28.00	-49.88	-0.82	0.00	-125.82	0.00	125.82	5425.71	1398.64	6660.08	6408.72	0.08	-0.03	0.00	0.029
30.00	-49.30	-0.82	0.00	-124.18	0.00	124.18	5396.74	1387.03	6549.98	6321.18	0.09	-0.03	0.00	0.029
32.00	-48.72	-0.82	0.00	-122.53	0.00	122.53	5367.49	1375.42	6440.79	6233.91	0.10	-0.03	0.00	0.029
34.00	-48.15	-0.83	0.00	-120.89	0.00	120.89	5337.98	1363.81	6332.52	6146.90	0.12	-0.03	0.00	0.029
36.00	-47.58	-0.83	0.00	-119.24	0.00	119.24	5308.20	1352.20	6225.17	6060.17	0.13	-0.04	0.00	0.029
38.00	-47.02	-0.83	0.00	-117.58	0.00	117.58	5278.15	1340.59	6118.74	5973.73	0.15	-0.04	0.00	0.029
40.00	-46.46	-0.83	0.00	-115.93	0.00	115.93	5247.84	1328.98	6013.22	5887.58	0.16	-0.04	0.00	0.029
41.00	-46.18	-0.83	0.00	-115.10	0.00	115.10	5232.58	1323.18	5960.81	5844.61	0.17	-0.04	0.00	0.029
42.00	-45.66	-0.83	0.00	-114.27	0.00	114.27	5217.25	1317.37	5908.62	5801.72	0.18	-0.04	0.00	0.028
44.00	-44.62	-0.83	0.00	-112.61	0.00	112.61	5186.39	1305.76	5804.94	5716.18	0.20	-0.05	0.00	0.028
46.00	-43.59	-0.83	0.00	-110.95	0.00	110.95	5155.27	1294.16	5702.18	5630.95	0.22	-0.05	0.00	0.028
48.00	-42.57	-0.83	0.00	-109.28	0.00	109.28	5181.33	1303.87	5788.10	5702.24	0.24	-0.05	0.00	0.027
50.00	-42.02	-0.83	0.00	-107.62	0.00	107.62	5150.16	1292.26	5685.49	5617.06	0.26	-0.05	0.00	0.027
52.00	-41.48	-0.83	0.00	-105.96	0.00	105.96	5118.73	1280.65	5583.79	5532.21	0.28	-0.05	0.00	0.027
54.00	-40.95	-0.83	0.00	-104.29	0.00	104.29	5087.02	1269.04	5483.02	5447.69	0.31	-0.06	0.00	0.027
56.00	-40.41	-0.83	0.00	-102.62	0.00	102.62	5055.04	1257.43	5383.16	5363.51	0.33	-0.06	0.00	0.027
58.00	-39.88	-0.84	0.00	-100.95	0.00	100.95	5022.80	1245.82	5284.21	5279.69	0.36	-0.06	0.00	0.027
60.00	-39.36	-0.84	0.00	-99.28	0.00	99.28	4990.29	1234.21	5186.19	5196.21	0.38	-0.06	0.00	0.027
62.00	-38.84	-0.84	0.00	-97.61	0.00	97.61	4957.51	1222.60	5089.08	5113.11	0.41	-0.07	0.00	0.027
64.00	-38.32	-0.84	0.00	-95.93	0.00	95.93	4924.46	1210.99	4992.89	5030.38	0.44	-0.07	0.00	0.027
66.00	-37.81	-0.84	0.00	-94.26	0.00	94.26	4891.14	1199.39	4897.62	4948.02	0.47	-0.07	0.00	0.027
68.00	-37.30	-0.84	0.00	-92.58	0.00	92.58	4857.55	1187.78	4803.27	4866.06	0.50	-0.07	0.00	0.027
70.00	-36.80	-0.84	0.00	-90.90	0.00	90.90	4823.69	1176.17	4709.83	4784.49	0.53	-0.08	0.00	0.027
72.00	-36.30	-0.84	0.00	-89.22	0.00	89.22	4789.56	1164.56	4617.32	4703.33	0.57	-0.08	0.00	0.027
74.00	-35.81	-0.84	0.00	-87.54	0.00	87.54	4755.17	1152.95	4525.72	4622.58	0.60	-0.08	0.00	0.026
76.00	-35.32	-0.84	0.00	-85.86	0.00	85.86	4720.51	1141.34	4435.03	4542.26	0.63	-0.08	0.00	0.026
78.00	-34.83	-0.84	0.00	-84.18	0.00	84.18	4685.57	1129.73	4345.27	4462.36	0.67	-0.09	0.00	0.026
80.00	-34.35	-0.84	0.00	-82.49	0.00	82.49	4650.37	1118.12	4256.42	4382.90	0.71	-0.09	0.00	0.026
82.00	-33.87	-0.84	0.00	-80.81	0.00	80.81	4614.90	1106.51	4168.49	4303.88	0.75	-0.09	0.00	0.026
84.00	-33.40	-0.84	0.00	-79.12	0.00	79.12	4579.16	1094.90	4081.48	4225.32	0.79	-0.10	0.00	0.026
85.00	-33.16	-0.84	0.00	-78.28	0.00	78.28	4561.19	1089.10	4038.32	4186.21	0.81	-0.10	0.00	0.026
86.00	-32.73	-0.84	0.00	-77.44	0.00	77.44	4543.15	1083.29	3995.39	4147.21	0.83	-0.10	0.00	0.026
88.00	-31.86	-0.84	0.00	-75.75	0.00	75.75	4506.88	1071.68	3910.21	4069.58	0.87	-0.10	0.00	0.026

