



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

June 17, 2020

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

**RE: Notice of Exempt Modification for T-Mobile:
846295 - T-Mobile Site ID: CTHA162A
30 Higley Road, West Granby, CT 06090
Latitude: 41° 57' 56.80" / Longitude: -72° 51' 19.34"**

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 110-foot mount on the existing 119-foot Monopole Tower, located at 30 Higley Road, West Granby, CT. The tower is owned by Crown Castle and the property is owned by Martha Pease & Sarah Dalton as co-trustees. T-Mobile now intends to add three (3) new 600/700 MHz antennas. The new antennas will be installed at the 110-ft level of the tower. T-Mobile is also proposing tower mount modifications, as shown on the enclosed mount analysis.

**Planned Modifications:
Tower:**

Existing to Remain:

- (12) Coax
- (3) APX16DWV-16DWV-S-E-A20 Antenna 1900 MHz
- (3) TMA

Install New:

- (1) Hybrid
- (3) Radio 4449 B71/B12
- (3) RFS-APXVAARR24_43-U-NA20 Antenna 600/700 MHz

Ground:

- Upgrade to existing ground cabinet. (Internally)
- Upgrade existing breakers.

The facility was approved by the Connecticut Siting Council in Docket Number 263 on December 22, 2003. Naugatuck Zoning Commission on September 17, 1997. The approval was given with conditions. This exempt modification is in compliance with the conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with

The Foundation for a Wireless World.

CrownCastle.com

Melanie A. Bachman

Page 2

R.C.S.A. § 16-50j-73, a copy of this letter is being sent to John D. Ward, Town Manager for the Town of Granby, James Koplak, Zoning Enforcement Officer, Crown Castle as the tower owner, and Martha Pease & Sarah Dalton, co-trustees, the property owners.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification 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 replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.

Sincerely,

Anne Marie Zsamba
Real Estate Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc:

John D. Ward, Town Manager (*via email only to kkaner@granby-ct.gov, Executive Assistant Kathy Kane*)
Town of Granby
Town Hall
15 North Granby Road
Granby, CT 06035

James Koplak, Zoning Enforcement Officer
(*via email only to awinsor@granby-ct.gov, Admin Assistant Anne Winsor*)
Town of Granby

Melanie A. Bachman

Page 3

Town Hall
15 North Granby Road
Granby, CT 06035

Martha Pease & Sarah Dalton, Co-Trustees (*via email only to mcconlogue@msn.com*)
15634 Snee Oosh Road
Laconner, WA 98257

From: Zsamba, Anne Marie
To: mconlogue@msn.com
Subject: Notice of Exempt Modification - 30 Higley Road, West Granby - 846295
Date: Wednesday, June 17, 2020 11:01:00 AM
Attachments: [EM-T-MOBILE-846295-CTHA162A-30 Higley Rd West Granby_notice.pdf](#)

Dear Ms. Pease:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 17, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: [Zsamba, Anne Marie](#)
To: kkane@granby-ct.gov
Subject: Notice of Exempt Modification - 30 Higley Road, West Granby - 846295
Date: Wednesday, June 17, 2020 11:01:00 AM
Attachments: [EM-T-MOBILE-846295-CTHA162A-30 Higley Rd West Granby_notice.pdf](#)

Dear Town Manager Ward:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 17, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

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M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: [Zsamba, Anne Marie](#)
To: ["awinsor@granby-ct.gov"](mailto:awinsor@granby-ct.gov)
Subject: Notice of Exempt Modification - 30 Higley Road, West Granby - 846295
Date: Wednesday, June 17, 2020 11:02:00 AM
Attachments: [EM-T-MOBILE-846295-CTHA162A-30 Higley Rd West Granby_notice.pdf](#)

Dear ZEO Koplak:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 17, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

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Site Acquisition Specialist
T: (201) 236-9224
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CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

Exhibit A

Original Facility Approval

DOCKET NO. 263 – AT&T Wireless PCS, LLC d/b/a AT&T } Wireless application for a Certificate of Environmental } Compatibility and Public Need for the construction, maintenance } and operation of two telecommunications facilities in the West } Granby section of the Town of Granby, Connecticut. }	Connecticut Siting Council
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December 22, 2003

**Decision and Order:
Granby Site CT-812**

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the proposed Site A located at 8 Upper Meadow Road, Granby, Connecticut. The Council denies certification of proposed Site B located at 10 Day Street South, Granby, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level.
2. The tower and facility compound shall be moved in a southerly or southeasterly direction within the lease area to minimize the area of the adjacent property to the north that is encompassed within the tower's setback radius; and the tower shall be designed with a yield point to effectively reduce the radius of said setback area.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, fencing without razor wire on top, access road, utility line, and landscaping (including a screen of evergreen plantings around the facility compound); and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
8. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant.

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

The parties and intervenors to this proceeding are:

Applicant

AT&T Wireless PCS, LLC
d/b/a AT&T Wireless

Its Representative

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
90 Maple Avenue
White Plains, New York 10601

Exhibit B

Property Card

30R HIGLEY RD

Location 30R HIGLEY RD

Mblu F-20/ 23/ 66/ /

Acct# 07600030R

Owner PEASE MARTHA C & DALTON
SARAH P CO-TRUST

Assessment \$222,950

Appraisal \$318,500

PID 101658

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$131,500	\$187,000	\$318,500

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$92,050	\$130,900	\$222,950

Owner of Record

Owner	PEASE MARTHA C & DALTON SARAH P CO-TRUST	Sale Price	\$0
Co-Owner	C/O AT&T NETWORK SERVICES INC	Certificate	
Address	TOWER PROPERTY TAX TEAM 754 PEACHTREE ST NE ATLANTA , GA 30308	Book & Page	399/0205
		Sale Date	12/30/2013

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
PEASE MARTHA C & DALTON SARAH P CO-TRUST	\$0		399/0205	12/30/2013
PEASE WILLIAM EST OF & JANET H EST OF	\$0		398/1172	12/16/2013
PEASE WILLIAM & JANET H EST OF	\$0		397/1023	10/11/2013
PEASE WILLIAM & JANET H	\$0		078/0719	08/26/1969
	\$0			

Building Information

Building 1 : Section 1

Year Built:

Building Photo

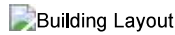
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost
Less Depreciation: \$0

Building Attributes	
Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Extra Kitchens	
Solar Panels	



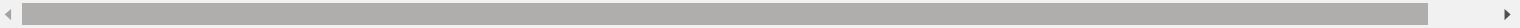
(<http://images.vgsi.com/photos2/GranbyCTPhotos/A00\01\13\32.jpg>)

Building Layout



Building Layout
(http://images.vgsi.com/photos2/GranbyCTPhotos/Sketches/101658_1015)

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



Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 4310

Land Line Valuation

Size (Acres) 0.23

Description TEL REL TW
Zone R2A
Neighborhood
Alt Land Appr No
Category

Frontage
Depth
Assessed Value \$130,900
Appraised Value \$187,000

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN4	FENCE-8' CHAIN			220 L.F.	\$2,800	1
SHP5	W/IMPROV GOOD			240 S.F.	\$6,500	1
CELL	CELL TOWER			1 UNITS	\$112,500	1
SHP5	W/IMPROV GOOD			360 S.F.	\$9,700	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$131,500	\$187,000	\$318,500
2018	\$131,500	\$187,000	\$318,500
2017	\$131,500	\$187,000	\$318,500

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$92,050	\$130,900	\$222,950
2018	\$92,050	\$130,900	\$222,950
2017	\$92,050	\$130,900	\$222,950



Exhibit C

Construction Drawings

SCOPE OF WORK

ITEMS TO BE INSTALLED ON & REMOVED FROM EXISTING TOWER:

- REMOVE (1) ANTENNA
- INSTALL PROPOSED MOUNT MODIFICATIONS.
- INSTALL T-MOBILE ANTENNA (A9XVARR92_43-JJ-W420) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- INSTALL T-MOBILE ANTENNA (A9XVARR92_43-JJ-W420) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- INSTALL T-MOBILE 642 HGS HYBRID CABLE (TOTAL OF 1).

ITEMS TO BE INSTALLED ON EXISTING EQUIPMENT PAD:

- REMOVE (1) US41
- INSTALL (2) ERICSSON BASEBAND 6630 UNITS
- UPGRADE BREAKER TO 100A

ITEMS TO REMAIN:

- (3) ANTENNAS; (3) TMA'S; (12) COAX CABLES.

SITE ADDRESS: 30 HIGLEY ROAD
WEST GRANBY, CT 06090

LATITUDE (NAD 83): N41° 57' 56.80"

LONGITUDE (NAD 83): W72° 51' 19.34"

COUNTY: HARTFORD

JURISDICTION: -

LANDLORD: CROWN CASTLE INTERNATIONAL
500 W. CUMMINGS PARK, STE 3600
WOBBURN, MA 01801

STRUCTURE TYPE: MONOPOLE

STRUCTURE HEIGHT: 119'

RAD CENTER: 107'

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1	SITE PLAN
S-1	PROPOSED TOWER ELEVATION & ANTENNA LAYOUT PLAN
S-2	EQUIPMENT DETAILS
S-3	MOUNT DETAILS
S-4	MOUNT DETAILS
S-5	MOUNT DETAILS
S-6	MOUNT DETAILS
RF-1	ANTENNA INFORMATION CHART
RF-2	RF EQUIPMENT SCHEMATIC
E-1	ONE LINE DIAGRAM
G-1	GROUNDING RISER DIAGRAM

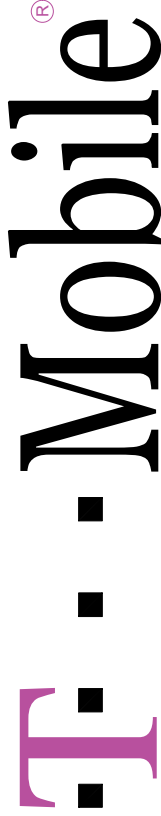
CROWN CASTLE SITE ID #: 846295
CROWN CASTLE SITE NAME: GRANBY-HIGLEY ROAD

ENGINEERING

2018 CONNECTICUT STATE BUILDING CODE
2018 AMENDMENT WITH 2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL ELECTRICAL CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
2017 NATIONAL ELECTRICAL CODE (NFPA 70 2017)
ANSI/TIA-222-G

NOTE:

ALL CONSTRUCTION ACTIVITIES ARE TO BE COMPLETED DIRECTLY THROUGH CROWN. CONTRACTOR MUST HAVE CONSTRUCTION PO AND NTP FROM CROWN DIRECT IN ORDER TO BEGIN. PRE-APPROVAL TO ENTER THE PROPERTY MUST BE OBTAINED. FOR ACCESS AUTHORIZATION, PLEASE CONTACT CROWN.



L600 PROJECT

SITE NUMBER: CTHA162A

SITE NAME: CTHA162/CINGATT PERMIT_FT

CROWN SITE NAME: GRANBY-HIGLEY ROAD

BU #: 846295

T-MOBILE RAN TEMPLATE: 67D04G



PROJECT NO: E6022004

DRAWN BY: AJM

CHECKED BY: CAT

SUBMITTALS	
1.	ISSUED FOR CONSTRUCTION
2.	ISSUED FOR PERMITTING

PERMITS AND THE GREAT EXCELSIOR PROPERTY AND COMPANIES WORK OF FACILE WITH COVENANTS STRICTLY PROHIBITS OUR CONTRACTOR FROM OBTAINING THESE LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS SPECIFICALLY CROWN.

CTHA162/CINGATT PERMIT_FT
CTHA162A
GRANBY-HIGLEY ROAD
846295
30 HIGLEY ROAD
WEST GRANBY, CT 06090

TITLE SHEET

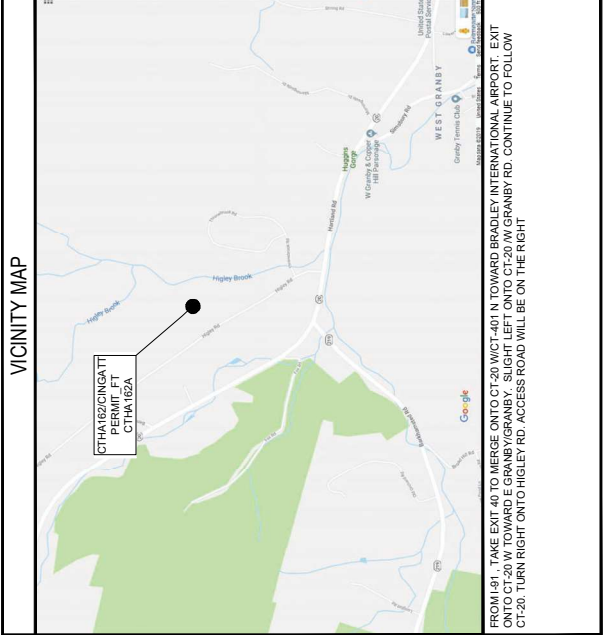
T-1

GENERAL NOTES

1. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS. THE FACILITY THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
2. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
3. HANDICAP REQUIREMENTS ARE NOT REQUIRED.
4. THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
5. ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS, RADIOS AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
6. NO COMMERCIAL SIGNAGE IS PROPOSED.



CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!



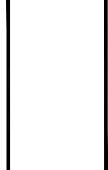
FROM I-91, TAKE EXIT 40 TO MERGE ONTO CT-20 W/CT-401 N TOWARD BRADLEY INTERNATIONAL AIRPORT. EXIT ONTO CT-20 W TOWARD E GRANBY/GRANBY. SLIGHT LEFT ONTO CT-20 W GRANBY RD. CONTINUE TO FOLLOW CT-20. TURN RIGHT ONTO HIGLEY RD. ACCESS ROAD WILL BE ON THE RIGHT



T-Mobile
T-MOBILE NORTHEAST, LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13085

CROWN CASTLE
3 CORPORATE PARKWAY, SUITE 501
LIVERPOOL, NY 13085

Jacobs
Challenging today.
Reinventing tomorrow.
1000 LEXINGTON AVENUE
SUITE 1000, NEW YORK, NY 10017
TEL: (617) 240-1522 FAX: (617) 240-6824



PROJECT NO: EPC22004
DRAWN BY: AJW
CHECKED BY: CAT
DATE: 01/16/2015

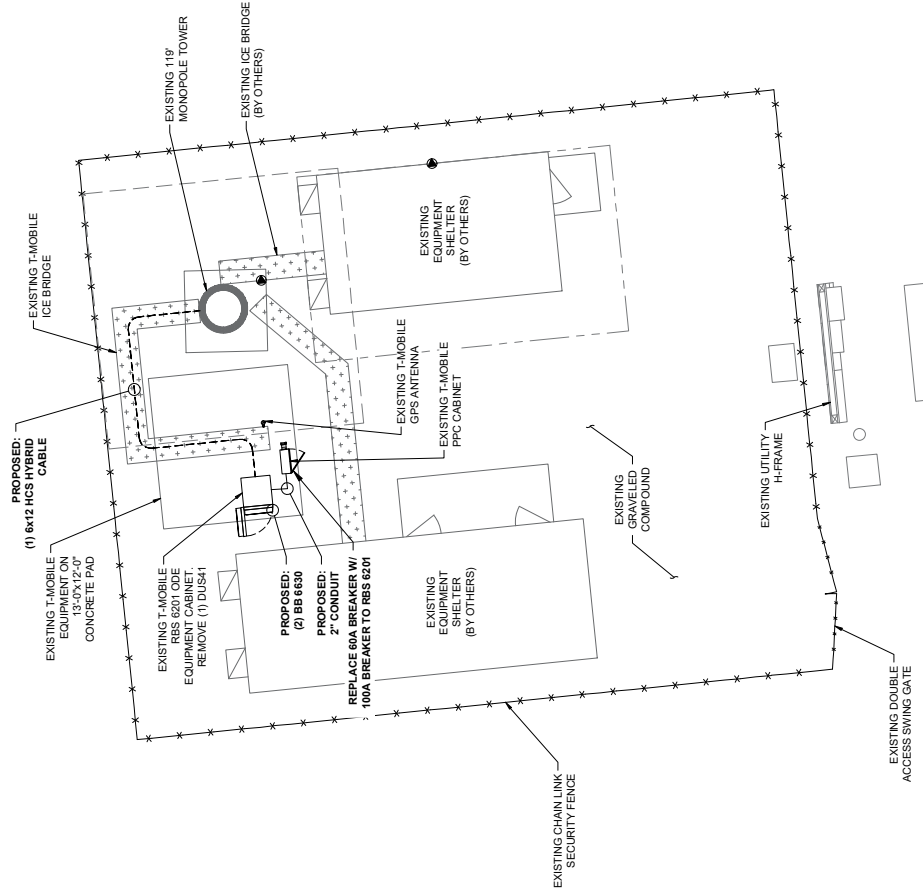
SUBMITTALS	
1	ISSUED FOR CONSTRUCTION
2	ISSUED FOR PERMITTING

THE DOCUMENT IS THE CREATION OF THE DESIGNER. PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. THIS DOCUMENT IS TO BE USED ONLY IN CONNECTION WITH THE SPECIFIC PROJECT AND SITE. ANY REUSE OR MODIFICATION OF THIS DOCUMENT WITHOUT THE WRITTEN CONSENT OF THE DESIGNER IS STRICTLY PROHIBITED. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION PROVIDED BY OTHERS. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION PROVIDED BY OTHERS. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION PROVIDED BY OTHERS.

CT141621G1G1ATT PERMIT_FT
CT141621G1
GRANBY-HIGLEY ROAD
642285
IN HESLEY TOWN
WEST GRANBY, CT 06260

SITE PLAN

C-1



NOTES:

1. PLAN BASED ON CAD DRAWINGS ISSUED BY CROWN CASTLE ON 10/16/2015. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.

SCALE: 3/16" = 1'-0"



PROJECT NO.	ECC22004
DRAWN BY	AJM
CHECKED BY	CT

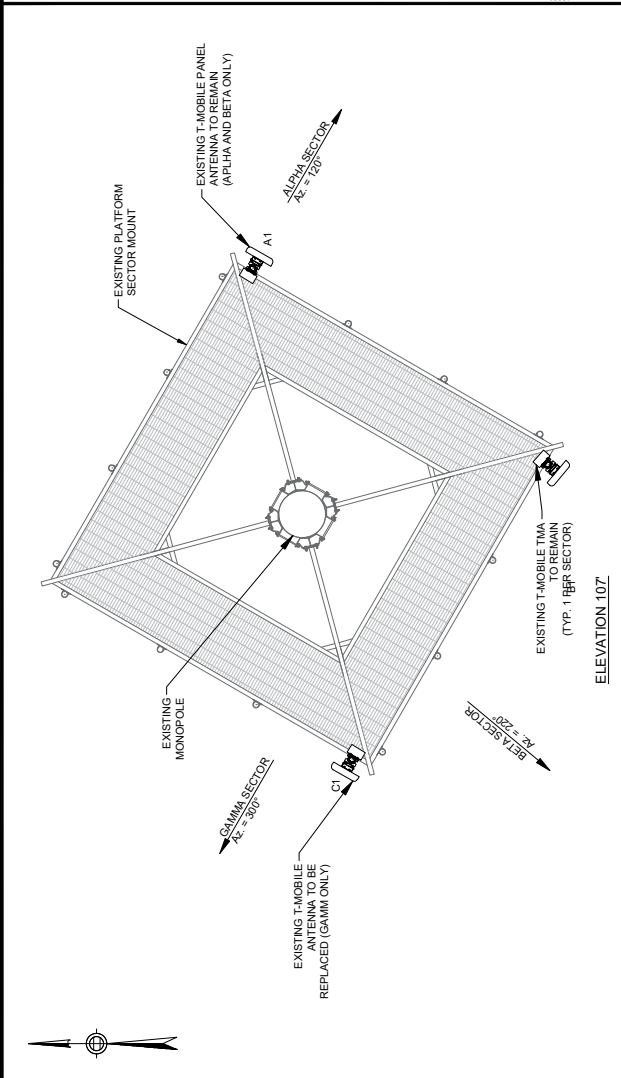
SUBMITTALS	
1.	ISSUED FOR CONSTRUCTION
2.	ISSUED FOR PERMITTING

PERMITTING REQUIREMENTS: THE GRANBY TOWER, PROPERTY AND COOPERATED WORK OF T-MOBILE NORTHEAST, LLC, IS SUBJECT TO THE GRANBY TOWER PERMITTING REQUIREMENTS. THE GRANBY TOWER PERMITTING REQUIREMENTS ARE SUBJECT TO THE GRANBY TOWER PERMITTING REQUIREMENTS. THE GRANBY TOWER PERMITTING REQUIREMENTS ARE SUBJECT TO THE GRANBY TOWER PERMITTING REQUIREMENTS.

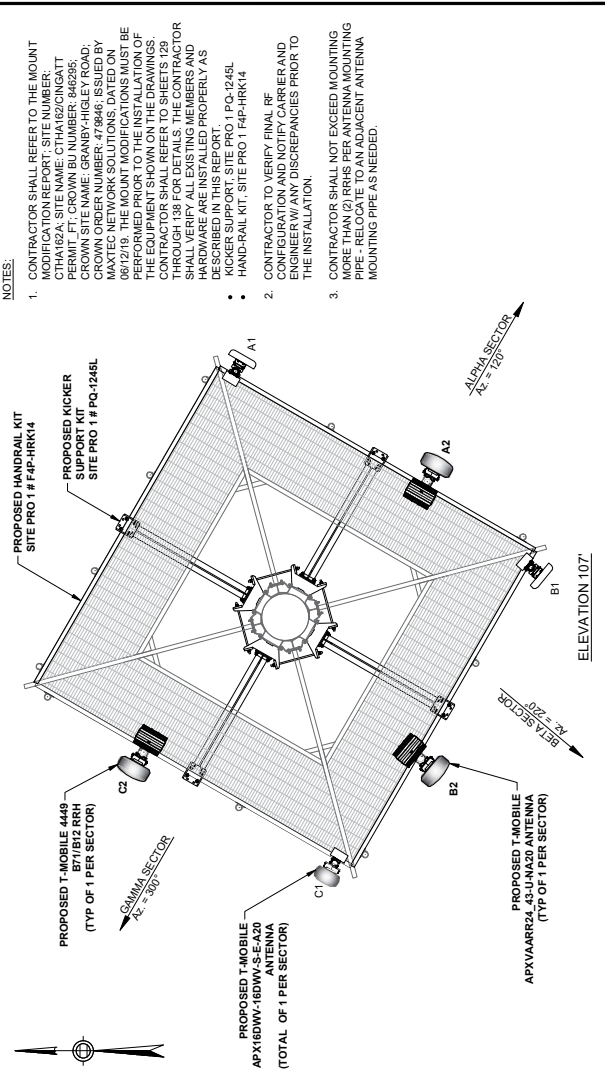
CTHA162/CINGATT PERMIT_FT
 CTHA162A
 646295
 GRANBY-HIGLEY ROAD
 GRANBY, CT 06840

PROPOSED TOWER ELEVATION & ANTENNA LAYOUT PLAN

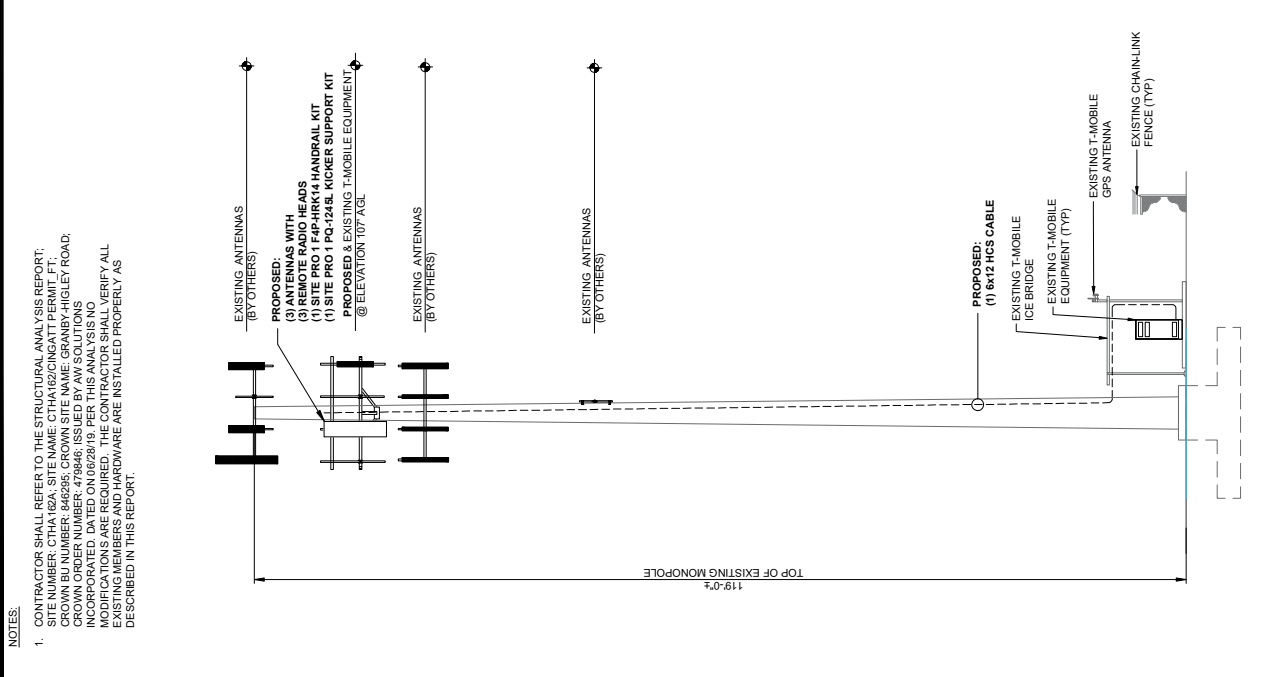
S-1



2 EXISTING ANTENNA LAYOUT SCALE: N.T.S.



3 PROPOSED ANTENNA LAYOUT SCALE: N.T.S.



1 TOWER ELEVATION SCALE: 1/8" = 1'-0"

NOTES:

1. CONTRACTOR SHALL REFER TO THE STRUCTURAL ANALYSIS REPORT; SITE NUMBER: CTHA162A; SITE NAME: CTHA162/CINGATT PERMIT_FT; CROWN BU NUMBER: 846295; CROWN SITE NAME: GRANBY-HIGLEY ROAD; GRANBY-HIGLEY ROAD; GRANBY, CT 06840; GRANBY TOWER PERMITTING REQUIREMENTS, DATED ON 06/28/19. PER THIS ANALYSIS NO. MODIFICATIONS ARE REQUIRED. THE CONTRACTOR SHALL VERIFY ALL EXISTING MEMBERS AND HARDWARE ARE INSTALLED PROPERLY AS DESCRIBED IN THIS REPORT.

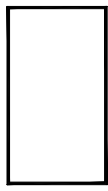
NOTES:

- CONTRACTOR SHALL REFER TO THE MOUNT MODIFICATION REPORT; SITE NUMBER: CTHA162A; SITE NAME: CTHA162/CINGATT PERMIT_FT; CROWN BU NUMBER: 846295; CROWN SITE NAME: GRANBY-HIGLEY ROAD; GRANBY-HIGLEY ROAD; GRANBY, CT 06840; GRANBY TOWER PERMITTING REQUIREMENTS, DATED ON 06/28/19. THE MOUNT MODIFICATIONS MUST BE PERFORMED PRIOR TO THE INSTALLATION OF THE EQUIPMENT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL REFER TO SHEETS 129 THROUGH 131 FOR THE MOUNTING HARDWARE TO BE INSTALLED PROPERLY AS DESCRIBED IN THIS REPORT.
 - HAND-RAIL KIT, SITE PRO 1 # F4P-HRK14
- CONTRACTOR TO VERIFY FINAL RF CONFIGURATION AND NOTIFY CARRIER AND ENGINEER W/ ANY DISCREPANCIES PRIOR TO THE INSTALLATION.
- CONTRACTOR SHALL NOT EXCEED MOUNTING MORE THAN (2) RRHS PER ANTENNA MOUNTING PIPE - RELOCATE TO AN ADJACENT ANTENNA MOUNTING PIPE AS NEEDED.

T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13085

CC CROWN CASTLE
 3 CORNWATER AVENUE, SUITE 911
 LIVERPOOL, NY 13085

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 100 WATERLOO STREET, SUITE 100
 LIVERPOOL, NY 13085
 TEL: (915) 494-6522 FAX: (915) 494-6624



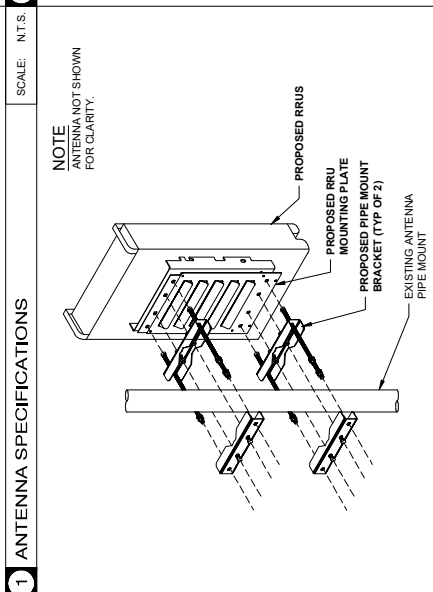
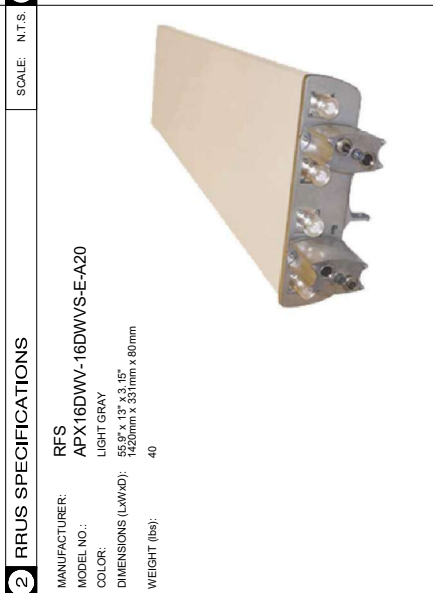
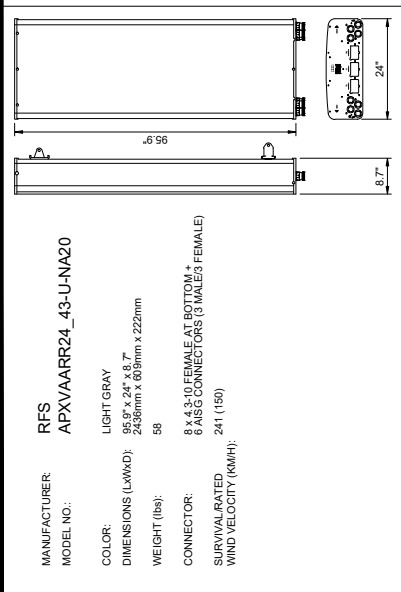
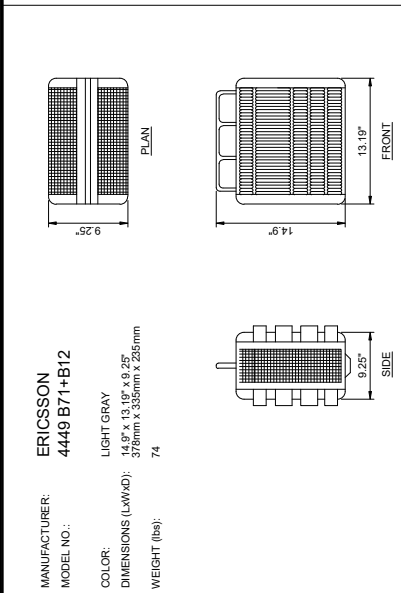
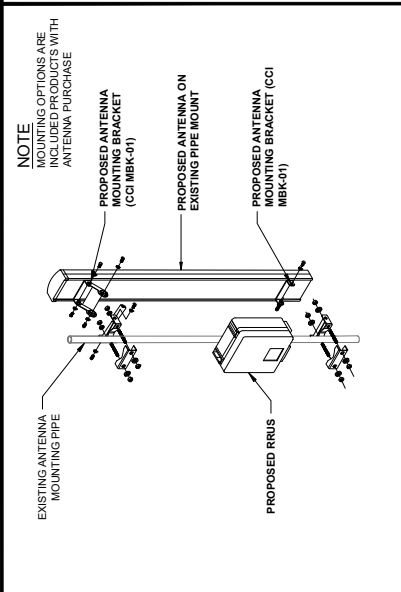
PROJECT NO.	ERC022004	
DRAWN BY	ALM	
CHECKED BY	CM	
SUBMITTALS		
1.	05/28/20	ISSUED FOR CONSTRUCTION
2.	07/08/20	ISSUED FOR PERMITTING

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CTH416ZINGATT PERMIT_FT
 CTH416ZA
 GRANBY-HIGLEY ROAD
 64226
 31 HIGLEY ROAD
 WEST GRANBY, CT 06860

EQUIPMENT
 DETAILS

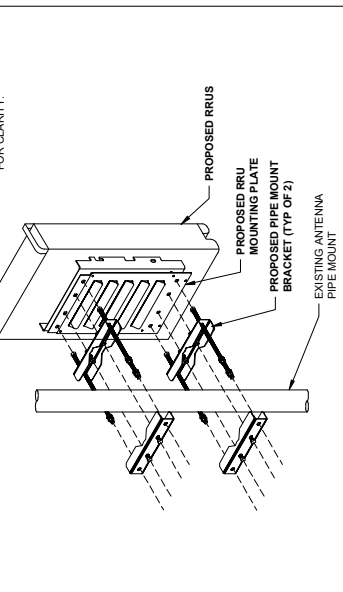
S-2



3 RRU MOUNTING DETAIL W/ANTENNA
 SCALE: N.T.S.

2 RRU SPECIFICATIONS
 SCALE: N.T.S.

1 ANTENNA SPECIFICATIONS
 SCALE: N.T.S.



6 TMA SPECIFICATIONS
 SCALE: N.T.S.

5 ANTENNA SPECIFICATIONS
 SCALE: N.T.S.

4 RRU MOUNTING DETAIL
 SCALE: N.T.S.

9 DETAIL NOT USED
 SCALE: N.T.S.

8 DETAIL NOT USED
 SCALE: N.T.S.

7 DETAIL NOT USED
 SCALE: N.T.S.

T-Mobile
T-MOBILE NORTHEAST LLC
100 MONARCH DRIVE
LIVERPOOL, NY 13088

CROWN CASTLE
3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12066

JACOBS
JACOBS ENGINEERING GROUP, INC.
100 ST. JAMES AVENUE, 8TH FLOOR
BOSTON, MA 02116



PROJECT NO: EBC02004
DRAWN BY: AJM
CHECKED BY: CAT

SUBMITTALS	
0	ISSUED FOR PERMITTING

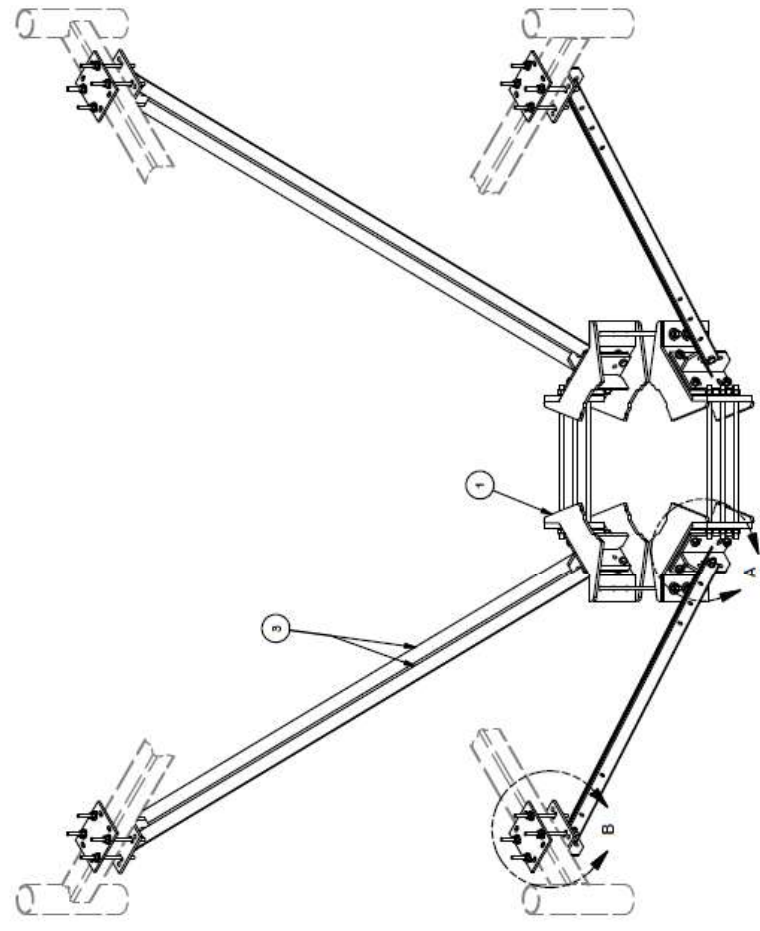
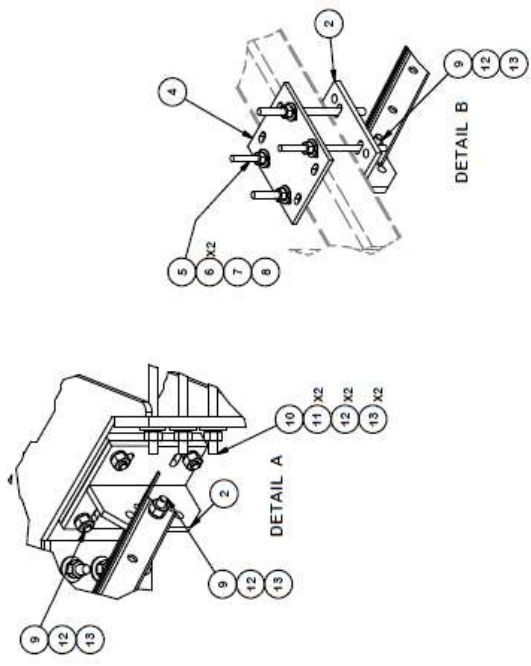
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CTH4620G/INGATT PERMIT_FT
CTH4620A
GRAND HAVEN ROAD
94225
93 HIGLEY ROAD
WEST GARDEN, CT 06890

