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SHIP TO:
JENNIFER V. RODRIGUEZ
TOWN OF WINDSOR LOCKS
TOWN PLANNER
50 CHURCH STREET
WINDSOR LOCKS CT 06096-2331

CT 060 9-02

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SHIP TO:
SITE ADMINISTRATION
MCM ACQUISITION 2017 LLC
2ND FLOOR
8051 CONGRESS AVENUE
BOCA RATON FL 33487-1307

FL 332 6-07

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April 1, 2020

VIA ELECTRONIC MAIL

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

Regarding: Notice of Exempt Modification – AT&T Site CT5270
Address: 2-4 Volunteer Drive, Windsor Locks, CT 06096

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (hereinafter "AT&T") currently maintains a wireless telecommunications facility on an existing 195'Self-Support Tower (the "Tower") at the above-referenced address, latitude 41.928100, longitude -72.646800. Said Tower is owned by MCM Acquisition 2017 LLC, an SBA entity.

AT&T desires to modify its existing telecommunications facility on the Tower by adding (3) Antennas, (9) Remote Radio Units, (2) DC Only Surge Arrestors and (4) DC Power Lines, as well as swapping (3) Antennas, and swapping (3) Remote Radio Units, as more particularly detailed and described in the enclosed Construction Drawings prepared by Centerline Communications dated February 21, 2020 and last revised on March 30, 2020. Enclosed please also find a Mount Analysis Report prepared by Centerline Communications dated February 21, 2020. The centerline height of the antennas will be at 164 feet.

The Town of Windsor Locks, Connecticut issued Building Permit No. 23004 on June 29, 1999 for the construction of the Tower, which included Zoning sign-off. I spoke with Mark Doody, Building Official of the Town of Windsor Locks, on April 1, 2020 and a copy of the above referenced permit was not readily available.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable J. Christopher Kervick, First Selectman of the Town of Windsor Locks; Jennifer V. Rodriguez, Town Planner and Director of Planning and Development of the Town of Windsor Locks; and MCM Acquisition 2017 LLC, as Tower owner. Please note that the property is owned by the Town of Windsor Locks, CT. Enclosed please find a property card and a GIS map of the property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF Emissions Analysis Report for AT&T's modified facility enclosed herewith.*

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. *Please see the Structural Analysis Report dated March 23, 2020 and prepared by Tower Engineering Solutions.*

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

Sincerely,

Patricia Nowak
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 - Mount Analysis
Exhibit 3 – Property Cards and GIS Map
Exhibit 4 – RF Emissions Analysis Report
Exhibit 5 – Structural Analysis

cc: Honorable J. Christopher Kervick, First Selectman of the Town of Windsor Locks
Jennifer V. Rodriguez, Town Planner of Town of Windsor Locks
MCM Acquisition 2017 LLC, as Tower owner

EXHIBIT 1

PROJECT INFORMATION

TOWER OWNER:	SBA
SBA ID:	CT22108
SITE NAME:	WINDSOR LOCKS
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
LATITUDE:	41° 55' 40.05"
LONGITUDE:	-72° 38' 51.00"
TOWER HEIGHT:	195'-0"± AGL
RAD CENTER:	164'-0"± AGL
ZONING JURISDICTION:	WINDSOR LOCKS
COUNTY:	HARTFORD

DESCRIPTION OF WORK:

TELECOMMUNICATIONS FACILITY UPGRADE (LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT):

SELF SUPPORT TOWER:

INSTALL:
- (6) DMP65R-BU8DA ANTENNAS (TWO PER SECTOR)
- (3) RRUS-E2 B29 (ONE PER SECTOR)
- (3) 4449 B5/B12 RRUS (ONE PER SECTOR)
- (3) 8843 B2/B66A RRUS (ONE PER SECTOR)
- (3) 4478 B14 RRUS (ONE PER SECTOR)
- (2) DC6-48-60-18-8C-EV SURGE ARRESTORS
- (4) DC POWER LINES

REMOVE:
- (3) SBNH-1D6565C ANTENNAS
- (3) RRUS-11 B12

EXISTING TO REMAIN:
- (3) 800-10121 ANTENNAS (ONE PER SECTOR)
- (3) RRUS-32 B2 (ONE PER SECTOR)
- (3) RRUS-32 B30 (ONE PER SECTOR)
- (6) LGP 21401 TMA (TWO PER SECTOR)
- (3) TPA-65R-LCUU-H8 ANTENNAS (ONE PER SECTOR)
- (2) DC6-48-60-18-8F SURGE ARRESTOR
- (9) LINES OF 1-5/8" COAX
- (4) 8 AWG DC POWER LINES
- (2) 18 PAIR FIBER

EQUIPMENT AREA/GROUND:

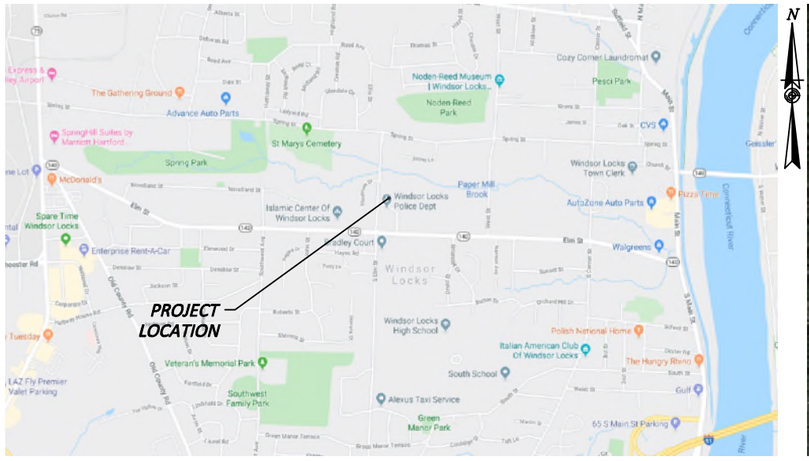
INSTALL:
- (1) 6630
- (1) IDLE

PROJECT DIRECTORY

A&E / PROJECT MANAGER:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
CONTACT: DAVID FORD
PHONE 844.748.8878

APPLICANT:
at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

SITE NUMBER: CT5270
FA# 10071333
SITE NAME: WINDSOR LOCKS
SBA ID: CT22108
PACE ID: 5C-MRCTB045479, 6C-MRCTB045512, BWE-MRCTB045489, 5G NR-MRCTB045535, 4C-MRCTB045541, RETRO-MRCTB045525
PROJECT: LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT



VICINITY MAP
NOT TO SCALE

LOCATION MAP
NOT TO SCALE

DIRECTIONS:

DEPART HEAD TOWARD CAPITOL BLVD ON ENTERPRISE DR. GO FOR 1703 FT. // TURN LEFT ONTO CAPITOL BLVD. GO FOR 1430 FT. // TURN LEFT ONTO WEST ST. GO FOR 833 FT. // TURN LEFT AND TAKE RAMP ONTO I-91 N TOWARD HARTFORD. GO FOR 10.7 MI. KEEP RIGHT ONTO I-91. GO FOR 7.0 MI. // KEEP RIGHT ONTO I-91 (RICHARD P HORAN MEMORIAL HWY). GO FOR 2.2 MI. TAKE EXIT 42 TOWARD WINDSOR LOCKS/CT-159. GO FOR 1243 FT. // TURN LEFT ONTO LAWNACRE RD. GO FOR 942 FT. CONTINUE ON S MAIN ST (CT-159). GO FOR 0.9 MI. // TURN LEFT ONTO ELM ST (CT-140). GO FOR 1.0 MI. // TURN RIGHT. GO FOR 453 FT. // TURN RIGHT. GO FOR 49 FT. // TURN LEFT. GO FOR 115 FT. // ARRIVE AT YOUR DESTINATION ON THE RIGHT.

GENERAL NOTES:

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

NO.	DESCRIPTION	REV.	DATE
T-1	TITLE SHEET	2	3/30/20
GN-1	GENERAL NOTES	2	3/30/20
A-1	COMPOUND & EQUIPMENT PLANS	2	3/30/20
A-2	ANTENNA LAYOUT & ELEVATIONS	2	3/30/20
A-3	DETAILS	2	3/30/20
SN-1	STRUCTURAL NOTES	2	3/30/20
S-1	STRUCTURAL DETAILS	2	3/30/20
RF-1	RF PLUMBING DIAGRAM	2	3/30/20
G-1	GROUNDING DETAILS	2	3/30/20

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
2	3/30/20	ISSUED FOR CONSTRUCTION
1	3/25/20	ISSUED FOR PERMITTING
0	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

CBYD.COM 811
Call Before You Dig, Inc.

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	TITLE SHEET
DRAWING #: T-1	REVISION: 2

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – CENTERLINE COMMUNICATIONS
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY

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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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 SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 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 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. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. 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.

18. 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.

19. 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 ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2015 (2018 CT STATE BUILDING CODE)
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTENING CODE: NFPA 70–2017

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS–OCCUPIED, INDOORS–UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE AND SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER AT&T ANTENNA CABLE MARKING STANDARD:
   - TOP OF TOWER END OF MAIN COAX
   - BOTTOM OF TOWER END OF MAIN COAX
   - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
   - END OF JUMPERS AT BTS EQUIPMENT
3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

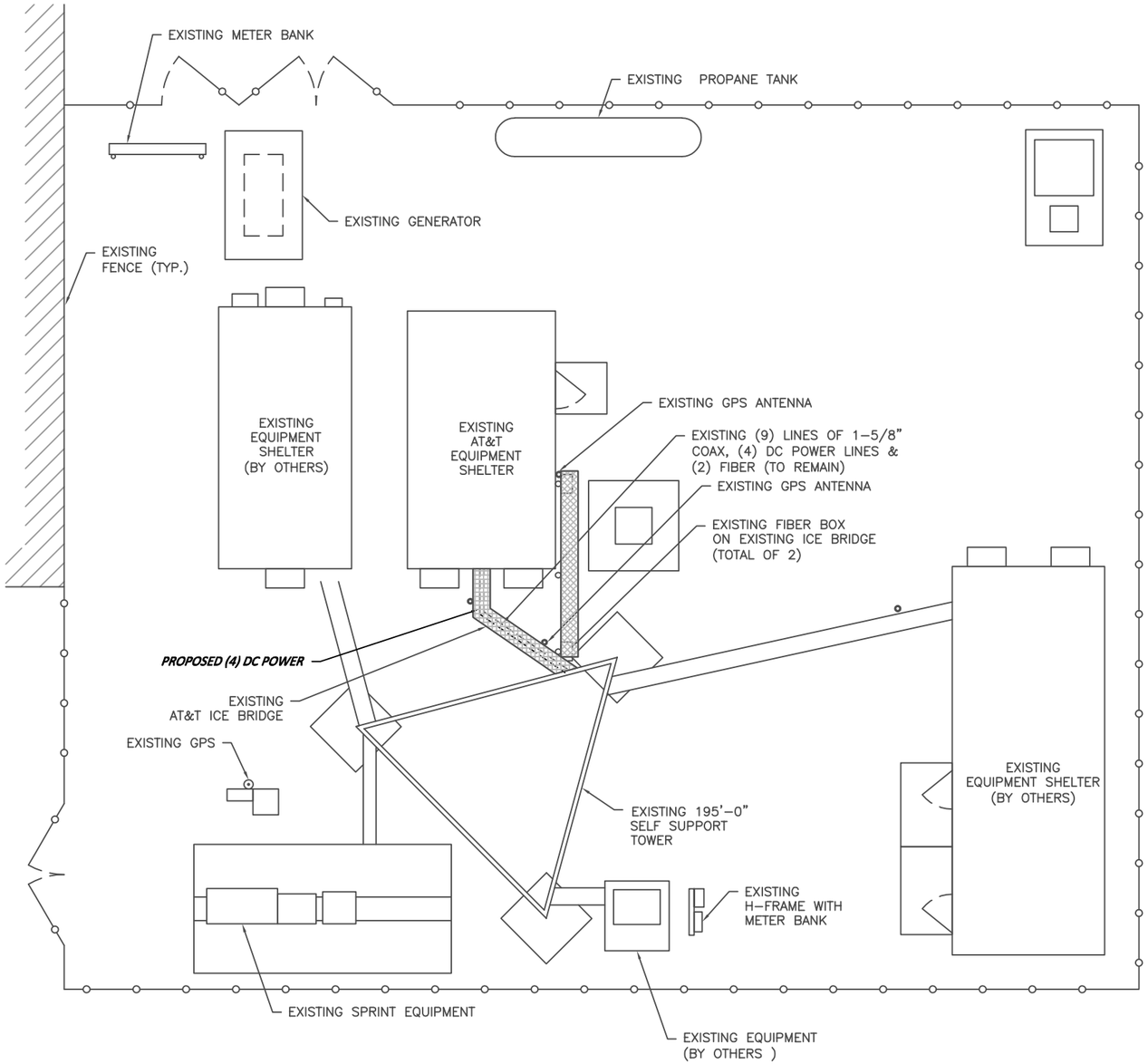
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
2	3/30/20	ISSUED FOR CONSTRUCTION
1	3/25/20	ISSUED FOR PERMITTING
0.	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 27651
LICENSED PROFESSIONAL ENGINEER

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	GENERAL NOTES
DRAWING #:	GN–1
REVISION:	2



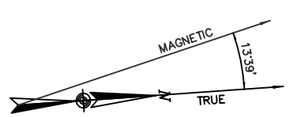
COMPOUND PLAN

SCALE: 3/8"=1'-0" (22"X34")
3/16" = 1'-0" (11"X17")

GRAPHIC SCALE

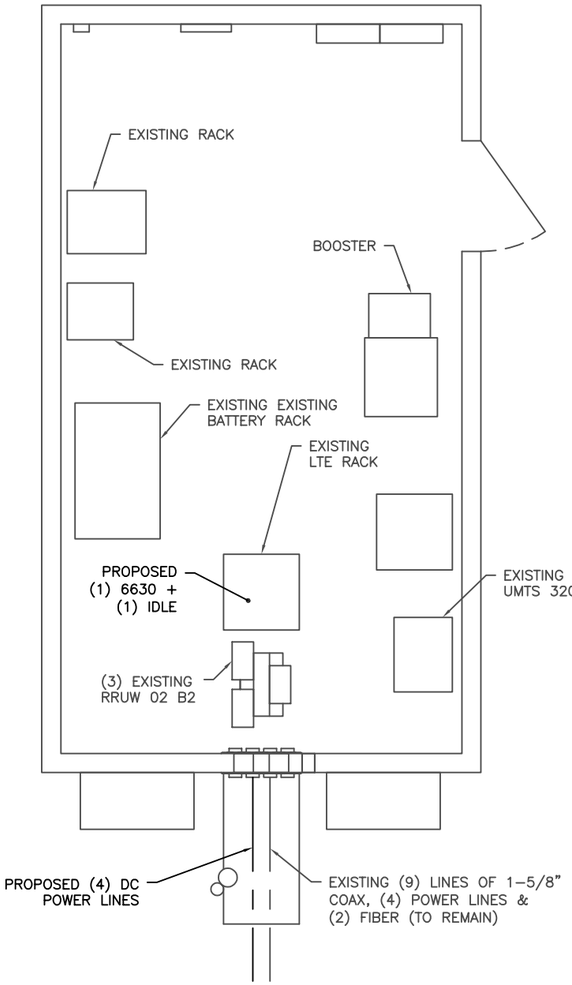
2'-8" 0 2'-8" 5'-4" 10'-8" 21'-4"

(IN FEET)



NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFERENCE THE LATEST MOUNT STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING MODIFICATIONS REQUIRED TO THESE ANTENNA MOUNTS PRIOR TO THIS EQUIPMENT UPGRADE.
3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



EQUIPMENT PLAN

SCALE: 1"=1'-0" (22"X34")
1/2" = 1'-0" (11"X17")

GRAPHIC SCALE

2 0 1 2 4 8

(IN FEET)

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

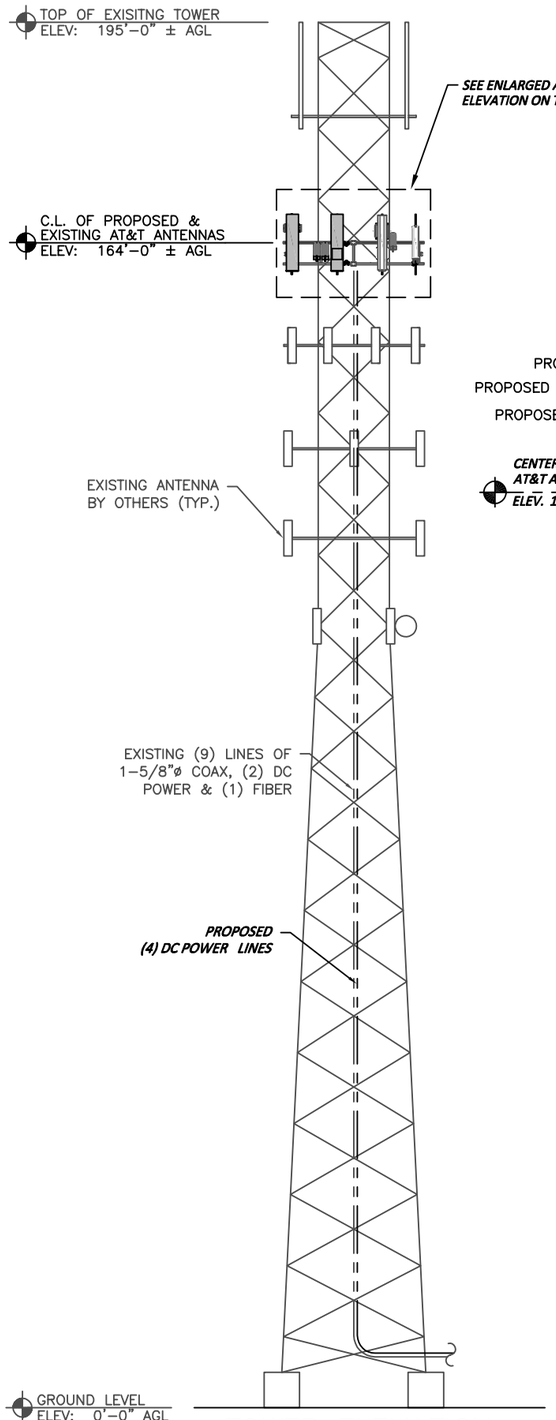
CENTERLINE COMMUNICATIONS

REVISIONS		
2	3/30/20	ISSUED FOR CONSTRUCTION
1	3/25/20	ISSUED FOR PERMITTING
0.	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28554
LICENSED PROFESSIONAL ENGINEER

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	COMPOUND & EQUIPMENT PLANS
DRAWING #: A-1	REVISION: 2

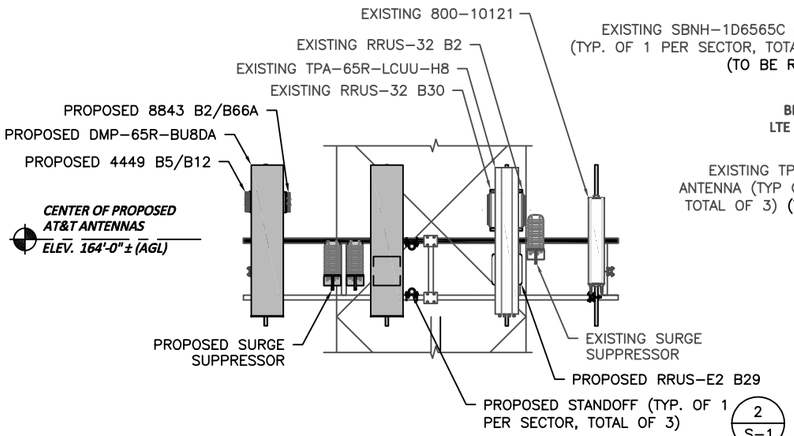


TOWER ELEVATION

SCALE: 3/16"=1'-0" (22"X34")
3/32" = 1'-0" (11"X17")

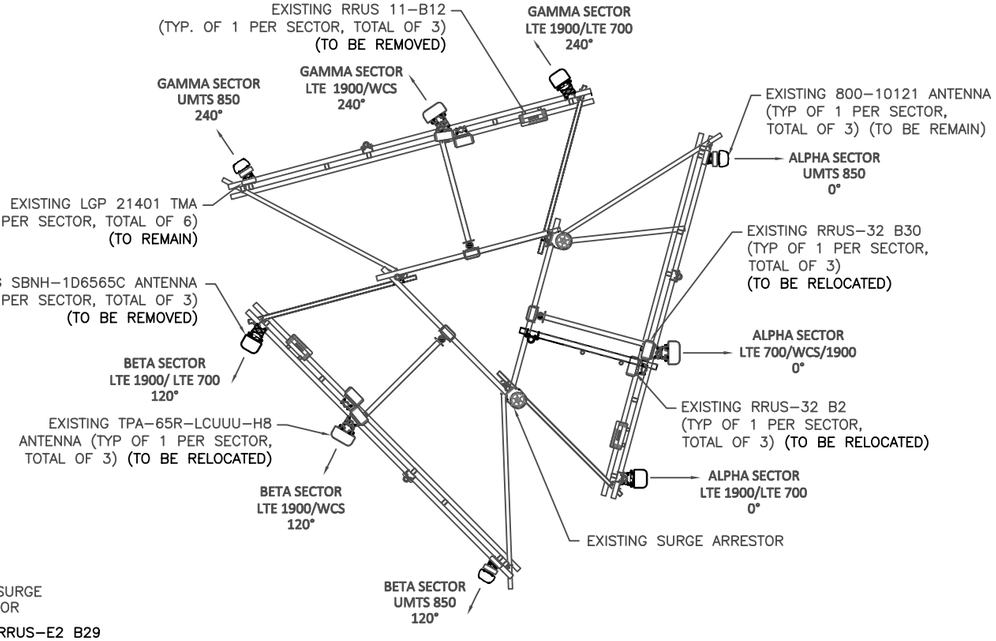
NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFERENCE THE LATEST MOUNT STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING MODIFICATIONS REQUIRED TO THESE ANTENNA MOUNTS PRIOR TO THIS EQUIPMENT UPGRADE.
3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



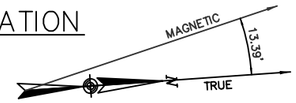
ENLARGED ANTENNA ELEVATION

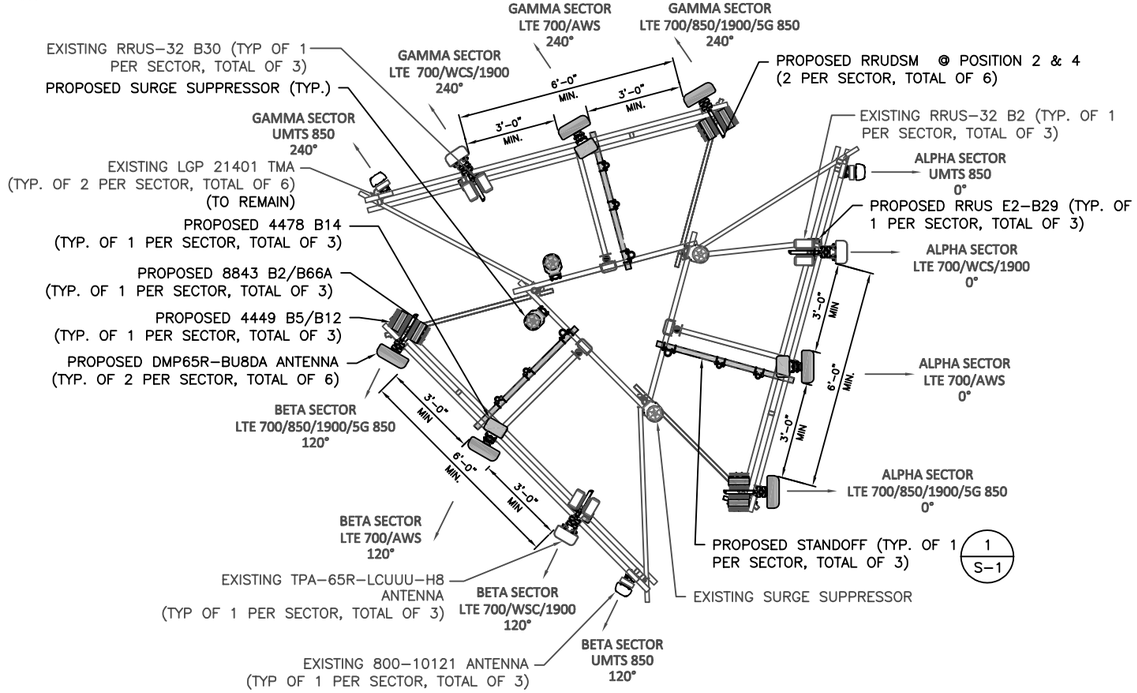
SCALE: N.T.S



EXISTING ANTENNA CONFIGURATION

SCALE: N.T.S





PROPOSED ANTENNA CONFIGURATION

SCALE: N.T.S

GRAPHIC SCALE
5'-4" 0 5'-4" 10'-8" 21'-4" 42'-8"
(IN FEET)

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
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TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	ANTENNA LAYOUT & ELEVATIONS
DRAWING #: A-2	REVISION: 2

ANTENNA SCHEDULE- RFDS: MAL03251 (10/09/2019)

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	±164'	0°	(2) LGP21401	–	–	(3) 1-5/8"ø COAX (220'± LENGTH)	--
A2	EXISTING	LTE 700/WCS/1900	TPA-65R-LCUU-H8	96.0x14.4x8.6	±164'	0°	–	**(P) (1) RRUS-E2 B29** (E) (1) RRUS-32 B2 (E) (1) RRUS-32 B30	**20.4x18.5x7.5** 27.2x12.2x7.0 26.7x12.1x6.7	(E) (2) DC POWER & (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
A3	**PROPOSED**	**LTE 700/AWS**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**0°**	–	**(P) (1) 4478 B14 RRUS**	**18.1x13.4x8.26**	–	
A4	**PROPOSED**	**LTE 700/850/1900/5G 850**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**0°**	–	**(P) (1) 4449 B5/B12 RRUS (P) (1) 8843 B2/B66A**	**15x13.2x10.4 14.9x13.2x10.9**	–	
B1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	±164'	120°	(2) LGP21401	–	–	(3) 1-5/8"ø COAX (220'± LENGTH)	--
B2	EXISTING	LTE 700/WCS/1900	TPA-65R-LCUU-H8	96.0x14.4x8.6	±164'	120°	–	**(P) (1) RRUS-E2 B29** (E) (1) RRUS-32 B2 (E) (1) RRUS-32 B30	**20.4x18.5x7.5** 27.2x12.2x7.0 26.7x12.1x6.7	(E) (2) DC POWER & (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
B3	**PROPOSED**	**LTE 700/AWS**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**120°**	–	**(P) (1) 4478 B14 RRUS**	**18.1x13.4x8.26**	–	
B4	**PROPOSED**	**LTE 700/850/1900/5G 850**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**120°**	–	**(P) (1) 4449 B5/B12 RRUS (P) (1) 8843 B2/B66A**	**15x13.2x10.4 14.9x13.2x10.9**	–	
C1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	±164'	240°	(2) LGP21401	–	–	(3) 1-5/8"ø COAX (220'± LENGTH)	--
C2	EXISTING	LTE 700/WCS/1900	TPA-65R-LCUU-H8	96.0x14.4x8.6	±164'	240°	–	**(P) (1) RRUS-E2 B29** (E) (1) RRUS-32 B2 (E) (1) RRUS-32 B30	**20.4x18.5x7.5** 27.2x12.2x7.0 26.7x12.1x6.7	**(P) (4) DC POWER**	**(P) (2) RAYCAP DC6-48-60-18-8C-EV**
C3	**PROPOSED**	**LTE 700/AWS**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**240°**	–	**(P) (1) 4478 B14 RRUS**	**18.1x13.4x8.26**	–	
C4	**PROPOSED**	**LTE 700/850/1900/5G 850**	**DMP65R-BU8DA**	**96.0x20.7x7.7**	**±164'**	**240°**	–	**(P) (1) 4449 B5/B12 RRUS (P) (1) 8843 B2/B66A**	**15x13.2x10.4 14.9x13.2x10.9**	–	

RRU CHART				
QUANTITY	MODEL	L	W	D
3(P)	RRUS-E2 B29	20.4"	18.5"	7.5"
3(P)	4478 B14	18.1"	13.4"	8.3"
3(P)	4449 B5/B12	15.0"	13.2"	10.4"
3(P)	8843 B2/B66A	14.9"	13.2"	10.9"
3(E)	RRUS-32 B2	27.2"	12.2"	7.0"
3(E)	RRUS-32 B30	26.7"	12.1"	6.7"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

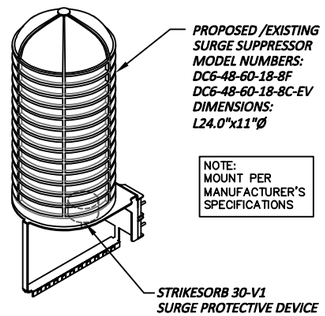
REFER TO THE FINAL RFDS AND TABLE FOR THE PROPOSED RRUS MODEL, QUANTITY, AND DIMENSIONS

RRUS DETAIL

N.T.S.

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFERENCE THE LATEST MOUNT STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING MODIFICATIONS REQUIRED TO THESE ANTENNA MOUNTS PRIOR TO THIS EQUIPMENT UPGRADE.
3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



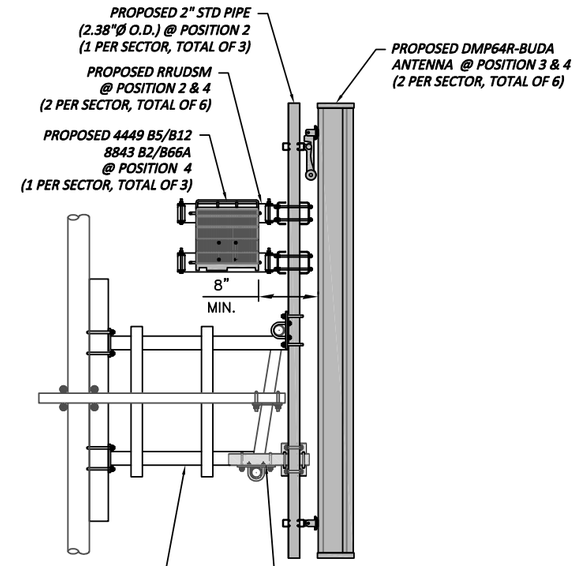
PROPOSED /EXISTING SURGE SUPPRESSOR MODEL NUMBERS: DC6-48-60-18-8F DC6-48-60-18-8C-EV DIMENSIONS: L24.0"x11"Ø

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

STRIKESORB 30-V1 SURGE PROTECTIVE DEVICE

DC SURGE SUPPRESSOR DETAIL

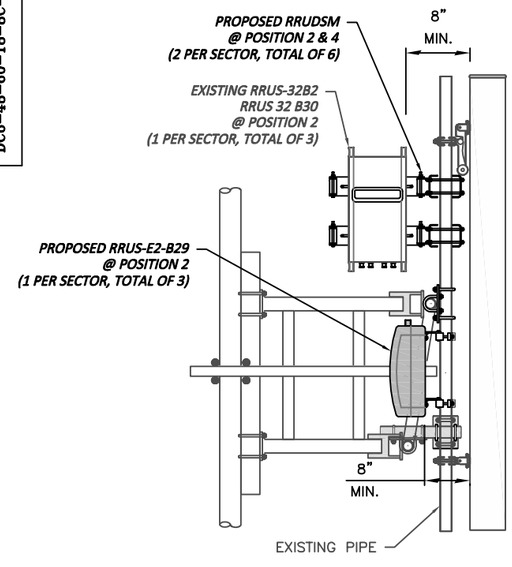
N.T.S.



3
S-1

ANTENNA & RRU MOUNTING DETAIL

N.T.S.



ANTENNA & RRU MOUNTING DETAIL

N.T.S.

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

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DESIGNED BY:	APPROVED BY:
TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	DETAILS
DRAWING #: A-3	REVISION: 2

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
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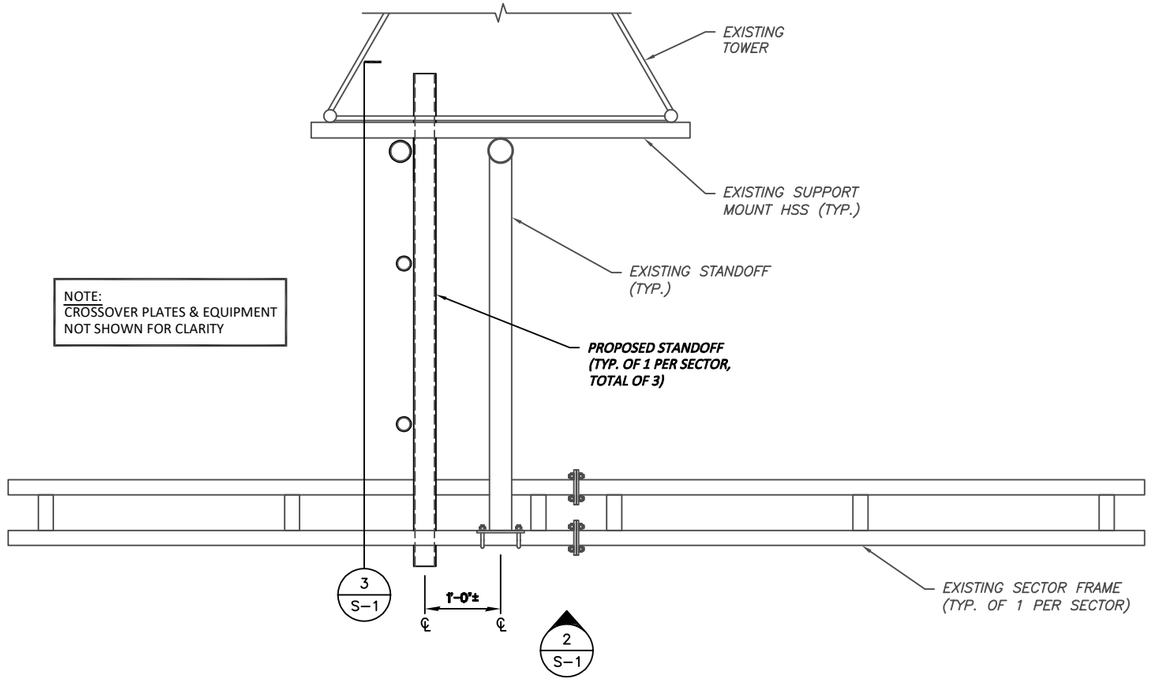
0.	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

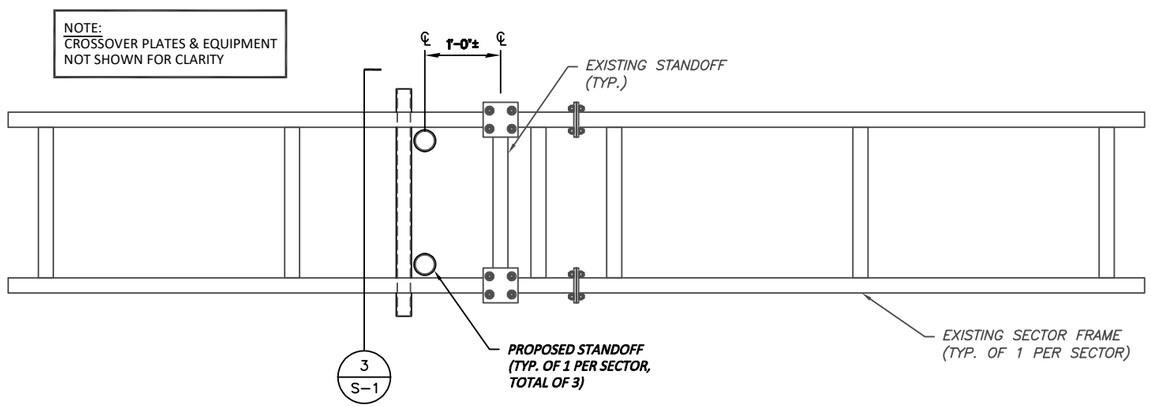
SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	STRUCTURAL NOTES
DRAWING #:	SN-1
REVISION:	1



ANTENNA MOUNT MODIFICATION PLAN (1 S-1)

SCALE: 2" = 1'-0" (22"X34")
1" = 1'-0" (11"X17")
GRAPHIC SCALE

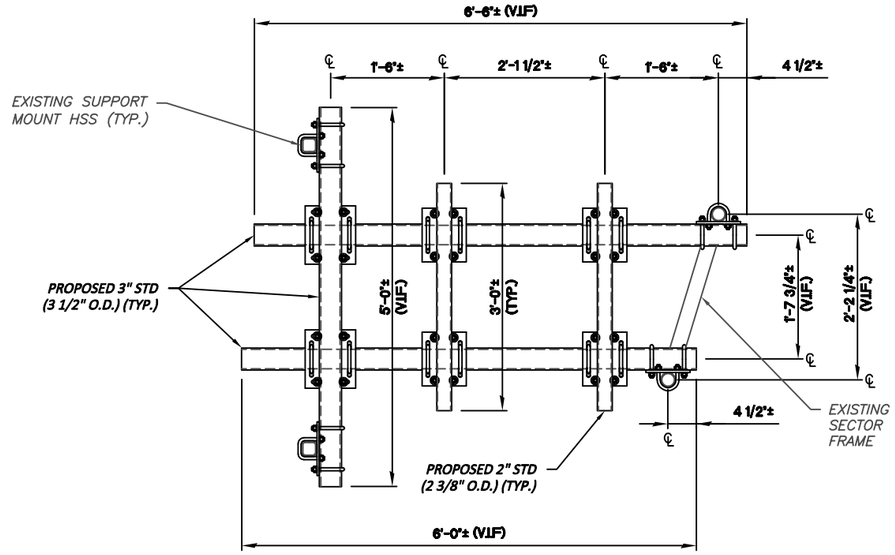
1 0 6" 1 2 4
(IN FEET)



ANTENNA MOUNT MODIFICATION ELEVATION (2 S-1)

SCALE: 2" = 1'-0" (22"X34")
1" = 1'-0" (11"X17")
GRAPHIC SCALE

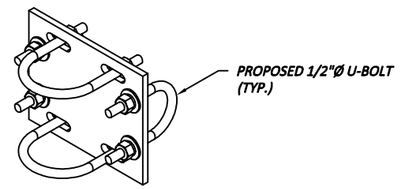
1 0 6" 1 2 4
(IN FEET)



ANTENNA MOUNT MODIFICATION SECTION (3 S-1)

SCALE: 2" = 1'-0" (22"X34")
1" = 1'-0" (11"X17")
GRAPHIC SCALE

1 0 6" 1 2 4
(IN FEET)



VALMONT CROSSOVER PLATE KIT PART NUMBERS:
SCX1-K: 2-3/8" PIPE TO 2-3/8" PIPE
SCX3-K: 3-1/2" PIPE TO 3-1/2" PIPE
SCX43-K: 2-3/8" PIPE TO 3-1/2" PIPE

CROSSOVER PLATE KIT (4 S-1)

N.T.S.

NOTES:

1. STRUCTURAL STEEL AND HARDWARE TO BE GALVANIZED.
2. CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS.
3. IF FIELD CONDITION DIFFER FROM WHAT IS SHOWN IN THESE DRAWINGS, CONTRACTOR TO CONTACT ENGINEER OF RECORD.
4. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
5. REFERENCE THE LATEST MOUNT STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING MODIFICATIONS REQUIRED TO THESE ANTENNA MOUNTS PRIOR TO THIS EQUIPMENT UPGRADE.

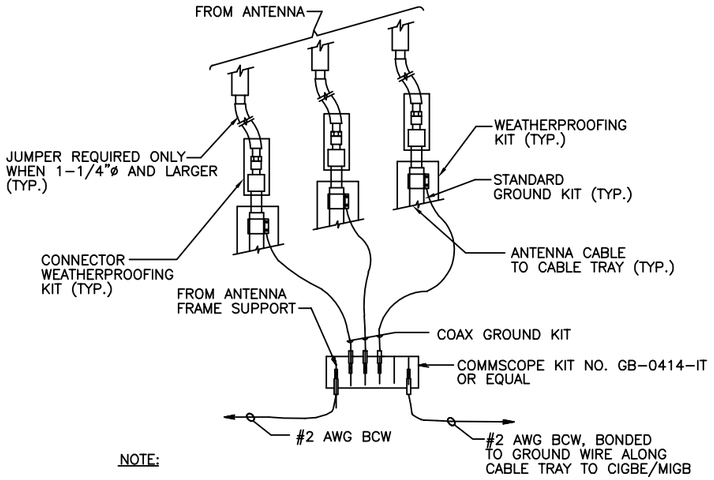
at&t
at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
2	3/30/20	ISSUED FOR CONSTRUCTION
1	3/25/20	ISSUED FOR PERMITTING
0.	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	STRUCTURAL DETAILS
DRAWING #: S-1	REVISION: 2



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUNDING RISER DIAGRAM

N.T.S.

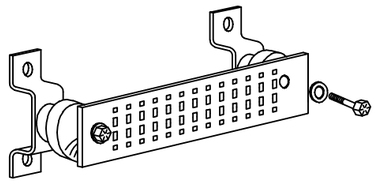
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
–48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

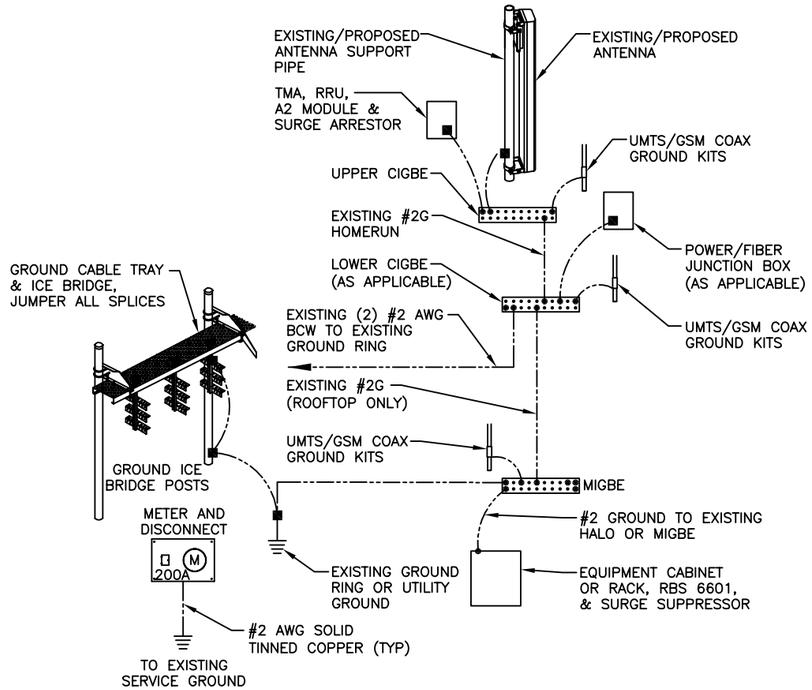
SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



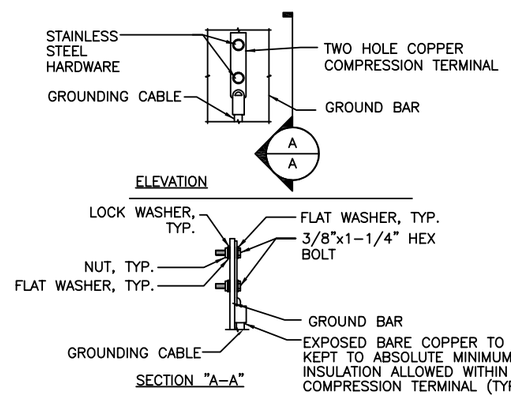
GROUND BAR DETAIL

N.T.S.



GROUNDING RISER DIAGRAM

N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

GROUND BAR CONNECTION DETAIL

N.T.S.

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
2	3/30/20	ISSUED FOR CONSTRUCTION
1	3/25/20	ISSUED FOR PERMITTING
0.	2/21/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
TC	DC

SITE NAME:	WINDSOR LOCKS
SITE NUMBER:	CT5270
SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
PROJECT TYPE:	LTE 5C, 6C, BWE, 5G NR, 4C & RETROFIT
SHEET TITLE:	GROUNDING DETAILS
DRAWING #: G–1	REVISION: 2

EXHIBIT 2

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Mount Analysis Report

Site Name	Windsor Locks (CT5270)
Site Number	CT5270
Project	LTE BWE, 6C, 7C, 4TX4RX & 5G NR
Pace ID	5C-MRCTB045479, 6C-MRCTB045512, BWE-MRCTB045489, 5G NR-MRCTB045535, 4C-MRCTB045541 & 4TX4RX-MRCTB045525
PTN	2051A0T1NQ, 2051A0T1RH, 2051A0T1L2, 2051A0T1KH, 2051A0T1SG & 2051A0T1P2
Site Location	2 Volunteer Drive Windsor Locks, CT, 06096 41.9278 N, -72.6475 W
Design Codes	TIA-222-H Standards International Building Code 2015 Connecticut State Building Code 2018
Mount Centerline	164 ft.
Mount Classification	Sector Mounts

	Stress Ratio	**Overall Result**
Existing Mount	**122%**	**FAIL**
Existing Mount with Mods	**96%**	**PASS**

Client:

at&t Mobility Corp.
550 Cochituate Road
Framingham, MA 01701

at&t

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

Date: 2/21/2020

Scope of Work:

Centerline Communications was authorized by AT&T to perform a mount analysis of the existing sector mounts to determine their capacity to support the proposed and existing AT&T equipment listed in this report. This mount was analyzed using RAM Elements version 16.1.0.

Proposed Appurtenances:

Alpha Sector:

Elevation (ft)	Position #	Azimuth	Quantity	Appurtenance
164	1	0°	1	Kathrein 800-10121
164	2	0°	1	CCI TMP-65R-LCUUUU-H8
164	3	0°	1	**CCI DMP65R-BU8DA**
164	4	0°	1	**CCI DMP65R-BU8DA**
164	-	0°	1	DC6-48-60-0-8CEV Squid (Tower)
164	2	0°	1	**Ericsson RRUS-E2 B29**
164	4	0°	1	**Ericsson RRUS 4449 B5/12**
164	3	0°	1	**Ericsson RRUS 4478 B14**
164	4	0°	1	**Errricsson RRUS-8843 B2/B66A**
164	2	0°	1	Ericsson RRUS-32 B2
164	2	0°	1	Ericsson RRUS-32 B30
164	1	0°	2	Powerwave LGP21401 TMA

Beta Sector:

Elevation (ft)	Position #	Azimuth	Quantity	Appurtenance
164	1	120°	1	Kathrein 800-10121
164	2	120°	1	CCI TMP-65R-LCUUUU-H8
164	3	120°	1	**CCI DMP65R-BU8DA**
164	4	120°	1	**CCI DMP65R-BU8DA**
164	2	120°	1	**Ericsson RRUS-E2 B29**
164	4	120°	1	**Ericsson RRUS 4449 B5/12**
164	3	120°	1	**Ericsson RRUS 4478 B14**
164	4	120°	1	**Errricsson RRUS-8843 B2/B66A**
164	2	120°	1	Ericsson RRUS-32 B2
164	2	120°	1	Ericsson RRUS-32 B30
164	1	120°	2	Powerwave LGP21401 TMA
164	-	120°	1	DC6-48-60-0-8CEV Squid (Tower)

Proposed Appurtenances (Cont.):

Gamma Sector:

Elevation (ft)	Position #	Azimuth	Quantity	Appurtenance
164	1	240°	1	Kathrein 800-10121
164	2	240°	1	CCI TMP-65R-LCUUUU-H8
164	3	240°	1	**CCI DMP65R-BU8DA**
164	4	240°	1	**CCI DMP65R-BU8DA**
164	2	240°	1	**Ericsson RRUS-E2 B29**
164	4	240°	1	**Ericsson RRUS 4449 B5/12**
164	3	240°	1	**Ericsson RRUS 4478 B14**
164	4	240°	1	**Errricsson RRUS-8843 B2/B66A**
164	2	240°	1	Ericsson RRUS-32 B2
164	2	240°	1	Ericsson RRUS-32 B30
164	1	240°	2	Powerwave LGP21401 TMA
164	-	240°	1	**DC6-48-60-0-8CEV Squid (Tower)**

Design Criteria:

Design Codes	TIA-222-H Standards International Building Code 2015 Connecticut State Building Code 2018
Wind Speed	125 mph
Wind Speed with Ice	50 mph
Ice Thickness	1.5 in.
Exposure Category	B
Topographic Category	1
Structure Classification	II
Importance Factor	1

****See calculations for additional design criteria.***

Conclusion:

The results of the analysis concluded that the existing AT&T mounts *is capable* of supporting the proposed and existing AT&T equipment loading *with modifications*. Centerline Communications recommends the following:

- **Install a new standoff made of 2" and 3" SCH. 40 pipes (typ. at each sector).**
- **Install a new 3" SCH. 40 vertical support pipe (typ. of 1 per sector).**

	Stress Ratio	Overall Result
Existing Mount	**122%**	**FAIL**
Existing Mount with Mods	**96%**	**PASS**

Reference Documents:

- Structural Analysis Report by Hudson Design Group dated 05/18/2018.
- Construction Drawings by Hudson Design Group dated 05/23/2018.

Assumptions and Limitations:

- The calculations performed by Centerline Communications are limited to the structural members in these calculations only.
- Structural calculations in this report do not check the adequacy of the supporting tower, other mounts, or coax mounting attachments.

If you have any questions concerning this analysis, please feel free to contact us.