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 60



Gh	1.1	Topography	1	Struct Class	II	Page	60						
90.00	-31.00	-0.84	0.00	-74.07	0.00	74.07	4470.33	1060.07	3825.95	3992.42	0.91	-0.10	0.025
91.00	-30.57	-0.84	0.00	-73.23	0.00	73.23	4519.12	1075.59	3938.79	4095.67	0.93	-0.11	0.025
92.00	-30.34	-0.84	0.00	-72.39	0.00	72.39	4500.93	1069.79	3896.39	4056.95	0.96	-0.11	0.025
93.00	-30.11	-0.84	0.00	-71.55	0.00	71.55	4482.67	1063.98	3854.22	4018.35	0.98	-0.11	0.025
93.00	-30.11	-0.84	0.00	-71.55	0.00	71.55	3684.61	913.29	3313.08	3312.42	0.98	-0.11	0.030
94.00	-29.91	-0.84	0.00	-70.71	0.00	70.71	3670.68	908.31	3277.08	3281.76	1.00	-0.11	0.030
96.00	-29.51	-0.84	0.00	-69.04	0.00	69.04	3642.60	898.36	3205.67	3220.68	1.05	-0.11	0.030
98.00	-29.11	-0.84	0.00	-67.36	0.00	67.36	3614.26	888.41	3135.05	3159.91	1.10	-0.12	0.029
100.00	-28.72	-0.84	0.00	-65.68	0.00	65.68	3585.64	878.46	3065.22	3099.48	1.15	-0.12	0.029
102.00	-28.33	-0.84	0.00	-63.99	0.00	63.99	3556.76	868.51	2996.17	3039.38	1.20	-0.12	0.029
104.00	-27.94	-0.84	0.00	-62.31	0.00	62.31	3527.61	858.56	2927.90	2979.62	1.25	-0.13	0.029
106.00	-27.56	-0.84	0.00	-60.63	0.00	60.63	3498.19	848.61	2860.43	2920.21	1.30	-0.13	0.029
108.00	-27.18	-0.84	0.00	-58.95	0.00	58.95	3468.50	838.66	2793.74	2861.17	1.36	-0.13	0.028
110.00	-26.80	-0.84	0.00	-57.26	0.00	57.26	3438.54	828.71	2727.83	2802.49	1.41	-0.14	0.028
112.00	-26.43	-0.84	0.00	-55.58	0.00	55.58	3408.31	818.76	2662.72	2744.18	1.47	-0.14	0.028
114.00	-26.06	-0.84	0.00	-53.90	0.00	53.90	3377.82	808.81	2598.39	2686.26	1.53	-0.14	0.028
116.00	-25.70	-0.84	0.00	-52.21	0.00	52.21	3347.05	798.86	2534.84	2628.73	1.59	-0.15	0.028
118.00	-25.34	-0.84	0.00	-50.53	0.00	50.53	3316.02	788.90	2472.09	2571.60	1.66	-0.15	0.027
120.00	-24.98	-0.84	0.00	-48.84	0.00	48.84	3284.72	778.95	2410.12	2514.88	1.72	-0.15	0.027
122.00	-24.63	-0.84	0.00	-47.16	0.00	47.16	3253.15	769.00	2348.93	2458.58	1.78	-0.16	0.027
124.00	-24.28	-0.84	0.00	-45.48	0.00	45.48	3213.32	759.05	2288.53	2396.73	1.85	-0.16	0.027
125.00	-24.10	-0.84	0.00	-44.63	0.00	44.63	3192.26	754.08	2258.63	2365.26	1.88	-0.16	0.026
125.00	-24.10	-0.84	0.00	-44.63	0.00	44.63	2545.46	629.48	1888.72	1892.56	1.88	-0.16	0.033
126.00	-23.95	-0.84	0.00	-43.79	0.00	43.79	2533.76	625.34	1863.92	1871.35	1.92	-0.16	0.033
128.00	-23.65	-0.84	0.00	-42.11	0.00	42.11	2510.17	617.05	1814.81	1829.12	1.99	-0.17	0.032
130.00	-23.36	-0.84	0.00	-40.42	0.00	40.42	2486.30	608.75	1766.36	1787.17	2.06	-0.17	0.032
132.00	-22.84	-0.84	0.00	-38.73	0.00	38.73	2462.17	600.46	1718.57	1745.51	2.13	-0.18	0.031
134.00	-22.33	-0.84	0.00	-37.05	0.00	37.05	2437.77	592.17	1671.43	1704.13	2.21	-0.18	0.031
135.00	-22.08	-0.84	0.00	-36.21	0.00	36.21	2457.60	598.90	1709.65	1737.70	2.25	-0.18	0.030
136.00	-21.93	-0.84	0.00	-35.37	0.00	35.37	2445.41	594.76	1686.06	1717.00	2.29	-0.19	0.030
138.00	-21.65	-0.84	0.00	-33.69	0.00	33.69	2420.82	586.46	1639.37	1675.83	2.36	-0.19	0.029
140.00	-21.36	-0.84	0.00	-32.01	0.00	32.01	2395.97	578.17	1593.34	1634.95	2.44	-0.19	0.028
140.00	-21.36	-0.84	0.00	-32.01	0.00	32.01	1788.19	463.41	1279.47	1224.81	2.44	-0.19	0.038
142.00	-21.12	-0.84	0.00	-30.33	0.00	30.33	1771.85	456.77	1243.10	1196.12	2.53	-0.20	0.037
144.00	-20.89	-0.84	0.00	-28.65	0.00	28.65	1755.23	450.14	1207.26	1167.57	2.61	-0.20	0.036
146.00	-20.65	-0.84	0.00	-26.96	0.00	26.96	1738.36	443.51	1171.94	1139.16	2.69	-0.21	0.036
148.00	-20.42	-0.84	0.00	-25.28	0.00	25.28	1721.21	436.87	1137.14	1110.92	2.78	-0.21	0.035
150.00	-20.19	-0.84	0.00	-23.59	0.00	23.59	1703.79	430.24	1102.87	1082.85	2.87	-0.22	0.034
152.00	-19.97	-0.84	0.00	-21.91	0.00	21.91	1686.10	423.60	1069.12	1054.96	2.96	-0.22	0.033
154.00	-19.74	-0.84	0.00	-20.22	0.00	20.22	1668.15	416.97	1035.89	1027.24	3.06	-0.22	0.032
156.00	-19.52	-0.84	0.00	-18.54	0.00	18.54	1649.92	410.34	1003.19	999.72	3.15	-0.23	0.030
158.00	-19.30	-0.84	0.00	-16.85	0.00	16.85	1631.43	403.70	971.02	972.40	3.25	-0.23	0.029
160.00	-19.08	-0.84	0.00	-15.16	0.00	15.16	1612.67	397.07	939.37	945.29	3.35	-0.24	0.028
162.00	-18.87	-0.84	0.00	-13.48	0.00	13.48	1593.64	390.43	908.24	918.39	3.45	-0.24	0.027
164.00	-18.66	-0.84	0.00	-11.79	0.00	11.79	1574.34	383.80	877.64	891.72	3.55	-0.24	0.025
165.00	-12.75	-0.50	0.00	-10.95	0.00	10.95	1564.59	380.48	862.54	878.47	3.60	-0.24	0.021
166.00	-12.65	-0.50	0.00	-10.45	0.00	10.45	1554.77	377.17	847.56	865.27	3.65	-0.25	0.020
168.00	-12.47	-0.50	0.00	-9.45	0.00	9.45	1534.93	370.53	818.01	839.07	3.75	-0.25	0.019
170.00	-12.29	-0.50	0.00	-8.45	0.00	8.45	1514.83	363.90	788.98	813.12	3.86	-0.25	0.019
172.00	-12.11	-0.50	0.00	-7.46	0.00	7.46	1494.45	357.26	760.48	787.42	3.96	-0.25	0.018
174.00	-11.93	-0.50	0.00	-6.46	0.00	6.46	1473.81	350.63	732.50	761.98	4.07	-0.26	0.017
175.00	-9.10	-0.40	0.00	-5.97	0.00	5.97	1463.38	347.31	718.70	749.37	4.12	-0.26	0.014
176.00	-9.02	-0.40	0.00	-5.56	0.00	5.56	1452.89	344.00	705.04	736.82	4.18	-0.26	0.014
178.00	-8.85	-0.40	0.00	-4.76	0.00	4.76	1428.17	337.36	678.11	710.17	4.29	-0.26	0.013
180.00	-8.69	-0.40	0.00	-3.96	0.00	3.96	1400.09	330.73	651.70	682.38	4.40	-0.26	0.012
180.00	-8.69	-0.40	0.00	-3.96	0.00	3.96	678.42	203.53	2520.57	396.30	4.40	-0.26	0.023
182.00	-8.51	-0.40	0.00	-3.16	0.00	3.16	678.42	203.53	2520.57	396.30	4.51	-0.26	0.021

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 61



Tower Engineering Solutions

184.00	-8.34	-0.40	0.00	-2.36	0.00	2.36	678.42	203.53	25205.7	396.30	4.62	-0.26	0.018
185.00	-4.36	-0.20	0.00	-1.96	0.00	1.96	678.42	203.53	25205.7	396.30	4.67	-0.26	0.011
186.00	-4.29	-0.20	0.00	-1.76	0.00	1.76	678.42	203.53	25205.7	396.30	4.73	-0.27	0.011
188.00	-4.14	-0.20	0.00	-1.37	0.00	1.37	678.42	203.53	25205.7	396.30	4.84	-0.27	0.010
190.00	-4.00	-0.20	0.00	-0.98	0.00	0.98	678.42	203.53	25205.7	396.30	4.95	-0.27	0.008
192.00	-3.86	-0.19	0.00	-0.58	0.00	0.58	678.42	203.53	25205.7	396.30	5.06	-0.27	0.007
194.00	-3.72	-0.19	0.00	-0.19	0.00	0.19	678.42	203.53	25205.7	396.30	5.17	-0.27	0.006
195.00	0.00	-0.18	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	5.23	-0.27	0.000

## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 62



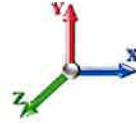
**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00