MOUNT DETAILS

S-3

PARTS LIST					
ITEM	QTY	PART NO.	PART DESCRIPTION	UNIT WT.	NET WT.
1	4	X-162290	QUAD BRACKET	54.48	217.94
2	6	X-TBW	T-BRACKET WELDMENT	13.60	106.80
3	6	X-254923	PLATFORM REINFORCEMENT KIT ANGLE	22.83	182.66
4	4	8C34	CROSSOVER PLATE	6.02	24.09
5	16	G12R-10	1/2" x 10" GALV. THREADED ROD	0.59	9.37
6	32	G12FW	1/2" HDG USS FLATWASHER	0.03	1.09
7	32	G12LW	1/2" HDG LOCKWASHER	0.01	0.44
8	32	G12NUT	1/2" HDG HEAVY 2H HEX NUT	0.07	2.29
9	24	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	0.31	7.50
10	12	G58R-24	5/8" x 24" THREADED ROD (HDG.)	2.09	25.09
11	12	G58FW	5/8" x 48" THREADED ROD (HDG.)	4.16	50.16
12	48	G58LW	5/8" HDG USS FLATWASHER	0.07	1.69
13	48	G58NUT	5/8" HDG HEAVY 2H HEX NUT	0.13	1.25
TOTAL WT. #				676.46	676.46



SUES PRO
A valmet company

DESCRIPTION: PLATFORM REINFORCEMENT KIT ON A 7° TO 60° POLE

LOGISTICS:
New York, NY
Atlanta, GA
Chicago, IL
Houston, TX
Phoenix, AZ
Portland, OR
Dallas, TX

Engineering
1-888-753-7446

CPD NO. CEK 1/22/2015
CLASS SUB 81 01
DRAWING USAGE CUSTOMER
CHKD BY BMC 1/16/2016
ENGR. APPROVAL
PART NO. PQ-1245L
DNL. NO. PQ-1245L

PAGE 1 OF 2

TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.007)
DRILLED AND GAS CUT HOLES (± 0.007) - NO CORNING OF HOLES
MILLER CUT EDGES AND HOLES (± 0.010) - NO CORNING OF HOLES
ALL OTHER MACHINING (± 0.007)

REVISION HISTORY

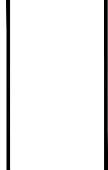
REV	DESCRIPTION	DATE
C	CHANGED X-253992 TO X-TBW	9/19/2018
B	CHANGED B12065 TO G12R-10 AND UPDATED HARDWARE	12/16/2015
A	CHANGED ALL 5/8" BOLTS TO A582114	10/1/2015

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T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13085

CROWN CASTLE
 3 CROWN CASTLE DRIVE, SUITE 511
 LIVERPOOL, NY 13085

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 1001 PLAZA DRIVE
 BOSTON, MA 02110
 TEL: (617) 249-2522 FAX: (617) 249-6864



STATE OF CONNECTICUT
 EARLE B. STANLEY
 05/28/2020
 14:37:49-04:00

PROJECT NO: E5022004
 DRAWN BY: AJW
 CHECKED BY: CAT

SUBMITTALS

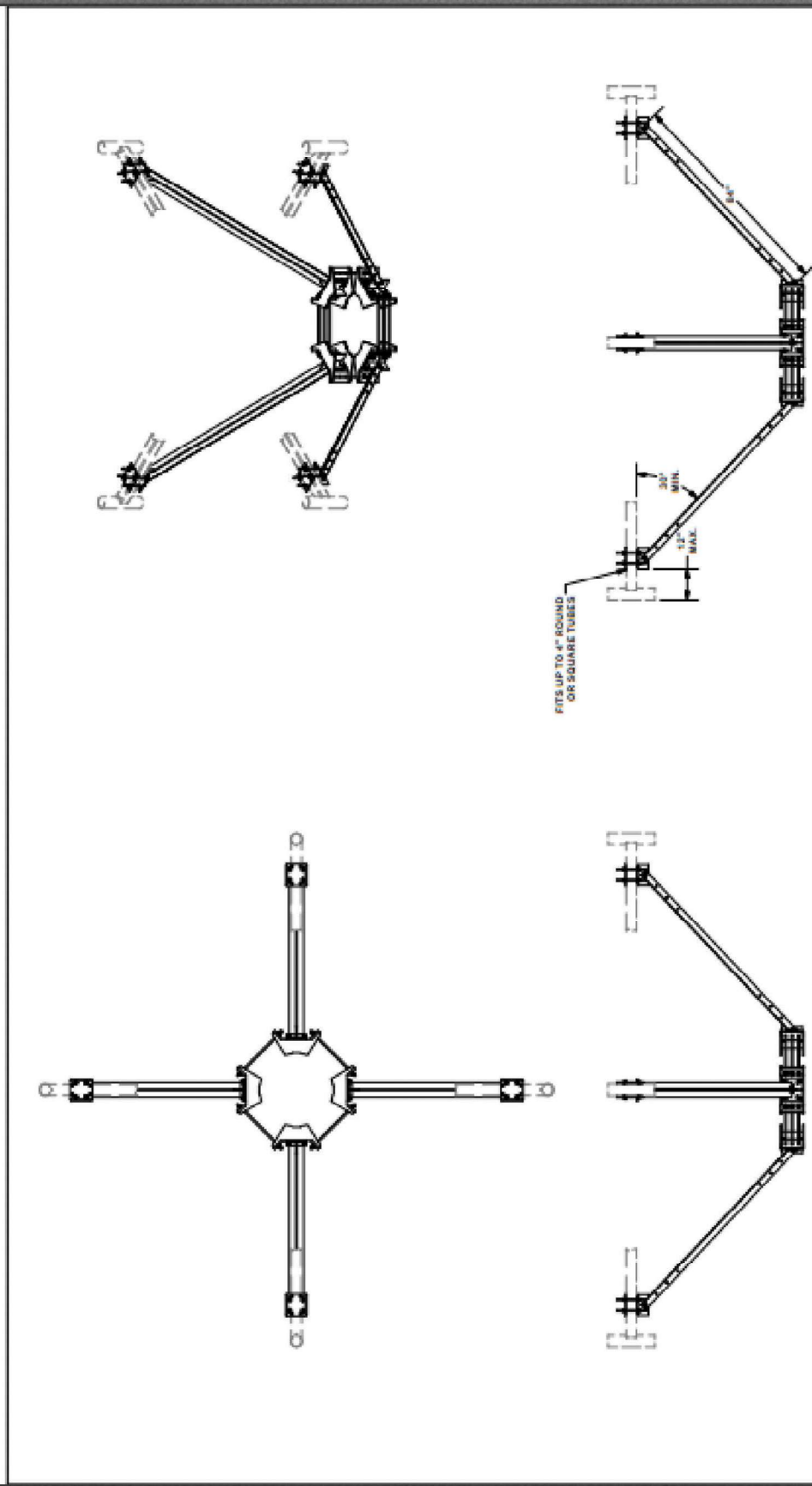
1	05/28/20	ISSUED FOR CONSTRUCTION
2	07/08/20	ISSUED FOR PERMITTING

THE EXISTING TOWER DESIGN, PROPERTY AND COMPONENTS WORK OF T-MOBILE NORTHEAST LLC SHALL BE CONSIDERED AS PART OF THE EXISTING STRUCTURE. THE CONTRACTOR SHALL VERIFY THE EXISTING STRUCTURE WITH THE LOCAL BUILDING DEPARTMENT AND OBTAIN NECESSARY PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANNING, ZONING, REGULATORY AND ADMINISTRATIVE AGENCIES SPECIFICALLY APPLICABLE TO THIS PROJECT.

CTH416201601 PERMIT_FT
 CTH4162A
 GRAND-HIGLEY ROAD
 04225
 01 HIGLEY TOWNSHIP
 01030 GRANBY, CT 06030

MOUNT DETAILS

S-4



DESCRIPTION:
 PLATFORM REINFORCEMENT KIT
 ON A 12" TO 18" POLE
 7' ANGLE

TOLERANCE NOTES
 DIMENSIONS ON DIMENSIONAL UNLESS OTHERWISE NOTED ARE:
 DRILLED AND GAGE CUT HOLES (± 0.005")
 MACHINING OF HOLES (± 0.005")
 LARGER CUT EDGES AND HOLES (± 0.015")
 NO CORING OF HOLES (± 0.015")
 BENDS ARE ± 1/2 DEGREE
 ALL OTHER MACHINING (± 0.005")
 ALL OTHER ASSEMBLY (± 0.005")

REVISIONS:
 REV | DATE | DESCRIPTION OF REVISIONS | REVISION HISTORY

0	CHANGED DIMS TO G-18-18 AND UPDATED MARGINS	MS	12/18/2016
1	CHANGED ALL SP-BENTS TO AS-BENT	CEK	10/12/2016
2	CHANGED ALL SP-BENTS TO AS-BENT	CEK	10/12/2016
3	CHANGED ALL SP-BENTS TO AS-BENT	CEK	10/12/2016

DESIGNER: CEK
CHECKER: BMC
DATE: 1/22/2015

ISSUED FOR APPROVAL: P-Q-1245L
ISSUED FOR CONSTRUCTION: P-Q-1245L

DATE: 1/22/2015
CHECKED BY: BMC
CUSTOMER: CUSTOMER
DATE: 1/15/2016

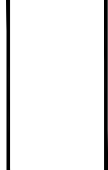
DATE: 1/22/2015
CHECKED BY: BMC
CUSTOMER: CUSTOMER
DATE: 1/15/2016

DATE: 1/22/2015
CHECKED BY: BMC
CUSTOMER: CUSTOMER
DATE: 1/15/2016

T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13088

CC CROWN CASTLE
 300 WATERMAN DRIVE, SUITE 311
 LIVERPOOL, NY 13088

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 BOSTON, MA 02110
 TEL: (617) 249-2522 FAX: (617) 249-9684



STATE OF CONNECTICUT
 34052
 EARL B. SWANWICK, JR.
 GOVERNOR

PROJECT NO: E5022008
 DRAWN BY: AJW
 CHECKED BY: CAT

SUBMITTALS

1	02/26/20	ISSUED FOR CONSTRUCTION
2	07/28/20	ISSUED FOR PERMITTING

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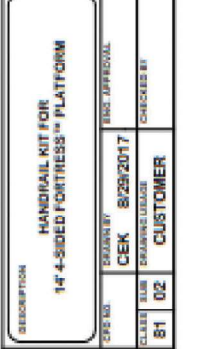
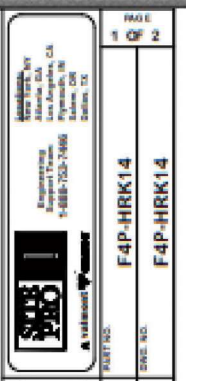
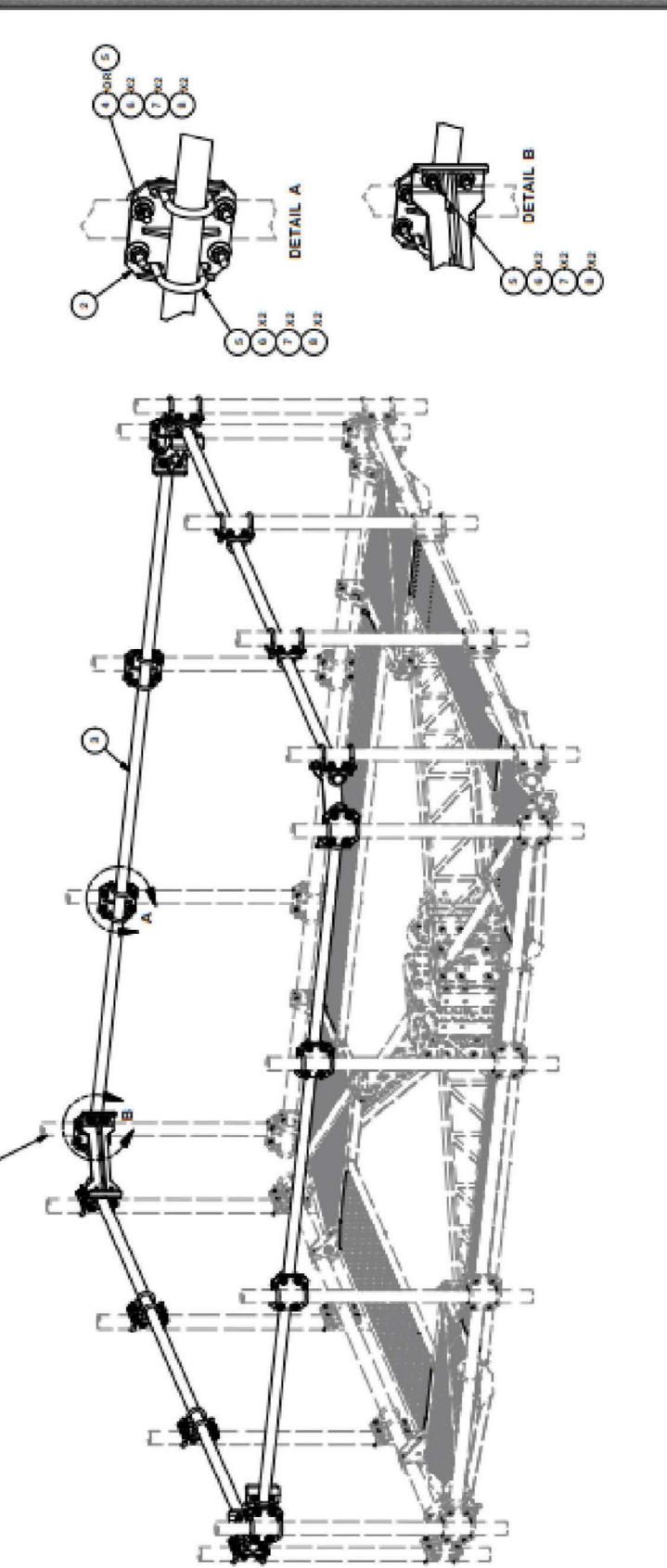
CTH4162A
 CTH4162A
 GRAND-HIGLEY ROAD
 04226
 01 HIGLEY TOWN
 01033
 01033

MOUNT DETAILS

S-5

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-F4PHRW	CORNER WELDMENT FOR 4-SIDED FORTRESS PLATFORM HANDRAIL MTS		19.32	77.37
2	16	X-50K3-FR	FORTRESS CROSSOVER PLATE		6.61	105.82
3	4	P2174	2-3/8" ODD X 1/4" SCH 40 GALVANIZED PIPE	174.06	55.75	222.94
4	32	X-UBS2100	5/8" X 3" X 5-1/4" X 3-1/2" U-BOLT (HDG)		1.15	36.78
5	72	X-UBS2250	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG)		1.00	72.81
6	144	0581FW	5/8" HDG USS FLATWASHER	16.06	0.07	10.15
7	144	0581RW	5/8" HDG LOCKWASHER		0.03	3.78
8	144	0581RUT	5/8" HDG HEAVY 2H HEX NUT		0.13	18.76
TOTAL WT. #					547.48	



TOLERANCE NOTES
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED, ARE:
 SAWS, SHEARS AND GAS CUT HOLES (+/- 0.005")
 DRILLED AND GAS CUT HOLES (+/- 0.005") - NO CORING OF HOLES
 LASED CUT EDGES AND HOLES (+/- 0.010") - NO CORING OF HOLES
 BENDS ARE +/- 0.5 DEGREE
 ALL OTHER MACHINING (+/- 0.005")
 ALL OTHER ASSEMBLY (+/- 0.005")

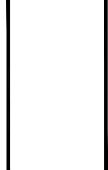
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DESCRIPTION	HANDRAIL KIT FOR 14' 4-SIDED FORTRESS - PLATFORM	
DATE	8/29/2017	REV. APPROVAL
DESIGNED BY	CEK	DATE
CHECKED BY	CEK	DATE
CUSTOMER	F4P-HRK14	DATE
CUSTOMER	F4P-HRK14	DATE

T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13085

CC CROWN CASTLE
 3 CROWN CASTLE DRIVE, SUITE 51
 LIVERPOOL, NY 13085

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 1001 JACOBSON DRIVE
 SUITE 1000
 BOSTON, MA 02110
 TEL: (617) 546-5222 FAX: (617) 546-6664



PROJECT NO: ECC02004
 DRAWN BY: AJW
 CHECKED BY: CAT

SUBMITTALS

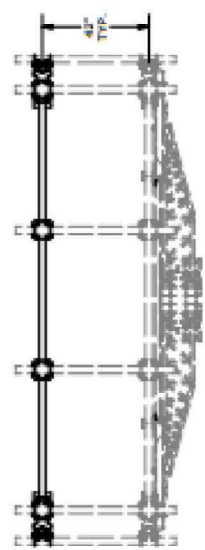
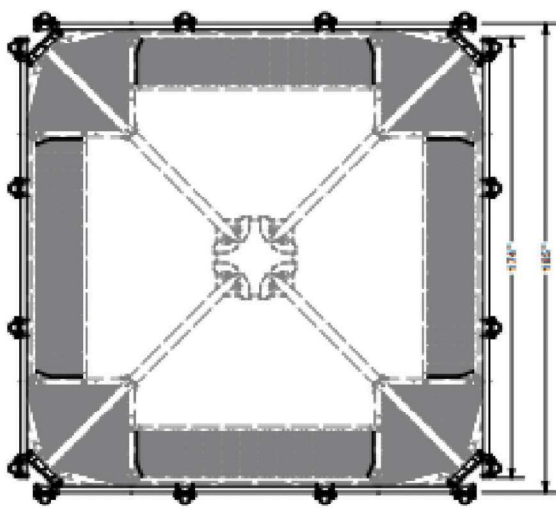
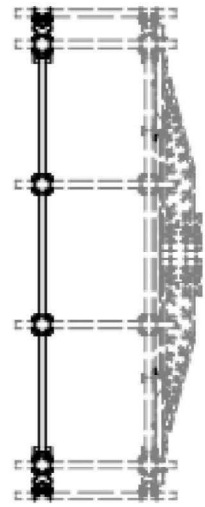
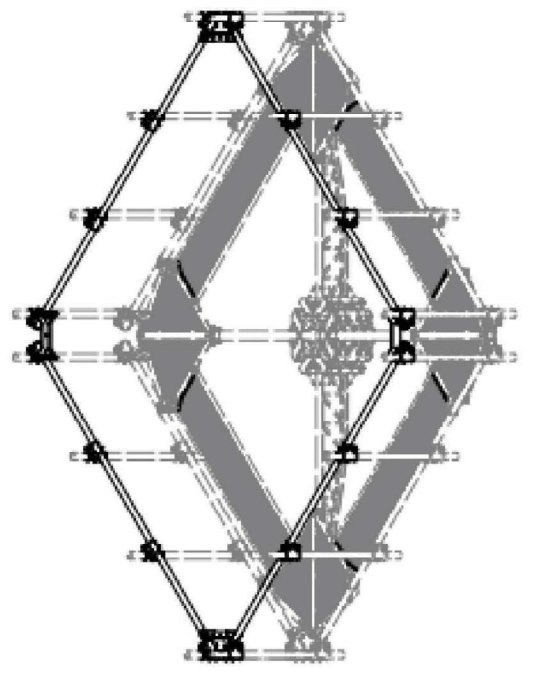
NO.	DESCRIPTION	DATE
1.	ISSUED FOR CONSTRUCTION	
2.	ISSUED FOR PERMITTING	

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CT HAZARDOUS WASTE PERMIT, FT
 CTH4182A
 GRANBY-HIGLEY ROAD
 842235
 01 HIGLEY ROAD
 WEST GRANBY, CT 06820

MOUNT DETAILS

S-6



DESCRIPTION		DATE		PAGE	
HANDRAIL KIT FOR 14' 4-SIDED FORTRESS™ PLATFORM		8/29/2017		2 OF 2	
REV. NO.	ISSUED BY	ISSUED FOR	CHECKED BY	REV. NO.	ISSUED BY
81 02	CEK	8/29/2017	CUSTOMER	F4P-HRK14	F4P-HRK14

TOLERANCE NOTES
 DIMENSIONS UNLESS OTHERWISE NOTED ARE:
 SAWS, SHEARS AND GAS CUT EDGES (± 0.387)
 DRILLED AND GAS CUT HOLES (± 0.387) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.387) - NO CONING OF HOLES
 BENDS ARE ± 1/2 DEGREE
 ALL OTHER MACHINING (± 0.387)
 ALL OTHER ASSEMBLY (± 0.387)

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Company: T-Mobile Northeast LLC
 Project: 14' 4-Sided Fortress™ Platform
 Location: Granby-Higley Road
 Date: 8/29/2017
 Checked By: Customer
 Part No: F4P-HRK14
 Rev. No: F4P-HRK14

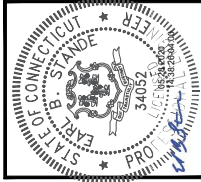


T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORP CENTER DRIVE, SUITE 501
LIVERPOOL, NY 13088

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1000 MARKET STREET, SUITE 200
HOUSTON, TEXAS 77002
TEL: (817) 240-2222 FAX: (817) 240-9624



PROJECT NO: EDC022004
DRAWN BY: AJM
CHECKED BY: CAT

SUBMITTALS	
1	ISSUED FOR CONSTRUCTION
0	ISSUED FOR PERMITTING

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CTHA162A PERMIT
CTHA162A
GRANBY-HIGLEY ROAD
642235
HIGLEY ROAD
MBS GRANBY, CT 06260

ANTENNA
INFORMATION CHART

RF-1

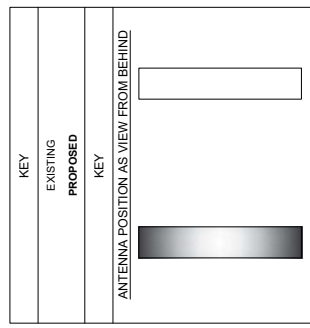
67D04G - TOWER TOP EQUIPMENT SCHEDULE (RE: CTHA162A_L600_1.1_DRAFT_2019-04-24)

ANTENNA MODEL (FROM L TO R)	ANTENNA MODEL	ANTENNA AZIMUTH	MECH. TILT	ELEC. TILT	ANTENNA HEIGHT FROM GROUND	TMARRUS MODEL	TMARRUS QUANTITY	COAXIAL BRID CABLE		JUMPERS		
								SIZE/TYPE	QUANTITY	LENGTH	TYPE	QTY	LENGTH
A1	APX16DWW-16DWW-S-E-A20	120°	0°	2°	107'	TWIN STYLE 1A-PCS TMA	1	1-1/4" COAX	4	157'	-	-
A2	APXVAARR24_43-U/A20	120°	0°	2°	107'	RADIO 4449 B71+812	1	6x12 HCS	1	157'	-	-
B1	APX16DWW-16DWW-S-E-A20	220°	0°	2°	107'	TWIN STYLE 1A-PCS TMA	1	1-1/4" COAX	4	157'	-	-
B2	APXVAARR24_43-U/A20	220°	0°	2°	107'	RADIO 4449 B71+812	1	SHARED HCS	-	-	-	-
C1	APX16DWW-16DWW-S-E-A20	300°	0°	2°	107'	TWIN STYLE 1A-PCS TMA	1	1-1/4" COAX	4	157'	-	-
C2	APXVAARR24_43-U/A20	300°	0°	2°	107'	RADIO 4449 B71+812	1	SHARED HCS	-	-	-	-

NOTES:
1. EQUIPMENT LISTED IN BOLD, DELINEATES THAT THE EQUIPMENT IS PROPOSED.

1 EQUIPMENT INFORMATION CHART

SCALE: NONE



- EQUIPMENT NOTES:
- THE HYBRID CABLE LENGTH SHOW IS ONLY AN ESTIMATE AND SHOULD NOT BE USED FOR ORDERING MATERIALS. CONFIRM THE REQUIRED HYBRID CABLE LENGTH WITH T-MOBILE PRIOR TO ORDERING OR INSTALLATION.
 - THE CONTRACTOR SHALL TEST THE OPTICAL FIBER AFTER INSTALLATION IN ACCORDANCE WITH T-MOBILE STANDARDS AND SUPPLY THE RESULTS TO T-MOBILE.
 - THE CONTRACTOR SHALL CONFIRM THE TOWER TOP EQUIPMENT LIST ABOVE WITH THE FINAL T-MOBILE RFS PRIOR TO INSTALLATION.
 - ALL EXISTING AND PROPOSED ANTENNA CABLES SHALL BE COLOR CODED PER T-MOBILE STANDARDS.
 - REFER TO EQUIPMENT INSTALLATION STANDARDS FOR ADDITIONAL INFORMATION.
 - REFER TO EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION NOT LISTED ABOVE.

67D04G - TOWER LOADING SUMMARY

EQUIPMENT TYPE	EXISTING QUANTITY	QUANTITY REMOVED	QUANTITY ADDED	TOTAL QUANTITY
PANEL ANTENNA	3	0	3	6
COAX CABLE	12	0	0	12
HYBRID CABLE	0	0	1	1
FIBER JUMPER	0	0	0	0
COAX JUMPER	0	0	0	0
TMA	3	0	0	3
RADIO	0	0	3	3

2 ANTENNA KEY

SCALE: NONE

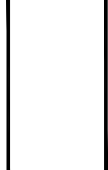
3 ANTENNA & CABLE SCHEDULE

SCALE: NONE

T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13085

CROWN CASTLE
 3 CROWN CASTLE DRIVE, SUITE 611
 LIVERPOOL, NY 13085

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 100 WALL STREET
 11TH FLOOR
 NEW YORK, NY 10038
 TEL: (212) 850-7000 FAX: (212) 850-7001



PROJECT NO: E6022004
 DRAWN BY: AJM
 CHECKED BY: CAT

DATE: 01/11/11

SUBMITTALS

NO.	DESCRIPTION	DATE
1.	ISSUED FOR CONSTRUCTION	
2.	ISSUED PERMITS	

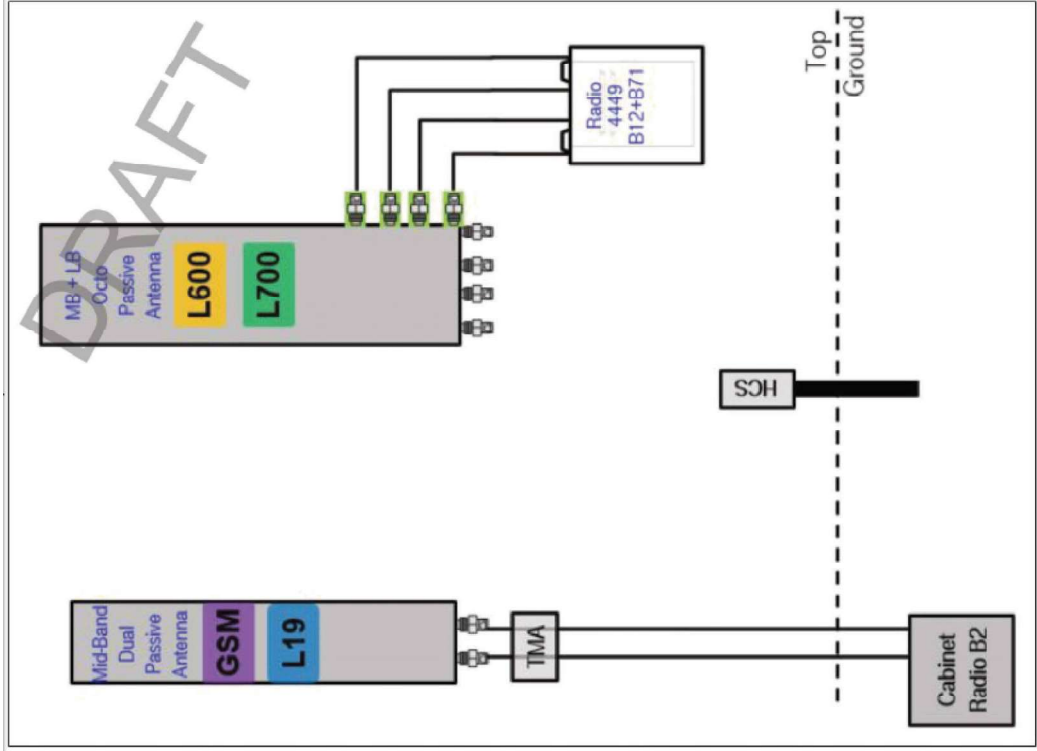
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CTH41621G1GATT PERMIT_FT
 CTH4162A
 GRANBY-HIGLEY ROAD
 646285
 30 HIGLEY ROAD
 WEST GRANBY, CT 06860

RF EQUIPMENT SCHEMATIC

RF-2

SITE CONFIGURATION: 67D04G



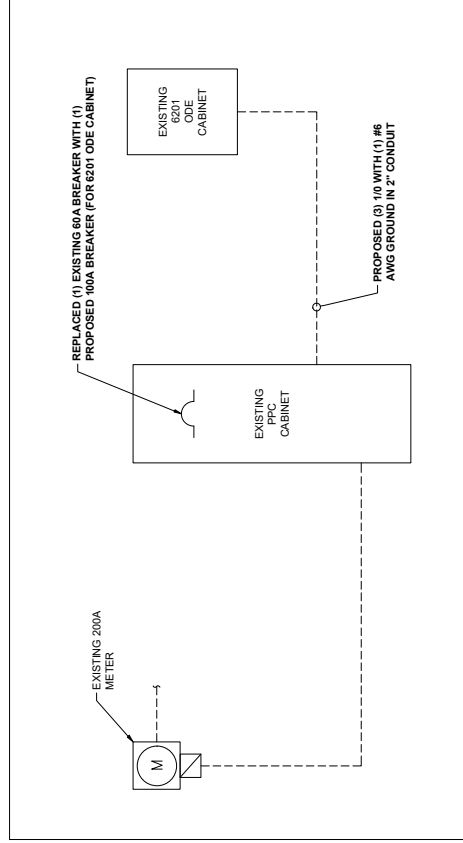
SCALE: NONE

ONE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 200A, 240/120V, 1Ø, 3W
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.

NOTES:

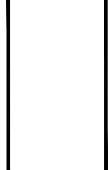
1. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
2. CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS.
3. ONE-LINE DIAGRAM IS SCHEMATIC ONLY AND NOT INDICATIVE OF ACTUAL EQUIPMENT LAYOUT.
4. CONTRACTOR SHALL LABEL METER SOCKET WITH SERVICE OWNER NAME/PLATE W/ 1/2" MINIMUM LETTERS.



T-Mobile
 T-MOBILE NORTHEAST, LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13085

CROWN CASTLE
 3 CORPORATE PARKWAY, SUITE 911
 LIVERPOOL, NY 13085

Jacobs
 Challenging today.
 Reimagining tomorrow.
 1001 PLAZA DRIVE, SUITE 100
 WEST CON, MA 01915
 TEL: (617) 294-1522 FAX: (617) 243-6824



STATE OF CONNECTICUT
 05/28/2020 14:38:50-04:100
 3105A

PROJECT NO: ELEC02004
 DRAWN BY: AJM
 CHECKED BY: CAT

SUBMITTALS

1	05/28/20	ISSUED FOR CONSTRUCTION
2	07/08/20	ISSUED FOR PERMITTING

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CTH416Z1NG1GATT PERMIT_FT
 CTH416Z1A
 GRANBY-HIGLEY ROAD
 04225
 01 HIGLEY ROAD
 WEST GRANBY, CT 06250

ONE LINE
 DIAGRAM

E-1

SCALE: NONE



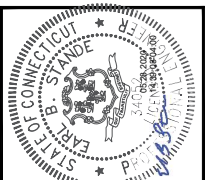
T-MOBILE NORTHEAST, LLC
100 MONARCH DRIVE
LIVERPOOL, NY 13085



3 CORPORATE PARKWAY, SUITE 501
LIVERPOOL, NY 13085



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PROJECT NO: E0020004
DRAWN BY: AJM
CHECKED BY: CAT

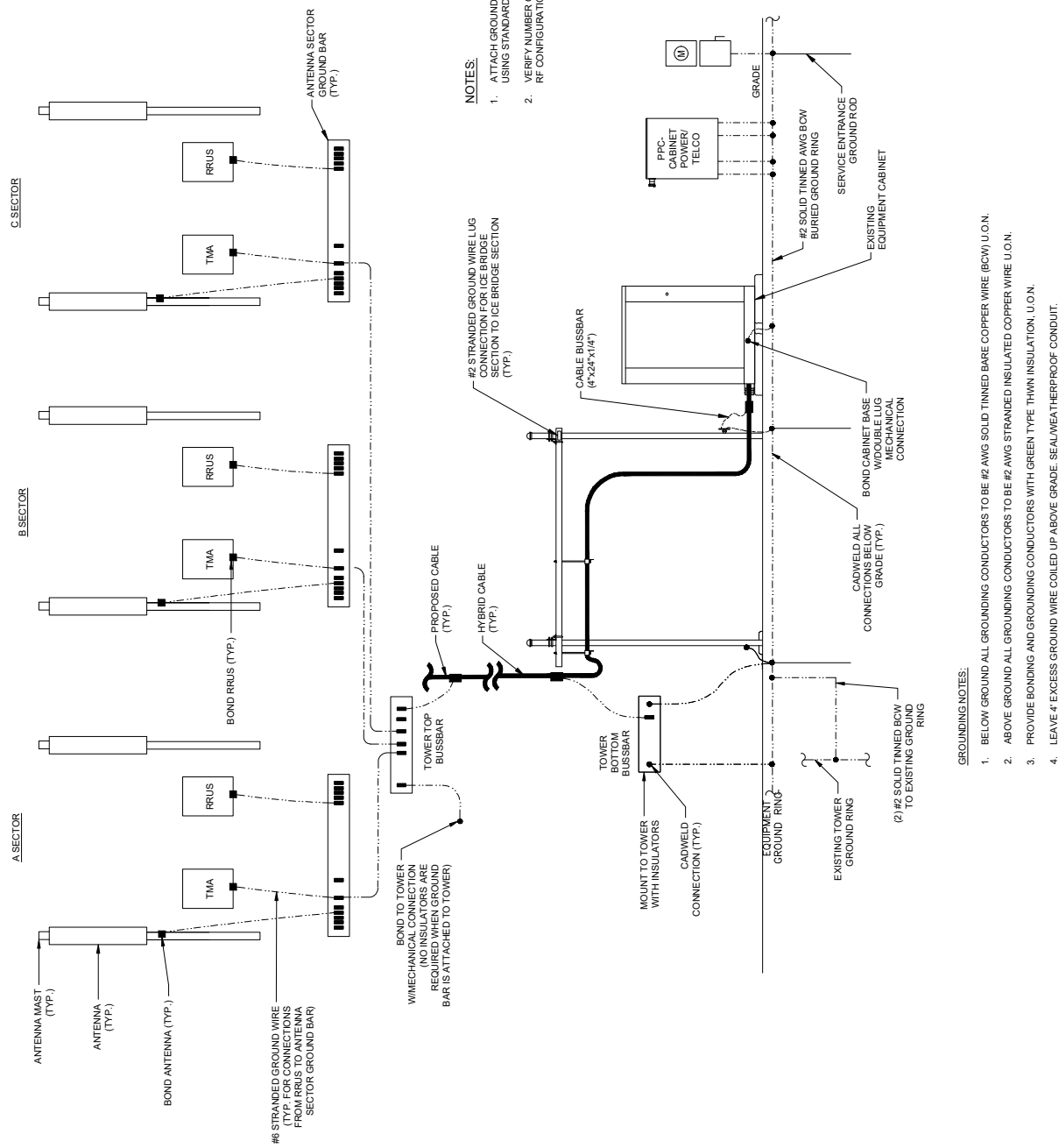
SUBMITTALS		
1.	05/20/20	ISSUED FOR CONSTRUCTION
2.	07/08/18	ISSUED FOR PERMITTING

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CT141624
CT141624
GRANBY-HIGLEY ROAD
642235
IN HISLEY TOWNSHIP
WEST GRANBY, CT 06030

GROUNDING RISER DIAGRAM

G-1



- NOTES:**
1. ATTACH GROUND BAR DIRECTLY TO THE TOWER USING STANDARD ADAPTER.
 2. VERIFY NUMBER OF CABLES/TMAS PER T-MOBILE RF CONFIGURATION.

- GROUNDING NOTES:**
1. BELOW GROUND ALL GROUNDING CONDUCTORS TO BE #2 AWG SOLID TINNED COPPER WIRE (BCW) U.O.N.
 2. ABOVE GROUND ALL GROUNDING CONDUCTORS TO BE #2 AWG STRANDED INSULATED COPPER WIRE U.O.N.
 3. PROVIDE BONDING AND GROUNDING CONDUCTORS WITH GREEN TYPE THWN INSULATION, U.O.N.
 4. LEAVE 4" EXCESS GROUND WIRE COILED UP ABOVE GRADE. SEAL/WEATHERPROOF CONDUIT.

SCALE: N.T.S.

1 GROUNDING RISER DIAGRAM

Exhibit D

Structural Analysis Report



AW Solutions
 300 Crown Oak Centre Drive
 Longwood, FL 32750
 (407) 260-0231

Date: **June 28, 2019**

Denice Nicholson
 Crown Castle
 3 Corporate Dr
 Clifton Park, NY 12065

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Carrier Site Number: CTHA162A
Carrier Site Name: CTHA162/CINGATT Permit_FT

Crown Castle Designation: **Crown Castle BU Number:** 846295
Crown Castle Site Name: GRANBY - HIGLEY ROAD
Crown Castle JDE Job Number: 559284
Crown Castle Work Order Number: 1740244
Crown Castle Order Number: 479846 Rev. 0

Engineering Firm Designation: **AW Solutions Project Number:** 846295

Site Data: **30 HIGLEY ROAD, WEST GRANBY, Hartford County, CT**
Latitude 41° 57' 56.8", Longitude -72° 51' 19.34"
119 Foot - Monopole Tower

Ms. Nicholson,

AW Solutions is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower.