Sincerely,
Centerline Communications

Andres Agudelo

Andres Agudelo, EIT
Program Manager – Structural Engineering

Reviewed by:
Derek Creaser, PE
Director – A&E Services

Design Calculations

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ANSI/TIA-222-H WIND CALCULATIONS:

Design Criteria:

Height above ground level at the base of the structure, z=	164	ft	
Mean elevation of base of structure above sea level, z_s=	115	ft	
Height of structure, h=	195	ft	
Basic Wind Speed, V (mph) =	125		(CSBC 2018)
30 mph Wind Speed, V_{30} (mph) =	30		(Section 16)
Basic Wind Speed with ice, V_I (mph) =	50		(Annex B, Figure B-9)
Max. Design Ice Thickness, t_i (in.)=	1.5		(Annex B, Figure B-9)
Exposure Category =	B		(2.6.5.1)
Topographic Category =	1		(2.6.6.2.1)
Risk Category	II		(Table 2-1)
Wind Direction Prob. Factor, K_d =	0.95		(Table 2-2)
Importance Factor, I =	1		(Table 2-3)
Velocity Pressure Coefficient, K_z =	1.14		(2.6.5.2)
Topographic Factor, K_{zt} =	1		(2.6.6.2.1)
Rooftop Wind Speed-Up Factor, K_s =	1		(2.6.7)
Ground Elevation Factor, K_e =	1.00		(2.6.8)
Gust Effect Factor G_h =	1		(2.6.9)
Factored thickness of radial glazed ice at z, tiz =	1.76	in	(2.6.10)

Calculate Velocity Pressure:

$q_z = 0.00256\, K_z K_{zt} K_s K_e K_d V^2$ (lb/ft^2) (2.6.11.6)

q_z= **43.07**

$q_{z(30)}$= **2.48**

Calculate Velocity Pressure with Ice:

$q_{zi} = 0.00256\, K_z K_{zt} K_s K_e K_d V^2$ (lb/ft^2) (2.6.11.6)

q_{zi}= **6.89**

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ANSI/TIA-222-H WIND CALCULATIONS (Cont.):

Appurtenance/Equipment Properties:

Appurtenance/Equip.	Height (in)	Width (in)	Depth (in)	Normal Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	Side Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	EPA Normal Flat Area (ft^2)	EPA Side Flat Area (ft^2)
800-10121 Antenna	54.50	10.30	5.90	3.90	5.29	1.32	2.23	9.24	1.47	5.15	3.28
TPA-65R-LCUUUU-H8 Antenna	72.00	12.00	9.60	6.00	6.00	1.36	4.80	7.50	1.42	8.16	6.82
DMP65R-BU8DA Antenna	96.00	20.70	7.70	13.80	4.64	1.30	5.13	12.47	1.58	17.94	8.11
RRUS E2 B29	20.40	18.50	7.50	2.62	1.10	1.20	1.06	2.72	1.21	3.15	1.29
4449 B5/B12 RRU	14.96	13.19	10.43	1.37	1.13	1.20	1.08	1.43	1.20	1.64	1.30
4478 B14 RRU	18.10	13.40	8.26	1.68	1.35	1.20	1.04	2.19	1.20	2.02	1.25
8843 RRU	14.90	13.20	10.90	1.37	1.13	1.20	1.13	1.37	1.20	1.64	1.35
RRUS 32 B2	27.20	12.10	7.00	2.29	2.25	1.20	1.32	3.89	1.26	2.74	1.67
RRUS 32 B30	26.70	12.10	6.70	2.24	2.21	1.20	1.24	3.99	1.27	2.69	1.58
DC6-48-60-18-8C-EV Squid	24.00	9.70	9.70	1.62	2.47	0.70	1.62	2.47	0.70	1.13	1.13
DC9-48-60-24-8C-EV Squid	24.00	9.70	9.70	1.62	2.47	0.70	1.62	2.47	0.70	1.13	1.13
LGP21401 TMA	14.40	9.00	2.70	0.90	1.60	1.20	0.27	5.33	1.33	1.08	0.36

Appurtenance/Equipment Properties with Ice:

t_{iz} (in) = **1.76**

Appurtenance/Equip.	Height w/ice (in)	Width w/ice (in)	Depth w/ice (in)	Normal Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	Side Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	EPA Normal Flat Area (ft^2)	EPA Side Flat Area (ft^2)
800-10121 Antenna	58.02	13.82	9.42	5.57	4.20	1.28	3.80	6.16	1.36	7.13	5.16
TPA-65R-LCUUUU-H8 Antenna	75.52	15.52	13.12	8.14	4.87	1.31	6.88	5.76	1.34	10.66	9.22
DMP65R-BU8DA Antenna	99.52	24.22	11.22	16.74	4.11	1.27	7.76	8.87	1.46	21.26	11.32
RRUS E2 B29	23.92	22.02	11.02	3.66	1.09	1.20	1.83	2.17	1.20	4.39	2.20
4449 B5/B12 RRU	18.48	16.71	13.95	2.14	1.11	1.20	1.79	1.32	1.20	2.57	2.15
4478 B14 RRU	21.62	16.92	11.78	2.54	1.28	1.20	1.77	1.84	1.20	3.05	2.12
8843 RRU	18.42	16.72	14.42	2.14	1.10	1.20	1.84	1.28	1.20	2.57	2.21
RRUS 32 B2	30.72	15.62	10.52	3.33	1.97	1.20	2.24	2.92	1.22	4.00	2.74
RRUS 32 B30	30.22	15.62	10.22	3.28	1.93	1.20	2.15	2.96	1.22	3.93	2.62
DC6-48-60-18-8C-EV Squid	27.52	13.22	13.22	2.53	2.08	0.70	2.53	2.08	0.70	1.77	1.77
DC9-48-60-24-8C-EV Squid	27.52	13.22	13.22	2.53	2.08	0.70	2.53	2.08	0.70	1.77	1.77
LGP21401 TMA	17.92	12.52	6.22	1.56	1.43	1.20	0.77	2.88	1.20	1.87	0.93

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ANSI/TIA-222-H WIND CALCULATIONS (Cont.):

Calculate Design Wind Force on Appurtenances: $(EPA)_A = k_a ((EPA)_N * \cos^2(\omega) + (EPA)T * \sin^2(\omega)$ (Section 2.6.11.2)

$k_a =$ 1

$F = q_z G_h (EPA)_A$ (2.6.9.2)

	Wind Direction								
	0° & 180°			30° & 210°			60° & 240°		
Appurtenance/Equip.	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**
800-10121 Antenna	222	49	13	202	46	12	161	39	9
TPA-65R-LCUUUU-H8 Antenna	351	73	20	337	71	19	308	66	18
DMP65R-BU8DA Antenna	773	147	45	667	129	38	455	95	26
RRUS E2 B29	135	30	8	115	26	7	75	19	4
4449 B5/B12 RRU	71	18	4	67	17	4	60	16	3
4478 B14 RRU	87	21	5	79	19	5	62	16	4
8843 RRU	71	18	4	68	17	4	61	16	4
RRUS 32 B2	118	28	7	107	25	6	83	21	5
RRUS 32 B30	116	27	7	104	25	6	80	20	5
DC6-48-60-18-8C-EV Squid	49	12	3	49	12	3	49	12	3
DC9-48-60-24-8C-EV Squid	49	12	3	49	12	3	49	12	3
LGP21401 TMA	47	13	3	39	11	2	23	8	1

	Wind Direction								
	90° & 270°			120° & 300°			150° & 330°		
Appurtenance/Equip.	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**	**F (lbs.)**	**F_{ice} (lbs.)**	**F_{30} (lbs.)**
800-10121 Antenna	141	36	8	161	39	9	202	46	12
TPA-65R-LCUUUU-H8 Antenna	294	64	17	308	66	18	337	71	19
DMP65R-BU8DA Antenna	349	78	20	455	95	26	667	129	38
RRUS E2 B29	55	15	3	75	19	4	115	26	7
4449 B5/B12 RRU	56	15	3	60	16	3	67	17	4
4478 B14 RRU	54	15	3	62	16	4	79	19	5
8843 RRU	58	15	3	61	16	4	68	17	4
RRUS 32 B2	72	19	4	83	21	5	107	25	6
RRUS 32 B30	68	18	4	80	20	5	104	25	6
DC6-48-60-18-8C-EV Squid	49	12	3	49	12	3	49	12	3
DC9-48-60-24-8C-EV Squid	49	12	3	49	12	3	49	12	3
LGP21401 TMA	15	6	1	23	8	1	39	11	2

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ANSI/TIA-222-H WIND CALCULATIONS (Cont.):

Calculate Design Wind Force on Mounting Members:

Mount Member	Height (in)	Width (in)	Normal Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	EPA Normal Flat Area (ft^2)
2 STD Pipe	2.38	12.00	0.20	0.20	1.20	0.24
4 STD Pipe	4.50	12.00	0.38	0.38	1.20	0.45
3 STD Pipe	3.50	12.00	0.29	0.29	1.20	0.35

Mount Member	Height w/ice (in)	Width (in)	Normal Flat Area (ft^2)	Aspect Ratio	Force Coef., C_a	EPA Normal Flat Area (ft^2)
2 STD Pipe	5.90	12.00	0.49	0.49	1.20	0.59
4 STD Pipe	8.02	12.00	0.67	0.67	1.20	0.80
3 STD Pipe	7.02	12.00	0.59	0.59	1.20	0.70

Mount Member	F (lbs.)	F_{ice} (lbs.)	F_{30} (lbs.)
2 STD Pipe	10	4	1
4 STD Pipe	19	6	1
3 STD Pipe	15	5	1

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ICE LOAD CALCULATIONS:

Unit Weight of Glaze Ice (lb/ft^3)= 56

Factored thickness of radial glazed ice at z, tiz (in) = 1.76

Appurtenances/Equip.	Height w/ice (in)	Width w/ice (in)	Depth w/ice (in)	Weight (lbs.)	Weight of Ice (lbs.)	Total Weight (lbs.)
800-10121 Antenna	58.02	13.82	9.42	44.10	137.53	181.63
TPA-65R-LCUUUU-H8 Antenna	75.52	15.52	13.12	75.00	229.68	304.68
DMP65R-BU8DA Antenna	99.52	24.22	11.22	95.70	380.77	476.47
RRUS E2 B29	23.92	22.02	11.02	60.00	96.44	156.44
4449 B5/B12 RRU	18.48	16.71	13.95	73.00	72.95	145.95
4478 B14 RRU	21.62	16.92	11.78	59.40	74.77	134.17
8843 RRU	18.42	16.72	14.42	72.00	74.49	146.49
RRUS 32 B2	30.72	15.62	10.52	53.00	88.98	141.98
RRUS 32 B30	30.22	15.62	10.22	60.00	86.24	146.24
DC6-48-60-18-8C-EV Squid	27.52	13.22	13.22	33.00	82.74	115.74
DC9-48-60-24-8C-EV Squid	27.52	13.22	13.22	33.00	82.74	115.74
LGP21401 TMA	17.92	12.52	6.22	19.00	33.91	52.91

Member Properties for: Pipe 2 STD

Outside Diameter, OD =	2.375	in.
Inside Diameter, ID =	2.070	in.
Nominal Wall Thickness, t =	0.154	in.

Design Parameters:

Ice Height Factor, k_{iz} =	1.17		$K_{iz} = (z/33)^{0.10}$
Design Ice Thickness, t_{iz} =	1.76	in.	$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$
Density of Ice, I_d =	56	pcf	I_d = (assumed = 56 pcf)
Weight of Ice (for t_{iz}) W_i =	8.22	psf	$W_i = (t_{iz}/12)\ I_d$

Ice Load on Circumscribing Diameter of Member per Code:

Circumscribing Dia., D_c =	2.38	in.	Dc = OD
Area of Ice (for t_{iz}), A_i =	22.88	in^2	$A_i = \prod * t_{iz} * (D_c + t_{iz})$
Unif. Distributed Ice Load, w_i =	8.90	plf	$w_i = (A_i/144) * I_d$

SITE NUMBER: CT52570
SITE NAME: Windsor Locks
DATE: 2/19/2020
BY: LP **CHECKED BY:** DC

ICE LOAD CALCULATIONS (Cont.):

Member Properties for: **Pipe 4 STD**

Outside Diameter, OD =	4.500	in.
Inside Diameter, ID =	4.030	in.
Nominal Wall Thickness, t =	0.237	in.

Design Parameters:

Ice Height Factor, k_{iz} =	1.17		$K_{iz} = (z/33)^{0.10}$
Design Ice Thickness, t_{iz} =	1.76	in.	$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$
Density of Ice, I_d =	56	pcf	I_d = (assumed = 56 pcf)
Weight of Ice (for t_{iz}) W_i =	8.22	psf	$W_i = (t_{iz}/12)\ I_d$

Ice Load on Circumscribing Diameter of Member per Code:

Circumscribing Dia., D_c =	4.50	in.	Dc = OD
Area of Ice (for t_{iz}), A_i =	34.63	in^2	$A_i = \prod * t_{iz} * (D_c + t_{iz})$
Unif. Distributed Ice Load, w_i =	13.47	plf	$w_i = (A_i/144) * I_d$

Member Properties for: **Pipe 3 STD**

Outside Diameter, OD =	3.500	in.
Inside Diameter, ID =	3.070	in.
Nominal Wall Thickness, t =	0.216	in.

Design Parameters:

Ice Height Factor, k_{iz} =	1.17		$K_{iz} = (z/33)^{0.10}$
Design Ice Thickness, t_{iz} =	1.76	in.	$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$
Density of Ice, I_d =	56	pcf	I_d = (assumed = 56 pcf)
Weight of Ice (for t_{iz}) W_i =	8.22	psf	$W_i = (t_{iz}/12)\ I_d$

Ice Load on Circumscribing Diameter of Member per Code:

Circumscribing Dia., D_c =	3.50	in.	Dc = OD
Area of Ice (for t_{iz}), A_i =	29.10	in^2	$A_i = \prod * t_{iz} * (D_c + t_{iz})$
Unif. Distributed Ice Load, w_i =	11.32	plf	$w_i = (A_i/144) * I_d$

Existing Mount Results

Current Date: 2/21/2020 4:56 PM
Units system: English
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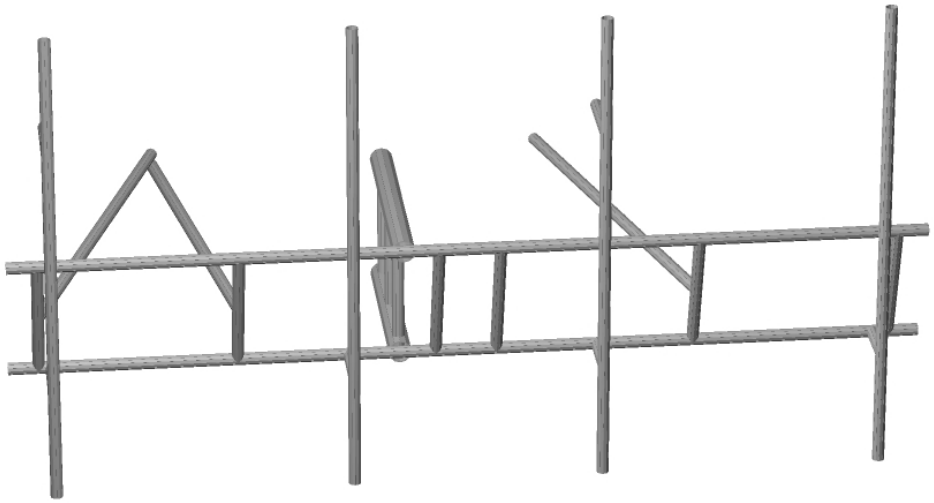

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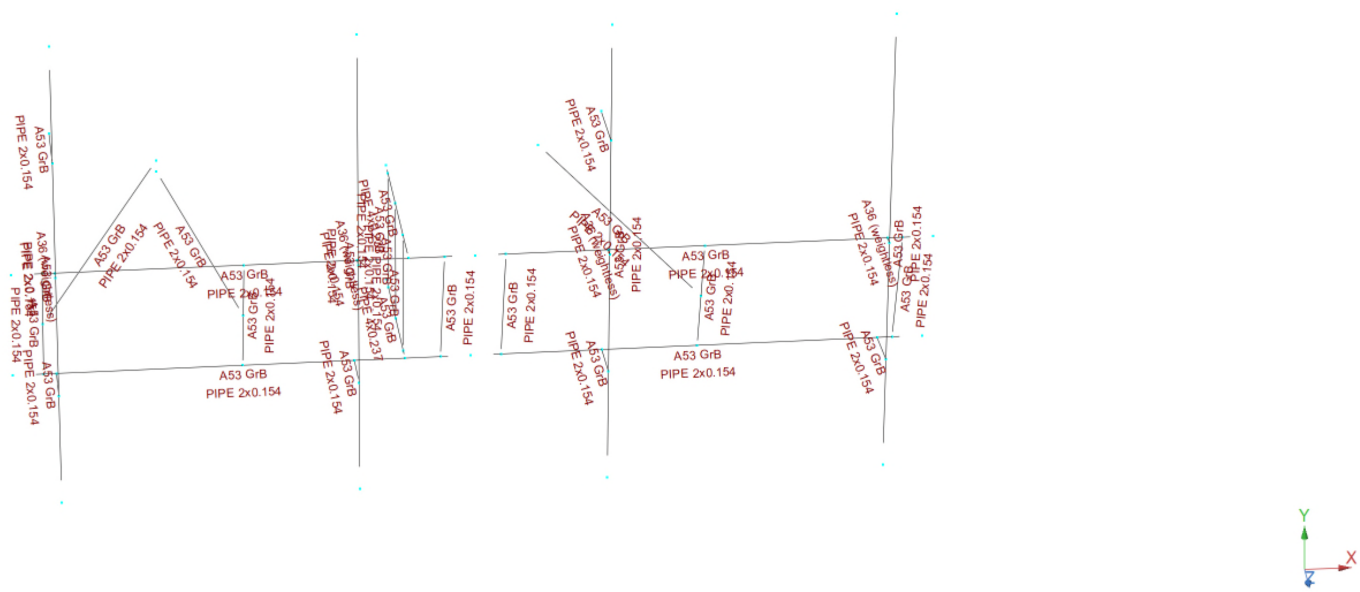

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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [in]	Y [in]	Z [in]	Rigid Floor
2	-13.00	-25.00	-8.00	0
3	90.00	0.00	0.00	0
4	-90.00	0.00	0.00	0
5	90.00	-25.00	-8.00	0
6	-90.00	-25.00	-8.00	0
7	84.00	0.00	0.00	0
8	84.00	-25.00	-8.00	0
9	45.00	0.00	0.00	0
10	45.00	-25.00	-8.00	0
11	6.00	0.00	0.00	0
12	6.00	-25.00	-8.00	0
13	-84.00	0.00	0.00	0
14	-84.00	-25.00	-8.00	0
15	-45.00	0.00	0.00	0
17	-6.00	0.00	0.00	0
18	-6.00	-25.00	-8.00	0
19	81.00	0.00	0.00	0
20	81.00	-25.00	-8.00	0
21	26.00	0.00	0.00	0
22	26.00	-25.00	-8.00	0
23	-81.50	0.00	0.00	0

24	-81.50	-25.00	-8.00	0
25	81.00	0.00	2.40	0
26	26.00	0.00	2.40	0
27	-81.50	0.00	2.40	0
28	81.00	48.00	2.40	0
29	26.00	48.00	2.40	0
30	-81.50	48.00	2.40	0
31	81.00	-48.00	2.40	0
32	26.00	-48.00	2.40	0
33	-81.50	-48.00	2.40	0
34	-13.00	0.00	-46.50	0
35	-13.00	-25.00	-46.50	0
36	-13.00	0.00	-42.50	0
37	-13.00	-25.00	-42.50	0
38	-13.00	0.00	-27.00	0
39	-13.00	-25.00	-27.00	0
40	-13.00	0.00	-11.50	0
41	-13.00	-25.00	-11.50	0
42	0.00	0.00	0.00	0
43	0.00	-25.00	-8.00	0
44	-81.50	-25.00	2.40	0
45	26.00	-25.00	2.40	0
46	81.00	-25.00	2.40	0
47	-23.00	0.00	0.00	0
48	-23.00	-25.00	-8.00	0
49	-23.00	0.00	2.40	0
50	-23.00	48.00	2.40	0
51	-23.00	-48.00	2.40	0
52	-23.00	-25.00	2.40	0
53	45.00	-12.50	-4.00	0
54	-45.00	-25.00	-8.00	0
57	-84.00	-12.50	-4.00	0
60	-13.00	0.00	0.00	0
61	22.25	-12.50	-83.50	0
62	-57.25	-15.00	-83.50	0
63	-57.25	-12.50	-83.50	0
64	-45.00	-12.50	-4.00	0
65	26.00	24.00	2.40	0
66	26.00	24.00	-12.60	0
67	-81.50	24.00	2.40	0
68	-81.50	24.00	-12.60	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
34	1	1	1	1	1	1
35	1	1	1	1	1	1
61	1	1	1	0	0	0
62	1	1	1	0	0	0
63	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	3	42	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
2	5	43	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
3	4	42	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	6	43	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	30	33	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	50	51	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	29	32	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	28	31	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	27	23	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
10	49	47	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
11	26	21	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
12	25	19	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
13	44	24	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	52	48	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	45	22	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	46	20	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	13	14	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	17	18	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	11	12	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	9	10	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	7	8	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	60	34	standoff horz.	PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
24	2	35	standoff horz.	PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
25	40	41	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	38	39	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	36	37	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	53	61	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	57	63	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	54	15	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
32	62	64	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	65	66	RRU Rack	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
34	67	68	RRU Rack	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Hinges

	Node-J				Node-K						
Member	M33	M22	V3	V2	M33	M22	V3	V2	TOR	AXL	Axial rigidity
28	1	1	0	0	0	0	0	0	0	0	Full
30	1	1	0	0	0	0	0	0	0	0	Full
32	0	0	0	0	1	1	0	0	0	0	Full

Current Date: 2/21/2020 4:56 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS, 2 VOLUNTEER DRIVE - SST\LTE 5C\Structural\Working Files\RAM\CT5270 Tower.retx

Load data

GLOSSARY

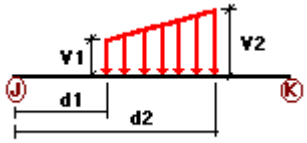
Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W1	Wind Load (0, 180 degrees)	No	WIND
W2	Wind Load (30, 150, 210, 330 degrees)	No	WIND
W3	Wind Load (60, 120, 240, 300 degrees)	No	WIND
W4	Wind Load (90, 270 degrees)	No	WIND
Di	Ice Load	No	LL
Wi1	Ice Wind Load (0, 180 degrees)	No	WIND
Wi2	Ice Wind Load (30, 150, 210, 330 Degrees)	No	WIND
Wi3	Ice Wind Load (60, 120, 240, 300 Degrees)	No	WIND
Wi4	Ice Wind Load (90, 270 degrees)	No	WIND
wl1	Wind Load 30 mph (0, 180 degrees)	No	WIND
wl2	Wind Load 30 mph (30, 150, 210, 330 Degrees)	No	WIND
wl3	Wind Load 30 mph (60, 120, 240, 300 Degrees)	No	WIND
wl4	Wind Load 30 mph (90, 270 degrees)	No	WIND
SL1	Service Live Load at Position 1 (500lb)	No	LL
SL2	Service Live Load at Position 2 (500lb)	No	LL
SL3	Service Live Load at Position 3 (500lb)	No	LL
SL4	Service Live Load at Position 4 (500lb)	No	LL
SLC	Service Live Load at Center of Mount (250lb)	No	LL
SLE1	Service Live Load at End of Mount (250lb)	No	LL
SLE2	Service Live Load at End of Mount (250lb)	No	LL
LC1	1.2DL+W1	Yes	
LC2	1.2DL+W2	Yes	
LC3	1.2DL+W3	Yes	
LC4	1.2DL+W4	Yes	
LC5	1.2DL-W1	Yes	
LC6	1.2DL-W2	Yes	
LC7	1.2DL-W3	Yes	
LC8	1.2DL-W4	Yes	
LC9	0.9DL+W1	Yes	
LC10	0.9DL+W2	Yes	
LC11	0.9DL+W3	Yes	
LC12	0.9DL+W4	Yes	
LC13	0.9DL-W1	Yes	
LC14	0.9DL-W2	Yes	
LC15	0.9DL-W3	Yes	
LC16	0.9DL-W4	Yes	
LC17	1.2DL+Di+Wi1	Yes	
LC18	1.2DL+Di+Wi2	Yes	
LC19	1.2DL+Di+Wi3	Yes	
LC20	1.2DL+Di+Wi4	Yes	
LC21	1.2DL+Di-Wi1	Yes	
LC22	1.2DL+Di-Wi2	Yes	
LC23	1.2DL+Di-Wi3	Yes	

LC24	1.2DL+Di-Wi4	Yes
LC25	1.4DL	Yes
LC26	1.2DL+1.5SLC	Yes
LC27	1.2DL+1.5SLE1	Yes
LC28	1.2DL+1.5SLE2	Yes
LC29	1.2DL+wl1+1.5SL1	Yes
LC30	1.2DL+wl2+1.5SL1	Yes
LC31	1.2DL+wl3+1.5SL1	Yes
LC32	1.2DL+wl4+1.5SL1	Yes
LC33	1.2DL-wl1+1.5SL1	Yes
LC34	1.2DL-wl2+1.5SL1	Yes
LC35	1.2DL-wl3+1.5SL1	Yes
LC36	1.2DL-wl4+1.5SL1	Yes
LC37	1.2DL+wl1+1.5SL2	Yes
LC38	1.2DL+wl2+1.5SL2	Yes
LC39	1.2DL+wl3+1.5SL2	Yes
LC40	1.2DL+wl4+1.5SL2	Yes
LC41	1.2DL-wl1+1.5SL2	Yes
LC42	1.2DL-wl2+1.5SL2	Yes
LC43	1.2DL-wl3+1.5SL2	Yes
LC44	1.2DL-wl4+1.5SL2	Yes
LC45	1.2DL+wl1+1.5SL3	Yes
LC46	1.2DL+wl2+1.5SL3	Yes
LC47	1.2DL+wl3+1.5SL3	Yes
LC48	1.2DL+wl4+1.5SL3	Yes
LC49	1.2DL-wl1+1.5SL3	Yes
LC50	1.2DL-wl2+1.5SL3	Yes
LC51	1.2DL-wl3+1.5SL3	Yes
LC52	1.2DL-wl4+1.5SL3	Yes
LC53	1.2DL+wl1+1.5SL4	Yes
LC54	1.2DL+wl2+1.5SL4	Yes
LC55	1.2DL+wl3+1.5SL4	Yes
LC56	1.2DL+wl4+1.5SL4	Yes
LC57	1.2DL-wl1+1.5SL4	Yes
LC58	1.2DL-wl2+1.5SL4	Yes
LC59	1.2DL-wl3+1.5SL4	Yes
LC60	1.2DL-wl4+1.5SL4	Yes

Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [in]	%	Dist2 [in]	%
W1	1	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	No	12.00	No
		Z	-0.01	-0.01	84.00	No	96.00	No
	8	Z	-0.01	-0.01	0.00	No	20.75	No
		Z	-0.01	-0.01	75.25	No	96.00	No

	19	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
W2	1	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	X	-0.01	-0.01	0.00	Yes	100.00	Yes
W3	1	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	Z	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	Z	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Z	-0.01	-0.01	0.00	Yes	100.00	Yes

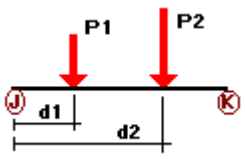
W4	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	X	-0.01	-0.01	0.00	Yes	100.00	Yes
Di	1	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	2	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	3	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	4	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	5	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	6	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	7	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	8	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	13	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	14	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	15	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	16	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	17	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	19	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	20	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	21	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	22	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	23	Y	-0.0135	-0.0135	0.00	Yes	100.00	Yes
	24	Y	-0.0135	-0.0135	0.00	Yes	100.00	Yes
	25	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	26	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	27	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	28	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	30	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	31	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	32	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
Wi1	1	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	4	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Z	-0.004	-0.004	0.00	Yes	12.00	No
		Z	-0.004	-0.004	84.00	No	96.00	No
	8	Z	-0.004	-0.004	0.00	No	20.75	No
		Z	-0.004	-0.004	75.25	No	96.00	No
	19	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	25	Z	-0.004	-0.004	0.00	Yes	100.00	Yes

	28	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi2	1	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	4	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	5	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	13	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	X	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi3	1	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	4	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	5	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	13	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi4	5	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	X	-0.004	-0.004	0.00	Yes	100.00	Yes

	13	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	X	-0.004	-0.004	0.00	Yes	100.00	Yes
wl1	1	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	Z	-0.001	-0.001	0.00	No	12.00	No
		Z	-0.001	-0.001	84.00	No	96.00	No
	8	Z	-0.001	-0.001	0.00	No	20.75	No
		Z	-0.001	-0.001	75.25	Yes	96.00	No
	19	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
wl2	1	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	5	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	23	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	X	-0.001	-0.001	0.00	Yes	100.00	Yes

wl3	1	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	5	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	23	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
wl4	5	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	23	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	X	-0.001	-0.001	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [in]	%
DL	5	Y	-0.048	87.50	Yes
		Y	-0.048	12.50	Yes
	6	Y	-0.048	87.50	Yes
		Y	-0.048	12.50	Yes
		Y	-0.0594	60.00	No
	7	Y	-0.0375	24.00	No
		Y	-0.0375	72.00	No
		Y	-0.06	60.00	No
	8	Y	-0.022	63.00	No
		Y	-0.022	33.00	No
		Y	-0.038	40.00	No
	33	Y	-0.06	15.00	No
		Y	-0.053	15.00	No
	34	Y	-0.06	15.00	No
		Y	-0.073	15.00	No
W1	5	Z	-0.3685	87.50	Yes
		Z	-0.3685	12.50	Yes
	6	Z	-0.3685	87.50	Yes
		Z	-0.3685	12.50	Yes
	7	Z	-0.1755	24.00	No
		Z	-0.1755	72.00	No
	8	Z	-0.111	33.00	No
		Z	-0.111	63.00	No
W2	5	X	-0.3335	87.50	Yes
		X	-0.3335	12.50	Yes
	6	X	-0.3335	87.50	Yes
		X	-0.3335	12.50	Yes
		X	-0.079	60.00	No
	7	X	-0.1685	24.00	No
		X	-0.1685	72.00	No
		X	-0.115	60.00	No
	8	X	-0.101	33.00	No
		X	-0.101	63.00	No
		X	-0.039	40.00	No
		X	-0.048	40.00	No
	33	x	-0.163	15.00	No
	34	x	-0.121	15.00	No
W3	5	Z	-0.2275	87.50	Yes
		Z	-0.2275	12.50	Yes
	6	Z	-0.2275	87.50	Yes
		Z	-0.2275	12.50	Yes
		Z	-0.062	60.00	No
	7	Z	-0.154	24.00	No
		Z	-0.154	72.00	No
		Z	-0.075	60.00	No
	8	Z	-0.0805	33.00	No
		Z	-0.0805	63.00	No
		Z	-0.023	40.00	No
		Z	-0.029	40.00	No
	33	Z	-0.107	15.00	No
	34	Z	-0.068	15.00	No
W4	5	X	-0.1745	87.50	Yes
		X	-0.1745	12.50	Yes
	6	X	-0.1745	87.50	Yes
		X	-0.1745	12.50	Yes
		X	-0.054	60.00	No
	7	X	-0.147	24.00	No
		X	-0.147	72.00	No
		X	-0.055	60.00	No
	8	X	-0.0705	33.00	No

		X	-0.0705	63.00	No
		X	-0.015	40.00	No
	33	X	-0.118	15.00	No
	34	X	-0.071	15.00	No
Di	5	Y	-0.1904	87.50	Yes
		Y	-0.1904	12.50	Yes
	6	Y	-0.1904	87.50	Yes
		Y	-0.1904	12.50	Yes
		Y	-0.0748	60.00	No
	7	Y	-0.115	24.00	No
		Y	-0.115	72.00	No
		Y	-0.096	60.00	No
	8	Y	-0.0688	33.00	No
		Y	-0.0688	63.00	No
		Y	-0.068	40.00	No
	33	Y	-0.089	15.00	No
		Y	-0.086	15.00	No
	34	Y	-0.073	15.00	No
		Y	-0.0745	15.00	No
Wi1	5	Z	-0.0735	87.50	Yes
		Z	-0.0735	12.50	Yes
	6	Z	-0.0735	87.50	Yes
		Z	-0.0735	12.50	Yes
	7	Z	-0.0365	24.00	No
		Z	-0.0365	72.00	No
	8	Z	-0.0245	33.00	No
		Z	-0.0245	63.00	No
Wi2	5	X	-0.0645	87.50	Yes
		X	-0.0645	12.50	Yes
	6	X	-0.0645	87.50	Yes
		X	-0.0645	12.50	Yes
		X	-0.019	60.00	No
	7	X	-0.0355	24.00	No
		X	-0.0355	72.00	No
		X	-0.026	60.00	No
	8	X	-0.023	33.00	No
		X	-0.023	63.00	No
		X	-0.013	40.00	No
	33	X	-0.041	15.00	No
	34	X	-0.032	15.00	No
Wi3	5	Z	-0.0475	87.50	Yes
		Z	-0.0475	12.50	Yes
	6	Z	-0.0475	87.50	Yes
		Z	-0.0475	12.50	Yes
		Z	-0.016	60.00	No
	7	Z	-0.033	24.00	No
		Z	-0.033	72.00	No
		Z	-0.019	60.00	No
	8	Z	-0.0195	33.00	No
		Z	-0.0195	63.00	No
		Z	-0.011	40.00	No
	33	Z	-0.025	15.00	No
	34	Z	-0.017	15.00	No
Wi4	5	X	-0.039	87.50	Yes
		X	-0.039	12.50	Yes
	6	X	-0.039	87.50	Yes
		X	-0.039	12.50	Yes
		X	-0.015	60.00	No
	7	X	-0.032	24.00	No
		X	-0.032	72.00	No

		X	-0.015	60.00	No
	8	X	-0.018	33.00	No
		X	-0.018	63.00	No
		X	-0.008	40.00	No
	33	X	-0.028	15.00	No
	34	X	-0.018	15.00	No
wl1	5	Z	-0.0225	84.00	No
		Z	-0.0225	12.00	No
	6	Z	-0.0225	84.00	No
		Z	-0.0225	12.00	No
	7	Z	-0.01	24.00	No
		Z	-0.01	72.00	No
	8	Z	-0.0065	33.00	No
		Z	-0.0065	63.00	No
wl2	5	X	-0.019	84.00	No
		X	-0.019	12.00	No
	6	X	-0.019	84.00	No
		X	-0.019	12.00	No
		X	-0.005	60.00	No
	7	X	-0.0095	24.00	No
		X	-0.0095	72.00	No
		X	-0.007	60.00	No
	8	X	-0.006	33.00	No
		X	-0.006	63.00	No
		X	-0.004	40.00	No
	33	X	-0.01	15.00	No
	34	X	-0.007	15.00	No
wl3	5	Z	-0.013	84.00	No
		Z	-0.013	12.00	No
	6	Z	-0.013	84.00	No
		Z	-0.013	12.00	No
		Z	-0.004	60.00	No
	7	Z	-0.009	24.00	No
		Z	-0.009	72.00	No
		Z	-0.004	60.00	No
	8	Z	-0.0045	63.00	No
		Z	-0.0045	33.00	No
		Z	-0.002	40.00	No
	33	Z	-0.006	15.00	No
	34	Z	-0.004	15.00	No
wl4	5	X	-0.01	84.00	No
		X	-0.01	12.00	No
	6	X	-0.01	84.00	No
		X	-0.01	12.00	No
		X	-0.003	60.00	No
	7	X	-0.0085	24.00	No
		X	-0.0085	72.00	No
		X	-0.003	60.00	No
	8	X	-0.004	33.00	No
		X	-0.004	63.00	No
		X	-0.001	40.00	No
	33	X	-0.007	15.00	No
	34	X	-0.004	15.00	No
SL1	2	Y	-0.50	9.00	No
SL2	2	Y	-0.50	64.00	No
SL3	4	Y	-0.50	67.00	No
SL4	4	Y	-0.50	8.50	No
SLC	4	Y	-0.25	90.00	No
SLE1	4	Y	-0.25	0.00	No
SLE2	2	Y	-0.25	0.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W1	Wind Load (0, 180 degrees)	No	0.00	0.00	0.00
W2	Wind Load (30, 150, 210, 330 degrees)	No	0.00	0.00	0.00
W3	Wind Load (60, 120, 240, 300 degrees)	No	0.00	0.00	0.00
W4	Wind Load (90, 270 degrees)	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi1	Ice Wind Load (0, 180 degrees)	No	0.00	0.00	0.00
Wi2	Ice Wind Load (30, 150, 210, 330 Degrees)	No	0.00	0.00	0.00
Wi3	Ice Wind Load (60, 120, 240, 300 Degrees)	No	0.00	0.00	0.00
Wi4	Ice Wind Load (90, 270 degrees)	No	0.00	0.00	0.00
wl1	Wind Load 30 mph (0, 180 degrees)	No	0.00	0.00	0.00
wl2	Wind Load 30 mph (30, 150, 210, 330 Degrees)	No	0.00	0.00	0.00
wl3	Wind Load 30 mph (60, 120, 240, 300 Degrees)	No	0.00	0.00	0.00
wl4	Wind Load 30 mph (90, 270 degrees)	No	0.00	0.00	0.00
SL1	Service Live Load at Position 1 (500lb)	No	0.00	0.00	0.00
SL2	Service Live Load at Position 2 (500lb)	No	0.00	0.00	0.00
SL3	Service Live Load at Position 3 (500lb)	No	0.00	0.00	0.00
SL4	Service Live Load at Position 4 (500lb)	No	0.00	0.00	0.00
SLC	Service Live Load at Center of Mount (250lb)	No	0.00	0.00	0.00
SLE1	Service Live Load at End of Mount (250lb)	No	0.00	0.00	0.00
SLE2	Service Live Load at End of Mount (250lb)	No	0.00	0.00	0.00
LC1	1.2DL+W1	Yes	0.00	0.00	0.00
LC2	1.2DL+W2	Yes	0.00	0.00	0.00
LC3	1.2DL+W3	Yes	0.00	0.00	0.00
LC4	1.2DL+W4	Yes	0.00	0.00	0.00
LC5	1.2DL-W1	Yes	0.00	0.00	0.00
LC6	1.2DL-W2	Yes	0.00	0.00	0.00
LC7	1.2DL-W3	Yes	0.00	0.00	0.00
LC8	1.2DL-W4	Yes	0.00	0.00	0.00
LC9	0.9DL+W1	Yes	0.00	0.00	0.00
LC10	0.9DL+W2	Yes	0.00	0.00	0.00
LC11	0.9DL+W3	Yes	0.00	0.00	0.00
LC12	0.9DL+W4	Yes	0.00	0.00	0.00
LC13	0.9DL-W1	Yes	0.00	0.00	0.00
LC14	0.9DL-W2	Yes	0.00	0.00	0.00
LC15	0.9DL-W3	Yes	0.00	0.00	0.00
LC16	0.9DL-W4	Yes	0.00	0.00	0.00
LC17	1.2DL+Di+Wi1	Yes	0.00	0.00	0.00
LC18	1.2DL+Di+Wi2	Yes	0.00	0.00	0.00
LC19	1.2DL+Di+Wi3	Yes	0.00	0.00	0.00
LC20	1.2DL+Di+Wi4	Yes	0.00	0.00	0.00
LC21	1.2DL+Di-Wi1	Yes	0.00	0.00	0.00
LC22	1.2DL+Di-Wi2	Yes	0.00	0.00	0.00
LC23	1.2DL+Di-Wi3	Yes	0.00	0.00	0.00
LC24	1.2DL+Di-Wi4	Yes	0.00	0.00	0.00
LC25	1.4DL	Yes	0.00	0.00	0.00
LC26	1.2DL+1.5SLC	Yes	0.00	0.00	0.00
LC27	1.2DL+1.5SLE1	Yes	0.00	0.00	0.00
LC28	1.2DL+1.5SLE2	Yes	0.00	0.00	0.00
LC29	1.2DL+wl1+1.5SL1	Yes	0.00	0.00	0.00

LC30	1.2DL+wl2+1.5SL1	Yes	0.00	0.00	0.00
LC31	1.2DL+wl3+1.5SL1	Yes	0.00	0.00	0.00
LC32	1.2DL+wl4+1.5SL1	Yes	0.00	0.00	0.00
LC33	1.2DL-wl1+1.5SL1	Yes	0.00	0.00	0.00
LC34	1.2DL-wl2+1.5SL1	Yes	0.00	0.00	0.00
LC35	1.2DL-wl3+1.5SL1	Yes	0.00	0.00	0.00
LC36	1.2DL-wl4+1.5SL1	Yes	0.00	0.00	0.00
LC37	1.2DL+wl1+1.5SL2	Yes	0.00	0.00	0.00
LC38	1.2DL+wl2+1.5SL2	Yes	0.00	0.00	0.00
LC39	1.2DL+wl3+1.5SL2	Yes	0.00	0.00	0.00
LC40	1.2DL+wl4+1.5SL2	Yes	0.00	0.00	0.00
LC41	1.2DL-wl1+1.5SL2	Yes	0.00	0.00	0.00
LC42	1.2DL-wl2+1.5SL2	Yes	0.00	0.00	0.00
LC43	1.2DL-wl3+1.5SL2	Yes	0.00	0.00	0.00
LC44	1.2DL-wl4+1.5SL2	Yes	0.00	0.00	0.00
LC45	1.2DL+wl1+1.5SL3	Yes	0.00	0.00	0.00
LC46	1.2DL+wl2+1.5SL3	Yes	0.00	0.00	0.00
LC47	1.2DL+wl3+1.5SL3	Yes	0.00	0.00	0.00
LC48	1.2DL+wl4+1.5SL3	Yes	0.00	0.00	0.00
LC49	1.2DL-wl1+1.5SL3	Yes	0.00	0.00	0.00
LC50	1.2DL-wl2+1.5SL3	Yes	0.00	0.00	0.00
LC51	1.2DL-wl3+1.5SL3	Yes	0.00	0.00	0.00
LC52	1.2DL-wl4+1.5SL3	Yes	0.00	0.00	0.00
LC53	1.2DL+wl1+1.5SL4	Yes	0.00	0.00	0.00
LC54	1.2DL+wl2+1.5SL4	Yes	0.00	0.00	0.00
LC55	1.2DL+wl3+1.5SL4	Yes	0.00	0.00	0.00
LC56	1.2DL+wl4+1.5SL4	Yes	0.00	0.00	0.00
LC57	1.2DL-wl1+1.5SL4	Yes	0.00	0.00	0.00
LC58	1.2DL-wl2+1.5SL4	Yes	0.00	0.00	0.00
LC59	1.2DL-wl3+1.5SL4	Yes	0.00	0.00	0.00
LC60	1.2DL-wl4+1.5SL4	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W1	0.00	0.00	0.00
W2	0.00	0.00	0.00
W3	0.00	0.00	0.00
W4	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi1	0.00	0.00	0.00
Wi2	0.00	0.00	0.00
Wi3	0.00	0.00	0.00
Wi4	0.00	0.00	0.00
wl1	0.00	0.00	0.00
wl2	0.00	0.00	0.00
wl3	0.00	0.00	0.00
wl4	0.00	0.00	0.00
SL1	0.00	0.00	0.00
SL2	0.00	0.00	0.00
SL3	0.00	0.00	0.00
SL4	0.00	0.00	0.00
SLC	0.00	0.00	0.00

SLE1	0.00	0.00	0.00
SLE2	0.00	0.00	0.00
LC1	0.00	0.00	0.00
LC2	0.00	0.00	0.00
LC3	0.00	0.00	0.00
LC4	0.00	0.00	0.00
LC5	0.00	0.00	0.00
LC6	0.00	0.00	0.00
LC7	0.00	0.00	0.00
LC8	0.00	0.00	0.00
LC9	0.00	0.00	0.00
LC10	0.00	0.00	0.00
LC11	0.00	0.00	0.00
LC12	0.00	0.00	0.00
LC13	0.00	0.00	0.00
LC14	0.00	0.00	0.00
LC15	0.00	0.00	0.00
LC16	0.00	0.00	0.00
LC17	0.00	0.00	0.00
LC18	0.00	0.00	0.00
LC19	0.00	0.00	0.00
LC20	0.00	0.00	0.00
LC21	0.00	0.00	0.00
LC22	0.00	0.00	0.00
LC23	0.00	0.00	0.00
LC24	0.00	0.00	0.00
LC25	0.00	0.00	0.00
LC26	0.00	0.00	0.00
LC27	0.00	0.00	0.00
LC28	0.00	0.00	0.00
LC29	0.00	0.00	0.00
LC30	0.00	0.00	0.00
LC31	0.00	0.00	0.00
LC32	0.00	0.00	0.00
LC33	0.00	0.00	0.00
LC34	0.00	0.00	0.00
LC35	0.00	0.00	0.00
LC36	0.00	0.00	0.00
LC37	0.00	0.00	0.00
LC38	0.00	0.00	0.00
LC39	0.00	0.00	0.00
LC40	0.00	0.00	0.00
LC41	0.00	0.00	0.00
LC42	0.00	0.00	0.00
LC43	0.00	0.00	0.00
LC44	0.00	0.00	0.00
LC45	0.00	0.00	0.00
LC46	0.00	0.00	0.00
LC47	0.00	0.00	0.00
LC48	0.00	0.00	0.00
LC49	0.00	0.00	0.00
LC50	0.00	0.00	0.00
LC51	0.00	0.00	0.00
LC52	0.00	0.00	0.00
LC53	0.00	0.00	0.00
LC54	0.00	0.00	0.00
LC55	0.00	0.00	0.00
LC56	0.00	0.00	0.00
LC57	0.00	0.00	0.00
LC58	0.00	0.00	0.00

LC59	0.00	0.00	0.00
LC60	0.00	0.00	0.00

Current Date: 2/21/2020 4:57 PM
Units system: English
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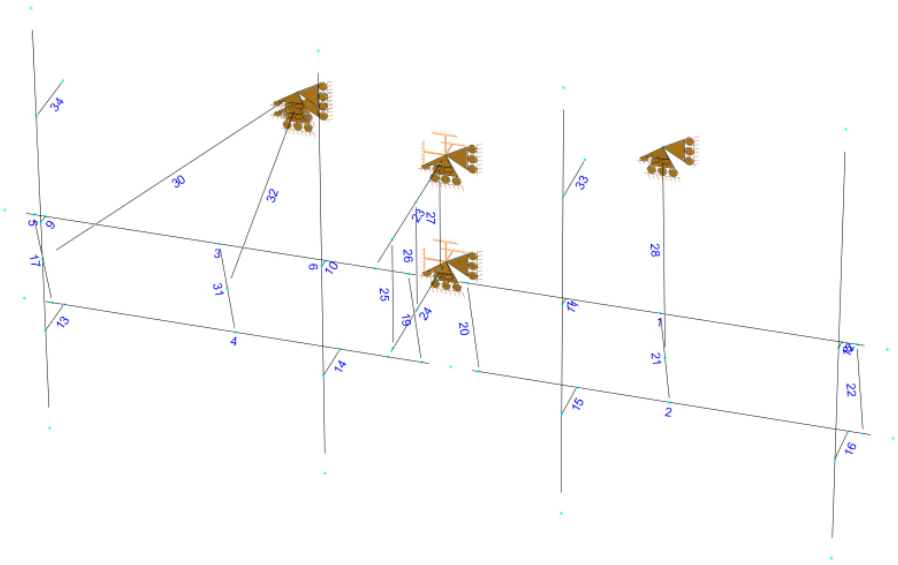

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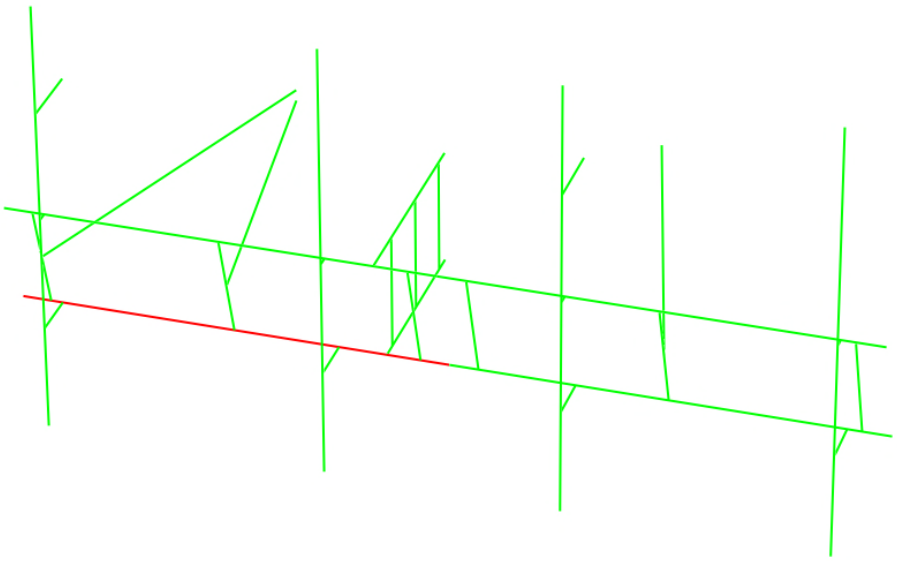

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Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

LC1=1.2DL+W1
LC2=1.2DL+W2
LC3=1.2DL+W3
LC4=1.2DL+W4
LC5=1.2DL-W1
LC6=1.2DL-W2
LC7=1.2DL-W3
LC8=1.2DL-W4
LC9=0.9DL+W1
LC10=0.9DL+W2
LC11=0.9DL+W3
LC12=0.9DL+W4
LC13=0.9DL-W1
LC14=0.9DL-W2
LC15=0.9DL-W3
LC16=0.9DL-W4
LC17=1.2DL+Di+Wi1
LC18=1.2DL+Di+Wi2
LC19=1.2DL+Di+Wi3
LC20=1.2DL+Di+Wi4
LC21=1.2DL+Di-Wi1
LC22=1.2DL+Di-Wi2
LC23=1.2DL+Di-Wi3
LC24=1.2DL+Di-Wi4
LC25=1.4DL
LC26=1.2DL+1.5SLC
LC27=1.2DL+1.5SLE1
LC28=1.2DL+1.5SLE2
LC29=1.2DL+wl1+1.5SL1
LC30=1.2DL+wl2+1.5SL1
LC31=1.2DL+wl3+1.5SL1
LC32=1.2DL+wl4+1.5SL1
LC33=1.2DL-wl1+1.5SL1
LC34=1.2DL-wl2+1.5SL1
LC35=1.2DL-wl3+1.5SL1
LC36=1.2DL-wl4+1.5SL1
LC37=1.2DL+wl1+1.5SL2
LC38=1.2DL+wl2+1.5SL2
LC39=1.2DL+wl3+1.5SL2
LC40=1.2DL+wl4+1.5SL2
LC41=1.2DL-wl1+1.5SL2
LC42=1.2DL-wl2+1.5SL2
LC43=1.2DL-wl3+1.5SL2
LC44=1.2DL-wl4+1.5SL2
LC45=1.2DL+wl1+1.5SL3
LC46=1.2DL+wl2+1.5SL3
LC47=1.2DL+wl3+1.5SL3
LC48=1.2DL+wl4+1.5SL3
LC49=1.2DL-wl1+1.5SL3
LC50=1.2DL-wl2+1.5SL3
LC51=1.2DL-wl3+1.5SL3
LC52=1.2DL-wl4+1.5SL3

LC53=1.2DL+wl1+1.5SL4
LC54=1.2DL+wl2+1.5SL4
LC55=1.2DL+wl3+1.5SL4
LC56=1.2DL+wl4+1.5SL4
LC57=1.2DL-wl1+1.5SL4
LC58=1.2DL-wl2+1.5SL4
LC59=1.2DL-wl3+1.5SL4
LC60=1.2DL-wl4+1.5SL4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
Antenna Pipe	***PIPE 2x0.154***	**5**	LC1 at 48.44%	0.68	OK	
			LC10 at 48.44%	0.76	OK	
			LC11 at 48.44%	0.54	OK	
			LC12 at 48.44%	0.47	OK	
			LC13 at 48.44%	0.49	OK	
			LC14 at 48.44%	0.76	OK	
			LC15 at 48.44%	0.38	OK	
			LC16 at 48.44%	0.47	OK	
			LC17 at 48.44%	0.34	OK	
			LC18 at 48.44%	0.37	OK	
			LC19 at 48.44%	0.33	OK	
			LC2 at 48.44%	**0.79**	**OK**	
			LC20 at 48.44%	0.32	OK	
			LC21 at 50.00%	0.22	OK	
			LC22 at 48.44%	0.37	OK	
			LC23 at 50.00%	0.23	OK	
			LC24 at 48.44%	0.32	OK	
			LC25 at 48.44%	0.14	OK	
			LC26 at 48.44%	0.12	OK	
			LC27 at 50.00%	0.16	OK	
			LC28 at 48.44%	0.12	OK	
			LC29 at 48.44%	0.15	OK	
			LC3 at 48.44%	0.57	OK	
			LC30 at 48.44%	0.16	OK	
			LC31 at 48.44%	0.14	OK	
			LC32 at 48.44%	0.14	OK	
			LC33 at 25.00%	0.10	OK	
			LC34 at 48.44%	0.16	OK	
			LC35 at 25.00%	0.11	OK	
			LC36 at 48.44%	0.14	OK	
			LC37 at 48.44%	0.15	OK	
			LC38 at 48.44%	0.16	OK	
			LC39 at 48.44%	0.14	OK	
			LC4 at 48.44%	0.50	OK	
			LC40 at 48.44%	0.14	OK	
			LC41 at 25.00%	0.10	OK	
			LC42 at 48.44%	0.16	OK	
			LC43 at 25.00%	0.11	OK	
			LC44 at 48.44%	0.14	OK	
			LC45 at 48.44%	0.15	OK	
			LC46 at 48.44%	0.16	OK	
			LC47 at 48.44%	0.14	OK	
			LC48 at 48.44%	0.14	OK	
			LC49 at 25.00%	0.10	OK	
			LC5 at 48.44%	0.47	OK	
			LC50 at 48.44%	0.16	OK	
			LC51 at 25.00%	0.11	OK	
			LC52 at 48.44%	0.14	OK	
			LC53 at 50.00%	0.22	OK	
			LC54 at 50.00%	0.23	OK	
			LC55 at 50.00%	0.22	OK	
			LC56 at 50.00%	0.22	OK	
			LC57 at 50.00%	0.20	OK	
			LC58 at 50.00%	0.19	OK	

	LC59 at 50.00%	0.20	OK
	LC6 at 48.44%	0.79	OK
	LC60 at 50.00%	0.19	OK
	LC7 at 48.44%	0.36	OK
	LC8 at 48.44%	0.50	OK
	LC9 at 48.44%	0.65	OK
	---	---	---
6	LC1 at 47.92%	0.56	OK
	LC10 at 47.92%	0.55	OK
	LC11 at 47.92%	0.39	OK
	LC12 at 47.92%	0.31	OK
	LC13 at 47.92%	0.56	OK
	LC14 at 47.92%	0.55	OK
	LC15 at 50.00%	0.45	OK
	LC16 at 47.92%	0.31	OK
	LC17 at 50.00%	0.38	OK
	LC18 at 50.00%	0.50	OK
	LC19 at 50.00%	0.39	OK
	LC2 at 47.92%	0.55	OK
	LC20 at 50.00%	0.49	OK
	LC21 at 50.00%	0.55	OK
	LC22 at 50.00%	0.44	OK
	LC23 at 50.00%	0.55	OK
	LC24 at 50.00%	0.45	OK
	LC25 at 50.00%	0.17	OK
	LC26 at 50.00%	0.15	OK
	LC27 at 50.00%	0.17	OK
	LC28 at 50.00%	0.22	OK
	LC29 at 50.00%	0.29	OK
	LC3 at 47.92%	0.39	OK
	LC30 at 50.00%	0.29	OK
	LC31 at 50.00%	0.28	OK
	LC32 at 50.00%	0.29	OK
	LC33 at 50.00%	0.31	OK
	LC34 at 50.00%	0.28	OK
	LC35 at 50.00%	0.31	OK
	LC36 at 50.00%	0.28	OK
	LC37 at 50.00%	0.17	OK
	LC38 at 50.00%	0.21	OK
	LC39 at 50.00%	0.18	OK
	LC4 at 47.92%	0.31	OK
	LC40 at 50.00%	0.20	OK
	LC41 at 50.00%	0.23	OK
	LC42 at 50.00%	0.19	OK
	LC43 at 50.00%	0.22	OK
	LC44 at 50.00%	0.19	OK
	LC45 at 50.00%	0.16	OK
	LC46 at 50.00%	0.19	OK
	LC47 at 50.00%	0.16	OK
	LC48 at 50.00%	0.19	OK
	LC49 at 50.00%	0.21	OK
	LC5 at 50.00%	**0.59**	**OK**
	LC50 at 50.00%	0.18	OK
	LC51 at 50.00%	0.20	OK
	LC52 at 50.00%	0.18	OK
	LC53 at 75.00%	0.22	OK
	LC54 at 75.00%	0.22	OK
	LC55 at 75.00%	0.22	OK
	LC56 at 75.00%	0.22	OK
	LC57 at 50.00%	0.24	OK
	LC58 at 75.00%	0.23	OK
	LC59 at 50.00%	0.23	OK
	LC6 at 47.92%	0.55	OK
	LC60 at 75.00%	0.23	OK