**Iterations**

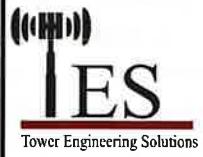
29



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	5.417	5.96	272.33	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	5.417	5.96	270.32	0.630	0.000	2.00	10.876	6.85	40.8	0.0	603.1
4.00		1.00	0.70	5.417	5.96	268.31	0.630	0.000	2.00	10.795	6.80	40.5	0.0	598.6
6.00		1.00	0.70	5.417	5.96	266.30	0.630	0.000	2.00	10.714	6.75	40.2	0.0	594.1
8.00		1.00	0.70	5.417	5.96	264.28	0.630	0.000	2.00	10.634	6.70	39.9	0.0	589.6
10.00		1.00	0.70	5.417	5.96	262.27	0.630	0.000	2.00	10.553	6.65	39.6	0.0	585.1
12.00		1.00	0.70	5.417	5.96	260.26	0.630	0.000	2.00	10.472	6.60	39.3	0.0	580.6
14.00		1.00	0.70	5.417	5.96	258.25	0.630	0.000	2.00	10.392	6.55	39.0	0.0	576.1
16.00		1.00	0.70	5.417	5.96	256.24	0.630	0.000	2.00	10.311	6.50	38.7	0.0	571.6
18.00		1.00	0.70	5.417	5.96	254.23	0.630	0.000	2.00	10.231	6.45	38.4	0.0	567.1
20.00		1.00	0.70	5.417	5.96	252.22	0.630	0.000	2.00	10.150	6.39	38.1	0.0	562.6
22.00		1.00	0.70	5.417	5.96	250.21	0.630	0.000	2.00	10.069	6.34	37.8	0.0	558.1
24.00		1.00	0.70	5.417	5.96	248.19	0.630	0.000	2.00	9.989	6.29	37.5	0.0	553.6
26.00		1.00	0.70	5.417	5.96	246.18	0.630	0.000	2.00	9.908	6.24	37.2	0.0	549.1
28.00		1.00	0.70	5.417	5.96	244.17	0.630	0.000	2.00	9.827	6.19	36.9	0.0	544.6
30.00		1.00	0.70	5.422	5.96	242.26	0.630	0.000	2.00	9.747	6.14	36.6	0.0	540.1
32.00		1.00	0.71	5.523	6.08	242.47	0.630	0.000	2.00	9.666	6.09	37.0	0.0	535.6
34.00		1.00	0.73	5.619	6.18	242.54	0.630	0.000	2.00	9.586	6.04	37.3	0.0	531.1
36.00		1.00	0.74	5.712	6.28	242.46	0.630	0.000	2.00	9.505	5.99	37.6	0.0	526.6
38.00		1.00	0.75	5.801	6.38	242.26	0.630	0.000	2.00	9.424	5.94	37.9	0.0	522.1
40.00		1.00	0.76	5.887	6.48	241.94	0.630	0.000	2.00	9.344	5.89	38.1	0.0	517.6
41.00 Bot - Section 2		1.00	0.77	5.928	6.52	241.75	0.630	0.000	1.00	4.642	2.92	19.1	0.0	257.1
42.00		1.00	0.77	5.969	6.57	241.52	0.630	0.000	1.00	4.695	2.96	19.4	0.0	516.1
44.00		1.00	0.78	6.049	6.65	241.01	0.630	0.000	2.00	9.331	5.88	39.1	0.0	1025.5
46.00		1.00	0.79	6.126	6.74	240.40	0.630	0.000	2.00	9.250	5.83	39.3	0.0	1016.5
48.00 Top - Section 1		1.00	0.80	6.201	6.82	239.72	0.630	0.000	2.00	9.169	5.78	39.4	0.0	1007.5
50.00		1.00	0.81	6.274	6.90	242.93	0.630	0.000	2.00	9.089	5.73	39.5	0.0	503.4
52.00		1.00	0.82	6.345	6.98	242.12	0.630	0.000	2.00	9.008	5.68	39.6	0.0	498.9
54.00		1.00	0.83	6.414	7.05	241.24	0.630	0.000	2.00	8.927	5.62	39.7	0.0	494.4
56.00		1.00	0.84	6.481	7.13	240.30	0.630	0.000	2.00	8.847	5.57	39.7	0.0	489.9
58.00		1.00	0.85	6.546	7.20	239.29	0.630	0.000	2.00	8.766	5.52	39.8	0.0	485.4
60.00		1.00	0.85	6.610	7.27	238.23	0.630	0.000	2.00	8.686	5.47	39.8	0.0	480.9
62.00		1.00	0.86	6.672	7.34	237.12	0.630	0.000	2.00	8.605	5.42	39.8	0.0	476.4
64.00		1.00	0.87	6.733	7.41	235.96	0.630	0.000	2.00	8.524	5.37	39.8	0.0	471.9
66.00		1.00	0.88	6.792	7.47	234.74	0.630	0.000	2.00	8.444	5.32	39.7	0.0	467.3
68.00		1.00	0.89	6.850	7.54	233.48	0.630	0.000	2.00	8.363	5.27	39.7	0.0	462.8
70.00		1.00	0.89	6.907	7.60	232.18	0.630	0.000	2.00	8.282	5.22	39.6	0.0	458.3
72.00		1.00	0.90	6.963	7.66	230.84	0.630	0.000	2.00	8.202	5.17	39.6	0.0	453.8
74.00		1.00	0.91	7.018	7.72	229.45	0.630	0.000	2.00	8.121	5.12	39.5	0.0	449.3
76.00		1.00	0.91	7.071	7.78	228.03	0.630	0.000	2.00	8.041	5.07	39.4	0.0	444.8
78.00		1.00	0.92	7.124	7.84	226.57	0.630	0.000	2.00	7.960	5.01	39.3	0.0	440.3
80.00		1.00	0.93	7.176	7.89	225.08	0.630	0.000	2.00	7.879	4.96	39.2	0.0	435.8
82.00		1.00	0.93	7.227	7.95	223.55	0.630	0.000	2.00	7.799	4.91	39.1	0.0	431.3
84.00		1.00	0.94	7.277	8.00	221.99	0.630	0.000	2.00	7.718	4.86	38.9	0.0	426.8
85.00 Bot - Section 3		1.00	0.94	7.301	8.03	221.20	0.630	0.000	1.00	3.829	2.41	19.4	0.0	211.7
86.00		1.00	0.95	7.326	8.06	220.40	0.630	0.000	1.00	3.883	2.45	19.7	0.0	425.3
88.00		1.00	0.95	7.374	8.11	218.78	0.630	0.000	2.00	7.705	4.85	39.4	0.0	843.9

## Wind Loading - Shaft

<b>Structure:</b> CT01916-S-SBA	<b>Code:</b> TIA-222-H	<b>11/8/2023</b>
<b>Site Name:</b> North Salem	<b>Exposure:</b> B	
<b>Height:</b> 195.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		<b>Page:</b> 63
90.00	1.00	0.96 7.421 8.16 217.13 0.630 0.000 2.00 7.624 4.80 39.2 0.0 834.9
91.00 Top - Section 2	1.00	0.96 7.445 8.19 216.29 0.630 0.000 1.00 3.782 2.38 19.5 0.0 414.1
92.00	1.00	0.96 7.468 8.21 219.79 0.630 0.000 1.00 3.762 2.37 19.5 0.0 208.0
93.00 Top - Section 3	1.00	0.97 7.491 8.24 218.94 0.630 0.000 1.00 3.742 2.36 19.4 0.0 206.9
94.00	1.00	0.97 7.514 8.27 218.09 0.630 0.000 1.00 3.721 2.34 19.4 0.0 176.6
96.00	1.00	0.98 7.559 8.32 216.37 0.630 0.000 2.00 7.382 4.65 38.7 0.0 350.3
98.00	1.00	0.98 7.604 8.36 214.63 0.630 0.000 2.00 7.302 4.60 38.5 0.0 346.4
100.00	1.00	0.99 7.648 8.41 212.86 0.630 0.000 2.00 7.221 4.55 38.3 0.0 342.6
102.00	1.00	0.99 7.692 8.46 211.07 0.630 0.000 2.00 7.141 4.50 38.1 0.0 338.7
104.00	1.00	1.00 7.734 8.51 209.25 0.630 0.000 2.00 7.060 4.45 37.8 0.0 334.9
106.00	1.00	1.00 7.777 8.55 207.41 0.630 0.000 2.00 6.979 4.40 37.6 0.0 331.0
108.00	1.00	1.01 7.818 8.60 205.55 0.630 0.000 2.00 6.899 4.35 37.4 0.0 327.1
110.00	1.00	1.02 7.859 8.65 203.67 0.630 0.000 2.00 6.818 4.30 37.1 0.0 323.3
112.00	1.00	1.02 7.900 8.69 201.76 0.630 0.000 2.00 6.737 4.24 36.9 0.0 319.4
114.00	1.00	1.03 7.940 8.73 199.84 0.630 0.000 2.00 6.657 4.19 36.6 0.0 315.6
116.00	1.00	1.03 7.979 8.78 197.89 0.630 0.000 2.00 6.576 4.14 36.4 0.0 311.7
118.00	1.00	1.04 8.019 8.82 195.93 0.630 0.000 2.00 6.496 4.09 36.1 0.0 307.9
120.00	1.00	1.04 8.057 8.86 193.95 0.630 0.000 2.00 6.415 4.04 35.8 0.0 304.0
122.00	1.00	1.05 8.095 8.90 191.95 0.630 0.000 2.00 6.334 3.99 35.5 0.0 300.1
124.00	1.00	1.05 8.133 8.95 189.93 0.630 0.000 2.00 6.254 3.94 35.2 0.0 296.3
125.00 Top - Section 4	1.00	1.05 8.152 8.97 188.91 0.630 0.000 1.00 3.097 1.95 17.5 0.0 146.7
126.00	1.00	1.06 8.170 8.99 187.89 0.630 0.000 1.00 3.076 1.94 17.4 0.0 121.6
128.00	1.00	1.06 8.207 9.03 185.84 0.630 0.000 2.00 6.092 3.84 34.7 0.0 240.9
130.00 Bot - Section 6	1.00	1.07 8.244 9.07 183.77 0.630 0.000 2.00 6.012 3.79 34.3 0.0 237.7
132.00	1.00	1.07 8.280 9.11 181.69 0.630 0.000 2.00 6.037 3.80 34.6 0.0 473.1
134.00	1.00	1.07 8.315 9.15 179.59 0.630 0.000 2.00 5.956 3.75 34.3 0.0 466.7
135.00 Top - Section 5	1.00	1.08 8.333 9.17 178.53 0.630 0.000 1.00 2.948 1.86 17.0 0.0 230.9
136.00	1.00	1.08 8.350 9.19 180.75 0.630 0.000 1.00 2.928 1.84 16.9 0.0 115.7
138.00	1.00	1.08 8.385 9.22 178.62 0.630 0.000 2.00 5.795 3.65 33.7 0.0 229.0
140.00 Top - Section 6	1.00	1.09 8.420 9.26 176.48 0.630 0.000 2.00 5.714 3.60 33.3 0.0 225.8
142.00	1.00	1.09 8.454 9.30 174.33 0.630 0.000 2.00 5.634 3.55 33.0 0.0 178.4
144.00	1.00	1.10 8.488 9.34 172.16 0.630 0.000 2.00 5.553 3.50 32.7 0.0 175.8
146.00	1.00	1.10 8.521 9.37 169.97 0.630 0.000 2.00 5.473 3.45 32.3 0.0 173.3
148.00	1.00	1.11 8.555 9.41 167.78 0.630 0.000 2.00 5.392 3.40 32.0 0.0 170.7
150.00	1.00	1.11 8.588 9.45 165.57 0.630 0.000 2.00 5.311 3.35 31.6 0.0 168.1
152.00	1.00	1.11 8.620 9.48 163.34 0.630 0.000 2.00 5.231 3.30 31.2 0.0 165.6
154.00	1.00	1.12 8.652 9.52 161.11 0.630 0.000 2.00 5.150 3.24 30.9 0.0 163.0
156.00	1.00	1.12 8.684 9.55 158.86 0.630 0.000 2.00 5.069 3.19 30.5 0.0 160.4
158.00	1.00	1.13 8.716 9.59 156.59 0.630 0.000 2.00 4.989 3.14 30.1 0.0 157.8
160.00	1.00	1.13 8.747 9.62 154.32 0.630 0.000 2.00 4.908 3.09 29.8 0.0 155.3
162.00	1.00	1.13 8.778 9.66 152.03 0.630 0.000 2.00 4.828 3.04 29.4 0.0 152.7
164.00	1.00	1.14 8.809 9.69 149.74 0.630 0.000 2.00 4.747 2.99 29.0 0.0 150.1
165.00 Appurtenance(s)	1.00	1.14 8.825 9.71 148.58 0.630 0.000 1.00 2.343 1.48 14.3 0.0 74.1
166.00	1.00	1.14 8.840 9.72 147.43 0.630 0.000 1.00 2.323 1.46 14.2 0.0 73.5
168.00	1.00	1.15 8.870 9.76 145.11 0.630 0.000 2.00 4.586 2.89 28.2 0.0 145.0
170.00	1.00	1.15 8.900 9.79 142.77 0.630 0.000 2.00 4.505 2.84 27.8 0.0 142.4
172.00	1.00	1.15 8.930 9.82 140.43 0.630 0.000 2.00 4.425 2.79 27.4 0.0 139.8
174.00	1.00	1.16 8.960 9.86 138.07 0.630 0.000 2.00 4.344 2.74 27.0 0.0 137.3
175.00 Appurtenance(s)	1.00	1.16 8.974 9.87 136.89 0.630 0.000 1.00 2.142 1.35 13.3 0.0 67.7
176.00	1.00	1.16 8.989 9.89 135.71 0.630 0.000 1.00 2.122 1.34 13.2 0.0 67.0
178.00	1.00	1.17 9.018 9.92 133.33 0.630 0.000 2.00 4.183 2.64 26.1 0.0 132.1
180.00 Top - Section 7	1.00	1.17 9.047 9.95 130.95 0.630 0.000 2.00 4.102 2.58 25.7 0.0 129.5
182.00	1.00	1.17 9.075 9.98 129.16 0.450 0.000 2.00 4.000 1.80 18.0 0.0 142.5
184.00	1.00	1.18 9.104 10.01 129.36 0.450 0.000 2.00 4.000 1.80 18.0 0.0 142.5
185.00 Appurtenance(s)	1.00	1.18 9.118 10.03 129.46 0.450 0.000 1.00 2.000 0.90 9.0 0.0 71.3
186.00	1.00	1.18 9.132 10.05 129.56 0.450 0.000 1.00 2.000 0.90 9.0 0.0 71.3
188.00	1.00	1.18 9.160 10.08 129.76 0.450 0.000 2.00 4.000 1.80 18.1 0.0 142.5