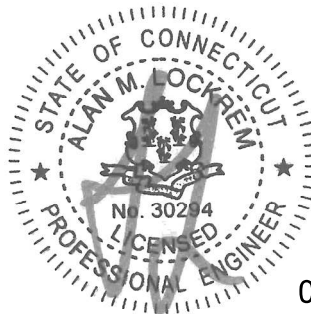
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Proposed Equipment Configuration **Sufficient Capacity – 69.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Arturo Modesto, EI / AL

Respectfully submitted by:



07/01/19

Alan Lockrem, PE
 Director of Engineering

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Additional Calculations

1) INTRODUCTION

This tower is a 119 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
110.0	110.0	1	site pro1	PQ-1245L Kicker support	13	1-5/8
		1	site pro1	F4P-HRK14 Hand-rail kit		
		1	tower mounts	14.5' Platform		
	107.0	3	ericsson	KRY 112 489/2		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
119.0	120.0	3	ericsson	RRUS 11	1 2 12	3/8 3/4 1-5/8
		3	kmw communications	AM-X-CD-17-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
		1	raycap	DC6-48-60-18-8F		
	119.0	1	tower mounts	Platform Mount [LP 601-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
97.0	97.0	3	antel	BXA-171085-12BF w/ Mount Pipe	2 12	1/2 1-5/8
		3	antel	BXA-70080-6CF-EDIN-X w/ Mount Pipe		
		6	antel	LPA-80080/6CF w/ Mount Pipe		
		6	rfs celwave	FD9R6004/2C-3L		
		1	tower mounts	Platform Mount [LP 303-1]		
75.0	75.0	1	symmetricom	58532A	-	-
		1	tower mounts	Side Arm Mount [SO 201-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH	4705357	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI	4525021	CCISITES
4-TOWER MANUFACTURER DRAWINGS	EEI	4525086	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. AW Solutions should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	119 - 95.12	Pole	TP25.45x19x0.1875	1	-8.18	886.46	35.1	Pass
L2	95.12 - 47.37	Pole	TP37.84x24.0621x0.25	2	-17.27	1763.71	69.6	Pass
L3	47.37 - 0	Pole	TP50x35.9355x0.3125	3	-29.95	3027.25	66.2	Pass
							Summary	
						Pole (L2)	69.6	Pass
						Rating =	69.6	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC5 (Monopole)

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	58.0	Pass
1	Base Plate	0	44.6	Pass
1	Base Foundation	0	55.2	Pass
1	Base Foundation Soil Interaction	0	46.6	Pass

Structure Rating (max from all components) =	69.6%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

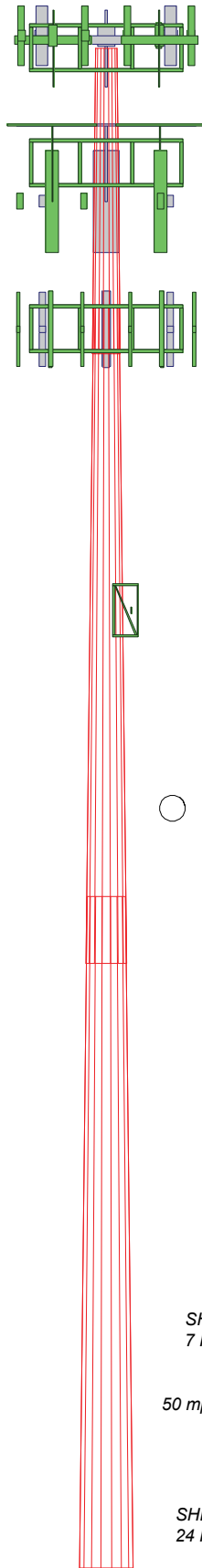
Section	1	2	3
Length (ft)	23.88	51.50	52.62
Number of Sides	18	18	18
Thickness (in)	0.1875	0.2500	0.3125
Socket Length (ft)	3.75	5.25	
Top Dia (in)	19.0000	24.0621	35.9355
Bot Dia (in)	25.4500	37.8400	50.0000
Grade		A572-65	
Weight (K)	1.1	4.3	7.6

119.0 ft

95.1 ft

47.4 ft

0.0 ft



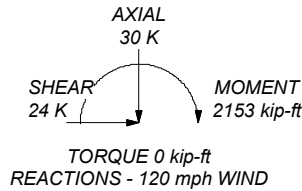
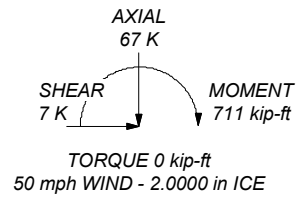
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S
9. TOWER RATING: 69.6%

ALL REACTIONS ARE FACTORED



AW Solutions
300 Crown Oak Centre Drive
Longwood, FL 32750
Phone: (407) 260-0231
FAX:

Job: **BU846295**
Project: **WO1740244**
Client: Crown Castle
Code: TIA-222-H
Path:
Drawn by: Arturo.Modesto
Date: 06/28/19
App'd:
Scale: NTS
Dwg No. E-1

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- 1) Tower is located in Hartford County, Connecticut.
- 2) Tower base elevation above sea level: 599.00 ft.
- 3) Basic wind speed of 120 mph.
- 4) Risk Category II.
- 5) Exposure Category C.
- 6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- 7) Topographic Category: 1.
- 8) Crest Height: 0.00 ft.
- 9) Nominal ice thickness of 2.0000 in.
- 10) Ice thickness is considered to increase with height.
- 11) Ice density of 56 pcf.
- 12) A wind speed of 50 mph is used in combination with ice.
- 13) Temperature drop of 50 °F.
- 14) Deflections calculated using a wind speed of 60 mph.
- 15) TIA-222-H Annex S.
- 16) A non-linear (P-delta) analysis was used.
- 17) Pressures are calculated at each section.
- 18) Stress ratio used in pole design is 1.05.
- 19) Tower analysis based on target reliabilities in accordance with Annex S.
- 20) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- 21) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Leg% ² Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
---	---	--

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	119.00-95.12	23.88	3.75	18	19.0000	25.4500	0.1875	0.7500	A572-65 (65 ksi)
L2	95.12-47.37	51.50	5.25	18	24.0621	37.8400	0.2500	1.0000	A572-65 (65 ksi)
L3	47.37-0.00	52.62		18	35.9355	50.0000	0.3125	1.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	19.2642	11.1958	500.5935	6.6784	9.6520	51.8642	1001.8456	5.5990	3.0140	16.075
	25.8137	15.0343	1212.2010	8.9682	12.9286	93.7612	2425.9970	7.5186	4.1492	22.129
L2	25.4135	18.8949	1353.5638	8.4533	12.2236	110.7340	2708.9087	9.4493	3.7949	15.18
	38.3852	29.8277	5324.7762	13.3445	19.2227	277.0043	10656.558	14.9167	6.2198	24.879
L3	37.8665	35.3335	5664.7973	12.6462	18.2552	310.3112	11337.048	17.6701	5.7746	18.479
	50.7231	49.2838	15372.193	17.6391	25.4000	605.2045	30764.613	24.6466	8.2500	26.4

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 119.00-95.12				1	1	1			
L2 95.12-47.37				1	1	1			
L3 47.37-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
*											

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf
119								
2" Rigid Conduit	B	No	No	Inside Pole	119.00 - 0.00	1	No Ice	2.80
							1/2" Ice	2.80
							1" Ice	2.80
							2" Ice	2.80
LDF2-50(3/8)	B	No	No	Inside Pole	119.00 - 0.00	1	No Ice	0.08
							1/2" Ice	0.08
							1" Ice	0.08

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
LDF7-50A(1-5/8)	B	No	No	Inside Pole	119.00 - 0.00	12	2" Ice	0.00	0.08
							No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
85013663(3/4)	B	No	No	Inside Pole	119.00 - 0.00	2	2" Ice	0.00	0.82
							No Ice	0.00	0.56
							1/2" Ice	0.00	0.56
							1" Ice	0.00	0.56
110 LDF7-50A(1-5/8)	B	No	No	Inside Pole	110.00 - 0.00	13	2" Ice	0.00	0.56
							No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
97 LDF4-50A(1/2)	C	No	No	Inside Pole	97.00 - 0.00	2	2" Ice	0.00	0.15
							No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
LDF7-50A(1-5/8)	C	No	No	Inside Pole	97.00 - 0.00	12	2" Ice	0.00	0.15
							No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82

*

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	119.00-95.12	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.49
		C	0.000	0.000	0.000	0.000	0.02
L2	95.12-47.37	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	1.17
		C	0.000	0.000	0.000	0.000	0.48
L3	47.37-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	1.16
		C	0.000	0.000	0.000	0.000	0.48

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	119.00-95.12	A	1.911	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.49
		C		0.000	0.000	0.000	0.000	0.02
L2	95.12-47.37	A	1.833	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	1.17
		C		0.000	0.000	0.000	0.000	0.48
L3	47.37-0.00	A	1.644	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	1.16
		C		0.000	0.000	0.000	0.000	0.48

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L1	119.00-95.12	0.0000	0.0000	0.0000	0.0000
L2	95.12-47.37	0.0000	0.0000	0.0000	0.0000
L3	47.37-0.00	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
119									
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	5.98	4.43	0.06
						1/2" Ice	6.51	5.37	0.11
						1" Ice	6.99	6.12	0.17
						2" Ice	7.97	7.66	0.30
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	5.98	4.43	0.06
						1/2" Ice	6.51	5.37	0.11
						1" Ice	6.99	6.12	0.17
						2" Ice	7.97	7.66	0.30
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	5.98	4.43	0.06
						1/2" Ice	6.51	5.37	0.11
						1" Ice	6.99	6.12	0.17
						2" Ice	7.97	7.66	0.30
AM-X-CD-17-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	6.09	4.31	0.09
						1/2" Ice	6.66	4.86	0.17
						1" Ice	7.24	5.42	0.26
						2" Ice	8.43	6.57	0.48
AM-X-CD-17-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	6.09	4.31	0.09
						1/2" Ice	6.66	4.86	0.17
						1" Ice	7.24	5.42	0.26
						2" Ice	8.43	6.57	0.48
AM-X-CD-17-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	6.09	4.31	0.09
						1/2" Ice	6.66	4.86	0.17
						1" Ice	7.24	5.42	0.26
						2" Ice	8.43	6.57	0.48
RRUS 11	A	From Leg	4.00 0.00 1.00	0.0000	119.00	No Ice	2.78	1.19	0.05
						1/2" Ice	2.99	1.33	0.07
						1" Ice	3.21	1.49	0.10
						2" Ice	3.66	1.83	0.15
RRUS 11	B	From Leg	4.00 0.00	0.0000	119.00	No Ice	2.78	1.19	0.05
						1/2" Ice	2.99	1.33	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			1.00			Ice 3.21	1.49	0.10
						1" Ice 3.66	1.83	0.15
						2" Ice		
RRUS 11	C	From Leg	4.00	0.0000	119.00	No Ice 2.78	1.19	0.05
			0.00			1/2" 2.99	1.33	0.07
			1.00			Ice 3.21	1.49	0.10
						1" Ice 3.66	1.83	0.15
						2" Ice		
(2) LGP21401	A	From Leg	4.00	0.0000	119.00	No Ice 1.10	0.21	0.01
			0.00			1/2" 1.24	0.27	0.02
			1.00			Ice 1.38	0.35	0.03
						1" Ice 1.69	0.52	0.05
						2" Ice		
(2) LGP21401	B	From Leg	4.00	0.0000	119.00	No Ice 1.10	0.21	0.01
			0.00			1/2" 1.24	0.27	0.02
			1.00			Ice 1.38	0.35	0.03
						1" Ice 1.69	0.52	0.05
						2" Ice		
(2) LGP21401	C	From Leg	4.00	0.0000	119.00	No Ice 1.10	0.21	0.01
			0.00			1/2" 1.24	0.27	0.02
			1.00			Ice 1.38	0.35	0.03
						1" Ice 1.69	0.52	0.05
						2" Ice		
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	119.00	No Ice 0.79	0.79	0.02
			0.00			1/2" 1.27	1.27	0.04
			1.00			Ice 1.45	1.45	0.05
						1" Ice 1.83	1.83	0.10
						2" Ice		
Platform Mount [LP 601-1]	C	None		0.0000	119.00	No Ice 28.47	28.47	1.12
						1/2" 33.59	33.59	1.51
						Ice 38.71	38.71	1.91
						1" Ice 48.95	48.95	2.69
						2" Ice		
6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	119.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	119.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	119.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
110								
APX16DWW-16DWW-S-E-A20 w/ Mount Pipe	A	From Leg	4.00	0.0000	110.00	No Ice 6.29	2.76	0.06
			0.00			1/2" 6.86	3.27	0.11
			-3.00			Ice 7.45	3.79	0.16
						1" Ice 8.68	4.90	0.29
						2" Ice		
APX16DWW-16DWW-S-E-A20 w/ Mount Pipe	B	From Leg	4.00	0.0000	110.00	No Ice 6.29	2.76	0.06
			0.00			1/2" 6.86	3.27	0.11
			-3.00			Ice 7.45	3.79	0.16
						1" Ice 8.68	4.90	0.29
						2" Ice		
APX16DWW-16DWW-S-E-A20 w/ Mount Pipe	C	From Leg	4.00	0.0000	110.00	No Ice 6.29	2.76	0.06
			0.00			1/2" 6.86	3.27	0.11
			-3.00			Ice 7.45	3.79	0.16
						1" Ice 8.68	4.90	0.29
						2" Ice		
APXVAARR24_43-U-NA20	A	From Leg	4.00	0.0000	110.00	No Ice 20.48	11.02	0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
w/ Mount Pipe			0.00 -3.00			1/2" 21.23 Ice 21.99 1" Ice 23.44 2" Ice	12.55 14.10 16.45	0.30 0.44 0.78
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 20.48 1/2" 21.23 Ice 21.99 1" Ice 23.44 2" Ice	11.02 12.55 14.10 16.45	0.16 0.30 0.44 0.78
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 20.48 1/2" 21.23 Ice 21.99 1" Ice 23.44 2" Ice	11.02 12.55 14.10 16.45	0.16 0.30 0.44 0.78
(2) KRY 112 489/2	A	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 0.56 1/2" 0.66 Ice 0.76 1" Ice 1.00 2" Ice	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
KRY 112 489/2	B	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 0.56 1/2" 0.66 Ice 0.76 1" Ice 1.00 2" Ice	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 1.65 1/2" 1.81 Ice 1.98 1" Ice 2.34 2" Ice	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
(2) RADIO 4449 B12/B71	C	From Leg	4.00 0.00 -3.00	0.0000	110.00	No Ice 1.65 1/2" 1.81 Ice 1.98 1" Ice 2.34 2" Ice	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
Platform Mount [LP 701-1]	C	None		0.0000	110.00	No Ice 59.15 1/2" 71.12 Ice 83.09 1" Ice 107.03 2" Ice	59.15 71.12 83.09 107.03	2.75 3.42 4.10 5.45
Miscellaneous [NA 509-3]	C	None		0.0000	110.00	No Ice 11.84 1/2" 16.96 Ice 22.08 1" Ice 32.32 2" Ice	11.84 16.96 22.08 32.32	0.28 0.30 0.32 0.36
(4) 6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	110.00	No Ice 1.43 1/2" 1.92 Ice 2.29 1" Ice 3.06 2" Ice	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(2) 6' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	110.00	No Ice 1.43 1/2" 1.92 Ice 2.29 1" Ice 3.06 2" Ice	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(2) 6' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	110.00	No Ice 1.43 1/2" 1.92 Ice 2.29 1" Ice 3.06 2" Ice	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(2) 14' x 2" horizontal mount pipe	A	From Leg	4.00 0.00 3.00	0.0000	110.00	No Ice 1.17 1/2" 2.46 Ice 3.31 1" Ice 5.02 2" Ice	1.17 2.46 3.31 5.02	0.04 0.79 1.55 3.12
14' x 2" horizontal mount	B	From Leg	4.00	0.0000	110.00	No Ice 1.17	1.17	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
pipe			0.00 3.00			1/2" Ice 3.31 3.31 1.55 1" Ice 5.02 5.02 3.12 2" Ice	2.46 3.31 3.31 1.55 5.02 5.02 3.12	0.79 1.55 3.12
14' x 2" horizontal mount pipe	C	From Leg	4.00 0.00 3.00	0.0000	110.00	No Ice 1/2" 2.46 2.46 0.79 Ice 3.31 3.31 1.55 1" Ice 5.02 5.02 3.12 2" Ice	1.17 1.17 0.04 2.46 2.46 0.79 3.31 3.31 1.55 5.02 5.02 3.12	0.04 0.79 1.55 3.12
97 BXA-171085-12BF w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.52 6.39 0.09 Ice 6.04 7.26 0.14 1" Ice 7.09 9.05 0.27 2" Ice	4.97 5.23 0.04 5.52 6.39 0.09 6.04 7.26 0.14 7.09 9.05 0.27	0.04 0.09 0.14 0.27
BXA-171085-12BF w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.52 6.39 0.09 Ice 6.04 7.26 0.14 1" Ice 7.09 9.05 0.27 2" Ice	4.97 5.23 0.04 5.52 6.39 0.09 6.04 7.26 0.14 7.09 9.05 0.27	0.04 0.09 0.14 0.27
BXA-171085-12BF w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.52 6.39 0.09 Ice 6.04 7.26 0.14 1" Ice 7.09 9.05 0.27 2" Ice	4.97 5.23 0.04 5.52 6.39 0.09 6.04 7.26 0.14 7.09 9.05 0.27	0.04 0.09 0.14 0.27
BXA-70080-6CF-EDIN-X w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 6.56 7.36 0.10 Ice 7.08 8.23 0.16 1" Ice 8.14 10.02 0.31 2" Ice	6.01 6.20 0.04 6.56 7.36 0.10 7.08 8.23 0.16 8.14 10.02 0.31	0.04 0.10 0.16 0.31
BXA-70080-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 6.56 7.36 0.10 Ice 7.08 8.23 0.16 1" Ice 8.14 10.02 0.31 2" Ice	6.01 6.20 0.04 6.56 7.36 0.10 7.08 8.23 0.16 8.14 10.02 0.31	0.04 0.10 0.16 0.31
BXA-70080-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 6.56 7.36 0.10 Ice 7.08 8.23 0.16 1" Ice 8.14 10.02 0.31 2" Ice	6.01 6.20 0.04 6.56 7.36 0.10 7.08 8.23 0.16 8.14 10.02 0.31	0.04 0.10 0.16 0.31
(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.11 11.43 0.11 Ice 5.61 12.31 0.19 1" Ice 6.65 14.13 0.36 2" Ice	4.56 10.26 0.05 5.11 11.43 0.11 5.61 12.31 0.19 6.65 14.13 0.36	0.05 0.11 0.19 0.36
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.11 11.43 0.11 Ice 5.61 12.31 0.19 1" Ice 6.65 14.13 0.36 2" Ice	4.56 10.26 0.05 5.11 11.43 0.11 5.61 12.31 0.19 6.65 14.13 0.36	0.05 0.11 0.19 0.36
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 5.11 11.43 0.11 Ice 5.61 12.31 0.19 1" Ice 6.65 14.13 0.36 2" Ice	4.56 10.26 0.05 5.11 11.43 0.11 5.61 12.31 0.19 6.65 14.13 0.36	0.05 0.11 0.19 0.36
(2) FD9R6004/2C-3L	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 0.39 0.12 0.01 Ice 0.47 0.17 0.01 1" Ice 0.65 0.29 0.02 2" Ice	0.31 0.08 0.00 0.39 0.12 0.01 0.47 0.17 0.01 0.65 0.29 0.02	0.00 0.01 0.01 0.02
(2) FD9R6004/2C-3L	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" 0.39 0.12 0.01 Ice 0.47 0.17 0.01 1" Ice 0.65 0.29 0.02 2" Ice	0.31 0.08 0.00 0.39 0.12 0.01 0.47 0.17 0.01 0.65 0.29 0.02	0.00 0.01 0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	CAAA Front ft ²	CAAA Side ft ²	Weight K
(2) FD9R6004/2C-3L	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 0.31 1/2" 0.39 Ice 0.47 1" Ice 0.65 2" Ice	0.08 0.12 0.17 0.29	0.00 0.01 0.01 0.02
Platform Mount [LP 303-1]	C	None		0.0000	97.00	No Ice 14.66 1/2" 18.87 Ice 23.08 1" Ice 31.50 2" Ice	14.66 18.87 23.08 31.50	1.25 1.48 1.71 2.18
75 58532A	B	From Leg	1.00 0.00 0.00	0.0000	75.00	No Ice 0.19 1/2" 0.25 Ice 0.31 1" Ice 0.47 2" Ice	0.19 0.25 0.31 0.47	0.00 0.00 0.01 0.02
Side Arm Mount [SO 201-1]	B	From Leg	0.50 0.00 0.00	0.0000	75.00	No Ice 2.96 1/2" 4.10 Ice 5.24 1" Ice 7.52 2" Ice	2.11 2.93 3.75 5.39	0.10 0.12 0.14 0.18
*								

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 90 deg - No Ice
5	0.9 Dead+1.0 Wind 90 deg - No Ice
6	1.2 Dead+1.0 Wind 180 deg - No Ice
7	0.9 Dead+1.0 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	119 - 95.12	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-32.99	0.13	15.51
			Max. Mx	4	-8.18	-173.71	-0.12
			Max. My	6	-8.18	0.23	-173.96
			Max. Vy	4	12.55	-173.71	-0.12
			Max. Vx	6	12.54	0.23	-173.96
			Max. Torque	5			
L2	95.12 - 47.37	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	47.37 - 0	Pole	Max. Compression	8	-49.79	-0.22	17.46
			Max. Mx	4	-17.27	-999.73	-0.46
			Max. My	6	-17.28	-0.19	-999.08
			Max. Vy	4	19.84	-999.73	-0.46
			Max. Vx	6	19.82	-0.19	-999.08
			Max. Torque	5			0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-66.93	-0.23	18.00
			Max. Mx	4	-29.95	-2152.97	-1.17
			Max. My	6	-29.95	-0.90	-2150.89
			Max. Vy	4	23.87	-2152.97	-1.17
			Max. Vx	6	23.84	-0.90	-2150.89
			Max. Torque	4			0.30

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	8	66.93	0.00	-0.00
	Max. H _x	3	22.48	0.01	23.82
	Max. H _z	3	22.48	0.01	23.82
	Max. M _x	2	2150.43	0.01	23.82
	Max. M _z	4	2152.97	-23.84	-0.01
	Max. Torsion	4	0.30	-23.84	-0.01
	Min. Vert	5	22.48	-23.85	-0.01
	Min. H _x	5	22.48	-23.85	-0.01
	Min. H _z	7	22.48	-0.01	-23.82
	Min. M _x	6	-2150.89	-0.01	-23.82
	Min. M _z	2	-0.97	0.01	23.82
	Min. Torsion	2	-0.18	0.01	23.82

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overtuning Moment, M _x kip-ft	Overtuning Moment, M _z kip-ft	Torque kip-ft
Dead Only	24.98	-0.00	0.00	0.18	0.02	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	29.97	-0.01	-23.82	-2150.43	0.97	0.18
0.9 Dead+1.0 Wind 0 deg - No Ice	22.48	-0.01	-23.82	-2131.20	0.95	0.17
1.2 Dead+1.0 Wind 90 deg - No Ice	29.97	23.84	0.01	1.17	-2152.97	-0.30
0.9 Dead+1.0 Wind 90 deg - No Ice	22.48	23.85	0.01	1.10	-2133.67	-0.30
1.2 Dead+1.0 Wind 180 deg - No Ice	29.97	0.01	23.82	2150.89	-0.90	-0.18
0.9 Dead+1.0 Wind 180 deg - No Ice	22.48	0.01	23.82	2131.54	-0.90	-0.17
1.2 Dead+1.0 Ice+1.0 Temp	66.93	-0.00	0.00	-18.00	-0.23	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	66.93	-0.01	-7.16	-710.60	0.25	0.11
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	66.93	7.17	0.01	-17.62	-693.55	0.02
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	66.93	0.01	7.16	674.43	-0.70	-0.11
Dead+Wind 0 deg - Service	24.98	-0.00	-5.61	-503.66	0.25	0.04
Dead+Wind 90 deg - Service	24.98	5.61	0.00	0.41	-504.38	-0.07
Dead+Wind 180 deg - Service	24.98	0.00	5.61	504.05	-0.19	-0.04

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-24.98	0.00	0.00	24.98	-0.00	0.000%
2	-0.01	-29.97	-23.82	0.01	29.97	23.82	0.005%
3	-0.01	-22.48	-23.82	0.01	22.48	23.82	0.004%
4	23.85	-29.97	0.01	-23.84	29.97	-0.01	0.005%
5	23.85	-22.48	0.01	-23.85	22.48	-0.01	0.004%
6	0.01	-29.97	23.82	-0.01	29.97	-23.82	0.005%
7	0.01	-22.48	23.82	-0.01	22.48	-23.82	0.004%
8	0.00	-66.93	0.00	0.00	66.93	-0.00	0.001%
9	-0.01	-66.93	-7.16	0.01	66.93	7.16	0.001%
10	7.17	-66.93	0.01	-7.17	66.93	-0.01	0.001%
11	0.01	-66.93	7.16	-0.01	66.93	-7.16	0.001%
12	-0.00	-24.98	-5.61	0.00	24.98	5.61	0.004%
13	5.61	-24.98	0.00	-5.61	24.98	-0.00	0.004%
14	0.00	-24.98	5.61	-0.00	24.98	-5.61	0.004%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	13	0.00006381	0.00010404
3	Yes	13	0.00004298	0.00008354
4	Yes	13	0.00006380	0.00011728
5	Yes	13	0.00004298	0.00009418
6	Yes	13	0.00006381	0.00010466
7	Yes	13	0.00004298	0.00008400
8	Yes	12	0.00000001	0.00002814
9	Yes	15	0.00000001	0.00006358
10	Yes	15	0.00000001	0.00006206
11	Yes	15	0.00000001	0.00005672
12	Yes	12	0.00000001	0.00008301
13	Yes	12	0.00000001	0.00008363
14	Yes	12	0.00000001	0.00008313

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 95.12	16.143	14	1.2228	0.0005
L2	98.87 - 47.37	11.142	13	1.1146	0.0002
L3	52.62 - 0	2.937	13	0.5294	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	(2) 7770.00 w/ Mount Pipe	14	16.143	1.2228	0.0010	23052
110.00	APX16DWW-16DWW-S-E-A20 w/ Mount Pipe	14	13.856	1.1838	0.0008	12806

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
97.00	BXA-171085-12BF w/ Mount Pipe	13	10.708	1.0990	0.0006	5649
75.00	58532A	13	6.200	0.8408	0.0004	4502

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 95.12	68.951	4	5.2245	0.0024
L2	98.87 - 47.37	47.601	4	4.7646	0.0010
L3	52.62 - 0	12.546	4	2.2620	0.0003

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	(2) 7770.00 w/ Mount Pipe	4	68.951	5.2245	0.0041	5479
110.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	4	59.191	5.0592	0.0035	3043
97.00	BXA-171085-12BF w/ Mount Pipe	4	45.745	4.6982	0.0027	1340
75.00	58532A	4	26.485	3.5950	0.0015	1061

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	119 - 95.12 (1)	TP25.45x19x0.1875	23.88	0.00	0.0	14,431 6	-8.18	844.25	0.010
L2	95.12 - 47.37 (2)	TP37.84x24.0621x0.25	51.50	0.00	0.0	28,713 2	-17.27	1679.72	0.010
L3	47.37 - 0 (3)	TP50x35.9355x0.3125	52.62	0.00	0.0	49,283 8	-29.95	2883.10	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	119 - 95.12 (1)	TP25.45x19x0.1875	173.96	488.77	0.356	0.00	488.77	0.000
L2	95.12 - 47.37 (2)	TP37.84x24.0621x0.25	999.73	1390.90	0.719	0.00	1390.90	0.000
L3	47.37 - 0 (3)	TP50x35.9355x0.3125	2152.97	3146.22	0.684	0.00	3146.22	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	119 - 95.12 (1)	TP25.45x19x0.1875	12.54	250.29	0.050	0.03	537.87	0.000
L2	95.12 - 47.37 (2)	TP37.84x24.0621x0.25	19.84	503.92	0.039	0.30	1596.88	0.000
L3	47.37 - 0 (3)	TP50x35.9355x0.3125	23.87	864.93	0.028	0.30	3763.64	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	119 - 95.12 (1)	0.010	0.356	0.000	0.050	0.000	0.368	1.050	4.8.2 ✓
L2	95.12 - 47.37 (2)	0.010	0.719	0.000	0.039	0.000	0.731	1.050	4.8.2 ✓
L3	47.37 - 0 (3)	0.010	0.684	0.000	0.028	0.000	0.695	1.050	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	119 - 95.12	Pole	TP25.45x19x0.1875	1	-8.18	886.46	35.1	Pass
L2	95.12 - 47.37	Pole	TP37.84x24.0621x0.25	2	-17.27	1763.71	69.6	Pass
L3	47.37 - 0	Pole	TP50x35.9355x0.3125	3	-29.95	3027.25	66.2	Pass
Summary								
Pole (L2)							69.6	Pass
RATING =							69.6	Pass

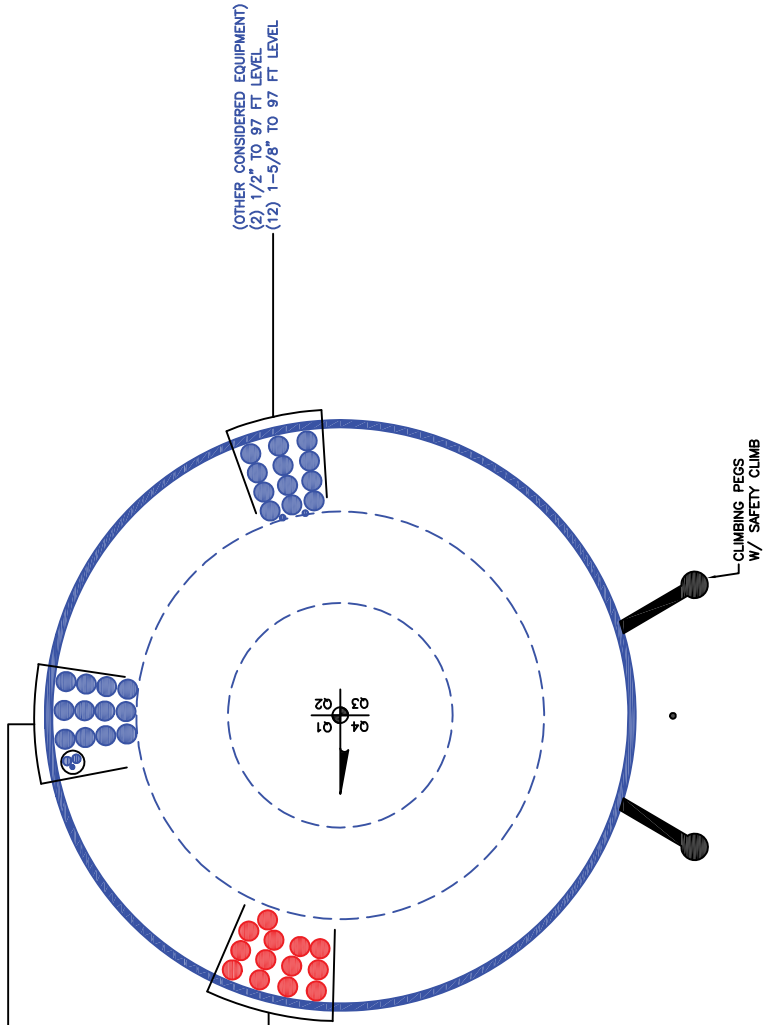
APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT—IN 2" CONDUIT)
(1) 3/8" TO 119 FT LEVEL
(2) 3/4" TO 119 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(12) 1-5/8" TO 119 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
(13) 1-5/8" TO 110 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(2) 1/2" TO 97 FT LEVEL
(12) 1-5/8" TO 97 FT LEVEL



APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

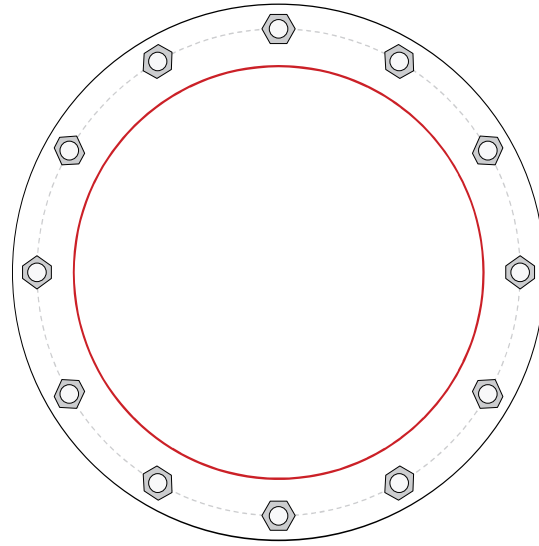


Site Info	
BU #	846295
Site Name	GRANBY - HIGLEY ROAD
Order #	479846 R0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{gr} (in)	1.75

Applied Loads	
Moment (kip-ft)	2152.97
Axial Force (kips)	29.95
Shear Force (kips)	23.87

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(12) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 59" BC
Base Plate Data
65" OD x 2.25" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)
Stiffener Data
N/A
Pole Data
50" x 0.3125" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary	<i>(units of kips, kip-in)</i>	
$Pu_c = 148.37$	$\phi Pn_c = 243.75$	Stress Rating
$Vu = 1.99$	$\phi Vn = 73.13$	58.0%
$Mu = n/a$	$\phi Mn = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	25.29	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	44.6%	Pass

Pier and Pad Foundation



BU #: 846295
 Site Name: GRANBY - HIGLEY
 App. Number: 479846 R0

TIA-222 Revision: H
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:
 Block Foundation?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	30	kips
Base Shear, V_{u_comp} :	24	kips
Moment, M_u :	2153	ft-kips
Tower Height, H :	119	ft
BP Dist. Above Fdn, bp_{dist} :		in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	253.31	24.00	9.0%	Pass
<i>Bearing Pressure (ksf)</i>	23.08	2.12	9.2%	Pass
<i>Overtuning (kip*ft)</i>	5029.94	2345.00	46.6%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	3918.46	2273.00	55.2%	Pass
<i>Pier Compression (kip)</i>	31187.52	74.10	0.2%	Pass
<i>Pad Flexure (kip*ft)</i>	2633.51	736.40	26.6%	Pass
<i>Pad Shear - 1-way (kips)</i>	788.93	128.60	15.5%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.024	11.9%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	3772.15	1363.80	34.4%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	7	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	30	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	5	in

*Rating per TIA-222-H Section 15.5

Soil Rating*:	46.6%
Structural Rating*:	55.2%

Pad Properties		
Depth, D :	7	ft
Pad Width, W :	22	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom), Sp :	8	
Pad Rebar Quantity (Bottom), mp :	24	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, $F'c$:	4	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	110	pcf
Ultimate Net Bearing, Q_{net} :	30.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	37	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.4	
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	8	ft

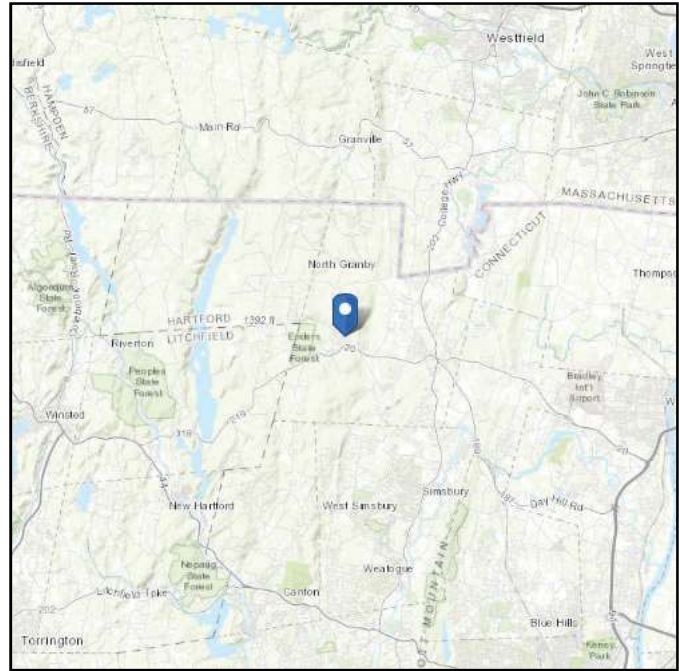
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ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 598.55 ft (NAVD 88)
Latitude: 41.965778
Longitude: -72.855372



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	76 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

**JURISDICTION REQUIRES
120 MPH WIND SPEED**

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Tue Jun 25 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

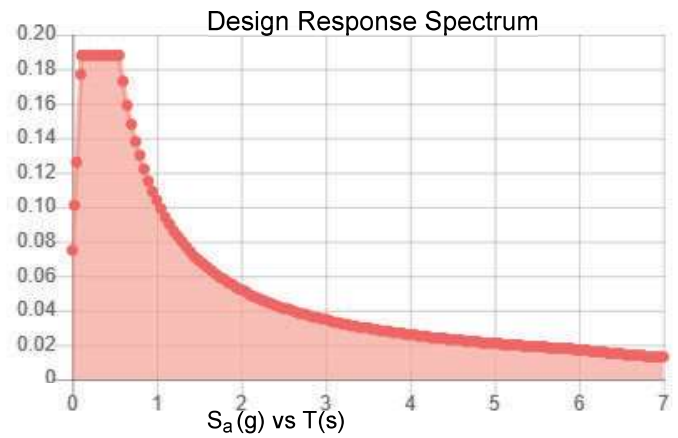
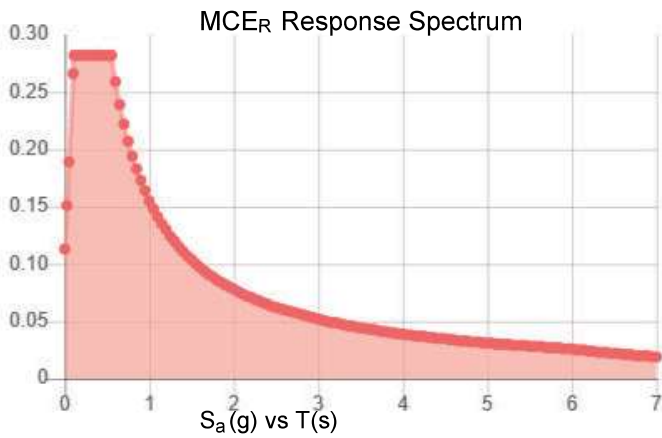
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.176	S_{DS} :	0.188
S_1 :	0.065	S_{D1} :	0.104
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.087
S_{MS} :	0.282	PGA _M :	0.139
S_{M1} :	0.155	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Tue Jun 25 2019

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

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

Date Accessed: Tue Jun 25 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Exhibit E

Mount Analysis



Date: **June 12, 2019**

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

MasTec Network Solutions
507 Airport Blvd, Suite 111
Morrisville, NC 27560
(919) 244-5207

Subject: **Mount Modification Analysis**

Carrier Designation: **T-Mobile Equipment Change-Out**
Carrier Site Number: CTHA162A
Carrier Site Name: CTHA162/CINGATT Permit_FT

Crown Castle Designation: **Crown Castle BU Number:** 846295
Crown Castle Site Name: Granby - Higley Road
Crown Castle JDE Number: 559284
Crown Castle Order Number: 479846 Rev 0

Engineering Firm Designation: **MasTec Network Solutions**
Project Number: 18750-MOD1

Site Data: **30 Higley Road, West Granby, Hartford County, CT 06090**
Latitude: 41° 57' 56.80" Longitude: -72° 51' 19"

Structure Information **Tower Height & Type:** 119 ft Monopole
Mount Elevation: 110 ft
Mount Width & Type: 14.5 ft Platform Mount

Dear Charles McGuirt,

MasTec Network Solutions is pleased to submit this "**Mount Modification Analysis Report**" to determine the structural integrity of T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform Mount

Sufficient

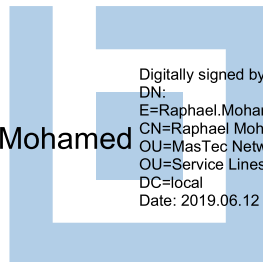
This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Vladimir Blanchard

Respectfully Submitted by:

Raphael Mohamed, PE, Peng
Senior Director of Engineering
CT PE License No. 25112

Raphael Mohamed



Digitally signed by Raphael Mohamed
DN:
E=Raphael.Mohamed@mastec.com,
CN=Raphael Mohamed, OU=Users,
OU=MasTec Network Solutions,
OU=Service Lines, DC=mastec,
DC=local
Date: 2019.06.12 17:34:34-04'00'



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8) APPENDIX D

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Mount Modification Design Drawings (MDD) / Supplemental Drawings

1) INTRODUCTION

This is a 14.5 ft Platform Mount mapped by P-Sec.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category	II
Ultimate Wind Speed:	125 mph
Exposure Category:	B
Topographic Category:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.176
Seismic S1:	0.065
Live Loading Wind Speed:	30 mph
Live Loading at Mid/End-Points:	250 lb
Man Live Loading at Mount Pipes	500 lb

Table 1 - Proposed Loading Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
110.0	107.0	3	rfs/celwave	APX16DWW-16DWW-S-E-A20	(1) 14.5' Platform
		3	rfs/celwave	APXVAARR24_43-U-NA20	
		3	ericsson	KRY 112 489/2	
		3	ericsson	RADIO 4449 B12/B71	

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-ORDER INFORMATION	CROWN CASTLE	Order No. 479846, Rev. 0	CCIsites
4-MOUNT MAPPING	P-Sec	Project No. 19651-16	On File
4-MOUNT ANALYSIS	Mastec Network Solutions	Project No. 18750-MNT1	On File
4-MOUNT MODIFICATION DRAWINGS	Mastec Network Solutions	Project No. 18750-MOD1	Appendix E

3.1) Analysis Method

RISA-3D (Version No. 17.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision C).