	LC7 at 50.00%	0.48	OK
	LC8 at 47.92%	0.31	OK
	LC9 at 47.92%	0.56	OK
	---	---	---
7	LC1 at 48.44%	0.29	OK
	LC10 at 48.44%	0.45	OK
	LC11 at 48.44%	0.38	OK
	LC12 at 48.44%	0.38	OK
	LC13 at 50.00%	0.28	OK
	LC14 at 48.44%	0.45	OK
	LC15 at 50.00%	0.38	OK
	LC16 at 48.44%	0.38	OK
	LC17 at 50.00%	0.50	OK
	LC18 at 50.00%	0.43	OK
	LC19 at 50.00%	0.51	OK
	LC2 at 48.44%	0.47	OK
	LC20 at 50.00%	0.44	OK
	LC21 at 50.00%	0.47	OK
	LC22 at 50.00%	**0.54**	**OK**
	LC23 at 50.00%	0.45	OK
	LC24 at 50.00%	0.53	OK
	LC25 at 50.00%	0.20	OK
	LC26 at 50.00%	0.17	OK
	LC27 at 50.00%	0.18	OK
	LC28 at 50.00%	0.29	OK
	LC29 at 50.00%	0.41	OK
	LC3 at 48.44%	0.40	OK
	LC30 at 50.00%	0.39	OK
	LC31 at 50.00%	0.41	OK
	LC32 at 50.00%	0.39	OK
	LC33 at 50.00%	0.40	OK
	LC34 at 50.00%	0.42	OK
	LC35 at 50.00%	0.39	OK
	LC36 at 50.00%	0.41	OK
	LC37 at 50.00%	0.26	OK
	LC38 at 50.00%	0.25	OK
	LC39 at 50.00%	0.27	OK
	LC4 at 48.44%	0.40	OK
	LC40 at 50.00%	0.25	OK
	LC41 at 50.00%	0.25	OK
	LC42 at 50.00%	0.27	OK
	LC43 at 50.00%	0.25	OK
	LC44 at 50.00%	0.27	OK
	LC45 at 50.00%	0.18	OK
	LC46 at 50.00%	0.16	OK
	LC47 at 50.00%	0.18	OK
	LC48 at 50.00%	0.16	OK
	LC49 at 50.00%	0.17	OK
	LC5 at 50.00%	0.31	OK
	LC50 at 50.00%	0.19	OK
	LC51 at 50.00%	0.17	OK
	LC52 at 50.00%	0.19	OK
	LC53 at 50.00%	0.19	OK
	LC54 at 50.00%	0.17	OK
	LC55 at 50.00%	0.20	OK
	LC56 at 50.00%	0.18	OK
	LC57 at 50.00%	0.18	OK
	LC58 at 50.00%	0.20	OK
	LC59 at 50.00%	0.18	OK
	LC6 at 48.44%	0.47	OK
	LC60 at 50.00%	0.20	OK
	LC7 at 50.00%	0.41	OK
	LC8 at 48.44%	0.40	OK
	LC9 at 48.44%	0.27	OK

	8	LC1 at 47.92%	0.09	OK
		LC10 at 47.92%	0.12	OK
		LC11 at 47.92%	0.10	OK
		LC12 at 47.92%	0.09	OK
		LC13 at 47.92%	0.09	OK
		LC14 at 47.92%	0.12	OK
		LC15 at 47.92%	0.10	OK
		LC16 at 50.00%	0.09	OK
		LC17 at 50.00%	0.11	OK
		LC18 at 50.00%	0.10	OK
		LC19 at 50.00%	0.11	OK
		LC2 at 47.92%	0.12	OK
		LC20 at 50.00%	0.10	OK
		LC21 at 50.00%	0.13	OK
		LC22 at 50.00%	0.14	OK
		LC23 at 50.00%	0.14	OK
		LC24 at 50.00%	0.14	OK
		LC25 at 50.00%	0.04	OK
		LC26 at 50.00%	0.04	OK
		LC27 at 50.00%	0.04	OK
		LC28 at 50.00%	0.11	OK
		LC29 at 50.00%	0.18	OK
		LC3 at 47.92%	0.10	OK
		LC30 at 50.00%	0.18	OK
		LC31 at 50.00%	0.18	OK
		LC32 at 50.00%	0.18	OK
		LC33 at 50.00%	0.19	OK
		LC34 at 50.00%	**0.19**	**OK**
		LC35 at 50.00%	0.19	OK
		LC36 at 50.00%	0.19	OK
		LC37 at 50.00%	0.04	OK
		LC38 at 50.00%	0.04	OK
		LC39 at 50.00%	0.04	OK
		LC4 at 47.92%	0.09	OK
		LC40 at 50.00%	0.04	OK
		LC41 at 50.00%	0.05	OK
		LC42 at 50.00%	0.05	OK
		LC43 at 50.00%	0.05	OK
		LC44 at 50.00%	0.05	OK
		LC45 at 50.00%	0.03	OK
		LC46 at 50.00%	0.03	OK
		LC47 at 50.00%	0.04	OK
		LC48 at 50.00%	0.03	OK
		LC49 at 50.00%	0.04	OK
		LC5 at 50.00%	0.10	OK
		LC50 at 50.00%	0.04	OK
		LC51 at 50.00%	0.04	OK
		LC52 at 50.00%	0.04	OK
		LC53 at 50.00%	0.03	OK
		LC54 at 50.00%	0.03	OK
		LC55 at 50.00%	0.04	OK
		LC56 at 50.00%	0.03	OK
		LC57 at 50.00%	0.04	OK
		LC58 at 50.00%	0.04	OK
		LC59 at 50.00%	0.04	OK
		LC6 at 47.92%	0.12	OK
		LC60 at 50.00%	0.04	OK
		LC7 at 50.00%	0.11	OK
		LC8 at 50.00%	0.10	OK
		LC9 at 47.92%	0.09	OK
Antenna Pipe Conn.	**13**	LC1 at 0.00%	**0.30**	**OK**
		LC10 at 0.00%	0.06	OK

	LC11 at 0.00%	0.23	OK
	LC12 at 100.00%	0.03	OK
	LC13 at 100.00%	0.29	OK
	LC14 at 100.00%	0.08	OK
	LC15 at 100.00%	0.26	OK
	LC16 at 100.00%	0.06	OK
	LC17 at 100.00%	0.11	OK
	LC18 at 100.00%	0.13	OK
	LC19 at 100.00%	0.11	OK
	LC2 at 0.00%	0.06	OK
	LC20 at 100.00%	0.13	OK
	LC21 at 100.00%	0.20	OK
	LC22 at 100.00%	0.15	OK
	LC23 at 100.00%	0.20	OK
	LC24 at 100.00%	0.15	OK
	LC25 at 100.00%	0.04	OK
	LC26 at 100.00%	0.03	OK
	LC27 at 100.00%	0.07	OK
	LC28 at 100.00%	0.03	OK
	LC29 at 0.00%	0.04	OK
	LC3 at 0.00%	0.24	OK
	LC30 at 100.00%	0.03	OK
	LC31 at 0.00%	0.04	OK
	LC32 at 100.00%	0.03	OK
	LC33 at 100.00%	0.05	OK
	LC34 at 100.00%	0.04	OK
	LC35 at 100.00%	0.05	OK
	LC36 at 100.00%	0.04	OK
	LC37 at 0.00%	0.04	OK
	LC38 at 100.00%	0.03	OK
	LC39 at 0.00%	0.04	OK
	LC4 at 100.00%	0.04	OK
	LC40 at 100.00%	0.03	OK
	LC41 at 100.00%	0.05	OK
	LC42 at 100.00%	0.04	OK
	LC43 at 100.00%	0.05	OK
	LC44 at 100.00%	0.04	OK
	LC45 at 0.00%	0.04	OK
	LC46 at 100.00%	0.03	OK
	LC47 at 100.00%	0.04	OK
	LC48 at 100.00%	0.03	OK
	LC49 at 100.00%	0.05	OK
	LC5 at 100.00%	0.30	OK
	LC50 at 100.00%	0.04	OK
	LC51 at 100.00%	0.05	OK
	LC52 at 100.00%	0.04	OK
	LC53 at 100.00%	0.09	OK
	LC54 at 100.00%	0.09	OK
	LC55 at 100.00%	0.09	OK
	LC56 at 100.00%	0.09	OK
	LC57 at 100.00%	0.09	OK
	LC58 at 100.00%	0.09	OK
	LC59 at 100.00%	0.08	OK
	LC6 at 100.00%	0.09	OK
	LC60 at 100.00%	0.09	OK
	LC7 at 100.00%	0.27	OK
	LC8 at 100.00%	0.06	OK
	LC9 at 0.00%	0.30	OK
14	LC1 at 0.00%	0.26	OK
	LC10 at 100.00%	0.14	OK
	LC11 at 0.00%	0.19	OK
	LC12 at 0.00%	0.08	OK
	LC13 at 0.00%	0.33	OK

	LC14 at 100.00%	0.23	OK
	LC15 at 0.00%	0.26	OK
	LC16 at 100.00%	0.16	OK
	LC17 at 100.00%	0.21	OK
	LC18 at 0.00%	0.21	OK
	LC19 at 100.00%	0.21	OK
	LC2 at 0.00%	0.12	OK
	LC20 at 0.00%	0.20	OK
	LC21 at 100.00%	0.24	OK
	LC22 at 100.00%	0.26	OK
	LC23 at 100.00%	0.25	OK
	LC24 at 100.00%	0.25	OK
	LC25 at 100.00%	0.08	OK
	LC26 at 100.00%	0.07	OK
	LC27 at 0.00%	0.12	OK
	LC28 at 100.00%	0.14	OK
	LC29 at 100.00%	0.20	OK
	LC3 at 0.00%	0.18	OK
	LC30 at 100.00%	0.20	OK
	LC31 at 100.00%	0.20	OK
	LC32 at 100.00%	0.20	OK
	LC33 at 100.00%	0.21	OK
	LC34 at 100.00%	0.22	OK
	LC35 at 100.00%	0.21	OK
	LC36 at 100.00%	0.21	OK
	LC37 at 100.00%	0.11	OK
	LC38 at 100.00%	0.10	OK
	LC39 at 100.00%	0.11	OK
	LC4 at 0.00%	0.10	OK
	LC40 at 100.00%	0.11	OK
	LC41 at 100.00%	0.12	OK
	LC42 at 100.00%	0.13	OK
	LC43 at 100.00%	0.12	OK
	LC44 at 100.00%	0.12	OK
	LC45 at 100.00%	0.11	OK
	LC46 at 100.00%	0.10	OK
	LC47 at 100.00%	0.11	OK
	LC48 at 100.00%	0.11	OK
	LC49 at 100.00%	0.12	OK
	LC5 at 0.00%	**0.35**	**OK**
	LC50 at 100.00%	0.12	OK
	LC51 at 100.00%	0.12	OK
	LC52 at 100.00%	0.12	OK
	LC53 at 0.00%	0.17	OK
	LC54 at 0.00%	0.18	OK
	LC55 at 0.00%	0.17	OK
	LC56 at 0.00%	0.18	OK
	LC57 at 0.00%	0.19	OK
	LC58 at 0.00%	0.18	OK
	LC59 at 0.00%	0.19	OK
	LC6 at 100.00%	0.25	OK
	LC60 at 0.00%	0.18	OK
	LC7 at 0.00%	0.27	OK
	LC8 at 100.00%	0.18	OK
	LC9 at 0.00%	0.27	OK
15	LC1 at 0.00%	0.07	OK
	LC10 at 100.00%	0.08	OK
	LC11 at 100.00%	0.09	OK
	LC12 at 100.00%	0.08	OK
	LC13 at 100.00%	0.18	OK
	LC14 at 100.00%	0.06	OK
	LC15 at 100.00%	0.23	OK
	LC16 at 100.00%	0.07	OK

	LC17 at 100.00%	0.27	OK
	LC18 at 100.00%	0.29	OK
	LC19 at 100.00%	0.25	OK
	LC2 at 100.00%	0.10	OK
	LC20 at 100.00%	0.29	OK
	LC21 at 100.00%	0.32	OK
	LC22 at 100.00%	0.29	OK
	LC23 at 100.00%	**0.33**	**OK**
	LC24 at 100.00%	0.29	OK
	LC25 at 100.00%	0.11	OK
	LC26 at 100.00%	0.10	OK
	LC27 at 100.00%	0.10	OK
	LC28 at 100.00%	0.15	OK
	LC29 at 100.00%	0.19	OK
	LC3 at 0.00%	0.09	OK
	LC30 at 100.00%	0.20	OK
	LC31 at 100.00%	0.19	OK
	LC32 at 100.00%	0.20	OK
	LC33 at 100.00%	0.21	OK
	LC34 at 100.00%	0.20	OK
	LC35 at 100.00%	0.21	OK
	LC36 at 100.00%	0.20	OK
	LC37 at 100.00%	0.14	OK
	LC38 at 100.00%	0.15	OK
	LC39 at 100.00%	0.14	OK
	LC4 at 100.00%	0.10	OK
	LC40 at 100.00%	0.15	OK
	LC41 at 100.00%	0.15	OK
	LC42 at 100.00%	0.15	OK
	LC43 at 100.00%	0.15	OK
	LC44 at 100.00%	0.15	OK
	LC45 at 100.00%	0.09	OK
	LC46 at 100.00%	0.10	OK
	LC47 at 100.00%	0.09	OK
	LC48 at 100.00%	0.10	OK
	LC49 at 100.00%	0.10	OK
	LC5 at 100.00%	0.20	OK
	LC50 at 100.00%	0.10	OK
	LC51 at 100.00%	0.11	OK
	LC52 at 100.00%	0.10	OK
	LC53 at 100.00%	0.10	OK
	LC54 at 100.00%	0.11	OK
	LC55 at 100.00%	0.10	OK
	LC56 at 100.00%	0.11	OK
	LC57 at 100.00%	0.12	OK
	LC58 at 100.00%	0.11	OK
	LC59 at 100.00%	0.12	OK
	LC6 at 100.00%	0.09	OK
	LC60 at 100.00%	0.11	OK
	LC7 at 100.00%	0.26	OK
	LC8 at 100.00%	0.09	OK
	LC9 at 0.00%	0.06	OK
16	LC1 at 100.00%	0.05	OK
	LC10 at 100.00%	0.04	OK
	LC11 at 100.00%	0.06	OK
	LC12 at 100.00%	0.04	OK
	LC13 at 100.00%	0.09	OK
	LC14 at 0.00%	0.01	OK
	LC15 at 100.00%	0.11	OK
	LC16 at 100.00%	0.01	OK
	LC17 at 100.00%	0.08	OK
	LC18 at 100.00%	0.10	OK
	LC19 at 100.00%	0.07	OK

		LC2 at 100.00%	0.05	OK
		LC20 at 100.00%	0.10	OK
		LC21 at 100.00%	0.11	OK
		LC22 at 100.00%	0.09	OK
		LC23 at 100.00%	**0.12**	**OK**
		LC24 at 100.00%	0.09	OK
		LC25 at 100.00%	0.04	OK
		LC26 at 100.00%	0.03	OK
		LC27 at 100.00%	0.03	OK
		LC28 at 100.00%	0.06	OK
		LC29 at 100.00%	0.08	OK
		LC3 at 100.00%	0.06	OK
		LC30 at 100.00%	0.08	OK
		LC31 at 100.00%	0.08	OK
		LC32 at 100.00%	0.08	OK
		LC33 at 100.00%	0.07	OK
		LC34 at 100.00%	0.07	OK
		LC35 at 100.00%	0.07	OK
		LC36 at 100.00%	0.07	OK
		LC37 at 100.00%	0.03	OK
		LC38 at 100.00%	0.04	OK
		LC39 at 100.00%	0.03	OK
		LC4 at 100.00%	0.05	OK
		LC40 at 100.00%	0.04	OK
		LC41 at 100.00%	0.04	OK
		LC42 at 100.00%	0.03	OK
		LC43 at 100.00%	0.04	OK
		LC44 at 100.00%	0.04	OK
		LC45 at 100.00%	0.03	OK
		LC46 at 100.00%	0.03	OK
		LC47 at 100.00%	0.03	OK
		LC48 at 100.00%	0.03	OK
		LC49 at 100.00%	0.03	OK
		LC5 at 100.00%	0.10	OK
		LC50 at 100.00%	0.03	OK
		LC51 at 100.00%	0.04	OK
		LC52 at 100.00%	0.03	OK
		LC53 at 100.00%	0.03	OK
		LC54 at 100.00%	0.03	OK
		LC55 at 100.00%	0.03	OK
		LC56 at 100.00%	0.03	OK
		LC57 at 100.00%	0.04	OK
		LC58 at 100.00%	0.03	OK
		LC59 at 100.00%	0.04	OK
		LC6 at 100.00%	0.01	OK
		LC60 at 100.00%	0.03	OK
		LC7 at 100.00%	0.11	OK
		LC8 at 100.00%	0.01	OK
		LC9 at 100.00%	0.04	OK
Horz. Pipe	**1**	LC1 at 48.96%	0.28	OK
		LC10 at 71.88%	0.27	OK
		LC11 at 48.96%	0.33	OK
		LC12 at 71.88%	0.21	OK
		LC13 at 48.96%	0.33	OK
		LC14 at 100.00%	0.36	OK
		LC15 at 48.96%	0.39	OK
		LC16 at 100.00%	0.26	OK
		LC17 at 92.71%	0.58	OK
		LC18 at 92.71%	0.58	OK
		LC19 at 92.71%	**0.59**	**OK**
		LC2 at 71.88%	0.30	OK
		LC20 at 92.71%	0.57	OK
		LC21 at 92.71%	0.55	OK

	LC22 at 92.71%	0.54	OK
	LC23 at 92.71%	0.53	OK
	LC24 at 92.71%	0.55	OK
	LC25 at 92.71%	0.23	OK
	LC26 at 92.71%	0.19	OK
	LC27 at 92.71%	0.21	OK
	LC28 at 92.71%	0.36	OK
	LC29 at 50.00%	0.54	OK
	LC3 at 48.96%	0.34	OK
	LC30 at 50.00%	0.55	OK
	LC31 at 50.00%	0.54	OK
	LC32 at 50.00%	0.55	OK
	LC33 at 50.00%	0.57	OK
	LC34 at 50.00%	0.55	OK
	LC35 at 50.00%	0.57	OK
	LC36 at 50.00%	0.55	OK
	LC37 at 92.71%	0.39	OK
	LC38 at 92.71%	0.39	OK
	LC39 at 92.71%	0.39	OK
	LC4 at 92.71%	0.25	OK
	LC40 at 92.71%	0.38	OK
	LC41 at 92.71%	0.38	OK
	LC42 at 92.71%	0.38	OK
	LC43 at 92.71%	0.37	OK
	LC44 at 92.71%	0.38	OK
	LC45 at 92.71%	0.20	OK
	LC46 at 92.71%	0.20	OK
	LC47 at 92.71%	0.21	OK
	LC48 at 92.71%	0.20	OK
	LC49 at 92.71%	0.19	OK
	LC5 at 48.96%	0.36	OK
	LC50 at 92.71%	0.19	OK
	LC51 at 92.71%	0.19	OK
	LC52 at 92.71%	0.20	OK
	LC53 at 92.71%	0.22	OK
	LC54 at 92.71%	0.22	OK
	LC55 at 92.71%	0.23	OK
	LC56 at 92.71%	0.22	OK
	LC57 at 92.71%	0.21	OK
	LC58 at 92.71%	0.21	OK
	LC59 at 92.71%	0.21	OK
	LC6 at 100.00%	0.38	OK
	LC60 at 92.71%	0.22	OK
	LC7 at 48.96%	0.41	OK
	LC8 at 92.71%	0.28	OK
	LC9 at 48.96%	0.27	OK
2	LC1 at 50.00%	0.34	OK
	LC10 at 93.75%	0.17	OK
	LC11 at 50.00%	0.42	OK
	LC12 at 92.71%	0.14	OK
	LC13 at 50.00%	0.32	OK
	LC14 at 92.71%	0.24	OK
	LC15 at 50.00%	0.39	OK
	LC16 at 92.71%	0.19	OK
	LC17 at 92.71%	0.48	OK
	LC18 at 92.71%	0.52	OK
	LC19 at 92.71%	0.47	OK
	LC2 at 92.71%	0.21	OK
	LC20 at 92.71%	0.51	OK
	LC21 at 50.00%	0.53	OK
	LC22 at 92.71%	0.49	OK
	LC23 at 50.00%	0.56	OK
	LC24 at 92.71%	0.50	OK

	LC25 at 92.71%	0.20	OK
	LC26 at 92.71%	0.18	OK
	LC27 at 92.71%	0.17	OK
	LC28 at 50.00%	0.39	OK
	LC29 at 50.00%	0.54	OK
	LC3 at 50.00%	0.43	OK
	LC30 at 50.00%	0.56	OK
	LC31 at 50.00%	0.54	OK
	LC32 at 50.00%	0.56	OK
	LC33 at 50.00%	0.57	OK
	LC34 at 50.00%	0.56	OK
	LC35 at 50.00%	**0.57**	**OK**
	LC36 at 50.00%	0.56	OK
	LC37 at 92.71%	0.40	OK
	LC38 at 92.71%	0.40	OK
	LC39 at 92.71%	0.39	OK
	LC4 at 92.71%	0.18	OK
	LC40 at 92.71%	0.40	OK
	LC41 at 92.71%	0.41	OK
	LC42 at 92.71%	0.40	OK
	LC43 at 92.71%	0.41	OK
	LC44 at 92.71%	0.40	OK
	LC45 at 92.71%	0.16	OK
	LC46 at 92.71%	0.17	OK
	LC47 at 92.71%	0.16	OK
	LC48 at 92.71%	0.17	OK
	LC49 at 50.00%	0.18	OK
	LC5 at 50.00%	0.36	OK
	LC50 at 92.71%	0.16	OK
	LC51 at 50.00%	0.18	OK
	LC52 at 92.71%	0.17	OK
	LC53 at 92.71%	0.17	OK
	LC54 at 92.71%	0.18	OK
	LC55 at 92.71%	0.17	OK
	LC56 at 92.71%	0.17	OK
	LC57 at 50.00%	0.18	OK
	LC58 at 92.71%	0.17	OK
	LC59 at 50.00%	0.18	OK
	LC6 at 92.71%	0.27	OK
	LC60 at 92.71%	0.17	OK
	LC7 at 50.00%	0.40	OK
	LC8 at 92.71%	0.22	OK
	LC9 at 50.00%	0.34	OK
3	LC1 at 84.82%	0.49	OK
	LC10 at 84.82%	0.94	OK
	LC11 at 84.82%	0.42	OK
	LC12 at 84.82%	0.62	OK
	LC13 at 84.82%	0.37	OK
	LC14 at 84.82%	0.76	OK
	LC15 at 84.82%	0.39	OK
	LC16 at 84.82%	0.43	OK
	LC17 at 9.82%	0.62	OK
	LC18 at 84.82%	0.64	OK
	LC19 at 9.82%	0.63	OK
	LC2 at 84.82%	**0.97**	**OK**
	LC20 at 93.75%	0.58	OK
	LC21 at 93.75%	0.55	OK
	LC22 at 9.82%	0.61	OK
	LC23 at 93.75%	0.57	OK
	LC24 at 9.82%	0.60	OK
	LC25 at 9.82%	0.24	OK
	LC26 at 93.75%	0.23	OK
	LC27 at 9.82%	0.45	OK

	LC28 at 92.86%	0.38	OK
	LC29 at 92.86%	0.59	OK
	LC3 at 84.82%	0.45	OK
	LC30 at 92.86%	0.56	OK
	LC31 at 92.86%	0.59	OK
	LC32 at 92.86%	0.57	OK
	LC33 at 92.86%	0.60	OK
	LC34 at 92.86%	0.62	OK
	LC35 at 92.86%	0.60	OK
	LC36 at 92.86%	0.61	OK
	LC37 at 85.71%	0.39	OK
	LC38 at 93.75%	0.39	OK
	LC39 at 93.75%	0.39	OK
	LC4 at 84.82%	0.65	OK
	LC40 at 93.75%	0.39	OK
	LC41 at 85.71%	0.41	OK
	LC42 at 85.71%	0.43	OK
	LC43 at 85.71%	0.42	OK
	LC44 at 85.71%	0.42	OK
	LC45 at 93.75%	0.22	OK
	LC46 at 84.82%	0.25	OK
	LC47 at 93.75%	0.22	OK
	LC48 at 84.82%	0.23	OK
	LC49 at 93.75%	0.22	OK
	LC5 at 84.82%	0.40	OK
	LC50 at 9.82%	0.21	OK
	LC51 at 84.82%	0.22	OK
	LC52 at 93.75%	0.21	OK
	LC53 at 9.82%	0.62	OK
	LC54 at 84.82%	0.63	OK
	LC55 at 9.82%	0.62	OK
	LC56 at 9.82%	0.61	OK
	LC57 at 9.82%	0.60	OK
	LC58 at 9.82%	0.62	OK
	LC59 at 9.82%	0.60	OK
	LC6 at 84.82%	0.73	OK
	LC60 at 9.82%	0.62	OK
	LC7 at 84.82%	0.42	OK
	LC8 at 75.00%	0.44	OK
	LC9 at 84.82%	0.46	OK
4	LC1 at 74.11%	0.35	OK
	LC10 at 84.82%	0.61	OK
	LC11 at 85.71%	0.34	OK
	LC12 at 84.82%	0.43	OK
	LC13 at 85.71%	0.41	OK
	LC14 at 85.71%	0.50	OK
	LC15 at 85.71%	0.44	OK
	LC16 at 85.71%	0.41	OK
	LC17 at 85.71%	0.93	OK
	LC18 at 85.71%	0.91	OK
	LC19 at 85.71%	0.91	OK
	LC2 at 84.82%	0.65	OK
	LC20 at 85.71%	0.92	OK
	LC21 at 85.71%	1.00	N.G.
	LC22 at 85.71%	1.02	N.G.
	LC23 at 85.71%	1.02	N.G.
	LC24 at 85.71%	1.01	N.G.
	LC25 at 85.71%	0.37	OK
	LC26 at 85.71%	0.42	OK
	LC27 at 84.82%	0.48	OK
	LC28 at 85.71%	0.80	OK
	LC29 at 85.71%	1.19	N.G.
	LC3 at 85.71%	0.37	OK

		LC30 at 85.71%	1.19	N.G.
		LC31 at 85.71%	1.19	N.G.
		LC32 at 85.71%	1.19	N.G.
		LC33 at 85.71%	1.22	N.G.
		LC34 at 85.71%	**1.22**	**N.G.**
		LC35 at 85.71%	1.22	N.G.
		LC36 at 85.71%	1.21	N.G.
		LC37 at 85.71%	0.70	OK
		LC38 at 85.71%	0.70	OK
		LC39 at 85.71%	0.70	OK
		LC4 at 84.82%	0.47	OK
		LC40 at 85.71%	0.70	OK
		LC41 at 85.71%	0.72	OK
		LC42 at 85.71%	0.73	OK
		LC43 at 85.71%	0.72	OK
		LC44 at 85.71%	0.72	OK
		LC45 at 84.82%	0.38	OK
		LC46 at 84.82%	0.38	OK
		LC47 at 84.82%	0.38	OK
		LC48 at 84.82%	0.39	OK
		LC49 at 84.82%	0.40	OK
		LC5 at 85.71%	0.49	OK
		LC50 at 84.82%	0.40	OK
		LC51 at 84.82%	0.40	OK
		LC52 at 84.82%	0.40	OK
		LC53 at 84.82%	0.70	OK
		LC54 at 84.82%	0.70	OK
		LC55 at 84.82%	0.70	OK
		LC56 at 84.82%	0.70	OK
		LC57 at 84.82%	0.72	OK
		LC58 at 84.82%	0.72	OK
		LC59 at 84.82%	0.72	OK
		LC6 at 85.71%	0.58	OK
		LC60 at 84.82%	0.71	OK
		LC7 at 85.71%	0.52	OK
		LC8 at 85.71%	0.49	OK
		LC9 at 74.11%	0.32	OK
link	**9**	LC1 at 0.00%	**0.41**	**OK**
		LC10 at 0.00%	0.12	OK
		LC11 at 0.00%	0.34	OK
		LC12 at 0.00%	0.10	OK
		LC13 at 0.00%	0.27	OK
		LC14 at 0.00%	0.10	OK
		LC15 at 0.00%	0.22	OK
		LC16 at 0.00%	0.08	OK
		LC17 at 0.00%	0.23	OK
		LC18 at 0.00%	0.18	OK
		LC19 at 0.00%	0.23	OK
		LC2 at 0.00%	0.14	OK
		LC20 at 0.00%	0.17	OK
		LC21 at 0.00%	0.10	OK
		LC22 at 0.00%	0.15	OK
		LC23 at 0.00%	0.10	OK
		LC24 at 0.00%	0.16	OK
		LC25 at 0.00%	0.09	OK
		LC26 at 0.00%	0.08	OK
		LC27 at 0.00%	0.12	OK
		LC28 at 0.00%	0.08	OK
		LC29 at 0.00%	0.10	OK
		LC3 at 0.00%	0.36	OK
		LC30 at 0.00%	0.08	OK
		LC31 at 0.00%	0.10	OK
		LC32 at 0.00%	0.08	OK

	LC33 at 0.00%	0.06	OK
	LC34 at 0.00%	0.08	OK
	LC35 at 0.00%	0.06	OK
	LC36 at 0.00%	0.08	OK
	LC37 at 0.00%	0.10	OK
	LC38 at 0.00%	0.08	OK
	LC39 at 0.00%	0.10	OK
	LC4 at 0.00%	0.12	OK
	LC40 at 0.00%	0.08	OK
	LC41 at 0.00%	0.06	OK
	LC42 at 0.00%	0.08	OK
	LC43 at 0.00%	0.06	OK
	LC44 at 0.00%	0.08	OK
	LC45 at 0.00%	0.10	OK
	LC46 at 0.00%	0.08	OK
	LC47 at 0.00%	0.10	OK
	LC48 at 0.00%	0.08	OK
	LC49 at 0.00%	0.06	OK
	LC5 at 0.00%	0.25	OK
	LC50 at 0.00%	0.08	OK
	LC51 at 0.00%	0.06	OK
	LC52 at 0.00%	0.08	OK
	LC53 at 0.00%	0.17	OK
	LC54 at 0.00%	0.15	OK
	LC55 at 0.00%	0.16	OK
	LC56 at 0.00%	0.15	OK
	LC57 at 0.00%	0.13	OK
	LC58 at 0.00%	0.14	OK
	LC59 at 0.00%	0.13	OK
	LC6 at 0.00%	0.11	OK
	LC60 at 0.00%	0.15	OK
	LC7 at 0.00%	0.20	OK
	LC8 at 0.00%	0.09	OK
	LC9 at 0.00%	0.39	OK
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10	LC1 at 0.00%	**0.33**	**OK**
	LC10 at 100.00%	0.11	OK
	LC11 at 0.00%	0.22	OK
	LC12 at 100.00%	0.07	OK
	LC13 at 0.00%	0.25	OK
	LC14 at 100.00%	0.05	OK
	LC15 at 0.00%	0.15	OK
	LC16 at 0.00%	0.03	OK
	LC17 at 0.00%	0.20	OK
	LC18 at 100.00%	0.15	OK
	LC19 at 0.00%	0.18	OK
	LC2 at 100.00%	0.11	OK
	LC20 at 0.00%	0.15	OK
	LC21 at 100.00%	0.12	OK
	LC22 at 0.00%	0.15	OK
	LC23 at 100.00%	0.13	OK
	LC24 at 0.00%	0.15	OK
	LC25 at 0.00%	0.05	OK
	LC26 at 0.00%	0.05	OK
	LC27 at 0.00%	0.09	OK
	LC28 at 100.00%	0.04	OK
	LC29 at 100.00%	0.05	OK
	LC3 at 0.00%	0.23	OK
	LC30 at 100.00%	0.07	OK
	LC31 at 100.00%	0.06	OK
	LC32 at 100.00%	0.07	OK
	LC33 at 100.00%	0.08	OK
	LC34 at 100.00%	0.06	OK
	LC35 at 100.00%	0.07	OK

	LC36 at 100.00%	0.06	OK
	LC37 at 100.00%	0.06	OK
	LC38 at 100.00%	0.06	OK
	LC39 at 100.00%	0.05	OK
	LC4 at 100.00%	0.08	OK
	LC40 at 100.00%	0.06	OK
	LC41 at 100.00%	0.05	OK
	LC42 at 100.00%	0.05	OK
	LC43 at 100.00%	0.05	OK
	LC44 at 100.00%	0.05	OK
	LC45 at 0.00%	0.09	OK
	LC46 at 0.00%	0.08	OK
	LC47 at 0.00%	0.09	OK
	LC48 at 0.00%	0.08	OK
	LC49 at 0.00%	0.06	OK
	LC5 at 0.00%	0.24	OK
	LC50 at 0.00%	0.07	OK
	LC51 at 0.00%	0.07	OK
	LC52 at 0.00%	0.07	OK
	LC53 at 0.00%	0.15	OK
	LC54 at 0.00%	0.13	OK
	LC55 at 0.00%	0.14	OK
	LC56 at 0.00%	0.13	OK
	LC57 at 0.00%	0.12	OK
	LC58 at 0.00%	0.13	OK
	LC59 at 0.00%	0.12	OK
	LC6 at 100.00%	0.05	OK
	LC60 at 0.00%	0.13	OK
	LC7 at 100.00%	0.14	OK
	LC8 at 0.00%	0.04	OK
	LC9 at 0.00%	0.31	OK
11	LC1 at 0.00%	0.18	OK
	LC10 at 0.00%	0.12	OK
	LC11 at 0.00%	0.23	OK
	LC12 at 0.00%	0.09	OK
	LC13 at 100.00%	0.09	OK
	LC14 at 0.00%	0.15	OK
	LC15 at 100.00%	0.16	OK
	LC16 at 0.00%	0.12	OK
	LC17 at 0.00%	0.19	OK
	LC18 at 0.00%	0.14	OK
	LC19 at 0.00%	0.21	OK
	LC2 at 0.00%	0.13	OK
	LC20 at 0.00%	0.15	OK
	LC21 at 0.00%	0.14	OK
	LC22 at 0.00%	0.19	OK
	LC23 at 0.00%	0.13	OK
	LC24 at 0.00%	0.18	OK
	LC25 at 0.00%	0.08	OK
	LC26 at 0.00%	0.07	OK
	LC27 at 0.00%	0.06	OK
	LC28 at 0.00%	0.11	OK
	LC29 at 0.00%	0.16	OK
	LC3 at 0.00%	**0.24**	**OK**
	LC30 at 0.00%	0.15	OK
	LC31 at 0.00%	0.16	OK
	LC32 at 0.00%	0.15	OK
	LC33 at 0.00%	0.15	OK
	LC34 at 0.00%	0.16	OK
	LC35 at 0.00%	0.14	OK
	LC36 at 0.00%	0.16	OK
	LC37 at 0.00%	0.13	OK
	LC38 at 0.00%	0.12	OK

	LC39 at 0.00%	0.13	OK
	LC4 at 0.00%	0.10	OK
	LC40 at 0.00%	0.12	OK
	LC41 at 0.00%	0.12	OK
	LC42 at 0.00%	0.13	OK
	LC43 at 0.00%	0.11	OK
	LC44 at 0.00%	0.13	OK
	LC45 at 0.00%	0.07	OK
	LC46 at 0.00%	0.06	OK
	LC47 at 0.00%	0.08	OK
	LC48 at 0.00%	0.06	OK
	LC49 at 0.00%	0.06	OK
	LC5 at 100.00%	0.09	OK
	LC50 at 0.00%	0.07	OK
	LC51 at 0.00%	0.06	OK
	LC52 at 0.00%	0.07	OK
	LC53 at 0.00%	0.07	OK
	LC54 at 0.00%	0.05	OK
	LC55 at 0.00%	0.07	OK
	LC56 at 0.00%	0.06	OK
	LC57 at 0.00%	0.05	OK
	LC58 at 0.00%	0.07	OK
	LC59 at 0.00%	0.05	OK
	LC6 at 0.00%	0.16	OK
	LC60 at 0.00%	0.06	OK
	LC7 at 100.00%	0.15	OK
	LC8 at 0.00%	0.14	OK
	LC9 at 0.00%	0.16	OK
12	LC1 at 0.00%	0.07	OK
	LC10 at 0.00%	0.03	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 100.00%	0.02	OK
	LC13 at 0.00%	0.06	OK
	LC14 at 100.00%	0.05	OK
	LC15 at 0.00%	0.08	OK
	LC16 at 100.00%	0.03	OK
	LC17 at 100.00%	0.04	OK
	LC18 at 100.00%	0.03	OK
	LC19 at 100.00%	0.04	OK
	LC2 at 100.00%	0.03	OK
	LC20 at 100.00%	0.03	OK
	LC21 at 100.00%	0.05	OK
	LC22 at 100.00%	0.05	OK
	LC23 at 100.00%	0.05	OK
	LC24 at 100.00%	0.04	OK
	LC25 at 100.00%	0.01	OK
	LC26 at 100.00%	0.01	OK
	LC27 at 100.00%	0.01	OK
	LC28 at 0.00%	0.04	OK
	LC29 at 0.00%	0.07	OK
	LC3 at 0.00%	**0.08**	**OK**
	LC30 at 0.00%	0.07	OK
	LC31 at 0.00%	0.07	OK
	LC32 at 0.00%	0.07	OK
	LC33 at 0.00%	0.06	OK
	LC34 at 0.00%	0.07	OK
	LC35 at 0.00%	0.06	OK
	LC36 at 0.00%	0.07	OK
	LC37 at 0.00%	0.01	OK
	LC38 at 100.00%	0.01	OK
	LC39 at 0.00%	0.01	OK
	LC4 at 100.00%	0.02	OK
	LC40 at 100.00%	0.01	OK

		LC41 at 100.00%	0.01	OK
		LC42 at 100.00%	0.01	OK
		LC43 at 100.00%	0.01	OK
		LC44 at 100.00%	0.01	OK
		LC45 at 100.00%	0.01	OK
		LC46 at 100.00%	0.01	OK
		LC47 at 100.00%	0.01	OK
		LC48 at 100.00%	0.01	OK
		LC49 at 100.00%	0.02	OK
		LC5 at 100.00%	0.06	OK
		LC50 at 100.00%	0.01	OK
		LC51 at 100.00%	0.02	OK
		LC52 at 100.00%	0.01	OK
		LC53 at 100.00%	0.01	OK
		LC54 at 100.00%	0.01	OK
		LC55 at 100.00%	0.01	OK
		LC56 at 100.00%	0.01	OK
		LC57 at 100.00%	0.01	OK
		LC58 at 100.00%	0.01	OK
		LC59 at 100.00%	0.02	OK
		LC6 at 100.00%	0.05	OK
		LC60 at 100.00%	0.01	OK
		LC7 at 0.00%	0.08	OK
		LC8 at 100.00%	0.04	OK
		LC9 at 0.00%	0.07	OK
Mount Brace	**17**	LC1 at 50.00%	0.27	OK
		LC10 at 0.00%	0.31	OK
		LC11 at 50.00%	0.23	OK
		LC12 at 0.00%	0.22	OK
		LC13 at 50.00%	0.28	OK
		LC14 at 0.00%	0.13	OK
		LC15 at 50.00%	0.24	OK
		LC16 at 100.00%	0.08	OK
		LC17 at 100.00%	0.36	OK
		LC18 at 0.00%	0.39	OK
		LC19 at 100.00%	0.36	OK
		LC2 at 0.00%	0.34	OK
		LC20 at 0.00%	0.37	OK
		LC21 at 100.00%	0.37	OK
		LC22 at 100.00%	0.35	OK
		LC23 at 100.00%	0.36	OK
		LC24 at 100.00%	0.36	OK
		LC25 at 100.00%	0.15	OK
		LC26 at 100.00%	0.13	OK
		LC27 at 100.00%	0.35	OK
		LC28 at 100.00%	0.13	OK
		LC29 at 100.00%	0.12	OK
		LC3 at 50.00%	0.23	OK
		LC30 at 0.00%	0.13	OK
		LC31 at 100.00%	0.12	OK
		LC32 at 0.00%	0.12	OK
		LC33 at 100.00%	0.12	OK
		LC34 at 100.00%	0.12	OK
		LC35 at 100.00%	0.12	OK
		LC36 at 100.00%	0.12	OK
		LC37 at 100.00%	0.13	OK
		LC38 at 0.00%	0.13	OK
		LC39 at 100.00%	0.13	OK
		LC4 at 0.00%	0.25	OK
		LC40 at 100.00%	0.13	OK
		LC41 at 100.00%	0.13	OK
		LC42 at 100.00%	0.12	OK
		LC43 at 100.00%	0.13	OK

	LC44 at 100.00%	0.13	OK
	LC45 at 100.00%	0.13	OK
	LC46 at 100.00%	0.14	OK
	LC47 at 100.00%	0.13	OK
	LC48 at 100.00%	0.14	OK
	LC49 at 100.00%	0.13	OK
	LC5 at 50.00%	0.29	OK
	LC50 at 100.00%	0.13	OK
	LC51 at 100.00%	0.13	OK
	LC52 at 100.00%	0.13	OK
	LC53 at 100.00%	0.39	OK
	LC54 at 100.00%	0.40	OK
	LC55 at 100.00%	0.40	OK
	LC56 at 100.00%	0.40	OK
	LC57 at 100.00%	**0.40**	**OK**
	LC58 at 100.00%	0.40	OK
	LC59 at 100.00%	0.40	OK
	LC6 at 50.00%	0.12	OK
	LC60 at 100.00%	0.40	OK
	LC7 at 50.00%	0.24	OK
	LC8 at 100.00%	0.11	OK
	LC9 at 50.00%	0.27	OK
19	LC1 at 100.00%	0.11	OK
	LC10 at 100.00%	0.20	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 100.00%	0.17	OK
	LC13 at 100.00%	0.16	OK
	LC14 at 0.00%	0.13	OK
	LC15 at 100.00%	0.18	OK
	LC16 at 0.00%	0.08	OK
	LC17 at 100.00%	0.46	OK
	LC18 at 100.00%	**0.49**	**OK**
	LC19 at 100.00%	0.45	OK
	LC2 at 100.00%	0.24	OK
	LC20 at 100.00%	0.48	OK
	LC21 at 100.00%	0.48	OK
	LC22 at 100.00%	0.45	OK
	LC23 at 100.00%	0.49	OK
	LC24 at 100.00%	0.46	OK
	LC25 at 100.00%	0.18	OK
	LC26 at 100.00%	0.21	OK
	LC27 at 100.00%	0.23	OK
	LC28 at 100.00%	0.16	OK
	LC29 at 100.00%	0.18	OK
	LC3 at 100.00%	0.10	OK
	LC30 at 100.00%	0.19	OK
	LC31 at 100.00%	0.18	OK
	LC32 at 100.00%	0.19	OK
	LC33 at 100.00%	0.19	OK
	LC34 at 100.00%	0.18	OK
	LC35 at 100.00%	0.19	OK
	LC36 at 100.00%	0.18	OK
	LC37 at 100.00%	0.26	OK
	LC38 at 100.00%	0.27	OK
	LC39 at 100.00%	0.26	OK
	LC4 at 100.00%	0.21	OK
	LC40 at 100.00%	0.27	OK
	LC41 at 100.00%	0.26	OK
	LC42 at 100.00%	0.26	OK
	LC43 at 100.00%	0.27	OK
	LC44 at 100.00%	0.26	OK
	LC45 at 100.00%	0.19	OK
	LC46 at 100.00%	0.20	OK

	LC47 at 100.00%	0.19	OK
	LC48 at 100.00%	0.20	OK
	LC49 at 100.00%	0.19	OK
	LC5 at 100.00%	0.20	OK
	LC50 at 100.00%	0.19	OK
	LC51 at 100.00%	0.20	OK
	LC52 at 100.00%	0.19	OK
	LC53 at 100.00%	0.28	OK
	LC54 at 100.00%	0.28	OK
	LC55 at 100.00%	0.27	OK
	LC56 at 100.00%	0.28	OK
	LC57 at 100.00%	0.28	OK
	LC58 at 100.00%	0.27	OK
	LC59 at 100.00%	0.28	OK
	LC6 at 0.00%	0.13	OK
	LC60 at 100.00%	0.28	OK
	LC7 at 100.00%	0.22	OK
	LC8 at 100.00%	0.11	OK
	LC9 at 100.00%	0.07	OK
20	LC1 at 0.00%	0.25	OK
	LC10 at 0.00%	0.20	OK
	LC11 at 0.00%	0.22	OK
	LC12 at 0.00%	0.18	OK
	LC13 at 0.00%	0.19	OK
	LC14 at 100.00%	0.15	OK
	LC15 at 0.00%	0.20	OK
	LC16 at 100.00%	0.16	OK
	LC17 at 0.00%	0.57	OK
	LC18 at 0.00%	0.58	OK
	LC19 at 0.00%	0.58	OK
	LC2 at 0.00%	0.24	OK
	LC20 at 0.00%	0.58	OK
	LC21 at 0.00%	0.59	OK
	LC22 at 0.00%	0.58	OK
	LC23 at 0.00%	**0.59**	**OK**
	LC24 at 0.00%	0.58	OK
	LC25 at 0.00%	0.23	OK
	LC26 at 0.00%	0.22	OK
	LC27 at 0.00%	0.23	OK
	LC28 at 0.00%	0.34	OK
	LC29 at 0.00%	0.47	OK
	LC3 at 0.00%	0.27	OK
	LC30 at 0.00%	0.48	OK
	LC31 at 0.00%	0.47	OK
	LC32 at 0.00%	0.48	OK
	LC33 at 0.00%	0.48	OK
	LC34 at 0.00%	0.48	OK
	LC35 at 0.00%	0.48	OK
	LC36 at 0.00%	0.48	OK
	LC37 at 0.00%	0.42	OK
	LC38 at 0.00%	0.43	OK
	LC39 at 0.00%	0.42	OK
	LC4 at 0.00%	0.22	OK
	LC40 at 0.00%	0.43	OK
	LC41 at 0.00%	0.43	OK
	LC42 at 0.00%	0.43	OK
	LC43 at 0.00%	0.43	OK
	LC44 at 0.00%	0.43	OK
	LC45 at 0.00%	0.20	OK
	LC46 at 0.00%	0.20	OK
	LC47 at 0.00%	0.20	OK
	LC48 at 0.00%	0.20	OK
	LC49 at 0.00%	0.20	OK

	LC5 at 0.00%	0.24	OK
	LC50 at 0.00%	0.20	OK
	LC51 at 0.00%	0.20	OK
	LC52 at 0.00%	0.20	OK
	LC53 at 0.00%	0.25	OK
	LC54 at 0.00%	0.25	OK
	LC55 at 0.00%	0.25	OK
	LC56 at 0.00%	0.25	OK
	LC57 at 0.00%	0.25	OK
	LC58 at 0.00%	0.25	OK
	LC59 at 0.00%	0.24	OK
	LC6 at 100.00%	0.20	OK
	LC60 at 0.00%	0.25	OK
	LC7 at 0.00%	0.25	OK
	LC8 at 100.00%	0.20	OK
	LC9 at 0.00%	0.20	OK
21	LC1 at 50.00%	0.23	OK
	LC10 at 100.00%	0.13	OK
	LC11 at 50.00%	0.32	OK
	LC12 at 100.00%	0.13	OK
	LC13 at 50.00%	0.28	OK
	LC14 at 100.00%	0.13	OK
	LC15 at 50.00%	0.36	OK
	LC16 at 100.00%	0.13	OK
	LC17 at 100.00%	0.50	OK
	LC18 at 100.00%	0.51	OK
	LC19 at 100.00%	0.50	OK
	LC2 at 100.00%	0.17	OK
	LC20 at 100.00%	0.51	OK
	LC21 at 100.00%	0.53	OK
	LC22 at 100.00%	0.51	OK
	LC23 at 100.00%	0.53	OK
	LC24 at 100.00%	0.51	OK
	LC25 at 100.00%	0.20	OK
	LC26 at 100.00%	0.17	OK
	LC27 at 100.00%	0.17	OK
	LC28 at 100.00%	0.44	OK
	LC29 at 100.00%	0.70	OK
	LC3 at 50.00%	0.31	OK
	LC30 at 100.00%	0.70	OK
	LC31 at 100.00%	0.69	OK
	LC32 at 100.00%	0.70	OK
	LC33 at 100.00%	0.70	OK
	LC34 at 100.00%	0.70	OK
	LC35 at 100.00%	**0.70**	**OK**
	LC36 at 100.00%	0.70	OK
	LC37 at 100.00%	0.23	OK
	LC38 at 100.00%	0.23	OK
	LC39 at 100.00%	0.22	OK
	LC4 at 100.00%	0.17	OK
	LC40 at 100.00%	0.23	OK
	LC41 at 100.00%	0.23	OK
	LC42 at 100.00%	0.23	OK
	LC43 at 100.00%	0.23	OK
	LC44 at 100.00%	0.23	OK
	LC45 at 100.00%	0.17	OK
	LC46 at 100.00%	0.17	OK
	LC47 at 100.00%	0.17	OK
	LC48 at 100.00%	0.17	OK
	LC49 at 100.00%	0.17	OK
	LC5 at 50.00%	0.29	OK
	LC50 at 100.00%	0.17	OK
	LC51 at 100.00%	0.17	OK

	LC52 at 100.00%	0.17	OK
	LC53 at 100.00%	0.17	OK
	LC54 at 100.00%	0.18	OK
	LC55 at 100.00%	0.17	OK
	LC56 at 100.00%	0.18	OK
	LC57 at 100.00%	0.18	OK
	LC58 at 100.00%	0.18	OK
	LC59 at 100.00%	0.18	OK
	LC6 at 100.00%	0.17	OK
	LC60 at 100.00%	0.18	OK
	LC7 at 50.00%	0.37	OK
	LC8 at 100.00%	0.17	OK
	LC9 at 50.00%	0.24	OK
22	LC1 at 100.00%	0.09	OK
	LC10 at 100.00%	0.02	OK
	LC11 at 100.00%	0.10	OK
	LC12 at 100.00%	0.03	OK
	LC13 at 100.00%	0.02	OK
	LC14 at 0.00%	0.07	OK
	LC15 at 100.00%	0.04	OK
	LC16 at 0.00%	0.06	OK
	LC17 at 100.00%	0.15	OK
	LC18 at 100.00%	0.14	OK
	LC19 at 100.00%	0.15	OK
	LC2 at 100.00%	0.03	OK
	LC20 at 100.00%	0.14	OK
	LC21 at 100.00%	0.14	OK
	LC22 at 100.00%	0.14	OK
	LC23 at 100.00%	0.14	OK
	LC24 at 100.00%	0.14	OK
	LC25 at 100.00%	0.05	OK
	LC26 at 100.00%	0.04	OK
	LC27 at 100.00%	0.05	OK
	LC28 at 100.00%	0.24	OK
	LC29 at 0.00%	0.29	OK
	LC3 at 100.00%	0.11	OK
	LC30 at 0.00%	0.29	OK
	LC31 at 0.00%	0.29	OK
	LC32 at 0.00%	0.29	OK
	LC33 at 0.00%	0.29	OK
	LC34 at 0.00%	**0.29**	**OK**
	LC35 at 0.00%	0.29	OK
	LC36 at 0.00%	0.29	OK
	LC37 at 100.00%	0.05	OK
	LC38 at 100.00%	0.05	OK
	LC39 at 100.00%	0.05	OK
	LC4 at 100.00%	0.04	OK
	LC40 at 100.00%	0.05	OK
	LC41 at 100.00%	0.05	OK
	LC42 at 100.00%	0.05	OK
	LC43 at 100.00%	0.05	OK
	LC44 at 100.00%	0.05	OK
	LC45 at 100.00%	0.05	OK
	LC46 at 100.00%	0.04	OK
	LC47 at 100.00%	0.05	OK
	LC48 at 100.00%	0.04	OK
	LC49 at 100.00%	0.04	OK
	LC5 at 100.00%	0.03	OK
	LC50 at 100.00%	0.05	OK
	LC51 at 100.00%	0.04	OK
	LC52 at 100.00%	0.05	OK
	LC53 at 100.00%	0.05	OK
	LC54 at 100.00%	0.04	OK