## Wind Loading - Shaft

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 64

190.00	1.00	1.19	9.188	10.11	129.96	0.450	0.000	2.00	4.000	1.80	18.2	0.0	142.5
192.00	1.00	1.19	9.215	10.14	130.15	0.450	0.000	2.00	4.000	1.80	18.2	0.0	142.5
194.00	1.00	1.19	9.242	10.17	130.34	0.450	0.000	2.00	4.000	1.80	18.3	0.0	142.5
195.00 Appurtenance(s)	1.00	1.20	9.256	10.18	130.44	0.450	0.000	1.00	2.000	0.90	9.2	0.0	71.3
								<b>Totals:</b>		<b>195.00</b>	<b>3,387.7</b>	<b>38,209.1</b>	



## Discrete Appurtenance Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 65



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations**

29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	HRK12 (Handrail Kit)	1	9.256	10.182	1.00	1.00	6.75	261.72	0.000	0.000	68.73	0.00	0.00
2	195.00	Low Profile	1	9.256	10.182	1.00	1.00	26.00	1800.00	0.000	0.000	264.72	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	9.256	10.182	1.00	1.00	9.50	464.91	0.000	0.000	96.73	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	9.256	10.182	1.00	1.00	6.70	230.00	0.000	0.000	68.22	0.00	0.00
5	195.00	TD-RRH8x20-25	3	9.256	10.182	0.50	1.00	6.07	210.00	0.000	0.000	61.85	0.00	0.00
6	195.00	NNVV-65B-R4	3	9.256	10.182	0.73	1.00	26.87	232.20	0.000	0.000	273.59	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	9.256	10.182	0.50	1.00	4.16	180.00	0.000	0.000	42.30	0.00	0.00
8	195.00	800 MHz RRH	6	9.256	10.182	0.50	1.00	7.47	318.00	0.000	0.000	76.06	0.00	0.00
9	195.00	APXVTM14-C-I20	3	9.256	10.182	0.78	1.00	14.84	168.60	0.000	0.000	151.05	0.00	0.00
10	185.00	(3) SitePro 1 PRK-SFS-L	1	9.118	10.030	0.80	0.80	5.36	230.00	0.000	0.000	53.76	0.00	0.00
11	185.00	Powerwave LGP21903	6	9.118	10.030	0.40	0.80	0.65	33.00	0.000	0.000	6.50	0.00	0.00
12	185.00	Sector Frames	1	9.118	10.030	1.00	1.00	22.00	1500.00	0.000	0.000	220.65	0.00	0.00
13	185.00	Cci DMP65R-BU8DA	6	9.118	10.030	0.58	0.80	62.62	576.00	0.000	0.000	628.02	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	9.118	10.030	0.40	0.80	2.21	179.70	0.000	0.000	22.15	0.00	0.00
15	185.00	(3) SitePro 1 SFS-L with	1	9.118	10.030	0.80	0.80	8.00	514.00	0.000	0.000	80.24	0.00	0.00
16	185.00	(3) SitePro 1 HRK14-3HD	1	9.118	10.030	0.80	0.80	7.80	406.61	0.000	0.000	78.23	0.00	0.00
17	185.00	Ericsson RRUS 8843 B2	3	9.118	10.030	0.40	0.80	1.97	216.00	0.000	0.000	19.74	0.00	0.00
18	185.00	Raycap DC6-48-60-18-8F	1	9.118	10.030	0.40	0.80	0.37	31.80	0.000	0.000	3.69	0.00	0.00
19	185.00	Powerwave LGP21401	6	9.118	10.030	0.40	0.80	3.10	84.60	0.000	0.000	31.05	0.00	0.00
20	185.00	Powerwave 7770	3	9.118	10.030	0.58	0.80	9.64	105.00	0.000	0.000	96.65	0.00	0.00
21	185.00	Raycap	1	9.118	10.030	0.40	0.80	1.91	16.00	0.000	0.000	19.18	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	9.118	10.030	0.40	0.80	0.50	20.00	0.000	0.000	5.05	0.00	0.00
23	185.00	Ericsson 4449 B5/B12	3	9.118	10.030	0.40	0.80	2.36	213.00	0.000	0.000	23.71	0.00	0.00
24	175.00	RFS	3	8.974	9.872	0.50	0.80	9.61	122.10	0.000	0.000	94.89	0.00	0.00
25	175.00	Platform w/ Hand Rail	1	8.974	9.872	1.00	1.00	32.00	1600.00	0.000	0.000	315.89	0.00	0.00
26	175.00	Ericsson RRUS11 B2	6	8.974	9.872	0.40	0.80	6.05	303.60	0.000	0.000	59.70	0.00	0.00
27	175.00	Ericsson RRUS11 B4	3	8.974	9.872	0.40	0.80	3.02	151.80	0.000	0.000	29.85	0.00	0.00
28	175.00	RFS	3	8.974	9.872	0.56	0.80	34.00	368.40	0.000	0.000	335.67	0.00	0.00
29	175.00	Ericsson 4449 B71 + B85	3	8.974	9.872	0.54	0.80	3.17	213.00	0.000	0.000	31.27	0.00	0.00
30	175.00	Commscope	3	8.974	9.872	0.64	0.80	22.02	149.40	0.000	0.000	217.40	0.00	0.00
31	165.00	BSAMNT-SBS-1-2	3	8.825	9.707	0.56	0.75	0.00	76.80	0.000	0.000	0.00	0.00	0.00
32	165.00	RMQLP-4096-HK Plat. +	1	8.825	9.707	1.00	1.00	51.70	2810.05	0.000	0.000	501.86	0.00	0.00
33	165.00	Raycap	9	8.825	9.707	0.38	0.75	13.70	288.00	0.000	0.000	133.01	0.00	0.00
34	165.00	Samsung RF4461d-13A	12	8.825	9.707	0.38	0.75	8.42	949.20	0.000	0.000	81.69	0.00	0.00
35	165.00	Samsung B2/B66A RRH	12	8.825	9.707	0.38	0.75	8.42	896.40	0.000	0.000	81.69	0.00	0.00
36	165.00	Samsung MT6407-77A	6	8.825	9.707	0.52	0.75	12.16	476.40	0.000	0.000	118.03	0.00	0.00
37	165.00	Commscope	15	8.825	9.707	0.62	0.75	75.45	654.75	0.000	0.000	732.37	0.00	0.00