3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Tables 1 and the referenced drawings.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR B-35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Mastec should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 4(a) - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Beam No.	Centerline (ft)	% Capacity	Pass / Fail
1	Boom angle	--	110	49.5	Pass
1	Support angle 1	--	110	23.0	Pass
1	Support angle 2	--	110	66.2	Pass
1	HSS support	--	110	16.3	Pass
1	Angle connection	--	110	30.7	Pass
1	Handrail	--	110	33.0	Pass
1	Mount pipe	--	110	34.3	Pass
1	Handrail plate	--	110	21.5	Pass
1	Corner plate	--	110	10.4	Pass
1	Top Corner plate	--	110	51.3	Pass
1	Angle connection 2	--	110	27.2	Pass
1	MOD reinf	--	110	41.2	Pass
1	Bolt Connection	--	110	11.1	Pass
1	Plate Connection	--	110	9.3	Pass

Structure Rating (max from all components) =	66.2%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) All sectors are typical

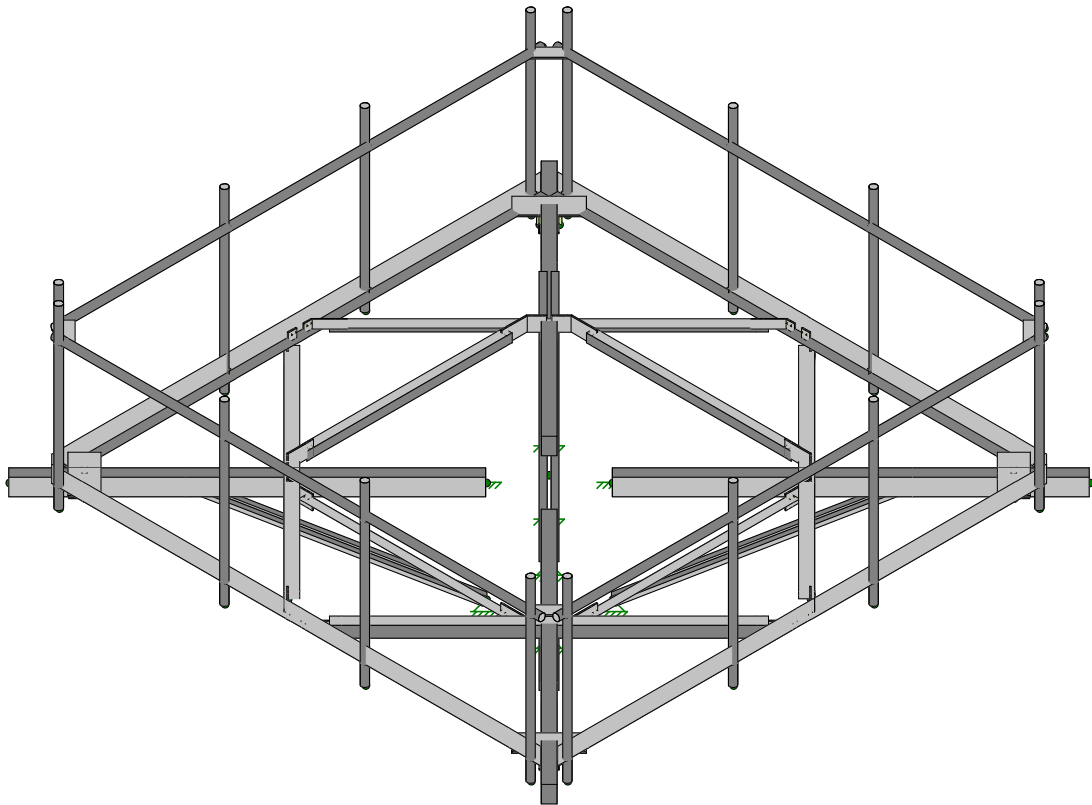
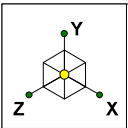
4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Kicker support, Site Pro 1 PQ-1245L
2. Hand-rail kit, Site Pro 1 F4P-HRK14

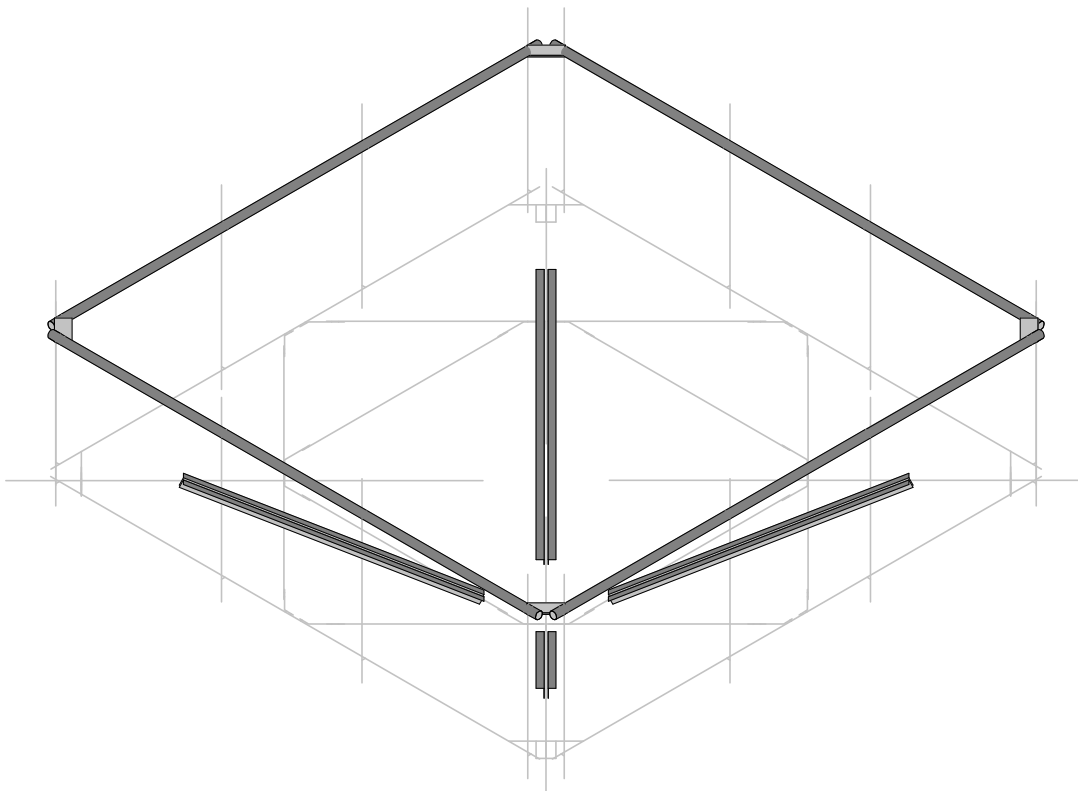
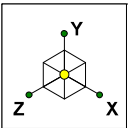
Engineering detail drawings have been provided in Appendix E – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A
WIRE FRAME AND RENDERED MODELS

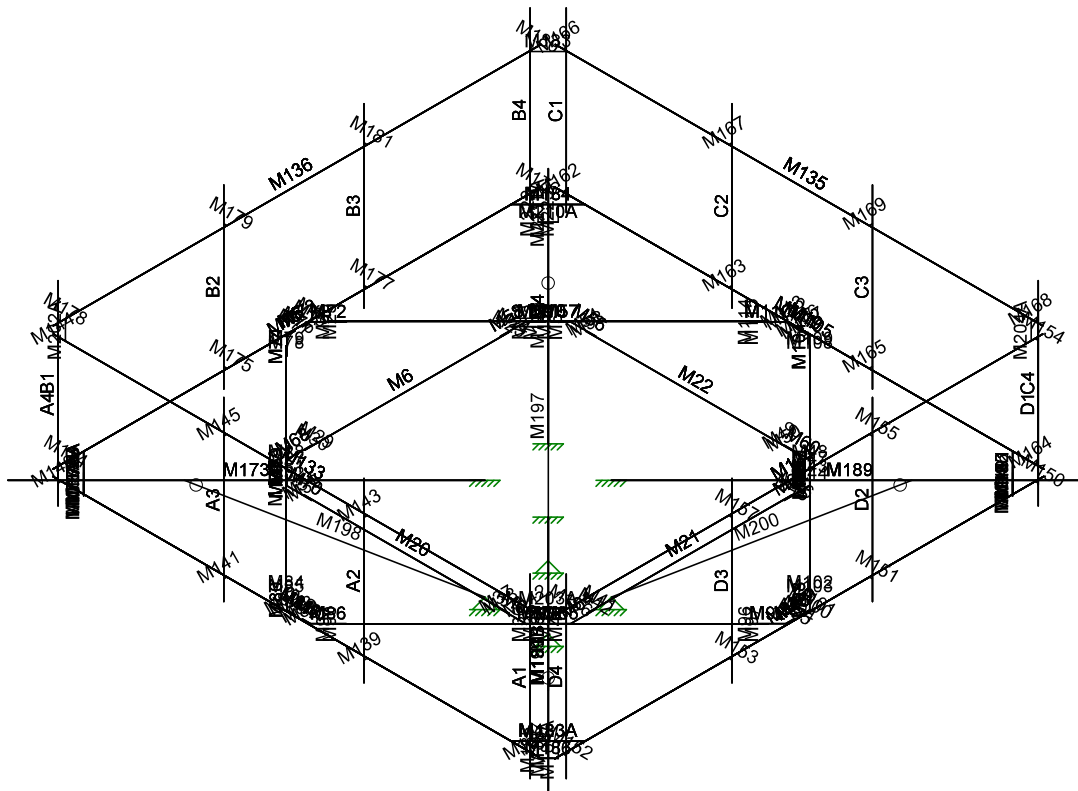
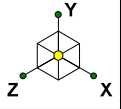


Envelope Only Solution

Mastec Network Solutions	Granby - Higley Road	Rendered View
VB		June 11, 2019 at 6:13 PM
18750-MOD1		18750-MOD1.R3D



Mastec Network Solutions	Granby - Higley Road	MOD
VB		June 11, 2019 at 6:39 PM
18750-MOD1		18750-MOD1.R3D



Envelope Only Solution

Mastec Network Solutions

VB

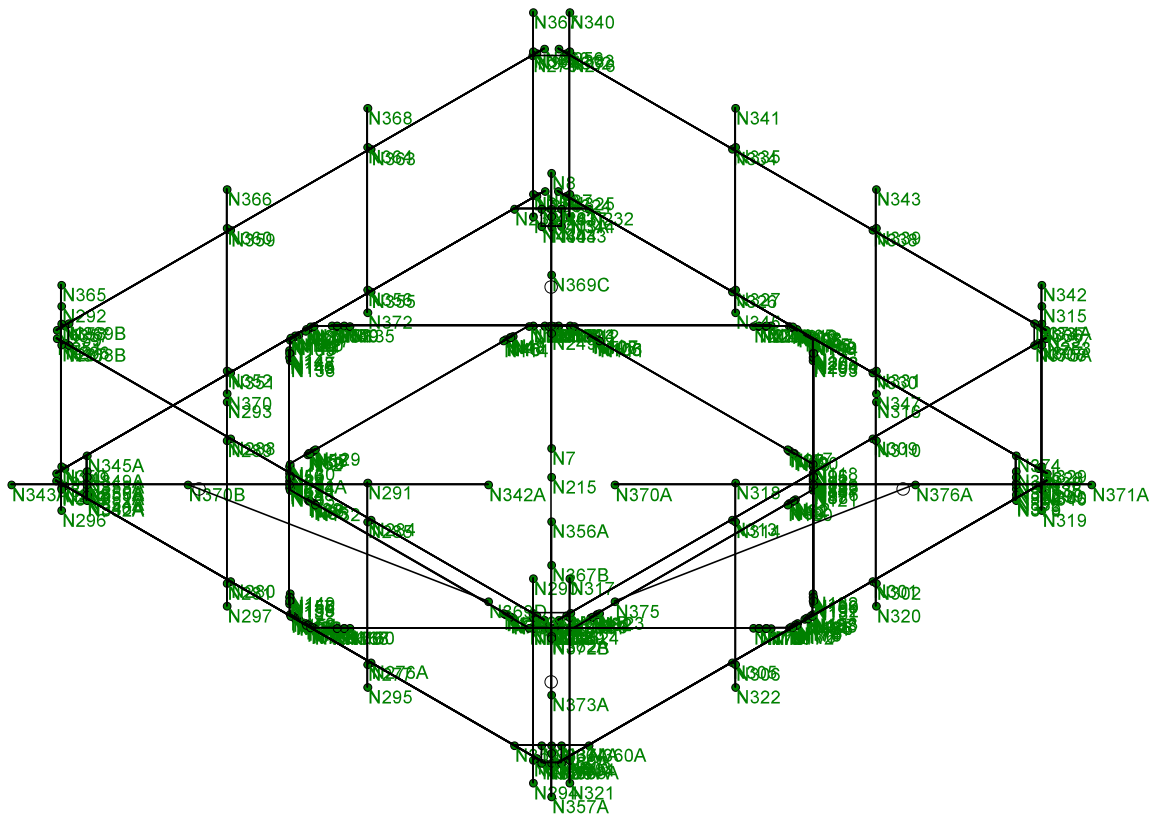
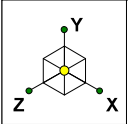
18750-MOD1

Granby - Higley Road

Member Labels

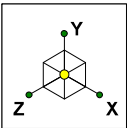
June 11, 2019 at 6:13 PM

18750-MOD1.R3D

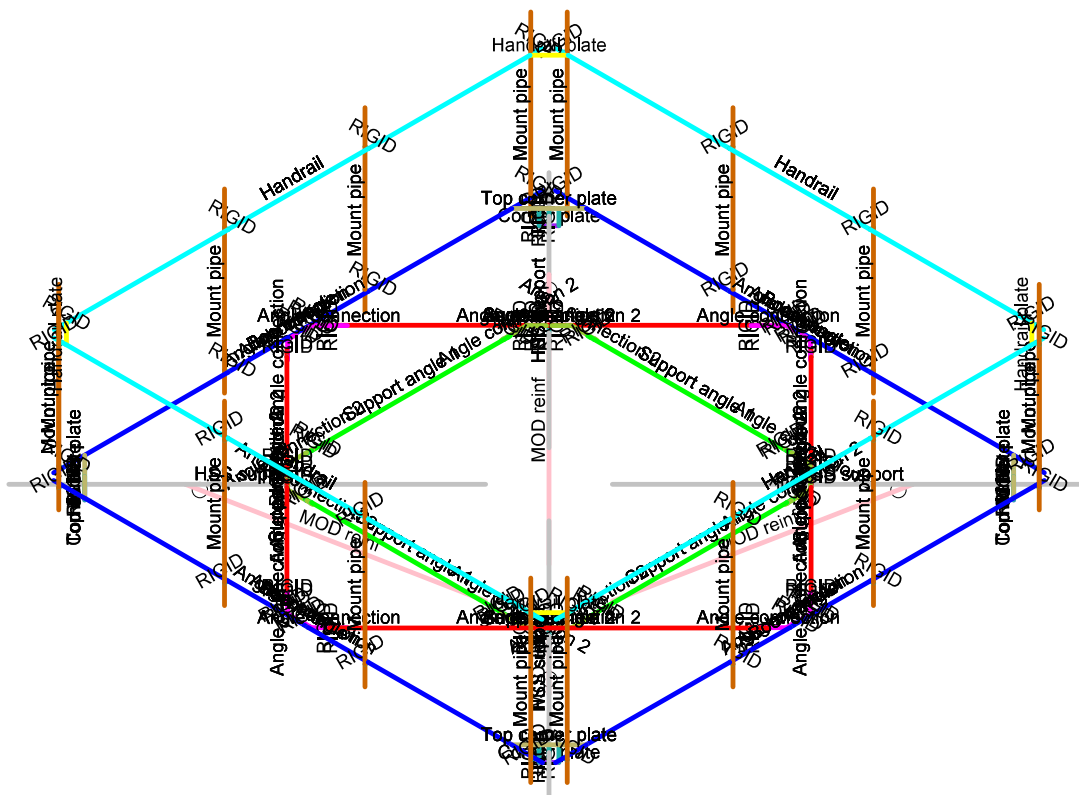


Envelope Only Solution

Mastec Network Solutions	Granby - Higley Road	Node Labels
VB		June 11, 2019 at 6:13 PM
18750-MOD1		18750-MOD1.R3D

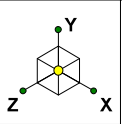


Section Sets	
█	Boom angle
█	Support angle 1
█	Support angle 2
█	HSS support
█	Angle connection
█	Handrail
█	Mount pipe
█	Handrail plate
█	Corner plate
█	Top corner plate
█	Angle connection 2
█	MOD reinf
█	RIGID

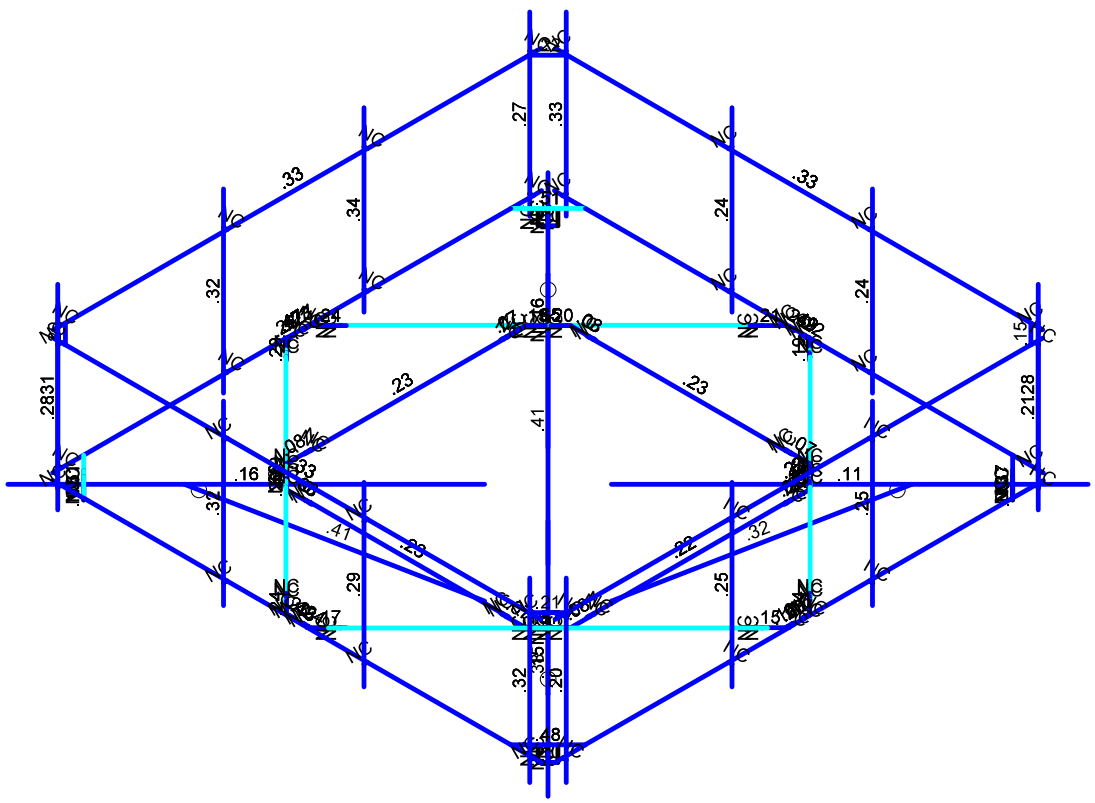


Envelope Only Solution

Mastec Network Solutions	Granby - Higley Road	Section Sets
VB		June 11, 2019 at 6:14 PM
18750-MOD1		18750-MOD1.R3D



Code Check (Env)	
Black	No Calc
Red	> 1.0
Pink	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Mastec Network Solutions	Granby - Higley Road	Unity Check
VB		June 11, 2019 at 6:14 PM
18750-MOD1		18750-MOD1.R3D

APPENDIX B
SOFTWARE INPUT CALCULATIONS



Mount Analysis Tool

Site Name	Granby - Higley Road	
Site ID	846295	
Job Number	18750-MOD1	
Code	H	
	Mount Existing?	Crown
	Risk Category	II

Legend	
Input	
Calculated	
Notes	

Controlling Capacity	Maximum Capacity
66.2%	PASS

Analysis Parameters	
Mount Height	110 ft
Exposure Category	B (B,C, or D)
Ultimate Wind Speed	125 mph
Ice Wind Speed	50 mph
Design Ice Thickness, t_i	2 in
Maintenance Wind Speed	30 mph
Run Earthquake Analysis?	Yes
Ground Elevation	598.55 ft, Google Earth
S_1	0.065 USGS
S_{ps}	0.188 2.7.5
Vertical Seismic Loads, E_v	0.038 2.7.6
Seismic Response Coefficient, C_s	0.094 2.7.7.1.1
C_s Min	0.030 2.7.7.1.1

Wind Parameters	
Gust Effect Factor, G_{f_i}	1.000 2.6.9
K_z	1.016 2.6.5.2
K_{zt}	1.000 2.6.6
K_d	0.950 Table 2-2
q_z	34.092 psf, 2.6.11.6
C/D	125:966 Table 2-9
t_z	2.256 in, 2.6.10
q_{lz}	5.455 psf, 2.6.9.6
C/D $_{lz}$	50:386 Table 2-9
$q_{Maintenance}$	2.000 psf, 2.6.9.6
C/D $_{Maintenance}$	30:232 Table 2-9
Ice Dead, Grating	0.021054971 ksf

Pipe Mounts (Orientation Drawn Top-Down)			
Risa 3D Label	Elevation (ft)	Length (in)	Diameter (in)
A1	102.5	63	2.375
A2	102.5	63	2.375
B1	102.5	63	2.375
B2	102.5	63	2.375
C1	102.5	63	2.375
C2	102.5	63	2.375

Appurtenances			
Model	Type	Height (in)	Weight (lbs)
RFS/Celwave APX16DWV-16DWV-S-	Antenna	55.9	40.7
RFS/Celwave APXVAARR24_43-U-N	Antenna	95.9	128
Ericsson KRY 112 489/2	RRU, TMA, Etc.	11	15.4
Ericsson Radio 4449 B12/B71	RRU, TMA, Etc.	14.95	75

Pipe Mount	Antenna	Elevation (ft)	Quantity	Orientation (deg)	Front Exposed (%)	Side Exposed (%)	Type	Height (m)	Width (m)	Depth (m)	Weight (lbs)	Front-CaAa (ft ²)	Side-CaAa (ft ²)	Front-F _w (kips)	Side-F _w (kips)	Top %	Bottom %
A1	S/Celwave APX16DWW-16DWW-S-E-A	102.5	1	0	100.0%	100.0%	Antenna	55,900	13,300	3,150	40,700	6,586	2,150	0.225	0.073	5.6%	94.4%
A1	Ericsson KRY 112 489/2	102.5	1	0	50.0%	100.0%	RRU, TMA, Etc.	11,000	6,100	3,940	15,400	0,559	0,365	0.010	0.012	41.3%	58.7%
A1																	
A1																	
A1																	
A2	F5/Celwave APX1AARR24 43-U-NA2	102.5	1	0	100.0%	100.0%	Antenna	95,900	24,000	8,700	128,000	20,243	8,889	0.690	0.303	0.0%	100.0%
A2	Ericsson Radio 4449 B1Z/B71	102.5	1	0	50.0%	100.0%	RRU, TMA, Etc.	14,950	13,190	9,250	75,000	1,643	1,152	0.028	0.039	38.1%	61.9%
A2																	
A2																	
A2																	
B1	S/Celwave APX16DWW-16DWW-S-E-A	102.5	1	90	100.0%	100.0%	Antenna	55,900	13,300	3,150	40,700	6,586	2,150	0.073	0.225	5.6%	94.4%
B1	Ericsson KRY 112 489/2	102.5	1	90	50.0%	100.0%	RRU, TMA, Etc.	11,000	6,100	3,940	15,400	0,559	0,365	0.006	0.019	41.3%	58.7%
B1																	
B1																	
B1																	
B2	F5/Celwave APX1AARR24 43-U-NA2	102.5	1	90	100.0%	100.0%	Antenna	95,900	24,000	8,700	128,000	20,243	8,889	0.303	0.690	0.0%	100.0%
B2	Ericsson Radio 4449 B1Z/B71	102.5	1	90	50.0%	100.0%	RRU, TMA, Etc.	14,950	13,190	9,250	75,000	1,643	1,152	0.020	0.056	38.1%	61.9%
B2																	
B2																	
B2																	
B2																	
C1	S/Celwave APX16DWW-16DWW-S-E-A	102.5	1	180	100.0%	100.0%	Antenna	55,900	13,300	3,150	40,700	6,586	2,150	0.225	0.073	5.6%	94.4%
C1	Ericsson KRY 112 489/2	102.5	1	180	50.0%	100.0%	RRU, TMA, Etc.	11,000	6,100	3,940	15,400	0,559	0,365	0.010	0.012	41.3%	58.7%
C1																	
C1																	
C1																	
C2	F5/Celwave APX1AARR24 43-U-NA2	102.5	1	180	100.0%	100.0%	Antenna	95,900	24,000	8,700	128,000	20,243	8,889	0.690	0.303	0.0%	100.0%
C2	Ericsson Radio 4449 B1Z/B71	102.5	1	180	50.0%	100.0%	RRU, TMA, Etc.	14,950	13,190	9,250	75,000	1,643	1,152	0.028	0.039	38.1%	61.9%
C2																	
C2																	
C2																	
C2																	

Pipe Mount	Antenna	Elevation (ft)	Quantity	Orientation (deg)	Front Exposed (%)	Side Exposed (%)	Type	Height (in)	Width (in)	Depth (in)	Ice Weight (lb)	Front C-A-A (ft ²)	Side C-A-A (ft ²)	Front F _s (kips)	Side F _s (kips)	Top %	Bottom %
A1	elwave APX16DWW-16DWW-S	102.5	1	0	100.0%	100.0%	Antenna	55.900	13.300	3.150	204.443	9.263	4.595	0.051	0.025	5.6%	94.4%
A1	Ericsson KRY 112 489/2	102.5	1	0	50.0%	100.0%	RRU, TMA, Etc.	11.000	6.100	3.940	24.046	1.372	1.093	0.004	0.006	41.3%	58.7%
A1																	
A1																	
A1																	
A2	Celwave APXVAARR24 43-U-H	102.5	1	0	100.0%	100.0%	Antenna	95.900	24.000	8.700	611.966	24.761	13.082	0.135	0.071	0.0%	100.0%
A2	Ericsson Radio 4449 B12/B71	102.5	1	0	50.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.062	2.871	2.232	0.008	0.012	38.1%	61.9%
A2																	
A2																	
A2																	
A2																	
B1	elwave APX16DWW-16DWW-S	102.5	1	90	100.0%	100.0%	Antenna	55.900	13.300	3.150	204.443	9.263	4.595	0.025	0.051	5.6%	94.4%
B1	Ericsson KRY 112 489/2	102.5	1	90	50.0%	100.0%	RRU, TMA, Etc.	11.000	6.100	3.940	24.046	1.372	1.093	0.003	0.007	41.3%	58.7%
B1																	
B1																	
B1																	
B2	Celwave APXVAARR24 43-U-H	102.5	1	90	100.0%	100.0%	Antenna	95.900	24.000	8.700	611.966	24.761	13.082	0.071	0.135	0.0%	100.0%
B2	Ericsson Radio 4449 B12/B71	102.5	1	90	50.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.062	2.871	2.232	0.006	0.016	38.1%	61.9%
B2																	
B2																	
B2																	
B2																	
C1	elwave APX16DWW-16DWW-S	102.5	1	180	100.0%	100.0%	Antenna	55.900	13.300	3.150	204.443	9.263	4.595	0.051	0.025	5.6%	94.4%
C1	Ericsson KRY 112 489/2	102.5	1	180	50.0%	100.0%	RRU, TMA, Etc.	11.000	6.100	3.940	24.046	1.372	1.093	0.004	0.006	41.3%	58.7%
C1																	
C1																	
C1																	
C2	Celwave APXVAARR24 43-U-H	102.5	1	180	100.0%	100.0%	Antenna	95.900	24.000	8.700	611.966	24.761	13.082	0.135	0.071	0.0%	100.0%
C2	Ericsson Radio 4449 B12/B71	102.5	1	180	50.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.062	2.871	2.232	0.008	0.012	38.1%	61.9%
C2																	
C2																	
C2																	
C2																	

APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Boom angle	L6 x 3.5 x 5/16	Beam	Single Angle	A36 Gr.36	Typical	2.871	2.851	10.894	.089
2	Support angle 1	L3X3X3	Beam	Single Angle	A36 Gr.36	Typical	1.09	.948	.948	.014
3	Support angle 2	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	.044
4	HSS support	HSS 6x4x0.258	Beam	HSS Pipe	A500 Gr.B Rect	Typical	4.894	12.674	24.116	25.118
5	Angle connection	PL3x3/8	Beam	RECT	A36 Gr.36	Typical	1.125	.013	.844	.049
6	Handrail	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Mount pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	Handrail plate	PL4.375x1/2	Beam	RECT	A36 Gr.36	Typical	2.188	.046	3.489	.169
9	Corner plate	PL8x 3/8	Beam	RECT	A36 Gr.36	Typical	3	.035	16	.136
10	Top corner plate	PL8.25x1/2	Beam	RECT	A36 Gr.36	Typical	4.125	.086	23.396	.331
11	Angle connection 2	PL5x3/8	Beam	RECT	A36 Gr.36	Typical	1.875	.022	3.906	.084
12	MOD reinf	LL2.5x2.5x3x0	Beam	Double Angle (N...	A36 Gr.36	Typical	1.8	1.91	1.07	.023

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N7	12.511271	-0.197917	57.721655	0	
2	N8	5.440203	-0.197917	50.650587	0	
3	N9	6.007447	0	65.909497	0	
4	N10	6.007447	0	51.409497	0	
5	N11	9.257447	0	55.617831	0	
6	N12	9.257447	0	61.701164	0	
7	N13	12.817251	0	65.802635	0	
8	N14	6.305976	0	59.29136	0	
9	N15	20.592251	0	59.29136	0	
10	N16	14.080976	0	65.802635	0	
11	N17	14.080976	0	51.51636	0	
12	N18	20.592251	0	58.027635	0	
13	N19	6.305976	0	58.027635	0	
14	N20	12.817251	0	51.51636	0	
15	N25	9.468741	0	54.885703	0	
16	N26	9.458325	0	54.875286	0	
17	N27	9.299114	0	55.055331	0	
18	N28	9.288697	0	55.044914	0	
19	N29	6.049002	0	58.492838	0	
20	N30	6.007447	0	58.492838	0	
21	N31	6.049002	0	58.367838	0	
22	N32	6.007447	0	58.367838	0	
23	N33	20.699114	0	66.101164	0	
24	N34	6.199114	0	66.101164	0	
25	N35	20.89078	0	51.409497	0	
26	N36	20.89078	0	65.909497	0	
27	N37	6.199114	0	51.217831	0	
28	N38	20.699114	0	51.217831	0	



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
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 Checked By: _____

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
29	N39	10.407447	0	62.851164	0	
30	N40	16.49078	0	62.851164	0	
31	N41	17.64078	0	61.701164	0	
32	N42	17.64078	0	55.617831	0	
33	N43	16.49078	0	54.467831	0	
34	N44	10.407447	0	54.467831	0	
35	N45	9.257447	0	55.805331	0	
36	N46	9.236614	0	55.805331	0	
37	N47	9.236614	0	55.680331	0	
38	N48	9.257447	0	55.680331	0	
39	N49	6.495998	0	57.858341	0	
40	N50	6.485634	0	57.847977	0	
41	N51	6.391398	0	57.962941	0	
42	N52	6.381034	0	57.952577	0	
43	N53	9.468741	0	62.433292	0	
44	N54	9.458325	0	62.443709	0	
45	N55	9.299114	0	62.263664	0	
46	N56	9.288697	0	62.274081	0	
47	N57	9.257447	0	61.513664	0	
48	N58	9.236614	0	61.513664	0	
49	N59	9.236614	0	61.638664	0	
50	N60	9.257447	0	61.638664	0	
51	N61	9.675319	0	62.63987	0	
52	N62	9.664902	0	62.650286	0	
53	N63	9.844947	0	62.809497	0	
54	N64	9.83453	0	62.819914	0	
55	N65	10.594947	0	62.851164	0	
56	N66	10.594947	0	62.871997	0	
57	N67	10.469947	0	62.871997	0	
58	N68	10.469947	0	62.851164	0	
59	N69	17.222908	0	62.63987	0	
60	N70	17.233325	0	62.650286	0	
61	N71	17.05328	0	62.809497	0	
62	N72	17.063697	0	62.819914	0	
63	N73	16.30328	0	62.851164	0	
64	N74	16.30328	0	62.871997	0	
65	N75	16.42828	0	62.871997	0	
66	N76	16.42828	0	62.851164	0	
67	N77	17.429486	0	62.433292	0	
68	N78	17.439902	0	62.443709	0	
69	N79	17.599114	0	62.263664	0	
70	N80	17.60953	0	62.274081	0	
71	N81	17.64078	0	61.513664	0	
72	N82	17.661614	0	61.513664	0	
73	N83	17.661614	0	61.638664	0	
74	N84	17.64078	0	61.638664	0	
75	N85	17.429486	0	54.885703	0	
76	N86	17.439902	0	54.875286	0	
77	N87	17.599114	0	55.055331	0	
78	N88	17.60953	0	55.044914	0	
79	N89	17.64078	0	55.805331	0	
80	N90	17.661614	0	55.805331	0	
81	N91	17.661614	0	55.680331	0	
82	N92	17.64078	0	55.680331	0	
83	N93	17.222908	0	54.679125	0	
84	N94	17.233325	0	54.668709	0	
85	N95	17.05328	0	54.509497	0	



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
 6:15 PM
 Checked By: _____

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
86	N96	17.063697	0	54.499081	0	
87	N97	16.30328	0	54.467831	0	
88	N98	16.30328	0	54.446997	0	
89	N99	16.42828	0	54.446997	0	
90	N100	16.42828	0	54.467831	0	
91	N101	9.675319	0	54.679125	0	
92	N102	9.664902	0	54.668709	0	
93	N103	9.844947	0	54.509497	0	
94	N104	9.83453	0	54.499081	0	
95	N105	10.594947	0	54.467831	0	
96	N106	10.594947	0	54.446997	0	
97	N107	10.469947	0	54.446997	0	
98	N108	10.469947	0	54.467831	0	
99	N111	10.657447	0	54.446997	0	
100	N112	9.907447	0	54.446997	0	
101	N113	9.612819	0	54.741625	0	
102	N114	9.236614	0	55.867831	0	
103	N115	9.236614	0	55.117831	0	
104	N116	9.531241	0	54.823203	0	
105	N117	16.24078	0	54.446997	0	
106	N118	16.99078	0	54.446997	0	
107	N119	17.285408	0	54.741625	0	
108	N120	17.661614	0	55.867831	0	
109	N121	17.661614	0	55.117831	0	
110	N122	17.366986	0	54.823203	0	
111	N123	17.661614	0	61.451164	0	
112	N124	17.661614	0	62.201164	0	
113	N125	17.366986	0	62.495792	0	
114	N126	16.24078	0	62.871997	0	
115	N127	16.99078	0	62.871997	0	
116	N128	17.285408	0	62.57737	0	
117	N129	9.236614	0	61.451164	0	
118	N130	9.236614	0	62.201164	0	
119	N131	9.531241	0	62.495792	0	
120	N132	10.657447	0	62.871997	0	
121	N133	9.907447	0	62.871997	0	
122	N134	9.612819	0	62.57737	0	
123	N135	6.579332	0	57.775008	0	
124	N136	6.049002	0	58.305338	0	
125	N137	6.049002	0	58.555338	0	
126	N138	6.579332	0	59.543987	0	
127	N139	6.049002	0	59.013657	0	
128	N140	6.049002	0	58.763657	0	
129	N141	6.049002	0	58.826157	0	
130	N142	6.007447	0	58.826157	0	
131	N143	6.049002	0	58.951157	0	
132	N144	6.007447	0	58.951157	0	
133	N145	6.495998	0	59.460654	0	
134	N146	6.485634	0	59.471018	0	
135	N147	6.391398	0	59.356054	0	
136	N148	6.381034	0	59.366418	0	
137	N149	12.564624	0	65.529279	0	
138	N150	13.094954	0	66.059609	0	
139	N151	13.344954	0	66.059609	0	
140	N152	13.282454	0	66.059609	0	
141	N153	13.282454	0	66.101164	0	
142	N154	13.157454	0	66.059609	0	