	LC55 at 100.00%	0.05	OK
	LC56 at 100.00%	0.04	OK
	LC57 at 100.00%	0.04	OK
	LC58 at 100.00%	0.05	OK
	LC59 at 100.00%	0.04	OK
	LC6 at 0.00%	0.08	OK
	LC60 at 100.00%	0.05	OK
	LC7 at 100.00%	0.03	OK
	LC8 at 0.00%	0.07	OK
	LC9 at 100.00%	0.08	OK
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31	LC1 at 100.00%	0.31	OK
	LC10 at 50.00%	0.31	OK
	LC11 at 100.00%	0.25	OK
	LC12 at 0.00%	0.21	OK
	LC13 at 100.00%	0.25	OK
	LC14 at 100.00%	0.37	OK
	LC15 at 100.00%	0.23	OK
	LC16 at 100.00%	0.30	OK
	LC17 at 0.00%	0.75	OK
	LC18 at 0.00%	0.74	OK
	LC19 at 0.00%	0.75	OK
	LC2 at 50.00%	0.31	OK
	LC20 at 0.00%	0.74	OK
	LC21 at 0.00%	0.76	OK
	LC22 at 0.00%	**0.77**	**OK**
	LC23 at 0.00%	0.76	OK
	LC24 at 0.00%	0.77	OK
	LC25 at 0.00%	0.29	OK
	LC26 at 0.00%	0.25	OK
	LC27 at 0.00%	0.48	OK
	LC28 at 100.00%	0.30	OK
	LC29 at 100.00%	0.35	OK
	LC3 at 100.00%	0.31	OK
	LC30 at 100.00%	0.33	OK
	LC31 at 100.00%	0.35	OK
	LC32 at 100.00%	0.34	OK
	LC33 at 100.00%	0.34	OK
	LC34 at 100.00%	0.36	OK
	LC35 at 100.00%	0.34	OK
	LC36 at 100.00%	0.35	OK
	LC37 at 100.00%	0.28	OK
	LC38 at 100.00%	0.26	OK
	LC39 at 100.00%	0.28	OK
	LC4 at 0.00%	0.27	OK
	LC40 at 100.00%	0.27	OK
	LC41 at 100.00%	0.27	OK
	LC42 at 100.00%	0.29	OK
	LC43 at 100.00%	0.27	OK
	LC44 at 100.00%	0.28	OK
	LC45 at 0.00%	0.27	OK
	LC46 at 100.00%	0.26	OK
	LC47 at 0.00%	0.27	OK
	LC48 at 100.00%	0.26	OK
	LC49 at 100.00%	0.27	OK
	LC5 at 100.00%	0.31	OK
	LC50 at 0.00%	0.27	OK
	LC51 at 100.00%	0.27	OK
	LC52 at 0.00%	0.27	OK
	LC53 at 0.00%	0.70	OK
	LC54 at 0.00%	0.70	OK
	LC55 at 0.00%	0.70	OK
	LC56 at 0.00%	0.70	OK
	LC57 at 0.00%	0.71	OK

		LC58 at 0.00%	0.71	OK
		LC59 at 0.00%	0.71	OK
		LC6 at 100.00%	0.43	OK
		LC60 at 0.00%	0.71	OK
		LC7 at 100.00%	0.29	OK
		LC8 at 100.00%	0.36	OK
		LC9 at 100.00%	0.25	OK
RRU Rack	**33**	LC1 at 0.00%	0.09	OK
		LC10 at 0.00%	0.18	OK
		LC11 at 0.00%	0.07	OK
		LC12 at 0.00%	0.15	OK
		LC13 at 0.00%	0.07	OK
		LC14 at 0.00%	0.18	OK
		LC15 at 0.00%	0.07	OK
		LC16 at 0.00%	0.15	OK
		LC17 at 0.00%	0.21	OK
		LC18 at 0.00%	**0.24**	**OK**
		LC19 at 0.00%	0.21	OK
		LC2 at 0.00%	0.20	OK
		LC20 at 0.00%	0.23	OK
		LC21 at 0.00%	0.21	OK
		LC22 at 0.00%	0.24	OK
		LC23 at 0.00%	0.21	OK
		LC24 at 0.00%	0.23	OK
		LC25 at 0.00%	0.11	OK
		LC26 at 0.00%	0.09	OK
		LC27 at 0.00%	0.09	OK
		LC28 at 0.00%	0.09	OK
		LC29 at 0.00%	0.09	OK
		LC3 at 0.00%	0.09	OK
		LC30 at 0.00%	0.10	OK
		LC31 at 0.00%	0.09	OK
		LC32 at 0.00%	0.10	OK
		LC33 at 0.00%	0.09	OK
		LC34 at 0.00%	0.10	OK
		LC35 at 0.00%	0.09	OK
		LC36 at 0.00%	0.10	OK
		LC37 at 0.00%	0.09	OK
		LC38 at 0.00%	0.10	OK
		LC39 at 0.00%	0.09	OK
		LC4 at 0.00%	0.17	OK
		LC40 at 0.00%	0.10	OK
		LC41 at 0.00%	0.09	OK
		LC42 at 0.00%	0.10	OK
		LC43 at 0.00%	0.09	OK
		LC44 at 0.00%	0.10	OK
		LC45 at 0.00%	0.09	OK
		LC46 at 0.00%	0.10	OK
		LC47 at 0.00%	0.09	OK
		LC48 at 0.00%	0.10	OK
		LC49 at 0.00%	0.09	OK
		LC5 at 0.00%	0.09	OK
		LC50 at 0.00%	0.10	OK
		LC51 at 0.00%	0.09	OK
		LC52 at 0.00%	0.10	OK
		LC53 at 0.00%	0.09	OK
		LC54 at 0.00%	0.10	OK
		LC55 at 0.00%	0.09	OK
		LC56 at 0.00%	0.10	OK
		LC57 at 0.00%	0.09	OK
		LC58 at 0.00%	0.10	OK
		LC59 at 0.00%	0.09	OK
		LC6 at 0.00%	0.20	OK

	LC60 at 0.00%	0.10	OK
	LC7 at 0.00%	0.09	OK
	LC8 at 0.00%	0.17	OK
	LC9 at 0.00%	0.07	OK
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34	LC1 at 0.00%	0.11	OK
	LC10 at 0.00%	0.16	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 0.00%	0.13	OK
	LC13 at 0.00%	0.08	OK
	LC14 at 0.00%	0.16	OK
	LC15 at 0.00%	0.08	OK
	LC16 at 0.00%	0.13	OK
	LC17 at 0.00%	0.21	OK
	LC18 at 0.00%	0.23	OK
	LC19 at 0.00%	0.21	OK
	LC2 at 0.00%	0.19	OK
	LC20 at 0.00%	0.22	OK
	LC21 at 0.00%	0.21	OK
	LC22 at 0.00%	**0.23**	**OK**
	LC23 at 0.00%	0.21	OK
	LC24 at 0.00%	0.22	OK
	LC25 at 0.00%	0.13	OK
	LC26 at 0.00%	0.11	OK
	LC27 at 0.00%	0.11	OK
	LC28 at 0.00%	0.11	OK
	LC29 at 0.00%	0.11	OK
	LC3 at 0.00%	0.11	OK
	LC30 at 0.00%	0.11	OK
	LC31 at 0.00%	0.11	OK
	LC32 at 0.00%	0.11	OK
	LC33 at 0.00%	0.11	OK
	LC34 at 0.00%	0.11	OK
	LC35 at 0.00%	0.11	OK
	LC36 at 0.00%	0.11	OK
	LC37 at 0.00%	0.11	OK
	LC38 at 0.00%	0.11	OK
	LC39 at 0.00%	0.11	OK
	LC4 at 0.00%	0.16	OK
	LC40 at 0.00%	0.11	OK
	LC41 at 0.00%	0.11	OK
	LC42 at 0.00%	0.11	OK
	LC43 at 0.00%	0.11	OK
	LC44 at 0.00%	0.11	OK
	LC45 at 0.00%	0.11	OK
	LC46 at 0.00%	0.11	OK
	LC47 at 0.00%	0.11	OK
	LC48 at 0.00%	0.11	OK
	LC49 at 0.00%	0.11	OK
	LC5 at 0.00%	0.11	OK
	LC50 at 0.00%	0.11	OK
	LC51 at 0.00%	0.11	OK
	LC52 at 0.00%	0.11	OK
	LC53 at 0.00%	0.11	OK
	LC54 at 0.00%	0.11	OK
	LC55 at 0.00%	0.11	OK
	LC56 at 0.00%	0.11	OK
	LC57 at 0.00%	0.11	OK
	LC58 at 0.00%	0.11	OK
	LC59 at 0.00%	0.11	OK
	LC6 at 0.00%	0.19	OK
	LC60 at 0.00%	0.11	OK
	LC7 at 0.00%	0.11	OK
	LC8 at 0.00%	0.16	OK

		LC9 at 0.00%	0.08	OK
Standoff Brace	**25**	LC1 at 0.00%	0.20	OK
		LC10 at 0.00%	0.29	OK
		LC11 at 0.00%	0.14	OK
		LC12 at 100.00%	0.23	OK
		LC13 at 100.00%	0.22	OK
		LC14 at 0.00%	0.35	OK
		LC15 at 0.00%	0.21	OK
		LC16 at 0.00%	0.29	OK
		LC17 at 0.00%	0.72	OK
		LC18 at 0.00%	0.69	OK
		LC19 at 0.00%	0.72	OK
		LC2 at 0.00%	0.33	OK
		LC20 at 0.00%	0.70	OK
		LC21 at 0.00%	0.74	OK
		LC22 at 0.00%	**0.77**	**OK**
		LC23 at 0.00%	0.74	OK
		LC24 at 0.00%	0.76	OK
		LC25 at 0.00%	0.28	OK
		LC26 at 0.00%	0.30	OK
		LC27 at 100.00%	0.32	OK
		LC28 at 0.00%	0.49	OK
		LC29 at 0.00%	0.69	OK
		LC3 at 0.00%	0.20	OK
		LC30 at 0.00%	0.68	OK
		LC31 at 0.00%	0.69	OK
		LC32 at 0.00%	0.69	OK
		LC33 at 0.00%	0.70	OK
		LC34 at 0.00%	0.70	OK
		LC35 at 0.00%	0.70	OK
		LC36 at 0.00%	0.70	OK
		LC37 at 0.00%	0.46	OK
		LC38 at 0.00%	0.45	OK
		LC39 at 0.00%	0.46	OK
		LC4 at 100.00%	0.27	OK
		LC40 at 0.00%	0.45	OK
		LC41 at 0.00%	0.46	OK
		LC42 at 0.00%	0.47	OK
		LC43 at 0.00%	0.46	OK
		LC44 at 0.00%	0.47	OK
		LC45 at 100.00%	0.35	OK
		LC46 at 100.00%	0.34	OK
		LC47 at 100.00%	0.35	OK
		LC48 at 100.00%	0.34	OK
		LC49 at 100.00%	0.35	OK
		LC5 at 0.00%	0.28	OK
		LC50 at 100.00%	0.36	OK
		LC51 at 100.00%	0.35	OK
		LC52 at 100.00%	0.36	OK
		LC53 at 0.00%	0.46	OK
		LC54 at 0.00%	0.47	OK
		LC55 at 0.00%	0.46	OK
		LC56 at 0.00%	0.47	OK
		LC57 at 0.00%	0.47	OK
		LC58 at 0.00%	0.45	OK
		LC59 at 0.00%	0.47	OK
		LC6 at 0.00%	0.41	OK
		LC60 at 0.00%	0.45	OK
		LC7 at 0.00%	0.27	OK
		LC8 at 0.00%	0.35	OK
		LC9 at 0.00%	0.15	OK
	26	LC1 at 0.00%	0.17	OK

	LC10 at 100.00%	0.16	OK
	LC11 at 0.00%	0.11	OK
	LC12 at 100.00%	0.15	OK
	LC13 at 100.00%	0.14	OK
	LC14 at 100.00%	0.15	OK
	LC15 at 0.00%	0.15	OK
	LC16 at 100.00%	0.14	OK
	LC17 at 0.00%	0.53	OK
	LC18 at 0.00%	**0.54**	**OK**
	LC19 at 0.00%	0.53	OK
	LC2 at 100.00%	0.20	OK
	LC20 at 0.00%	0.54	OK
	LC21 at 0.00%	0.54	OK
	LC22 at 0.00%	0.53	OK
	LC23 at 0.00%	0.54	OK
	LC24 at 0.00%	0.53	OK
	LC25 at 0.00%	0.21	OK
	LC26 at 0.00%	0.22	OK
	LC27 at 100.00%	0.24	OK
	LC28 at 0.00%	0.22	OK
	LC29 at 100.00%	0.27	OK
	LC3 at 0.00%	0.16	OK
	LC30 at 100.00%	0.27	OK
	LC31 at 100.00%	0.27	OK
	LC32 at 100.00%	0.27	OK
	LC33 at 100.00%	0.27	OK
	LC34 at 100.00%	0.27	OK
	LC35 at 100.00%	0.27	OK
	LC36 at 100.00%	0.27	OK
	LC37 at 100.00%	0.27	OK
	LC38 at 100.00%	0.27	OK
	LC39 at 100.00%	0.27	OK
	LC4 at 0.00%	0.19	OK
	LC40 at 100.00%	0.27	OK
	LC41 at 100.00%	0.28	OK
	LC42 at 100.00%	0.28	OK
	LC43 at 100.00%	0.28	OK
	LC44 at 100.00%	0.28	OK
	LC45 at 0.00%	0.28	OK
	LC46 at 0.00%	0.28	OK
	LC47 at 0.00%	0.28	OK
	LC48 at 0.00%	0.28	OK
	LC49 at 0.00%	0.28	OK
	LC5 at 0.00%	0.19	OK
	LC50 at 0.00%	0.28	OK
	LC51 at 0.00%	0.28	OK
	LC52 at 0.00%	0.28	OK
	LC53 at 100.00%	0.30	OK
	LC54 at 100.00%	0.31	OK
	LC55 at 100.00%	0.30	OK
	LC56 at 100.00%	0.30	OK
	LC57 at 100.00%	0.30	OK
	LC58 at 100.00%	0.30	OK
	LC59 at 100.00%	0.30	OK
	LC6 at 100.00%	0.19	OK
	LC60 at 100.00%	0.30	OK
	LC7 at 0.00%	0.19	OK
	LC8 at 100.00%	0.18	OK
	LC9 at 0.00%	0.12	OK
27	LC1 at 100.00%	0.05	OK
	LC10 at 0.00%	0.07	OK
	LC11 at 100.00%	0.04	OK
	LC12 at 0.00%	0.06	OK

			LC13 at 100.00%	0.04	OK
			LC14 at 100.00%	0.08	OK
			LC15 at 0.00%	0.04	OK
			LC16 at 0.00%	0.06	OK
			LC17 at 100.00%	0.15	OK
			LC18 at 0.00%	0.15	OK
			LC19 at 100.00%	0.16	OK
			LC2 at 0.00%	0.09	OK
			LC20 at 0.00%	0.15	OK
			LC21 at 100.00%	0.16	OK
			LC22 at 100.00%	**0.16**	**OK**
			LC23 at 100.00%	0.16	OK
			LC24 at 100.00%	0.16	OK
			LC25 at 100.00%	0.06	OK
			LC26 at 100.00%	0.07	OK
			LC27 at 100.00%	0.09	OK
			LC28 at 100.00%	0.10	OK
			LC29 at 100.00%	0.14	OK
			LC3 at 100.00%	0.05	OK
			LC30 at 100.00%	0.14	OK
			LC31 at 100.00%	0.14	OK
			LC32 at 100.00%	0.14	OK
			LC33 at 100.00%	0.15	OK
			LC34 at 100.00%	0.15	OK
			LC35 at 100.00%	0.14	OK
			LC36 at 100.00%	0.15	OK
			LC37 at 100.00%	0.11	OK
			LC38 at 100.00%	0.11	OK
			LC39 at 100.00%	0.11	OK
			LC4 at 0.00%	0.07	OK
			LC40 at 100.00%	0.11	OK
			LC41 at 100.00%	0.11	OK
			LC42 at 100.00%	0.11	OK
			LC43 at 100.00%	0.11	OK
			LC44 at 100.00%	0.11	OK
			LC45 at 0.00%	0.08	OK
			LC46 at 0.00%	0.09	OK
			LC47 at 0.00%	0.08	OK
			LC48 at 0.00%	0.08	OK
			LC49 at 0.00%	0.08	OK
			LC5 at 100.00%	0.06	OK
			LC50 at 0.00%	0.08	OK
			LC51 at 0.00%	0.08	OK
			LC52 at 0.00%	0.08	OK
			LC53 at 100.00%	0.12	OK
			LC54 at 100.00%	0.13	OK
			LC55 at 100.00%	0.12	OK
			LC56 at 100.00%	0.13	OK
			LC57 at 100.00%	0.13	OK
			LC58 at 100.00%	0.12	OK
			LC59 at 100.00%	0.12	OK
			LC6 at 100.00%	0.09	OK
			LC60 at 100.00%	0.12	OK
			LC7 at 0.00%	0.06	OK
			LC8 at 100.00%	0.08	OK
			LC9 at 0.00%	0.03	OK
standoff horz.	***PIPE 4x0.237***	**23**	LC1 at 100.00%	0.13	OK
			LC10 at 100.00%	0.69	OK
			LC11 at 100.00%	0.11	OK
			LC12 at 100.00%	0.46	OK
			LC13 at 100.00%	0.13	OK
			LC14 at 100.00%	0.72	OK
			LC15 at 100.00%	0.11	OK

	LC16 at 100.00%	0.49	OK
	LC17 at 100.00%	0.43	OK
	LC18 at 100.00%	0.46	OK
	LC19 at 100.00%	0.43	OK
	LC2 at 100.00%	0.71	OK
	LC20 at 100.00%	0.41	OK
	LC21 at 100.00%	0.43	OK
	LC22 at 100.00%	0.58	OK
	LC23 at 100.00%	0.43	OK
	LC24 at 100.00%	0.53	OK
	LC25 at 100.00%	0.17	OK
	LC26 at 100.00%	0.20	OK
	LC27 at 100.00%	0.26	OK
	LC28 at 100.00%	0.36	OK
	LC29 at 100.00%	0.53	OK
	LC3 at 100.00%	0.14	OK
	LC30 at 100.00%	0.49	OK
	LC31 at 100.00%	0.53	OK
	LC32 at 100.00%	0.51	OK
	LC33 at 100.00%	0.54	OK
	LC34 at 100.00%	0.57	OK
	LC35 at 100.00%	0.53	OK
	LC36 at 100.00%	0.56	OK
	LC37 at 100.00%	0.33	OK
	LC38 at 100.00%	0.30	OK
	LC39 at 100.00%	0.34	OK
	LC4 at 100.00%	0.48	OK
	LC40 at 100.00%	0.31	OK
	LC41 at 100.00%	0.34	OK
	LC42 at 100.00%	0.38	OK
	LC43 at 100.00%	0.34	OK
	LC44 at 100.00%	0.36	OK
	LC45 at 100.00%	0.19	OK
	LC46 at 100.00%	0.23	OK
	LC47 at 100.00%	0.19	OK
	LC48 at 100.00%	0.22	OK
	LC49 at 100.00%	0.19	OK
	LC5 at 100.00%	0.16	OK
	LC50 at 100.00%	0.23	OK
	LC51 at 100.00%	0.19	OK
	LC52 at 100.00%	0.21	OK
	LC53 at 100.00%	0.39	OK
	LC54 at 100.00%	0.43	OK
	LC55 at 100.00%	0.39	OK
	LC56 at 100.00%	0.42	OK
	LC57 at 100.00%	0.39	OK
	LC58 at 100.00%	0.35	OK
	LC59 at 100.00%	0.39	OK
	LC6 at 100.00%	**0.75**	**OK**
	LC60 at 100.00%	0.36	OK
	LC7 at 100.00%	0.15	OK
	LC8 at 100.00%	0.53	OK
	LC9 at 0.00%	0.10	OK
24	LC1 at 100.00%	0.13	OK
	LC10 at 100.00%	0.39	OK
	LC11 at 100.00%	0.08	OK
	LC12 at 100.00%	0.28	OK
	LC13 at 100.00%	0.11	OK
	LC14 at 100.00%	0.37	OK
	LC15 at 100.00%	0.12	OK
	LC16 at 100.00%	0.26	OK
	LC17 at 100.00%	0.40	OK
	LC18 at 100.00%	0.48	OK

			LC19 at 100.00%	0.40	OK
			LC2 at 100.00%	0.42	OK
			LC20 at 100.00%	0.46	OK
			LC21 at 100.00%	0.41	OK
			LC22 at 100.00%	0.41	OK
			LC23 at 100.00%	0.41	OK
			LC24 at 100.00%	0.38	OK
			LC25 at 100.00%	0.16	OK
			LC26 at 100.00%	0.19	OK
			LC27 at 100.00%	0.26	OK
			LC28 at 100.00%	0.32	OK
			LC29 at 100.00%	0.48	OK
			LC3 at 100.00%	0.11	OK
			LC30 at 100.00%	**0.50**	**OK**
			LC31 at 100.00%	0.47	OK
			LC32 at 100.00%	0.49	OK
			LC33 at 100.00%	0.48	OK
			LC34 at 100.00%	0.46	OK
			LC35 at 100.00%	0.48	OK
			LC36 at 100.00%	0.46	OK
			LC37 at 100.00%	0.32	OK
			LC38 at 100.00%	0.34	OK
			LC39 at 100.00%	0.32	OK
			LC4 at 100.00%	0.31	OK
			LC40 at 100.00%	0.33	OK
			LC41 at 100.00%	0.32	OK
			LC42 at 100.00%	0.30	OK
			LC43 at 100.00%	0.32	OK
			LC44 at 100.00%	0.30	OK
			LC45 at 100.00%	0.20	OK
			LC46 at 100.00%	0.20	OK
			LC47 at 100.00%	0.20	OK
			LC48 at 100.00%	0.19	OK
			LC49 at 100.00%	0.20	OK
			LC5 at 100.00%	0.14	OK
			LC50 at 100.00%	0.22	OK
			LC51 at 100.00%	0.20	OK
			LC52 at 100.00%	0.21	OK
			LC53 at 100.00%	0.38	OK
			LC54 at 100.00%	0.36	OK
			LC55 at 100.00%	0.38	OK
			LC56 at 100.00%	0.36	OK
			LC57 at 100.00%	0.38	OK
			LC58 at 100.00%	0.40	OK
			LC59 at 100.00%	0.38	OK
			LC6 at 100.00%	0.40	OK
			LC60 at 100.00%	0.39	OK
			LC7 at 100.00%	0.16	OK
			LC8 at 100.00%	0.29	OK
			LC9 at 100.00%	0.09	OK
tie back	***PIPE 2x0.154***	**28**	LC1 at 100.00%	0.04	OK
			LC10 at 50.00%	0.04	OK
			LC11 at 100.00%	0.06	OK
			LC12 at 50.00%	0.04	OK
			LC13 at 50.00%	0.03	OK
			LC14 at 50.00%	0.04	OK
			LC15 at 100.00%	0.04	OK
			LC16 at 50.00%	0.04	OK
			LC17 at 50.00%	0.05	OK
			LC18 at 50.00%	**0.06**	**OK**
			LC19 at 50.00%	0.05	OK
			LC2 at 50.00%	0.05	OK
			LC20 at 50.00%	0.06	OK

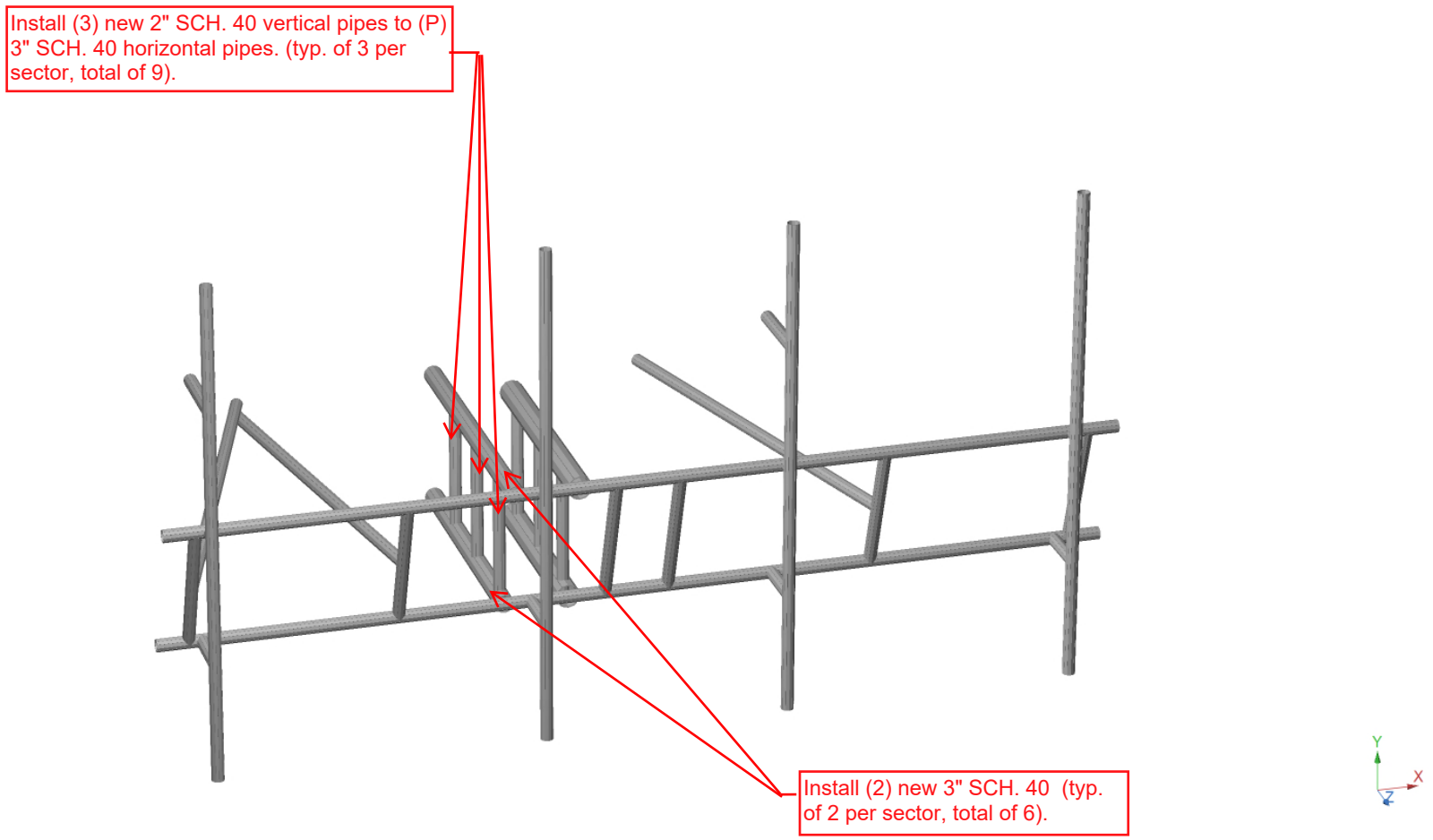
	LC21 at 50.00%	0.06	OK
	LC22 at 50.00%	0.06	OK
	LC23 at 50.00%	0.06	OK
	LC24 at 50.00%	0.06	OK
	LC25 at 50.00%	0.02	OK
	LC26 at 50.00%	0.02	OK
	LC27 at 50.00%	0.02	OK
	LC28 at 50.00%	0.02	OK
	LC29 at 50.00%	0.02	OK
	LC3 at 100.00%	0.06	OK
	LC30 at 50.00%	0.02	OK
	LC31 at 50.00%	0.02	OK
	LC32 at 50.00%	0.02	OK
	LC33 at 50.00%	0.02	OK
	LC34 at 50.00%	0.02	OK
	LC35 at 50.00%	0.02	OK
	LC36 at 50.00%	0.02	OK
	LC37 at 50.00%	0.02	OK
	LC38 at 50.00%	0.02	OK
	LC39 at 50.00%	0.02	OK
	LC4 at 50.00%	0.05	OK
	LC40 at 50.00%	0.02	OK
	LC41 at 50.00%	0.02	OK
	LC42 at 50.00%	0.02	OK
	LC43 at 50.00%	0.02	OK
	LC44 at 50.00%	0.02	OK
	LC45 at 50.00%	0.02	OK
	LC46 at 50.00%	0.02	OK
	LC47 at 50.00%	0.01	OK
	LC48 at 50.00%	0.02	OK
	LC49 at 50.00%	0.02	OK
	LC5 at 50.00%	0.04	OK
	LC50 at 50.00%	0.02	OK
	LC51 at 50.00%	0.02	OK
	LC52 at 50.00%	0.02	OK
	LC53 at 50.00%	0.02	OK
	LC54 at 50.00%	0.02	OK
	LC55 at 50.00%	0.02	OK
	LC56 at 50.00%	0.02	OK
	LC57 at 50.00%	0.02	OK
	LC58 at 50.00%	0.02	OK
	LC59 at 50.00%	0.02	OK
	LC6 at 50.00%	0.04	OK
	LC60 at 50.00%	0.02	OK
	LC7 at 100.00%	0.04	OK
	LC8 at 50.00%	0.04	OK
	LC9 at 100.00%	0.05	OK
30	LC1 at 50.00%	0.04	OK
	LC10 at 50.00%	0.05	OK
	LC11 at 50.00%	0.04	OK
	LC12 at 50.00%	0.04	OK
	LC13 at 50.00%	0.03	OK
	LC14 at 50.00%	0.05	OK
	LC15 at 50.00%	0.03	OK
	LC16 at 50.00%	0.04	OK
	LC17 at 50.00%	0.05	OK
	LC18 at 50.00%	**0.06**	**OK**
	LC19 at 50.00%	0.05	OK
	LC2 at 50.00%	0.05	OK
	LC20 at 50.00%	0.06	OK
	LC21 at 50.00%	0.05	OK
	LC22 at 50.00%	0.06	OK
	LC23 at 50.00%	0.05	OK

	LC24 at 50.00%	0.06	OK
	LC25 at 50.00%	0.02	OK
	LC26 at 50.00%	0.01	OK
	LC27 at 50.00%	0.02	OK
	LC28 at 50.00%	0.01	OK
	LC29 at 50.00%	0.01	OK
	LC3 at 50.00%	0.04	OK
	LC30 at 50.00%	0.02	OK
	LC31 at 50.00%	0.01	OK
	LC32 at 50.00%	0.02	OK
	LC33 at 50.00%	0.02	OK
	LC34 at 50.00%	0.02	OK
	LC35 at 50.00%	0.02	OK
	LC36 at 50.00%	0.02	OK
	LC37 at 50.00%	0.01	OK
	LC38 at 50.00%	0.02	OK
	LC39 at 50.00%	0.02	OK
	LC4 at 50.00%	0.05	OK
	LC40 at 50.00%	0.02	OK
	LC41 at 50.00%	0.02	OK
	LC42 at 50.00%	0.02	OK
	LC43 at 50.00%	0.02	OK
	LC44 at 50.00%	0.02	OK
	LC45 at 50.00%	0.02	OK
	LC46 at 50.00%	0.02	OK
	LC47 at 50.00%	0.02	OK
	LC48 at 50.00%	0.02	OK
	LC49 at 50.00%	0.02	OK
	LC5 at 50.00%	0.04	OK
	LC50 at 50.00%	0.02	OK
	LC51 at 50.00%	0.02	OK
	LC52 at 50.00%	0.02	OK
	LC53 at 50.00%	0.02	OK
	LC54 at 50.00%	0.02	OK
	LC55 at 50.00%	0.02	OK
	LC56 at 50.00%	0.02	OK
	LC57 at 50.00%	0.02	OK
	LC58 at 50.00%	0.02	OK
	LC59 at 50.00%	0.02	OK
	LC6 at 50.00%	0.05	OK
	LC60 at 50.00%	0.02	OK
	LC7 at 50.00%	0.04	OK
	LC8 at 50.00%	0.05	OK
	LC9 at 100.00%	0.04	OK
32	LC1 at 50.00%	0.03	OK
	LC10 at 50.00%	0.08	OK
	LC11 at 50.00%	0.02	OK
	LC12 at 50.00%	0.06	OK
	LC13 at 50.00%	0.02	OK
	LC14 at 50.00%	0.06	OK
	LC15 at 50.00%	0.02	OK
	LC16 at 50.00%	0.05	OK
	LC17 at 50.00%	0.04	OK
	LC18 at 50.00%	0.06	OK
	LC19 at 50.00%	0.04	OK
	LC2 at 50.00%	**0.08**	**OK**
	LC20 at 50.00%	0.06	OK
	LC21 at 50.00%	0.04	OK
	LC22 at 50.00%	0.06	OK
	LC23 at 50.00%	0.04	OK
	LC24 at 50.00%	0.05	OK
	LC25 at 50.00%	0.01	OK
	LC26 at 50.00%	0.01	OK

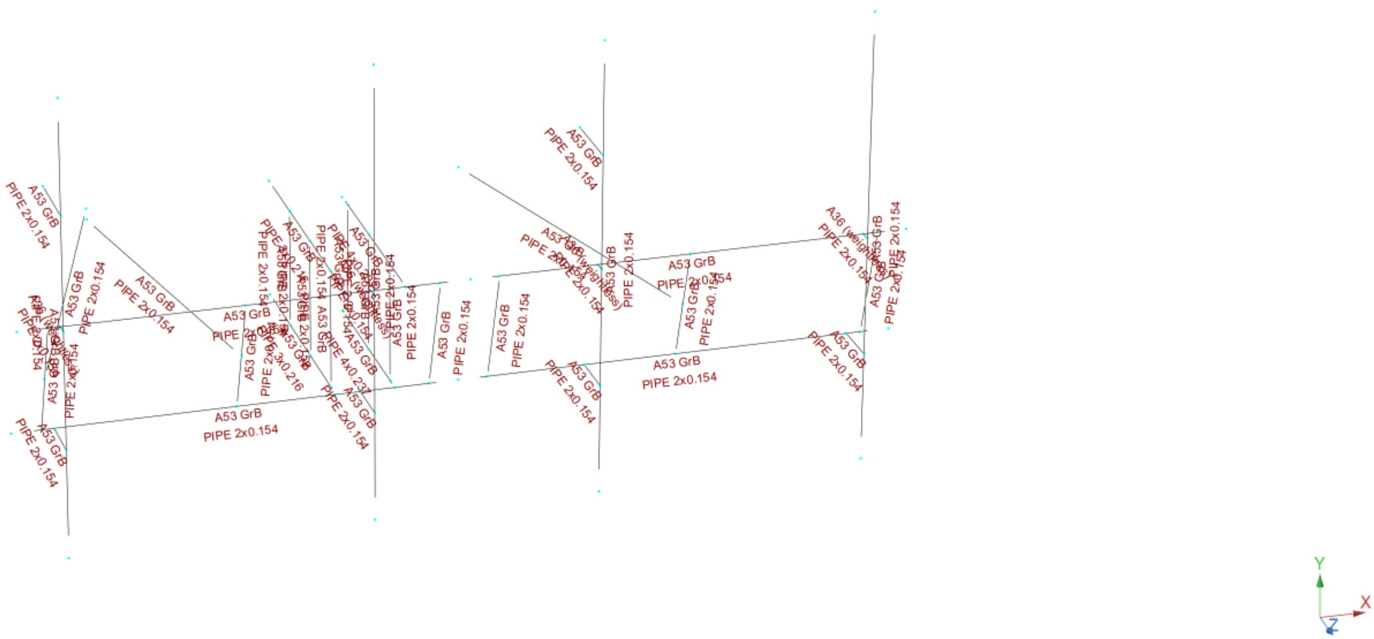
LC27 at 50.00%	0.02	OK
LC28 at 50.00%	0.02	OK
LC29 at 50.00%	0.02	OK
LC3 at 50.00%	0.02	OK
LC30 at 50.00%	0.02	OK
LC31 at 50.00%	0.02	OK
LC32 at 50.00%	0.02	OK
LC33 at 50.00%	0.02	OK
LC34 at 50.00%	0.02	OK
LC35 at 50.00%	0.02	OK
LC36 at 50.00%	0.02	OK
LC37 at 50.00%	0.01	OK
LC38 at 50.00%	0.02	OK
LC39 at 50.00%	0.01	OK
LC4 at 50.00%	0.06	OK
LC40 at 50.00%	0.02	OK
LC41 at 50.00%	0.01	OK
LC42 at 50.00%	0.02	OK
LC43 at 50.00%	0.01	OK
LC44 at 50.00%	0.02	OK
LC45 at 50.00%	0.01	OK
LC46 at 50.00%	0.02	OK
LC47 at 50.00%	0.01	OK
LC48 at 50.00%	0.02	OK
LC49 at 50.00%	0.01	OK
LC5 at 50.00%	0.02	OK
LC50 at 50.00%	0.02	OK
LC51 at 50.00%	0.01	OK
LC52 at 50.00%	0.02	OK
LC53 at 50.00%	0.02	OK
LC54 at 50.00%	0.02	OK
LC55 at 50.00%	0.02	OK
LC56 at 50.00%	0.02	OK
LC57 at 50.00%	0.02	OK
LC58 at 50.00%	0.02	OK
LC59 at 50.00%	0.02	OK
LC6 at 50.00%	0.06	OK
LC60 at 50.00%	0.02	OK
LC7 at 50.00%	0.02	OK
LC8 at 50.00%	0.05	OK
LC9 at 50.00%	0.02	OK

Existing Mount Results with Reinforcements

Current Date: 2/21/2020 4:55 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS



Current Date: 2/21/2020 4:53 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS



Current Date: 2/21/2020 4:54 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS, 2 VOLUNTEER DRIVE - SST\LTE 5C\Structural\Working Files\RAM\CT5270 Tower New Standoff.retx

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [in]	Y [in]	Z [in]	Rigid Floor
2	-13.00	-25.00	-8.00	0
3	90.00	0.00	0.00	0
4	-90.00	0.00	0.00	0
5	90.00	-25.00	-8.00	0
6	-90.00	-25.00	-8.00	0
7	84.00	0.00	0.00	0
8	84.00	-25.00	-8.00	0
9	45.00	0.00	0.00	0
10	45.00	-25.00	-8.00	0
11	6.00	0.00	0.00	0
12	6.00	-25.00	-8.00	0
13	-84.00	0.00	0.00	0
14	-84.00	-25.00	-8.00	0
15	-45.00	0.00	0.00	0
17	-6.00	0.00	0.00	0
18	-6.00	-25.00	-8.00	0
19	81.00	0.00	0.00	0
20	81.00	-25.00	-8.00	0
21	26.00	0.00	0.00	0
22	26.00	-25.00	-8.00	0
23	-81.50	0.00	0.00	0

24	-81.50	-25.00	-8.00	0
25	81.00	0.00	2.40	0
26	26.00	0.00	2.40	0
27	-81.50	0.00	2.40	0
28	81.00	48.00	2.40	0
29	26.00	48.00	2.40	0
30	-81.50	48.00	2.40	0
31	81.00	-48.00	2.40	0
32	26.00	-48.00	2.40	0
33	-81.50	-48.00	2.40	0
34	-13.00	0.00	-46.50	0
35	-13.00	-25.00	-46.50	0
36	-13.00	0.00	-42.50	0
37	-13.00	-25.00	-42.50	0
38	-13.00	0.00	-27.00	0
39	-13.00	-25.00	-27.00	0
40	-13.00	0.00	-11.50	0
41	-13.00	-25.00	-11.50	0
42	0.00	0.00	0.00	0
43	0.00	-25.00	-8.00	0
44	-81.50	-25.00	2.40	0
45	26.00	-25.00	2.40	0
46	81.00	-25.00	2.40	0
47	-20.00	0.00	0.00	0
48	-20.00	-25.00	-8.00	0
49	-20.00	0.00	2.40	0
50	-20.00	48.00	2.40	0
51	-20.00	-48.00	2.40	0
52	-20.00	-25.00	2.40	0
53	45.00	-12.50	-4.00	0
54	-45.00	-25.00	-8.00	0
57	-84.00	-12.50	-4.00	0
60	-13.00	0.00	0.00	0
61	22.25	-12.50	-83.50	0
62	-57.25	-15.00	-83.50	0
63	-57.25	-12.50	-83.50	0
64	-45.00	-12.50	-4.00	0
65	26.00	24.00	2.40	0
66	26.00	24.00	-12.60	0
67	-81.50	24.00	2.40	0
68	-81.50	24.00	-12.60	0
69	-25.00	-25.00	-8.00	0
70	-25.00	0.00	-58.50	0
71	-25.00	-25.00	-58.50	0
72	-25.00	0.00	-42.50	0
73	-25.00	-25.00	-42.50	0
74	-25.00	0.00	-27.00	0
75	-25.00	-25.00	-27.00	0
76	-25.00	0.00	-11.50	0
77	-25.00	-25.00	-11.50	0
78	-25.00	0.00	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
34	1	1	1	1	1	1
35	1	1	1	1	1	1
61	1	1	1	0	0	0
62	1	1	1	0	0	0
63	1	1	1	0	0	0
70	1	1	1	1	1	1
71	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	3	42	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
2	5	43	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
3	4	42	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	6	43	Horz. Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	30	33	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	50	51	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	29	32	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	28	31	Antenna Pipe	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	27	23	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
10	49	47	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
11	26	21	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
12	25	19	link	PIPE 2x0.154	A36 (weightless)	0.00	0.00	0.00
13	44	24	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	52	48	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	45	22	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	46	20	Antenna Pipe Conn.	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	13	14	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	17	18	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	11	12	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	9	10	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	7	8	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	60	34	standoff horz.	PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
24	2	35	standoff horz.	PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
25	40	41	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	38	39	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	36	37	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	53	61	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	57	63	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	54	15	Mount Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
32	62	64	tie back	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	65	66	RRU Rack	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
34	67	68	RRU Rack	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
35	78	70	standoff horz.	PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
36	69	71	standoff horz.	PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
37	76	77	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	72	73	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	74	75	Standoff Brace	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Hinges

	Node-J				Node-K						
Member	**M33**	**M22**	**V3**	**V2**	**M33**	**M22**	**V3**	**V2**	**TOR**	**AXL**	**Axial rigidity**
28	1	1	0	0	0	0	0	0	0	0	Full
30	1	1	0	0	0	0	0	0	0	0	Full
32	0	0	0	0	1	1	0	0	0	0	Full

Current Date: 2/21/2020 4:54 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS, 2 VOLUNTEER DRIVE - SST\LTE 5C\Structural\Working Files\RAM\CT5270 Tower New Standoff.retx

Load data

GLOSSARY

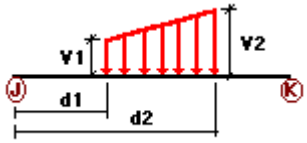
Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W1	Wind Load (0, 180 degrees)	No	WIND
W2	Wind Load (30, 150, 210, 330 degrees)	No	WIND
W3	Wind Load (60, 120, 240, 300 degrees)	No	WIND
W4	Wind Load (90, 270 degrees)	No	WIND
Di	Ice Load	No	LL
Wi1	Ice Wind Load (0, 180 degrees)	No	WIND
Wi2	Ice Wind Load (30, 150, 210, 330 Degrees)	No	WIND
Wi3	Ice Wind Load (60, 120, 240, 300 Degrees)	No	WIND
Wi4	Ice Wind Load (90, 270 degrees)	No	WIND
wl1	Wind Load 30 mph (0, 180 degrees)	No	WIND
wl2	Wind Load 30 mph (30, 150, 210, 330 Degrees)	No	WIND
wl3	Wind Load 30 mph (60, 120, 240, 300 Degrees)	No	WIND
wl4	Wind Load 30 mph (90, 270 degrees)	No	WIND
SL1	Service Live Load at Position 1 (500lb)	No	LL
SL2	Service Live Load at Position 2 (500lb)	No	LL
SL3	Service Live Load at Position 3 (500lb)	No	LL
SL4	Service Live Load at Position 4 (500lb)	No	LL
SLC	Service Live Load at Center of Mount (250lb)	No	LL
SLE1	Service Live Load at End of Mount (250lb)	No	LL
SLE2	Service Live Load at End of Mount (250lb)	No	LL
LC1	1.2DL+W1	Yes	
LC2	1.2DL+W2	Yes	
LC3	1.2DL+W3	Yes	
LC4	1.2DL+W4	Yes	
LC5	1.2DL-W1	Yes	
LC6	1.2DL-W2	Yes	
LC7	1.2DL-W3	Yes	
LC8	1.2DL-W4	Yes	
LC9	0.9DL+W1	Yes	
LC10	0.9DL+W2	Yes	
LC11	0.9DL+W3	Yes	
LC12	0.9DL+W4	Yes	
LC13	0.9DL-W1	Yes	
LC14	0.9DL-W2	Yes	
LC15	0.9DL-W3	Yes	
LC16	0.9DL-W4	Yes	
LC17	1.2DL+Di+Wi1	Yes	
LC18	1.2DL+Di+Wi2	Yes	
LC19	1.2DL+Di+Wi3	Yes	
LC20	1.2DL+Di+Wi4	Yes	
LC21	1.2DL+Di-Wi1	Yes	
LC22	1.2DL+Di-Wi2	Yes	
LC23	1.2DL+Di-Wi3	Yes	

LC24	1.2DL+Di-Wi4	Yes
LC25	1.4DL	Yes
LC26	1.2DL+1.5SLC	Yes
LC27	1.2DL+1.5SLE1	Yes
LC28	1.2DL+1.5SLE2	Yes
LC29	1.2DL+wl1+1.5SL1	Yes
LC30	1.2DL+wl2+1.5SL1	Yes
LC31	1.2DL+wl3+1.5SL1	Yes
LC32	1.2DL+wl4+1.5SL1	Yes
LC33	1.2DL-wl1+1.5SL1	Yes
LC34	1.2DL-wl2+1.5SL1	Yes
LC35	1.2DL-wl3+1.5SL1	Yes
LC36	1.2DL-wl4+1.5SL1	Yes
LC37	1.2DL+wl1+1.5SL2	Yes
LC38	1.2DL+wl2+1.5SL2	Yes
LC39	1.2DL+wl3+1.5SL2	Yes
LC40	1.2DL+wl4+1.5SL2	Yes
LC41	1.2DL-wl1+1.5SL2	Yes
LC42	1.2DL-wl2+1.5SL2	Yes
LC43	1.2DL-wl3+1.5SL2	Yes
LC44	1.2DL-wl4+1.5SL2	Yes
LC45	1.2DL+wl1+1.5SL3	Yes
LC46	1.2DL+wl2+1.5SL3	Yes
LC47	1.2DL+wl3+1.5SL3	Yes
LC48	1.2DL+wl4+1.5SL3	Yes
LC49	1.2DL-wl1+1.5SL3	Yes
LC50	1.2DL-wl2+1.5SL3	Yes
LC51	1.2DL-wl3+1.5SL3	Yes
LC52	1.2DL-wl4+1.5SL3	Yes
LC53	1.2DL+wl1+1.5SL4	Yes
LC54	1.2DL+wl2+1.5SL4	Yes
LC55	1.2DL+wl3+1.5SL4	Yes
LC56	1.2DL+wl4+1.5SL4	Yes
LC57	1.2DL-wl1+1.5SL4	Yes
LC58	1.2DL-wl2+1.5SL4	Yes
LC59	1.2DL-wl3+1.5SL4	Yes
LC60	1.2DL-wl4+1.5SL4	Yes

Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [in]	%	Dist2 [in]	%
W1	1	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	No	12.00	No
		Z	-0.01	-0.01	84.00	No	96.00	No
	8	Z	-0.01	-0.01	0.00	No	20.75	No
		Z	-0.01	-0.01	75.25	No	96.00	No

	19	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	37	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
W2	1	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	35	X	-0.015	-0.015	0.00	Yes	100.00	Yes
	36	X	-0.015	-0.015	0.00	Yes	100.00	Yes
	37	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	39	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	40	X	-0.01	-0.01	0.00	Yes	100.00	Yes
W3	1	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	2	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	3	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	4	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	Z	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	Z	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes

	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	35	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	36	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	37	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	39	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	40	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
W4	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	15	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	16	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	17	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	20	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	21	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	22	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	23	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	24	X	-0.019	-0.019	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	30	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	31	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	35	X	-0.015	-0.015	0.00	Yes	100.00	Yes
	36	X	-0.015	-0.015	0.00	Yes	100.00	Yes
	37	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	39	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	40	X	-0.01	-0.01	0.00	Yes	100.00	Yes
Di	1	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	2	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	3	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	4	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	5	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	6	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	7	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	8	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	13	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	14	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	15	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	16	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	17	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	19	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	20	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	21	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	22	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	23	Y	-0.0135	-0.0135	0.00	Yes	100.00	Yes
	24	Y	-0.0135	-0.0135	0.00	Yes	100.00	Yes
	25	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	26	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	27	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes

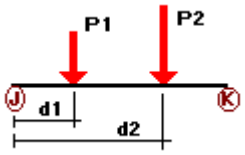
	28	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	30	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	31	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	32	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	35	Y	-0.0113	-0.0113	0.00	Yes	100.00	Yes
	36	Y	-0.0113	-0.0113	0.00	Yes	100.00	Yes
	37	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	39	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
	40	Y	-0.0089	-0.0089	0.00	Yes	100.00	Yes
Wi1	1	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	4	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Z	-0.004	-0.004	0.00	Yes	12.00	No
		Z	-0.004	-0.004	84.00	No	96.00	No
	8	Z	-0.004	-0.004	0.00	No	20.75	No
		Z	-0.004	-0.004	75.25	No	96.00	No
	19	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	25	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	37	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi2	1	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	4	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	5	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	13	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	35	X	-0.005	-0.005	0.00	Yes	100.00	Yes
	36	X	-0.005	-0.005	0.00	Yes	100.00	Yes
	37	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	39	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	40	X	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi3	1	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	2	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	3	Z	-0.004	-0.004	0.00	Yes	100.00	Yes

	4	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	5	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	13	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	35	Z	-0.005	-0.005	0.00	Yes	100.00	Yes
	36	Z	-0.005	-0.005	0.00	Yes	100.00	Yes
	37	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	39	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	40	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
Wi4	5	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	6	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	13	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	17	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	19	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	20	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	22	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	24	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	30	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	32	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	35	X	-0.005	-0.005	0.00	Yes	100.00	Yes
	36	X	-0.005	-0.005	0.00	Yes	100.00	Yes
	37	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	39	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	40	X	-0.004	-0.004	0.00	Yes	100.00	Yes
wl1	1	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	Z	-0.001	-0.001	0.00	No	12.00	No

		Z	-0.001	-0.001	84.00	No	96.00	No
	8	Z	-0.001	-0.001	0.00	No	20.75	No
		Z	-0.001	-0.001	75.25	Yes	96.00	No
	19	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	37	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
wl2	1	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	5	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	23	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	35	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	36	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	37	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	39	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	40	X	-0.001	-0.001	0.00	Yes	100.00	Yes
wl3	1	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	2	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	3	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	4	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	5	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	Z	-0.001	-0.001	0.00	Yes	100.00	Yes