Totals: 17,051.04

5,125.17

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 66



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations**

29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		45.60	678.12	0.00	0.00
4.00		45.29	673.62	0.00	0.00
6.00		44.99	669.12	0.00	0.00
8.00		44.69	664.62	0.00	0.00
10.00		44.39	660.11	0.00	0.00
12.00		44.08	655.61	0.00	0.00
14.00		43.78	651.11	0.00	0.00
16.00		43.48	646.61	0.00	0.00
18.00		43.18	642.11	0.00	0.00
20.00		42.87	637.60	0.00	0.00
22.00		42.57	633.10	0.00	0.00
24.00		42.27	628.60	0.00	0.00
26.00		41.97	624.10	0.00	0.00
28.00		41.66	619.60	0.00	0.00
30.00		41.39	615.09	0.00	0.00
32.00		41.86	610.59	0.00	0.00
34.00		42.27	606.09	0.00	0.00
36.00		42.65	601.59	0.00	0.00
38.00		42.99	597.09	0.00	0.00
40.00		43.30	592.59	0.00	0.00
41.00		21.68	294.60	0.00	0.00
42.00		22.05	553.60	0.00	0.00
44.00		44.44	1100.45	0.00	0.00
46.00		44.66	1091.45	0.00	0.00
48.00		44.86	1082.44	0.00	0.00
50.00		45.04	578.34	0.00	0.00
52.00		45.19	573.84	0.00	0.00
54.00		45.32	569.34	0.00	0.00
56.00		45.43	564.84	0.00	0.00
58.00		45.53	560.34	0.00	0.00
60.00		45.60	555.84	0.00	0.00
62.00		45.66	551.33	0.00	0.00
64.00		45.70	546.83	0.00	0.00
66.00		45.72	542.33	0.00	0.00
68.00		45.73	537.83	0.00	0.00
70.00		45.72	533.33	0.00	0.00
72.00		45.70	528.82	0.00	0.00
74.00		45.67	524.32	0.00	0.00
76.00		45.63	519.82	0.00	0.00
78.00		45.57	515.32	0.00	0.00
80.00		45.50	510.82	0.00	0.00
82.00		45.42	506.31	0.00	0.00
84.00		45.32	501.81	0.00	0.00
85.00		22.59	249.22	0.00	0.00
86.00		22.93	462.83	0.00	0.00
88.00		45.86	918.91	0.00	0.00

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Site Name:** North Salem

**Height:** 195.00 (ft)

**Base Elev:** 0.000 (ft)

**Gh:** 1.1

**Topography:** 1

**Code:** TIA-222-H

11/8/2023

**Exposure:** B

**Crest Height:** 0.00

**Site Class:** D - Stiff Soil

Page: 67



90.00		45.74	909.90	0.00
91.00		22.79	451.57	0.00
92.00		22.75	245.47	0.00
93.00		22.72	244.35	0.00
94.00		22.68	214.09	0.00
96.00		45.33	425.28	0.00
98.00		45.17	421.42	0.00
100.00		45.00	417.56	0.00
102.00		44.83	413.70	0.00
104.00		44.65	409.84	0.00
106.00		44.46	405.98	0.00
108.00		44.26	402.13	0.00
110.00		44.05	398.27	0.00
112.00		43.84	394.41	0.00
114.00		43.62	390.55	0.00
116.00		43.39	386.69	0.00
118.00		43.15	382.83	0.00
120.00		42.91	378.97	0.00
122.00		42.66	375.11	0.00
124.00		42.40	371.26	0.00
125.00		21.08	184.18	0.00
126.00		21.01	159.14	0.00
128.00		11.87	315.87	0.00
130.00		41.60	312.65	0.00
132.00		41.92	548.11	0.00
134.00		41.64	541.68	0.00
135.00		20.69	268.43	0.00
136.00		20.62	153.21	0.00
138.00		41.05	304.01	0.00
140.00		40.75	300.79	0.00
142.00		40.45	253.39	0.00
144.00		36.40	250.82	0.00
146.00		32.32	248.25	0.00
148.00		31.97	245.68	0.00
150.00		31.61	243.10	0.00
152.00		31.25	240.53	0.00
154.00		30.88	237.96	0.00
156.00		30.51	235.39	0.00
158.00		30.13	232.81	0.00
160.00		29.75	230.24	0.00
162.00		29.37	227.67	0.00
164.00		28.98	225.10	0.00
165.00	(58) attachments	1662.97	6263.18	0.00
166.00		14.23	98.34	0.00
168.00		28.19	194.75	0.00
170.00		27.79	192.18	0.00
172.00		27.38	189.61	0.00
174.00		26.97	187.03	0.00
175.00	(22) attachments	1098.00	3000.85	0.00
176.00		13.22	88.76	0.00
178.00		27.70	175.58	0.00
180.00		38.26	173.01	0.00
182.00		30.55	185.97	0.00
184.00		19.60	185.97	0.00
185.00	(37) attachments	1297.64	4218.70	0.00
186.00		9.04	75.07	0.00
188.00		18.14	150.13	0.00

## Total Applied Force Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 68



190.00		18.19	150.13	0.00	0.00
192.00		18.25	150.13	0.00	0.00
194.00		18.30	150.13	0.00	0.00
195.00	(22) attachments	1112.41	3940.50	0.00	0.00
	<b>Totals:</b>	<b>8,972.86</b>	<b>61,950.40</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 69

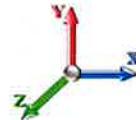


**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00

**Iterations** 29



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
2.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
4.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
4.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
6.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
6.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
8.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
8.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
10.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
10.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
12.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
12.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
14.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
14.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
16.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
16.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
18.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
18.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
20.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
20.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
22.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
22.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
24.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
24.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
26.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
26.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
28.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.417	4.77	0.00
28.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.417	0.00	0.00
30.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.422	4.77	0.00
30.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.422	0.00	0.00
32.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.523	4.86	0.00
32.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.523	0.00	0.00
34.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.619	4.95	0.00
34.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.619	0.00	0.00
36.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.712	5.03	0.00
36.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.712	0.00	0.00
38.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.801	5.10	0.00
38.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.801	0.00	0.00
40.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	5.887	5.18	0.00
40.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.887	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	5.928	2.61	0.00
41.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.928	0.00	0.00
42.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	5.969	2.63	0.00
42.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.969	0.00	0.00
44.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.049	5.32	0.00
44.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.049	0.00	0.00
46.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.126	5.39	0.00

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 70



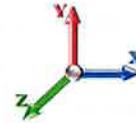
**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00

**Iterations**

29



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
46.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.126	0.00	0.00
48.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.201	5.46	0.00
48.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.201	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.274	5.52	0.00
50.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.274	0.00	0.00
52.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.345	5.58	0.00
52.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	0.00
54.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.414	5.64	0.00
54.00	(4) C5x9	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.414	0.00	0.00
56.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.481	5.70	0.00
56.00	(4) C5x9	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.481	0.00	0.00
58.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.546	5.76	0.00
60.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.610	5.82	0.00
62.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.672	5.87	0.00
64.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.733	5.92	0.00
66.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.792	5.98	0.00
68.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.850	6.03	0.00
70.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.907	6.08	0.00
72.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	6.963	6.13	0.00
74.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.018	6.18	0.00
76.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.071	6.22	0.00
78.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.124	6.27	0.00
80.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.176	6.31	0.00
82.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.227	6.36	0.00
84.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.277	6.40	0.00
85.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.301	3.21	0.00
86.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.326	3.22	0.00
88.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.374	6.49	0.00
90.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.421	6.53	0.00
91.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.445	3.28	0.00
92.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.468	3.29	0.00
93.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.491	3.30	0.00
94.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	7.514	3.31	0.00
96.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.559	6.65	0.00
98.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.604	6.69	0.00
100.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.648	6.73	0.00
102.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.692	6.77	0.00
104.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.734	6.81	0.00
106.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.777	6.84	0.00
108.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.818	6.88	0.00
110.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.859	6.92	0.00
112.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.900	6.95	0.00
114.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.940	6.99	0.00
116.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	7.979	7.02	0.00
118.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.019	7.06	0.00
120.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.057	7.09	0.00
122.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.095	7.12	0.00

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 71



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations**

29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
124.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.133	7.16	0.00
125.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	8.152	3.59	0.00
126.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	8.170	3.59	0.00
128.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.207	7.22	0.00
130.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.244	7.25	0.00
132.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.280	7.29	0.00
134.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.315	7.32	0.00
135.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	8.333	3.67	0.00
136.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	8.350	3.67	0.00
138.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.385	7.38	0.00
140.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.420	7.41	0.00
142.00	(4) C6x10.5	Yes	2.00	1.200	4.00	0.67	0.80	0.000	0.000	8.454	7.44	0.00
144.00	(4) C6x10.5	Yes	1.00	1.200	4.00	0.33	0.40	0.000	0.000	8.488	3.73	0.00
178.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	9.018	1.56	0.00
180.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	9.047	12.54	0.00
182.00	(3) Bypass Stiffeners	Yes	2.00	0.600	12.60	2.10	1.26	0.000	0.000	9.075	12.58	0.00
184.00	(3) Bypass Stiffeners	Yes	0.25	0.600	12.60	0.26	0.16	0.000	0.000	9.104	1.58	0.00
<b>Totals:</b>										<b>459.9</b>	<b>0.0</b>	