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
143	N155	13.157454	0	66.101164	0	
144	N156	12.647957	0	65.612613	0	
145	N157	12.637593	0	65.622977	0	
146	N158	12.752557	0	65.717213	0	
147	N159	12.742193	0	65.727577	0	
148	N160	14.333603	0	65.529279	0	
149	N161	13.803273	0	66.059609	0	
150	N162	13.553273	0	66.059609	0	
151	N163	13.615773	0	66.059609	0	
152	N164	13.615773	0	66.101164	0	
153	N165	13.740773	0	66.059609	0	
154	N166	13.740773	0	66.101164	0	
155	N167	14.25027	0	65.612613	0	
156	N168	14.260634	0	65.622977	0	
157	N169	14.14567	0	65.717213	0	
158	N170	14.156034	0	65.727577	0	
159	N171	20.318895	0	59.543987	0	
160	N172	20.849225	0	59.013657	0	
161	N173	20.849225	0	58.763657	0	
162	N174	20.849225	0	58.826157	0	
163	N175	20.89078	0	58.826157	0	
164	N176	20.849225	0	58.951157	0	
165	N177	20.89078	0	58.951157	0	
166	N178	20.402229	0	59.460654	0	
167	N179	20.412593	0	59.471018	0	
168	N180	20.506829	0	59.356054	0	
169	N181	20.517193	0	59.366418	0	
170	N182	20.318895	0	57.775008	0	
171	N183	20.849225	0	58.305338	0	
172	N184	20.849225	0	58.555338	0	
173	N185	20.849225	0	58.492838	0	
174	N186	20.89078	0	58.492838	0	
175	N187	20.849225	0	58.367838	0	
176	N188	20.89078	0	58.367838	0	
177	N189	20.402229	0	57.858341	0	
178	N190	20.412593	0	57.847977	0	
179	N191	20.506829	0	57.962941	0	
180	N192	20.517193	0	57.952577	0	
181	N193	14.333603	0	51.789716	0	
182	N194	13.803273	0	51.259386	0	
183	N195	13.553273	0	51.259386	0	
184	N196	13.615773	0	51.259386	0	
185	N197	13.615773	0	51.217831	0	
186	N198	13.740773	0	51.259386	0	
187	N199	13.740773	0	51.217831	0	
188	N200	14.25027	0	51.706382	0	
189	N201	14.260634	0	51.696018	0	
190	N202	14.14567	0	51.601782	0	
191	N203	14.156034	0	51.591418	0	
192	N204	12.564624	0	51.789716	0	
193	N205	13.094954	0	51.259386	0	
194	N206	13.344954	0	51.259386	0	
195	N207	13.282454	0	51.259386	0	
196	N208	13.282454	0	51.217831	0	
197	N209	13.157454	0	51.259386	0	
198	N210	13.157454	0	51.217831	0	
199	N211	12.647957	0	51.706382	0	



Company : Mastec Network Solutions
Designer : VB
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Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
257	N311	20.89078	3.666667	65.659497	0	
258	N312	20.99078	3.666667	65.659497	0	
259	N313	20.89078	3.666667	60.742831	0	
260	N314	20.99078	3.666667	60.742831	0	
261	N315	20.99078	4.666667	51.659497	0	
262	N316	20.99078	4.666667	56.576164	0	
263	N317	20.99078	4.666667	65.659497	0	
264	N318	20.99078	4.666667	60.742831	0	
265	N319	20.99078	-0.583333	51.659497	0	
266	N320	20.99078	-0.583333	56.576164	0	
267	N321	20.99078	-0.583333	65.659497	0	
268	N322	20.99078	-0.583333	60.742831	0	
269	N324	6.449114	0	51.217831	0	
270	N325	6.449114	0	51.117831	0	
271	N326	11.36578	0	51.217831	0	
272	N327	11.36578	0	51.117831	0	
273	N328	20.449114	0	51.217831	0	
274	N329	20.449114	0	51.117831	0	
275	N330	15.532447	0	51.217831	0	
276	N331	15.532447	0	51.117831	0	
277	N332	6.449114	3.666667	51.217831	0	
278	N333	6.449114	3.666667	51.117831	0	
279	N334	11.36578	3.666667	51.217831	0	
280	N335	11.36578	3.666667	51.117831	0	
281	N336	20.449114	3.666667	51.217831	0	
282	N337	20.449114	3.666667	51.117831	0	
283	N338	15.532447	3.666667	51.217831	0	
284	N339	15.532447	3.666667	51.117831	0	
285	N340	6.449114	4.666667	51.117831	0	
286	N341	11.36578	4.666667	51.117831	0	
287	N342	20.449114	4.666667	51.117831	0	
288	N343	15.532447	4.666667	51.117831	0	
289	N344	6.449114	-0.583333	51.117831	0	
290	N345	11.36578	-0.583333	51.117831	0	
291	N346	20.449114	-0.583333	51.117831	0	
292	N347	15.532447	-0.583333	51.117831	0	
293	N349	6.007447	0	65.659497	0	
294	N350	5.907447	0	65.659497	0	
295	N351	6.007447	0	60.742831	0	
296	N352	5.907447	0	60.742831	0	
297	N353	6.007447	0	51.659497	0	
298	N354	5.907447	0	51.659497	0	
299	N355	6.007447	0	56.576164	0	
300	N356	5.907447	0	56.576164	0	
301	N357	6.007447	3.666667	65.659497	0	
302	N358	5.907447	3.666667	65.659497	0	
303	N359	6.007447	3.666667	60.742831	0	
304	N360	5.907447	3.666667	60.742831	0	
305	N361	6.007447	3.666667	51.659497	0	
306	N362	5.907447	3.666667	51.659497	0	
307	N363	6.007447	3.666667	56.576164	0	
308	N364	5.907447	3.666667	56.576164	0	
309	N365	5.907447	4.666667	65.659497	0	
310	N366	5.907447	4.666667	60.742831	0	
311	N367	5.907447	4.666667	51.659497	0	
312	N368	5.907447	4.666667	56.576164	0	
313	N369	5.907447	-0.583333	65.659497	0	



Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
314	N370	5.907447	-0.583333	60.742831	0	
315	N371	5.907447	-0.583333	51.659497	0	
316	N372	5.907447	-0.583333	56.576164	0	
317	N427	6.707188	0	51.622944	0	
318	N428	6.41256	0	51.917572	0	
319	N433	6.707188	-0.447917	51.622944	0	
320	N434	6.41256	-0.447917	51.917572	0	
321	N403	6.559874	0	51.770258	0	
322	N404	6.559874	-0.447917	51.770258	0	
323	N403A	6.559874	-0.197917	51.770258	0	
324	N342A	12.511271	-0.197917	59.59734	0	
325	N343A	5.440203	-0.197917	66.668408	0	
326	N345A	6.007447	0	64.99631	0	
327	N346A	7.112301	0	66.101164	0	
328	N348	9.561614	-0.197917	62.546997	0	
329	N349A	6.41256	0	65.401423	0	
330	N350A	6.707188	0	65.696051	0	
331	N351A	6.41256	-0.447917	65.401423	0	
332	N352A	6.707188	-0.447917	65.696051	0	
333	N353A	6.559874	0	65.548737	0	
334	N354A	6.559874	-0.447917	65.548737	0	
335	N355A	6.559874	-0.197917	65.548737	0	
336	N356A	14.386956	-0.197917	59.59734	0	
337	N357A	21.458024	-0.197917	66.668408	0	
338	N359A	19.785926	0	66.101164	0	
339	N360A	20.89078	0	64.99631	0	
340	N362A	17.336614	-0.197917	62.546997	0	
341	N363A	20.191039	0	65.696051	0	
342	N364A	20.485667	0	65.401423	0	
343	N365A	20.191039	-0.447917	65.696051	0	
344	N366A	20.485667	-0.447917	65.401423	0	
345	N367A	20.338353	0	65.548737	0	
346	N368A	20.338353	-0.447917	65.548737	0	
347	N369A	20.338353	-0.197917	65.548737	0	
348	N370A	14.386956	-0.197917	57.721655	0	
349	N371A	21.458024	-0.197917	50.650587	0	
350	N373	20.89078	0	52.322685	0	
351	N374	19.785926	0	51.217831	0	
352	N376	17.336614	-0.197917	54.771997	0	
353	N377	20.485667	0	51.917572	0	
354	N378	20.191039	0	51.622944	0	
355	N379	20.485667	-0.447917	51.917572	0	
356	N380	20.191039	-0.447917	51.622944	0	
357	N381	20.338353	0	51.770258	0	
358	N382	20.338353	-0.447917	51.770258	0	
359	N383	20.338353	-0.197917	51.770258	0	
360	N368B	6.570372	3.666667	66.101164	0	
361	N369B	6.007447	3.666667	65.538239	0	
362	N371B	20.89078	3.666667	65.538239	0	
363	N372A	20.327855	3.666667	66.101164	0	
364	N374A	20.327855	3.666667	51.217831	0	
365	N375A	20.89078	3.666667	51.780756	0	
366	N367B	12.511271	-3.197917	57.721655	0	
367	N369C	8.056498	-0.197917	53.266882	0	
368	N369D	12.511271	-3.197917	59.59734	0	
369	N370B	8.056498	-0.197917	64.052113	0	
370	N372B	14.386956	-3.197917	59.59734	0	



Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
371	N373A	18.841729	-0.197917	64.052113	0	
372	N375	14.386956	-3.197917	57.721655	0	
373	N376A	18.841729	-0.197917	53.266882	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N7	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N342A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N356A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N370A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N367B	Reaction	Reaction	Reaction			
6	N369D	Reaction	Reaction	Reaction			
7	N372B	Reaction	Reaction	Reaction			
8	N375	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(de...)	Section/Shape	Type	Design List	Material	Design Rules
1	M4	N7	N8			HSS support	Beam	HSS Pipe	A500 Gr....	Typical
2	M5	N9	N10			Boom angle	Beam	Single Angle	A36 Gr.36	Typical
3	M6	N11	N12		90	Support angle 1	Beam	Single Angle	A36 Gr.36	Typical
4	M7	N13	N14		90	Support angle 2	Beam	Single Angle	A36 Gr.36	Typical
5	M8	N15	N16		90	Support angle 2	Beam	Single Angle	A36 Gr.36	Typical
6	M9	N17	N18		90	Support angle 2	Beam	Single Angle	A36 Gr.36	Typical
7	M10	N19	N20		90	Support angle 2	Beam	Single Angle	A36 Gr.36	Typical
8	M13	N25	N26			RIGID	None	None	RIGID	Typical
9	M14	N27	N28			RIGID	None	None	RIGID	Typical
10	M15	N29	N30			RIGID	None	None	RIGID	Typical
11	M16	N31	N32			RIGID	None	None	RIGID	Typical
12	M17	N33	N34			Boom angle	Beam	Single Angle	A36 Gr.36	Typical
13	M18	N35	N36			Boom angle	Beam	Single Angle	A36 Gr.36	Typical
14	M19	N37	N38			Boom angle	Beam	Single Angle	A36 Gr.36	Typical
15	M20	N39	N40		90	Support angle 1	Beam	Single Angle	A36 Gr.36	Typical
16	M21	N41	N42		90	Support angle 1	Beam	Single Angle	A36 Gr.36	Typical
17	M22	N43	N44		90	Support angle 1	Beam	Single Angle	A36 Gr.36	Typical
18	M23	N45	N46			RIGID	None	None	RIGID	Typical
19	M24	N47	N48			RIGID	None	None	RIGID	Typical
20	M25	N49	N50			RIGID	None	None	RIGID	Typical
21	M26	N51	N52			RIGID	None	None	RIGID	Typical
22	M27	N53	N54			RIGID	None	None	RIGID	Typical
23	M28	N55	N56			RIGID	None	None	RIGID	Typical
24	M29	N57	N58			RIGID	None	None	RIGID	Typical
25	M30	N59	N60			RIGID	None	None	RIGID	Typical
26	M31	N61	N62			RIGID	None	None	RIGID	Typical
27	M32	N63	N64			RIGID	None	None	RIGID	Typical
28	M33	N65	N66			RIGID	None	None	RIGID	Typical
29	M34	N67	N68			RIGID	None	None	RIGID	Typical
30	M35	N69	N70			RIGID	None	None	RIGID	Typical
31	M36	N71	N72			RIGID	None	None	RIGID	Typical
32	M37	N73	N74			RIGID	None	None	RIGID	Typical
33	M38	N75	N76			RIGID	None	None	RIGID	Typical
34	M39	N77	N78			RIGID	None	None	RIGID	Typical
35	M40	N79	N80			RIGID	None	None	RIGID	Typical
36	M41	N81	N82			RIGID	None	None	RIGID	Typical
37	M42	N83	N84			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...)	Section/Shape	Type	Design List	Material	Design Rules
38	M43	N85	N86			RIGID	None	None	RIGID	Typical
39	M44	N87	N88			RIGID	None	None	RIGID	Typical
40	M45	N89	N90			RIGID	None	None	RIGID	Typical
41	M46	N91	N92			RIGID	None	None	RIGID	Typical
42	M47	N93	N94			RIGID	None	None	RIGID	Typical
43	M48	N95	N96			RIGID	None	None	RIGID	Typical
44	M49	N97	N98			RIGID	None	None	RIGID	Typical
45	M50	N99	N100			RIGID	None	None	RIGID	Typical
46	M51	N101	N102			RIGID	None	None	RIGID	Typical
47	M52	N103	N104			RIGID	None	None	RIGID	Typical
48	M53	N105	N106			RIGID	None	None	RIGID	Typical
49	M54	N107	N108			RIGID	None	None	RIGID	Typical
50	M56	N111	N112			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
51	M57	N112	N113			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
52	M58	N114	N115			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
53	M59	N115	N116			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
54	M60	N117	N118			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
55	M61	N118	N119			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
56	M62	N120	N121			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
57	M63	N121	N122			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
58	M64	N123	N124			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
59	M65	N124	N125			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
60	M66	N126	N127			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
61	M67	N127	N128			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
62	M68	N129	N130			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
63	M69	N130	N131			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
64	M70	N132	N133			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
65	M71	N133	N134			Angle connection 2	Beam	RECT	A36 Gr.36	Typical
66	M72	N135	N136			Angle connection	Beam	RECT	A36 Gr.36	Typical
67	M73	N136	N137			Angle connection	Beam	RECT	A36 Gr.36	Typical
68	M74	N138	N139			Angle connection	Beam	RECT	A36 Gr.36	Typical
69	M75	N139	N140			Angle connection	Beam	RECT	A36 Gr.36	Typical
70	M76	N141	N142			RIGID	None	None	RIGID	Typical
71	M77	N143	N144			RIGID	None	None	RIGID	Typical
72	M78	N145	N146			RIGID	None	None	RIGID	Typical
73	M79	N147	N148			RIGID	None	None	RIGID	Typical
74	M80	N149	N150			Angle connection	Beam	RECT	A36 Gr.36	Typical
75	M81	N150	N151			Angle connection	Beam	RECT	A36 Gr.36	Typical
76	M82	N152	N153			RIGID	None	None	RIGID	Typical
77	M83	N154	N155			RIGID	None	None	RIGID	Typical
78	M84	N156	N157			RIGID	None	None	RIGID	Typical
79	M85	N158	N159			RIGID	None	None	RIGID	Typical
80	M86	N160	N161			Angle connection	Beam	RECT	A36 Gr.36	Typical
81	M87	N161	N162			Angle connection	Beam	RECT	A36 Gr.36	Typical
82	M88	N163	N164			RIGID	None	None	RIGID	Typical
83	M89	N165	N166			RIGID	None	None	RIGID	Typical
84	M90	N167	N168			RIGID	None	None	RIGID	Typical
85	M91	N169	N170			RIGID	None	None	RIGID	Typical
86	M92	N171	N172			Angle connection	Beam	RECT	A36 Gr.36	Typical
87	M93	N172	N173			Angle connection	Beam	RECT	A36 Gr.36	Typical
88	M94	N174	N175			RIGID	None	None	RIGID	Typical
89	M95	N176	N177			RIGID	None	None	RIGID	Typical
90	M96	N178	N179			RIGID	None	None	RIGID	Typical
91	M97	N180	N181			RIGID	None	None	RIGID	Typical
92	M98	N182	N183			Angle connection	Beam	RECT	A36 Gr.36	Typical
93	M99	N183	N184			Angle connection	Beam	RECT	A36 Gr.36	Typical
94	M100	N185	N186			RIGID	None	None	RIGID	Typical



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
95	M101	N187	N188			RIGID	None	None	RIGID	Typical
96	M102	N189	N190			RIGID	None	None	RIGID	Typical
97	M103	N191	N192			RIGID	None	None	RIGID	Typical
98	M104	N193	N194			Angle connection	Beam	RECT	A36 Gr.36	Typical
99	M105	N194	N195			Angle connection	Beam	RECT	A36 Gr.36	Typical
100	M106	N196	N197			RIGID	None	None	RIGID	Typical
101	M107	N198	N199			RIGID	None	None	RIGID	Typical
102	M108	N200	N201			RIGID	None	None	RIGID	Typical
103	M109	N202	N203			RIGID	None	None	RIGID	Typical
104	M110	N204	N205			Angle connection	Beam	RECT	A36 Gr.36	Typical
105	M111	N205	N206			Angle connection	Beam	RECT	A36 Gr.36	Typical
106	M112	N207	N208			RIGID	None	None	RIGID	Typical
107	M113	N209	N210			RIGID	None	None	RIGID	Typical
108	M114	N211	N212			RIGID	None	None	RIGID	Typical
109	M115	N213	N214			RIGID	None	None	RIGID	Typical
110	M129	N237	N249			RIGID	None	None	RIGID	Typical
111	M133	N250	N251			Handrail	Beam	Pipe	A53 Gr.B	Typical
112	M134	N253	N254			Handrail	Beam	Pipe	A53 Gr.B	Typical
113	M135	N256	N257			Handrail	Beam	Pipe	A53 Gr.B	Typical
114	M136	N259	N260			Handrail	Beam	Pipe	A53 Gr.B	Typical
115	M138	N275A	N274A			RIGID	None	None	RIGID	Typical
116	M139	N277	N276A			RIGID	None	None	RIGID	Typical
117	M140	N279	N278			RIGID	None	None	RIGID	Typical
118	M141	N281	N280			RIGID	None	None	RIGID	Typical
119	M142	N283	N282			RIGID	None	None	RIGID	Typical
120	M143	N285	N284			RIGID	None	None	RIGID	Typical
121	M144	N287	N286			RIGID	None	None	RIGID	Typical
122	M145	N289	N288			RIGID	None	None	RIGID	Typical
123	A1	N290	N294			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
124	A2	N291	N295			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
125	A3	N293	N297			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
126	A4	N292	N296			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
127	M150	N300	N299			RIGID	None	None	RIGID	Typical
128	M151	N302	N301			RIGID	None	None	RIGID	Typical
129	M152	N304	N303			RIGID	None	None	RIGID	Typical
130	M153	N306	N305			RIGID	None	None	RIGID	Typical
131	M154	N308	N307			RIGID	None	None	RIGID	Typical
132	M155	N310	N309			RIGID	None	None	RIGID	Typical
133	M156	N312	N311			RIGID	None	None	RIGID	Typical
134	M157	N314	N313			RIGID	None	None	RIGID	Typical
135	D1	N315	N319			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
136	D2	N316	N320			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
137	D3	N318	N322			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
138	D4	N317	N321			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
139	M162	N325	N324			RIGID	None	None	RIGID	Typical
140	M163	N327	N326			RIGID	None	None	RIGID	Typical
141	M164	N329	N328			RIGID	None	None	RIGID	Typical
142	M165	N331	N330			RIGID	None	None	RIGID	Typical
143	M166	N333	N332			RIGID	None	None	RIGID	Typical
144	M167	N335	N334			RIGID	None	None	RIGID	Typical
145	M168	N337	N336			RIGID	None	None	RIGID	Typical
146	M169	N339	N338			RIGID	None	None	RIGID	Typical
147	C1	N340	N344			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
148	C2	N341	N345			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
149	C3	N343	N347			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
150	C4	N342	N346			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
151	M174	N350	N349			RIGID	None	None	RIGID	Typical



Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
152	M175	N352	N351			RIGID	None	None	RIGID	Typical
153	M176	N354	N353			RIGID	None	None	RIGID	Typical
154	M177	N356	N355			RIGID	None	None	RIGID	Typical
155	M178	N358	N357			RIGID	None	None	RIGID	Typical
156	M179	N360	N359			RIGID	None	None	RIGID	Typical
157	M180	N362	N361			RIGID	None	None	RIGID	Typical
158	M181	N364	N363			RIGID	None	None	RIGID	Typical
159	B1	N365	N369			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
160	B2	N366	N370			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
161	B3	N368	N372			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
162	B4	N367	N371			Mount pipe	Beam	Pipe	A53 Gr.B	Typical
163	M183	N276	N275		90	Handrail plate	Beam	RECT	A36 Gr.36	Typical
164	M184	N232	N233		90	Top corner plate	Beam	RECT	A36 Gr.36	Typical
165	M222	N428	N434			RIGID	None	None	RIGID	Typical
166	M223	N427	N433			RIGID	None	None	RIGID	Typical
167	M210A	N434	N433		90	Corner plate	Beam	RECT	A36 Gr.36	Typical
168	M211A	N403	N403A			RIGID	None	None	RIGID	Typical
169	M211B	N403A	N404			RIGID	None	None	RIGID	Typical
170	M173	N342A	N343A			HSS support	Beam	HSS Pipe	A500 Gr....	Typical
171	M174A	N234A	N348			RIGID	None	None	RIGID	Typical
172	M175A	N345A	N346A		90	Top corner plate	Beam	RECT	A36 Gr.36	Typical
173	M176A	N350A	N352A			RIGID	None	None	RIGID	Typical
174	M177B	N349A	N351A			RIGID	None	None	RIGID	Typical
175	M178A	N352A	N351A		90	Corner plate	Beam	RECT	A36 Gr.36	Typical
176	M179B	N353A	N355A			RIGID	None	None	RIGID	Typical
177	M180A	N355A	N354A			RIGID	None	None	RIGID	Typical
178	M181B	N356A	N357A			HSS support	Beam	HSS Pipe	A500 Gr....	Typical
179	M182	N235	N362A			RIGID	None	None	RIGID	Typical
180	M183A	N359A	N360A		90	Top corner plate	Beam	RECT	A36 Gr.36	Typical
181	M184A	N364A	N366A			RIGID	None	None	RIGID	Typical
182	M185	N363A	N365A			RIGID	None	None	RIGID	Typical
183	M186	N366A	N365A		90	Corner plate	Beam	RECT	A36 Gr.36	Typical
184	M187	N367A	N369A			RIGID	None	None	RIGID	Typical
185	M188	N369A	N368A			RIGID	None	None	RIGID	Typical
186	M189	N370A	N371A			HSS support	Beam	HSS Pipe	A500 Gr....	Typical
187	M190	N236	N376			RIGID	None	None	RIGID	Typical
188	M191	N373	N374		90	Top corner plate	Beam	RECT	A36 Gr.36	Typical
189	M192	N378	N380			RIGID	None	None	RIGID	Typical
190	M193	N377	N379			RIGID	None	None	RIGID	Typical
191	M194	N380	N379		90	Corner plate	Beam	RECT	A36 Gr.36	Typical
192	M195	N381	N383			RIGID	None	None	RIGID	Typical
193	M196	N383	N382			RIGID	None	None	RIGID	Typical
194	M202A	N369B	N368B		90	Handrail plate	Beam	RECT	A36 Gr.36	Typical
195	M203A	N372A	N371B		90	Handrail plate	Beam	RECT	A36 Gr.36	Typical
196	M204A	N375A	N374A		90	Handrail plate	Beam	RECT	A36 Gr.36	Typical
197	M197	N369C	N367B			MOD reinf	Beam	Double Angle...	A36 Gr.36	Typical
198	M198	N370B	N369D			MOD reinf	Beam	Double Angle...	A36 Gr.36	Typical
199	M199	N373A	N372B			MOD reinf	Beam	Double Angle...	A36 Gr.36	Typical
200	M200	N376A	N375			MOD reinf	Beam	Double Angle...	A36 Gr.36	Typical

Joint Loads and Enforced Displacements (BLC 42 : Man 1 (500 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N276A	L	Y	-5



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
 6:15 PM
 Checked By: _____

Joint Loads and Enforced Displacements (BLC 43 : Man 2 (500 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/f...
1	N351	L	Y	-5

Joint Loads and Enforced Displacements (BLC 44 : Man 3 (500 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/f...
1	N326	L	Y	-5

Joint Loads and Enforced Displacements (BLC 45 : Man 4 (250 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/f...
1	N33	L	Y	-25

Joint Loads and Enforced Displacements (BLC 46 : Man 5 (250 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/f...
1	N9	L	Y	-25

Joint Loads and Enforced Displacements (BLC 47 : Man 6 (250 lbs))

	Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/f...
1	N37	L	Y	-25

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
1	A1	Y	-041	%50
2	A1	Y	-015	%50
3	A2	Y	-128	%50
4	A2	Y	-075	%50
5	B1	Y	-041	%50
6	B1	Y	-015	%50
7	B2	Y	-128	%50
8	B2	Y	-075	%50
9	C1	Y	-041	%50
10	C1	Y	-015	%50
11	C2	Y	-128	%50
12	C2	Y	-075	%50

Member Point Loads (BLC 2 : Ice Dead)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
1	A1	Y	-204	%50
2	A1	Y	-024	%50
3	A2	Y	-612	%50
4	A2	Y	-063	%50
5	B1	Y	-204	%50
6	B1	Y	-024	%50
7	B2	Y	-612	%50
8	B2	Y	-063	%50
9	C1	Y	-204	%50
10	C1	Y	-024	%50
11	C2	Y	-612	%50
12	C2	Y	-063	%50

Member Point Loads (BLC 3 : Full Wind Antenna (0 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
1	A1	Z	-112	%5.6
2	A1	Z	-.01	%50



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
3	A2	Z	- .345	0
4	A2	Z	- .028	%50
5	B1	Z	- .037	%5.6
6	B1	Z	- .006	%50
7	B2	Z	- .152	0
8	B2	Z	- .02	%50
9	C1	Z	- .112	%5.6
10	C1	Z	- .01	%50
11	C2	Z	- .345	0
12	C2	Z	- .028	%50
13	A1	Z	- .112	%94.4
14	A2	Z	- .345	%100
15	B1	Z	- .037	%94.4
16	B2	Z	- .152	%100
17	C1	Z	- .112	%94.4
18	C2	Z	- .345	%100

Member Point Loads (BLC 4 : Full Wind Antenna (30 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	- .081	%5.6
2	A1	Z	- .008	%50
3	A2	Z	- .257	0
4	A2	Z	- .022	%50
5	B1	Z	- .048	%5.6
6	B1	Z	- .006	%50
7	B2	Z	- .173	0
8	B2	Z	- .019	%50
9	C1	Z	- .081	%5.6
10	C1	Z	- .008	%50
11	C2	Z	- .257	0
12	C2	Z	- .022	%50
13	A1	Z	- .081	%94.4
14	A2	Z	- .257	%100
15	B1	Z	- .048	%94.4
16	B2	Z	- .173	%100
17	C1	Z	- .081	%94.4
18	C2	Z	- .257	%100
19	A1	X	.047	%5.6
20	A1	X	.005	%50
21	A2	X	.148	0
22	A2	X	.015	%50
23	B1	X	.028	%5.6
24	B1	X	.006	%50
25	B2	X	.1	0
26	B2	X	.018	%50
27	C1	X	.047	%5.6
28	C1	X	.005	%50
29	C2	X	.148	0
30	C2	X	.015	%50
31	A1	X	.047	%94.4
32	A2	X	.148	%100
33	B1	X	.028	%94.4
34	B2	X	.1	%100
35	C1	X	.047	%94.4
36	C2	X	.148	%100



Member Point Loads (BLC 5 : Full Wind Antenna (60 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	-.028	%5.6
2	A1	Z	-.004	%50
3	A2	Z	-.1	0
4	A2	Z	-.011	%50
5	B1	Z	-.047	%5.6
6	B1	Z	-.004	%50
7	B2	Z	-.148	0
8	B2	Z	-.013	%50
9	C1	Z	-.028	%5.6
10	C1	Z	-.004	%50
11	C2	Z	-.1	0
12	C2	Z	-.011	%50
13	A1	Z	-.028	%94.4
14	A2	Z	-.1	%100
15	B1	Z	-.047	%94.4
16	B2	Z	-.148	%100
17	C1	Z	-.028	%94.4
18	C2	Z	-.1	%100
19	A1	X	.048	%5.6
20	A1	X	.01	%50
21	A2	X	.173	0
22	A2	X	.032	%50
23	B1	X	.081	%5.6
24	B1	X	.009	%50
25	B2	X	.257	0
26	B2	X	.027	%50
27	C1	X	.048	%5.6
28	C1	X	.01	%50
29	C2	X	.173	0
30	C2	X	.032	%50
31	A1	X	.048	%94.4
32	A2	X	.173	%100
33	B1	X	.081	%94.4
34	B2	X	.257	%100
35	C1	X	.048	%94.4
36	C2	X	.173	%100

Member Point Loads (BLC 6 : Full Wind Antenna (90 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	0	%5.6
2	A1	Z	0	%50
3	A2	Z	0	0
4	A2	Z	0	%50
5	B1	Z	0	%5.6
6	B1	Z	0	%50
7	B2	Z	0	0
8	B2	Z	0	%50
9	C1	Z	0	%5.6
10	C1	Z	0	%50
11	C2	Z	0	0
12	C2	Z	0	%50
13	A1	Z	0	%94.4
14	A2	Z	0	%100
15	B1	Z	0	%94.4
16	B2	Z	0	%100
17	C1	Z	0	%94.4



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
18	C2	Z	0	%100
19	A1	X	.037	%5.6
20	A1	X	.012	%50
21	A2	X	.152	0
22	A2	X	.039	%50
23	B1	X	.112	%5.6
24	B1	X	.01	%50
25	B2	X	.345	0
26	B2	X	.028	%50
27	C1	X	.037	%5.6
28	C1	X	.012	%50
29	C2	X	.152	0
30	C2	X	.039	%50
31	A1	X	.037	%94.4
32	A2	X	.152	%100
33	B1	X	.112	%94.4
34	B2	X	.345	%100
35	C1	X	.037	%94.4
36	C2	X	.152	%100

Member Point Loads (BLC 7 : Full Wind Antenna (120 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	A1	Z	.028	%5.6
2	A1	Z	.004	%50
3	A2	Z	.1	0
4	A2	Z	.011	%50
5	B1	Z	.047	%5.6
6	B1	Z	.004	%50
7	B2	Z	.148	0
8	B2	Z	.013	%50
9	C1	Z	.028	%5.6
10	C1	Z	.004	%50
11	C2	Z	.1	0
12	C2	Z	.011	%50
13	A1	Z	.028	%94.4
14	A2	Z	.1	%100
15	B1	Z	.047	%94.4
16	B2	Z	.148	%100
17	C1	Z	.028	%94.4
18	C2	Z	.1	%100
19	A1	X	.048	%5.6
20	A1	X	.01	%50
21	A2	X	.173	0
22	A2	X	.032	%50
23	B1	X	.081	%5.6
24	B1	X	.009	%50
25	B2	X	.257	0
26	B2	X	.027	%50
27	C1	X	.048	%5.6
28	C1	X	.01	%50
29	C2	X	.173	0
30	C2	X	.032	%50
31	A1	X	.048	%94.4
32	A2	X	.173	%100
33	B1	X	.081	%94.4
34	B2	X	.257	%100



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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
35	C1	X	.048	%94.4
36	C2	X	.173	%100

Member Point Loads (BLC 8 : Full Wind Antenna (150 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	A1	Z	.081	%5.6
2	A1	Z	.008	%50
3	A2	Z	.257	0
4	A2	Z	.022	%50
5	B1	Z	.048	%5.6
6	B1	Z	.006	%50
7	B2	Z	.173	0
8	B2	Z	.019	%50
9	C1	Z	.081	%5.6
10	C1	Z	.008	%50
11	C2	Z	.257	0
12	C2	Z	.022	%50
13	A1	Z	.081	%94.4
14	A2	Z	.257	%100
15	B1	Z	.048	%94.4
16	B2	Z	.173	%100
17	C1	Z	.081	%94.4
18	C2	Z	.257	%100
19	A1	X	.047	%5.6
20	A1	X	.005	%50
21	A2	X	.148	0
22	A2	X	.015	%50
23	B1	X	.028	%5.6
24	B1	X	.006	%50
25	B2	X	.1	0
26	B2	X	.018	%50
27	C1	X	.047	%5.6
28	C1	X	.005	%50
29	C2	X	.148	0
30	C2	X	.015	%50
31	A1	X	.047	%94.4
32	A2	X	.148	%100
33	B1	X	.028	%94.4
34	B2	X	.1	%100
35	C1	X	.047	%94.4
36	C2	X	.148	%100

Member Point Loads (BLC 15 : Ice Wind Antenna (0 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	A1	Z	-.025	%5.6
2	A1	Z	-.004	%50
3	A2	Z	-.068	0
4	A2	Z	-.008	%50
5	B1	Z	-.013	%5.6
6	B1	Z	-.003	%50
7	B2	Z	-.036	0
8	B2	Z	-.006	%50
9	C1	Z	-.025	%5.6
10	C1	Z	-.004	%50
11	C2	Z	-.068	0
12	C2	Z	-.008	%50



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
13	A1	Z	-025	%94.4
14	A2	Z	-068	%100
15	B1	Z	-013	%94.4
16	B2	Z	-036	%100
17	C1	Z	-025	%94.4
18	C2	Z	-068	%100

Member Point Loads (BLC 16 : Ice Wind Antenna (30 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	-019	%5.6
2	A1	Z	-003	%50
3	A2	Z	-052	0
4	A2	Z	-006	%50
5	B1	Z	-014	%5.6
6	B1	Z	-003	%50
7	B2	Z	-038	0
8	B2	Z	-006	%50
9	C1	Z	-019	%5.6
10	C1	Z	-003	%50
11	C2	Z	-052	0
12	C2	Z	-006	%50
13	A1	Z	-019	%94.4
14	A2	Z	-052	%100
15	B1	Z	-014	%94.4
16	B2	Z	-038	%100
17	C1	Z	-019	%94.4
18	C2	Z	-052	%100
19	A1	X	.011	%5.6
20	A1	X	.002	%50
21	A2	X	.03	0
22	A2	X	.004	%50
23	B1	X	.008	%5.6
24	B1	X	.003	%50
25	B2	X	.022	0
26	B2	X	.006	%50
27	C1	X	.011	%5.6
28	C1	X	.002	%50
29	C2	X	.03	0
30	C2	X	.004	%50
31	A1	X	.011	%94.4
32	A2	X	.03	%100
33	B1	X	.008	%94.4
34	B2	X	.022	%100
35	C1	X	.011	%94.4
36	C2	X	.03	%100

Member Point Loads (BLC 17 : Ice Wind Antenna (60 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	-008	%5.6
2	A1	Z	-002	%50
3	A2	Z	-022	0
4	A2	Z	-003	%50
5	B1	Z	-011	%5.6
6	B1	Z	-002	%50
7	B2	Z	-.03	0
8	B2	Z	-.004	%50



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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
9	C1	Z	-.008	%5.6
10	C1	Z	-.002	%50
11	C2	Z	-.022	0
12	C2	Z	-.003	%50
13	A1	Z	-.008	%94.4
14	A2	Z	-.022	%100
15	B1	Z	-.011	%94.4
16	B2	Z	-.03	%100
17	C1	Z	-.008	%94.4
18	C2	Z	-.022	%100
19	A1	X	.014	%5.6
20	A1	X	.005	%50
21	A2	X	.038	0
22	A2	X	.01	%50
23	B1	X	.019	%5.6
24	B1	X	.004	%50
25	B2	X	.052	0
26	B2	X	.008	%50
27	C1	X	.014	%5.6
28	C1	X	.005	%50
29	C2	X	.038	0
30	C2	X	.01	%50
31	A1	X	.014	%94.4
32	A2	X	.038	%100
33	B1	X	.019	%94.4
34	B2	X	.052	%100
35	C1	X	.014	%94.4
36	C2	X	.038	%100

Member Point Loads (BLC 18 : Ice Wind Antenna (90 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	A1	Z	0	%5.6
2	A1	Z	0	%50
3	A2	Z	0	0
4	A2	Z	0	%50
5	B1	Z	0	%5.6
6	B1	Z	0	%50
7	B2	Z	0	0
8	B2	Z	0	%50
9	C1	Z	0	%5.6
10	C1	Z	0	%50
11	C2	Z	0	0
12	C2	Z	0	%50
13	A1	Z	0	%94.4
14	A2	Z	0	%100
15	B1	Z	0	%94.4
16	B2	Z	0	%100
17	C1	Z	0	%94.4
18	C2	Z	0	%100
19	A1	X	.013	%5.6
20	A1	X	.006	%50
21	A2	X	.036	0
22	A2	X	.012	%50
23	B1	X	.025	%5.6
24	B1	X	.004	%50
25	B2	X	.068	0



Company : Mastec Network Solutions
Designer : VB
Job Number : 18750-MOD1
Model Name : Granby - Higley Road

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
26	B2	X	.008	%50
27	C1	X	.013	%5.6
28	C1	X	.006	%50
29	C2	X	.036	0
30	C2	X	.012	%50
31	A1	X	.013	%94.4
32	A2	X	.036	%100
33	B1	X	.025	%94.4
34	B2	X	.068	%100
35	C1	X	.013	%94.4
36	C2	X	.036	%100