	23	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	35	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	36	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	37	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	39	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
	40	Z	-0.001	-0.001	0.00	Yes	100.00	Yes
wl4	5	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	6	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	7	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	8	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	13	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	14	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	15	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	16	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	17	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	19	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	20	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	21	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	22	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	23	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	24	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	25	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	26	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	27	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	28	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	30	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	31	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	32	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	35	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	36	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	37	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	39	X	-0.001	-0.001	0.00	Yes	100.00	Yes
	40	X	-0.001	-0.001	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [in]	%
DL	5	Y	-0.048	87.50	Yes
		Y	-0.048	12.50	Yes
	6	Y	-0.048	87.50	Yes
		Y	-0.048	12.50	Yes
		Y	-0.0594	60.00	No
	7	Y	-0.0375	24.00	No
		Y	-0.0375	72.00	No
		Y	-0.06	60.00	No
	8	Y	-0.022	63.00	No
		Y	-0.022	33.00	No
		Y	-0.038	40.00	No
	33	Y	-0.06	15.00	No
		Y	-0.053	15.00	No
	34	Y	-0.06	15.00	No
		Y	-0.073	15.00	No
W1	5	Z	-0.3685	87.50	Yes
		Z	-0.3685	12.50	Yes
	6	Z	-0.3685	87.50	Yes
		Z	-0.3685	12.50	Yes
	7	Z	-0.1755	24.00	No
		Z	-0.1755	72.00	No
	8	Z	-0.111	33.00	No
		Z	-0.111	63.00	No
W2	5	X	-0.3335	87.50	Yes
		X	-0.3335	12.50	Yes
	6	X	-0.3335	87.50	Yes
		X	-0.3335	12.50	Yes
		X	-0.079	60.00	No
	7	X	-0.1685	24.00	No
		X	-0.1685	72.00	No
		X	-0.115	60.00	No
	8	X	-0.101	33.00	No
		X	-0.101	63.00	No
		X	-0.039	40.00	No
		X	-0.048	40.00	No
	33	x	-0.163	15.00	No
	34	x	-0.121	15.00	No
W3	5	Z	-0.2275	87.50	Yes
		Z	-0.2275	12.50	Yes
	6	Z	-0.2275	87.50	Yes
		Z	-0.2275	12.50	Yes
		Z	-0.062	60.00	No
	7	Z	-0.154	24.00	No
		Z	-0.154	72.00	No
		Z	-0.075	60.00	No
	8	Z	-0.0805	33.00	No
		Z	-0.0805	63.00	No
		Z	-0.023	40.00	No
		Z	-0.029	40.00	No
	33	Z	-0.107	15.00	No
	34	Z	-0.068	15.00	No
W4	5	X	-0.1745	87.50	Yes
		X	-0.1745	12.50	Yes
	6	X	-0.1745	87.50	Yes
		X	-0.1745	12.50	Yes
		X	-0.054	60.00	No
	7	X	-0.147	24.00	No
		X	-0.147	72.00	No
		X	-0.055	60.00	No
	8	X	-0.0705	33.00	No

		X	-0.0705	63.00	No
		X	-0.015	40.00	No
	33	X	-0.118	15.00	No
	34	X	-0.071	15.00	No
Di	5	Y	-0.1904	87.50	Yes
		Y	-0.1904	12.50	Yes
	6	Y	-0.1904	87.50	Yes
		Y	-0.1904	12.50	Yes
		Y	-0.0748	60.00	No
	7	Y	-0.115	24.00	No
		Y	-0.115	72.00	No
		Y	-0.096	60.00	No
	8	Y	-0.0688	33.00	No
		Y	-0.0688	63.00	No
		Y	-0.068	40.00	No
	33	Y	-0.089	15.00	No
		Y	-0.086	15.00	No
	34	Y	-0.073	15.00	No
		Y	-0.0745	15.00	No
Wi1	5	Z	-0.0735	87.50	Yes
		Z	-0.0735	12.50	Yes
	6	Z	-0.0735	87.50	Yes
		Z	-0.0735	12.50	Yes
	7	Z	-0.0365	24.00	No
		Z	-0.0365	72.00	No
	8	Z	-0.0245	33.00	No
		Z	-0.0245	63.00	No
Wi2	5	X	-0.0645	87.50	Yes
		X	-0.0645	12.50	Yes
	6	X	-0.0645	87.50	Yes
		X	-0.0645	12.50	Yes
		X	-0.019	60.00	No
	7	X	-0.0355	24.00	No
		X	-0.0355	72.00	No
		X	-0.026	60.00	No
	8	X	-0.023	33.00	No
		X	-0.023	63.00	No
		X	-0.013	40.00	No
	33	X	-0.041	15.00	No
	34	X	-0.032	15.00	No
Wi3	5	Z	-0.0475	87.50	Yes
		Z	-0.0475	12.50	Yes
	6	Z	-0.0475	87.50	Yes
		Z	-0.0475	12.50	Yes
		Z	-0.016	60.00	No
	7	Z	-0.033	24.00	No
		Z	-0.033	72.00	No
		Z	-0.019	60.00	No
	8	Z	-0.0195	33.00	No
		Z	-0.0195	63.00	No
		Z	-0.011	40.00	No
	33	Z	-0.025	15.00	No
	34	Z	-0.017	15.00	No
Wi4	5	X	-0.039	87.50	Yes
		X	-0.039	12.50	Yes
	6	X	-0.039	87.50	Yes
		X	-0.039	12.50	Yes
		X	-0.015	60.00	No
	7	X	-0.032	24.00	No
		X	-0.032	72.00	No

		X	-0.015	60.00	No
	8	X	-0.018	33.00	No
		X	-0.018	63.00	No
		X	-0.008	40.00	No
	33	X	-0.028	15.00	No
	34	X	-0.018	15.00	No
wl1	5	Z	-0.0225	84.00	No
		Z	-0.0225	12.00	No
	6	Z	-0.0225	84.00	No
		Z	-0.0225	12.00	No
	7	Z	-0.01	24.00	No
		Z	-0.01	72.00	No
	8	Z	-0.0065	33.00	No
		Z	-0.0065	63.00	No
wl2	5	X	-0.019	84.00	No
		X	-0.019	12.00	No
	6	X	-0.019	84.00	No
		X	-0.019	12.00	No
		X	-0.005	60.00	No
	7	X	-0.0095	24.00	No
		X	-0.0095	72.00	No
		X	-0.007	60.00	No
	8	X	-0.006	33.00	No
		X	-0.006	63.00	No
		X	-0.004	40.00	No
	33	X	-0.01	15.00	No
	34	X	-0.007	15.00	No
wl3	5	Z	-0.013	84.00	No
		Z	-0.013	12.00	No
	6	Z	-0.013	84.00	No
		Z	-0.013	12.00	No
		Z	-0.004	60.00	No
	7	Z	-0.009	24.00	No
		Z	-0.009	72.00	No
		Z	-0.004	60.00	No
	8	Z	-0.0045	63.00	No
		Z	-0.0045	33.00	No
		Z	-0.002	40.00	No
	33	Z	-0.006	15.00	No
	34	Z	-0.004	15.00	No
wl4	5	X	-0.01	84.00	No
		X	-0.01	12.00	No
	6	X	-0.01	84.00	No
		X	-0.01	12.00	No
		X	-0.003	60.00	No
	7	X	-0.0085	24.00	No
		X	-0.0085	72.00	No
		X	-0.003	60.00	No
	8	X	-0.004	33.00	No
		X	-0.004	63.00	No
		X	-0.001	40.00	No
	33	X	-0.007	15.00	No
	34	X	-0.004	15.00	No
SL1	2	Y	-0.50	9.00	No
SL2	2	Y	-0.50	64.00	No
SL3	4	Y	-0.50	67.00	No
SL4	4	Y	-0.50	8.50	No
SLC	4	Y	-0.25	90.00	No
SLE1	4	Y	-0.25	0.00	No
SLE2	2	Y	-0.25	0.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W1	Wind Load (0, 180 degrees)	No	0.00	0.00	0.00
W2	Wind Load (30, 150, 210, 330 degrees)	No	0.00	0.00	0.00
W3	Wind Load (60, 120, 240, 300 degrees)	No	0.00	0.00	0.00
W4	Wind Load (90, 270 degrees)	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi1	Ice Wind Load (0, 180 degrees)	No	0.00	0.00	0.00
Wi2	Ice Wind Load (30, 150, 210, 330 Degrees)	No	0.00	0.00	0.00
Wi3	Ice Wind Load (60, 120, 240, 300 Degrees)	No	0.00	0.00	0.00
Wi4	Ice Wind Load (90, 270 degrees)	No	0.00	0.00	0.00
wl1	Wind Load 30 mph (0, 180 degrees)	No	0.00	0.00	0.00
wl2	Wind Load 30 mph (30, 150, 210, 330 Degrees)	No	0.00	0.00	0.00
wl3	Wind Load 30 mph (60, 120, 240, 300 Degrees)	No	0.00	0.00	0.00
wl4	Wind Load 30 mph (90, 270 degrees)	No	0.00	0.00	0.00
SL1	Service Live Load at Position 1 (500lb)	No	0.00	0.00	0.00
SL2	Service Live Load at Position 2 (500lb)	No	0.00	0.00	0.00
SL3	Service Live Load at Position 3 (500lb)	No	0.00	0.00	0.00
SL4	Service Live Load at Position 4 (500lb)	No	0.00	0.00	0.00
SLC	Service Live Load at Center of Mount (250lb)	No	0.00	0.00	0.00
SLE1	Service Live Load at End of Mount (250lb)	No	0.00	0.00	0.00
SLE2	Service Live Load at End of Mount (250lb)	No	0.00	0.00	0.00
LC1	1.2DL+W1	Yes	0.00	0.00	0.00
LC2	1.2DL+W2	Yes	0.00	0.00	0.00
LC3	1.2DL+W3	Yes	0.00	0.00	0.00
LC4	1.2DL+W4	Yes	0.00	0.00	0.00
LC5	1.2DL-W1	Yes	0.00	0.00	0.00
LC6	1.2DL-W2	Yes	0.00	0.00	0.00
LC7	1.2DL-W3	Yes	0.00	0.00	0.00
LC8	1.2DL-W4	Yes	0.00	0.00	0.00
LC9	0.9DL+W1	Yes	0.00	0.00	0.00
LC10	0.9DL+W2	Yes	0.00	0.00	0.00
LC11	0.9DL+W3	Yes	0.00	0.00	0.00
LC12	0.9DL+W4	Yes	0.00	0.00	0.00
LC13	0.9DL-W1	Yes	0.00	0.00	0.00
LC14	0.9DL-W2	Yes	0.00	0.00	0.00
LC15	0.9DL-W3	Yes	0.00	0.00	0.00
LC16	0.9DL-W4	Yes	0.00	0.00	0.00
LC17	1.2DL+Di+Wi1	Yes	0.00	0.00	0.00
LC18	1.2DL+Di+Wi2	Yes	0.00	0.00	0.00
LC19	1.2DL+Di+Wi3	Yes	0.00	0.00	0.00
LC20	1.2DL+Di+Wi4	Yes	0.00	0.00	0.00
LC21	1.2DL+Di-Wi1	Yes	0.00	0.00	0.00
LC22	1.2DL+Di-Wi2	Yes	0.00	0.00	0.00
LC23	1.2DL+Di-Wi3	Yes	0.00	0.00	0.00
LC24	1.2DL+Di-Wi4	Yes	0.00	0.00	0.00
LC25	1.4DL	Yes	0.00	0.00	0.00
LC26	1.2DL+1.5SLC	Yes	0.00	0.00	0.00
LC27	1.2DL+1.5SLE1	Yes	0.00	0.00	0.00
LC28	1.2DL+1.5SLE2	Yes	0.00	0.00	0.00
LC29	1.2DL+wl1+1.5SL1	Yes	0.00	0.00	0.00

LC30	1.2DL+wl2+1.5SL1	Yes	0.00	0.00	0.00
LC31	1.2DL+wl3+1.5SL1	Yes	0.00	0.00	0.00
LC32	1.2DL+wl4+1.5SL1	Yes	0.00	0.00	0.00
LC33	1.2DL-wl1+1.5SL1	Yes	0.00	0.00	0.00
LC34	1.2DL-wl2+1.5SL1	Yes	0.00	0.00	0.00
LC35	1.2DL-wl3+1.5SL1	Yes	0.00	0.00	0.00
LC36	1.2DL-wl4+1.5SL1	Yes	0.00	0.00	0.00
LC37	1.2DL+wl1+1.5SL2	Yes	0.00	0.00	0.00
LC38	1.2DL+wl2+1.5SL2	Yes	0.00	0.00	0.00
LC39	1.2DL+wl3+1.5SL2	Yes	0.00	0.00	0.00
LC40	1.2DL+wl4+1.5SL2	Yes	0.00	0.00	0.00
LC41	1.2DL-wl1+1.5SL2	Yes	0.00	0.00	0.00
LC42	1.2DL-wl2+1.5SL2	Yes	0.00	0.00	0.00
LC43	1.2DL-wl3+1.5SL2	Yes	0.00	0.00	0.00
LC44	1.2DL-wl4+1.5SL2	Yes	0.00	0.00	0.00
LC45	1.2DL+wl1+1.5SL3	Yes	0.00	0.00	0.00
LC46	1.2DL+wl2+1.5SL3	Yes	0.00	0.00	0.00
LC47	1.2DL+wl3+1.5SL3	Yes	0.00	0.00	0.00
LC48	1.2DL+wl4+1.5SL3	Yes	0.00	0.00	0.00
LC49	1.2DL-wl1+1.5SL3	Yes	0.00	0.00	0.00
LC50	1.2DL-wl2+1.5SL3	Yes	0.00	0.00	0.00
LC51	1.2DL-wl3+1.5SL3	Yes	0.00	0.00	0.00
LC52	1.2DL-wl4+1.5SL3	Yes	0.00	0.00	0.00
LC53	1.2DL+wl1+1.5SL4	Yes	0.00	0.00	0.00
LC54	1.2DL+wl2+1.5SL4	Yes	0.00	0.00	0.00
LC55	1.2DL+wl3+1.5SL4	Yes	0.00	0.00	0.00
LC56	1.2DL+wl4+1.5SL4	Yes	0.00	0.00	0.00
LC57	1.2DL-wl1+1.5SL4	Yes	0.00	0.00	0.00
LC58	1.2DL-wl2+1.5SL4	Yes	0.00	0.00	0.00
LC59	1.2DL-wl3+1.5SL4	Yes	0.00	0.00	0.00
LC60	1.2DL-wl4+1.5SL4	Yes	0.00	0.00	0.00

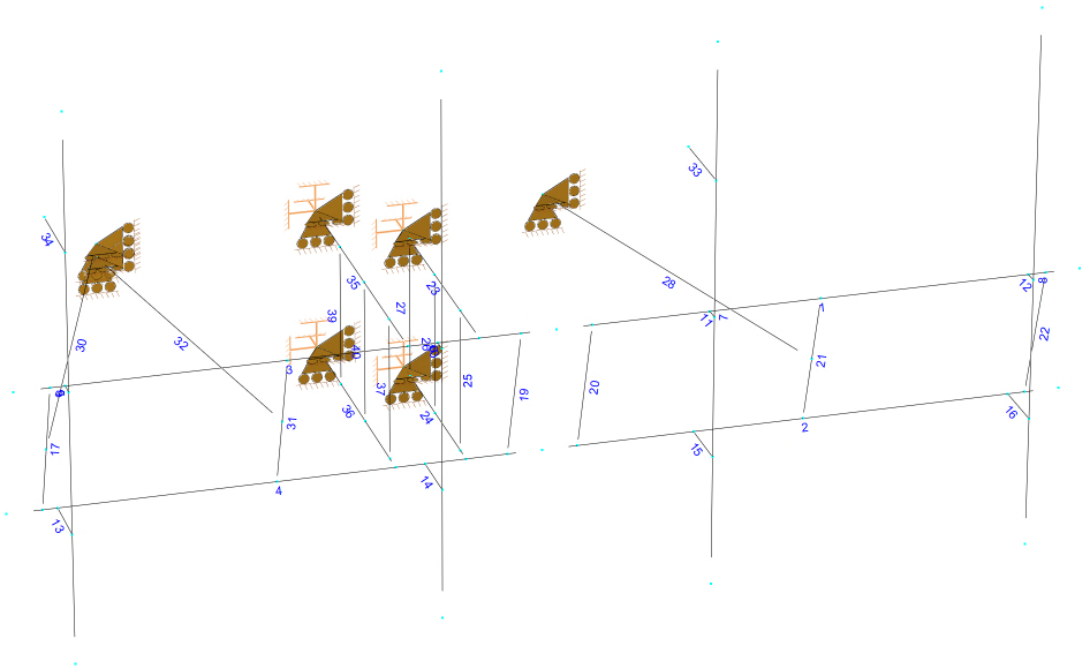
Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W1	0.00	0.00	0.00
W2	0.00	0.00	0.00
W3	0.00	0.00	0.00
W4	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi1	0.00	0.00	0.00
Wi2	0.00	0.00	0.00
Wi3	0.00	0.00	0.00
Wi4	0.00	0.00	0.00
wl1	0.00	0.00	0.00
wl2	0.00	0.00	0.00
wl3	0.00	0.00	0.00
wl4	0.00	0.00	0.00
SL1	0.00	0.00	0.00
SL2	0.00	0.00	0.00
SL3	0.00	0.00	0.00
SL4	0.00	0.00	0.00
SLC	0.00	0.00	0.00

SLE1	0.00	0.00	0.00
SLE2	0.00	0.00	0.00
LC1	0.00	0.00	0.00
LC2	0.00	0.00	0.00
LC3	0.00	0.00	0.00
LC4	0.00	0.00	0.00
LC5	0.00	0.00	0.00
LC6	0.00	0.00	0.00
LC7	0.00	0.00	0.00
LC8	0.00	0.00	0.00
LC9	0.00	0.00	0.00
LC10	0.00	0.00	0.00
LC11	0.00	0.00	0.00
LC12	0.00	0.00	0.00
LC13	0.00	0.00	0.00
LC14	0.00	0.00	0.00
LC15	0.00	0.00	0.00
LC16	0.00	0.00	0.00
LC17	0.00	0.00	0.00
LC18	0.00	0.00	0.00
LC19	0.00	0.00	0.00
LC20	0.00	0.00	0.00
LC21	0.00	0.00	0.00
LC22	0.00	0.00	0.00
LC23	0.00	0.00	0.00
LC24	0.00	0.00	0.00
LC25	0.00	0.00	0.00
LC26	0.00	0.00	0.00
LC27	0.00	0.00	0.00
LC28	0.00	0.00	0.00
LC29	0.00	0.00	0.00
LC30	0.00	0.00	0.00
LC31	0.00	0.00	0.00
LC32	0.00	0.00	0.00
LC33	0.00	0.00	0.00
LC34	0.00	0.00	0.00
LC35	0.00	0.00	0.00
LC36	0.00	0.00	0.00
LC37	0.00	0.00	0.00
LC38	0.00	0.00	0.00
LC39	0.00	0.00	0.00
LC40	0.00	0.00	0.00
LC41	0.00	0.00	0.00
LC42	0.00	0.00	0.00
LC43	0.00	0.00	0.00
LC44	0.00	0.00	0.00
LC45	0.00	0.00	0.00
LC46	0.00	0.00	0.00
LC47	0.00	0.00	0.00
LC48	0.00	0.00	0.00
LC49	0.00	0.00	0.00
LC50	0.00	0.00	0.00
LC51	0.00	0.00	0.00
LC52	0.00	0.00	0.00
LC53	0.00	0.00	0.00
LC54	0.00	0.00	0.00
LC55	0.00	0.00	0.00
LC56	0.00	0.00	0.00
LC57	0.00	0.00	0.00
LC58	0.00	0.00	0.00

LC59	0.00	0.00	0.00
LC60	0.00	0.00	0.00

Current Date: 2/21/2020 4:54 PM
Units system: English
File name: C:\Users\Lee Peringer\Centerline Communications\Derek Creaser - Centerline Engineering\Projects\AT&T\NEW ENGLAND\CT\CT5270 - WINDSOR LOCKS



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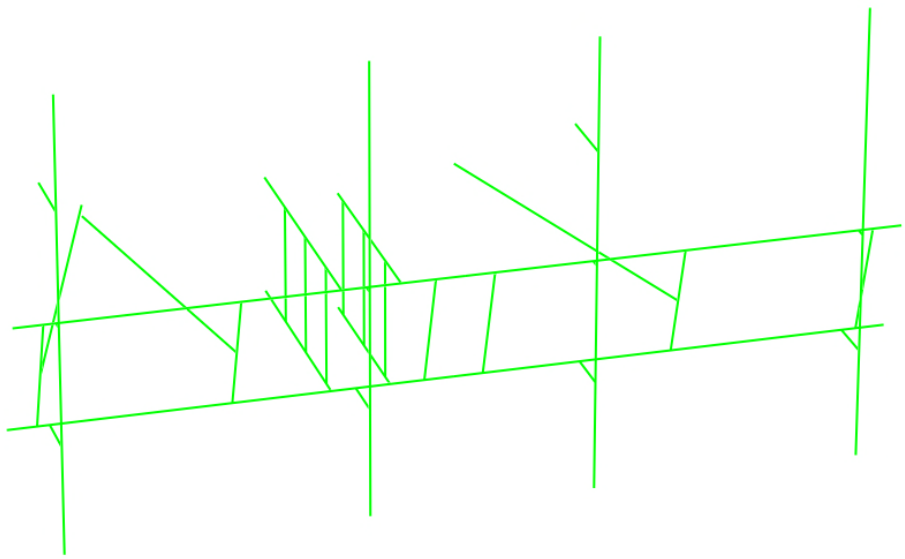

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Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

LC1=1.2DL+W1
LC2=1.2DL+W2
LC3=1.2DL+W3
LC4=1.2DL+W4
LC5=1.2DL-W1
LC6=1.2DL-W2
LC7=1.2DL-W3
LC8=1.2DL-W4
LC9=0.9DL+W1
LC10=0.9DL+W2
LC11=0.9DL+W3
LC12=0.9DL+W4
LC13=0.9DL-W1
LC14=0.9DL-W2
LC15=0.9DL-W3
LC16=0.9DL-W4
LC17=1.2DL+Di+Wi1
LC18=1.2DL+Di+Wi2
LC19=1.2DL+Di+Wi3
LC20=1.2DL+Di+Wi4
LC21=1.2DL+Di-Wi1
LC22=1.2DL+Di-Wi2
LC23=1.2DL+Di-Wi3
LC24=1.2DL+Di-Wi4
LC25=1.4DL
LC26=1.2DL+1.5SLC
LC27=1.2DL+1.5SLE1
LC28=1.2DL+1.5SLE2
LC29=1.2DL+wl1+1.5SL1
LC30=1.2DL+wl2+1.5SL1
LC31=1.2DL+wl3+1.5SL1
LC32=1.2DL+wl4+1.5SL1
LC33=1.2DL-wl1+1.5SL1
LC34=1.2DL-wl2+1.5SL1
LC35=1.2DL-wl3+1.5SL1
LC36=1.2DL-wl4+1.5SL1
LC37=1.2DL+wl1+1.5SL2
LC38=1.2DL+wl2+1.5SL2
LC39=1.2DL+wl3+1.5SL2
LC40=1.2DL+wl4+1.5SL2
LC41=1.2DL-wl1+1.5SL2
LC42=1.2DL-wl2+1.5SL2
LC43=1.2DL-wl3+1.5SL2
LC44=1.2DL-wl4+1.5SL2
LC45=1.2DL+wl1+1.5SL3
LC46=1.2DL+wl2+1.5SL3
LC47=1.2DL+wl3+1.5SL3
LC48=1.2DL+wl4+1.5SL3
LC49=1.2DL-wl1+1.5SL3
LC50=1.2DL-wl2+1.5SL3
LC51=1.2DL-wl3+1.5SL3
LC52=1.2DL-wl4+1.5SL3

LC53=1.2DL+wl1+1.5SL4
LC54=1.2DL+wl2+1.5SL4
LC55=1.2DL+wl3+1.5SL4
LC56=1.2DL+wl4+1.5SL4
LC57=1.2DL-wl1+1.5SL4
LC58=1.2DL-wl2+1.5SL4
LC59=1.2DL-wl3+1.5SL4
LC60=1.2DL-wl4+1.5SL4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
Antenna Pipe	***PIPE 2x0.154***	**5**	LC1 at 48.44%	0.68	OK	
			LC10 at 48.44%	0.76	OK	
			LC11 at 48.44%	0.54	OK	
			LC12 at 48.44%	0.47	OK	
			LC13 at 48.44%	0.49	OK	
			LC14 at 48.44%	0.76	OK	
			LC15 at 48.44%	0.38	OK	
			LC16 at 48.44%	0.47	OK	
			LC17 at 48.44%	0.34	OK	
			LC18 at 48.44%	0.37	OK	
			LC19 at 48.44%	0.33	OK	
			LC2 at 48.44%	0.79	OK	
			LC20 at 48.44%	0.32	OK	
			LC21 at 50.00%	0.22	OK	
			LC22 at 48.44%	0.37	OK	
			LC23 at 50.00%	0.22	OK	
			LC24 at 48.44%	0.32	OK	
			LC25 at 48.44%	0.14	OK	
			LC26 at 48.44%	0.12	OK	
			LC27 at 50.00%	0.15	OK	
			LC28 at 48.44%	0.12	OK	
			LC29 at 48.44%	0.15	OK	
			LC3 at 48.44%	0.57	OK	
			LC30 at 48.44%	0.16	OK	
			LC31 at 48.44%	0.14	OK	
			LC32 at 48.44%	0.14	OK	
			LC33 at 25.00%	0.10	OK	
			LC34 at 48.44%	0.16	OK	
			LC35 at 25.00%	0.11	OK	
			LC36 at 48.44%	0.14	OK	
			LC37 at 48.44%	0.15	OK	
			LC38 at 48.44%	0.16	OK	
			LC39 at 48.44%	0.14	OK	
			LC4 at 48.44%	0.50	OK	
			LC40 at 48.44%	0.14	OK	
			LC41 at 25.00%	0.10	OK	
			LC42 at 48.44%	0.16	OK	
			LC43 at 25.00%	0.11	OK	
			LC44 at 48.44%	0.14	OK	
			LC45 at 48.44%	0.15	OK	
			LC46 at 48.44%	0.16	OK	
			LC47 at 48.44%	0.14	OK	
			LC48 at 48.44%	0.14	OK	
			LC49 at 25.00%	0.10	OK	
			LC5 at 48.44%	0.47	OK	
			LC50 at 48.44%	0.16	OK	
			LC51 at 25.00%	0.11	OK	
			LC52 at 48.44%	0.14	OK	
			LC53 at 50.00%	0.22	OK	
			LC54 at 50.00%	0.23	OK	
			LC55 at 50.00%	0.21	OK	
			LC56 at 50.00%	0.22	OK	
			LC57 at 50.00%	0.19	OK	
			LC58 at 50.00%	0.18	OK	

	LC59 at 50.00%	0.19	OK
	LC6 at 48.44%	**0.79**	**OK**
	LC60 at 50.00%	0.19	OK
	LC7 at 50.00%	0.36	OK
	LC8 at 48.44%	0.50	OK
	LC9 at 48.44%	0.65	OK
6	LC1 at 47.92%	**0.56**	**OK**
	LC10 at 47.92%	0.55	OK
	LC11 at 47.92%	0.39	OK
	LC12 at 47.92%	0.31	OK
	LC13 at 47.92%	0.56	OK
	LC14 at 47.92%	0.55	OK
	LC15 at 47.92%	0.39	OK
	LC16 at 47.92%	0.31	OK
	LC17 at 50.00%	0.23	OK
	LC18 at 50.00%	0.31	OK
	LC19 at 50.00%	0.24	OK
	LC2 at 47.92%	0.55	OK
	LC20 at 50.00%	0.30	OK
	LC21 at 50.00%	0.34	OK
	LC22 at 50.00%	0.26	OK
	LC23 at 50.00%	0.34	OK
	LC24 at 50.00%	0.27	OK
	LC25 at 50.00%	0.11	OK
	LC26 at 50.00%	0.10	OK
	LC27 at 50.00%	0.09	OK
	LC28 at 50.00%	0.16	OK
	LC29 at 50.00%	0.20	OK
	LC3 at 47.92%	0.39	OK
	LC30 at 50.00%	0.22	OK
	LC31 at 50.00%	0.20	OK
	LC32 at 50.00%	0.22	OK
	LC33 at 50.00%	0.23	OK
	LC34 at 50.00%	0.20	OK
	LC35 at 50.00%	0.22	OK
	LC36 at 50.00%	0.21	OK
	LC37 at 50.00%	0.12	OK
	LC38 at 50.00%	0.15	OK
	LC39 at 50.00%	0.12	OK
	LC4 at 47.92%	0.31	OK
	LC40 at 50.00%	0.14	OK
	LC41 at 50.00%	0.16	OK
	LC42 at 50.00%	0.13	OK
	LC43 at 50.00%	0.15	OK
	LC44 at 50.00%	0.13	OK
	LC45 at 50.00%	0.10	OK
	LC46 at 50.00%	0.13	OK
	LC47 at 50.00%	0.11	OK
	LC48 at 50.00%	0.12	OK
	LC49 at 50.00%	0.14	OK
	LC5 at 47.92%	0.56	OK
	LC50 at 50.00%	0.11	OK
	LC51 at 50.00%	0.13	OK
	LC52 at 50.00%	0.11	OK
	LC53 at 75.00%	0.09	OK
	LC54 at 50.00%	0.11	OK
	LC55 at 75.00%	0.09	OK
	LC56 at 50.00%	0.11	OK
	LC57 at 50.00%	0.12	OK
	LC58 at 75.00%	0.10	OK
	LC59 at 50.00%	0.12	OK
	LC6 at 47.92%	0.55	OK
	LC60 at 75.00%	0.10	OK

	LC7 at 47.92%	0.39	OK
	LC8 at 47.92%	0.31	OK
	LC9 at 47.92%	0.56	OK
	---	---	---
7	LC1 at 48.44%	0.29	OK
	LC10 at 48.44%	0.45	OK
	LC11 at 48.44%	0.38	OK
	LC12 at 48.44%	0.38	OK
	LC13 at 50.00%	0.28	OK
	LC14 at 48.44%	0.45	OK
	LC15 at 50.00%	0.38	OK
	LC16 at 48.44%	0.38	OK
	LC17 at 50.00%	0.50	OK
	LC18 at 50.00%	0.43	OK
	LC19 at 50.00%	0.52	OK
	LC2 at 48.44%	0.47	OK
	LC20 at 50.00%	0.44	OK
	LC21 at 50.00%	0.47	OK
	LC22 at 50.00%	**0.54**	**OK**
	LC23 at 50.00%	0.45	OK
	LC24 at 50.00%	0.53	OK
	LC25 at 50.00%	0.20	OK
	LC26 at 50.00%	0.18	OK
	LC27 at 50.00%	0.18	OK
	LC28 at 50.00%	0.30	OK
	LC29 at 50.00%	0.42	OK
	LC3 at 48.44%	0.40	OK
	LC30 at 50.00%	0.40	OK
	LC31 at 50.00%	0.42	OK
	LC32 at 50.00%	0.40	OK
	LC33 at 50.00%	0.41	OK
	LC34 at 50.00%	0.43	OK
	LC35 at 50.00%	0.40	OK
	LC36 at 50.00%	0.42	OK
	LC37 at 50.00%	0.27	OK
	LC38 at 50.00%	0.25	OK
	LC39 at 50.00%	0.27	OK
	LC4 at 48.44%	0.40	OK
	LC40 at 50.00%	0.25	OK
	LC41 at 50.00%	0.26	OK
	LC42 at 50.00%	0.28	OK
	LC43 at 50.00%	0.26	OK
	LC44 at 50.00%	0.28	OK
	LC45 at 50.00%	0.18	OK
	LC46 at 50.00%	0.16	OK
	LC47 at 50.00%	0.18	OK
	LC48 at 50.00%	0.16	OK
	LC49 at 50.00%	0.17	OK
	LC5 at 50.00%	0.31	OK
	LC50 at 50.00%	0.19	OK
	LC51 at 50.00%	0.17	OK
	LC52 at 50.00%	0.19	OK
	LC53 at 50.00%	0.19	OK
	LC54 at 50.00%	0.17	OK
	LC55 at 50.00%	0.19	OK
	LC56 at 50.00%	0.17	OK
	LC57 at 50.00%	0.18	OK
	LC58 at 50.00%	0.20	OK
	LC59 at 50.00%	0.17	OK
	LC6 at 48.44%	0.47	OK
	LC60 at 50.00%	0.19	OK
	LC7 at 50.00%	0.41	OK
	LC8 at 48.44%	0.40	OK
	LC9 at 48.44%	0.27	OK

	8	LC1 at 47.92%	0.09	OK
		LC10 at 47.92%	0.12	OK
		LC11 at 47.92%	0.10	OK
		LC12 at 47.92%	0.09	OK
		LC13 at 47.92%	0.09	OK
		LC14 at 47.92%	0.12	OK
		LC15 at 47.92%	0.10	OK
		LC16 at 50.00%	0.09	OK
		LC17 at 50.00%	0.11	OK
		LC18 at 50.00%	0.10	OK
		LC19 at 50.00%	0.11	OK
		LC2 at 47.92%	0.12	OK
		LC20 at 50.00%	0.10	OK
		LC21 at 50.00%	0.13	OK
		LC22 at 50.00%	0.14	OK
		LC23 at 50.00%	0.14	OK
		LC24 at 50.00%	0.14	OK
		LC25 at 50.00%	0.04	OK
		LC26 at 50.00%	0.04	OK
		LC27 at 50.00%	0.04	OK
		LC28 at 50.00%	0.11	OK
		LC29 at 50.00%	0.18	OK
		LC3 at 47.92%	0.10	OK
		LC30 at 50.00%	0.18	OK
		LC31 at 50.00%	0.18	OK
		LC32 at 50.00%	0.18	OK
		LC33 at 50.00%	0.19	OK
		LC34 at 50.00%	**0.19**	**OK**
		LC35 at 50.00%	0.19	OK
		LC36 at 50.00%	0.19	OK
		LC37 at 50.00%	0.04	OK
		LC38 at 50.00%	0.04	OK
		LC39 at 50.00%	0.04	OK
		LC4 at 47.92%	0.09	OK
		LC40 at 50.00%	0.04	OK
		LC41 at 50.00%	0.05	OK
		LC42 at 50.00%	0.05	OK
		LC43 at 50.00%	0.05	OK
		LC44 at 50.00%	0.05	OK
		LC45 at 50.00%	0.03	OK
		LC46 at 50.00%	0.03	OK
		LC47 at 50.00%	0.04	OK
		LC48 at 50.00%	0.03	OK
		LC49 at 50.00%	0.04	OK
		LC5 at 50.00%	0.10	OK
		LC50 at 50.00%	0.04	OK
		LC51 at 50.00%	0.04	OK
		LC52 at 50.00%	0.04	OK
		LC53 at 50.00%	0.03	OK
		LC54 at 50.00%	0.03	OK
		LC55 at 50.00%	0.04	OK
		LC56 at 50.00%	0.03	OK
		LC57 at 50.00%	0.04	OK
		LC58 at 50.00%	0.04	OK
		LC59 at 50.00%	0.04	OK
		LC6 at 47.92%	0.12	OK
		LC60 at 50.00%	0.04	OK
		LC7 at 50.00%	0.11	OK
		LC8 at 50.00%	0.10	OK
		LC9 at 47.92%	0.09	OK
Antenna Pipe Conn.	**13**	LC1 at 0.00%	**0.30**	**OK**
		LC10 at 0.00%	0.06	OK

	LC11 at 0.00%	0.23	OK
	LC12 at 0.00%	0.03	OK
	LC13 at 100.00%	0.28	OK
	LC14 at 100.00%	0.08	OK
	LC15 at 100.00%	0.25	OK
	LC16 at 100.00%	0.06	OK
	LC17 at 100.00%	0.10	OK
	LC18 at 100.00%	0.13	OK
	LC19 at 100.00%	0.10	OK
	LC2 at 0.00%	0.06	OK
	LC20 at 100.00%	0.13	OK
	LC21 at 100.00%	0.19	OK
	LC22 at 100.00%	0.15	OK
	LC23 at 100.00%	0.20	OK
	LC24 at 100.00%	0.15	OK
	LC25 at 100.00%	0.04	OK
	LC26 at 100.00%	0.03	OK
	LC27 at 100.00%	0.07	OK
	LC28 at 100.00%	0.04	OK
	LC29 at 0.00%	0.04	OK
	LC3 at 0.00%	0.24	OK
	LC30 at 100.00%	0.03	OK
	LC31 at 0.00%	0.04	OK
	LC32 at 100.00%	0.03	OK
	LC33 at 100.00%	0.05	OK
	LC34 at 100.00%	0.04	OK
	LC35 at 100.00%	0.05	OK
	LC36 at 100.00%	0.04	OK
	LC37 at 0.00%	0.04	OK
	LC38 at 100.00%	0.03	OK
	LC39 at 0.00%	0.04	OK
	LC4 at 100.00%	0.04	OK
	LC40 at 100.00%	0.03	OK
	LC41 at 100.00%	0.05	OK
	LC42 at 100.00%	0.04	OK
	LC43 at 100.00%	0.05	OK
	LC44 at 100.00%	0.04	OK
	LC45 at 0.00%	0.04	OK
	LC46 at 100.00%	0.03	OK
	LC47 at 0.00%	0.04	OK
	LC48 at 100.00%	0.03	OK
	LC49 at 100.00%	0.05	OK
	LC5 at 100.00%	0.29	OK
	LC50 at 100.00%	0.04	OK
	LC51 at 100.00%	0.05	OK
	LC52 at 100.00%	0.03	OK
	LC53 at 100.00%	0.09	OK
	LC54 at 100.00%	0.08	OK
	LC55 at 100.00%	0.09	OK
	LC56 at 100.00%	0.08	OK
	LC57 at 100.00%	0.08	OK
	LC58 at 100.00%	0.08	OK
	LC59 at 100.00%	0.08	OK
	LC6 at 100.00%	0.09	OK
	LC60 at 100.00%	0.08	OK
	LC7 at 100.00%	0.26	OK
	LC8 at 100.00%	0.06	OK
	LC9 at 0.00%	0.29	OK
14	LC1 at 0.00%	0.19	OK
	LC10 at 100.00%	0.16	OK
	LC11 at 0.00%	0.13	OK
	LC12 at 100.00%	0.09	OK
	LC13 at 0.00%	0.28	OK

	LC14 at 100.00%	0.19	OK
	LC15 at 0.00%	0.21	OK
	LC16 at 100.00%	0.12	OK
	LC17 at 0.00%	0.14	OK
	LC18 at 0.00%	0.19	OK
	LC19 at 0.00%	0.15	OK
	LC2 at 100.00%	0.16	OK
	LC20 at 0.00%	0.19	OK
	LC21 at 0.00%	0.24	OK
	LC22 at 0.00%	0.19	OK
	LC23 at 0.00%	0.23	OK
	LC24 at 0.00%	0.19	OK
	LC25 at 0.00%	0.07	OK
	LC26 at 0.00%	0.07	OK
	LC27 at 0.00%	0.08	OK
	LC28 at 0.00%	0.07	OK
	LC29 at 100.00%	0.09	OK
	LC3 at 0.00%	0.12	OK
	LC30 at 100.00%	0.08	OK
	LC31 at 100.00%	0.09	OK
	LC32 at 100.00%	0.09	OK
	LC33 at 100.00%	0.09	OK
	LC34 at 100.00%	0.10	OK
	LC35 at 100.00%	0.09	OK
	LC36 at 100.00%	0.10	OK
	LC37 at 0.00%	0.07	OK
	LC38 at 0.00%	0.08	OK
	LC39 at 0.00%	0.07	OK
	LC4 at 100.00%	0.09	OK
	LC40 at 0.00%	0.08	OK
	LC41 at 0.00%	0.10	OK
	LC42 at 0.00%	0.08	OK
	LC43 at 0.00%	0.09	OK
	LC44 at 0.00%	0.08	OK
	LC45 at 100.00%	0.06	OK
	LC46 at 0.00%	0.07	OK
	LC47 at 0.00%	0.06	OK
	LC48 at 0.00%	0.07	OK
	LC49 at 0.00%	0.09	OK
	LC5 at 0.00%	**0.30**	**OK**
	LC50 at 0.00%	0.07	OK
	LC51 at 0.00%	0.08	OK
	LC52 at 0.00%	0.07	OK
	LC53 at 0.00%	0.08	OK
	LC54 at 0.00%	0.10	OK
	LC55 at 0.00%	0.09	OK
	LC56 at 0.00%	0.10	OK
	LC57 at 0.00%	0.11	OK
	LC58 at 0.00%	0.10	OK
	LC59 at 0.00%	0.11	OK
	LC6 at 100.00%	0.19	OK
	LC60 at 0.00%	0.10	OK
	LC7 at 0.00%	0.22	OK
	LC8 at 100.00%	0.12	OK
	LC9 at 0.00%	0.20	OK
15	LC1 at 0.00%	0.07	OK
	LC10 at 100.00%	0.07	OK
	LC11 at 100.00%	0.09	OK
	LC12 at 100.00%	0.07	OK
	LC13 at 100.00%	0.18	OK
	LC14 at 100.00%	0.07	OK
	LC15 at 100.00%	0.23	OK
	LC16 at 100.00%	0.07	OK

	LC17 at 100.00%	0.27	OK
	LC18 at 100.00%	0.29	OK
	LC19 at 100.00%	0.25	OK
	LC2 at 100.00%	0.09	OK
	LC20 at 100.00%	0.29	OK
	LC21 at 100.00%	0.32	OK
	LC22 at 100.00%	0.29	OK
	LC23 at 100.00%	**0.33**	**OK**
	LC24 at 100.00%	0.29	OK
	LC25 at 100.00%	0.11	OK
	LC26 at 100.00%	0.10	OK
	LC27 at 100.00%	0.10	OK
	LC28 at 100.00%	0.15	OK
	LC29 at 100.00%	0.20	OK
	LC3 at 0.00%	0.09	OK
	LC30 at 100.00%	0.21	OK
	LC31 at 100.00%	0.20	OK
	LC32 at 100.00%	0.21	OK
	LC33 at 100.00%	0.22	OK
	LC34 at 100.00%	0.21	OK
	LC35 at 100.00%	0.22	OK
	LC36 at 100.00%	0.21	OK
	LC37 at 100.00%	0.14	OK
	LC38 at 100.00%	0.15	OK
	LC39 at 100.00%	0.14	OK
	LC4 at 100.00%	0.09	OK
	LC40 at 100.00%	0.15	OK
	LC41 at 100.00%	0.15	OK
	LC42 at 100.00%	0.15	OK
	LC43 at 100.00%	0.15	OK
	LC44 at 100.00%	0.15	OK
	LC45 at 100.00%	0.09	OK
	LC46 at 100.00%	0.10	OK
	LC47 at 100.00%	0.09	OK
	LC48 at 100.00%	0.10	OK
	LC49 at 100.00%	0.10	OK
	LC5 at 100.00%	0.20	OK
	LC50 at 100.00%	0.10	OK
	LC51 at 100.00%	0.11	OK
	LC52 at 100.00%	0.10	OK
	LC53 at 100.00%	0.10	OK
	LC54 at 100.00%	0.10	OK
	LC55 at 100.00%	0.09	OK
	LC56 at 100.00%	0.10	OK
	LC57 at 100.00%	0.11	OK
	LC58 at 100.00%	0.10	OK
	LC59 at 100.00%	0.11	OK
	LC6 at 100.00%	0.10	OK
	LC60 at 100.00%	0.10	OK
	LC7 at 100.00%	0.26	OK
	LC8 at 100.00%	0.10	OK
	LC9 at 0.00%	0.06	OK
16	LC1 at 100.00%	0.05	OK
	LC10 at 100.00%	0.04	OK
	LC11 at 100.00%	0.06	OK
	LC12 at 100.00%	0.04	OK
	LC13 at 100.00%	0.09	OK
	LC14 at 0.00%	0.01	OK
	LC15 at 100.00%	0.11	OK
	LC16 at 100.00%	0.01	OK
	LC17 at 100.00%	0.08	OK
	LC18 at 100.00%	0.10	OK
	LC19 at 100.00%	0.07	OK

		LC2 at 100.00%	0.05	OK
		LC20 at 100.00%	0.10	OK
		LC21 at 100.00%	0.11	OK
		LC22 at 100.00%	0.09	OK
		LC23 at 100.00%	**0.12**	**OK**
		LC24 at 100.00%	0.09	OK
		LC25 at 100.00%	0.04	OK
		LC26 at 100.00%	0.03	OK
		LC27 at 100.00%	0.03	OK
		LC28 at 100.00%	0.06	OK
		LC29 at 100.00%	0.08	OK
		LC3 at 100.00%	0.06	OK
		LC30 at 100.00%	0.08	OK
		LC31 at 100.00%	0.08	OK
		LC32 at 100.00%	0.08	OK
		LC33 at 100.00%	0.07	OK
		LC34 at 100.00%	0.07	OK
		LC35 at 100.00%	0.07	OK
		LC36 at 100.00%	0.07	OK
		LC37 at 100.00%	0.03	OK
		LC38 at 100.00%	0.04	OK
		LC39 at 100.00%	0.03	OK
		LC4 at 100.00%	0.05	OK
		LC40 at 100.00%	0.04	OK
		LC41 at 100.00%	0.04	OK
		LC42 at 100.00%	0.04	OK
		LC43 at 100.00%	0.04	OK
		LC44 at 100.00%	0.04	OK
		LC45 at 100.00%	0.03	OK
		LC46 at 100.00%	0.03	OK
		LC47 at 100.00%	0.03	OK
		LC48 at 100.00%	0.03	OK
		LC49 at 100.00%	0.03	OK
		LC5 at 100.00%	0.10	OK
		LC50 at 100.00%	0.03	OK
		LC51 at 100.00%	0.04	OK
		LC52 at 100.00%	0.03	OK
		LC53 at 100.00%	0.03	OK
		LC54 at 100.00%	0.03	OK
		LC55 at 100.00%	0.03	OK
		LC56 at 100.00%	0.03	OK
		LC57 at 100.00%	0.04	OK
		LC58 at 100.00%	0.03	OK
		LC59 at 100.00%	0.04	OK
		LC6 at 100.00%	0.01	OK
		LC60 at 100.00%	0.03	OK
		LC7 at 100.00%	0.11	OK
		LC8 at 100.00%	0.01	OK
		LC9 at 100.00%	0.04	OK
Horz. Pipe	**1**	LC1 at 48.96%	0.28	OK
		LC10 at 71.88%	0.23	OK
		LC11 at 48.96%	0.33	OK
		LC12 at 71.88%	0.19	OK
		LC13 at 48.96%	0.33	OK
		LC14 at 92.71%	0.24	OK
		LC15 at 48.96%	0.39	OK
		LC16 at 92.71%	0.19	OK
		LC17 at 92.71%	0.59	OK
		LC18 at 92.71%	0.58	OK
		LC19 at 92.71%	**0.60**	**OK**
		LC2 at 71.88%	0.25	OK
		LC20 at 92.71%	0.57	OK
		LC21 at 92.71%	0.55	OK

	LC22 at 92.71%	0.56	OK
	LC23 at 92.71%	0.54	OK
	LC24 at 92.71%	0.57	OK
	LC25 at 92.71%	0.23	OK
	LC26 at 92.71%	0.19	OK
	LC27 at 92.71%	0.21	OK
	LC28 at 92.71%	0.38	OK
	LC29 at 92.71%	0.55	OK
	LC3 at 48.96%	0.34	OK
	LC30 at 50.00%	0.56	OK
	LC31 at 92.71%	0.55	OK
	LC32 at 50.00%	0.56	OK
	LC33 at 50.00%	0.57	OK
	LC34 at 50.00%	0.56	OK
	LC35 at 50.00%	0.57	OK
	LC36 at 50.00%	0.56	OK
	LC37 at 92.71%	0.39	OK
	LC38 at 92.71%	0.39	OK
	LC39 at 92.71%	0.40	OK
	LC4 at 92.71%	0.22	OK
	LC40 at 92.71%	0.39	OK
	LC41 at 92.71%	0.39	OK
	LC42 at 92.71%	0.39	OK
	LC43 at 92.71%	0.38	OK
	LC44 at 92.71%	0.39	OK
	LC45 at 92.71%	0.20	OK
	LC46 at 92.71%	0.20	OK
	LC47 at 92.71%	0.21	OK
	LC48 at 92.71%	0.20	OK
	LC49 at 92.71%	0.20	OK
	LC5 at 48.96%	0.36	OK
	LC50 at 92.71%	0.20	OK
	LC51 at 92.71%	0.19	OK
	LC52 at 92.71%	0.20	OK
	LC53 at 92.71%	0.21	OK
	LC54 at 92.71%	0.21	OK
	LC55 at 92.71%	0.22	OK
	LC56 at 92.71%	0.21	OK
	LC57 at 92.71%	0.21	OK
	LC58 at 92.71%	0.21	OK
	LC59 at 92.71%	0.20	OK
	LC6 at 92.71%	0.27	OK
	LC60 at 92.71%	0.21	OK
	LC7 at 48.96%	0.41	OK
	LC8 at 92.71%	0.23	OK
	LC9 at 48.96%	0.27	OK
2	LC1 at 50.00%	0.34	OK
	LC10 at 92.71%	0.12	OK
	LC11 at 50.00%	0.42	OK
	LC12 at 92.71%	0.11	OK
	LC13 at 50.00%	0.32	OK
	LC14 at 92.71%	0.18	OK
	LC15 at 50.00%	0.39	OK
	LC16 at 92.71%	0.15	OK
	LC17 at 92.71%	0.48	OK
	LC18 at 92.71%	0.50	OK
	LC19 at 92.71%	0.47	OK
	LC2 at 92.71%	0.16	OK
	LC20 at 92.71%	0.50	OK
	LC21 at 50.00%	0.54	OK
	LC22 at 92.71%	0.50	OK
	LC23 at 50.00%	0.56	OK
	LC24 at 92.71%	0.51	OK

	LC25 at 92.71%	0.20	OK
	LC26 at 92.71%	0.18	OK
	LC27 at 92.71%	0.17	OK
	LC28 at 50.00%	0.39	OK
	LC29 at 50.00%	0.55	OK
	LC3 at 50.00%	0.43	OK
	LC30 at 50.00%	0.56	OK
	LC31 at 50.00%	0.54	OK
	LC32 at 50.00%	0.56	OK
	LC33 at 50.00%	0.57	OK
	LC34 at 50.00%	0.56	OK
	LC35 at 50.00%	**0.58**	**OK**
	LC36 at 50.00%	0.56	OK
	LC37 at 92.71%	0.40	OK
	LC38 at 92.71%	0.40	OK
	LC39 at 92.71%	0.39	OK
	LC4 at 92.71%	0.16	OK
	LC40 at 92.71%	0.40	OK
	LC41 at 92.71%	0.41	OK
	LC42 at 92.71%	0.40	OK
	LC43 at 92.71%	0.41	OK
	LC44 at 92.71%	0.40	OK
	LC45 at 92.71%	0.16	OK
	LC46 at 92.71%	0.17	OK
	LC47 at 92.71%	0.16	OK
	LC48 at 92.71%	0.17	OK
	LC49 at 50.00%	0.18	OK
	LC5 at 50.00%	0.36	OK
	LC50 at 92.71%	0.17	OK
	LC51 at 50.00%	0.18	OK
	LC52 at 92.71%	0.17	OK
	LC53 at 92.71%	0.17	OK
	LC54 at 92.71%	0.17	OK
	LC55 at 92.71%	0.16	OK
	LC56 at 92.71%	0.17	OK
	LC57 at 50.00%	0.18	OK
	LC58 at 92.71%	0.17	OK
	LC59 at 50.00%	0.18	OK
	LC6 at 92.71%	0.21	OK
	LC60 at 92.71%	0.17	OK
	LC7 at 50.00%	0.41	OK
	LC8 at 50.00%	0.18	OK
	LC9 at 50.00%	0.34	OK
3	LC1 at 10.16%	0.37	OK
	LC10 at 85.16%	0.95	OK
	LC11 at 10.16%	0.31	OK
	LC12 at 85.16%	0.60	OK
	LC13 at 71.88%	0.28	OK
	LC14 at 85.16%	0.95	OK
	LC15 at 85.94%	0.32	OK
	LC16 at 85.16%	0.60	OK
	LC17 at 10.16%	0.60	OK
	LC18 at 49.22%	0.56	OK
	LC19 at 10.16%	0.60	OK
	LC2 at 85.16%	**0.96**	**OK**
	LC20 at 49.22%	0.56	OK
	LC21 at 10.16%	0.53	OK
	LC22 at 10.16%	0.59	OK
	LC23 at 10.16%	0.53	OK
	LC24 at 10.16%	0.58	OK
	LC25 at 10.16%	0.23	OK
	LC26 at 93.75%	0.21	OK
	LC27 at 10.16%	0.43	OK