## Calculated Forces

Structure: CT01916-S-SBA

Code: TIA-222-H

11/8/2023

Site Name: North Salem

Exposure: B

Height: 195.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 72



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations

29

Seg Elev (ft)	Pu (kips)	Vu (kips)	Tu (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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-61.95	-8.98	0.00	-1342.1	0.00	1342.16	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.186
2.00	-61.27	-8.95	0.00	-1324.2	0.00	1324.20	5777.89	1549.56	8174.96	7566.71	0.00	-0.016	0.000	0.186
4.00	-60.59	-8.92	0.00	-1306.3	0.00	1306.30	5752.42	1537.95	8052.92	7476.52	0.01	-0.033	0.000	0.185
6.00	-59.92	-8.90	0.00	-1288.4	0.00	1288.46	5726.67	1526.34	7931.81	7386.49	0.03	-0.050	0.000	0.185
8.00	-59.25	-8.87	0.00	-1270.6	0.00	1270.66	5700.65	1514.73	7811.61	7296.62	0.06	-0.067	0.000	0.185
10.00	-58.59	-8.84	0.00	-1252.9	0.00	1252.93	5674.37	1503.12	7692.32	7206.92	0.09	-0.084	0.000	0.184
12.00	-57.93	-8.81	0.00	-1235.2	0.00	1235.25	5647.82	1491.51	7573.96	7117.40	0.13	-0.101	0.000	0.184
14.00	-57.28	-8.78	0.00	-1217.6	0.00	1217.62	5620.99	1479.91	7456.51	7028.07	0.17	-0.118	0.000	0.183
16.00	-56.63	-8.76	0.00	-1200.0	0.00	1200.06	5593.90	1468.30	7339.98	6938.94	0.23	-0.136	0.000	0.183
18.00	-55.98	-8.73	0.00	-1182.5	0.00	1182.54	5566.54	1456.69	7224.37	6850.01	0.29	-0.153	0.000	0.183
20.00	-55.34	-8.70	0.00	-1165.0	0.00	1165.08	5538.91	1445.08	7109.68	6761.30	0.36	-0.171	0.000	0.182
22.00	-54.71	-8.68	0.00	-1147.6	0.00	1147.68	5511.02	1433.47	6995.90	6672.80	0.43	-0.189	0.000	0.182
24.00	-54.08	-8.65	0.00	-1130.3	0.00	1130.33	5482.85	1421.86	6883.05	6584.53	0.51	-0.207	0.000	0.182
26.00	-53.45	-8.62	0.00	-1113.0	0.00	1113.03	5454.41	1410.25	6771.11	6496.50	0.60	-0.226	0.000	0.181
28.00	-52.83	-8.59	0.00	-1095.7	0.00	1095.79	5425.71	1398.64	6660.08	6408.72	0.70	-0.244	0.000	0.181
30.00	-52.21	-8.57	0.00	-1078.6	0.00	1078.60	5396.74	1387.03	6549.98	6321.18	0.81	-0.263	0.000	0.180
32.00	-51.60	-8.54	0.00	-1061.4	0.00	1061.47	5367.49	1375.42	6440.79	6233.91	0.92	-0.282	0.000	0.180
34.00	-50.99	-8.51	0.00	-1044.3	0.00	1044.39	5337.98	1363.81	6332.52	6146.90	1.05	-0.301	0.000	0.179
36.00	-50.38	-8.48	0.00	-1027.3	0.00	1027.37	5308.20	1352.20	6225.17	6060.17	1.18	-0.320	0.000	0.179
38.00	-49.79	-8.45	0.00	-1010.4	0.00	1010.41	5278.15	1340.59	6118.74	5973.73	1.31	-0.339	0.000	0.179
40.00	-49.19	-8.42	0.00	-993.51	0.00	993.51	5247.84	1328.98	6013.22	5887.58	1.46	-0.359	0.000	0.178
41.00	-48.89	-8.40	0.00	-985.09	0.00	985.09	5232.58	1323.18	5960.81	5844.61	1.54	-0.369	0.000	0.178
42.00	-48.34	-8.39	0.00	-976.69	0.00	976.69	5217.25	1317.37	5908.62	5801.72	1.62	-0.379	0.000	0.178
44.00	-47.24	-8.35	0.00	-959.91	0.00	959.91	5186.39	1305.76	5804.94	5716.18	1.78	-0.398	0.000	0.177
46.00	-46.14	-8.32	0.00	-943.20	0.00	943.20	5155.27	1294.16	5702.18	5630.95	1.95	-0.418	0.000	0.176
48.00	-45.06	-8.28	0.00	-926.56	0.00	926.56	5181.33	1303.87	5788.10	5702.24	2.13	-0.439	0.000	0.171
50.00	-44.48	-8.25	0.00	-910.00	0.00	910.00	5150.16	1292.26	5685.49	5617.06	2.32	-0.459	0.000	0.171
52.00	-43.90	-8.21	0.00	-893.51	0.00	893.51	5118.73	1280.65	5583.79	5532.21	2.51	-0.479	0.000	0.170
54.00	-43.33	-8.18	0.00	-877.08	0.00	877.08	5087.02	1269.04	5483.02	5447.69	2.72	-0.499	0.000	0.170
56.00	-42.76	-8.14	0.00	-860.73	0.00	860.73	5055.04	1257.43	5383.16	5363.51	2.93	-0.518	0.000	0.169
58.00	-42.20	-8.11	0.00	-844.45	0.00	844.45	5022.80	1245.82	5284.21	5279.69	3.15	-0.539	0.000	0.168
60.00	-41.64	-8.07	0.00	-828.24	0.00	828.24	4990.29	1234.21	5186.19	5196.21	3.38	-0.559	0.000	0.168
62.00	-41.09	-8.03	0.00	-812.10	0.00	812.10	4957.51	1222.60	5089.08	5113.11	3.62	-0.579	0.000	0.167
64.00	-40.54	-8.00	0.00	-796.03	0.00	796.03	4924.46	1210.99	4992.89	5030.38	3.87	-0.600	0.000	0.167
66.00	-39.99	-7.96	0.00	-780.04	0.00	780.04	4891.14	1199.39	4897.62	4948.02	4.13	-0.621	0.000	0.166
68.00	-39.45	-7.92	0.00	-764.12	0.00	764.12	4857.55	1187.78	4803.27	4866.06	4.39	-0.642	0.000	0.165
70.00	-38.92	-7.89	0.00	-748.28	0.00	748.28	4823.69	1176.17	4709.83	4784.49	4.66	-0.663	0.000	0.165
72.00	-38.39	-7.85	0.00	-732.51	0.00	732.51	4789.56	1164.56	4617.32	4703.33	4.95	-0.684	0.000	0.164
74.00	-37.86	-7.81	0.00	-716.81	0.00	716.81	4755.17	1152.95	4525.72	4622.58	5.24	-0.706	0.000	0.163
76.00	-37.34	-7.77	0.00	-701.19	0.00	701.19	4720.51	1141.34	4435.03	4542.26	5.54	-0.728	0.000	0.162
78.00	-36.82	-7.73	0.00	-685.65	0.00	685.65	4685.57	1129.73	4345.27	4462.36	5.85	-0.750	0.000	0.162
80.00	-36.31	-7.70	0.00	-670.18	0.00	670.18	4650.37	1118.12	4256.42	4382.90	6.17	-0.772	0.000	0.161
82.00	-35.80	-7.66	0.00	-654.79	0.00	654.79	4614.90	1106.51	4168.49	4303.88	6.49	-0.794	0.000	0.160
84.00	-35.29	-7.62	0.00	-639.47	0.00	639.47	4579.16	1094.90	4081.48	4225.32	6.83	-0.816	0.000	0.159
85.00	-35.04	-7.60	0.00	-631.86	0.00	631.86	4561.19	1089.10	4038.32	4186.21	7.00	-0.828	0.000	0.159
86.00	-34.58	-7.58	0.00	-624.26	0.00	624.26	4543.15	1083.29	3995.39	4147.21	7.18	-0.839	0.000	0.158
88.00	-33.66	-7.53	0.00	-609.11	0.00	609.11	4506.88	1071.68	3910.21	4069.58	7.54	-0.862	0.000	0.157
90.00	-32.75	-7.48	0.00	-594.05	0.00	594.05	4470.33	1060.07	3825.95	3992.42	7.90	-0.885	0.000	0.156