	LC28 at 85.16%	0.35	OK
	LC29 at 85.16%	0.62	OK
	LC3 at 10.16%	0.36	OK
	LC30 at 85.16%	0.55	OK
	LC31 at 85.16%	0.62	OK
	LC32 at 85.16%	0.57	OK
	LC33 at 85.16%	0.61	OK
	LC34 at 85.16%	0.67	OK
	LC35 at 85.16%	0.61	OK
	LC36 at 85.16%	0.65	OK
	LC37 at 93.75%	0.38	OK
	LC38 at 93.75%	0.38	OK
	LC39 at 93.75%	0.38	OK
	LC4 at 85.16%	0.60	OK
	LC40 at 93.75%	0.38	OK
	LC41 at 93.75%	0.37	OK
	LC42 at 93.75%	0.38	OK
	LC43 at 93.75%	0.37	OK
	LC44 at 93.75%	0.38	OK
	LC45 at 10.16%	0.21	OK
	LC46 at 49.22%	0.20	OK
	LC47 at 10.16%	0.21	OK
	LC48 at 10.16%	0.20	OK
	LC49 at 93.75%	0.19	OK
	LC5 at 71.88%	0.31	OK
	LC50 at 10.16%	0.21	OK
	LC51 at 10.16%	0.19	OK
	LC52 at 10.16%	0.20	OK
	LC53 at 10.16%	0.60	OK
	LC54 at 49.22%	0.59	OK
	LC55 at 10.16%	0.60	OK
	LC56 at 49.22%	0.59	OK
	LC57 at 49.22%	0.58	OK
	LC58 at 10.16%	0.60	OK
	LC59 at 49.22%	0.58	OK
	LC6 at 85.16%	0.95	OK
	LC60 at 10.16%	0.59	OK
	LC7 at 85.94%	0.35	OK
	LC8 at 85.16%	0.61	OK
	LC9 at 10.16%	0.32	OK
4	LC1 at 71.88%	0.30	OK
	LC10 at 85.16%	0.51	OK
	LC11 at 85.94%	0.32	OK
	LC12 at 85.16%	0.35	OK
	LC13 at 85.94%	0.32	OK
	LC14 at 85.94%	0.40	OK
	LC15 at 85.94%	0.36	OK
	LC16 at 85.94%	0.33	OK
	LC17 at 85.94%	0.79	OK
	LC18 at 85.94%	0.77	OK
	LC19 at 85.94%	0.78	OK
	LC2 at 85.16%	0.54	OK
	LC20 at 85.94%	0.79	OK
	LC21 at 85.94%	0.84	OK
	LC22 at 85.94%	0.86	OK
	LC23 at 85.94%	0.86	OK
	LC24 at 85.94%	0.85	OK
	LC25 at 85.94%	0.32	OK
	LC26 at 85.94%	0.35	OK
	LC27 at 10.16%	0.36	OK
	LC28 at 85.94%	0.63	OK
	LC29 at 85.94%	0.92	OK
	LC3 at 85.94%	0.35	OK

		LC30 at 85.94%	0.92	OK
		LC31 at 85.94%	0.92	OK
		LC32 at 85.94%	0.92	OK
		LC33 at 85.94%	0.93	OK
		LC34 at 85.94%	**0.94**	**OK**
		LC35 at 85.94%	0.94	OK
		LC36 at 85.94%	0.93	OK
		LC37 at 85.94%	0.55	OK
		LC38 at 85.94%	0.55	OK
		LC39 at 85.94%	0.55	OK
		LC4 at 85.16%	0.38	OK
		LC40 at 85.94%	0.55	OK
		LC41 at 85.94%	0.57	OK
		LC42 at 85.94%	0.57	OK
		LC43 at 85.94%	0.57	OK
		LC44 at 85.94%	0.57	OK
		LC45 at 85.94%	0.30	OK
		LC46 at 85.94%	0.29	OK
		LC47 at 85.94%	0.30	OK
		LC48 at 85.94%	0.30	OK
		LC49 at 85.94%	0.31	OK
		LC5 at 85.94%	0.39	OK
		LC50 at 85.94%	0.32	OK
		LC51 at 85.94%	0.32	OK
		LC52 at 85.94%	0.31	OK
		LC53 at 10.16%	0.57	OK
		LC54 at 10.16%	0.58	OK
		LC55 at 10.16%	0.57	OK
		LC56 at 10.16%	0.58	OK
		LC57 at 10.16%	0.58	OK
		LC58 at 10.16%	0.57	OK
		LC59 at 10.16%	0.58	OK
		LC6 at 85.94%	0.47	OK
		LC60 at 10.16%	0.57	OK
		LC7 at 85.94%	0.43	OK
		LC8 at 85.94%	0.40	OK
		LC9 at 71.88%	0.27	OK
link	**9**	LC1 at 0.00%	**0.41**	**OK**
		LC10 at 0.00%	0.12	OK
		LC11 at 0.00%	0.34	OK
		LC12 at 0.00%	0.10	OK
		LC13 at 0.00%	0.27	OK
		LC14 at 0.00%	0.10	OK
		LC15 at 0.00%	0.22	OK
		LC16 at 0.00%	0.07	OK
		LC17 at 0.00%	0.23	OK
		LC18 at 0.00%	0.18	OK
		LC19 at 0.00%	0.23	OK
		LC2 at 0.00%	0.14	OK
		LC20 at 0.00%	0.17	OK
		LC21 at 0.00%	0.10	OK
		LC22 at 0.00%	0.15	OK
		LC23 at 0.00%	0.10	OK
		LC24 at 0.00%	0.16	OK
		LC25 at 0.00%	0.09	OK
		LC26 at 0.00%	0.08	OK
		LC27 at 0.00%	0.12	OK
		LC28 at 0.00%	0.08	OK
		LC29 at 0.00%	0.10	OK
		LC3 at 0.00%	0.36	OK
		LC30 at 0.00%	0.08	OK
		LC31 at 0.00%	0.10	OK
		LC32 at 0.00%	0.08	OK

	LC33 at 0.00%	0.06	OK
	LC34 at 0.00%	0.08	OK
	LC35 at 0.00%	0.06	OK
	LC36 at 0.00%	0.08	OK
	LC37 at 0.00%	0.10	OK
	LC38 at 0.00%	0.08	OK
	LC39 at 0.00%	0.10	OK
	LC4 at 0.00%	0.12	OK
	LC40 at 0.00%	0.08	OK
	LC41 at 0.00%	0.06	OK
	LC42 at 0.00%	0.08	OK
	LC43 at 0.00%	0.06	OK
	LC44 at 0.00%	0.08	OK
	LC45 at 0.00%	0.10	OK
	LC46 at 0.00%	0.08	OK
	LC47 at 0.00%	0.10	OK
	LC48 at 0.00%	0.08	OK
	LC49 at 0.00%	0.06	OK
	LC5 at 0.00%	0.25	OK
	LC50 at 0.00%	0.08	OK
	LC51 at 0.00%	0.06	OK
	LC52 at 0.00%	0.08	OK
	LC53 at 0.00%	0.17	OK
	LC54 at 0.00%	0.15	OK
	LC55 at 0.00%	0.16	OK
	LC56 at 0.00%	0.15	OK
	LC57 at 0.00%	0.13	OK
	LC58 at 0.00%	0.14	OK
	LC59 at 0.00%	0.13	OK
	LC6 at 0.00%	0.11	OK
	LC60 at 0.00%	0.14	OK
	LC7 at 0.00%	0.20	OK
	LC8 at 0.00%	0.09	OK
	LC9 at 0.00%	0.39	OK
10	LC1 at 0.00%	**0.38**	**OK**
	LC10 at 100.00%	0.13	OK
	LC11 at 0.00%	0.25	OK
	LC12 at 100.00%	0.09	OK
	LC13 at 0.00%	0.29	OK
	LC14 at 100.00%	0.07	OK
	LC15 at 0.00%	0.17	OK
	LC16 at 100.00%	0.05	OK
	LC17 at 0.00%	0.24	OK
	LC18 at 0.00%	0.17	OK
	LC19 at 0.00%	0.22	OK
	LC2 at 100.00%	0.14	OK
	LC20 at 0.00%	0.17	OK
	LC21 at 0.00%	0.12	OK
	LC22 at 0.00%	0.18	OK
	LC23 at 0.00%	0.13	OK
	LC24 at 0.00%	0.18	OK
	LC25 at 0.00%	0.06	OK
	LC26 at 0.00%	0.07	OK
	LC27 at 0.00%	0.07	OK
	LC28 at 0.00%	0.06	OK
	LC29 at 0.00%	0.09	OK
	LC3 at 0.00%	0.26	OK
	LC30 at 0.00%	0.07	OK
	LC31 at 0.00%	0.08	OK
	LC32 at 0.00%	0.07	OK
	LC33 at 0.00%	0.05	OK
	LC34 at 0.00%	0.07	OK
	LC35 at 0.00%	0.06	OK

	LC36 at 0.00%	0.07	OK
	LC37 at 0.00%	0.09	OK
	LC38 at 0.00%	0.07	OK
	LC39 at 0.00%	0.09	OK
	LC4 at 100.00%	0.10	OK
	LC40 at 0.00%	0.07	OK
	LC41 at 0.00%	0.06	OK
	LC42 at 0.00%	0.07	OK
	LC43 at 0.00%	0.06	OK
	LC44 at 0.00%	0.07	OK
	LC45 at 0.00%	0.09	OK
	LC46 at 0.00%	0.07	OK
	LC47 at 0.00%	0.08	OK
	LC48 at 0.00%	0.07	OK
	LC49 at 0.00%	0.05	OK
	LC5 at 0.00%	0.28	OK
	LC50 at 0.00%	0.07	OK
	LC51 at 0.00%	0.06	OK
	LC52 at 0.00%	0.07	OK
	LC53 at 0.00%	0.11	OK
	LC54 at 100.00%	0.09	OK
	LC55 at 0.00%	0.10	OK
	LC56 at 100.00%	0.09	OK
	LC57 at 100.00%	0.07	OK
	LC58 at 0.00%	0.09	OK
	LC59 at 100.00%	0.08	OK
	LC6 at 100.00%	0.08	OK
	LC60 at 0.00%	0.09	OK
	LC7 at 0.00%	0.16	OK
	LC8 at 100.00%	0.06	OK
	LC9 at 0.00%	0.36	OK
11	LC1 at 0.00%	0.18	OK
	LC10 at 0.00%	0.12	OK
	LC11 at 0.00%	0.23	OK
	LC12 at 0.00%	0.10	OK
	LC13 at 100.00%	0.09	OK
	LC14 at 0.00%	0.14	OK
	LC15 at 100.00%	0.16	OK
	LC16 at 0.00%	0.12	OK
	LC17 at 0.00%	0.19	OK
	LC18 at 0.00%	0.14	OK
	LC19 at 0.00%	0.21	OK
	LC2 at 0.00%	0.13	OK
	LC20 at 0.00%	0.15	OK
	LC21 at 0.00%	0.14	OK
	LC22 at 0.00%	0.19	OK
	LC23 at 0.00%	0.13	OK
	LC24 at 0.00%	0.18	OK
	LC25 at 0.00%	0.08	OK
	LC26 at 0.00%	0.07	OK
	LC27 at 0.00%	0.07	OK
	LC28 at 0.00%	0.11	OK
	LC29 at 0.00%	0.15	OK
	LC3 at 0.00%	**0.24**	**OK**
	LC30 at 0.00%	0.14	OK
	LC31 at 0.00%	0.16	OK
	LC32 at 0.00%	0.14	OK
	LC33 at 0.00%	0.14	OK
	LC34 at 0.00%	0.15	OK
	LC35 at 0.00%	0.14	OK
	LC36 at 0.00%	0.15	OK
	LC37 at 0.00%	0.13	OK
	LC38 at 0.00%	0.11	OK

	LC39 at 0.00%	0.13	OK
	LC4 at 0.00%	0.11	OK
	LC40 at 0.00%	0.12	OK
	LC41 at 0.00%	0.11	OK
	LC42 at 0.00%	0.13	OK
	LC43 at 0.00%	0.11	OK
	LC44 at 0.00%	0.12	OK
	LC45 at 0.00%	0.07	OK
	LC46 at 0.00%	0.06	OK
	LC47 at 0.00%	0.08	OK
	LC48 at 0.00%	0.06	OK
	LC49 at 0.00%	0.06	OK
	LC5 at 100.00%	0.09	OK
	LC50 at 0.00%	0.07	OK
	LC51 at 0.00%	0.06	OK
	LC52 at 0.00%	0.07	OK
	LC53 at 0.00%	0.07	OK
	LC54 at 0.00%	0.06	OK
	LC55 at 0.00%	0.08	OK
	LC56 at 0.00%	0.06	OK
	LC57 at 0.00%	0.06	OK
	LC58 at 0.00%	0.07	OK
	LC59 at 0.00%	0.05	OK
	LC6 at 0.00%	0.16	OK
	LC60 at 0.00%	0.07	OK
	LC7 at 100.00%	0.15	OK
	LC8 at 0.00%	0.14	OK
	LC9 at 0.00%	0.16	OK
12	LC1 at 0.00%	0.07	OK
	LC10 at 0.00%	0.03	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 100.00%	0.02	OK
	LC13 at 0.00%	0.06	OK
	LC14 at 100.00%	0.05	OK
	LC15 at 0.00%	0.08	OK
	LC16 at 100.00%	0.03	OK
	LC17 at 100.00%	0.04	OK
	LC18 at 100.00%	0.03	OK
	LC19 at 100.00%	0.04	OK
	LC2 at 100.00%	0.03	OK
	LC20 at 100.00%	0.03	OK
	LC21 at 100.00%	0.05	OK
	LC22 at 100.00%	0.05	OK
	LC23 at 100.00%	0.05	OK
	LC24 at 100.00%	0.04	OK
	LC25 at 100.00%	0.01	OK
	LC26 at 100.00%	0.01	OK
	LC27 at 100.00%	0.01	OK
	LC28 at 0.00%	0.04	OK
	LC29 at 0.00%	0.07	OK
	LC3 at 0.00%	**0.08**	**OK**
	LC30 at 0.00%	0.07	OK
	LC31 at 0.00%	0.07	OK
	LC32 at 0.00%	0.07	OK
	LC33 at 0.00%	0.06	OK
	LC34 at 0.00%	0.07	OK
	LC35 at 0.00%	0.06	OK
	LC36 at 0.00%	0.07	OK
	LC37 at 0.00%	0.01	OK
	LC38 at 100.00%	0.01	OK
	LC39 at 0.00%	0.01	OK
	LC4 at 100.00%	0.02	OK
	LC40 at 100.00%	0.01	OK

		LC41 at 100.00%	0.01	OK
		LC42 at 100.00%	0.01	OK
		LC43 at 100.00%	0.01	OK
		LC44 at 100.00%	0.01	OK
		LC45 at 100.00%	0.01	OK
		LC46 at 100.00%	0.01	OK
		LC47 at 100.00%	0.01	OK
		LC48 at 100.00%	0.01	OK
		LC49 at 100.00%	0.02	OK
		LC5 at 100.00%	0.06	OK
		LC50 at 100.00%	0.01	OK
		LC51 at 100.00%	0.02	OK
		LC52 at 100.00%	0.01	OK
		LC53 at 100.00%	0.01	OK
		LC54 at 100.00%	0.01	OK
		LC55 at 100.00%	0.01	OK
		LC56 at 100.00%	0.01	OK
		LC57 at 100.00%	0.01	OK
		LC58 at 100.00%	0.01	OK
		LC59 at 100.00%	0.02	OK
		LC6 at 100.00%	0.05	OK
		LC60 at 100.00%	0.01	OK
		LC7 at 0.00%	0.08	OK
		LC8 at 100.00%	0.04	OK
		LC9 at 0.00%	0.07	OK
Mount Brace	**17**	LC1 at 50.00%	0.28	OK
		LC10 at 0.00%	0.29	OK
		LC11 at 50.00%	0.24	OK
		LC12 at 0.00%	0.20	OK
		LC13 at 50.00%	0.29	OK
		LC14 at 0.00%	0.11	OK
		LC15 at 50.00%	0.24	OK
		LC16 at 100.00%	0.09	OK
		LC17 at 100.00%	0.35	OK
		LC18 at 0.00%	0.38	OK
		LC19 at 100.00%	0.35	OK
		LC2 at 0.00%	0.32	OK
		LC20 at 0.00%	0.36	OK
		LC21 at 100.00%	0.36	OK
		LC22 at 100.00%	0.35	OK
		LC23 at 100.00%	0.36	OK
		LC24 at 100.00%	0.35	OK
		LC25 at 100.00%	0.15	OK
		LC26 at 100.00%	0.13	OK
		LC27 at 100.00%	0.34	OK
		LC28 at 100.00%	0.13	OK
		LC29 at 100.00%	0.12	OK
		LC3 at 50.00%	0.23	OK
		LC30 at 0.00%	0.13	OK
		LC31 at 100.00%	0.12	OK
		LC32 at 0.00%	0.13	OK
		LC33 at 100.00%	0.13	OK
		LC34 at 100.00%	0.12	OK
		LC35 at 100.00%	0.13	OK
		LC36 at 100.00%	0.13	OK
		LC37 at 100.00%	0.12	OK
		LC38 at 0.00%	0.13	OK
		LC39 at 100.00%	0.12	OK
		LC4 at 0.00%	0.23	OK
		LC40 at 0.00%	0.13	OK
		LC41 at 100.00%	0.13	OK
		LC42 at 100.00%	0.12	OK
		LC43 at 100.00%	0.13	OK

	LC44 at 100.00%	0.12	OK
	LC45 at 100.00%	0.12	OK
	LC46 at 0.00%	0.13	OK
	LC47 at 100.00%	0.13	OK
	LC48 at 100.00%	0.13	OK
	LC49 at 100.00%	0.13	OK
	LC5 at 50.00%	0.29	OK
	LC50 at 100.00%	0.13	OK
	LC51 at 100.00%	0.13	OK
	LC52 at 100.00%	0.13	OK
	LC53 at 100.00%	0.38	OK
	LC54 at 100.00%	0.38	OK
	LC55 at 100.00%	0.38	OK
	LC56 at 100.00%	0.38	OK
	LC57 at 100.00%	**0.38**	**OK**
	LC58 at 100.00%	0.38	OK
	LC59 at 100.00%	0.38	OK
	LC6 at 100.00%	0.12	OK
	LC60 at 100.00%	0.38	OK
	LC7 at 50.00%	0.25	OK
	LC8 at 100.00%	0.12	OK
	LC9 at 50.00%	0.28	OK
19	LC1 at 100.00%	0.11	OK
	LC10 at 100.00%	0.15	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 100.00%	0.14	OK
	LC13 at 100.00%	0.15	OK
	LC14 at 100.00%	0.08	OK
	LC15 at 100.00%	0.16	OK
	LC16 at 100.00%	0.09	OK
	LC17 at 100.00%	0.44	OK
	LC18 at 100.00%	0.45	OK
	LC19 at 100.00%	0.43	OK
	LC2 at 100.00%	0.19	OK
	LC20 at 100.00%	0.45	OK
	LC21 at 100.00%	0.45	OK
	LC22 at 100.00%	0.44	OK
	LC23 at 100.00%	**0.46**	**OK**
	LC24 at 100.00%	0.44	OK
	LC25 at 100.00%	0.18	OK
	LC26 at 100.00%	0.20	OK
	LC27 at 100.00%	0.19	OK
	LC28 at 100.00%	0.19	OK
	LC29 at 100.00%	0.24	OK
	LC3 at 100.00%	0.10	OK
	LC30 at 100.00%	0.24	OK
	LC31 at 100.00%	0.24	OK
	LC32 at 100.00%	0.24	OK
	LC33 at 100.00%	0.24	OK
	LC34 at 100.00%	0.24	OK
	LC35 at 100.00%	0.24	OK
	LC36 at 100.00%	0.24	OK
	LC37 at 100.00%	0.27	OK
	LC38 at 100.00%	0.28	OK
	LC39 at 100.00%	0.27	OK
	LC4 at 100.00%	0.17	OK
	LC40 at 100.00%	0.28	OK
	LC41 at 100.00%	0.28	OK
	LC42 at 100.00%	0.27	OK
	LC43 at 100.00%	0.28	OK
	LC44 at 100.00%	0.27	OK
	LC45 at 100.00%	0.17	OK
	LC46 at 100.00%	0.17	OK

	LC47 at 100.00%	0.17	OK
	LC48 at 100.00%	0.17	OK
	LC49 at 100.00%	0.17	OK
	LC5 at 100.00%	0.19	OK
	LC50 at 100.00%	0.17	OK
	LC51 at 100.00%	0.18	OK
	LC52 at 100.00%	0.17	OK
	LC53 at 100.00%	0.22	OK
	LC54 at 100.00%	0.22	OK
	LC55 at 100.00%	0.22	OK
	LC56 at 100.00%	0.22	OK
	LC57 at 100.00%	0.22	OK
	LC58 at 100.00%	0.22	OK
	LC59 at 100.00%	0.22	OK
	LC6 at 100.00%	0.12	OK
	LC60 at 100.00%	0.22	OK
	LC7 at 100.00%	0.20	OK
	LC8 at 100.00%	0.13	OK
	LC9 at 100.00%	0.08	OK
	---	---	---
20	LC1 at 0.00%	0.25	OK
	LC10 at 0.00%	0.17	OK
	LC11 at 0.00%	0.22	OK
	LC12 at 0.00%	0.16	OK
	LC13 at 0.00%	0.19	OK
	LC14 at 100.00%	0.16	OK
	LC15 at 0.00%	0.20	OK
	LC16 at 100.00%	0.16	OK
	LC17 at 0.00%	0.58	OK
	LC18 at 0.00%	0.58	OK
	LC19 at 0.00%	0.59	OK
	LC2 at 0.00%	0.22	OK
	LC20 at 0.00%	0.57	OK
	LC21 at 0.00%	0.59	OK
	LC22 at 0.00%	0.58	OK
	LC23 at 0.00%	**0.59**	**OK**
	LC24 at 0.00%	0.58	OK
	LC25 at 0.00%	0.23	OK
	LC26 at 0.00%	0.22	OK
	LC27 at 0.00%	0.22	OK
	LC28 at 0.00%	0.34	OK
	LC29 at 0.00%	0.49	OK
	LC3 at 0.00%	0.27	OK
	LC30 at 0.00%	0.49	OK
	LC31 at 0.00%	0.49	OK
	LC32 at 0.00%	0.49	OK
	LC33 at 0.00%	0.49	OK
	LC34 at 0.00%	0.49	OK
	LC35 at 0.00%	0.49	OK
	LC36 at 0.00%	0.49	OK
	LC37 at 0.00%	0.42	OK
	LC38 at 0.00%	0.43	OK
	LC39 at 0.00%	0.42	OK
	LC4 at 0.00%	0.21	OK
	LC40 at 0.00%	0.43	OK
	LC41 at 0.00%	0.43	OK
	LC42 at 0.00%	0.43	OK
	LC43 at 0.00%	0.43	OK
	LC44 at 0.00%	0.43	OK
	LC45 at 0.00%	0.20	OK
	LC46 at 0.00%	0.20	OK
	LC47 at 0.00%	0.20	OK
	LC48 at 0.00%	0.20	OK
	LC49 at 0.00%	0.20	OK

	LC5 at 0.00%	0.24	OK
	LC50 at 0.00%	0.20	OK
	LC51 at 0.00%	0.20	OK
	LC52 at 0.00%	0.20	OK
	LC53 at 0.00%	0.23	OK
	LC54 at 0.00%	0.23	OK
	LC55 at 0.00%	0.23	OK
	LC56 at 0.00%	0.23	OK
	LC57 at 0.00%	0.23	OK
	LC58 at 0.00%	0.23	OK
	LC59 at 0.00%	0.22	OK
	LC6 at 100.00%	0.21	OK
	LC60 at 0.00%	0.23	OK
	LC7 at 0.00%	0.25	OK
	LC8 at 100.00%	0.21	OK
	LC9 at 0.00%	0.20	OK
21	LC1 at 50.00%	0.23	OK
	LC10 at 100.00%	0.12	OK
	LC11 at 50.00%	0.32	OK
	LC12 at 100.00%	0.12	OK
	LC13 at 50.00%	0.28	OK
	LC14 at 100.00%	0.14	OK
	LC15 at 50.00%	0.36	OK
	LC16 at 100.00%	0.14	OK
	LC17 at 100.00%	0.50	OK
	LC18 at 100.00%	0.51	OK
	LC19 at 100.00%	0.50	OK
	LC2 at 100.00%	0.16	OK
	LC20 at 100.00%	0.51	OK
	LC21 at 100.00%	0.53	OK
	LC22 at 100.00%	0.52	OK
	LC23 at 100.00%	0.53	OK
	LC24 at 100.00%	0.52	OK
	LC25 at 100.00%	0.20	OK
	LC26 at 100.00%	0.18	OK
	LC27 at 100.00%	0.17	OK
	LC28 at 100.00%	0.44	OK
	LC29 at 100.00%	0.70	OK
	LC3 at 50.00%	0.31	OK
	LC30 at 100.00%	0.70	OK
	LC31 at 100.00%	0.70	OK
	LC32 at 100.00%	0.70	OK
	LC33 at 100.00%	0.71	OK
	LC34 at 100.00%	0.70	OK
	LC35 at 100.00%	**0.71**	**OK**
	LC36 at 100.00%	0.70	OK
	LC37 at 100.00%	0.23	OK
	LC38 at 100.00%	0.23	OK
	LC39 at 100.00%	0.23	OK
	LC4 at 100.00%	0.16	OK
	LC40 at 100.00%	0.23	OK
	LC41 at 100.00%	0.23	OK
	LC42 at 100.00%	0.23	OK
	LC43 at 100.00%	0.23	OK
	LC44 at 100.00%	0.23	OK
	LC45 at 100.00%	0.17	OK
	LC46 at 100.00%	0.17	OK
	LC47 at 100.00%	0.17	OK
	LC48 at 100.00%	0.17	OK
	LC49 at 100.00%	0.18	OK
	LC5 at 50.00%	0.29	OK
	LC50 at 100.00%	0.17	OK
	LC51 at 100.00%	0.18	OK

	LC52 at 100.00%	0.17	OK
	LC53 at 100.00%	0.17	OK
	LC54 at 100.00%	0.17	OK
	LC55 at 100.00%	0.17	OK
	LC56 at 100.00%	0.17	OK
	LC57 at 100.00%	0.18	OK
	LC58 at 100.00%	0.17	OK
	LC59 at 100.00%	0.18	OK
	LC6 at 100.00%	0.18	OK
	LC60 at 100.00%	0.18	OK
	LC7 at 50.00%	0.37	OK
	LC8 at 100.00%	0.18	OK
	LC9 at 50.00%	0.24	OK
22	LC1 at 100.00%	0.09	OK
	LC10 at 100.00%	0.02	OK
	LC11 at 100.00%	0.10	OK
	LC12 at 100.00%	0.03	OK
	LC13 at 100.00%	0.02	OK
	LC14 at 0.00%	0.07	OK
	LC15 at 100.00%	0.04	OK
	LC16 at 0.00%	0.06	OK
	LC17 at 100.00%	0.15	OK
	LC18 at 100.00%	0.14	OK
	LC19 at 100.00%	0.15	OK
	LC2 at 100.00%	0.03	OK
	LC20 at 100.00%	0.14	OK
	LC21 at 100.00%	0.14	OK
	LC22 at 100.00%	0.14	OK
	LC23 at 100.00%	0.14	OK
	LC24 at 100.00%	0.14	OK
	LC25 at 100.00%	0.05	OK
	LC26 at 100.00%	0.04	OK
	LC27 at 100.00%	0.04	OK
	LC28 at 100.00%	0.24	OK
	LC29 at 0.00%	0.29	OK
	LC3 at 100.00%	0.11	OK
	LC30 at 0.00%	0.29	OK
	LC31 at 0.00%	0.29	OK
	LC32 at 0.00%	0.29	OK
	LC33 at 0.00%	0.29	OK
	LC34 at 0.00%	**0.30**	**OK**
	LC35 at 0.00%	0.29	OK
	LC36 at 0.00%	0.29	OK
	LC37 at 100.00%	0.05	OK
	LC38 at 100.00%	0.05	OK
	LC39 at 100.00%	0.05	OK
	LC4 at 100.00%	0.04	OK
	LC40 at 100.00%	0.05	OK
	LC41 at 100.00%	0.05	OK
	LC42 at 100.00%	0.05	OK
	LC43 at 100.00%	0.05	OK
	LC44 at 100.00%	0.05	OK
	LC45 at 100.00%	0.05	OK
	LC46 at 100.00%	0.04	OK
	LC47 at 100.00%	0.05	OK
	LC48 at 100.00%	0.04	OK
	LC49 at 100.00%	0.04	OK
	LC5 at 100.00%	0.03	OK
	LC50 at 100.00%	0.05	OK
	LC51 at 100.00%	0.04	OK
	LC52 at 100.00%	0.05	OK
	LC53 at 100.00%	0.05	OK
	LC54 at 100.00%	0.04	OK

	LC55 at 100.00%	0.05	OK
	LC56 at 100.00%	0.04	OK
	LC57 at 100.00%	0.04	OK
	LC58 at 100.00%	0.05	OK
	LC59 at 100.00%	0.04	OK
	LC6 at 0.00%	0.08	OK
	LC60 at 100.00%	0.05	OK
	LC7 at 100.00%	0.03	OK
	LC8 at 0.00%	0.07	OK
	LC9 at 100.00%	0.08	OK
	---	---	---
31	LC1 at 100.00%	0.29	OK
	LC10 at 0.00%	0.18	OK
	LC11 at 100.00%	0.23	OK
	LC12 at 0.00%	0.17	OK
	LC13 at 0.00%	0.22	OK
	LC14 at 100.00%	0.30	OK
	LC15 at 0.00%	0.21	OK
	LC16 at 100.00%	0.25	OK
	LC17 at 0.00%	0.65	OK
	LC18 at 0.00%	0.65	OK
	LC19 at 0.00%	0.65	OK
	LC2 at 0.00%	0.24	OK
	LC20 at 0.00%	0.65	OK
	LC21 at 0.00%	0.67	OK
	LC22 at 0.00%	**0.67**	**OK**
	LC23 at 0.00%	0.67	OK
	LC24 at 0.00%	0.67	OK
	LC25 at 0.00%	0.26	OK
	LC26 at 0.00%	0.22	OK
	LC27 at 0.00%	0.42	OK
	LC28 at 100.00%	0.26	OK
	LC29 at 100.00%	0.31	OK
	LC3 at 100.00%	0.28	OK
	LC30 at 100.00%	0.29	OK
	LC31 at 100.00%	0.31	OK
	LC32 at 100.00%	0.30	OK
	LC33 at 100.00%	0.30	OK
	LC34 at 100.00%	0.31	OK
	LC35 at 100.00%	0.30	OK
	LC36 at 100.00%	0.31	OK
	LC37 at 100.00%	0.24	OK
	LC38 at 0.00%	0.23	OK
	LC39 at 100.00%	0.24	OK
	LC4 at 0.00%	0.22	OK
	LC40 at 0.00%	0.23	OK
	LC41 at 0.00%	0.24	OK
	LC42 at 100.00%	0.25	OK
	LC43 at 0.00%	0.24	OK
	LC44 at 100.00%	0.24	OK
	LC45 at 0.00%	0.23	OK
	LC46 at 0.00%	0.23	OK
	LC47 at 0.00%	0.23	OK
	LC48 at 0.00%	0.23	OK
	LC49 at 0.00%	0.23	OK
	LC5 at 0.00%	0.27	OK
	LC50 at 0.00%	0.23	OK
	LC51 at 0.00%	0.23	OK
	LC52 at 0.00%	0.23	OK
	LC53 at 0.00%	0.62	OK
	LC54 at 0.00%	0.62	OK
	LC55 at 0.00%	0.62	OK
	LC56 at 0.00%	0.62	OK
	LC57 at 0.00%	0.62	OK

		LC58 at 0.00%	0.62	OK
		LC59 at 0.00%	0.62	OK
		LC6 at 100.00%	0.35	OK
		LC60 at 0.00%	0.62	OK
		LC7 at 0.00%	0.26	OK
		LC8 at 100.00%	0.30	OK
		LC9 at 100.00%	0.24	OK
RRU Rack	**33**	LC1 at 0.00%	0.09	OK
		LC10 at 0.00%	0.18	OK
		LC11 at 0.00%	0.07	OK
		LC12 at 0.00%	0.15	OK
		LC13 at 0.00%	0.07	OK
		LC14 at 0.00%	0.18	OK
		LC15 at 0.00%	0.07	OK
		LC16 at 0.00%	0.15	OK
		LC17 at 0.00%	0.21	OK
		LC18 at 0.00%	0.24	OK
		LC19 at 0.00%	0.21	OK
		LC2 at 0.00%	0.20	OK
		LC20 at 0.00%	0.23	OK
		LC21 at 0.00%	0.21	OK
		LC22 at 0.00%	**0.24**	**OK**
		LC23 at 0.00%	0.21	OK
		LC24 at 0.00%	0.23	OK
		LC25 at 0.00%	0.11	OK
		LC26 at 0.00%	0.09	OK
		LC27 at 0.00%	0.09	OK
		LC28 at 0.00%	0.09	OK
		LC29 at 0.00%	0.09	OK
		LC3 at 0.00%	0.09	OK
		LC30 at 0.00%	0.10	OK
		LC31 at 0.00%	0.09	OK
		LC32 at 0.00%	0.10	OK
		LC33 at 0.00%	0.09	OK
		LC34 at 0.00%	0.10	OK
		LC35 at 0.00%	0.09	OK
		LC36 at 0.00%	0.10	OK
		LC37 at 0.00%	0.09	OK
		LC38 at 0.00%	0.10	OK
		LC39 at 0.00%	0.09	OK
		LC4 at 0.00%	0.17	OK
		LC40 at 0.00%	0.10	OK
		LC41 at 0.00%	0.09	OK
		LC42 at 0.00%	0.10	OK
		LC43 at 0.00%	0.09	OK
		LC44 at 0.00%	0.10	OK
		LC45 at 0.00%	0.09	OK
		LC46 at 0.00%	0.10	OK
		LC47 at 0.00%	0.09	OK
		LC48 at 0.00%	0.10	OK
		LC49 at 0.00%	0.09	OK
		LC5 at 0.00%	0.09	OK
		LC50 at 0.00%	0.10	OK
		LC51 at 0.00%	0.09	OK
		LC52 at 0.00%	0.10	OK
		LC53 at 0.00%	0.09	OK
		LC54 at 0.00%	0.10	OK
		LC55 at 0.00%	0.09	OK
		LC56 at 0.00%	0.10	OK
		LC57 at 0.00%	0.09	OK
		LC58 at 0.00%	0.10	OK
		LC59 at 0.00%	0.09	OK
		LC6 at 0.00%	0.20	OK

	LC60 at 0.00%	0.10	OK
	LC7 at 0.00%	0.09	OK
	LC8 at 0.00%	0.17	OK
	LC9 at 0.00%	0.07	OK
34	LC1 at 0.00%	0.11	OK
	LC10 at 0.00%	0.16	OK
	LC11 at 0.00%	0.08	OK
	LC12 at 0.00%	0.13	OK
	LC13 at 0.00%	0.08	OK
	LC14 at 0.00%	0.16	OK
	LC15 at 0.00%	0.08	OK
	LC16 at 0.00%	0.13	OK
	LC17 at 0.00%	0.21	OK
	LC18 at 0.00%	**0.23**	**OK**
	LC19 at 0.00%	0.21	OK
	LC2 at 0.00%	0.19	OK
	LC20 at 0.00%	0.22	OK
	LC21 at 0.00%	0.21	OK
	LC22 at 0.00%	0.23	OK
	LC23 at 0.00%	0.21	OK
	LC24 at 0.00%	0.22	OK
	LC25 at 0.00%	0.13	OK
	LC26 at 0.00%	0.11	OK
	LC27 at 0.00%	0.11	OK
	LC28 at 0.00%	0.11	OK
	LC29 at 0.00%	0.11	OK
	LC3 at 0.00%	0.11	OK
	LC30 at 0.00%	0.11	OK
	LC31 at 0.00%	0.11	OK
	LC32 at 0.00%	0.11	OK
	LC33 at 0.00%	0.11	OK
	LC34 at 0.00%	0.11	OK
	LC35 at 0.00%	0.11	OK
	LC36 at 0.00%	0.11	OK
	LC37 at 0.00%	0.11	OK
	LC38 at 0.00%	0.11	OK
	LC39 at 0.00%	0.11	OK
	LC4 at 0.00%	0.16	OK
	LC40 at 0.00%	0.11	OK
	LC41 at 0.00%	0.11	OK
	LC42 at 0.00%	0.11	OK
	LC43 at 0.00%	0.11	OK
	LC44 at 0.00%	0.11	OK
	LC45 at 0.00%	0.11	OK
	LC46 at 0.00%	0.11	OK
	LC47 at 0.00%	0.11	OK
	LC48 at 0.00%	0.11	OK
	LC49 at 0.00%	0.11	OK
	LC5 at 0.00%	0.11	OK
	LC50 at 0.00%	0.11	OK
	LC51 at 0.00%	0.11	OK
	LC52 at 0.00%	0.11	OK
	LC53 at 0.00%	0.11	OK
	LC54 at 0.00%	0.11	OK
	LC55 at 0.00%	0.11	OK
	LC56 at 0.00%	0.11	OK
	LC57 at 0.00%	0.11	OK
	LC58 at 0.00%	0.11	OK
	LC59 at 0.00%	0.11	OK
	LC6 at 0.00%	0.19	OK
	LC60 at 0.00%	0.11	OK
	LC7 at 0.00%	0.11	OK
	LC8 at 0.00%	0.16	OK

		LC9 at 0.00%	0.08	OK
Standoff Brace	**25**	LC1 at 0.00%	0.14	OK
		LC10 at 100.00%	0.17	OK
		LC11 at 0.00%	0.10	OK
		LC12 at 100.00%	0.15	OK
		LC13 at 100.00%	0.16	OK
		LC14 at 0.00%	0.29	OK
		LC15 at 100.00%	0.16	OK
		LC16 at 0.00%	0.23	OK
		LC17 at 0.00%	0.51	OK
		LC18 at 0.00%	0.48	OK
		LC19 at 0.00%	0.51	OK
		LC2 at 100.00%	0.21	OK
		LC20 at 0.00%	0.49	OK
		LC21 at 0.00%	0.52	OK
		LC22 at 0.00%	**0.55**	**OK**
		LC23 at 0.00%	0.53	OK
		LC24 at 0.00%	0.54	OK
		LC25 at 0.00%	0.20	OK
		LC26 at 0.00%	0.22	OK
		LC27 at 100.00%	0.23	OK
		LC28 at 0.00%	0.37	OK
		LC29 at 0.00%	0.54	OK
		LC3 at 0.00%	0.14	OK
		LC30 at 0.00%	0.53	OK
		LC31 at 0.00%	0.54	OK
		LC32 at 0.00%	0.53	OK
		LC33 at 0.00%	0.54	OK
		LC34 at 0.00%	0.55	OK
		LC35 at 0.00%	0.54	OK
		LC36 at 0.00%	0.54	OK
		LC37 at 0.00%	0.34	OK
		LC38 at 0.00%	0.33	OK
		LC39 at 0.00%	0.34	OK
		LC4 at 100.00%	0.19	OK
		LC40 at 0.00%	0.33	OK
		LC41 at 0.00%	0.34	OK
		LC42 at 0.00%	0.35	OK
		LC43 at 0.00%	0.34	OK
		LC44 at 0.00%	0.35	OK
		LC45 at 0.00%	0.24	OK
		LC46 at 0.00%	0.23	OK
		LC47 at 0.00%	0.24	OK
		LC48 at 0.00%	0.24	OK
		LC49 at 0.00%	0.24	OK
		LC5 at 100.00%	0.20	OK
		LC50 at 0.00%	0.25	OK
		LC51 at 0.00%	0.24	OK
		LC52 at 0.00%	0.25	OK
		LC53 at 100.00%	0.30	OK
		LC54 at 100.00%	0.30	OK
		LC55 at 100.00%	0.30	OK
		LC56 at 100.00%	0.30	OK
		LC57 at 100.00%	0.30	OK
		LC58 at 100.00%	0.30	OK
		LC59 at 100.00%	0.30	OK
		LC6 at 0.00%	0.33	OK
		LC60 at 100.00%	0.30	OK
		LC7 at 100.00%	0.20	OK
		LC8 at 0.00%	0.27	OK
		LC9 at 0.00%	0.10	OK
	26	LC1 at 100.00%	0.12	OK

	LC10 at 0.00%	0.06	OK
	LC11 at 100.00%	0.10	OK
	LC12 at 0.00%	0.07	OK
	LC13 at 100.00%	0.12	OK
	LC14 at 100.00%	0.15	OK
	LC15 at 0.00%	0.12	OK
	LC16 at 100.00%	0.13	OK
	LC17 at 100.00%	0.39	OK
	LC18 at 0.00%	0.38	OK
	LC19 at 100.00%	0.39	OK
	LC2 at 0.00%	0.10	OK
	LC20 at 100.00%	0.38	OK
	LC21 at 100.00%	0.39	OK
	LC22 at 100.00%	**0.40**	**OK**
	LC23 at 0.00%	0.39	OK
	LC24 at 100.00%	0.40	OK
	LC25 at 100.00%	0.15	OK
	LC26 at 100.00%	0.18	OK
	LC27 at 100.00%	0.14	OK
	LC28 at 0.00%	0.20	OK
	LC29 at 0.00%	0.27	OK
	LC3 at 100.00%	0.13	OK
	LC30 at 0.00%	0.27	OK
	LC31 at 0.00%	0.27	OK
	LC32 at 0.00%	0.27	OK
	LC33 at 0.00%	0.27	OK
	LC34 at 0.00%	0.27	OK
	LC35 at 0.00%	0.27	OK
	LC36 at 0.00%	0.27	OK
	LC37 at 100.00%	0.24	OK
	LC38 at 100.00%	0.24	OK
	LC39 at 100.00%	0.24	OK
	LC4 at 0.00%	0.11	OK
	LC40 at 100.00%	0.24	OK
	LC41 at 100.00%	0.24	OK
	LC42 at 100.00%	0.24	OK
	LC43 at 100.00%	0.24	OK
	LC44 at 100.00%	0.24	OK
	LC45 at 0.00%	0.19	OK
	LC46 at 0.00%	0.19	OK
	LC47 at 0.00%	0.19	OK
	LC48 at 0.00%	0.19	OK
	LC49 at 0.00%	0.19	OK
	LC5 at 0.00%	0.15	OK
	LC50 at 0.00%	0.19	OK
	LC51 at 0.00%	0.19	OK
	LC52 at 0.00%	0.19	OK
	LC53 at 100.00%	0.15	OK
	LC54 at 100.00%	0.15	OK
	LC55 at 100.00%	0.15	OK
	LC56 at 100.00%	0.15	OK
	LC57 at 100.00%	0.15	OK
	LC58 at 100.00%	0.16	OK
	LC59 at 100.00%	0.15	OK
	LC6 at 100.00%	0.18	OK
	LC60 at 100.00%	0.16	OK
	LC7 at 0.00%	0.15	OK
	LC8 at 100.00%	0.16	OK
	LC9 at 100.00%	0.09	OK
27	LC1 at 100.00%	0.04	OK
	LC10 at 0.00%	0.04	OK
	LC11 at 100.00%	0.03	OK
	LC12 at 0.00%	0.03	OK

	LC13 at 0.00%	0.04	OK
	LC14 at 0.00%	0.07	OK
	LC15 at 0.00%	0.04	OK
	LC16 at 0.00%	0.05	OK
	LC17 at 100.00%	0.13	OK
	LC18 at 100.00%	0.12	OK
	LC19 at 100.00%	0.13	OK
	LC2 at 0.00%	0.04	OK
	LC20 at 100.00%	0.13	OK
	LC21 at 100.00%	0.13	OK
	LC22 at 100.00%	**0.14**	**OK**
	LC23 at 100.00%	0.13	OK
	LC24 at 100.00%	0.14	OK
	LC25 at 100.00%	0.05	OK
	LC26 at 100.00%	0.06	OK
	LC27 at 0.00%	0.05	OK
	LC28 at 100.00%	0.09	OK
	LC29 at 100.00%	0.12	OK
	LC3 at 100.00%	0.04	OK
	LC30 at 100.00%	0.12	OK
	LC31 at 100.00%	0.12	OK
	LC32 at 100.00%	0.12	OK
	LC33 at 100.00%	0.12	OK
	LC34 at 100.00%	0.12	OK
	LC35 at 100.00%	0.12	OK
	LC36 at 100.00%	0.12	OK
	LC37 at 100.00%	0.09	OK
	LC38 at 100.00%	0.09	OK
	LC39 at 100.00%	0.09	OK
	LC4 at 0.00%	0.04	OK
	LC40 at 100.00%	0.09	OK
	LC41 at 100.00%	0.09	OK
	LC42 at 100.00%	0.09	OK
	LC43 at 100.00%	0.09	OK
	LC44 at 100.00%	0.09	OK
	LC45 at 100.00%	0.06	OK
	LC46 at 100.00%	0.06	OK
	LC47 at 100.00%	0.06	OK
	LC48 at 100.00%	0.06	OK
	LC49 at 100.00%	0.06	OK
	LC5 at 100.00%	0.05	OK
	LC50 at 100.00%	0.06	OK
	LC51 at 100.00%	0.06	OK
	LC52 at 100.00%	0.06	OK
	LC53 at 0.00%	0.06	OK
	LC54 at 0.00%	0.06	OK
	LC55 at 0.00%	0.06	OK
	LC56 at 0.00%	0.06	OK
	LC57 at 0.00%	0.06	OK
	LC58 at 0.00%	0.06	OK
	LC59 at 0.00%	0.06	OK
	LC6 at 0.00%	0.08	OK
	LC60 at 0.00%	0.06	OK
	LC7 at 0.00%	0.05	OK
	LC8 at 0.00%	0.07	OK
	LC9 at 100.00%	0.03	OK
37	LC1 at 100.00%	0.16	OK
	LC10 at 0.00%	0.20	OK
	LC11 at 100.00%	0.11	OK
	LC12 at 0.00%	0.14	OK
	LC13 at 0.00%	0.17	OK
	LC14 at 100.00%	0.18	OK
	LC15 at 0.00%	0.17	OK

	LC16 at 100.00%	0.15	OK
	LC17 at 100.00%	0.52	OK
	LC18 at 100.00%	0.51	OK
	LC19 at 100.00%	0.52	OK
	LC2 at 0.00%	0.21	OK
	LC20 at 100.00%	0.52	OK
	LC21 at 100.00%	0.52	OK
	LC22 at 100.00%	**0.52**	**OK**
	LC23 at 100.00%	0.52	OK
	LC24 at 100.00%	0.52	OK
	LC25 at 100.00%	0.20	OK
	LC26 at 100.00%	0.19	OK
	LC27 at 100.00%	0.24	OK
	LC28 at 100.00%	0.24	OK
	LC29 at 100.00%	0.29	OK
	LC3 at 100.00%	0.16	OK
	LC30 at 100.00%	0.29	OK
	LC31 at 100.00%	0.29	OK
	LC32 at 100.00%	0.29	OK
	LC33 at 100.00%	0.29	OK
	LC34 at 100.00%	0.29	OK
	LC35 at 100.00%	0.29	OK
	LC36 at 100.00%	0.29	OK
	LC37 at 100.00%	0.24	OK
	LC38 at 100.00%	0.24	OK
	LC39 at 100.00%	0.24	OK
	LC4 at 0.00%	0.16	OK
	LC40 at 100.00%	0.24	OK
	LC41 at 100.00%	0.24	OK
	LC42 at 100.00%	0.24	OK
	LC43 at 100.00%	0.24	OK
	LC44 at 100.00%	0.24	OK
	LC45 at 100.00%	0.24	OK
	LC46 at 100.00%	0.24	OK
	LC47 at 100.00%	0.24	OK
	LC48 at 100.00%	0.24	OK
	LC49 at 100.00%	0.24	OK
	LC5 at 0.00%	0.21	OK
	LC50 at 100.00%	0.24	OK
	LC51 at 100.00%	0.24	OK
	LC52 at 100.00%	0.24	OK
	LC53 at 100.00%	0.32	OK
	LC54 at 100.00%	0.32	OK
	LC55 at 100.00%	0.32	OK
	LC56 at 100.00%	0.32	OK
	LC57 at 100.00%	0.32	OK
	LC58 at 100.00%	0.32	OK
	LC59 at 100.00%	0.32	OK
	LC6 at 100.00%	0.19	OK
	LC60 at 100.00%	0.32	OK
	LC7 at 0.00%	0.21	OK
	LC8 at 100.00%	0.19	OK
	LC9 at 100.00%	0.11	OK
39	LC1 at 100.00%	0.08	OK
	LC10 at 0.00%	0.15	OK
	LC11 at 100.00%	0.05	OK
	LC12 at 0.00%	0.11	OK
	LC13 at 100.00%	0.06	OK
	LC14 at 0.00%	0.05	OK
	LC15 at 0.00%	0.06	OK
	LC16 at 0.00%	0.04	OK
	LC17 at 0.00%	0.21	OK
	LC18 at 100.00%	0.23	OK

	LC19 at 100.00%	0.21	OK
	LC2 at 0.00%	0.17	OK
	LC20 at 100.00%	0.23	OK
	LC21 at 0.00%	0.21	OK
	LC22 at 0.00%	0.21	OK
	LC23 at 0.00%	0.21	OK
	LC24 at 0.00%	0.21	OK
	LC25 at 100.00%	0.08	OK
	LC26 at 0.00%	0.08	OK
	LC27 at 100.00%	0.16	OK
	LC28 at 0.00%	0.06	OK
	LC29 at 0.00%	0.05	OK
	LC3 at 100.00%	0.07	OK
	LC30 at 0.00%	0.05	OK
	LC31 at 0.00%	0.05	OK
	LC32 at 0.00%	0.05	OK
	LC33 at 0.00%	0.05	OK
	LC34 at 0.00%	0.05	OK
	LC35 at 0.00%	0.05	OK
	LC36 at 0.00%	0.05	OK
	LC37 at 0.00%	0.08	OK
	LC38 at 0.00%	0.08	OK
	LC39 at 0.00%	0.08	OK
	LC4 at 0.00%	0.13	OK
	LC40 at 0.00%	0.08	OK
	LC41 at 0.00%	0.08	OK
	LC42 at 0.00%	0.08	OK
	LC43 at 0.00%	0.08	OK
	LC44 at 0.00%	0.08	OK
	LC45 at 100.00%	0.13	OK
	LC46 at 100.00%	0.13	OK
	LC47 at 100.00%	0.13	OK
	LC48 at 100.00%	0.13	OK
	LC49 at 100.00%	0.13	OK
	LC5 at 100.00%	0.07	OK
	LC50 at 100.00%	0.12	OK
	LC51 at 100.00%	0.13	OK
	LC52 at 100.00%	0.12	OK
	LC53 at 100.00%	0.23	OK
	LC54 at 100.00%	**0.24**	**OK**
	LC55 at 100.00%	0.23	OK
	LC56 at 100.00%	0.24	OK
	LC57 at 100.00%	0.23	OK
	LC58 at 100.00%	0.23	OK
	LC59 at 100.00%	0.23	OK
	LC6 at 0.00%	0.05	OK
	LC60 at 100.00%	0.23	OK
	LC7 at 0.00%	0.08	OK
	LC8 at 0.00%	0.06	OK
	LC9 at 100.00%	0.06	OK
40	LC1 at 100.00%	0.12	OK
	LC10 at 0.00%	0.16	OK
	LC11 at 100.00%	0.09	OK
	LC12 at 100.00%	0.13	OK
	LC13 at 0.00%	0.09	OK
	LC14 at 100.00%	0.04	OK
	LC15 at 0.00%	0.09	OK
	LC16 at 100.00%	0.04	OK
	LC17 at 100.00%	0.34	OK
	LC18 at 100.00%	**0.35**	**OK**
	LC19 at 100.00%	0.34	OK
	LC2 at 0.00%	0.19	OK
	LC20 at 100.00%	0.35	OK

			LC21 at 100.00%	0.34	OK
			LC22 at 100.00%	0.32	OK
			LC23 at 100.00%	0.34	OK
			LC24 at 100.00%	0.33	OK
			LC25 at 100.00%	0.13	OK
			LC26 at 100.00%	0.13	OK
			LC27 at 100.00%	0.20	OK
			LC28 at 100.00%	0.09	OK
			LC29 at 100.00%	0.08	OK
			LC3 at 100.00%	0.12	OK
			LC30 at 100.00%	0.08	OK
			LC31 at 100.00%	0.08	OK
			LC32 at 100.00%	0.08	OK
			LC33 at 100.00%	0.08	OK
			LC34 at 100.00%	0.07	OK
			LC35 at 100.00%	0.08	OK
			LC36 at 100.00%	0.07	OK
			LC37 at 100.00%	0.12	OK
			LC38 at 100.00%	0.13	OK
			LC39 at 100.00%	0.12	OK
			LC4 at 100.00%	0.16	OK
			LC40 at 100.00%	0.12	OK
			LC41 at 100.00%	0.12	OK
			LC42 at 100.00%	0.12	OK
			LC43 at 100.00%	0.12	OK
			LC44 at 100.00%	0.12	OK
			LC45 at 100.00%	0.18	OK
			LC46 at 100.00%	0.19	OK
			LC47 at 100.00%	0.18	OK
			LC48 at 100.00%	0.19	OK
			LC49 at 100.00%	0.18	OK
			LC5 at 0.00%	0.12	OK
			LC50 at 100.00%	0.18	OK
			LC51 at 100.00%	0.18	OK
			LC52 at 100.00%	0.18	OK
			LC53 at 100.00%	0.28	OK
			LC54 at 100.00%	0.29	OK
			LC55 at 100.00%	0.28	OK
			LC56 at 100.00%	0.29	OK
			LC57 at 100.00%	0.28	OK
			LC58 at 100.00%	0.28	OK
			LC59 at 100.00%	0.28	OK
			LC6 at 100.00%	0.04	OK
			LC60 at 100.00%	0.28	OK
			LC7 at 0.00%	0.12	OK
			LC8 at 100.00%	0.07	OK
			LC9 at 100.00%	0.09	OK
standoff horz.	***PIPE 3x0.216***	**35**	LC1 at 0.00%	0.14	OK
			LC10 at 100.00%	0.37	OK
			LC11 at 0.00%	0.12	OK
			LC12 at 100.00%	0.25	OK
			LC13 at 0.00%	0.08	OK
			LC14 at 100.00%	0.32	OK
			LC15 at 0.00%	0.07	OK
			LC16 at 100.00%	0.22	OK
			LC17 at 100.00%	0.20	OK
			LC18 at 100.00%	0.23	OK
			LC19 at 100.00%	0.20	OK
			LC2 at 100.00%	**0.38**	**OK**
			LC20 at 100.00%	0.20	OK
			LC21 at 100.00%	0.19	OK
			LC22 at 100.00%	0.26	OK
			LC23 at 100.00%	0.19	OK

	LC24 at 100.00%	0.24	OK
	LC25 at 100.00%	0.08	OK
	LC26 at 100.00%	0.08	OK
	LC27 at 100.00%	0.15	OK
	LC28 at 100.00%	0.13	OK
	LC29 at 0.00%	0.19	OK
	LC3 at 0.00%	0.13	OK
	LC30 at 0.00%	0.17	OK
	LC31 at 0.00%	0.19	OK
	LC32 at 0.00%	0.18	OK
	LC33 at 0.00%	0.19	OK
	LC34 at 0.00%	0.21	OK
	LC35 at 0.00%	0.19	OK
	LC36 at 0.00%	0.20	OK
	LC37 at 100.00%	0.12	OK
	LC38 at 100.00%	0.10	OK
	LC39 at 100.00%	0.12	OK
	LC4 at 100.00%	0.26	OK
	LC40 at 100.00%	0.11	OK
	LC41 at 100.00%	0.12	OK
	LC42 at 100.00%	0.14	OK
	LC43 at 100.00%	0.12	OK
	LC44 at 100.00%	0.13	OK
	LC45 at 100.00%	0.10	OK
	LC46 at 100.00%	0.12	OK
	LC47 at 100.00%	0.10	OK
	LC48 at 100.00%	0.11	OK
	LC49 at 100.00%	0.10	OK
	LC5 at 0.00%	0.07	OK
	LC50 at 100.00%	0.12	OK
	LC51 at 100.00%	0.10	OK
	LC52 at 100.00%	0.11	OK
	LC53 at 100.00%	0.23	OK
	LC54 at 100.00%	0.25	OK
	LC55 at 100.00%	0.23	OK
	LC56 at 100.00%	0.25	OK
	LC57 at 100.00%	0.23	OK
	LC58 at 100.00%	0.21	OK
	LC59 at 100.00%	0.24	OK
	LC6 at 100.00%	0.32	OK
	LC60 at 100.00%	0.22	OK
	LC7 at 100.00%	0.07	OK
	LC8 at 100.00%	0.23	OK
	LC9 at 0.00%	0.13	OK
36	LC1 at 7.81%	0.08	OK
	LC10 at 100.00%	0.23	OK
	LC11 at 0.00%	0.06	OK
	LC12 at 100.00%	0.17	OK
	LC13 at 6.25%	0.08	OK
	LC14 at 100.00%	0.14	OK
	LC15 at 6.25%	0.07	OK
	LC16 at 100.00%	0.10	OK
	LC17 at 100.00%	0.19	OK
	LC18 at 100.00%	0.23	OK
	LC19 at 100.00%	0.18	OK
	LC2 at 100.00%	**0.25**	**OK**
	LC20 at 100.00%	0.22	OK
	LC21 at 100.00%	0.18	OK
	LC22 at 100.00%	0.18	OK
	LC23 at 100.00%	0.18	OK
	LC24 at 100.00%	0.17	OK
	LC25 at 100.00%	0.07	OK
	LC26 at 100.00%	0.08	OK

		LC27 at 100.00%	0.15	OK
		LC28 at 100.00%	0.10	OK
		LC29 at 100.00%	0.14	OK
		LC3 at 100.00%	0.07	OK
		LC30 at 100.00%	0.15	OK
		LC31 at 100.00%	0.14	OK
		LC32 at 100.00%	0.14	OK
		LC33 at 100.00%	0.14	OK
		LC34 at 100.00%	0.12	OK
		LC35 at 100.00%	0.14	OK
		LC36 at 100.00%	0.13	OK
		LC37 at 100.00%	0.11	OK
		LC38 at 100.00%	0.13	OK
		LC39 at 100.00%	0.11	OK
		LC4 at 100.00%	0.18	OK
		LC40 at 100.00%	0.12	OK
		LC41 at 100.00%	0.11	OK
		LC42 at 100.00%	0.10	OK
		LC43 at 100.00%	0.11	OK
		LC44 at 100.00%	0.10	OK
		LC45 at 100.00%	0.10	OK
		LC46 at 100.00%	0.11	OK
		LC47 at 100.00%	0.10	OK
		LC48 at 100.00%	0.11	OK
		LC49 at 100.00%	0.10	OK
		LC5 at 6.25%	0.08	OK
		LC50 at 100.00%	0.11	OK
		LC51 at 100.00%	0.10	OK
		LC52 at 100.00%	0.10	OK
		LC53 at 100.00%	0.22	OK
		LC54 at 100.00%	0.22	OK
		LC55 at 100.00%	0.22	OK
		LC56 at 100.00%	0.22	OK
		LC57 at 100.00%	0.22	OK
		LC58 at 100.00%	0.23	OK
		LC59 at 100.00%	0.22	OK
		LC6 at 100.00%	0.14	OK
		LC60 at 100.00%	0.23	OK
		LC7 at 6.25%	0.07	OK
		LC8 at 100.00%	0.11	OK
		LC9 at 7.81%	0.07	OK
PIPE 4x0.237	**23**	LC1 at 100.00%	0.11	OK
		LC10 at 100.00%	0.44	OK
		LC11 at 100.00%	0.09	OK
		LC12 at 100.00%	0.30	OK
		LC13 at 100.00%	0.11	OK
		LC14 at 100.00%	0.54	OK
		LC15 at 100.00%	0.10	OK
		LC16 at 100.00%	0.37	OK
		LC17 at 100.00%	0.37	OK
		LC18 at 100.00%	0.28	OK
		LC19 at 100.00%	0.37	OK
		LC2 at 100.00%	0.46	OK
		LC20 at 100.00%	0.29	OK
		LC21 at 100.00%	0.37	OK
		LC22 at 100.00%	0.48	OK
		LC23 at 100.00%	0.37	OK
		LC24 at 100.00%	0.44	OK
		LC25 at 100.00%	0.14	OK
		LC26 at 100.00%	0.17	OK
		LC27 at 100.00%	0.14	OK
		LC28 at 100.00%	0.29	OK
		LC29 at 100.00%	0.43	OK

	LC3 at 100.00%	0.12	OK
	LC30 at 100.00%	0.40	OK
	LC31 at 100.00%	0.43	OK
	LC32 at 100.00%	0.41	OK
	LC33 at 100.00%	0.43	OK
	LC34 at 100.00%	0.46	OK
	LC35 at 100.00%	0.43	OK
	LC36 at 100.00%	0.45	OK
	LC37 at 100.00%	0.28	OK
	LC38 at 100.00%	0.25	OK
	LC39 at 100.00%	0.28	OK
	LC4 at 100.00%	0.31	OK
	LC40 at 100.00%	0.26	OK
	LC41 at 100.00%	0.28	OK
	LC42 at 100.00%	0.30	OK
	LC43 at 100.00%	0.28	OK
	LC44 at 100.00%	0.30	OK
	LC45 at 100.00%	0.16	OK
	LC46 at 100.00%	0.14	OK
	LC47 at 100.00%	0.16	OK
	LC48 at 100.00%	0.14	OK
	LC49 at 100.00%	0.16	OK
	LC5 at 100.00%	0.14	OK
	LC50 at 100.00%	0.18	OK
	LC51 at 100.00%	0.16	OK
	LC52 at 100.00%	0.17	OK
	LC53 at 100.00%	0.21	OK
	LC54 at 100.00%	0.23	OK
	LC55 at 100.00%	0.21	OK
	LC56 at 100.00%	0.22	OK
	LC57 at 100.00%	0.21	OK
	LC58 at 100.00%	0.18	OK
	LC59 at 100.00%	0.21	OK
	LC6 at 100.00%	**0.57**	**OK**
	LC60 at 100.00%	0.19	OK
	LC7 at 100.00%	0.13	OK
	LC8 at 100.00%	0.40	OK
	LC9 at 100.00%	0.08	OK
24	LC1 at 100.00%	0.10	OK
	LC10 at 100.00%	0.27	OK
	LC11 at 100.00%	0.06	OK
	LC12 at 100.00%	0.20	OK
	LC13 at 100.00%	0.10	OK
	LC14 at 100.00%	0.29	OK
	LC15 at 100.00%	0.11	OK
	LC16 at 100.00%	0.20	OK
	LC17 at 100.00%	0.34	OK
	LC18 at 100.00%	0.40	OK
	LC19 at 100.00%	0.34	OK
	LC2 at 100.00%	0.30	OK
	LC20 at 100.00%	0.38	OK
	LC21 at 100.00%	0.35	OK
	LC22 at 100.00%	0.30	OK
	LC23 at 100.00%	0.36	OK
	LC24 at 100.00%	0.32	OK
	LC25 at 100.00%	0.14	OK
	LC26 at 100.00%	0.16	OK
	LC27 at 100.00%	0.15	OK
	LC28 at 100.00%	0.27	OK
	LC29 at 100.00%	0.40	OK
	LC3 at 100.00%	0.09	OK
	LC30 at 100.00%	**0.41**	**OK**
	LC31 at 100.00%	0.40	OK

			LC32 at 100.00%	0.41	OK
			LC33 at 100.00%	0.40	OK
			LC34 at 100.00%	0.38	OK
			LC35 at 100.00%	0.40	OK
			LC36 at 100.00%	0.39	OK
			LC37 at 100.00%	0.26	OK
			LC38 at 100.00%	0.28	OK
			LC39 at 100.00%	0.26	OK
			LC4 at 100.00%	0.23	OK
			LC40 at 100.00%	0.27	OK
			LC41 at 100.00%	0.27	OK
			LC42 at 100.00%	0.25	OK
			LC43 at 100.00%	0.27	OK
			LC44 at 100.00%	0.26	OK
			LC45 at 100.00%	0.15	OK
			LC46 at 100.00%	0.16	OK
			LC47 at 100.00%	0.15	OK
			LC48 at 100.00%	0.16	OK
			LC49 at 100.00%	0.15	OK
			LC5 at 100.00%	0.13	OK
			LC50 at 100.00%	0.14	OK
			LC51 at 100.00%	0.15	OK
			LC52 at 100.00%	0.14	OK
			LC53 at 100.00%	0.21	OK
			LC54 at 100.00%	0.19	OK
			LC55 at 100.00%	0.21	OK
			LC56 at 100.00%	0.20	OK
			LC57 at 100.00%	0.21	OK
			LC58 at 100.00%	0.23	OK
			LC59 at 100.00%	0.21	OK
			LC6 at 100.00%	0.31	OK
			LC60 at 100.00%	0.22	OK
			LC7 at 100.00%	0.14	OK
			LC8 at 100.00%	0.22	OK
			LC9 at 100.00%	0.07	OK
tie back	***PIPE 2x0.154***	**28**	LC1 at 100.00%	0.04	OK
			LC10 at 50.00%	0.04	OK
			LC11 at 100.00%	0.06	OK
			LC12 at 50.00%	0.04	OK
			LC13 at 50.00%	0.04	OK
			LC14 at 50.00%	0.04	OK
			LC15 at 100.00%	0.04	OK
			LC16 at 50.00%	0.04	OK
			LC17 at 50.00%	0.05	OK
			LC18 at 50.00%	**0.06**	**OK**
			LC19 at 50.00%	0.05	OK
			LC2 at 50.00%	0.05	OK
			LC20 at 50.00%	0.06	OK
			LC21 at 50.00%	0.06	OK
			LC22 at 50.00%	0.06	OK
			LC23 at 50.00%	0.06	OK
			LC24 at 50.00%	0.06	OK
			LC25 at 50.00%	0.02	OK
			LC26 at 50.00%	0.02	OK
			LC27 at 50.00%	0.02	OK
			LC28 at 50.00%	0.02	OK
			LC29 at 50.00%	0.02	OK
			LC3 at 100.00%	0.06	OK
			LC30 at 50.00%	0.03	OK
			LC31 at 50.00%	0.02	OK
			LC32 at 50.00%	0.02	OK
			LC33 at 50.00%	0.02	OK
			LC34 at 50.00%	0.02	OK

	LC35 at 50.00%	0.02	OK
	LC36 at 50.00%	0.02	OK
	LC37 at 50.00%	0.02	OK
	LC38 at 50.00%	0.02	OK
	LC39 at 50.00%	0.02	OK
	LC4 at 50.00%	0.05	OK
	LC40 at 50.00%	0.02	OK
	LC41 at 50.00%	0.02	OK
	LC42 at 50.00%	0.02	OK
	LC43 at 50.00%	0.02	OK
	LC44 at 50.00%	0.02	OK
	LC45 at 50.00%	0.02	OK
	LC46 at 50.00%	0.02	OK
	LC47 at 50.00%	0.01	OK
	LC48 at 50.00%	0.02	OK
	LC49 at 50.00%	0.02	OK
	LC5 at 50.00%	0.04	OK
	LC50 at 50.00%	0.02	OK
	LC51 at 50.00%	0.02	OK
	LC52 at 50.00%	0.02	OK
	LC53 at 50.00%	0.02	OK
	LC54 at 50.00%	0.02	OK
	LC55 at 50.00%	0.02	OK
	LC56 at 50.00%	0.02	OK
	LC57 at 50.00%	0.02	OK
	LC58 at 50.00%	0.02	OK
	LC59 at 50.00%	0.02	OK
	LC6 at 50.00%	0.04	OK
	LC60 at 50.00%	0.02	OK
	LC7 at 100.00%	0.04	OK
	LC8 at 50.00%	0.05	OK
	LC9 at 100.00%	0.05	OK
30	LC1 at 50.00%	0.04	OK
	LC10 at 50.00%	0.04	OK
	LC11 at 50.00%	0.04	OK
	LC12 at 50.00%	0.04	OK
	LC13 at 50.00%	0.03	OK
	LC14 at 50.00%	0.04	OK
	LC15 at 50.00%	0.03	OK
	LC16 at 50.00%	0.04	OK
	LC17 at 50.00%	0.05	OK
	LC18 at 50.00%	**0.06**	**OK**
	LC19 at 50.00%	0.05	OK
	LC2 at 50.00%	0.05	OK
	LC20 at 50.00%	0.06	OK
	LC21 at 50.00%	0.05	OK
	LC22 at 50.00%	0.06	OK
	LC23 at 50.00%	0.05	OK
	LC24 at 50.00%	0.06	OK
	LC25 at 50.00%	0.02	OK
	LC26 at 50.00%	0.01	OK
	LC27 at 50.00%	0.02	OK
	LC28 at 50.00%	0.01	OK
	LC29 at 50.00%	0.01	OK
	LC3 at 50.00%	0.04	OK
	LC30 at 50.00%	0.02	OK
	LC31 at 50.00%	0.01	OK
	LC32 at 50.00%	0.02	OK
	LC33 at 50.00%	0.02	OK
	LC34 at 50.00%	0.02	OK
	LC35 at 50.00%	0.02	OK
	LC36 at 50.00%	0.02	OK
	LC37 at 50.00%	0.02	OK

	LC38 at 50.00%	0.02	OK
	LC39 at 50.00%	0.02	OK
	LC4 at 50.00%	0.05	OK
	LC40 at 50.00%	0.02	OK
	LC41 at 50.00%	0.02	OK
	LC42 at 50.00%	0.02	OK
	LC43 at 50.00%	0.02	OK
	LC44 at 50.00%	0.02	OK
	LC45 at 50.00%	0.02	OK
	LC46 at 50.00%	0.02	OK
	LC47 at 50.00%	0.02	OK
	LC48 at 50.00%	0.02	OK
	LC49 at 50.00%	0.02	OK
	LC5 at 50.00%	0.04	OK
	LC50 at 50.00%	0.02	OK
	LC51 at 50.00%	0.02	OK
	LC52 at 50.00%	0.02	OK
	LC53 at 50.00%	0.02	OK
	LC54 at 50.00%	0.02	OK
	LC55 at 50.00%	0.02	OK
	LC56 at 50.00%	0.02	OK
	LC57 at 50.00%	0.02	OK
	LC58 at 50.00%	0.02	OK
	LC59 at 50.00%	0.02	OK
	LC6 at 50.00%	0.04	OK
	LC60 at 50.00%	0.02	OK
	LC7 at 50.00%	0.04	OK
	LC8 at 50.00%	0.04	OK
	LC9 at 100.00%	0.04	OK
32	LC1 at 50.00%	0.02	OK
	LC10 at 50.00%	0.06	OK
	LC11 at 50.00%	0.02	OK
	LC12 at 50.00%	0.05	OK
	LC13 at 50.00%	0.02	OK
	LC14 at 50.00%	0.05	OK
	LC15 at 50.00%	0.02	OK
	LC16 at 50.00%	0.05	OK
	LC17 at 50.00%	0.04	OK
	LC18 at 50.00%	0.06	OK
	LC19 at 50.00%	0.04	OK
	LC2 at 50.00%	**0.06**	**OK**
	LC20 at 50.00%	0.05	OK
	LC21 at 50.00%	0.04	OK
	LC22 at 50.00%	0.05	OK
	LC23 at 50.00%	0.04	OK
	LC24 at 50.00%	0.05	OK
	LC25 at 50.00%	0.01	OK
	LC26 at 50.00%	0.01	OK
	LC27 at 50.00%	0.02	OK
	LC28 at 50.00%	0.01	OK
	LC29 at 50.00%	0.02	OK
	LC3 at 50.00%	0.02	OK
	LC30 at 50.00%	0.02	OK
	LC31 at 50.00%	0.02	OK
	LC32 at 50.00%	0.02	OK
	LC33 at 50.00%	0.02	OK
	LC34 at 50.00%	0.02	OK
	LC35 at 50.00%	0.02	OK
	LC36 at 50.00%	0.02	OK
	LC37 at 50.00%	0.01	OK
	LC38 at 50.00%	0.02	OK
	LC39 at 50.00%	0.01	OK
	LC4 at 50.00%	0.06	OK

LC40 at 50.00%	0.02	OK
LC41 at 50.00%	0.01	OK
LC42 at 50.00%	0.02	OK
LC43 at 50.00%	0.01	OK
LC44 at 50.00%	0.02	OK
LC45 at 50.00%	0.01	OK
LC46 at 50.00%	0.02	OK
LC47 at 50.00%	0.01	OK
LC48 at 50.00%	0.02	OK
LC49 at 50.00%	0.01	OK
LC5 at 50.00%	0.02	OK
LC50 at 50.00%	0.02	OK
LC51 at 50.00%	0.01	OK
LC52 at 50.00%	0.02	OK
LC53 at 50.00%	0.02	OK
LC54 at 50.00%	0.02	OK
LC55 at 50.00%	0.02	OK
LC56 at 50.00%	0.02	OK
LC57 at 50.00%	0.02	OK
LC58 at 50.00%	0.02	OK
LC59 at 50.00%	0.02	OK
LC6 at 50.00%	0.05	OK
LC60 at 50.00%	0.02	OK
LC7 at 50.00%	0.02	OK
LC8 at 50.00%	0.05	OK
LC9 at 50.00%	0.02	OK

EXHIBIT 3

4 VOLUNTEER DRIVE

Location	4 VOLUNTEER DRIVE	**Mblu**	34/ 62/ 80/ 4/
UID	00023300	**Owner**	WINDSOR LOCKS TOWN OF
Assessment	$1,292,200	**Appraisal**	$1,845,800
PID	1943	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$1,328,100	$517,700	$1,845,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$929,800	$362,400	$1,292,200

Owner of Record

Owner	WINDSOR LOCKS TOWN OF	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	50 CHURCH ST WINDSOR LOCKS, CT 06096	**Book & Page**	113/299
		Sale Date	11/16/1972

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
WINDSOR LOCKS TOWN OF	$0		113/299	11/16/1972

Building Information

Building 1 : Section 1

Year Built:	1975
Living Area:	16,268
Replacement Cost:	$1,619,556
Building Percent Good:	75
Replacement Cost Less Depreciation:	$1,214,700

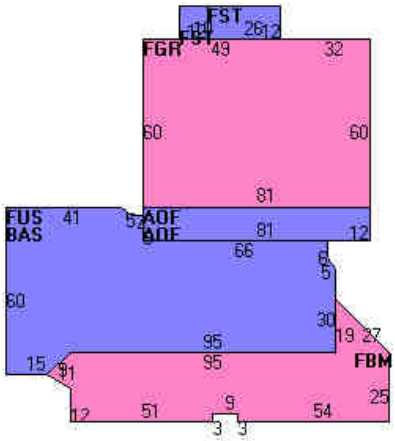
Building Attributes

Field	Description
STYLE	Other Municip
MODEL	Ind/Comm
Stories:	1
Occupancy	
Exterior Wall A	Brick
Exterior Wall B	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall A	Drywall/Sheet
Interior Wall B	Minim/Masonry
Interior Floor A	Ceram Clay Til
Interior Floor B	Carpet
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	Municipal
Total Rooms	
Total Bedrooms	00
Total Baths	0
Fireplace Types	
Fireplaces	
Heat/AC	Heat/AC Pkg
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Wall	Ceil and Walls
Rooms/Prtns	Average
Wall Height	11.00
% Comn Wall	0.00

Building Photo

(http://images.vgsi.com/photos/WindsorlocksCTPhotos//\00\00\32\13.jpg)

Building Layout



(http://images.vgsi.com/photos/WindsorlocksCTPhotos//Sketches/1943_19

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	5,418	5,418
FUS	Upper Sty	5,418	5,418
FBM	Fin Bsmt	3,056	3,056
AOF	Office	1,944	1,944
FST	Utility	432	432
FGR	Fin Garage	4,860	0
		21,128	16,268

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
SPRK	Sprinklers	15836.00 S.F.	$9,500	1

Parcel Information

Use Code	901I
Description	Municipal
Deeded Acres	11.20

Land

Land Use

Use Code	901I
Description	Municipal
Zone	RESA
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.20
Frontage	947
Depth	0
Assessed Value	$362,400
Appraised Value	$517,700

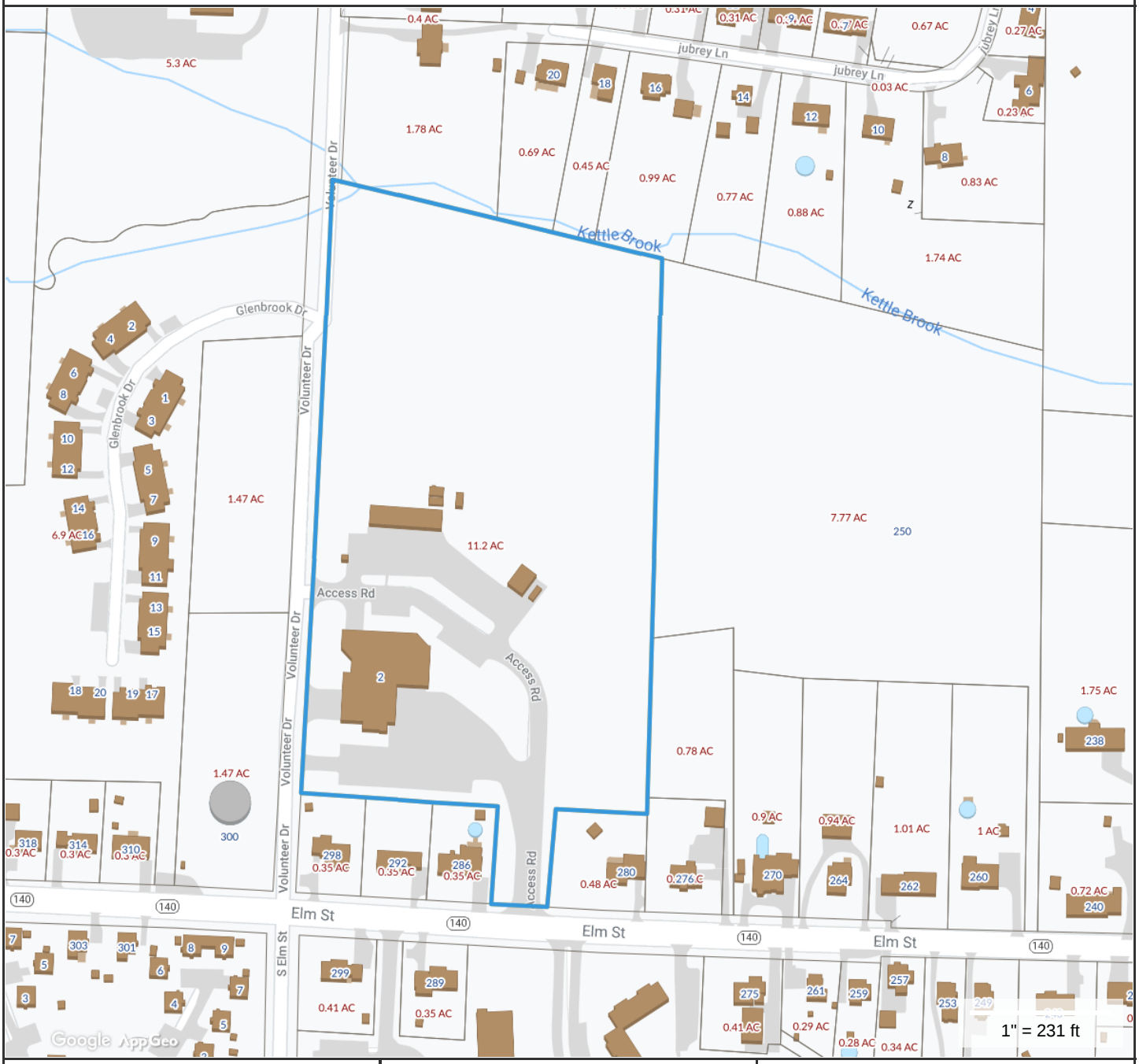
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
GAR1	Garage	G	Good	2592.00 S.F.	$50,500	1
PAV	Paving	A	Asphalt	46600.00 S.F.	$38,400	1
GAR1	Garage	A	Average	800.00 S.F.	$15,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$1,324,100	$517,700	$1,841,800
2012	$1,324,100	$337,500	$1,661,600
2007	$1,585,800	$294,000	$1,879,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$927,000	$362,400	$1,289,400
2012	$927,000	$236,300	$1,163,300
2007	$1,110,200	$205,900	$1,316,100



Property Information

Property ID	23300
Location	2 VOLUNTEER DRIVE
Owner	WINDSOR LOCKS TOWN OF

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

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

Geometry updated 11/15/2017
Data updated 11/15/2017

EXHIBIT 4

Radio Frequency Emissions Analysis Report

Site Name: **CT5270**

2 Volunteer Drive
Windsor Locks, Connecticut 06096

March 19, 2020

Centerline Communications Project Number: 950012-334

Site Compliance Summary	
Compliance Status:	**Compliant**
AT&T total MPE%:	**13.48%**
Unknown Carrier(s) total MPE%:	**7.53%**
Site total MPE% of FCC general population allowable limit:	**21.01%**

750 West Center St. Suite 301 | West Bridgewater, MA 02379

March 23, 2020

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 01701

Emissions Analysis for Site: **CT5270**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility to be located on **a monopole** at **2 Volunteer Drive, Windsor Locks Connecticut 06096** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (∝W/cm2). The number of ∝W/cm^2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (μW/cm^2). The general population exposure limits for the 700MHz, 850MHz, 1900 MHz (PCS), 2300MHz (WCS) and 5 GHz (B46) bands is 1000 μW/cm^2.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing focused omnidirectional antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. This is a very conservative estimate since the gain reduction in actual applications is typically greater than 10 dB in the direction of ground immediately surrounding the facility. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

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

Antenna	Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
ATT A1	UMTS	850	1	40
ATT A2	LTE	700	2	40
ATT A2	LTE	2300	4	25
ATT A2	LTE	1900	2	40
ATT A2	LTE	1900	2	40
ATT A3	LTE	700	2	40
ATT A3	LTE	2100	2	40
ATT A4	LTE	700	2	40
ATT A4	LTE	850	2	40
ATT A4	LTE	1900	4	40
ATT A4	LTE	850	2	40
ATT B1	UMTS	850	1	40
ATT B2	LTE	700	2	40
ATT B2	LTE	2300	4	25
ATT B2	LTE	1900	2	40
ATT B2	LTE	1900	2	40
ATT B3	LTE	700	2	40
ATT B3	LTE	2100	2	40
ATT B3	LTE	700	2	40
ATT B3	LTE	850	2	40

ATT B3	LTE	1900	4	40
ATT B3	LTE	850	2	40
ATT C1	UMTS	850	1	40
ATT C2	LTE	700	2	40
ATT C2	LTE	2300	4	25
ATT C2	LTE	1900	2	40
ATT C2	LTE	1900	2	40
ATT C3	LTE	700	2	40
ATT C3	LTE	2100	2	40
ATT C3	LTE	700	2	40
ATT C3	LTE	850	2	40
ATT C3	LTE	1900	4	40
ATT C3	LTE	850	2	40

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700MHz, 850MHz, 1900 MHz (PCS), 2100 MHz (AWS), 2300MHz (WCS) and 5 GHz (Band 46) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection. Maximum gain values for all antennas are listed in the AT&T Antenna Inventory & Power Levels table (Table 3) below in the Results section. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Kathrien 800-10121	164
A	2	CCI TPA-65R-LCUUUU-H8	164
A	3	CCI DMP65R-BU8DA	164
A	4	CCI DMP65R-BU8DA	164
B	5	Kathrien 800-10121	164
B	6	CCI TPA-65R-LCUUUU-H8	164
B	7	CCI DMP65R-BU8DA	164
B	8	CCI DMP65R-BU8DA	164
C	9	Kathrien 800-10121	164
C	10	CCI TPA-65R-LCUUUU-H8	164
C	11	CCI DMP65R-BU8DA	164
C	12	CCI DMP65R-BU8DA	164

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Antenna Height (ft)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
ATT A1	Kathrien 800-10121	850	11.25	164	1	40	533.41	0.1257%
ATT A2	CCI TPA-65R-LCUUUU-H8	700	12.95	164	2	40	1577.94	0.4516%
ATT A2	CCI TPA-65R-LCUUUU-H8	2300	14.45	164	4	25	2786.12	0.3724%
ATT A2	CCI TPA-65R-LCUUUU-H81	1900	13.75	164	2	40	1897.10	0.2536%
ATT A2	CCI TPA-65R-LCUUUU-H8	1900	13.75	164	2	40	1897.10	0.2536%
ATT A3	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT A3	CCI DMP65R-BU8DA	2100	16.05	164	2	40	3221.74	0.4306%
ATT A4	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT A4	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%
ATT A4	CCI DMP65R-BU8DA	1900	15.65	164	4	40	5876.52	0.7855%
ATT A4	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%
ATT B1	Kathrien 800-10121	850	11.25	164	1	40	533.41	0.1257%
ATT B2	CCI TPA-65R-LCUUUU-H8	700	12.95	164	2	40	1577.94	0.4516%
ATT B2	CCI TPA-65R-LCUUUU-H8	2300	14.45	164	4	25	2786.12	0.3724%
ATT B2	CCI TPA-65R-LCUUUU-H8	1900	13.75	164	2	40	1897.10	0.2536%
ATT B2	CCI TPA-65R-LCUUUU-H8	1900	13.75	164	2	40	1897.10	0.2536%
ATT B3	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT B3	CCI DMP65R-BU8DA	2100	16.05	164	2	40	3221.74	0.4306%
ATT B3	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT B3	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%
ATT B3	CCI DMP65R-BU8DA	1900	15.65	164	4	40	5876.52	0.7855%
ATT B3	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%

ATT C1	Kathrien 800-10121	850	11.25	164	1	40	533.41	0.1257%
ATT C2	CCI TPA-65R-LCUUUU-H8	700	12.95	164	2	40	1577.94	0.4516%
ATT C2	CCI TPA-65R-LCUUUU-H8	2300	14.45	164	4	25	2786.12	0.3724%
ATT C2	CCI TPA-65R-LCUUUU-H8	1900	13.75	164	2	40	1897.10	0.2536%
ATT C2	CCI TPA-65R-LCUUUU-H8	1900	13.75	164	2	40	1897.10	0.2536%
ATT C3	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT C3	CCI DMP65R-BU8DA	2100	16.05	164	2	40	3221.74	0.4306%
ATT C3	CCI DMP65R-BU8DA	700	12.95	164	2	40	1577.94	0.4516%
ATT C3	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%
ATT C3	CCI DMP65R-BU8DA	1900	15.65	164	4	40	5876.52	0.7855%
ATT C3	CCI DMP65R-BU8DA	850	13.85	164	2	40	1941.29	0.4577%
	All AT&T Sectors Composite MPE%							**13.48 %**

AT&T _ Frequency Band / Technology	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (□W/cm^2)	Frequency (MHz)	Allowable MPE (□W/cm^2)	Calculated % MPE
AT&T 850 MHz	1	40	164	0.7130	850 MHz	1000	0.1257%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2300 MHz	4	25	164	3.7242	2300 MHz	1000	0.3724%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2100 MHz	2	40	164	4.3064	2100 MHz	1000	0.4306%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T 1900 MHz	4	40	164	7.8550	1900 MHz	1000	0.7855%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T 850 MHz	1	40	164	0.7130	850 MHz	1000	0.1257%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2300 MHz	4	25	164	3.7242	2300 MHz	1000	0.3724%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2100 MHz	2	40	164	4.3064	2100 MHz	1000	0.4306%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T 1900 MHz	4	40	164	7.8550	1900 MHz	1000	0.7855%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T 850 MHz	1	40	164	0.7130	850 MHz	1000	0.1257%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2300 MHz	4	25	164	3.7242	2300 MHz	1000	0.3724%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 1900 MHz	2	40	164	2.5358	1900 MHz	1000	0.2536%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 2100 MHz	2	40	164	4.3064	2100 MHz	1000	0.4306%
AT&T 700 MHz	2	40	164	2.1092	700 MHz	1000	0.4516%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T 1900 MHz	4	40	164	7.8550	1900 MHz	1000	0.7855%
AT&T 850 MHz	2	40	164	2.5949	850 MHz	1000	0.4577%
AT&T All Sectors						**Total:**	**13.48%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

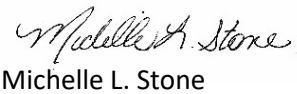
All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
AT&T All Sectors:	13.48%
Unknown Carrier(s):	7.53%
AT&T Maximum Site Total:	21.01%
Site Total:	**21.01%**
Site Compliance Status:	**Compliant**

The anticipated composite MPE value for this site assuming all carriers present is **21.01%** of the allowable FCC established general population limit sampled at the ground level.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.



Michelle L. Stone
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

EXHIBIT 5

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

Structural Analysis Report

Existing 195 ft PIROD Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT22108-A

Customer Site Name: Windsor Locks @ Volunteer Drive

Carrier Name: AT&T (App#: 129928-2)

Carrier Site ID / Name: CT5270 / Windsor Locks

Site Location: 2-4 Volunteer Drive

Windsor Locks, Connecticut

HARTFORD County

Latitude: 41.928100

Longitude: -72.646800

Analysis Result:

Max Structural Usage: 92.8% [Pass]

Max Foundation Usage: 50.0% [Pass]

Additional Usage Caused by Mount Modification: 2%

Report Prepared By: Tawfeeq Alajaj

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

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Longitude: -72.646800

Analysis Result:

Max Structural Usage: 92.8% [Pass]

Max Foundation Usage: 50.0% [Pass]

Additional Usage Caused by Mount Modification: 2%

Report Prepared By: Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 195 ft PIROD Self Supporting Tower 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

Tower Drawings	PiROD Eng. File #A-115761-1, Archive #F-0078802, dated 10/06/00
Foundation Drawing	PiROD Eng. File #A-115761-1, Archive #F-0078802, dated 10/06/00
Geotechnical Report	Tectonic Engineering Consultants W.O. #2295 01, dated 05/18/99
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESTowers,** 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.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft

This structural analysis is based upon the tower being classified as a Structure Class 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	203.4	1	Andrew - DB224-A	Direct	(1) 7/8"	WLPD
2	183.7	5	Andrew - 20' Dipoles w/ (4) Element	(3) T-Frame	(8) 7/8"	
3	182.8	1	2.5" Ø x 20.0' Omni			
4	180.6	1	1.3" Ø x 13.0' Omni			
5	179.1	1	1.3" Ø x 10.0' Omni			
6	161.5	3	Kathrein - 800 10121 – Panel	(3) Sector Frame w/ Mods	(9) 1 5/8" *(2) 0.78" DC Power *(1) 0.39" Fiber	AT&T
7		3	Andrew - SBNH-1D6565C - Panel			
8		3	Cci - TPA-65R-LCUUUU-H8 - Panel			
9		6	Powerwave - LGP21401 - TMA			
10		6	Kathrein - 860 10025 - RET			
11		3	Ericsson - RRUS 11 (Band 12) (55 lb) - RRU			
12		3	Ericsson - RRUS 32 B2 - RRU			
13		3	Ericsson - RRUS 32 B30 - RRU			
14		2	Raycap - DC6-48-60-18-8F - SP			
15	146.8	1	Raycap - RRFDC-3315-PF-48 – SP	Direct	(12) 1 5/8" (1) 1 1/4"	Verizon
16	145.7	1	6.0' x 1.0' x 6.5" Panel	(3) T- Frame		
17		2	Amphenol - BXA-70063/6CF-EDIN - Panel			
18		3	Antel - BXA-171063-12CF-EDIN-5 - Panel			
19	145.5	3	Alcatel-Lucent - 9442 RRH2x40 AWS - RRH			
20	135.0	3	Ericsson - AIR32 KRD901146-1_B66A (Octa) - Panel	(3) T-Frame w/ Mods (Replace Existing Pipe mast w/ new 2-1/2" std. (2.88" OD) steel pipe mast secured to the existing mount (typ. Of 1 per sector, total of 3); Secure the existing and proposed pipe masts to the existing mount with a minimum of two points of connection (typ. Of 3 per sector, total of 9))	(15) 1 5/8" (3) 1 1/4" Hybrid	T-Mobile
21		3	RFS - APX16DWV-16DWVS-E-A20 - Panel			
22		3	RFS - APXVAARR24_43-U-NA20 (Octa) - Panel			
23		6	Ericsson - KRY 112 144/2 - TMA			
24		3	Ericsson - Radio 4449 B71 + B12 - RRU			
25	116.8	3	RFS - APXVSPP18-C-A20 - Panel	(3) T- Frame	(4) 1-1/4" Fiber	Sprint Nextel
26	115.0	3	RFS - APXVTM14-C-I20 - Panel			
27		3	Alcatel-Lucent - TD-RRH8x20-25 - RRH			
28	110.3	3	Alcatel-Lucent - 800 MHz RRH	Direct		
29	107.6	3	Alcatel-Lucent - 1900 MHz RRH	Direct		

30	104.6	1	Andrew - 3.3' Dish	(3) Standoffs	(2) 1/2" (1) 1-5/16" Conduit	Clearwire
31	104.0	1	Andrew - VHLP1-23-DW1			
32		3	Argus - LLPX310R-V1 - Panel			
33	103.8	3	Alcatel-Lucent - SPI-22132825WB -			
34	102.4	1	12" x 12" x 6.38" Junction Box	Direct		
35	75.9	1	3.5" Ø x 8" GPS	(1) Standoff	(1) 1/2"	Unknown
36	60.0	1	PCTEL - GPS-TMG-HR-26N - GPS	Direct	(1) 1/2"	Sprint Nextel

*Inside (1) 3" Conduit

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
6	164.0	3	CCI - TPA-65R-LCUUUU-H8 - Panel	(3) Sector Frame w/ Mods with (3) New Standoff made of 2" and 3" SCH. 40 pipes and (3) Vertical Support Pipe 3" SCH. 40 vertical support pipe	(1) 0.39" Fiber (6) 0.78" DC Power (9) 1 5/8" (1) 3" Conduit*	AT&T
7		3	Kathrein Scala - 800 10121 - Panel			
8		6	CCI - DMP65R-BU8DA - Panel			
9		6	Powerwave LGP21401 TMA - TMA/TTA			
10		6	Kathrein 860 10025 -			
11		3	Ericsson RRUS 32 B30 -			
12		3	Ericsson RRUS 32 B2 -			
13		3	Ericsson RRUS 8843 B2 B66A -			
14		3	Ericsson RRUS 4478 B14 -			
15		3	Ericsson RRUS E2 B29 -			
16		2	Raycap DC6-48-60-18-8F - OVP			
17		2	Raycap DC6-48-60-18-8C-EV - OVP			
18		3	Ericsson 4449 B5/B12 -			

3" (housing (2) 0.78" DC Power & (1) 0.39" Fiber)

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:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**70.8%**	**92.8%**	**52.6%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	366.9	317.2	38.0

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.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.2982 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 ANSI/TIA/EIA 222-G 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 EIA/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.

Structure: CT22108-A-SBA

Site Name:	Windsor Locks @ Volunteer Drive			**Code:**	EIA/TIA-222-G	3/23/2020
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	97.00	
Height:	195.00 (ft)	**Base Width:**	20.00	**Basic Ice WS:**	50.00	
Base Elev:	5.00 (ft)	**Top Width:**	4.50	**Operational WS:**	60.00	Page: 1

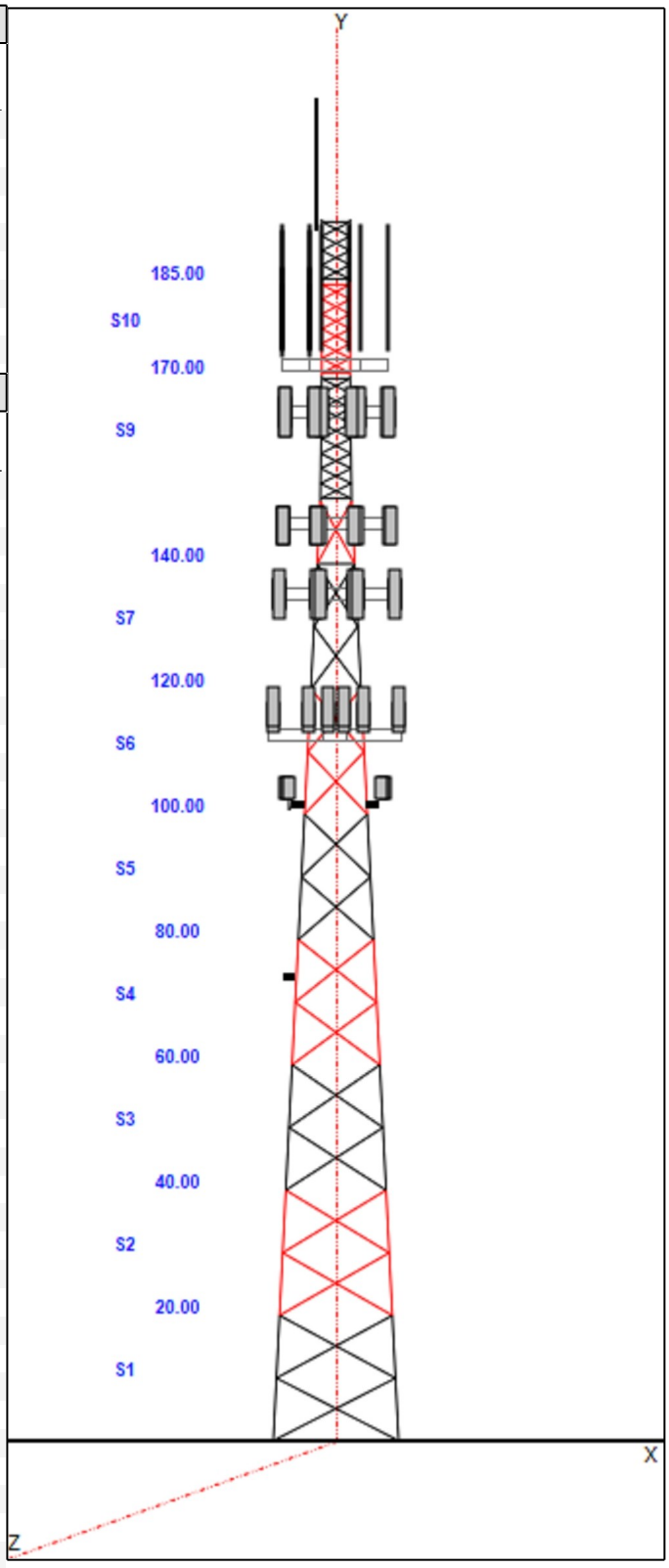
Tower Engineering Solutions

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	12B 12"BD 2.25"	DAE 3.5X3.5X0.3125	
2	12B 12"BD 2.25"	SAE 3.5X3.5X0.3125	
3-4	12B 12"BD 2"	SAE 3X3X0.3125	
5	12B 12"BD 1.75"	SAE 3X3X0.3125	
6	12B 12"BD 1.75"	SAE 3X3X0.1875	
7	12B 12"BD 1.5"	SAE 2.5X2.5X0.1875	SAE 2.5X2.5X0.1875
8	12B 12"BD 1.25"	SAE 2.5X2.5X0.1875	
9	SOL 2" SOLID	SOL 7/8" SOLID	SOL 1" SOLID
10-11	SOL 1 3/4" SOLID	SOL 3/4" SOLID	SOL 7/8" SOLID

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
195.00	195.00	1	Lightning Rod
195.00	195.00	1	Beacon
195.00	203.40	1	Andrew - DB224-A
171.50	171.50	3	15' T-Frame
171.50	183.70	5	Andrew - 20' Dipoles w/ (4) Element
171.50	182.80	1	2.5" Ø x 20.0' Omni
171.50	180.60	1	1.3" Ø x 13.0' Omni
171.50	179.10	1	1.3" Ø x 10.0' Omni
164.00	164.00	3	T-Frame
164.00	164.00	2	(3) Stabilizer Kit (4' FW)
164.00	164.00	1	(3) Stabilizer Kit (4' FW)
164.00	164.00	1	(3) Stabilizer Kit (4' FW)
164.00	164.00	3	TPA-65R-LCUUUU-H8
164.00	164.00	3	800 10121
164.00	164.00	6	DMP65R-BU8DA
164.00	164.00	6	Powerwave LGP21401 TMA
164.00	164.00	6	Kathrein 860 10025
164.00	164.00	3	Ericsson RRUS 32 B30
164.00	164.00	3	Ericsson RRUS 32 B2
164.00	164.00	3	Ericsson 4449 B5/B12
164.00	164.00	3	Ericsson RRUS 8843 B2 B66A
164.00	164.00	3	Ericsson RRUS 4478 B14
164.00	164.00	3	Ericsson RRUS E2 B29
164.00	164.00	2	Raycap DC6-48-60-18-8F
164.00	164.00	2	Raycap DC6-48-60-18-8C-EV
164.00	164.00	1	Mount Mods
146.80	146.80	1	Raycap - RRFDC-3315-PF-48 - SP
146.00	146.00	3	Sector Frame
146.00	145.70	1	6.0' x 1.0' x 6.5" Panel
146.00	145.70	2	Amphenol - BXA-70063/6CF-EDIN
146.00	145.70	3	Antel - BXA-171063-12CF-EDIN-5
146.00	145.50	3	Alcatel-Lucent - 9442 RRH2x40 AWS - RRH
135.00	135.00	3	Sector Frame
135.00	135.00	3	Ericsson - AIR32 KRD901146-1_B66A (Octa)
135.00	135.00	3	RFS - APX16DWV-16DWVS-E-A20
135.00	135.00	3	RFS - APXVAARR24_43-U-NA20 (Octa)
135.00	135.00	6	Ericsson - KRY 112 144/2 - TMA
135.00	135.00	3	Ericsson - Radio 4449 B71 + B12 - RRU
112.30	112.30	3	Sector Frame-Pipe/Rod
112.30	116.80	3	RFS - APXVSPP18-C-A20



112.30	115.00	3	RFS - APXVTM14-C-I20
112.30	115.00	3	Alcatel-Lucent - TD-RRH8x20-25 - RRH
110.30	110.30	3	Alcatel-Lucent - 800 MHz RRH
107.60	107.60	3	Alcatel-Lucent - 1900 MHz RRH
102.40	102.40	1	12" x 12" x 6.38" Junction Box
101.40	101.40	3	Standoffs
101.40	104.60	1	Andrew - 3.3' Dish
101.40	104.00	1	Andrew - VHLP1-23-DW1
101.40	104.00	3	Argus - LLPX310R-V4
101.40	103.80	3	Alcatel-Lucent - SPI-22132825WB
74.00	75.90	1	3.5" Ø x 8" GPS
74.00	74.00	1	Standoff
60.00	60.00	1	PCTEL - GPS-TMG-HR-26N - GPS

Linear Appurtenances

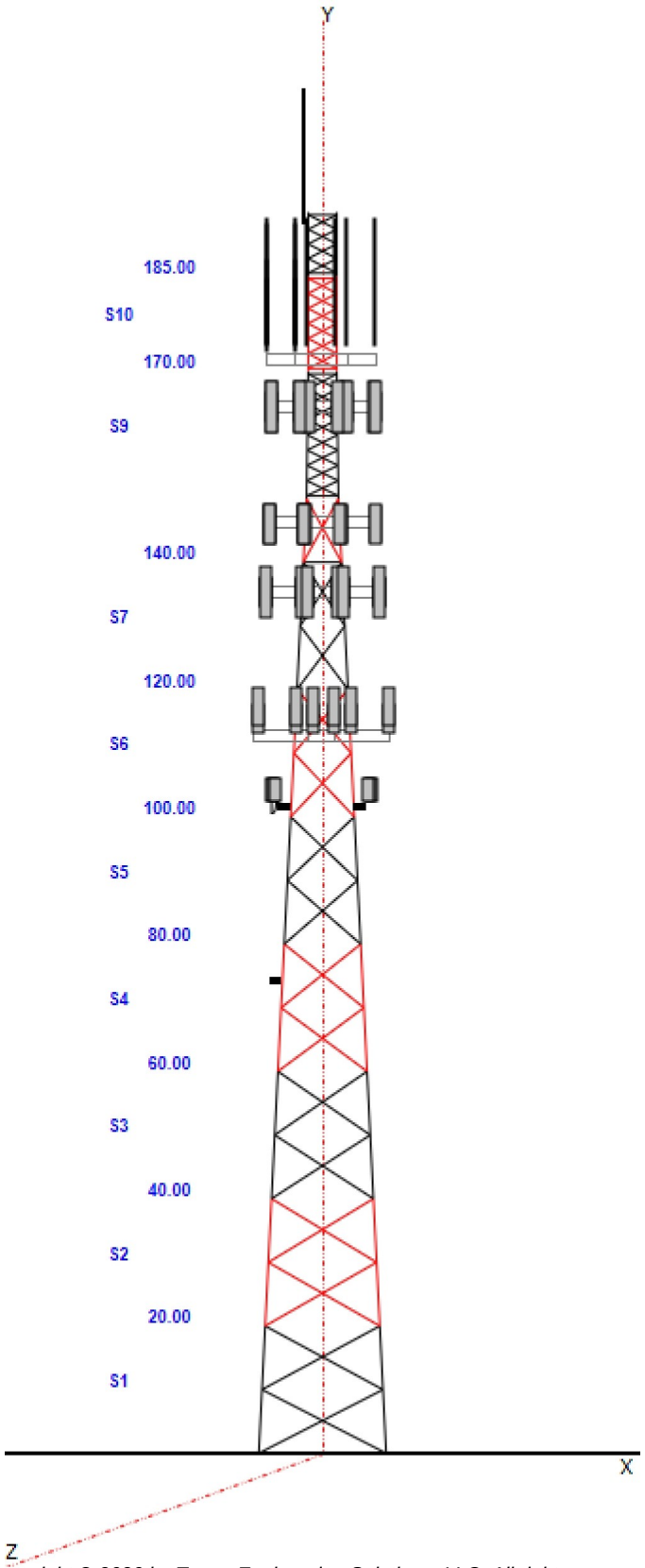
Elev From (ft)	Elev To (ft)	Qty	Description
0.00	195.00	1	7/8" Coax
0.00	171.50	8	7/8" Coax
0.00	164.00	1	0.39" Fiber
0.00	164.00	6	0.78" DC Power
0.00	164.00	9	1 5/8" Coax
0.00	164.00	1	3" Conduit
0.00	146.00	1	1 1/4" Coax
0.00	146.00	6	1 5/8" Coax
0.00	146.00	6	1 5/8" Coax
0.00	135.00	15	1 5/8" Coax
0.00	135.00	3	1-1/4" Hybrid
0.00	112.30	4	1-1/4" Fiber
0.00	101.40	1	1-5/16" Conduit
0.00	101.40	2	1/2" Coax
0.00	74.00	1	1/2" Coax
0.00	60.00	1	1/2" Coax