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 73



Gh	1.1	Topography	1	Struct Class	II	Page	73							
91.00	-32.29	-7.46	0.00	-586.57	0.00	586.57	4519.12	1075.59	3938.79	4095.67	8.09	-0.896	0.000	0.150
92.00	-32.05	-7.44	0.00	-579.11	0.00	579.11	4500.93	1069.79	3896.39	4056.95	8.28	-0.908	0.000	0.150
93.00	-31.80	-7.42	0.00	-571.67	0.00	571.67	4482.67	1063.98	3854.22	4018.35	8.47	-0.919	0.000	0.149
93.00	-31.80	-7.42	0.00	-571.67	0.00	571.67	3684.61	913.29	3313.08	3312.42	8.47	-0.919	0.000	0.181
94.00	-31.59	-7.40	0.00	-564.25	0.00	564.25	3670.68	908.31	3277.08	3281.76	8.66	-0.930	0.000	0.181
96.00	-31.16	-7.36	0.00	-549.45	0.00	549.45	3642.60	898.36	3205.67	3220.68	9.06	-0.956	0.000	0.179
98.00	-30.73	-7.32	0.00	-534.73	0.00	534.73	3614.26	888.41	3135.05	3159.91	9.46	-0.982	0.000	0.178
100.00	-30.31	-7.29	0.00	-520.08	0.00	520.08	3585.64	878.46	3065.22	3099.48	9.88	-1.008	0.000	0.176
102.00	-29.90	-7.25	0.00	-505.51	0.00	505.51	3556.76	868.51	2996.17	3039.38	10.31	-1.034	0.000	0.175
104.00	-29.49	-7.21	0.00	-491.01	0.00	491.01	3527.61	858.56	2927.90	2979.62	10.75	-1.060	0.000	0.173
106.00	-29.08	-7.17	0.00	-476.59	0.00	476.59	3498.19	848.61	2860.43	2920.21	11.20	-1.086	0.000	0.172
108.00	-28.67	-7.13	0.00	-462.25	0.00	462.25	3468.50	838.66	2793.74	2861.17	11.66	-1.113	0.000	0.170
110.00	-28.27	-7.09	0.00	-447.99	0.00	447.99	3438.54	828.71	2727.83	2802.49	12.13	-1.139	0.000	0.168
112.00	-27.88	-7.05	0.00	-433.80	0.00	433.80	3408.31	818.76	2662.72	2744.18	12.61	-1.166	0.000	0.166
114.00	-27.48	-7.02	0.00	-419.70	0.00	419.70	3377.82	808.81	2598.39	2686.26	13.11	-1.193	0.000	0.164
116.00	-27.09	-6.98	0.00	-405.67	0.00	405.67	3347.05	798.86	2534.84	2628.73	13.61	-1.220	0.000	0.162
118.00	-26.71	-6.94	0.00	-391.71	0.00	391.71	3316.02	788.90	2472.09	2571.60	14.13	-1.247	0.000	0.160
120.00	-26.33	-6.90	0.00	-377.84	0.00	377.84	3284.72	778.95	2410.12	2514.88	14.66	-1.274	0.000	0.158
122.00	-25.95	-6.86	0.00	-364.04	0.00	364.04	3253.15	769.00	2348.93	2458.58	15.20	-1.301	0.000	0.156
124.00	-25.58	-6.82	0.00	-350.32	0.00	350.32	3213.32	759.05	2288.53	2396.73	15.75	-1.328	0.000	0.154
125.00	-25.39	-6.80	0.00	-343.50	0.00	343.50	3192.26	754.08	2258.63	2365.26	16.03	-1.342	0.000	0.153
125.00	-25.39	-6.80	0.00	-343.50	0.00	343.50	2545.46	629.48	1888.72	1892.56	16.03	-1.342	0.000	0.192
126.00	-25.23	-6.78	0.00	-336.70	0.00	336.70	2533.76	625.34	1863.92	1871.35	16.31	-1.355	0.000	0.190
128.00	-24.91	-6.75	0.00	-323.13	0.00	323.13	2510.17	617.05	1814.81	1829.12	16.88	-1.388	0.000	0.187
130.00	-24.60	-6.71	0.00	-309.63	0.00	309.63	2486.30	608.75	1766.36	1787.17	17.47	-1.420	0.000	0.183
132.00	-24.05	-6.67	0.00	-296.21	0.00	296.21	2462.17	600.46	1718.57	1745.51	18.07	-1.452	0.000	0.180
134.00	-23.50	-6.63	0.00	-282.86	0.00	282.86	2437.77	592.17	1671.43	1704.13	18.69	-1.484	0.000	0.176
135.00	-23.23	-6.61	0.00	-276.24	0.00	276.24	2457.60	598.90	1709.65	1737.70	19.00	-1.500	0.000	0.169
136.00	-23.08	-6.59	0.00	-269.63	0.00	269.63	2445.41	594.76	1686.06	1717.00	19.32	-1.516	0.000	0.167
138.00	-22.77	-6.55	0.00	-256.45	0.00	256.45	2420.82	586.46	1639.37	1675.83	19.96	-1.546	0.000	0.163
140.00	-22.47	-6.52	0.00	-243.35	0.00	243.35	2395.97	578.17	1593.34	1634.95	20.61	-1.576	0.000	0.158
140.00	-22.47	-6.52	0.00	-243.35	0.00	243.35	1788.19	463.41	1279.47	1224.81	20.61	-1.576	0.000	0.211
142.00	-22.21	-6.48	0.00	-230.32	0.00	230.32	1771.85	456.77	1243.10	1196.12	21.28	-1.605	0.000	0.205
144.00	-21.96	-6.45	0.00	-217.36	0.00	217.36	1755.23	450.14	1207.26	1167.57	21.96	-1.641	0.000	0.199
146.00	-21.71	-6.42	0.00	-204.45	0.00	204.45	1738.36	443.51	1171.94	1139.16	22.66	-1.677	0.000	0.192
148.00	-21.46	-6.40	0.00	-191.61	0.00	191.61	1721.21	436.87	1137.14	1110.92	23.37	-1.711	0.000	0.185
150.00	-21.21	-6.37	0.00	-178.81	0.00	178.81	1703.79	430.24	1102.87	1082.85	24.09	-1.745	0.000	0.178
152.00	-20.97	-6.35	0.00	-166.07	0.00	166.07	1686.10	423.60	1069.12	1054.96	24.83	-1.779	0.000	0.170
154.00	-20.73	-6.32	0.00	-153.38	0.00	153.38	1668.15	416.97	1035.89	1027.24	25.58	-1.811	0.000	0.162
156.00	-20.49	-6.29	0.00	-140.74	0.00	140.74	1649.92	410.34	1003.19	999.72	26.35	-1.842	0.000	0.153
158.00	-20.26	-6.26	0.00	-128.16	0.00	128.16	1631.43	403.70	971.02	972.40	27.12	-1.872	0.000	0.144
160.00	-20.03	-6.24	0.00	-115.63	0.00	115.63	1612.67	397.07	939.37	945.29	27.91	-1.900	0.000	0.135
162.00	-19.80	-6.21	0.00	-103.16	0.00	103.16	1593.64	390.43	908.24	918.39	28.72	-1.927	0.000	0.125
164.00	-19.57	-6.18	0.00	-90.74	0.00	90.74	1574.34	383.80	877.64	891.72	29.53	-1.952	0.000	0.114
165.00	-13.37	-4.30	0.00	-84.56	0.00	84.56	1564.59	380.48	862.54	878.47	29.94	-1.964	0.000	0.105
166.00	-13.27	-4.29	0.00	-80.26	0.00	80.26	1554.77	377.17	847.56	865.27	30.35	-1.975	0.000	0.101
168.00	-13.07	-4.26	0.00	-71.67	0.00	71.67	1534.93	370.53	818.01	839.07	31.18	-1.997	0.000	0.094
170.00	-12.88	-4.23	0.00	-63.15	0.00	63.15	1514.83	363.90	788.98	813.12	32.03	-2.017	0.000	0.086
172.00	-12.69	-4.20	0.00	-54.69	0.00	54.69	1494.45	357.26	760.48	787.42	32.87	-2.036	0.000	0.078
174.00	-12.50	-4.17	0.00	-46.29	0.00	46.29	1473.81	350.63	732.50	761.98	33.73	-2.053	0.000	0.069
175.00	-9.54	-2.97	0.00	-42.12	0.00	42.12	1463.38	347.31	718.70	749.37	34.16	-2.061	0.000	0.063
176.00	-9.45	-2.95	0.00	-39.15	0.00	39.15	1452.89	344.00	705.04	736.82	34.59	-2.068	0.000	0.060
178.00	-9.28	-2.92	0.00	-33.25	0.00	33.25	1428.17	337.36	678.11	710.17	35.46	-2.082	0.000	0.053
180.00	-9.11	-2.88	0.00	-27.41	0.00	27.41	1400.09	330.73	651.70	682.38	36.34	-2.094	0.000	0.047
180.00	-9.11	-2.88	0.00	-27.41	0.00	27.41	678.42	203.53	2520.57	396.30	36.34	-2.094	0.000	0.083
182.00	-8.92	-2.84	0.00	-21.65	0.00	21.65	678.42	203.53	2520.57	396.30	37.22	-2.104	0.000	0.068
184.00	-8.74	-2.82	0.00	-15.97	0.00	15.97	678.42	203.53	2520.57	396.30	38.10	-2.112	0.000	0.053

## Calculated Forces

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

**Page:** 74



185.00	-4.57	-1.36	0.00	-13.16	0.00	13.16	678.42	203.53	25205.7	396.30	38.54	-2.114	0.000	0.040
186.00	-4.49	-1.35	0.00	-11.79	0.00	11.79	678.42	203.53	25205.7	396.30	38.99	-2.117	0.000	0.036
188.00	-4.34	-1.33	0.00	-9.09	0.00	9.09	678.42	203.53	25205.7	396.30	39.87	-2.121	0.000	0.029
190.00	-4.20	-1.31	0.00	-6.43	0.00	6.43	678.42	203.53	25205.7	396.30	40.76	-2.124	0.000	0.022
192.00	-4.05	-1.28	0.00	-3.82	0.00	3.82	678.42	203.53	25205.7	396.30	41.65	-2.126	0.000	0.016
194.00	-3.90	-1.26	0.00	-1.26	0.00	1.26	678.42	203.53	25205.7	396.30	42.54	-2.127	0.000	0.009
195.00	0.00	-1.11	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	42.99	-2.127	0.000	0.000

## Final Analysis Summary

**Structure:** CT01916-S-SBA

**Code:** TIA-222-H

11/8/2023

**Site Name:** North Salem

**Exposure:** B

**Height:** 195.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

Page: 75

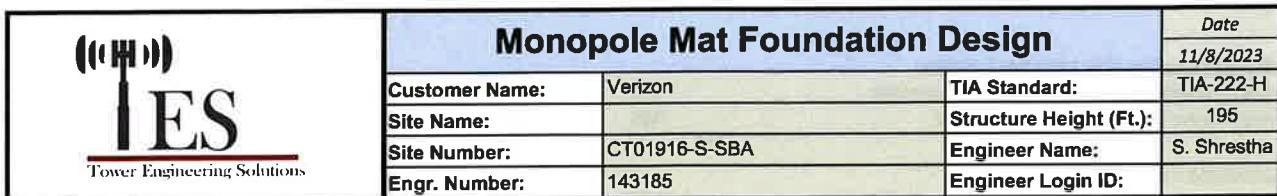


### Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 123 mph Wind	41.8	0.00	74.31	0.00	0.00	6331.97
0.9D + 1.0W 123 mph Wind	41.8	0.00	55.73	0.00	0.00	6206.44
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.1	0.00	101.57	0.00	0.00	1653.97
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	77.12	0.00	0.00	151.51
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	58.45	0.00	0.00	148.47
1.0D + 1.0W 60 mph Wind	9.0	0.00	61.95	0.00	0.00	1342.16

### Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.0W 123 mph Wind	-23.30	-30.98	0.00	-1156.6	0.00	-1156.6	2395.97	578.17	1593.34	1634.95	140.00	0.962
0.9D + 1.0W 123 mph Wind	-16.68	-30.03	0.00	-1117.2	0.00	-1117.2	2395.97	578.17	1593.34	1634.95	140.00	0.926
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.70	-7.96	0.00	-300.19	0.00	-300.19	2395.97	578.17	1593.34	1634.95	140.00	0.270
1.2D + 1.0Ev + 1.0Eh	-28.17	-0.86	0.00	-32.96	0.00	-32.96	2395.97	578.17	1593.34	1634.95	140.00	0.043
0.9D + 1.0Ev + 1.0Eh	-21.36	-0.84	0.00	-32.01	0.00	-32.01	2395.97	578.17	1593.34	1634.95	140.00	0.038
1.0D + 1.0W 60 mph Wind	-22.47	-6.52	0.00	-243.35	0.00	-243.35	2395.97	578.17	1593.34	1634.95	140.00	0.211



**Foundation Info Obtained from:**

### Drawings/Calculations

**Structure Type:**

## Monopol

### Analysis or Design?

Axial Load (Kips):

74.3 Shear Force (Kips): 41.8  
0.0 Moment (Kips-ft): 6332.0

### Foundation Geometries:

	Mods required -Yes/No ?:	No	
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft.):	4.50
Length of Pad (ft.):	36	Width of Pad (ft.):	36
Final Length of pad (ft)	36.0	Final width of pad (ft):	36.0

**Material Properties and Reabr Info:**

Concrete Strength (psi):	3500	Steel Elastic Modulus:
Vertical bar yield (ksi)	60	Tie steel yield (ksi):
Vertical Rebar Size #:	11	Tie / Stirrup Size #:
Qty. of Vertical Rebars:	64	Tie Spacing (in):
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):
Concrete Cover (in.):	3	Unit Weight of Concrete:
Rebar at the bottom of the concrete pad:		
Qty. of Rebar in Pad (L):	51	Qty. of Rebar in Pad (V):
Rebar at the top of the concrete pad:		
Qty. of Rebar in Pad (L):	51	Qty. of Rebar in Pad (V):

### Soil Design Parameters:

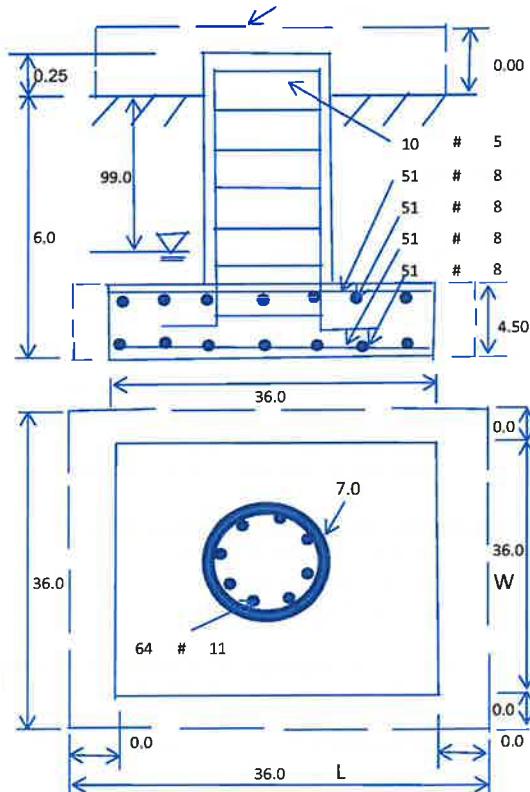
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf Angle from Top of Pad:
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	425	Psf Angle from Bottm of Pad:
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	Angle from Bottm of Pad:
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	

## **Foundation Analysis and Design:**

Total Dry Soil Volume (cu. Ft.):	1886.27	Total Dry Soil Weight (Kips):	188.63
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	188.63	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	5899.35	Total Dry Concrete Weight (Kips):	884.90
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	884.90	Total Vertical Load on Base (Kips):	1147.83

### Check Soil Capacities:

Calculated Maximum Net Soil Pressure under the base (psf):	1746	<	Allowable Factored Soil Bearing (psf):	22500	0.08	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	18728.6	>	Design Factored Moment (kips-ft.):	6593	0.35	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.84	OK!				



**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00			
Load/ Capacity Ratio						
<b>(1) Concrete Pier:</b>						
Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31			
Calculated Moment Capacity (Mn, Kips-Ft):	15779.9	> Design Factored Moment (Mu, Kips-Ft)	6405.2	0.41	OK!	
Calculated Shear Capacity (Kips):	804.3	> Design Factored Shear (Kips):	41.8	0.05	OK!	
Calculated Tension Capacity (Tn, Kips):	5391.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!	
Calculated Compression Capacity (Pn, Kips):	8418.7	> Design Factored Axial Load (Pu Kips):	74.3	0.01	OK!	
Moment & Axial Strength Combination:	0.41	OK!	Check Tie Spacing (Design/Required):	0.6667	OK!	
Pier Reinforcement Ratio:	0.018	Reinforcement Ratio is satisfied per ACI				

**(2) Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):	1936.0	> One-Way Factored Shear (L-D. Kips):	404.3	0.21	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1936.0	> One-Way Factored Shear (W-D., Kips)	404.3	0.21	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1908.8	> One-Way Factored Shear (C-C, Kips):	378.3	0.20	OK!
Lower Steel Pad Reinforcement Ratio (L-Direc.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direc)	0.0018	
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	8985.4	> Moment at Bottom (L-Dir. K-Ft):	3619.7	0.40	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	8985.4	> Moment at Bottom (W-Dir. K-Ft):	3619.7	0.40	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	12668.8	> Moment at Bottom (C-C Dir. K-Ft):	5119.0	0.40	OK!
Upper Steel Pad Reinforcement Ratio (L-Direc.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0018	
Upper Steel Pad Moment Capacity (L-Direc, Kips-ft):	8985.4	> Moment at the top (L-Dir K-Ft):	1319.0	0.15	OK!
Upper Steel Pad Moment Capacity (W-Direc, Kips-ft):	8985.4	> Moment at the top (W-Dir K-Ft):	1319.0	0.15	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	12668.8	> Moment at the top (C-C Dir. K-Ft):	1229.6	0.10	OK!

**(3) Check Punching Shear Capacity due to Moment in the Pier:**

Moment transferred by punching shear:	2532.8	k-ft.	Max. factored shear stress $v_{u,cd}$ :	5.4	Psi
Max. factored shear stress $v_{u,AB}$ :	10.4	Psi	Factored shear Strength $\phi v_n$ :	177.5	Psi
Max. factored shear stress $v_u$ :	10.4	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!

**(4) Check Bending Capacity of the Pad Within the Effective Slab Width:**

Overturning moment to be transferred by flexure:	1899.6	k-ft.	Effective Width for resisting OT moment:	20.5	ft.
Calculated number of Rebar in Effective width:	30		Actual number of Rebar in Effective width:	30	
Steel Pad Moment Capacity (L-Direc, Kips-ft):	5282.2	k-ft.	Check Usage of the Flexure Capacity:	0.36	OK!