Base Reactions

Leg		Overturning	
Max Uplift:	-317.19 (kips	Moment:	5983.93 (ft-kips)
Max Down:	366.86 (kips	Total Down:	64.14 (kips)
Max Shear:	37.97 (kips	Total Shear:	56.08 (kips)

Structure: CT22108-A-SBA

Site Name:	Windsor Locks @ Volunteer Drive			**Code:**	EIA/TIA-222-G	3/23/2020
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	97.00	
Height:	195.00 (ft)	**Base Width:**	20.00	**Basic Ice WS:**	50.00	
Base Elev:	5.00 (ft)	**Top Width:**	4.50	**Operational WS:**	60.00	Page: 3

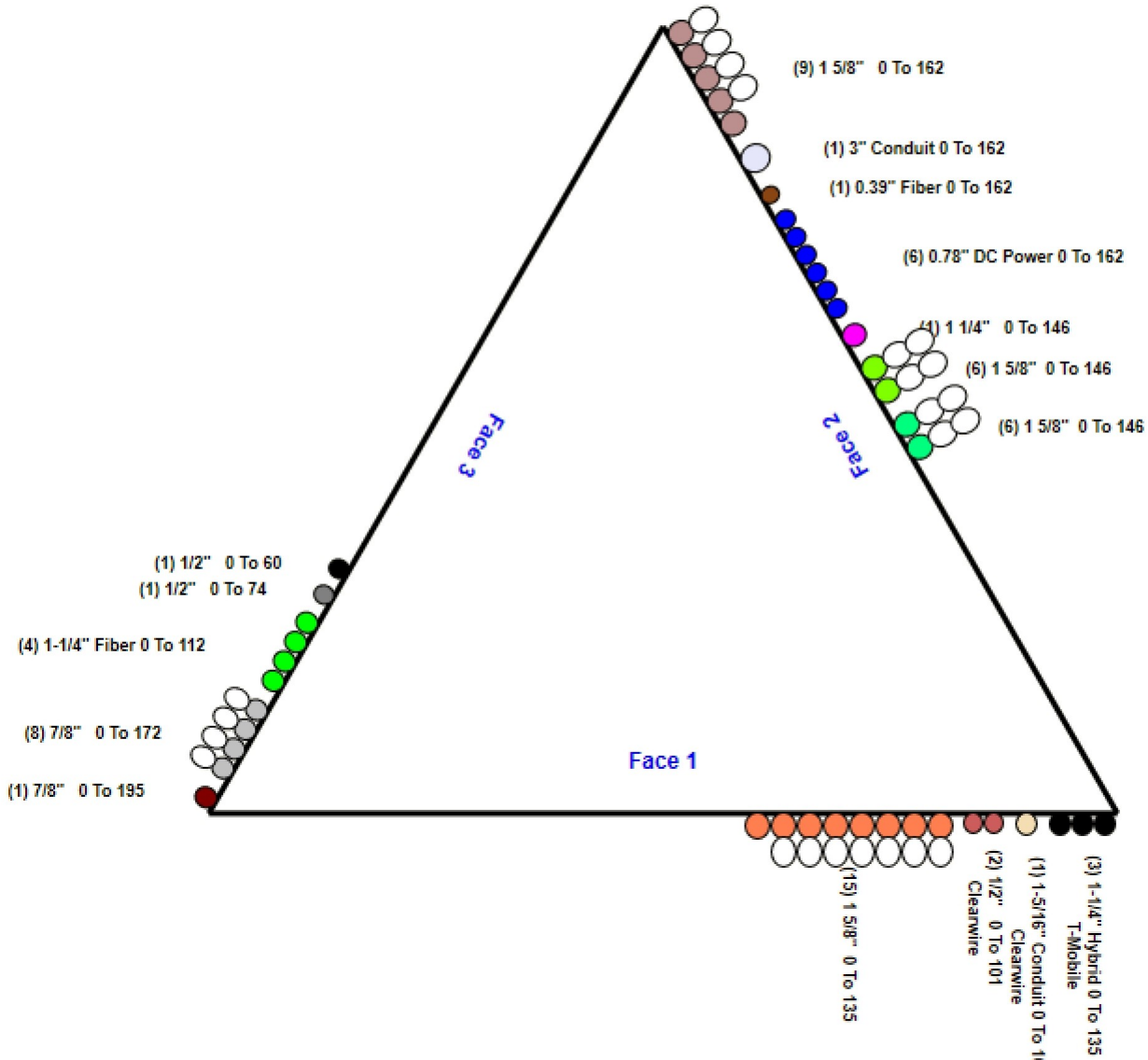


Structure: CT22108-A-SBA - Coax Line Placement

Type: Self Support
Site Name: Windsor Locks @ Volunteer Drive
Height: 195.00 (ft)

3/23/2020

Tower Engineering Solutions



Loading Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 5	

Tower Engineering Solutions

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
195.00	Lightning Rod	1	5.00	0.500	33.67	2.889	72.000	1.000	1.000	1.00	1.00	0.000
195.00	Beacon	1	36.00	2.720	218.31	4.019	28.000	17.500	17.500	1.00	1.00	0.000
195.00	Andrew - DB224-A	1	35.00	5.650	275.06	29.777	255.000	0.000	0.000	1.00	1.00	8.400
171.50	15' T-Frame	3	400.00	10.000	779.69	21.865	0.000	0.000	0.000	0.75	0.75	0.000
171.50	Andrew - 20' Dipoles w/ (4) Element	5	60.00	7.520	361.51	23.681	240.000	3.000	3.000	1.00	1.00	12.20
171.50	2.5" Ø x 20.0' Omni	1	55.00	6.000	259.86	15.648	240.000	3.000	3.000	1.00	1.00	11.30
171.50	1.3" Ø x 13.0' Omni	1	40.00	3.900	173.84	10.227	156.000	3.000	3.000	1.00	1.00	9.100
171.50	1.3" Ø x 10.0' Omni	1	25.00	3.000	128.42	7.904	120.000	3.000	3.000	1.00	1.00	7.600
164.00	T-Frame	3	400.00	10.000	775.88	21.746	0.000	0.000	0.000	0.75	0.75	0.000
164.00	(3) Stabilizer Kit (4' FW)	2	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
164.00	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
164.00	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
164.00	TPA-65R-LCUUUU-H8	3	75.00	13.300	518.55	15.563	96.000	14.400	8.600	0.80	0.83	0.000
164.00	800 10121	3	44.10	5.150	241.73	6.589	54.500	10.300	5.900	0.80	0.79	0.000
164.00	DMP65R-BU8DA	6	95.70	17.870	627.47	20.360	96.000	20.700	7.700	0.80	0.73	0.000
164.00	Powerwave LGP21401 TMA	6	14.10	1.290	47.75	2.415	14.400	9.200	2.600	0.80	1.00	0.000
164.00	Kathrein 860 10025	6	1.20	0.180	9.27	0.690	7.600	2.400	2.000	0.80	0.92	0.000
164.00	Ericsson RRUS 32 B30	3	60.00	2.740	188.49	3.748	27.200	12.100	7.000	0.80	0.50	0.000
164.00	Ericsson RRUS 32 B2	3	53.00	2.740	181.49	3.748	27.200	12.100	7.000	0.80	0.50	0.000
164.00	Ericsson 4449 B5/B12	3	71.00	1.970	142.86	2.707	17.900	13.200	9.400	0.80	0.50	0.000
164.00	Ericsson RRUS 8843 B2 B66A	3	72.00	1.640	135.06	2.309	14.900	13.200	10.900	0.80	0.50	0.000
164.00	Ericsson RRUS 4478 B14	3	59.90	1.840	123.17	2.549	16.500	13.400	7.700	0.80	0.50	0.000
164.00	Ericsson RRUS E2 B29	3	59.40	3.150	146.48	4.097	20.400	18.500	7.500	0.80	0.50	0.000
164.00	Raycap DC6-48-60-18-8F	2	31.80	0.920	115.02	1.510	24.000	11.000	11.000	0.80	1.00	0.000
164.00	Raycap DC6-48-60-18-8C-EV	2	16.00	4.780	182.56	5.970	31.400	18.300	10.200	0.80	0.79	0.000
164.00	Mount Mods	1	512.00	15.000	1474.25	36.143	0.000	0.000	0.000	0.75	1.00	0.000
146.80	Raycap - RRFDC-3315-PF-48 - SP	1	26.90	2.500	155.47	3.340	19.100	15.700	10.200	1.00	1.00	0.000
146.00	Sector Frame	3	500.00	17.500	1430.78	36.069	0.000	0.000	0.000	0.75	0.75	0.000
146.00	6.0' x 1.0' x 6.5" Panel	1	45.00	8.160	265.06	11.897	72.000	12.000	6.000	0.80	0.81	-0.300
146.00	Amphenol - BXA-70063/6CF-EDIN	2	17.00	7.570	214.73	11.255	71.000	11.200	5.200	0.80	0.78	-0.300
146.00	Antel - BXA-171063-12CF-EDIN-5	3	15.00	4.780	142.76	7.926	72.400	6.100	4.100	0.80	0.88	-0.300
146.00	Alcatel-Lucent - 9442 RRH2x40	3	50.70	2.250	129.08	3.674	15.400	8.200	15.000	0.80	0.67	-0.500
135.00	Sector Frame	3	450.00	14.000	914.20	23.284	0.000	0.000	0.000	0.75	0.75	0.000
135.00	Ericsson - AIR32	3	132.20	6.510	370.85	8.015	57.000	12.900	8.700	0.80	0.86	0.000
135.00	RFS - APX16DWV-16DWVS-E-A20	3	40.70	6.610	195.14	9.483	55.900	13.300	3.100	0.80	0.66	0.000
135.00	RFS - APXVAARR24_43-U-NA20	3	128.00	20.240	747.05	22.775	95.900	24.000	7.800	0.80	0.70	0.000
135.00	Ericsson - KRY 112 144/2 - TMA	6	11.00	0.410	25.22	1.037	6.900	6.100	2.700	0.80	0.50	0.000
135.00	Ericsson - Radio 4449 B71 + B12 -	3	70.00	1.650	167.63	2.384	15.000	13.200	9.300	0.80	0.67	0.000
112.30	Sector Frame-Pipe/Rod	3	450.00	14.000	906.81	23.136	0.000	0.000	0.000	0.75	0.75	0.000
112.30	RFS - APXVSPP18-C-A20	3	57.00	8.020	281.43	11.647	72.000	11.800	7.000	0.80	0.83	4.500
112.30	RFS - APXVTM14-C-I20	3	56.20	6.340	269.07	7.811	56.300	12.600	6.300	0.80	0.78	2.700
112.30	Alcatel-Lucent - TD-RRH8x20-25 -	3	70.00	4.050	196.89	5.885	26.100	18.600	6.700	0.80	0.67	2.700
110.30	Alcatel-Lucent - 800 MHz RRH	3	53.00	2.490	149.03	3.975	19.700	13.000	10.800	0.80	0.67	0.000
107.60	Alcatel-Lucent - 1900 MHz RRH	3	44.00	3.800	185.74	5.605	23.000	13.000	17.000	0.80	0.67	0.000
102.40	12" x 12" x 6.38" Junction Box	1	10.00	1.400	63.17	2.481	12.000	12.000	8.000	1.00	1.00	0.000
101.40	Standoffs	3	120.00	4.500	253.38	11.182	0.000	0.000	0.000	0.75	0.75	0.000
101.40	Andrew - 3.3' Dish	1	140.00	8.920	372.43	11.157	36.000	36.000	0.000	1.00	1.00	3.200
101.40	Andrew - VHLP1-23-DW1	1	14.00	1.610	59.10	2.576	15.300	15.300	8.700	1.00	1.00	2.600

Loading Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

101.40	Argus - LLPX310R-V4	3	28.70	4.310	144.33	6.426	42.100	11.800	4.500	0.80	0.73	2.600
101.40	Alcatel-Lucent - SPI-22132825WB	3	33.10	1.820	89.05	3.063	16.100	11.600	6.000	0.80	0.67	2.400
74.00	3.5" Ø x 8" GPS	1	10.00	0.160	16.90	0.638	8.000	2.000	2.000	1.00	1.00	1.900
74.00	Standoff	1	120.00	4.500	250.27	11.026	0.000	0.000	0.000	1.00	1.00	0.000
60.00	PCTEL - GPS-TMG-HR-26N - GPS	1	0.60	0.090	6.45	0.308	5.000	3.200	3.200	1.00	1.00	0.000
	Totals:	**135**	**13,575.10**		**41,769.73**					**Number of Appurtenances :**		**53**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	195.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	1.00	1.00	
0.00	171.50	7/8" Coax	8	1.11	0.52	50.00	3	Block		N	1.00	0.67	
0.00	164.00	0.39" Fiber	1	0.39	0.05	100.00	2	Individual NR		N	1.00	1.00	0
0.00	164.00	0.78" DC Power	6	0.78	0.65	100.00	2	Individual NR		N	1.00	1.00	0
0.00	164.00	1 5/8" Coax	9	1.98	1.04	50.00	2	Block		N	1.00	0.59	
0.00	164.00	3" Conduit	1	3.02	1.78	100.00	2	Individual NR		N	1.00	1.00	
0.00	146.00	1 1/4" Coax	1	1.55	0.66	100.00	2	Individual NR		N	1.00	1.00	0
0.00	146.00	1 5/8" Coax	6	1.98	1.04	33.30	2	Block		N	1.00	0.47	
0.00	146.00	1 5/8" Coax	6	1.98	1.04	33.30	2	Block		N	1.00	1.00	0
0.00	135.00	1 5/8" Coax	15	1.98	1.04	50.00	1	Block		N	1.00	1.00	
0.00	135.00	1-1/4" Hybrid	3	1.25	0.95	50.00	1	Individual IR		N	1.00	1.00	
0.00	112.30	1-1/4" Fiber	4	1.25	0.95	100.00	3	Individual IR		N	1.00	0.59	
0.00	101.40	1-5/16" Conduit	1	1.38	1.13	100.00	1	Individual NR		N	1.00	1.00	0
0.00	101.40	1/2" Coax	2	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	0
0.00	74.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	0
0.00	60.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W Normal Wind — 1.2D + 1.6W 97 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	35.27	131.70	0.00	9,786.5	0.0	2400.35	1828.90	4,229.24
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.73	131.70	0.00	7,378.9	0.0	2630.08	2183.17	4,813.25
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	27.28	131.70	0.00	6,268.5	0.0	2422.68	2401.12	4,823.80
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.58	130.29	0.00	6,120.7	0.0	2383.53	2537.13	4,920.66
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	23.37	129.53	0.00	5,211.6	0.0	2273.88	2666.27	4,940.15
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	22.05	122.17	0.00	4,556.7	0.0	2165.60	2690.05	4,855.65
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	19.67	105.65	0.00	3,820.0	0.0	1942.09	2280.00	4,222.09
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.71	32.38	0.00	1,413.6	0.0	856.41	579.67	1,436.08
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	42.31	0.00	1,854.0	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,851.2	**0.0**			**37,075.39**

Load Case: 1.2D + 1.6W 60° Wind — 1.2D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	30.40	131.70	0.00	9,786.5	0.0	2068.74	1828.90	3,897.64
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.27	131.70	0.00	7,378.9	0.0	2271.30	2183.17	4,454.47
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	23.79	131.70	0.00	6,268.5	0.0	2112.37	2401.12	4,513.49
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.41	130.29	0.00	6,120.7	0.0	2088.01	2537.13	4,625.14
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	20.50	129.53	0.00	5,211.6	0.0	1994.01	2666.27	4,660.28
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.45	122.17	0.00	4,556.7	0.0	1910.39	2690.05	4,600.44
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	17.47	105.65	0.00	3,820.0	0.0	1725.36	2280.00	4,005.35
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.79	32.38	0.00	1,413.6	0.0	766.25	579.67	1,345.91
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	42.31	0.00	1,854.0	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,851.2	**0.0**			**34,937.21**

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 90° Wind — 1.2D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	31.62	131.70	0.00	9,786.5	0.0	2151.64	1828.90	3,980.54
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.38	131.70	0.00	7,378.9	0.0	2360.99	2183.17	4,544.17
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	24.66	131.70	0.00	6,268.5	0.0	2189.95	2401.12	4,591.07
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	23.20	130.29	0.00	6,120.7	0.0	2161.89	2537.13	4,699.02
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	21.21	129.53	0.00	5,211.6	0.0	2063.98	2666.27	4,730.25
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	20.10	122.17	0.00	4,556.7	0.0	1974.19	2690.05	4,664.24
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	18.02	105.65	0.00	3,820.0	0.0	1779.54	2280.00	4,059.54
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.02	32.38	0.00	1,413.6	0.0	788.79	579.67	1,368.46
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	42.31	0.00	1,854.0	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,851.2	**0.0**			**35,471.76**

Load Case: 0.9D + 1.6W Normal Wind — 0.9D + 1.6W 97 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	35.27	131.70	0.00	7,339.8	0.0	2400.35	1828.90	4,229.24
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.73	131.70	0.00	5,534.1	0.0	2630.08	2183.17	4,813.25
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	27.28	131.70	0.00	4,701.3	0.0	2422.68	2401.12	4,823.80
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.58	130.29	0.00	4,590.5	0.0	2383.53	2537.13	4,920.66
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	23.37	129.53	0.00	3,908.7	0.0	2273.88	2666.27	4,940.15
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	22.05	122.17	0.00	3,417.5	0.0	2165.60	2690.05	4,855.65
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	19.67	105.65	0.00	2,865.0	0.0	1942.09	2280.00	4,222.09
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.71	32.38	0.00	1,060.2	0.0	856.41	579.67	1,436.08
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	42.31	0.00	1,390.5	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,888.4	**0.0**			**37,075.39**

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 60° Wind — 0.9D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	30.40	131.70	0.00	7,339.8	0.0	2068.74	1828.90	3,897.64
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.27	131.70	0.00	5,534.1	0.0	2271.30	2183.17	4,454.47
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	23.79	131.70	0.00	4,701.3	0.0	2112.37	2401.12	4,513.49
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.41	130.29	0.00	4,590.5	0.0	2088.01	2537.13	4,625.14
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	20.50	129.53	0.00	3,908.7	0.0	1994.01	2666.27	4,660.28
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.45	122.17	0.00	3,417.5	0.0	1910.39	2690.05	4,600.44
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	17.47	105.65	0.00	2,865.0	0.0	1725.36	2280.00	4,005.35
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.79	32.38	0.00	1,060.2	0.0	766.25	579.67	1,345.91
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	42.31	0.00	1,390.5	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,888.4	**0.0**			**34,937.21**

Load Case: 0.9D + 1.6W 90° Wind — 0.9D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	31.62	131.70	0.00	7,339.8	0.0	2151.64	1828.90	3,980.54
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.38	131.70	0.00	5,534.1	0.0	2360.99	2183.17	4,544.17
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	24.66	131.70	0.00	4,701.3	0.0	2189.95	2401.12	4,591.07
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	23.20	130.29	0.00	4,590.5	0.0	2161.89	2537.13	4,699.02
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	21.21	129.53	0.00	3,908.7	0.0	2063.98	2666.27	4,730.25
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	20.10	122.17	0.00	3,417.5	0.0	1974.19	2690.05	4,664.24
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	18.02	105.65	0.00	2,865.0	0.0	1779.54	2280.00	4,059.54
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.02	32.38	0.00	1,060.2	0.0	788.79	579.67	1,368.46
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	42.31	0.00	1,390.5	0.0	854.95	908.75	1,763.70
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,888.4	**0.0**			**35,471.76**

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	1.00	1.00	1.85	60.45	177.01	92.42	21,671.	11885.0	602.67	471.41	1,074.08
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	1.00	1.00	2.01	59.33	180.83	100.5	18,120.	10741.6	687.43	576.89	1,264.32
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	1.00	1.00	2.10	53.36	183.00	105.2	16,927.	10658.8	672.79	643.81	1,316.60
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	1.00	1.00	2.17	51.49	183.13	99.15	16,761.	10641.1	671.80	650.33	1,322.12
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	1.00	1.00	2.22	47.69	183.59	96.33	15,662.	10451.3	636.78	685.52	1,322.31
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	1.00	1.00	2.27	46.28	172.39	77.12	14,340.	9783.3	611.10	683.77	1,294.88
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	1.00	1.00	2.30	45.44	145.16	76.75	12,768.	8947.9	577.18	562.73	1,139.91
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	1.00	1.00	2.33	20.85	43.60	37.23	4,896.7	3483.2	259.60	142.37	401.96
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	1.00	1.00	2.35	50.36	53.22	51.68	7,637.5	5783.4	586.66	155.29	741.94
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	1.00	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.79	465.75
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	1.00	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														134,703.7	**86852.5**			**10,675.27**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	0.80	1.00	1.85	55.58	177.01	92.42	21,671.	11885.0	554.09	471.41	1,025.50
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	0.80	1.00	2.01	54.87	180.83	100.5	18,120.	10741.6	635.69	576.89	1,212.58
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	0.80	1.00	2.10	49.86	183.00	105.2	16,927.	10658.8	628.73	643.81	1,272.53
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	0.80	1.00	2.17	48.32	183.13	99.15	16,761.	10641.1	630.42	650.33	1,280.75
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	0.80	1.00	2.22	44.81	183.59	96.33	15,662.	10451.3	598.37	685.52	1,283.89
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	0.80	1.00	2.27	43.68	172.39	77.12	14,340.	9783.3	576.79	683.77	1,260.56
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	0.80	1.00	2.30	43.24	145.16	76.75	12,768.	8947.9	549.30	562.73	1,112.02
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	0.80	1.00	2.33	19.93	43.60	37.23	4,896.7	3483.2	248.18	142.37	390.54
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	0.80	1.00	2.35	50.36	53.22	51.68	7,637.5	5783.4	586.66	155.29	741.94
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	0.80	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.79	465.75
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	0.80	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														134,703.7	**86852.5**			**10,377.49**

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	0.85	1.00	1.85	56.80	177.01	92.42	21,671.	11885.0	566.23	471.41	1,037.65
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	0.85	1.00	2.01	55.98	180.83	100.5	18,120.	10741.6	648.63	576.89	1,225.52
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	0.85	1.00	2.10	50.74	183.00	105.2	16,927.	10658.8	639.74	643.81	1,283.55
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	0.85	1.00	2.17	49.12	183.13	99.15	16,761.	10641.1	640.77	650.33	1,291.09
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	0.85	1.00	2.22	45.53	183.59	96.33	15,662.	10451.3	607.97	685.52	1,293.50
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	0.85	1.00	2.27	44.33	172.39	77.12	14,340.	9783.3	585.37	683.77	1,269.14
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	0.85	1.00	2.30	43.79	145.16	76.75	12,768.	8947.9	556.27	562.73	1,118.99
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	0.85	1.00	2.33	20.16	43.60	37.23	4,896.7	3483.2	251.03	142.37	393.40
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	0.85	1.00	2.35	50.36	53.22	51.68	7,637.5	5783.4	586.66	155.29	741.94
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	0.85	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.79	465.75
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	0.85	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														134,703.7	**86852.5**			**10,451.94**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	37.65	131.70	0.00	8,155.4	0.0	612.73	437.35	1,050.08
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	35.28	131.70	0.00	6,149.1	0.0	677.86	522.07	1,199.92
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	29.62	131.70	0.00	5,223.7	0.0	629.08	574.19	1,203.26
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	27.92	130.29	0.00	5,100.6	0.0	622.12	606.71	1,228.83
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	25.06	129.53	0.00	4,343.0	0.0	583.06	637.59	1,220.65
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	23.70	122.17	0.00	3,797.3	0.0	556.70	643.28	1,199.98
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	20.84	105.65	0.00	3,183.4	0.0	492.15	545.22	1,037.37
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	9.09	32.38	0.00	1,178.0	0.0	213.67	138.62	352.29
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	42.31	0.00	1,545.0	0.0	204.45	217.31	421.76
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,876.0	**0.0**			**9,170.21**

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	32.78	131.70	0.00	8,155.4	0.0	533.43	437.35	970.78
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	30.81	131.70	0.00	6,149.1	0.0	592.06	522.07	1,114.13
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	26.13	131.70	0.00	5,223.7	0.0	554.87	574.19	1,129.06
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	24.75	130.29	0.00	5,100.6	0.0	551.45	606.71	1,158.16
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	22.18	129.53	0.00	4,343.0	0.0	516.13	637.59	1,153.72
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	21.10	122.17	0.00	3,797.3	0.0	495.68	643.28	1,138.96
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	18.65	105.65	0.00	3,183.4	0.0	440.33	545.22	985.55
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	8.17	32.38	0.00	1,178.0	0.0	192.11	138.62	330.73
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	42.31	0.00	1,545.0	0.0	204.45	217.31	421.76
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,876.0	**0.0**			**8,658.90**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	34.00	131.70	0.00	8,155.4	0.0	553.25	437.35	990.60
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	31.93	131.70	0.00	6,149.1	0.0	613.51	522.07	1,135.58
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	27.00	131.70	0.00	5,223.7	0.0	573.42	574.19	1,147.61
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	25.54	130.29	0.00	5,100.6	0.0	569.12	606.71	1,175.83
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	22.90	129.53	0.00	4,343.0	0.0	532.86	637.59	1,170.45
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	21.75	122.17	0.00	3,797.3	0.0	510.93	643.28	1,154.21
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	19.20	105.65	0.00	3,183.4	0.0	453.28	545.22	998.50
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.40	32.38	0.00	1,178.0	0.0	197.50	138.62	336.12
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	42.31	0.00	1,545.0	0.0	204.45	217.31	421.76
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,876.0	**0.0**			**8,786.72**

Force/Stress Compression Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	

TES Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	-356.91	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	69.4	Member X
2	40	12B - 12"BD 2.25"	-324.24	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	63.1	Member X
3	60	12B - 12"BD 2"	-287.40	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	70.8	Member X
4	80	12B - 12"BD 2"	-248.79	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	61.3	Member X
5	100	12B - 12"BD 1.75"	-207.28	1.2D + 1.6W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	67.1	Member X
6	120	12B - 12"BD 1.75"	-161.48	1.2D + 1.6W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	52.3	Member X
7	140	12B - 12"BD 1.5"	-116.47	1.2D + 1.6W Normal Wind	10.02	100	100	100	30.32	50.00	222.99	52.2	Member X
8	150	12B - 12"BD 1.25"	-67.78	1.2D + 1.6W Normal Wind	10.02	100	100	100	36.38	50.00	150.33	45.1	Member X
9	170	SOL - 2" SOLID	-58.02	1.2D + 1.6W Normal Wind	2.40	100	100	100	57.51	50.00	111.01	52.3	Member X
10	185	SOL - 1 3/4" SOLID	-11.58	1.2D + 1.6W Normal Wind	0.42	100	100	100	11.44	50.00	107.21	10.8	Member X
11	195	SOL - 1 3/4" SOLID	-2.20	1.2D + 1.0Di + 1.0Wi Normal	2.29	100	100	100	62.85	50.00	81.08	2.7	Member X

Splices

		Top Splice						Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	1.2D + 1.6W Normal Wind	333.36	0.00	0.0			1.2D + 1.6W Normal Wind	367.32	0.00			
2	40	1.2D + 1.6W Normal Wind	297.21	0.00	0.0			1.2D + 1.6W Normal Wind	333.36	0.00		1/4 A325	6
3	60	1.2D + 1.6W Normal Wind	259.12	0.00	0.0			1.2D + 1.6W Normal Wind	297.21	0.00		1/4 A325	6
4	80	1.2D + 1.6W Normal Wind	218.55	0.00	0.0			1.2D + 1.6W Normal Wind	259.12	0.00		1/4 A325	6
5	100	1.2D + 1.6W Normal Wind	173.97	0.00	0.0			1.2D + 1.6W Normal Wind	218.55	0.00		1 A325	6
6	120	1.2D + 1.6W Normal Wind	128.32	0.00	0.0			1.2D + 1.6W Normal Wind	173.97	0.00		1 A325	6
7	140	1.2D + 1.6W Normal Wind	84.88	0.00	0.0			1.2D + 1.6W Normal Wind	128.32	0.00		1 A325	6
8	150	1.2D + 1.6W Normal Wind	62.60	0.00	0.0			1.2D + 1.6W Normal Wind	84.88	0.00		1 A325	6
9	170	1.2D + 1.6W Normal Wind	11.69	0.00	0.0			1.2D + 1.6W Normal Wind	62.60	0.00		1 A325	6
10	185	1.2D + 1.0Di + 1.0Wi Normal Wi	2.82	0.00	0.0			1.2D + 1.6W Normal Wind	11.69	0.00			
11	195	1.2D + 1.0Di + 1.0Wi 90° Wind	0.40	0.00	0.0			1.2D + 1.0Di + 1.0Wi Normal Wi	2.82	0.00			

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20										0.00	0	0				
2	40										0.00	0	0				
3	60										0.00	0	0				
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	140	SAE - 2.5X2.5X0.1875	-3.18	0.9D + 1.6W Normal Wind	6.00	100	100	100	145.45	36.00	9.63	1	1	31.81	17.94	33	Member Z
8	150										0.00	0	0				
9	170	SOL - 1" SOLID	-1.40	0.9D + 1.6W Normal Wind	4.99	100	100	100	167.65	50.00	6.31	0	0			22	Member X
10	185	SOL - 7/8" SOLID	-2.39	1.2D + 1.6W Normal Wind	4.50	100	100	100	172.76	50.00	4.55	0	0			53	Member X
11	195	SOL - 7/8" SOLID	-0.76	0.9D + 1.6W 90° Wind	4.50	100	100	100	172.76	50.00	4.55	0	0			17	Member X

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	DAE - 3.5X3.5X0.3125	-10.4	1.2D + 1.6W Normal Wind	21.92	50	50	50	204.79	36.00	22.52	1	1	43.49	75.0	46	Member Y
2	40	SAE - 3.5X3.5X0.3125	-9.54	1.2D + 1.6W 90° Wind	20.16	50	50	50	175.28	36.00	15.37	1	1	43.49	37.5	62	Member Z
3	60	SAE - 3X3X0.3125	-9.33	1.2D + 1.6W 90° Wind	18.45	50	50	50	187.93	36.00	11.39	1	1	43.49	37.5	82	Member Z

Force/Stress Compression Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
4	80	SAE - 3X3X0.3125	-9.14	1.2D + 1.6W 90° Wind	16.80	50	50	50	171.17	36.00	13.73	1	1	43.49	37.5	67	Member Z
5	100	SAE - 3X3X0.3125	-9.17	1.2D + 1.6W 90° Wind	15.24	50	50	50	155.27	36.00	16.68	1	1	31.81	29.9	55	Member Z
6	120	SAE - 3X3X0.1875	-8.62	1.2D + 1.6W 90° Wind	13.80	50	50	50	138.89	36.00	12.77	1	1	31.81	17.9	67	Member Z
7	140	SAE - 2.5X2.5X0.1875	-8.23	1.2D + 1.6W 90° Wind	12.50	50	50	50	151.56	36.00	8.87	1	1	31.81	17.9	93	Member Z
8	150	SAE - 2.5X2.5X0.1875	-9.68	1.2D + 1.6W Normal Wind	11.42	50	50	50	138.38	36.00	10.64	1	1	31.81	17.9	91	Member Z
9	170	SOL - 7/8" SOLID	-4.45	1.2D + 1.6W 90° Wind	5.51	50	50	50	135.94	50.00	7.35	0	0			61	Member X
10	185	SOL - 3/4" SOLID	-3.91	1.2D + 1.6W Normal Wind	5.08	50	50	50	146.35	50.00	4.66	0	0			84	Member X
11	195	SOL - 3/4" SOLID	-1.17	1.2D + 1.6W 60° Wind	5.05	50	50	50	145.44	50.00	4.72	0	0			25	Member X

Force/Stress Tension Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	310.07	0.9D + 1.6W 60° Wind	50	536.85	57.8	Member
2	40	12B - 12"BD 2.25"	282.18	0.9D + 1.6W 60° Wind	50	536.85	52.6	Member
3	60	12B - 12"BD 2"	250.79	0.9D + 1.6W 60° Wind	50	423.90	59.2	Member
4	80	12B - 12"BD 2"	216.72	0.9D + 1.6W 60° Wind	50	423.90	51.1	Member
5	100	12B - 12"BD 1.75"	179.76	0.9D + 1.6W 60° Wind	50	324.45	55.4	Member
6	120	12B - 12"BD 1.75"	138.21	0.9D + 1.6W 60° Wind	50	324.45	42.6	Member
7	140	12B - 12"BD 1.5"	97.79	0.9D + 1.6W 60° Wind	50	238.50	41.0	Member
8	150	12B - 12"BD 1.25"	53.54	0.9D + 1.6W 60° Wind	50	165.60	32.3	Member
9	170	SOL - 2" SOLID	46.25	0.9D + 1.6W 60° Wind	50	141.37	32.7	Member
10	185	SOL - 1 3/4" SOLID	4.60	0.9D + 1.6W 60° Wind	50	108.24	4.2	Member
11	195	SOL - 1 3/4" SOLID	1.16	0.9D + 1.6W 60° Wind	50	108.24	1.2	Bolt Shear

Splices

		Top Splice					Bottom Splice				
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	0.9D + 1.6W 60° Wind	288.74	0.00	0.0			0.9D + 1.6W 60° Wind	319.4	0.00			
2	40	0.9D + 1.6W 60° Wind	257.85	0.00	0.0			0.9D + 1.6W 60° Wind	288.7	457.92	63.1	1 1/4 A325	6
3	60	0.9D + 1.6W 60° Wind	224.73	0.00	0.0			0.9D + 1.6W 60° Wind	257.8	457.92	56.3	1 1/4 A325	6
4	80	0.9D + 1.6W 60° Wind	188.69	0.00	0.0			0.9D + 1.6W 60° Wind	224.7	457.92	49.1	1 1/4 A325	6
5	100	0.9D + 1.6W 60° Wind	147.91	0.00	0.0			0.9D + 1.6W 60° Wind	188.6	318.06	59.3	1 A325	6
6	120	0.9D + 1.6W 60° Wind	108.20	0.00	0.0			0.9D + 1.6W 60° Wind	147.9	318.06	46.5	1 A325	6
7	140	0.9D + 1.6W 60° Wind	67.94	0.00	0.0			0.9D + 1.6W 60° Wind	108.2	318.06	34.0	1 A325	6
8	150	0.9D + 1.6W 60° Wind	45.17	0.00	0.0			0.9D + 1.6W 60° Wind	67.94	318.06	21.4	1 A325	6
9	170	0.9D + 1.6W Normal Wind	4.41	0.00	0.0			0.9D + 1.6W 60° Wind	45.17	318.06	14.2	1 A325	6
10	185	0.9D + 1.6W 60° Wind	1.14	0.00	0.0			0.9D + 1.6W Normal Wind	4.41	0.00			
11	195		0.00	0.00	0.0			0.9D + 1.6W 60° Wind	1.14	0.00			

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	140	SAE - 2.5X2.5X0.1875	3.46	1.2D + 1.6W 60° Wind	36	22.55	1	1	31.81	17.94	10.66	32.4	Blck Shear
8	150	-			36	0.00	0	0					
9	170	SOL - 1" SOLID	2.24	1.2D + 1.6W Normal W	50	35.34	0	0				6.3	Member
10	185	SOL - 7/8" SOLID	1.88	1.2D + 1.6W 60° Wind	50	27.06	0	0				7.0	Member
11	195	SOL - 7/8" SOLID	0.99	0.9D + 1.6W 60° Wind	50	27.06	0	0				3.7	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	DAE - 3.5X3.5X0.3125	9.34	0.9D + 1.6W 60° Wind	36	122.35	1	1	43.49	75.04	47.40	21.5	Bolt Shear
2	40	SAE - 3.5X3.5X0.3125	9.29	1.2D + 1.6W 90° Wind	36	54.17	1	1	43.49	37.52	23.70	39.2	Blck Shear
3	60	SAE - 3X3X0.3125	8.96	0.9D + 1.6W 90° Wind	36	44.05	1	1	43.49	37.52	20.30	44.1	Blck Shear
4	80	SAE - 3X3X0.3125	8.82	0.9D + 1.6W 90° Wind	36	44.05	1	1	43.49	37.52	20.30	43.5	Blck Shear

Force/Stress Tension Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 17	

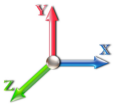
Tower Engineering Solutions

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
5	100	SAE - 3X3X0.3125	9.06	1.2D + 1.6W 90° Wind	36	46.60	1	1	31.81	29.91	19.47	46.6	Blck Shear
6	120	SAE - 3X3X0.1875	8.29	1.2D + 1.6W 90° Wind	36	28.68	1	1	31.81	17.94	11.68	70.9	Blck Shear
7	140	SAE - 2.5X2.5X0.1875	7.99	1.2D + 1.6W 90° Wind	36	22.55	1	1	31.81	17.94	10.66	75.0	Blck Shear
8	150	SAE - 2.5X2.5X0.1875	8.98	0.9D + 1.6W 60° Wind	36	22.55	1	1	31.81	17.94	10.66	84.2	Blck Shear
9	170	SOL - 7/8" SOLID	4.41	1.2D + 1.6W 90° Wind	50	27.06	0	0				16.3	Member
10	185	SOL - 3/4" SOLID	2.95	1.2D + 1.6W 60° Wind	50	19.88	0	0				14.8	Member
11	195	SOL - 3/4" SOLID	0.87	0.9D + 1.6W 90° Wind	50	19.88	0	0				4.4	Member

Support Forces Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	3/23/2020	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 18	



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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	-0.01	366.86	-37.97	
	1a	13.78	-151.37	-9.05	
	1b	-13.77	-151.36	-9.06	
1.2D + 1.6W 60° Wind	1	-0.93	189.73	-19.23	
	1a	-16.96	186.80	8.92	
	1b	-28.83	-312.39	-16.66	
1.2D + 1.6W 90° Wind	1	-1.12	21.47	-1.71	
	1a	-28.13	311.46	15.72	
	1b	-25.23	-268.79	-14.01	
0.9D + 1.6W Normal Wind	1	-0.01	360.94	-37.52	
	1a	14.15	-156.42	-9.28	
	1b	-14.15	-156.41	-9.29	
0.9D + 1.6W 60° Wind	1	-0.94	184.09	-18.77	
	1a	-16.58	181.21	8.68	
	1b	-29.20	-317.19	-16.88	
0.9D + 1.6W 90° Wind	1	-1.14	16.10	-1.27	
	1a	-27.74	305.66	15.49	
	1b	-25.61	-273.66	-14.22	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	166.15	-8.48	
	1a	6.58	4.21	-3.88	
	1b	-6.57	4.25	-3.88	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.13	111.66	-3.03	
	1a	-2.60	109.98	1.46	
	1b	-11.08	-47.03	-6.40	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.16	58.39	2.25	
	1a	-5.97	149.02	3.42	
	1b	-9.90	-32.81	-5.68	
1.0D + 1.0W Normal Wind	1	0.00	101.67	-10.33	
	1a	2.44	-24.11	-1.69	
	1b	-2.44	-24.10	-1.69	
1.0D + 1.0W 60° Wind	1	-0.25	58.72	-5.75	
	1a	-5.07	57.94	2.69	
	1b	-6.12	-63.21	-3.54	
1.0D + 1.0W 90° Wind	1	-0.29	17.89	-1.48	
	1a	-7.79	88.19	4.36	
	1b	-5.25	-52.62	-2.88	

Max Reactions

Leg			Overturning		
Max Uplift:	-317.19	(kips)	Moment:	5983.93	(ft-kips)
Max Down:	366.86	(kips)	Total Down:	64.14	(kips)
Max Shear:	37.97	(kips)	Total Shear:	56.08	(kips)

Max Reactions

Leg			Overturning		
Max Uplift:	-317.19	(kips)	Moment:	5983.93	(ft-kips)
Max Down:	366.86	(kips)	Total Down:	64.14	(kips)
Max Shear:	37.97	(kips)	Total Shear:	56.08	(kips)

Anchor Bolts

Bolt Size (in.):	1.25	Number Bolts:	6
Yield Strength (Ksi):	105.00	Tensile Strength (Ksi):	150.00
Detail Type:	A		

Interaction Ratio: 0.52

Max Usages

Max Leg: 70.8% (1.2D + 1.6W Normal Wind - Sect 3)
Max Diag: 92.8% (1.2D + 1.6W 90° Wind - Sect 7)
Max Horiz: 52.6% (1.2D + 1.6W Normal Wind - Sect 10)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.6W 97 mph Wind at 60° From Face	60.00	0.1725	0.0270	0.3315
	70.00	0.2334	-0.0092	0.3894
	100.00	0.4920	0.0528	0.6057
	110.00	0.6044	0.0593	0.6765
	130.00	0.8672	0.0726	0.8410
	150.00	1.1852	0.0979	1.0166
	164.79	1.4596	1.4210	1.1080
	170.42	1.5602	1.8900	1.9697
	195.00	2.0264	2.1646	1.3856
0.9D + 1.6W 97 mph Wind at 90° From Face	60.00	0.1721	-0.0290	0.3323
	70.00	0.2333	-0.0341	0.3889
	100.00	0.4913	-0.0540	0.6040
	110.00	0.6035	-0.0596	0.6716
	130.00	0.8648	-0.0686	0.8365
	150.00	1.1823	-0.0761	1.0033
	164.79	1.4526	-0.3715	1.0274
	170.42	1.5396	-0.4621	0.8233
	195.00	1.9920	-0.4615	1.0932
0.9D + 1.6W 97 mph Wind at Normal To Face	60.00	0.1783	0.0014	0.3424
	70.00	0.2433	0.0001	0.4009
	100.00	0.5083	0.0007	0.6293
	110.00	0.6246	0.0008	0.7074
	130.00	0.8972	0.0039	0.8732
	150.00	1.2287	-0.0014	1.0568
	164.79	1.5212	-0.2854	1.2380
	170.42	1.6590	-0.3727	3.4879
	195.00	2.1756	0.3583	2.5754

1.0D + 1.0W 60 mph Wind at 60° From Face	60.00	0.0418	-0.0050	0.0802
	70.00	0.0568	-0.0059	0.0942
	100.00	0.1191	-0.0093	0.1461
	110.00	0.1463	-0.0102	0.1637
	130.00	0.2096	-0.0113	0.2022
	150.00	0.2867	0.0119	0.2457
	164.79	0.3528	0.1369	0.2607
	170.42	0.3770	0.1783	0.4493
	195.00	0.4891	0.1793	0.3123
1.0D + 1.0W 60 mph Wind at 90° From Face	60.00	0.0420	-0.0070	0.0806
	70.00	0.0567	-0.0083	0.0943
	100.00	0.1193	-0.0131	0.1461
	110.00	0.1464	-0.0144	0.1625
	130.00	0.2096	-0.0166	0.2020
	150.00	0.2860	-0.0184	0.2425
	164.79	0.3511	-0.0899	0.2474
	170.42	0.3721	-0.1117	0.1953
	195.00	0.4810	-0.1103	0.2632
1.0D + 1.0W 60 mph Wind at Normal To Face	60.00	0.0435	0.0004	0.0832
	70.00	0.0593	0.0000	0.0972
	100.00	0.1236	0.0003	0.1525
	110.00	0.1517	0.0004	0.1713
	130.00	0.2178	0.0012	0.2114
	150.00	0.2975	0.0007	0.2543
	164.79	0.3680	-0.0647	0.2982
	170.42	0.4012	-0.0838	0.8360
	195.00	0.5260	0.0818	0.6184
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	60.00	0.0555	0.0066	0.1062
	70.00	0.0739	-0.0043	0.1257
	100.00	0.1591	0.0128	0.1996
	110.00	0.1964	0.0144	0.2266
	130.00	0.2845	0.0183	0.2874
	150.00	0.3960	0.0246	0.3624
	164.79	0.4954	0.3806	0.4015
	170.42	0.5322	0.5015	0.9504
	195.00	0.7077	0.5086	1.0666
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	60.00	0.0549	-0.0086	0.1062
	70.00	0.0738	-0.0102	0.1250
	100.00	0.1578	-0.0163	0.1985
	110.00	0.1948	-0.0182	0.2236
	130.00	0.2825	-0.0218	0.2851
	150.00	0.3924	-0.0255	0.3537
	164.79	0.4892	-0.1742	0.3681
	170.42	0.5191	-0.2196	0.5567
	195.00	0.6850	-0.2176	0.7401
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	60.00	0.0556	0.0002	0.1097
	70.00	0.0760	0.0000	0.1288
	100.00	0.1631	0.0001	0.2082
	110.00	0.2017	-0.0001	0.2361
	130.00	0.2949	-0.0009	0.3021
	150.00	0.4110	-0.0006	0.3771
	164.79	0.5192	-0.1437	0.4763
	170.42	0.5748	-0.1857	1.6341
	195.00	0.7790	0.1810	1.6784
1.2D + 1.6W 97 mph Wind at 60° From Face	60.00	0.1728	0.0271	0.3322
	70.00	0.2338	-0.0092	0.3903
	100.00	0.4930	0.0529	0.6072
	110.00	0.6057	0.0594	0.6783
	130.00	0.8692	0.0728	0.8432
	150.00	1.1881	0.0981	1.0199
	164.79	1.4634	1.4248	1.1115
	170.42	1.5643	1.8950	1.9721
	195.00	2.0320	2.1729	1.3876

1.2D + 1.6W 97 mph Wind at 90° From Face	60.00	0.1724	-0.0290	0.3329
	70.00	0.2337	-0.0342	0.3897
	100.00	0.4922	-0.0541	0.6055
	110.00	0.6047	-0.0597	0.6733
	130.00	0.8667	-0.0687	0.8388
	150.00	1.1852	-0.0761	1.0065
	164.79	1.4563	-0.3715	1.0307
	170.42	1.5436	-0.4620	0.8201
	195.00	1.9974	-0.4613	1.0966
1.2D + 1.6W 97 mph Wind at Normal To Face	60.00	0.1787	0.0015	0.3431
	70.00	0.2438	0.0001	0.4018
	100.00	0.5094	0.0007	0.6310
	110.00	0.6260	0.0008	0.7093
	130.00	0.8995	0.0040	0.8758
	150.00	1.2318	-0.0015	1.0599
	164.79	1.5252	-0.2854	1.2417
	170.42	1.6634	-0.3728	3.4940
	195.00	2.1817	0.3582	2.5794

Last revised on June 29, 2018

Mat Foundation Design for Self Supporting Tower

			Date: 3/23/2020
Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	195
Site Nmber:	CT22108-A-SBA	Engineer Name:	T. Alajaj
Engr. Number:	92722	Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Analysis or Design? Analysis

Number of Tower Legs: 3 Legs

Base Reactions (Factored):

(1). Individual Leg:

Axial Load (Kips):	366.9	Uplift Force (Kips):	317.2
Shear Force (Kips):	38.0		

(2). Tower Base:

Total Vertical Load (Kips):	64.1	Total Shear Force (Kips):	56.1
Moment (Kips-ft):	5983.9		

Foundation Geometries:

Leg distance (Center-to-Center ft.):		20.0	Mods required -Yes/No ?:	No	
Diameter of Pier (ft.):	Square	2.9	Pier Height A. G. (ft.):	5.00	
Tower center to mat center (ft):		0.00	Depth of Base BG (ft.):	10.0	
Length of Pad (ft.):		29.5	Width of Pad (ft.):	29.5	
Thickness of Pad (ft):		3.50			

Material Properties and Reabr Info:

Concrete Strength (psi):	4500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	27	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

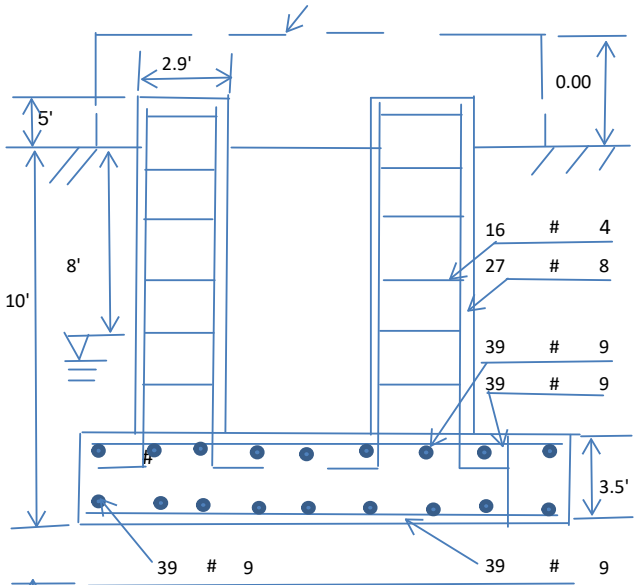
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

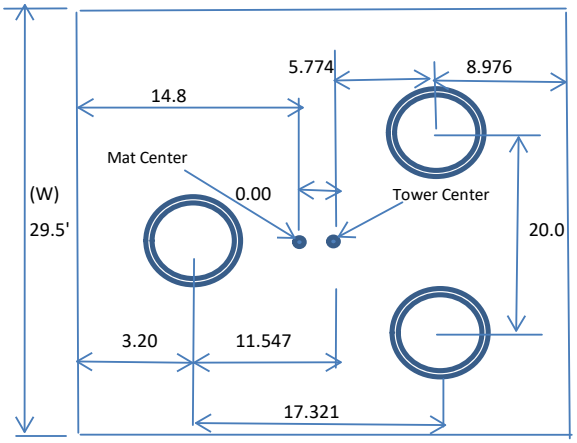
Rebar at the top of the concrete pad:

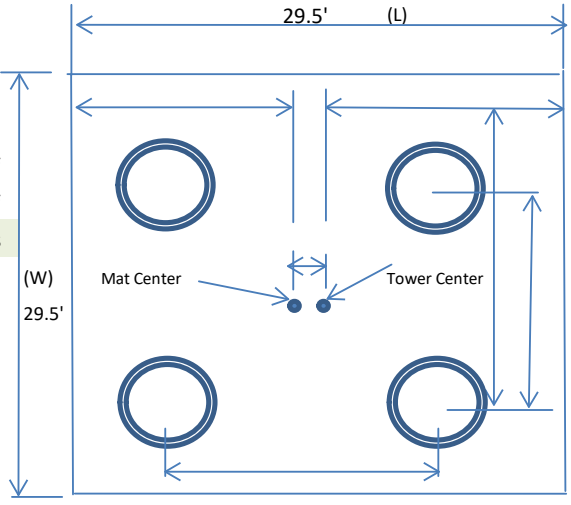
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

Soil Design Parameters:

Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	8.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	7000	Consider ties in concrete shear strength:	Yes	







Allowable overstress %: 5.00% **TES Engr. Number:** 92722 Page 2/2 Date: 3/23/2020

Apply 1.35 for e/w per G/H: 1

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	5494.28	Total Dry Soil Weight (Kips):	549.43
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	549.43	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1592.61	Total Dry Concrete Weight (Kips):	238.89
Total Buoyant Concrete Volume (cu. Ft.):	1740.50	Total Buoyant Concrete Weight (Kips):	152.47
Total Effective Concrete Weight (Kips):	391.36	Total Vertical Load on Base (Kips):	1004.93

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2639.33	<	Allowable Factored Soil Bearing (psf):	5250	0.50	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	13435.0	>	Design Factored Momont (kips-ft):	6700	0.50	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.01	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
(1) Concrete Pier:					Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	1058.4	>	Design Factored Moment (Mu, Kips-Ft)	436.7	0.41	OK!
Calculated Shear Capacity (Kips):	97.7	>	Design Factored Shear (Kips):	38.0	0.39	OK!
Calculated Tension Capacity (Tn, Kips):	1151.8	>	Design Factored Tension (Tu Kips):	317.2	0.28	OK!
Calculated Compression Capacity (Pn, Kips):	2342.2	>	Design Factored Axial Load (Pu Kips):	366.9	0.16	OK!
Moment & Tension Strength Combination:	0.41	OK!	Check Tie Spacing (Design/Req'd):	1		OK!
Pier Reinforcement Ratio:	0.018	Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:						
One-Way Design Shear Capacity (L or W Direction, Kips):	1369.2	>	One-Way Factored Shear (L/W-Dir Kips	320.1	0.23	OK!
One-Way Design Shear Capacity (Diagonal Dir., Kips):	1063.2	>	One-Way Factored Shear (Dia. Dir, Kips	236.1	0.22	OK!
Lower Steel Pad Reinforcement Ratio (L or W-Direct.):	0.0029		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0026		
Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	6589.5	>	Moment at Bottom (L-Direct. K-Ft):	1911.1	0.29	OK!
Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	6237.8	>	Moment at Bottom (Dia. Dir. K-Ft):	1596.7	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0029		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0026		
Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	6589.5	>	Moment at the top (L-Dir Kips-Ft):	707.2	0.11	OK!
Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	6237.8	>	Moment at the top (Dia. Dir., K-Ft):	441.1	0.07	OK!
Punching Failure Capacity (Kips):	1536.4	>	Punch. Failure Factored Shear (K):	366.9	0.24	OK!