Member Point Loads (BLC 19 : Ice Wind Antenna (120 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	.008	%5.6
2	A1	Z	.002	%50
3	A2	Z	.022	0
4	A2	Z	.003	%50
5	B1	Z	.011	%5.6
6	B1	Z	.002	%50
7	B2	Z	.03	0
8	B2	Z	.004	%50
9	C1	Z	.008	%5.6
10	C1	Z	.002	%50
11	C2	Z	.022	0
12	C2	Z	.003	%50
13	A1	Z	.008	%94.4
14	A2	Z	.022	%100
15	B1	Z	.011	%94.4
16	B2	Z	.03	%100
17	C1	Z	.008	%94.4
18	C2	Z	.022	%100
19	A1	X	.014	%5.6
20	A1	X	.005	%50
21	A2	X	.038	0
22	A2	X	.01	%50
23	B1	X	.019	%5.6
24	B1	X	.004	%50
25	B2	X	.052	0
26	B2	X	.008	%50
27	C1	X	.014	%5.6
28	C1	X	.005	%50
29	C2	X	.038	0
30	C2	X	.01	%50
31	A1	X	.014	%94.4
32	A2	X	.038	%100
33	B1	X	.019	%94.4
34	B2	X	.052	%100
35	C1	X	.014	%94.4
36	C2	X	.038	%100

Member Point Loads (BLC 20 : Ice Wind Antenna (150 Deg))

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	A1	Z	.019	%5.6
2	A1	Z	.002	%50
3	A2	Z	.022	0



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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
4	A2	Z	.003	%50
5	B1	Z	.011	%5.6
6	B1	Z	.002	%50
7	B2	Z	.03	0
8	B2	Z	.004	%50
9	C1	Z	.008	%5.6
10	C1	Z	.002	%50
11	C2	Z	.022	0
12	C2	Z	.003	%50
13	A1	Z	.019	%94.4
14	A2	Z	.022	%100
15	B1	Z	.011	%94.4
16	B2	Z	.03	%100
17	C1	Z	.008	%94.4
18	C2	Z	.022	%100
19	A1	X	.011	%5.6
20	A1	X	.005	%50
21	A2	X	.038	0
22	A2	X	.01	%50
23	B1	X	.019	%5.6
24	B1	X	.004	%50
25	B2	X	.052	0
26	B2	X	.008	%50
27	C1	X	.014	%5.6
28	C1	X	.005	%50
29	C2	X	.038	0
30	C2	X	.01	%50
31	A1	X	.011	%94.4
32	A2	X	.038	%100
33	B1	X	.019	%94.4
34	B2	X	.052	%100
35	C1	X	.014	%94.4
36	C2	X	.038	%100

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	A1	Z	-.004	%50
2	A1	Z	-.001	%50
3	A2	Z	-.012	%50
4	A2	Z	-.007	%50
5	B1	Z	-.004	%50
6	B1	Z	-.001	%50
7	B2	Z	-.012	%50
8	B2	Z	-.007	%50
9	C1	Z	-.004	%50
10	C1	Z	-.001	%50
11	C2	Z	-.012	%50
12	C2	Z	-.007	%50

Member Point Loads (BLC 28 : Seismic Antenna (90 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	A1	X	.004	%50
2	A1	X	.001	%50
3	A2	X	.012	%50
4	A2	X	.007	%50
5	B1	X	.004	%50



Member Point Loads (BLC 28 : Seismic Antenna (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	B1	X	.001	%50
7	B2	X	.012	%50
8	B2	X	.007	%50
9	C1	X	.004	%50
10	C1	X	.001	%50
11	C2	X	.012	%50
12	C2	X	.007	%50

Member Point Loads (BLC 41 : Seismic Vertical Antennas)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	A1	Y	-.008	%50
2	A1	Y	-.003	%50
3	A2	Y	-.026	%50
4	A2	Y	-.015	%50
5	B1	Y	-.008	%50
6	B1	Y	-.003	%50
7	B2	Y	-.026	%50
8	B2	Y	-.015	%50
9	C1	Y	-.008	%50
10	C1	Y	-.003	%50
11	C2	Y	-.026	%50
12	C2	Y	-.015	%50

Member Distributed Loads (BLC 2 : Ice Dead)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Y	-.026	-.026	0	%100
2	M5	Y	-.025	-.025	0	%100
3	M6	Y	-.018	-.018	0	%100
4	M7	Y	-.022	-.022	0	%100
5	M8	Y	-.022	-.022	0	%100
6	M9	Y	-.022	-.022	0	%100
7	M10	Y	-.022	-.022	0	%100
8	M13	Y	-.006	-.006	0	%100
9	M14	Y	-.006	-.006	0	%100
10	M15	Y	-.006	-.006	0	%100
11	M16	Y	-.006	-.006	0	%100
12	M17	Y	-.025	-.025	0	%100
13	M18	Y	-.025	-.025	0	%100
14	M19	Y	-.025	-.025	0	%100
15	M20	Y	-.018	-.018	0	%100
16	M21	Y	-.018	-.018	0	%100
17	M22	Y	-.018	-.018	0	%100
18	M23	Y	-.006	-.006	0	%100
19	M24	Y	-.006	-.006	0	%100
20	M25	Y	-.006	-.006	0	%100
21	M26	Y	-.006	-.006	0	%100
22	M27	Y	-.006	-.006	0	%100
23	M28	Y	-.006	-.006	0	%100
24	M29	Y	-.006	-.006	0	%100
25	M30	Y	-.006	-.006	0	%100
26	M31	Y	-.006	-.006	0	%100
27	M32	Y	-.006	-.006	0	%100
28	M33	Y	-.006	-.006	0	%100
29	M34	Y	-.006	-.006	0	%100
30	M35	Y	-.006	-.006	0	%100



Member Distributed Loads (BLC 2 : Ice Dead) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
31	M36	Y	-0.006	-0.006	0 %100
32	M37	Y	-0.006	-0.006	0 %100
33	M38	Y	-0.006	-0.006	0 %100
34	M39	Y	-0.006	-0.006	0 %100
35	M40	Y	-0.006	-0.006	0 %100
36	M41	Y	-0.006	-0.006	0 %100
37	M42	Y	-0.006	-0.006	0 %100
38	M43	Y	-0.006	-0.006	0 %100
39	M44	Y	-0.006	-0.006	0 %100
40	M45	Y	-0.006	-0.006	0 %100
41	M46	Y	-0.006	-0.006	0 %100
42	M47	Y	-0.006	-0.006	0 %100
43	M48	Y	-0.006	-0.006	0 %100
44	M49	Y	-0.006	-0.006	0 %100
45	M50	Y	-0.006	-0.006	0 %100
46	M51	Y	-0.006	-0.006	0 %100
47	M52	Y	-0.006	-0.006	0 %100
48	M53	Y	-0.006	-0.006	0 %100
49	M54	Y	-0.006	-0.006	0 %100
50	M56	Y	-0.02	-0.02	0 %100
51	M57	Y	-0.02	-0.02	0 %100
52	M58	Y	-0.02	-0.02	0 %100
53	M59	Y	-0.02	-0.02	0 %100
54	M60	Y	-0.02	-0.02	0 %100
55	M61	Y	-0.02	-0.02	0 %100
56	M62	Y	-0.02	-0.02	0 %100
57	M63	Y	-0.02	-0.02	0 %100
58	M64	Y	-0.02	-0.02	0 %100
59	M65	Y	-0.02	-0.02	0 %100
60	M66	Y	-0.02	-0.02	0 %100
61	M67	Y	-0.02	-0.02	0 %100
62	M68	Y	-0.02	-0.02	0 %100
63	M69	Y	-0.02	-0.02	0 %100
64	M70	Y	-0.02	-0.02	0 %100
65	M71	Y	-0.02	-0.02	0 %100
66	M72	Y	-0.035	-0.035	0 %100
67	M73	Y	-0.035	-0.035	0 %100
68	M74	Y	-0.035	-0.035	0 %100
69	M75	Y	-0.035	-0.035	0 %100
70	M76	Y	-0.006	-0.006	0 %100
71	M77	Y	-0.006	-0.006	0 %100
72	M78	Y	-0.006	-0.006	0 %100
73	M79	Y	-0.006	-0.006	0 %100
74	M80	Y	-0.035	-0.035	0 %100
75	M81	Y	-0.035	-0.035	0 %100
76	M82	Y	-0.006	-0.006	0 %100
77	M83	Y	-0.006	-0.006	0 %100
78	M84	Y	-0.006	-0.006	0 %100
79	M85	Y	-0.006	-0.006	0 %100
80	M86	Y	-0.035	-0.035	0 %100
81	M87	Y	-0.035	-0.035	0 %100
82	M88	Y	-0.006	-0.006	0 %100
83	M89	Y	-0.006	-0.006	0 %100
84	M90	Y	-0.006	-0.006	0 %100
85	M91	Y	-0.006	-0.006	0 %100
86	M92	Y	-0.035	-0.035	0 %100
87	M93	Y	-0.035	-0.035	0 %100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 2 : Ice Dead) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
88	M94	Y	-0.006	-0.006	0	%100
89	M95	Y	-0.006	-0.006	0	%100
90	M96	Y	-0.006	-0.006	0	%100
91	M97	Y	-0.006	-0.006	0	%100
92	M98	Y	-0.035	-0.035	0	%100
93	M99	Y	-0.035	-0.035	0	%100
94	M100	Y	-0.006	-0.006	0	%100
95	M101	Y	-0.006	-0.006	0	%100
96	M102	Y	-0.006	-0.006	0	%100
97	M103	Y	-0.006	-0.006	0	%100
98	M104	Y	-0.035	-0.035	0	%100
99	M105	Y	-0.035	-0.035	0	%100
100	M106	Y	-0.006	-0.006	0	%100
101	M107	Y	-0.006	-0.006	0	%100
102	M108	Y	-0.006	-0.006	0	%100
103	M109	Y	-0.006	-0.006	0	%100
104	M110	Y	-0.035	-0.035	0	%100
105	M111	Y	-0.035	-0.035	0	%100
106	M112	Y	-0.006	-0.006	0	%100
107	M113	Y	-0.006	-0.006	0	%100
108	M114	Y	-0.006	-0.006	0	%100
109	M115	Y	-0.006	-0.006	0	%100
110	M129	Y	-0.006	-0.006	0	%100
111	M133	Y	-0.013	-0.013	0	%100
112	M134	Y	-0.013	-0.013	0	%100
113	M135	Y	-0.013	-0.013	0	%100
114	M136	Y	-0.013	-0.013	0	%100
115	M138	Y	-0.006	-0.006	0	%100
116	M139	Y	-0.006	-0.006	0	%100
117	M140	Y	-0.006	-0.006	0	%100
118	M141	Y	-0.006	-0.006	0	%100
119	M142	Y	-0.006	-0.006	0	%100
120	M143	Y	-0.006	-0.006	0	%100
121	M144	Y	-0.006	-0.006	0	%100
122	M145	Y	-0.006	-0.006	0	%100
123	A1	Y	-0.013	-0.013	0	%100
124	A2	Y	-0.013	-0.013	0	%100
125	A3	Y	-0.013	-0.013	0	%100
126	A4	Y	-0.013	-0.013	0	%100
127	M150	Y	-0.006	-0.006	0	%100
128	M151	Y	-0.006	-0.006	0	%100
129	M152	Y	-0.006	-0.006	0	%100
130	M153	Y	-0.006	-0.006	0	%100
131	M154	Y	-0.006	-0.006	0	%100
132	M155	Y	-0.006	-0.006	0	%100
133	M156	Y	-0.006	-0.006	0	%100
134	M157	Y	-0.006	-0.006	0	%100
135	D1	Y	-0.013	-0.013	0	%100
136	D2	Y	-0.013	-0.013	0	%100
137	D3	Y	-0.013	-0.013	0	%100
138	D4	Y	-0.013	-0.013	0	%100
139	M162	Y	-0.006	-0.006	0	%100
140	M163	Y	-0.006	-0.006	0	%100
141	M164	Y	-0.006	-0.006	0	%100
142	M165	Y	-0.006	-0.006	0	%100
143	M166	Y	-0.006	-0.006	0	%100
144	M167	Y	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 2 : Ice Dead) (Continued)

	Member Label	Direction	Start Magnitude[k/ft. F...	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
145	M168	Y	-0.006	-0.006	0	%100
146	M169	Y	-0.006	-0.006	0	%100
147	C1	Y	-0.013	-0.013	0	%100
148	C2	Y	-0.013	-0.013	0	%100
149	C3	Y	-0.013	-0.013	0	%100
150	C4	Y	-0.013	-0.013	0	%100
151	M174	Y	-0.006	-0.006	0	%100
152	M175	Y	-0.006	-0.006	0	%100
153	M176	Y	-0.006	-0.006	0	%100
154	M177	Y	-0.006	-0.006	0	%100
155	M178	Y	-0.006	-0.006	0	%100
156	M179	Y	-0.006	-0.006	0	%100
157	M180	Y	-0.006	-0.006	0	%100
158	M181	Y	-0.006	-0.006	0	%100
159	B1	Y	-0.013	-0.013	0	%100
160	B2	Y	-0.013	-0.013	0	%100
161	B3	Y	-0.013	-0.013	0	%100
162	B4	Y	-0.013	-0.013	0	%100
163	M183	Y	-0.008	-0.008	0	%100
164	M184	Y	-0.008	-0.008	0	%100
165	M222	Y	-0.006	-0.006	0	%100
166	M223	Y	-0.006	-0.006	0	%100
167	M210A	Y	-0.007	-0.007	0	%100
168	M211A	Y	-0.006	-0.006	0	%100
169	M211B	Y	-0.006	-0.006	0	%100
170	M173	Y	-0.026	-0.026	0	%100
171	M174A	Y	-0.006	-0.006	0	%100
172	M175A	Y	-0.008	-0.008	0	%100
173	M176A	Y	-0.006	-0.006	0	%100
174	M177B	Y	-0.006	-0.006	0	%100
175	M178A	Y	-0.007	-0.007	0	%100
176	M179B	Y	-0.006	-0.006	0	%100
177	M180A	Y	-0.006	-0.006	0	%100
178	M181B	Y	-0.026	-0.026	0	%100
179	M182	Y	-0.006	-0.006	0	%100
180	M183A	Y	-0.008	-0.008	0	%100
181	M184A	Y	-0.006	-0.006	0	%100
182	M185	Y	-0.006	-0.006	0	%100
183	M186	Y	-0.007	-0.007	0	%100
184	M187	Y	-0.006	-0.006	0	%100
185	M188	Y	-0.006	-0.006	0	%100
186	M189	Y	-0.026	-0.026	0	%100
187	M190	Y	-0.006	-0.006	0	%100
188	M191	Y	-0.008	-0.008	0	%100
189	M192	Y	-0.006	-0.006	0	%100
190	M193	Y	-0.006	-0.006	0	%100
191	M194	Y	-0.007	-0.007	0	%100
192	M195	Y	-0.006	-0.006	0	%100
193	M196	Y	-0.006	-0.006	0	%100
194	M202A	Y	-0.008	-0.008	0	%100
195	M203A	Y	-0.008	-0.008	0	%100
196	M204A	Y	-0.008	-0.008	0	%100
197	M197	Y	-0.02	-0.02	0	%100
198	M198	Y	-0.02	-0.02	0	%100
199	M199	Y	-0.02	-0.02	0	%100
200	M200	Y	-0.02	-0.02	0	%100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg))

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M4	Z	-0.01	-0.01	0	%100
2	M5	Z	0	0	0	%100
3	M6	Z	0	0	0	%100
4	M7	Z	-0.011	-0.011	0	%100
5	M8	Z	-0.011	-0.011	0	%100
6	M9	Z	-0.011	-0.011	0	%100
7	M10	Z	-0.011	-0.011	0	%100
8	M17	Z	-0.034	-0.034	0	%100
9	M18	Z	0	0	0	%100
10	M19	Z	-0.034	-0.034	0	%100
11	M20	Z	-0.017	-0.017	0	%100
12	M21	Z	0	0	0	%100
13	M22	Z	-0.017	-0.017	0	%100
14	M56	Z	-0.028	-0.028	0	%100
15	M57	Z	-0.014	-0.014	0	%100
16	M58	Z	0	0	0	%100
17	M59	Z	-0.014	-0.014	0	%100
18	M60	Z	-0.028	-0.028	0	%100
19	M61	Z	-0.014	-0.014	0	%100
20	M62	Z	0	0	0	%100
21	M63	Z	-0.014	-0.014	0	%100
22	M64	Z	0	0	0	%100
23	M65	Z	-0.014	-0.014	0	%100
24	M66	Z	-0.028	-0.028	0	%100
25	M67	Z	-0.014	-0.014	0	%100
26	M68	Z	0	0	0	%100
27	M69	Z	-0.014	-0.014	0	%100
28	M70	Z	-0.028	-0.028	0	%100
29	M71	Z	-0.014	-0.014	0	%100
30	M72	Z	-0.009	-0.009	0	%100
31	M73	Z	0	0	0	%100
32	M74	Z	-0.009	-0.009	0	%100
33	M75	Z	0	0	0	%100
34	M80	Z	-0.009	-0.009	0	%100
35	M81	Z	-0.017	-0.017	0	%100
36	M86	Z	-0.009	-0.009	0	%100
37	M87	Z	-0.017	-0.017	0	%100
38	M92	Z	-0.009	-0.009	0	%100
39	M93	Z	0	0	0	%100
40	M98	Z	-0.009	-0.009	0	%100
41	M99	Z	0	0	0	%100
42	M104	Z	-0.009	-0.009	0	%100
43	M105	Z	-0.017	-0.017	0	%100
44	M110	Z	-0.009	-0.009	0	%100
45	M111	Z	-0.017	-0.017	0	%100
46	M133	Z	-0.008	-0.008	0	%100
47	M134	Z	0	0	0	%100
48	M135	Z	-0.008	-0.008	0	%100
49	M136	Z	0	0	0	%100
50	A1	Z	-0.008	-0.008	0	%5.6
51	A3	Z	-0.008	-0.008	0	%100
52	A4	Z	-0.008	-0.008	0	%100
53	D1	Z	-0.008	-0.008	0	%100
54	D2	Z	-0.008	-0.008	0	%100
55	D3	Z	-0.008	-0.008	0	%100
56	D4	Z	-0.008	-0.008	0	%100
57	C1	Z	-0.008	-0.008	0	%5.6



Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft.]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
58	C3	Z	-0.008	-0.008	0 %100
59	C4	Z	-0.008	-0.008	0 %100
60	B1	Z	-0.008	-0.008	0 %100
61	B2	Z	-0.008	-0.008	0 %100
62	B3	Z	-0.008	-0.008	0 %100
63	B4	Z	-0.008	-0.008	0 %100
64	M183	Z	-0.001	-0.001	0 %100
65	M184	Z	-0.001	-0.001	0 %100
66	M210A	Z	-0.001	-0.001	0 %100
67	M173	Z	-0.01	-0.01	0 %100
68	M175A	Z	-0.001	-0.001	0 %100
69	M178A	Z	-0.001	-0.001	0 %100
70	M181B	Z	-0.01	-0.01	0 %100
71	M183A	Z	-0.001	-0.001	0 %100
72	M186	Z	-0.001	-0.001	0 %100
73	M189	Z	-0.01	-0.01	0 %100
74	M191	Z	-0.001	-0.001	0 %100
75	M194	Z	-0.001	-0.001	0 %100
76	M202A	Z	-0.001	-0.001	0 %100
77	M203A	Z	-0.001	-0.001	0 %100
78	M204A	Z	-0.001	-0.001	0 %100
79	M197	Z	-0.02	-0.02	0 %100
80	M198	Z	-0.02	-0.02	0 %100
81	M199	Z	-0.02	-0.02	0 %100
82	M200	Z	-0.02	-0.02	0 %100
83	A1	Z	-0.008	-0.008	%94.4 %100
84	C1	Z	-0.008	-0.008	%94.4 %100
85	M4	X	0	0	0 %100
86	M5	X	0	0	0 %100
87	M6	X	0	0	0 %100
88	M7	X	0	0	0 %100
89	M8	X	0	0	0 %100
90	M9	X	0	0	0 %100
91	M10	X	0	0	0 %100
92	M17	X	0	0	0 %100
93	M18	X	0	0	0 %100
94	M19	X	0	0	0 %100
95	M20	X	0	0	0 %100
96	M21	X	0	0	0 %100
97	M22	X	0	0	0 %100
98	M56	X	0	0	0 %100
99	M57	X	0	0	0 %100
100	M58	X	0	0	0 %100
101	M59	X	0	0	0 %100
102	M60	X	0	0	0 %100
103	M61	X	0	0	0 %100
104	M62	X	0	0	0 %100
105	M63	X	0	0	0 %100
106	M64	X	0	0	0 %100
107	M65	X	0	0	0 %100
108	M66	X	0	0	0 %100
109	M67	X	0	0	0 %100
110	M68	X	0	0	0 %100
111	M69	X	0	0	0 %100
112	M70	X	0	0	0 %100
113	M71	X	0	0	0 %100
114	M72	X	0	0	0 %100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	0	0	%100
116	M74	X	0	0	%100
117	M75	X	0	0	%100
118	M80	X	0	0	%100
119	M81	X	0	0	%100
120	M86	X	0	0	%100
121	M87	X	0	0	%100
122	M92	X	0	0	%100
123	M93	X	0	0	%100
124	M98	X	0	0	%100
125	M99	X	0	0	%100
126	M104	X	0	0	%100
127	M105	X	0	0	%100
128	M110	X	0	0	%100
129	M111	X	0	0	%100
130	M133	X	0	0	%100
131	M134	X	0	0	%100
132	M135	X	0	0	%100
133	M136	X	0	0	%100
134	A1	X	0	0	%100
135	A2	X	0	0	%100
136	A3	X	0	0	%100
137	A4	X	0	0	%100
138	D1	X	0	0	%100
139	D2	X	0	0	%100
140	D3	X	0	0	%100
141	D4	X	0	0	%100
142	C1	X	0	0	%100
143	C2	X	0	0	%100
144	C3	X	0	0	%100
145	C4	X	0	0	%100
146	B1	X	0	0	%5.6
147	B3	X	0	0	%100
148	B4	X	0	0	%100
149	M183	X	0	0	%100
150	M184	X	0	0	%100
151	M210A	X	0	0	%100
152	M173	X	0	0	%100
153	M175A	X	0	0	%100
154	M178A	X	0	0	%100
155	M181B	X	0	0	%100
156	M183A	X	0	0	%100
157	M186	X	0	0	%100
158	M189	X	0	0	%100
159	M191	X	0	0	%100
160	M194	X	0	0	%100
161	M202A	X	0	0	%100
162	M203A	X	0	0	%100
163	M204A	X	0	0	%100
164	M197	X	0	0	%100
165	M198	X	0	0	%100
166	M199	X	0	0	%100
167	M200	X	0	0	%100
168	B1	X	0	0	%94.4

Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg))

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
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Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M4	Z	-0.017	-0.017	0	%100
2	M5	Z	-0.007	-0.007	0	%100
3	M6	Z	-0.004	-0.004	0	%100
4	M7	Z	-0.018	-0.018	0	%100
5	M8	Z	-0.001	-0.001	0	%100
6	M9	Z	-0.018	-0.018	0	%100
7	M10	Z	-0.001	-0.001	0	%100
8	M17	Z	-0.022	-0.022	0	%100
9	M18	Z	-0.007	-0.007	0	%100
10	M19	Z	-0.022	-0.022	0	%100
11	M20	Z	-0.011	-0.011	0	%100
12	M21	Z	-0.004	-0.004	0	%100
13	M22	Z	-0.011	-0.011	0	%100
14	M56	Z	-0.018	-0.018	0	%100
15	M57	Z	-0.002	-0.002	0	%100
16	M58	Z	-0.006	-0.006	0	%100
17	M59	Z	-0.002	-0.002	0	%100
18	M60	Z	-0.018	-0.018	0	%100
19	M61	Z	-0.023	-0.023	0	%100
20	M62	Z	-0.006	-0.006	0	%100
21	M63	Z	-0.023	-0.023	0	%100
22	M64	Z	-0.006	-0.006	0	%100
23	M65	Z	-0.002	-0.002	0	%100
24	M66	Z	-0.018	-0.018	0	%100
25	M67	Z	-0.002	-0.002	0	%100
26	M68	Z	-0.006	-0.006	0	%100
27	M69	Z	-0.023	-0.023	0	%100
28	M70	Z	-0.018	-0.018	0	%100
29	M71	Z	-0.023	-0.023	0	%100
30	M72	Z	-0.001	-0.001	0	%100
31	M73	Z	-0.004	-0.004	0	%100
32	M74	Z	-0.014	-0.014	0	%100
33	M75	Z	-0.004	-0.004	0	%100
34	M80	Z	-0.014	-0.014	0	%100
35	M81	Z	-0.011	-0.011	0	%100
36	M86	Z	-0.001	-0.001	0	%100
37	M87	Z	-0.011	-0.011	0	%100
38	M92	Z	-0.001	-0.001	0	%100
39	M93	Z	-0.004	-0.004	0	%100
40	M98	Z	-0.014	-0.014	0	%100
41	M99	Z	-0.004	-0.004	0	%100
42	M104	Z	-0.014	-0.014	0	%100
43	M105	Z	-0.011	-0.011	0	%100
44	M110	Z	-0.001	-0.001	0	%100
45	M111	Z	-0.011	-0.011	0	%100
46	M133	Z	-0.005	-0.005	0	%100
47	M134	Z	-0.002	-0.002	0	%100
48	M135	Z	-0.005	-0.005	0	%100
49	M136	Z	-0.002	-0.002	0	%100
50	A1	Z	-0.007	-0.007	0	%5.6
51	A3	Z	-0.007	-0.007	0	%100
52	A4	Z	-0.007	-0.007	0	%100
53	D1	Z	-0.007	-0.007	0	%100
54	D2	Z	-0.007	-0.007	0	%100
55	D3	Z	-0.007	-0.007	0	%100
56	D4	Z	-0.007	-0.007	0	%100
57	C1	Z	-0.007	-0.007	0	%5.6



Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F...]	Start Location[ft.%]	End Location[ft.%]
58	C3	Z	-0.007	-0.007	0 %100
59	C4	Z	-0.007	-0.007	0 %100
60	B1	Z	-0.007	-0.007	0 %100
61	B2	Z	-0.007	-0.007	0 %100
62	B3	Z	-0.007	-0.007	0 %100
63	B4	Z	-0.007	-0.007	0 %100
64	M183	Z	0	0	0 %100
65	M184	Z	0	0	0 %100
66	M210A	Z	0	0	0 %100
67	M173	Z	-0.001	-0.001	0 %100
68	M175A	Z	-0.002	-0.002	0 %100
69	M178A	Z	-0.002	-0.002	0 %100
70	M181B	Z	-0.017	-0.017	0 %100
71	M183A	Z	0	0	0 %100
72	M186	Z	0	0	0 %100
73	M189	Z	-0.001	-0.001	0 %100
74	M191	Z	-0.002	-0.002	0 %100
75	M194	Z	-0.002	-0.002	0 %100
76	M202A	Z	-0.002	-0.002	0 %100
77	M203A	Z	0	0	0 %100
78	M204A	Z	-0.002	-0.002	0 %100
79	M197	Z	-0.024	-0.024	0 %100
80	M198	Z	-0.012	-0.012	0 %100
81	M199	Z	-0.024	-0.024	0 %100
82	M200	Z	-0.012	-0.012	0 %100
83	A1	Z	-0.007	-0.007	%94.4 %100
84	C1	Z	-0.007	-0.007	%94.4 %100
85	M4	X	.01	.01	0 %100
86	M5	X	.004	.004	0 %100
87	M6	X	.002	.002	0 %100
88	M7	X	.011	.011	0 %100
89	M8	X	.001	.001	0 %100
90	M9	X	.011	.011	0 %100
91	M10	X	.001	.001	0 %100
92	M17	X	.013	.013	0 %100
93	M18	X	.004	.004	0 %100
94	M19	X	.013	.013	0 %100
95	M20	X	.006	.006	0 %100
96	M21	X	.002	.002	0 %100
97	M22	X	.006	.006	0 %100
98	M56	X	.011	.011	0 %100
99	M57	X	.001	.001	0 %100
100	M58	X	.004	.004	0 %100
101	M59	X	.001	.001	0 %100
102	M60	X	.011	.011	0 %100
103	M61	X	.013	.013	0 %100
104	M62	X	.004	.004	0 %100
105	M63	X	.013	.013	0 %100
106	M64	X	.004	.004	0 %100
107	M65	X	.001	.001	0 %100
108	M66	X	.011	.011	0 %100
109	M67	X	.001	.001	0 %100
110	M68	X	.004	.004	0 %100
111	M69	X	.013	.013	0 %100
112	M70	X	.011	.011	0 %100
113	M71	X	.013	.013	0 %100
114	M72	X	.001	.001	0 %100



Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	.002	.002	0 %100
116	M74	X	.008	.008	0 %100
117	M75	X	.002	.002	0 %100
118	M80	X	.008	.008	0 %100
119	M81	X	.006	.006	0 %100
120	M86	X	.001	.001	0 %100
121	M87	X	.006	.006	0 %100
122	M92	X	.001	.001	0 %100
123	M93	X	.002	.002	0 %100
124	M98	X	.008	.008	0 %100
125	M99	X	.002	.002	0 %100
126	M104	X	.008	.008	0 %100
127	M105	X	.006	.006	0 %100
128	M110	X	.001	.001	0 %100
129	M111	X	.006	.006	0 %100
130	M133	X	.003	.003	0 %100
131	M134	X	.001	.001	0 %100
132	M135	X	.003	.003	0 %100
133	M136	X	.001	.001	0 %100
134	A1	X	.004	.004	0 %100
135	A2	X	.004	.004	0 %100
136	A3	X	.004	.004	0 %100
137	A4	X	.004	.004	0 %100
138	D1	X	.004	.004	0 %100
139	D2	X	.004	.004	0 %100
140	D3	X	.004	.004	0 %100
141	D4	X	.004	.004	0 %100
142	C1	X	.004	.004	0 %100
143	C2	X	.004	.004	0 %100
144	C3	X	.004	.004	0 %100
145	C4	X	.004	.004	0 %100
146	B1	X	.004	.004	0 %5.6
147	B3	X	.004	.004	0 %100
148	B4	X	.004	.004	0 %100
149	M183	X	0	0	0 %100
150	M184	X	0	0	0 %100
151	M210A	X	0	0	0 %100
152	M173	X	.001	.001	0 %100
153	M175A	X	.001	.001	0 %100
154	M178A	X	.001	.001	0 %100
155	M181B	X	.01	.01	0 %100
156	M183A	X	0	0	0 %100
157	M186	X	0	0	0 %100
158	M189	X	.001	.001	0 %100
159	M191	X	.001	.001	0 %100
160	M194	X	.001	.001	0 %100
161	M202A	X	.001	.001	0 %100
162	M203A	X	0	0	0 %100
163	M204A	X	.001	.001	0 %100
164	M197	X	.014	.014	0 %100
165	M198	X	.007	.007	0 %100
166	M199	X	.014	.014	0 %100
167	M200	X	.007	.007	0 %100
168	B1	X	.004	.004	%94.4 %100

Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg))



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M4	Z	-01	-01	0	%100
2	M5	Z	-013	-013	0	%100
3	M6	Z	-006	-006	0	%100
4	M7	Z	-011	-011	0	%100
5	M8	Z	-001	-001	0	%100
6	M9	Z	-011	-011	0	%100
7	M10	Z	-001	-001	0	%100
8	M17	Z	-004	-004	0	%100
9	M18	Z	-013	-013	0	%100
10	M19	Z	-004	-004	0	%100
11	M20	Z	-002	-002	0	%100
12	M21	Z	-006	-006	0	%100
13	M22	Z	-002	-002	0	%100
14	M56	Z	-004	-004	0	%100
15	M57	Z	-001	-001	0	%100
16	M58	Z	-011	-011	0	%100
17	M59	Z	-001	-001	0	%100
18	M60	Z	-004	-004	0	%100
19	M61	Z	-013	-013	0	%100
20	M62	Z	-011	-011	0	%100
21	M63	Z	-013	-013	0	%100
22	M64	Z	-011	-011	0	%100
23	M65	Z	-001	-001	0	%100
24	M66	Z	-004	-004	0	%100
25	M67	Z	-001	-001	0	%100
26	M68	Z	-011	-011	0	%100
27	M69	Z	-013	-013	0	%100
28	M70	Z	-004	-004	0	%100
29	M71	Z	-013	-013	0	%100
30	M72	Z	-001	-001	0	%100
31	M73	Z	-006	-006	0	%100
32	M74	Z	-008	-008	0	%100
33	M75	Z	-006	-006	0	%100
34	M80	Z	-008	-008	0	%100
35	M81	Z	-002	-002	0	%100
36	M86	Z	-001	-001	0	%100
37	M87	Z	-002	-002	0	%100
38	M92	Z	-001	-001	0	%100
39	M93	Z	-006	-006	0	%100
40	M98	Z	-008	-008	0	%100
41	M99	Z	-006	-006	0	%100
42	M104	Z	-008	-008	0	%100
43	M105	Z	-002	-002	0	%100
44	M110	Z	-001	-001	0	%100
45	M111	Z	-002	-002	0	%100
46	M133	Z	-001	-001	0	%100
47	M134	Z	-003	-003	0	%100
48	M135	Z	-001	-001	0	%100
49	M136	Z	-003	-003	0	%100
50	A1	Z	-004	-004	0	%5.6
51	A3	Z	-004	-004	0	%100
52	A4	Z	-004	-004	0	%100
53	D1	Z	-004	-004	0	%100
54	D2	Z	-004	-004	0	%100
55	D3	Z	-004	-004	0	%100
56	D4	Z	-004	-004	0	%100
57	C1	Z	-004	-004	0	%5.6



Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
58	C3	Z	-0.004	-0.004	0	%100
59	C4	Z	-0.004	-0.004	0	%100
60	B1	Z	-0.004	-0.004	0	%100
61	B2	Z	-0.004	-0.004	0	%100
62	B3	Z	-0.004	-0.004	0	%100
63	B4	Z	-0.004	-0.004	0	%100
64	M183	Z	0	0	0	%100
65	M184	Z	0	0	0	%100
66	M210A	Z	0	0	0	%100
67	M173	Z	-0.001	-0.001	0	%100
68	M175A	Z	-0.001	-0.001	0	%100
69	M178A	Z	-0.001	-0.001	0	%100
70	M181B	Z	-0.01	-0.01	0	%100
71	M183A	Z	0	0	0	%100
72	M186	Z	0	0	0	%100
73	M189	Z	-0.001	-0.001	0	%100
74	M191	Z	-0.001	-0.001	0	%100
75	M194	Z	-0.001	-0.001	0	%100
76	M202A	Z	-0.001	-0.001	0	%100
77	M203A	Z	0	0	0	%100
78	M204A	Z	-0.001	-0.001	0	%100
79	M197	Z	-0.014	-0.014	0	%100
80	M198	Z	-0.007	-0.007	0	%100
81	M199	Z	-0.014	-0.014	0	%100
82	M200	Z	-0.007	-0.007	0	%100
83	A1	Z	-0.004	-0.004	%94.4	%100
84	C1	Z	-0.004	-0.004	%94.4	%100
85	M4	X	.017	.017	0	%100
86	M5	X	.022	.022	0	%100
87	M6	X	.011	.011	0	%100
88	M7	X	.018	.018	0	%100
89	M8	X	.001	.001	0	%100
90	M9	X	.018	.018	0	%100
91	M10	X	.001	.001	0	%100
92	M17	X	.007	.007	0	%100
93	M18	X	.022	.022	0	%100
94	M19	X	.007	.007	0	%100
95	M20	X	.004	.004	0	%100
96	M21	X	.011	.011	0	%100
97	M22	X	.004	.004	0	%100
98	M56	X	.006	.006	0	%100
99	M57	X	.002	.002	0	%100
100	M58	X	.018	.018	0	%100
101	M59	X	.002	.002	0	%100
102	M60	X	.006	.006	0	%100
103	M61	X	.023	.023	0	%100
104	M62	X	.018	.018	0	%100
105	M63	X	.023	.023	0	%100
106	M64	X	.018	.018	0	%100
107	M65	X	.002	.002	0	%100
108	M66	X	.006	.006	0	%100
109	M67	X	.002	.002	0	%100
110	M68	X	.018	.018	0	%100
111	M69	X	.023	.023	0	%100
112	M70	X	.006	.006	0	%100
113	M71	X	.023	.023	0	%100
114	M72	X	.001	.001	0	%100

Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	.011	.011	0 %100
116	M74	X	.014	.014	0 %100
117	M75	X	.011	.011	0 %100
118	M80	X	.014	.014	0 %100
119	M81	X	.004	.004	0 %100
120	M86	X	.001	.001	0 %100
121	M87	X	.004	.004	0 %100
122	M92	X	.001	.001	0 %100
123	M93	X	.011	.011	0 %100
124	M98	X	.014	.014	0 %100
125	M99	X	.011	.011	0 %100
126	M104	X	.014	.014	0 %100
127	M105	X	.004	.004	0 %100
128	M110	X	.001	.001	0 %100
129	M111	X	.004	.004	0 %100
130	M133	X	.002	.002	0 %100
131	M134	X	.005	.005	0 %100
132	M135	X	.002	.002	0 %100
133	M136	X	.005	.005	0 %100
134	A1	X	.007	.007	0 %100
135	A2	X	.007	.007	0 %100
136	A3	X	.007	.007	0 %100
137	A4	X	.007	.007	0 %100
138	D1	X	.007	.007	0 %100
139	D2	X	.007	.007	0 %100
140	D3	X	.007	.007	0 %100
141	D4	X	.007	.007	0 %100
142	C1	X	.007	.007	0 %100
143	C2	X	.007	.007	0 %100
144	C3	X	.007	.007	0 %100
145	C4	X	.007	.007	0 %100
146	B1	X	.007	.007	0 %5.6
147	B3	X	.007	.007	0 %100
148	B4	X	.007	.007	0 %100
149	M183	X	0	0	0 %100
150	M184	X	0	0	0 %100
151	M210A	X	0	0	0 %100
152	M173	X	.001	.001	0 %100
153	M175A	X	.002	.002	0 %100
154	M178A	X	.002	.002	0 %100
155	M181B	X	.017	.017	0 %100
156	M183A	X	0	0	0 %100
157	M186	X	0	0	0 %100
158	M189	X	.001	.001	0 %100
159	M191	X	.002	.002	0 %100
160	M194	X	.002	.002	0 %100
161	M202A	X	.002	.002	0 %100
162	M203A	X	0	0	0 %100
163	M204A	X	.002	.002	0 %100
164	M197	X	.024	.024	0 %100
165	M198	X	.012	.012	0 %100
166	M199	X	.024	.024	0 %100
167	M200	X	.012	.012	0 %100
168	B1	X	.007	.007	%94.4 %100

Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg))

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
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Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
 6:15 PM
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Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Z	0	0	0	%100
2	M5	Z	0	0	0	%100
3	M6	Z	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	Z	0	0	0	%100
6	M9	Z	0	0	0	%100
7	M10	Z	0	0	0	%100
8	M17	Z	0	0	0	%100
9	M18	Z	0	0	0	%100
10	M19	Z	0	0	0	%100
11	M20	Z	0	0	0	%100
12	M21	Z	0	0	0	%100
13	M22	Z	0	0	0	%100
14	M56	Z	0	0	0	%100
15	M57	Z	0	0	0	%100
16	M58	Z	0	0	0	%100
17	M59	Z	0	0	0	%100
18	M60	Z	0	0	0	%100
19	M61	Z	0	0	0	%100
20	M62	Z	0	0	0	%100
21	M63	Z	0	0	0	%100
22	M64	Z	0	0	0	%100
23	M65	Z	0	0	0	%100
24	M66	Z	0	0	0	%100
25	M67	Z	0	0	0	%100
26	M68	Z	0	0	0	%100
27	M69	Z	0	0	0	%100
28	M70	Z	0	0	0	%100
29	M71	Z	0	0	0	%100
30	M72	Z	0	0	0	%100
31	M73	Z	0	0	0	%100
32	M74	Z	0	0	0	%100
33	M75	Z	0	0	0	%100
34	M80	Z	0	0	0	%100
35	M81	Z	0	0	0	%100
36	M86	Z	0	0	0	%100
37	M87	Z	0	0	0	%100
38	M92	Z	0	0	0	%100
39	M93	Z	0	0	0	%100
40	M98	Z	0	0	0	%100
41	M99	Z	0	0	0	%100
42	M104	Z	0	0	0	%100
43	M105	Z	0	0	0	%100
44	M110	Z	0	0	0	%100
45	M111	Z	0	0	0	%100
46	M133	Z	0	0	0	%100
47	M134	Z	0	0	0	%100
48	M135	Z	0	0	0	%100
49	M136	Z	0	0	0	%100
50	A1	Z	0	0	0	%5.6
51	A3	Z	0	0	0	%100
52	A4	Z	0	0	0	%100
53	D1	Z	0	0	0	%100
54	D2	Z	0	0	0	%100
55	D3	Z	0	0	0	%100
56	D4	Z	0	0	0	%100
57	C1	Z	0	0	0	%5.6



Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
58	C3	Z	0	0	0	%100
59	C4	Z	0	0	0	%100
60	B1	Z	0	0	0	%100
61	B2	Z	0	0	0	%100
62	B3	Z	0	0	0	%100
63	B4	Z	0	0	0	%100
64	M183	Z	0	0	0	%100
65	M184	Z	0	0	0	%100
66	M210A	Z	0	0	0	%100
67	M173	Z	0	0	0	%100
68	M175A	Z	0	0	0	%100
69	M178A	Z	0	0	0	%100
70	M181B	Z	0	0	0	%100
71	M183A	Z	0	0	0	%100
72	M186	Z	0	0	0	%100
73	M189	Z	0	0	0	%100
74	M191	Z	0	0	0	%100
75	M194	Z	0	0	0	%100
76	M202A	Z	0	0	0	%100
77	M203A	Z	0	0	0	%100
78	M204A	Z	0	0	0	%100
79	M197	Z	0	0	0	%100
80	M198	Z	0	0	0	%100
81	M199	Z	0	0	0	%100
82	M200	Z	0	0	0	%100
83	A1	Z	0	0	%94.4	%100
84	C1	Z	0	0	%94.4	%100
85	M4	X	.01	.01	0	%100
86	M5	X	.034	.034	0	%100
87	M6	X	.017	.017	0	%100
88	M7	X	.011	.011	0	%100
89	M8	X	.011	.011	0	%100
90	M9	X	.011	.011	0	%100
91	M10	X	.011	.011	0	%100
92	M17	X	0	0	0	%100
93	M18	X	.034	.034	0	%100
94	M19	X	0	0	0	%100
95	M20	X	0	0	0	%100
96	M21	X	.017	.017	0	%100
97	M22	X	0	0	0	%100
98	M56	X	0	0	0	%100
99	M57	X	.014	.014	0	%100
100	M58	X	.028	.028	0	%100
101	M59	X	.014	.014	0	%100
102	M60	X	0	0	0	%100
103	M61	X	.014	.014	0	%100
104	M62	X	.028	.028	0	%100
105	M63	X	.014	.014	0	%100
106	M64	X	.028	.028	0	%100
107	M65	X	.014	.014	0	%100
108	M66	X	0	0	0	%100
109	M67	X	.014	.014	0	%100
110	M68	X	.028	.028	0	%100
111	M69	X	.014	.014	0	%100
112	M70	X	0	0	0	%100
113	M71	X	.014	.014	0	%100
114	M72	X	.009	.009	0	%100



Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	.017	.017	0 %100
116	M74	X	.009	.009	0 %100
117	M75	X	.017	.017	0 %100
118	M80	X	.009	.009	0 %100
119	M81	X	0	0	0 %100
120	M86	X	.009	.009	0 %100
121	M87	X	0	0	0 %100
122	M92	X	.009	.009	0 %100
123	M93	X	.017	.017	0 %100
124	M98	X	.009	.009	0 %100
125	M99	X	.017	.017	0 %100
126	M104	X	.009	.009	0 %100
127	M105	X	0	0	0 %100
128	M110	X	.009	.009	0 %100
129	M111	X	0	0	0 %100
130	M133	X	0	0	0 %100
131	M134	X	.008	.008	0 %100
132	M135	X	0	0	0 %100
133	M136	X	.008	.008	0 %100
134	A1	X	.008	.008	0 %100
135	A2	X	.008	.008	0 %100
136	A3	X	.008	.008	0 %100
137	A4	X	.008	.008	0 %100
138	D1	X	.008	.008	0 %100
139	D2	X	.008	.008	0 %100
140	D3	X	.008	.008	0 %100
141	D4	X	.008	.008	0 %100
142	C1	X	.008	.008	0 %100
143	C2	X	.008	.008	0 %100
144	C3	X	.008	.008	0 %100
145	C4	X	.008	.008	0 %100
146	B1	X	.008	.008	0 %5.6
147	B3	X	.008	.008	0 %100
148	B4	X	.008	.008	0 %100
149	M183	X	.001	.001	0 %100
150	M184	X	.001	.001	0 %100
151	M210A	X	.001	.001	0 %100
152	M173	X	.01	.01	0 %100
153	M175A	X	.001	.001	0 %100
154	M178A	X	.001	.001	0 %100
155	M181B	X	.01	.01	0 %100
156	M183A	X	.001	.001	0 %100
157	M186	X	.001	.001	0 %100
158	M189	X	.01	.01	0 %100
159	M191	X	.001	.001	0 %100
160	M194	X	.001	.001	0 %100
161	M202A	X	.001	.001	0 %100
162	M203A	X	.001	.001	0 %100
163	M204A	X	.001	.001	0 %100
164	M197	X	.02	.02	0 %100
165	M198	X	.02	.02	0 %100
166	M199	X	.02	.02	0 %100
167	M200	X	.02	.02	0 %100
168	B1	X	.008	.008	%94.4 %100

Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg))

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
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Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
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 Checked By: _____

Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%)	End Location[ft.%)
1	M4	Z	.001	.001	0	%100
2	M5	Z	.013	.013	0	%100
3	M6	Z	.006	.006	0	%100
4	M7	Z	.001	.001	0	%100
5	M8	Z	.011	.011	0	%100
6	M9	Z	.001	.001	0	%100
7	M10	Z	.011	.011	0	%100
8	M17	Z	.004	.004	0	%100
9	M18	Z	.013	.013	0	%100
10	M19	Z	.004	.004	0	%100
11	M20	Z	.002	.002	0	%100
12	M21	Z	.006	.006	0	%100
13	M22	Z	.002	.002	0	%100
14	M56	Z	.004	.004	0	%100
15	M57	Z	.013	.013	0	%100
16	M58	Z	.011	.011	0	%100
17	M59	Z	.013	.013	0	%100
18	M60	Z	.004	.004	0	%100
19	M61	Z	.001	.001	0	%100
20	M62	Z	.011	.011	0	%100
21	M63	Z	.001	.001	0	%100
22	M64	Z	.011	.011	0	%100
23	M65	Z	.013	.013	0	%100
24	M66	Z	.004	.004	0	%100
25	M67	Z	.013	.013	0	%100
26	M68	Z	.011	.011	0	%100
27	M69	Z	.001	.001	0	%100
28	M70	Z	.004	.004	0	%100
29	M71	Z	.001	.001	0	%100
30	M72	Z	.008	.008	0	%100
31	M73	Z	.006	.006	0	%100
32	M74	Z	.001	.001	0	%100
33	M75	Z	.006	.006	0	%100
34	M80	Z	.001	.001	0	%100
35	M81	Z	.002	.002	0	%100
36	M86	Z	.008	.008	0	%100
37	M87	Z	.002	.002	0	%100
38	M92	Z	.008	.008	0	%100
39	M93	Z	.006	.006	0	%100
40	M98	Z	.001	.001	0	%100
41	M99	Z	.006	.006	0	%100
42	M104	Z	.001	.001	0	%100
43	M105	Z	.002	.002	0	%100
44	M110	Z	.008	.008	0	%100
45	M111	Z	.002	.002	0	%100
46	M133	Z	.001	.001	0	%100
47	M134	Z	.003	.003	0	%100
48	M135	Z	.001	.001	0	%100
49	M136	Z	.003	.003	0	%100
50	A1	Z	.004	.004	0	%5.6
51	A3	Z	.004	.004	0	%100
52	A4	Z	.004	.004	0	%100
53	D1	Z	.004	.004	0	%100
54	D2	Z	.004	.004	0	%100
55	D3	Z	.004	.004	0	%100
56	D4	Z	.004	.004	0	%100
57	C1	Z	.004	.004	0	%5.6



Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
58	C3	Z	.004	.004	0	%100
59	C4	Z	.004	.004	0	%100
60	B1	Z	.004	.004	0	%100
61	B2	Z	.004	.004	0	%100
62	B3	Z	.004	.004	0	%100
63	B4	Z	.004	.004	0	%100
64	M183	Z	.001	.001	0	%100
65	M184	Z	.001	.001	0	%100
66	M210A	Z	.001	.001	0	%100
67	M173	Z	.01	.01	0	%100
68	M175A	Z	0	0	0	%100
69	M178A	Z	0	0	0	%100
70	M181B	Z	.001	.001	0	%100
71	M183A	Z	.001	.001	0	%100
72	M186	Z	.001	.001	0	%100
73	M189	Z	.01	.01	0	%100
74	M191	Z	0	0	0	%100
75	M194	Z	0	0	0	%100
76	M202A	Z	0	0	0	%100
77	M203A	Z	.001	.001	0	%100
78	M204A	Z	0	0	0	%100
79	M197	Z	.007	.007	0	%100
80	M198	Z	.014	.014	0	%100
81	M199	Z	.007	.007	0	%100
82	M200	Z	.014	.014	0	%100
83	A1	Z	.004	.004	%94.4	%100
84	C1	Z	.004	.004	%94.4	%100
85	M4	X	.001	.001	0	%100
86	M5	X	.022	.022	0	%100
87	M6	X	.011	.011	0	%100
88	M7	X	.001	.001	0	%100
89	M8	X	.018	.018	0	%100
90	M9	X	.001	.001	0	%100
91	M10	X	.018	.018	0	%100
92	M17	X	.007	.007	0	%100
93	M18	X	.022	.022	0	%100
94	M19	X	.007	.007	0	%100
95	M20	X	.004	.004	0	%100
96	M21	X	.011	.011	0	%100
97	M22	X	.004	.004	0	%100
98	M56	X	.006	.006	0	%100
99	M57	X	.023	.023	0	%100
100	M58	X	.018	.018	0	%100
101	M59	X	.023	.023	0	%100
102	M60	X	.006	.006	0	%100
103	M61	X	.002	.002	0	%100
104	M62	X	.018	.018	0	%100
105	M63	X	.002	.002	0	%100
106	M64	X	.018	.018	0	%100
107	M65	X	.023	.023	0	%100
108	M66	X	.006	.006	0	%100
109	M67	X	.023	.023	0	%100
110	M68	X	.018	.018	0	%100
111	M69	X	.002	.002	0	%100
112	M70	X	.006	.006	0	%100
113	M71	X	.002	.002	0	%100
114	M72	X	.014	.014	0	%100



Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	.011	.011	0 %100
116	M74	X	.001	.001	0 %100
117	M75	X	.011	.011	0 %100
118	M80	X	.001	.001	0 %100
119	M81	X	.004	.004	0 %100
120	M86	X	.014	.014	0 %100
121	M87	X	.004	.004	0 %100
122	M92	X	.014	.014	0 %100
123	M93	X	.011	.011	0 %100
124	M98	X	.001	.001	0 %100
125	M99	X	.011	.011	0 %100
126	M104	X	.001	.001	0 %100
127	M105	X	.004	.004	0 %100
128	M110	X	.014	.014	0 %100
129	M111	X	.004	.004	0 %100
130	M133	X	.002	.002	0 %100
131	M134	X	.005	.005	0 %100
132	M135	X	.002	.002	0 %100
133	M136	X	.005	.005	0 %100
134	A1	X	.007	.007	0 %100
135	A2	X	.007	.007	0 %100
136	A3	X	.007	.007	0 %100
137	A4	X	.007	.007	0 %100
138	D1	X	.007	.007	0 %100
139	D2	X	.007	.007	0 %100
140	D3	X	.007	.007	0 %100
141	D4	X	.007	.007	0 %100
142	C1	X	.007	.007	0 %100
143	C2	X	.007	.007	0 %100
144	C3	X	.007	.007	0 %100
145	C4	X	.007	.007	0 %100
146	B1	X	.007	.007	0 %5.6
147	B3	X	.007	.007	0 %100
148	B4	X	.007	.007	0 %100
149	M183	X	.002	.002	0 %100
150	M184	X	.002	.002	0 %100
151	M210A	X	.002	.002	0 %100
152	M173	X	.017	.017	0 %100
153	M175A	X	0	0	0 %100
154	M178A	X	0	0	0 %100
155	M181B	X	.001	.001	0 %100
156	M183A	X	.002	.002	0 %100
157	M186	X	.002	.002	0 %100
158	M189	X	.017	.017	0 %100
159	M191	X	0	0	0 %100
160	M194	X	0	0	0 %100
161	M202A	X	0	0	0 %100
162	M203A	X	.002	.002	0 %100
163	M204A	X	0	0	0 %100
164	M197	X	.012	.012	0 %100
165	M198	X	.024	.024	0 %100
166	M199	X	.012	.012	0 %100
167	M200	X	.024	.024	0 %100
168	B1	X	.007	.007	%94.4 %100

Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg))



Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M4	Z	.001	.001	0	%100
2	M5	Z	.007	.007	0	%100
3	M6	Z	.004	.004	0	%100
4	M7	Z	.001	.001	0	%100
5	M8	Z	.018	.018	0	%100
6	M9	Z	.001	.001	0	%100
7	M10	Z	.018	.018	0	%100
8	M17	Z	.022	.022	0	%100
9	M18	Z	.007	.007	0	%100
10	M19	Z	.022	.022	0	%100
11	M20	Z	.011	.011	0	%100
12	M21	Z	.004	.004	0	%100
13	M22	Z	.011	.011	0	%100
14	M56	Z	.018	.018	0	%100
15	M57	Z	.023	.023	0	%100
16	M58	Z	.006	.006	0	%100
17	M59	Z	.023	.023	0	%100
18	M60	Z	.018	.018	0	%100
19	M61	Z	.002	.002	0	%100
20	M62	Z	.006	.006	0	%100
21	M63	Z	.002	.002	0	%100
22	M64	Z	.006	.006	0	%100
23	M65	Z	.023	.023	0	%100
24	M66	Z	.018	.018	0	%100
25	M67	Z	.023	.023	0	%100
26	M68	Z	.006	.006	0	%100
27	M69	Z	.002	.002	0	%100
28	M70	Z	.018	.018	0	%100
29	M71	Z	.002	.002	0	%100
30	M72	Z	.014	.014	0	%100
31	M73	Z	.004	.004	0	%100
32	M74	Z	.001	.001	0	%100
33	M75	Z	.004	.004	0	%100
34	M80	Z	.001	.001	0	%100
35	M81	Z	.011	.011	0	%100
36	M86	Z	.014	.014	0	%100
37	M87	Z	.011	.011	0	%100
38	M92	Z	.014	.014	0	%100
39	M93	Z	.004	.004	0	%100
40	M98	Z	.001	.001	0	%100
41	M99	Z	.004	.004	0	%100
42	M104	Z	.001	.001	0	%100
43	M105	Z	.011	.011	0	%100
44	M110	Z	.014	.014	0	%100
45	M111	Z	.011	.011	0	%100
46	M133	Z	.005	.005	0	%100
47	M134	Z	.002	.002	0	%100
48	M135	Z	.005	.005	0	%100
49	M136	Z	.002	.002	0	%100
50	A1	Z	.007	.007	0	%5.6
51	A3	Z	.007	.007	0	%100
52	A4	Z	.007	.007	0	%100
53	D1	Z	.007	.007	0	%100
54	D2	Z	.007	.007	0	%100
55	D3	Z	.007	.007	0	%100
56	D4	Z	.007	.007	0	%100
57	C1	Z	.007	.007	0	%5.6



Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
58	C3	Z	.007	.007	0 %100
59	C4	Z	.007	.007	0 %100
60	B1	Z	.007	.007	0 %100
61	B2	Z	.007	.007	0 %100
62	B3	Z	.007	.007	0 %100
63	B4	Z	.007	.007	0 %100
64	M183	Z	.002	.002	0 %100
65	M184	Z	.002	.002	0 %100
66	M210A	Z	.002	.002	0 %100
67	M173	Z	.017	.017	0 %100
68	M175A	Z	0	0	0 %100
69	M178A	Z	0	0	0 %100
70	M181B	Z	.001	.001	0 %100
71	M183A	Z	.002	.002	0 %100
72	M186	Z	.002	.002	0 %100
73	M189	Z	.017	.017	0 %100
74	M191	Z	0	0	0 %100
75	M194	Z	0	0	0 %100
76	M202A	Z	0	0	0 %100
77	M203A	Z	.002	.002	0 %100
78	M204A	Z	0	0	0 %100
79	M197	Z	.012	.012	0 %100
80	M198	Z	.024	.024	0 %100
81	M199	Z	.012	.012	0 %100
82	M200	Z	.024	.024	0 %100
83	A1	Z	.007	.007	%94.4 %100
84	C1	Z	.007	.007	%94.4 %100
85	M4	X	.001	.001	0 %100
86	M5	X	.004	.004	0 %100
87	M6	X	.002	.002	0 %100
88	M7	X	.001	.001	0 %100
89	M8	X	.011	.011	0 %100
90	M9	X	.001	.001	0 %100
91	M10	X	.011	.011	0 %100
92	M17	X	.013	.013	0 %100
93	M18	X	.004	.004	0 %100
94	M19	X	.013	.013	0 %100
95	M20	X	.006	.006	0 %100
96	M21	X	.002	.002	0 %100
97	M22	X	.006	.006	0 %100
98	M56	X	.011	.011	0 %100
99	M57	X	.013	.013	0 %100
100	M58	X	.004	.004	0 %100
101	M59	X	.013	.013	0 %100
102	M60	X	.011	.011	0 %100
103	M61	X	.001	.001	0 %100
104	M62	X	.004	.004	0 %100
105	M63	X	.001	.001	0 %100
106	M64	X	.004	.004	0 %100
107	M65	X	.013	.013	0 %100
108	M66	X	.011	.011	0 %100
109	M67	X	.013	.013	0 %100
110	M68	X	.004	.004	0 %100
111	M69	X	.001	.001	0 %100
112	M70	X	.011	.011	0 %100
113	M71	X	.001	.001	0 %100
114	M72	X	.008	.008	0 %100



Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
115	M73	X	.002	.002	0 %100
116	M74	X	.001	.001	0 %100
117	M75	X	.002	.002	0 %100
118	M80	X	.001	.001	0 %100
119	M81	X	.006	.006	0 %100
120	M86	X	.008	.008	0 %100
121	M87	X	.006	.006	0 %100
122	M92	X	.008	.008	0 %100
123	M93	X	.002	.002	0 %100
124	M98	X	.001	.001	0 %100
125	M99	X	.002	.002	0 %100
126	M104	X	.001	.001	0 %100
127	M105	X	.006	.006	0 %100
128	M110	X	.008	.008	0 %100
129	M111	X	.006	.006	0 %100
130	M133	X	.003	.003	0 %100
131	M134	X	.001	.001	0 %100
132	M135	X	.003	.003	0 %100
133	M136	X	.001	.001	0 %100
134	A1	X	.004	.004	0 %100
135	A2	X	.004	.004	0 %100
136	A3	X	.004	.004	0 %100
137	A4	X	.004	.004	0 %100
138	D1	X	.004	.004	0 %100
139	D2	X	.004	.004	0 %100
140	D3	X	.004	.004	0 %100
141	D4	X	.004	.004	0 %100
142	C1	X	.004	.004	0 %100
143	C2	X	.004	.004	0 %100
144	C3	X	.004	.004	0 %100
145	C4	X	.004	.004	0 %100
146	B1	X	.004	.004	0 %5.6
147	B3	X	.004	.004	0 %100
148	B4	X	.004	.004	0 %100
149	M183	X	.001	.001	0 %100
150	M184	X	.001	.001	0 %100
151	M210A	X	.001	.001	0 %100
152	M173	X	.01	.01	0 %100
153	M175A	X	0	0	0 %100
154	M178A	X	0	0	0 %100
155	M181B	X	.001	.001	0 %100
156	M183A	X	.001	.001	0 %100
157	M186	X	.001	.001	0 %100
158	M189	X	.01	.01	0 %100
159	M191	X	0	0	0 %100
160	M194	X	0	0	0 %100
161	M202A	X	0	0	0 %100
162	M203A	X	.001	.001	0 %100
163	M204A	X	0	0	0 %100
164	M197	X	.007	.007	0 %100
165	M198	X	.014	.014	0 %100
166	M199	X	.007	.007	0 %100
167	M200	X	.014	.014	0 %100
168	B1	X	.004	.004	%94.4 %100

Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg))

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
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Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Z	-0.003	-0.003	0	%100
2	M5	Z	0	0	0	%100
3	M6	Z	0	0	0	%100
4	M7	Z	-0.003	-0.003	0	%100
5	M8	Z	-0.003	-0.003	0	%100
6	M9	Z	-0.003	-0.003	0	%100
7	M10	Z	-0.003	-0.003	0	%100
8	M13	Z	-0.033	-0.033	0	%100
9	M14	Z	-0.033	-0.033	0	%100
10	M15	Z	-0.025	-0.025	0	%100
11	M16	Z	-0.025	-0.025	0	%100
12	M17	Z	-0.008	-0.008	0	%100
13	M18	Z	0	0	0	%100
14	M19	Z	-0.008	-0.008	0	%100
15	M20	Z	-0.005	-0.005	0	%100
16	M21	Z	0	0	0	%100
17	M22	Z	-0.005	-0.005	0	%100
18	M23	Z	-0.047	-0.047	0	%100
19	M24	Z	-0.047	-0.047	0	%100
20	M25	Z	-0.033	-0.033	0	%100
21	M26	Z	-0.033	-0.033	0	%100
22	M27	Z	-0.033	-0.033	0	%100
23	M28	Z	-0.033	-0.033	0	%100
24	M29	Z	-0.047	-0.047	0	%100
25	M30	Z	-0.047	-0.047	0	%100
26	M31	Z	-0.033	-0.033	0	%100
27	M32	Z	-0.033	-0.033	0	%100
28	M33	Z	0	0	0	%100
29	M34	Z	0	0	0	%100
30	M35	Z	-0.033	-0.033	0	%100
31	M36	Z	-0.033	-0.033	0	%100
32	M37	Z	0	0	0	%100
33	M38	Z	0	0	0	%100
34	M39	Z	-0.033	-0.033	0	%100
35	M40	Z	-0.033	-0.033	0	%100
36	M41	Z	-0.047	-0.047	0	%100
37	M42	Z	-0.047	-0.047	0	%100
38	M43	Z	-0.033	-0.033	0	%100
39	M44	Z	-0.033	-0.033	0	%100
40	M45	Z	-0.047	-0.047	0	%100
41	M46	Z	-0.047	-0.047	0	%100
42	M47	Z	-0.033	-0.033	0	%100
43	M48	Z	-0.033	-0.033	0	%100
44	M49	Z	0	0	0	%100
45	M50	Z	0	0	0	%100
46	M51	Z	-0.033	-0.033	0	%100
47	M52	Z	-0.033	-0.033	0	%100
48	M53	Z	0	0	0	%100
49	M54	Z	0	0	0	%100
50	M56	Z	-0.01	-0.01	0	%100
51	M57	Z	-0.006	-0.006	0	%100
52	M58	Z	0	0	0	%100
53	M59	Z	-0.006	-0.006	0	%100
54	M60	Z	-0.01	-0.01	0	%100
55	M61	Z	-0.006	-0.006	0	%100
56	M62	Z	0	0	0	%100
57	M63	Z	-0.006	-0.006	0	%100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
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Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
58	M64	Z	0	0	%100
59	M65	Z	-0.006	-0.006	%100
60	M66	Z	-0.01	-0.01	%100
61	M67	Z	-0.006	-0.006	%100
62	M68	Z	0	0	%100
63	M69	Z	-0.006	-0.006	%100
64	M70	Z	-0.01	-0.01	%100
65	M71	Z	-0.006	-0.006	%100
66	M72	Z	-0.004	-0.004	%100
67	M73	Z	0	0	%100
68	M74	Z	-0.004	-0.004	%100
69	M75	Z	0	0	%100
70	M76	Z	-0.025	-0.025	%100
71	M77	Z	-0.025	-0.025	%100
72	M78	Z	-0.033	-0.033	%100
73	M79	Z	-0.033	-0.033	%100
74	M80	Z	-0.004	-0.004	%100
75	M81	Z	-0.011	-0.011	%100
76	M82	Z	0	0	%100
77	M83	Z	0	0	%100
78	M84	Z	-0.033	-0.033	%100
79	M85	Z	-0.033	-0.033	%100
80	M86	Z	-0.004	-0.004	%100
81	M87	Z	-0.011	-0.011	%100
82	M88	Z	0	0	%100
83	M89	Z	0	0	%100
84	M90	Z	-0.033	-0.033	%100
85	M91	Z	-0.033	-0.033	%100
86	M92	Z	-0.004	-0.004	%100
87	M93	Z	0	0	%100
88	M94	Z	-0.025	-0.025	%100
89	M95	Z	-0.025	-0.025	%100
90	M96	Z	-0.033	-0.033	%100
91	M97	Z	-0.033	-0.033	%100
92	M98	Z	-0.004	-0.004	%100
93	M99	Z	0	0	%100
94	M100	Z	-0.025	-0.025	%100
95	M101	Z	-0.025	-0.025	%100
96	M102	Z	-0.033	-0.033	%100
97	M103	Z	-0.033	-0.033	%100
98	M104	Z	-0.004	-0.004	%100
99	M105	Z	-0.011	-0.011	%100
100	M106	Z	0	0	%100
101	M107	Z	0	0	%100
102	M108	Z	-0.033	-0.033	%100
103	M109	Z	-0.033	-0.033	%100
104	M110	Z	-0.004	-0.004	%100
105	M111	Z	-0.011	-0.011	%100
106	M112	Z	0	0	%100
107	M113	Z	0	0	%100
108	M114	Z	-0.033	-0.033	%100
109	M115	Z	-0.033	-0.033	%100
110	M129	Z	-0.012	-0.012	%100
111	M133	Z	-0.004	-0.004	%100
112	M134	Z	0	0	%100
113	M135	Z	-0.004	-0.004	%100
114	M136	Z	0	0	%100

Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft.	End Magnitude[k/ft.F...	Start Location[ft. %]	End Location[ft. %]
115	M138	Z	0	0	0	%100
116	M139	Z	0	0	0	%100
117	M140	Z	0	0	0	%100
118	M141	Z	0	0	0	%100
119	M142	Z	0	0	0	%100
120	M143	Z	0	0	0	%100
121	M144	Z	0	0	0	%100
122	M145	Z	0	0	0	%100
123	A1	Z	-0.004	-0.004	0	%5.6
124	A3	Z	-0.004	-0.004	0	%100
125	A4	Z	-0.004	-0.004	0	%100
126	M150	Z	-0.012	-0.012	0	%100
127	M151	Z	-0.012	-0.012	0	%100
128	M152	Z	-0.012	-0.012	0	%100
129	M153	Z	-0.012	-0.012	0	%100
130	M154	Z	-0.012	-0.012	0	%100
131	M155	Z	-0.012	-0.012	0	%100
132	M156	Z	-0.012	-0.012	0	%100
133	M157	Z	-0.012	-0.012	0	%100
134	D1	Z	-0.004	-0.004	0	%100
135	D2	Z	-0.004	-0.004	0	%100
136	D3	Z	-0.004	-0.004	0	%100
137	D4	Z	-0.004	-0.004	0	%100
138	M162	Z	0	0	0	%100
139	M163	Z	0	0	0	%100
140	M164	Z	0	0	0	%100
141	M165	Z	0	0	0	%100
142	M166	Z	0	0	0	%100
143	M167	Z	0	0	0	%100
144	M168	Z	0	0	0	%100
145	M169	Z	0	0	0	%100
146	C1	Z	-0.004	-0.004	0	%5.6
147	C3	Z	-0.004	-0.004	0	%100
148	C4	Z	-0.004	-0.004	0	%100
149	M174	Z	-0.012	-0.012	0	%100
150	M175	Z	-0.012	-0.012	0	%100
151	M176	Z	-0.012	-0.012	0	%100
152	M177	Z	-0.012	-0.012	0	%100
153	M178	Z	-0.012	-0.012	0	%100
154	M179	Z	-0.012	-0.012	0	%100
155	M180	Z	-0.012	-0.012	0	%100
156	M181	Z	-0.012	-0.012	0	%100
157	B1	Z	-0.004	-0.004	0	%100
158	B2	Z	-0.004	-0.004	0	%100
159	B3	Z	-0.004	-0.004	0	%100
160	B4	Z	-0.004	-0.004	0	%100
161	M183	Z	-0.002	-0.002	0	%100
162	M184	Z	-0.002	-0.002	0	%100
163	M222	Z	-0.007	-0.007	0	%100
164	M223	Z	-0.007	-0.007	0	%100
165	M210A	Z	-0.003	-0.003	0	%100
166	M211A	Z	-0.012	-0.012	0	%100
167	M211B	Z	-0.01	-0.01	0	%100
168	M173	Z	-0.003	-0.003	0	%100
169	M174A	Z	-0.012	-0.012	0	%100
170	M175A	Z	-0.002	-0.002	0	%100
171	M176A	Z	-0.007	-0.007	0	%100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
172	M177B	Z	-0.07	-0.07	0	%100
173	M178A	Z	-0.03	-0.03	0	%100
174	M179B	Z	-0.12	-0.12	0	%100
175	M180A	Z	-0.1	-0.1	0	%100
176	M181B	Z	-0.03	-0.03	0	%100
177	M182	Z	-0.12	-0.12	0	%100
178	M183A	Z	-0.02	-0.02	0	%100
179	M184A	Z	-0.07	-0.07	0	%100
180	M185	Z	-0.07	-0.07	0	%100
181	M186	Z	-0.03	-0.03	0	%100
182	M187	Z	-0.12	-0.12	0	%100
183	M188	Z	-0.1	-0.1	0	%100
184	M189	Z	-0.03	-0.03	0	%100
185	M190	Z	-0.12	-0.12	0	%100
186	M191	Z	-0.02	-0.02	0	%100
187	M192	Z	-0.07	-0.07	0	%100
188	M193	Z	-0.07	-0.07	0	%100
189	M194	Z	-0.03	-0.03	0	%100
190	M195	Z	-0.12	-0.12	0	%100
191	M196	Z	-0.1	-0.1	0	%100
192	M202A	Z	-0.02	-0.02	0	%100
193	M203A	Z	-0.02	-0.02	0	%100
194	M204A	Z	-0.02	-0.02	0	%100
195	M197	Z	-0.06	-0.06	0	%100
196	M198	Z	-0.06	-0.06	0	%100
197	M199	Z	-0.06	-0.06	0	%100
198	M200	Z	-0.06	-0.06	0	%100
199	A1	Z	-0.04	-0.04	%94.4	%100
200	C1	Z	-0.04	-0.04	%94.4	%100
201	M4	X	0	0	0	%100
202	M5	X	0	0	0	%100
203	M6	X	0	0	0	%100
204	M7	X	0	0	0	%100
205	M8	X	0	0	0	%100
206	M9	X	0	0	0	%100
207	M10	X	0	0	0	%100
208	M13	X	0	0	0	%100
209	M14	X	0	0	0	%100
210	M15	X	0	0	0	%100
211	M16	X	0	0	0	%100
212	M17	X	0	0	0	%100
213	M18	X	0	0	0	%100
214	M19	X	0	0	0	%100
215	M20	X	0	0	0	%100
216	M21	X	0	0	0	%100
217	M22	X	0	0	0	%100
218	M23	X	0	0	0	%100
219	M24	X	0	0	0	%100
220	M25	X	0	0	0	%100
221	M26	X	0	0	0	%100
222	M27	X	0	0	0	%100
223	M28	X	0	0	0	%100
224	M29	X	0	0	0	%100
225	M30	X	0	0	0	%100
226	M31	X	0	0	0	%100
227	M32	X	0	0	0	%100
228	M33	X	0	0	0	%100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
229	M34	X	0	0	%100
230	M35	X	0	0	%100
231	M36	X	0	0	%100
232	M37	X	0	0	%100
233	M38	X	0	0	%100
234	M39	X	0	0	%100
235	M40	X	0	0	%100
236	M41	X	0	0	%100
237	M42	X	0	0	%100
238	M43	X	0	0	%100
239	M44	X	0	0	%100
240	M45	X	0	0	%100
241	M46	X	0	0	%100
242	M47	X	0	0	%100
243	M48	X	0	0	%100
244	M49	X	0	0	%100
245	M50	X	0	0	%100
246	M51	X	0	0	%100
247	M52	X	0	0	%100
248	M53	X	0	0	%100
249	M54	X	0	0	%100
250	M56	X	0	0	%100
251	M57	X	0	0	%100
252	M58	X	0	0	%100
253	M59	X	0	0	%100
254	M60	X	0	0	%100
255	M61	X	0	0	%100
256	M62	X	0	0	%100
257	M63	X	0	0	%100
258	M64	X	0	0	%100
259	M65	X	0	0	%100
260	M66	X	0	0	%100
261	M67	X	0	0	%100
262	M68	X	0	0	%100
263	M69	X	0	0	%100
264	M70	X	0	0	%100
265	M71	X	0	0	%100
266	M72	X	0	0	%100
267	M73	X	0	0	%100
268	M74	X	0	0	%100
269	M75	X	0	0	%100
270	M76	X	0	0	%100
271	M77	X	0	0	%100
272	M78	X	0	0	%100
273	M79	X	0	0	%100
274	M80	X	0	0	%100
275	M81	X	0	0	%100
276	M82	X	0	0	%100
277	M83	X	0	0	%100
278	M84	X	0	0	%100
279	M85	X	0	0	%100
280	M86	X	0	0	%100
281	M87	X	0	0	%100
282	M88	X	0	0	%100
283	M89	X	0	0	%100
284	M90	X	0	0	%100
285	M91	X	0	0	%100



Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft. F...	End Magnitude[k/ft. F...	Start Location[ft.%]	End Location[ft.%]
286	M92	X	0	0	%100
287	M93	X	0	0	%100
288	M94	X	0	0	%100
289	M95	X	0	0	%100
290	M96	X	0	0	%100
291	M97	X	0	0	%100
292	M98	X	0	0	%100
293	M99	X	0	0	%100
294	M100	X	0	0	%100
295	M101	X	0	0	%100
296	M102	X	0	0	%100
297	M103	X	0	0	%100
298	M104	X	0	0	%100
299	M105	X	0	0	%100
300	M106	X	0	0	%100
301	M107	X	0	0	%100
302	M108	X	0	0	%100
303	M109	X	0	0	%100
304	M110	X	0	0	%100
305	M111	X	0	0	%100
306	M112	X	0	0	%100
307	M113	X	0	0	%100
308	M114	X	0	0	%100
309	M115	X	0	0	%100
310	M129	X	0	0	%100
311	M133	X	0	0	%100
312	M134	X	0	0	%100
313	M135	X	0	0	%100
314	M136	X	0	0	%100
315	M138	X	0	0	%100
316	M139	X	0	0	%100
317	M140	X	0	0	%100
318	M141	X	0	0	%100
319	M142	X	0	0	%100
320	M143	X	0	0	%100
321	M144	X	0	0	%100
322	M145	X	0	0	%100
323	A1	X	0	0	%100
324	A2	X	0	0	%100
325	A3	X	0	0	%100
326	A4	X	0	0	%100
327	M150	X	0	0	%100
328	M151	X	0	0	%100
329	M152	X	0	0	%100
330	M153	X	0	0	%100
331	M154	X	0	0	%100
332	M155	X	0	0	%100
333	M156	X	0	0	%100
334	M157	X	0	0	%100
335	D1	X	0	0	%100
336	D2	X	0	0	%100
337	D3	X	0	0	%100
338	D4	X	0	0	%100
339	M162	X	0	0	%100
340	M163	X	0	0	%100
341	M164	X	0	0	%100
342	M165	X	0	0	%100



Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
343	M166	X	0	0	0	%100
344	M167	X	0	0	0	%100
345	M168	X	0	0	0	%100
346	M169	X	0	0	0	%100
347	C1	X	0	0	0	%100
348	C2	X	0	0	0	%100
349	C3	X	0	0	0	%100
350	C4	X	0	0	0	%100
351	M174	X	0	0	0	%100
352	M175	X	0	0	0	%100
353	M176	X	0	0	0	%100
354	M177	X	0	0	0	%100
355	M178	X	0	0	0	%100
356	M179	X	0	0	0	%100
357	M180	X	0	0	0	%100
358	M181	X	0	0	0	%100
359	B1	X	0	0	0	%5.6
360	B3	X	0	0	0	%100
361	B4	X	0	0	0	%100
362	M183	X	0	0	0	%100
363	M184	X	0	0	0	%100
364	M222	X	0	0	0	%100
365	M223	X	0	0	0	%100
366	M210A	X	0	0	0	%100
367	M211A	X	0	0	0	%100
368	M211B	X	0	0	0	%100
369	M173	X	0	0	0	%100
370	M174A	X	0	0	0	%100
371	M175A	X	0	0	0	%100
372	M176A	X	0	0	0	%100
373	M177B	X	0	0	0	%100
374	M178A	X	0	0	0	%100
375	M179B	X	0	0	0	%100
376	M180A	X	0	0	0	%100
377	M181B	X	0	0	0	%100
378	M182	X	0	0	0	%100
379	M183A	X	0	0	0	%100
380	M184A	X	0	0	0	%100
381	M185	X	0	0	0	%100
382	M186	X	0	0	0	%100
383	M187	X	0	0	0	%100
384	M188	X	0	0	0	%100
385	M189	X	0	0	0	%100
386	M190	X	0	0	0	%100
387	M191	X	0	0	0	%100
388	M192	X	0	0	0	%100
389	M193	X	0	0	0	%100
390	M194	X	0	0	0	%100
391	M195	X	0	0	0	%100
392	M196	X	0	0	0	%100
393	M202A	X	0	0	0	%100
394	M203A	X	0	0	0	%100
395	M204A	X	0	0	0	%100
396	M197	X	0	0	0	%100
397	M198	X	0	0	0	%100
398	M199	X	0	0	0	%100
399	M200	X	0	0	0	%100



Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
400	B1	X	0	0	%94.4 %100

Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg))

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Z	-0.04	-0.04	0 %100
2	M5	Z	-0.01	-0.01	0 %100
3	M6	Z	-0.01	-0.01	0 %100
4	M7	Z	-0.04	-0.04	0 %100
5	M8	Z	-0.01	-0.01	0 %100
6	M9	Z	-0.04	-0.04	0 %100
7	M10	Z	-0.01	-0.01	0 %100
8	M13	Z	-0.028	-0.028	0 %100
9	M14	Z	-0.028	-0.028	0 %100
10	M15	Z	-0.021	-0.021	0 %100
11	M16	Z	-0.021	-0.021	0 %100
12	M17	Z	-0.006	-0.006	0 %100
13	M18	Z	-0.001	-0.001	0 %100
14	M19	Z	-0.006	-0.006	0 %100
15	M20	Z	-0.004	-0.004	0 %100
16	M21	Z	-0.001	-0.001	0 %100
17	M22	Z	-0.004	-0.004	0 %100
18	M23	Z	-0.041	-0.041	0 %100
19	M24	Z	-0.041	-0.041	0 %100
20	M25	Z	-0.028	-0.028	0 %100
21	M26	Z	-0.028	-0.028	0 %100
22	M27	Z	-0.028	-0.028	0 %100
23	M28	Z	-0.028	-0.028	0 %100
24	M29	Z	-0.041	-0.041	0 %100
25	M30	Z	-0.041	-0.041	0 %100
26	M31	Z	-0.028	-0.028	0 %100
27	M32	Z	-0.028	-0.028	0 %100
28	M33	Z	0	0	0 %100
29	M34	Z	0	0	0 %100
30	M35	Z	-0.028	-0.028	0 %100
31	M36	Z	-0.028	-0.028	0 %100
32	M37	Z	0	0	0 %100
33	M38	Z	0	0	0 %100
34	M39	Z	-0.028	-0.028	0 %100
35	M40	Z	-0.028	-0.028	0 %100
36	M41	Z	-0.041	-0.041	0 %100
37	M42	Z	-0.041	-0.041	0 %100
38	M43	Z	-0.028	-0.028	0 %100
39	M44	Z	-0.028	-0.028	0 %100
40	M45	Z	-0.041	-0.041	0 %100
41	M46	Z	-0.041	-0.041	0 %100
42	M47	Z	-0.028	-0.028	0 %100
43	M48	Z	-0.028	-0.028	0 %100
44	M49	Z	0	0	0 %100
45	M50	Z	0	0	0 %100
46	M51	Z	-0.028	-0.028	0 %100
47	M52	Z	-0.028	-0.028	0 %100
48	M53	Z	0	0	0 %100
49	M54	Z	0	0	0 %100
50	M56	Z	-0.007	-0.007	0 %100
51	M57	Z	-0.003	-0.003	0 %100
52	M58	Z	-0.001	-0.001	0 %100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
53	M59	Z	-0.003	-0.003	0 %100
54	M60	Z	-0.007	-0.007	0 %100
55	M61	Z	-0.007	-0.007	0 %100
56	M62	Z	-0.001	-0.001	0 %100
57	M63	Z	-0.007	-0.007	0 %100
58	M64	Z	-0.001	-0.001	0 %100
59	M65	Z	-0.003	-0.003	0 %100
60	M66	Z	-0.007	-0.007	0 %100
61	M67	Z	-0.003	-0.003	0 %100
62	M68	Z	-0.001	-0.001	0 %100
63	M69	Z	-0.007	-0.007	0 %100
64	M70	Z	-0.007	-0.007	0 %100
65	M71	Z	-0.007	-0.007	0 %100
66	M72	Z	-0.002	-0.002	0 %100
67	M73	Z	-0.001	-0.001	0 %100
68	M74	Z	-0.004	-0.004	0 %100
69	M75	Z	-0.001	-0.001	0 %100
70	M76	Z	-0.021	-0.021	0 %100
71	M77	Z	-0.021	-0.021	0 %100
72	M78	Z	-0.028	-0.028	0 %100
73	M79	Z	-0.028	-0.028	0 %100
74	M80	Z	-0.004	-0.004	0 %100
75	M81	Z	-0.009	-0.009	0 %100
76	M82	Z	0	0	0 %100
77	M83	Z	0	0	0 %100
78	M84	Z	-0.028	-0.028	0 %100
79	M85	Z	-0.028	-0.028	0 %100
80	M86	Z	-0.002	-0.002	0 %100
81	M87	Z	-0.009	-0.009	0 %100
82	M88	Z	0	0	0 %100
83	M89	Z	0	0	0 %100
84	M90	Z	-0.028	-0.028	0 %100
85	M91	Z	-0.028	-0.028	0 %100
86	M92	Z	-0.002	-0.002	0 %100
87	M93	Z	-0.001	-0.001	0 %100
88	M94	Z	-0.021	-0.021	0 %100
89	M95	Z	-0.021	-0.021	0 %100
90	M96	Z	-0.028	-0.028	0 %100
91	M97	Z	-0.028	-0.028	0 %100
92	M98	Z	-0.004	-0.004	0 %100
93	M99	Z	-0.001	-0.001	0 %100
94	M100	Z	-0.021	-0.021	0 %100
95	M101	Z	-0.021	-0.021	0 %100
96	M102	Z	-0.028	-0.028	0 %100
97	M103	Z	-0.028	-0.028	0 %100
98	M104	Z	-0.004	-0.004	0 %100
99	M105	Z	-0.009	-0.009	0 %100
100	M106	Z	0	0	0 %100
101	M107	Z	0	0	0 %100
102	M108	Z	-0.028	-0.028	0 %100
103	M109	Z	-0.028	-0.028	0 %100
104	M110	Z	-0.002	-0.002	0 %100
105	M111	Z	-0.009	-0.009	0 %100
106	M112	Z	0	0	0 %100
107	M113	Z	0	0	0 %100
108	M114	Z	-0.028	-0.028	0 %100
109	M115	Z	-0.028	-0.028	0 %100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft. ...]	End Magnitude[k/ft. F...]	Start Location[ft. %]	End Location[ft. %]
110	M129	Z	-0.01	-0.01	0 %100
111	M133	Z	-0.003	-0.003	0 %100
112	M134	Z	0	0	0 %100
113	M135	Z	-0.003	-0.003	0 %100
114	M136	Z	0	0	0 %100
115	M138	Z	0	0	0 %100
116	M139	Z	0	0	0 %100
117	M140	Z	0	0	0 %100
118	M141	Z	0	0	0 %100
119	M142	Z	0	0	0 %100
120	M143	Z	0	0	0 %100
121	M144	Z	0	0	0 %100
122	M145	Z	0	0	0 %100
123	A1	Z	-0.004	-0.004	0 %5.6
124	A3	Z	-0.004	-0.004	0 %100
125	A4	Z	-0.004	-0.004	0 %100
126	M150	Z	-0.01	-0.01	0 %100
127	M151	Z	-0.01	-0.01	0 %100
128	M152	Z	-0.01	-0.01	0 %100
129	M153	Z	-0.01	-0.01	0 %100
130	M154	Z	-0.01	-0.01	0 %100
131	M155	Z	-0.01	-0.01	0 %100
132	M156	Z	-0.01	-0.01	0 %100
133	M157	Z	-0.01	-0.01	0 %100
134	D1	Z	-0.004	-0.004	0 %100
135	D2	Z	-0.004	-0.004	0 %100
136	D3	Z	-0.004	-0.004	0 %100
137	D4	Z	-0.004	-0.004	0 %100
138	M162	Z	0	0	0 %100
139	M163	Z	0	0	0 %100
140	M164	Z	0	0	0 %100
141	M165	Z	0	0	0 %100
142	M166	Z	0	0	0 %100
143	M167	Z	0	0	0 %100
144	M168	Z	0	0	0 %100
145	M169	Z	0	0	0 %100
146	C1	Z	-0.004	-0.004	0 %5.6
147	C3	Z	-0.004	-0.004	0 %100
148	C4	Z	-0.004	-0.004	0 %100
149	M174	Z	-0.01	-0.01	0 %100
150	M175	Z	-0.01	-0.01	0 %100
151	M176	Z	-0.01	-0.01	0 %100
152	M177	Z	-0.01	-0.01	0 %100
153	M178	Z	-0.01	-0.01	0 %100
154	M179	Z	-0.01	-0.01	0 %100
155	M180	Z	-0.01	-0.01	0 %100
156	M181	Z	-0.01	-0.01	0 %100
157	B1	Z	-0.004	-0.004	0 %100
158	B2	Z	-0.004	-0.004	0 %100
159	B3	Z	-0.004	-0.004	0 %100
160	B4	Z	-0.004	-0.004	0 %100
161	M183	Z	-0.002	-0.002	0 %100
162	M184	Z	-0.001	-0.001	0 %100
163	M222	Z	-0.006	-0.006	0 %100
164	M223	Z	-0.006	-0.006	0 %100
165	M210A	Z	-0.002	-0.002	0 %100
166	M211A	Z	-0.01	-0.01	0 %100



Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
167	M211B	Z	-0.09	-0.09	0 %100
168	M173	Z	-0.01	-0.01	0 %100
169	M174A	Z	-0.01	-0.01	0 %100
170	M175A	Z	-0.02	-0.02	0 %100
171	M176A	Z	-0.06	-0.06	0 %100
172	M177B	Z	-0.06	-0.06	0 %100
173	M178A	Z	-0.02	-0.02	0 %100
174	M179B	Z	-0.01	-0.01	0 %100
175	M180A	Z	-0.09	-0.09	0 %100
176	M181B	Z	-0.04	-0.04	0 %100
177	M182	Z	-0.01	-0.01	0 %100
178	M183A	Z	-0.01	-0.01	0 %100
179	M184A	Z	-0.06	-0.06	0 %100
180	M185	Z	-0.06	-0.06	0 %100
181	M186	Z	-0.02	-0.02	0 %100
182	M187	Z	-0.01	-0.01	0 %100
183	M188	Z	-0.09	-0.09	0 %100
184	M189	Z	-0.01	-0.01	0 %100
185	M190	Z	-0.01	-0.01	0 %100
186	M191	Z	-0.02	-0.02	0 %100
187	M192	Z	-0.06	-0.06	0 %100
188	M193	Z	-0.06	-0.06	0 %100
189	M194	Z	-0.02	-0.02	0 %100
190	M195	Z	-0.01	-0.01	0 %100
191	M196	Z	-0.09	-0.09	0 %100
192	M202A	Z	-0.02	-0.02	0 %100
193	M203A	Z	-0.02	-0.02	0 %100
194	M204A	Z	-0.02	-0.02	0 %100
195	M197	Z	-0.06	-0.06	0 %100
196	M198	Z	-0.03	-0.03	0 %100
197	M199	Z	-0.06	-0.06	0 %100
198	M200	Z	-0.03	-0.03	0 %100
199	A1	Z	-0.04	-0.04	%94.4 %100
200	C1	Z	-0.04	-0.04	%94.4 %100
201	M4	X	.002	.002	0 %100
202	M5	X	.001	.001	0 %100
203	M6	X	0	0	0 %100
204	M7	X	.002	.002	0 %100
205	M8	X	.001	.001	0 %100
206	M9	X	.002	.002	0 %100
207	M10	X	.001	.001	0 %100
208	M13	X	.016	.016	0 %100
209	M14	X	.016	.016	0 %100
210	M15	X	.012	.012	0 %100
211	M16	X	.012	.012	0 %100
212	M17	X	.003	.003	0 %100
213	M18	X	.001	.001	0 %100
214	M19	X	.003	.003	0 %100
215	M20	X	.002	.002	0 %100
216	M21	X	0	0	0 %100
217	M22	X	.002	.002	0 %100
218	M23	X	.023	.023	0 %100
219	M24	X	.023	.023	0 %100
220	M25	X	.016	.016	0 %100
221	M26	X	.016	.016	0 %100
222	M27	X	.016	.016	0 %100
223	M28	X	.016	.016	0 %100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

June 11, 2019
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 Checked By: _____

Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
224	M29	X	.023	.023	0 %100
225	M30	X	.023	.023	0 %100
226	M31	X	.016	.016	0 %100
227	M32	X	.016	.016	0 %100
228	M33	X	0	0	0 %100
229	M34	X	0	0	0 %100
230	M35	X	.016	.016	0 %100
231	M36	X	.016	.016	0 %100
232	M37	X	0	0	0 %100
233	M38	X	0	0	0 %100
234	M39	X	.016	.016	0 %100
235	M40	X	.016	.016	0 %100
236	M41	X	.023	.023	0 %100
237	M42	X	.023	.023	0 %100
238	M43	X	.016	.016	0 %100
239	M44	X	.016	.016	0 %100
240	M45	X	.023	.023	0 %100
241	M46	X	.023	.023	0 %100
242	M47	X	.016	.016	0 %100
243	M48	X	.016	.016	0 %100
244	M49	X	0	0	0 %100
245	M50	X	0	0	0 %100
246	M51	X	.016	.016	0 %100
247	M52	X	.016	.016	0 %100
248	M53	X	0	0	0 %100
249	M54	X	0	0	0 %100
250	M56	X	.004	.004	0 %100
251	M57	X	.002	.002	0 %100
252	M58	X	.001	.001	0 %100
253	M59	X	.002	.002	0 %100
254	M60	X	.004	.004	0 %100
255	M61	X	.004	.004	0 %100
256	M62	X	.001	.001	0 %100
257	M63	X	.004	.004	0 %100
258	M64	X	.001	.001	0 %100
259	M65	X	.002	.002	0 %100
260	M66	X	.004	.004	0 %100
261	M67	X	.002	.002	0 %100
262	M68	X	.001	.001	0 %100
263	M69	X	.004	.004	0 %100
264	M70	X	.004	.004	0 %100
265	M71	X	.004	.004	0 %100
266	M72	X	.001	.001	0 %100
267	M73	X	0	0	0 %100
268	M74	X	.002	.002	0 %100
269	M75	X	0	0	0 %100
270	M76	X	.012	.012	0 %100
271	M77	X	.012	.012	0 %100
272	M78	X	.016	.016	0 %100
273	M79	X	.016	.016	0 %100
274	M80	X	.002	.002	0 %100
275	M81	X	.005	.005	0 %100
276	M82	X	0	0	0 %100
277	M83	X	0	0	0 %100
278	M84	X	.016	.016	0 %100
279	M85	X	.016	.016	0 %100
280	M86	X	.001	.001	0 %100



Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
281	M87	X	.005	.005	0 %100
282	M88	X	0	0	0 %100
283	M89	X	0	0	0 %100
284	M90	X	.016	.016	0 %100
285	M91	X	.016	.016	0 %100
286	M92	X	.001	.001	0 %100
287	M93	X	0	0	0 %100
288	M94	X	.012	.012	0 %100
289	M95	X	.012	.012	0 %100
290	M96	X	.016	.016	0 %100
291	M97	X	.016	.016	0 %100
292	M98	X	.002	.002	0 %100
293	M99	X	0	0	0 %100
294	M100	X	.012	.012	0 %100
295	M101	X	.012	.012	0 %100
296	M102	X	.016	.016	0 %100
297	M103	X	.016	.016	0 %100
298	M104	X	.002	.002	0 %100
299	M105	X	.005	.005	0 %100
300	M106	X	0	0	0 %100
301	M107	X	0	0	0 %100
302	M108	X	.016	.016	0 %100
303	M109	X	.016	.016	0 %100
304	M110	X	.001	.001	0 %100
305	M111	X	.005	.005	0 %100
306	M112	X	0	0	0 %100
307	M113	X	0	0	0 %100
308	M114	X	.016	.016	0 %100
309	M115	X	.016	.016	0 %100
310	M129	X	.006	.006	0 %100
311	M133	X	.002	.002	0 %100
312	M134	X	0	0	0 %100
313	M135	X	.002	.002	0 %100
314	M136	X	0	0	0 %100
315	M138	X	0	0	0 %100
316	M139	X	0	0	0 %100
317	M140	X	0	0	0 %100
318	M141	X	0	0	0 %100
319	M142	X	0	0	0 %100
320	M143	X	0	0	0 %100
321	M144	X	0	0	0 %100
322	M145	X	0	0	0 %100
323	A1	X	.002	.002	0 %100
324	A2	X	.002	.002	0 %100
325	A3	X	.002	.002	0 %100
326	A4	X	.002	.002	0 %100
327	M150	X	.006	.006	0 %100
328	M151	X	.006	.006	0 %100
329	M152	X	.006	.006	0 %100
330	M153	X	.006	.006	0 %100
331	M154	X	.006	.006	0 %100
332	M155	X	.006	.006	0 %100
333	M156	X	.006	.006	0 %100
334	M157	X	.006	.006	0 %100
335	D1	X	.002	.002	0 %100
336	D2	X	.002	.002	0 %100
337	D3	X	.002	.002	0 %100



Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
338	D4	X	.002	.002	0 %100
339	M162	X	0	0	0 %100
340	M163	X	0	0	0 %100
341	M164	X	0	0	0 %100
342	M165	X	0	0	0 %100
343	M166	X	0	0	0 %100
344	M167	X	0	0	0 %100
345	M168	X	0	0	0 %100
346	M169	X	0	0	0 %100
347	C1	X	.002	.002	0 %100
348	C2	X	.002	.002	0 %100
349	C3	X	.002	.002	0 %100
350	C4	X	.002	.002	0 %100
351	M174	X	.006	.006	0 %100
352	M175	X	.006	.006	0 %100
353	M176	X	.006	.006	0 %100
354	M177	X	.006	.006	0 %100
355	M178	X	.006	.006	0 %100
356	M179	X	.006	.006	0 %100
357	M180	X	.006	.006	0 %100
358	M181	X	.006	.006	0 %100
359	B1	X	.002	.002	0 %5.6
360	B3	X	.002	.002	0 %100
361	B4	X	.002	.002	0 %100
362	M183	X	.001	.001	0 %100
363	M184	X	.001	.001	0 %100
364	M222	X	.003	.003	0 %100
365	M223	X	.003	.003	0 %100
366	M210A	X	.001	.001	0 %100
367	M211A	X	.006	.006	0 %100
368	M211B	X	.005	.005	0 %100
369	M173	X	.001	.001	0 %100
370	M174A	X	.006	.006	0 %100
371	M175A	X	.001	.001	0 %100
372	M176A	X	.003	.003	0 %100
373	M177B	X	.003	.003	0 %100
374	M178A	X	.001	.001	0 %100
375	M179B	X	.006	.006	0 %100
376	M180A	X	.005	.005	0 %100
377	M181B	X	.002	.002	0 %100
378	M182	X	.006	.006	0 %100
379	M183A	X	.001	.001	0 %100
380	M184A	X	.003	.003	0 %100
381	M185	X	.003	.003	0 %100
382	M186	X	.001	.001	0 %100
383	M187	X	.006	.006	0 %100
384	M188	X	.005	.005	0 %100
385	M189	X	.001	.001	0 %100
386	M190	X	.006	.006	0 %100
387	M191	X	.001	.001	0 %100
388	M192	X	.003	.003	0 %100
389	M193	X	.003	.003	0 %100
390	M194	X	.001	.001	0 %100
391	M195	X	.006	.006	0 %100
392	M196	X	.005	.005	0 %100
393	M202A	X	.001	.001	0 %100
394	M203A	X	.001	.001	0 %100



Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft.%,]	End Location[ft.%,]
395	M204A	X	.001	.001	0	%100
396	M197	X	.004	.004	0	%100
397	M198	X	.002	.002	0	%100
398	M199	X	.004	.004	0	%100
399	M200	X	.002	.002	0	%100
400	B1	X	.002	.002	%94.4	%100

Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg))

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft.%,]	End Location[ft.%,]
1	M4	Z	-.002	-.002	0	%100
2	M5	Z	-.002	-.002	0	%100
3	M6	Z	-.001	-.001	0	%100
4	M7	Z	-.002	-.002	0	%100
5	M8	Z	-.001	-.001	0	%100
6	M9	Z	-.002	-.002	0	%100
7	M10	Z	-.001	-.001	0	%100
8	M13	Z	-.016	-.016	0	%100
9	M14	Z	-.016	-.016	0	%100
10	M15	Z	-.012	-.012	0	%100
11	M16	Z	-.012	-.012	0	%100
12	M17	Z	-.002	-.002	0	%100
13	M18	Z	-.002	-.002	0	%100
14	M19	Z	-.002	-.002	0	%100
15	M20	Z	-.002	-.002	0	%100
16	M21	Z	-.001	-.001	0	%100
17	M22	Z	-.002	-.002	0	%100
18	M23	Z	-.023	-.023	0	%100
19	M24	Z	-.023	-.023	0	%100
20	M25	Z	-.016	-.016	0	%100
21	M26	Z	-.016	-.016	0	%100
22	M27	Z	-.016	-.016	0	%100
23	M28	Z	-.016	-.016	0	%100
24	M29	Z	-.023	-.023	0	%100
25	M30	Z	-.023	-.023	0	%100
26	M31	Z	-.016	-.016	0	%100
27	M32	Z	-.016	-.016	0	%100
28	M33	Z	0	0	0	%100
29	M34	Z	0	0	0	%100
30	M35	Z	-.016	-.016	0	%100
31	M36	Z	-.016	-.016	0	%100
32	M37	Z	0	0	0	%100
33	M38	Z	0	0	0	%100
34	M39	Z	-.016	-.016	0	%100
35	M40	Z	-.016	-.016	0	%100
36	M41	Z	-.023	-.023	0	%100
37	M42	Z	-.023	-.023	0	%100
38	M43	Z	-.016	-.016	0	%100
39	M44	Z	-.016	-.016	0	%100
40	M45	Z	-.023	-.023	0	%100
41	M46	Z	-.023	-.023	0	%100
42	M47	Z	-.016	-.016	0	%100
43	M48	Z	-.016	-.016	0	%100
44	M49	Z	0	0	0	%100
45	M50	Z	0	0	0	%100
46	M51	Z	-.016	-.016	0	%100
47	M52	Z	-.016	-.016	0	%100



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
48	M53	Z	0	0	0	%100
49	M54	Z	0	0	0	%100
50	M56	Z	-0.003	-0.003	0	%100
51	M57	Z	-0.002	-0.002	0	%100
52	M58	Z	-0.002	-0.002	0	%100
53	M59	Z	-0.002	-0.002	0	%100
54	M60	Z	-0.003	-0.003	0	%100
55	M61	Z	-0.004	-0.004	0	%100
56	M62	Z	-0.002	-0.002	0	%100
57	M63	Z	-0.004	-0.004	0	%100
58	M64	Z	-0.002	-0.002	0	%100
59	M65	Z	-0.002	-0.002	0	%100
60	M66	Z	-0.003	-0.003	0	%100
61	M67	Z	-0.002	-0.002	0	%100
62	M68	Z	-0.002	-0.002	0	%100
63	M69	Z	-0.004	-0.004	0	%100
64	M70	Z	-0.003	-0.003	0	%100
65	M71	Z	-0.004	-0.004	0	%100
66	M72	Z	-0.001	-0.001	0	%100
67	M73	Z	-0.001	-0.001	0	%100
68	M74	Z	-0.002	-0.002	0	%100
69	M75	Z	-0.001	-0.001	0	%100
70	M76	Z	-0.012	-0.012	0	%100
71	M77	Z	-0.012	-0.012	0	%100
72	M78	Z	-0.016	-0.016	0	%100
73	M79	Z	-0.016	-0.016	0	%100
74	M80	Z	-0.002	-0.002	0	%100
75	M81	Z	-0.005	-0.005	0	%100
76	M82	Z	0	0	0	%100
77	M83	Z	0	0	0	%100
78	M84	Z	-0.016	-0.016	0	%100
79	M85	Z	-0.016	-0.016	0	%100
80	M86	Z	-0.001	-0.001	0	%100
81	M87	Z	-0.005	-0.005	0	%100
82	M88	Z	0	0	0	%100
83	M89	Z	0	0	0	%100
84	M90	Z	-0.016	-0.016	0	%100
85	M91	Z	-0.016	-0.016	0	%100
86	M92	Z	-0.001	-0.001	0	%100
87	M93	Z	-0.001	-0.001	0	%100
88	M94	Z	-0.012	-0.012	0	%100
89	M95	Z	-0.012	-0.012	0	%100
90	M96	Z	-0.016	-0.016	0	%100
91	M97	Z	-0.016	-0.016	0	%100
92	M98	Z	-0.002	-0.002	0	%100
93	M99	Z	-0.001	-0.001	0	%100
94	M100	Z	-0.012	-0.012	0	%100
95	M101	Z	-0.012	-0.012	0	%100
96	M102	Z	-0.016	-0.016	0	%100
97	M103	Z	-0.016	-0.016	0	%100
98	M104	Z	-0.002	-0.002	0	%100
99	M105	Z	-0.005	-0.005	0	%100
100	M106	Z	0	0	0	%100
101	M107	Z	0	0	0	%100
102	M108	Z	-0.016	-0.016	0	%100
103	M109	Z	-0.016	-0.016	0	%100
104	M110	Z	-0.001	-0.001	0	%100



Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
105	M111	Z	-0.005	-0.005	0 %100
106	M112	Z	0	0	0 %100
107	M113	Z	0	0	0 %100
108	M114	Z	-0.016	-0.016	0 %100
109	M115	Z	-0.016	-0.016	0 %100
110	M129	Z	-0.006	-0.006	0 %100
111	M133	Z	-0.001	-0.001	0 %100
112	M134	Z	0	0	0 %100
113	M135	Z	-0.001	-0.001	0 %100
114	M136	Z	0	0	0 %100
115	M138	Z	0	0	0 %100
116	M139	Z	0	0	0 %100
117	M140	Z	0	0	0 %100
118	M141	Z	0	0	0 %100
119	M142	Z	0	0	0 %100
120	M143	Z	0	0	0 %100
121	M144	Z	0	0	0 %100
122	M145	Z	0	0	0 %100
123	A1	Z	-0.002	-0.002	0 %5.6
124	A3	Z	-0.002	-0.002	0 %100
125	A4	Z	-0.002	-0.002	0 %100
126	M150	Z	-0.006	-0.006	0 %100
127	M151	Z	-0.006	-0.006	0 %100
128	M152	Z	-0.006	-0.006	0 %100
129	M153	Z	-0.006	-0.006	0 %100
130	M154	Z	-0.006	-0.006	0 %100
131	M155	Z	-0.006	-0.006	0 %100
132	M156	Z	-0.006	-0.006	0 %100
133	M157	Z	-0.006	-0.006	0 %100
134	D1	Z	-0.002	-0.002	0 %100
135	D2	Z	-0.002	-0.002	0 %100
136	D3	Z	-0.002	-0.002	0 %100
137	D4	Z	-0.002	-0.002	0 %100
138	M162	Z	0	0	0 %100
139	M163	Z	0	0	0 %100
140	M164	Z	0	0	0 %100
141	M165	Z	0	0	0 %100
142	M166	Z	0	0	0 %100
143	M167	Z	0	0	0 %100
144	M168	Z	0	0	0 %100
145	M169	Z	0	0	0 %100
146	C1	Z	-0.002	-0.002	0 %5.6
147	C3	Z	-0.002	-0.002	0 %100
148	C4	Z	-0.002	-0.002	0 %100
149	M174	Z	-0.006	-0.006	0 %100
150	M175	Z	-0.006	-0.006	0 %100
151	M176	Z	-0.006	-0.006	0 %100
152	M177	Z	-0.006	-0.006	0 %100
153	M178	Z	-0.006	-0.006	0 %100
154	M179	Z	-0.006	-0.006	0 %100
155	M180	Z	-0.006	-0.006	0 %100
156	M181	Z	-0.006	-0.006	0 %100
157	B1	Z	-0.002	-0.002	0 %100
158	B2	Z	-0.002	-0.002	0 %100
159	B3	Z	-0.002	-0.002	0 %100
160	B4	Z	-0.002	-0.002	0 %100
161	M183	Z	-0.001	-0.001	0 %100



Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
162	M184	Z	-0.001	-0.001	0 %100
163	M222	Z	-0.003	-0.003	0 %100
164	M223	Z	-0.003	-0.003	0 %100
165	M210A	Z	-0.001	-0.001	0 %100
166	M211A	Z	-0.006	-0.006	0 %100
167	M211B	Z	-0.005	-0.005	0 %100
168	M173	Z	-0.001	-0.001	0 %100
169	M174A	Z	-0.006	-0.006	0 %100
170	M175A	Z	-0.001	-0.001	0 %100
171	M176A	Z	-0.003	-0.003	0 %100
172	M177B	Z	-0.003	-0.003	0 %100
173	M178A	Z	-0.001	-0.001	0 %100
174	M179B	Z	-0.006	-0.006	0 %100
175	M180A	Z	-0.005	-0.005	0 %100
176	M181B	Z	-0.002	-0.002	0 %100
177	M182	Z	-0.006	-0.006	0 %100
178	M183A	Z	-0.001	-0.001	0 %100
179	M184A	Z	-0.003	-0.003	0 %100
180	M185	Z	-0.003	-0.003	0 %100
181	M186	Z	-0.001	-0.001	0 %100
182	M187	Z	-0.006	-0.006	0 %100
183	M188	Z	-0.005	-0.005	0 %100
184	M189	Z	-0.001	-0.001	0 %100
185	M190	Z	-0.006	-0.006	0 %100
186	M191	Z	-0.001	-0.001	0 %100
187	M192	Z	-0.003	-0.003	0 %100
188	M193	Z	-0.003	-0.003	0 %100
189	M194	Z	-0.001	-0.001	0 %100
190	M195	Z	-0.006	-0.006	0 %100
191	M196	Z	-0.005	-0.005	0 %100
192	M202A	Z	-0.001	-0.001	0 %100
193	M203A	Z	-0.001	-0.001	0 %100
194	M204A	Z	-0.001	-0.001	0 %100
195	M197	Z	-0.004	-0.004	0 %100
196	M198	Z	-0.002	-0.002	0 %100
197	M199	Z	-0.004	-0.004	0 %100
198	M200	Z	-0.002	-0.002	0 %100
199	A1	Z	-0.002	-0.002	%94.4 %100
200	C1	Z	-0.002	-0.002	%94.4 %100
201	M4	X	.004	.004	0 %100
202	M5	X	.004	.004	0 %100
203	M6	X	.002	.002	0 %100
204	M7	X	.004	.004	0 %100
205	M8	X	.001	.001	0 %100
206	M9	X	.004	.004	0 %100
207	M10	X	.001	.001	0 %100
208	M13	X	.028	.028	0 %100
209	M14	X	.028	.028	0 %100
210	M15	X	.021	.021	0 %100
211	M16	X	.021	.021	0 %100
212	M17	X	.003	.003	0 %100
213	M18	X	.004	.004	0 %100
214	M19	X	.003	.003	0 %100
215	M20	X	.003	.003	0 %100
216	M21	X	.002	.002	0 %100
217	M22	X	.003	.003	0 %100
218	M23	X	.041	.041	0 %100



Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
219	M24	X	.041	.041	0 %100
220	M25	X	.028	.028	0 %100
221	M26	X	.028	.028	0 %100
222	M27	X	.028	.028	0 %100
223	M28	X	.028	.028	0 %100
224	M29	X	.041	.041	0 %100
225	M30	X	.041	.041	0 %100
226	M31	X	.028	.028	0 %100
227	M32	X	.028	.028	0 %100
228	M33	X	0	0	0 %100
229	M34	X	0	0	0 %100
230	M35	X	.028	.028	0 %100
231	M36	X	.028	.028	0 %100
232	M37	X	0	0	0 %100
233	M38	X	0	0	0 %100
234	M39	X	.028	.028	0 %100
235	M40	X	.028	.028	0 %100
236	M41	X	.041	.041	0 %100
237	M42	X	.041	.041	0 %100
238	M43	X	.028	.028	0 %100
239	M44	X	.028	.028	0 %100
240	M45	X	.041	.041	0 %100
241	M46	X	.041	.041	0 %100
242	M47	X	.028	.028	0 %100
243	M48	X	.028	.028	0 %100
244	M49	X	0	0	0 %100
245	M50	X	0	0	0 %100
246	M51	X	.028	.028	0 %100
247	M52	X	.028	.028	0 %100
248	M53	X	0	0	0 %100
249	M54	X	0	0	0 %100
250	M56	X	.005	.005	0 %100
251	M57	X	.003	.003	0 %100
252	M58	X	.003	.003	0 %100
253	M59	X	.003	.003	0 %100
254	M60	X	.005	.005	0 %100
255	M61	X	.007	.007	0 %100
256	M62	X	.003	.003	0 %100
257	M63	X	.007	.007	0 %100
258	M64	X	.003	.003	0 %100
259	M65	X	.003	.003	0 %100
260	M66	X	.005	.005	0 %100
261	M67	X	.003	.003	0 %100
262	M68	X	.003	.003	0 %100
263	M69	X	.007	.007	0 %100
264	M70	X	.005	.005	0 %100
265	M71	X	.007	.007	0 %100
266	M72	X	.002	.002	0 %100
267	M73	X	.002	.002	0 %100
268	M74	X	.004	.004	0 %100
269	M75	X	.002	.002	0 %100
270	M76	X	.021	.021	0 %100
271	M77	X	.021	.021	0 %100
272	M78	X	.028	.028	0 %100
273	M79	X	.028	.028	0 %100
274	M80	X	.004	.004	0 %100
275	M81	X	.008	.008	0 %100



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 Designer : VB
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Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
276	M82	X	0	0	%100
277	M83	X	0	0	%100
278	M84	X	.028	.028	%100
279	M85	X	.028	.028	%100
280	M86	X	.002	.002	%100
281	M87	X	.008	.008	%100
282	M88	X	0	0	%100
283	M89	X	0	0	%100
284	M90	X	.028	.028	%100
285	M91	X	.028	.028	%100
286	M92	X	.002	.002	%100
287	M93	X	.002	.002	%100
288	M94	X	.021	.021	%100
289	M95	X	.021	.021	%100
290	M96	X	.028	.028	%100
291	M97	X	.028	.028	%100
292	M98	X	.004	.004	%100
293	M99	X	.002	.002	%100
294	M100	X	.021	.021	%100
295	M101	X	.021	.021	%100
296	M102	X	.028	.028	%100
297	M103	X	.028	.028	%100
298	M104	X	.004	.004	%100
299	M105	X	.008	.008	%100
300	M106	X	0	0	%100
301	M107	X	0	0	%100
302	M108	X	.028	.028	%100
303	M109	X	.028	.028	%100
304	M110	X	.002	.002	%100
305	M111	X	.008	.008	%100
306	M112	X	0	0	%100
307	M113	X	0	0	%100
308	M114	X	.028	.028	%100
309	M115	X	.028	.028	%100
310	M129	X	.01	.01	%100
311	M133	X	.002	.002	%100
312	M134	X	.001	.001	%100
313	M135	X	.002	.002	%100
314	M136	X	.001	.001	%100
315	M138	X	0	0	%100
316	M139	X	0	0	%100
317	M140	X	0	0	%100
318	M141	X	0	0	%100
319	M142	X	0	0	%100
320	M143	X	0	0	%100
321	M144	X	0	0	%100
322	M145	X	0	0	%100
323	A1	X	.004	.004	%100
324	A2	X	.004	.004	%100
325	A3	X	.004	.004	%100
326	A4	X	.004	.004	%100
327	M150	X	.01	.01	%100
328	M151	X	.01	.01	%100
329	M152	X	.01	.01	%100
330	M153	X	.01	.01	%100
331	M154	X	.01	.01	%100
332	M155	X	.01	.01	%100



Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
333	M156	X	.01	.01	0	%100
334	M157	X	.01	.01	0	%100
335	D1	X	.004	.004	0	%100
336	D2	X	.004	.004	0	%100
337	D3	X	.004	.004	0	%100
338	D4	X	.004	.004	0	%100
339	M162	X	0	0	0	%100
340	M163	X	0	0	0	%100
341	M164	X	0	0	0	%100
342	M165	X	0	0	0	%100
343	M166	X	0	0	0	%100
344	M167	X	0	0	0	%100
345	M168	X	0	0	0	%100
346	M169	X	0	0	0	%100
347	C1	X	.004	.004	0	%100
348	C2	X	.004	.004	0	%100
349	C3	X	.004	.004	0	%100
350	C4	X	.004	.004	0	%100
351	M174	X	.01	.01	0	%100
352	M175	X	.01	.01	0	%100
353	M176	X	.01	.01	0	%100
354	M177	X	.01	.01	0	%100
355	M178	X	.01	.01	0	%100
356	M179	X	.01	.01	0	%100
357	M180	X	.01	.01	0	%100
358	M181	X	.01	.01	0	%100
359	B1	X	.004	.004	0	%5.6
360	B3	X	.004	.004	0	%100
361	B4	X	.004	.004	0	%100
362	M183	X	.002	.002	0	%100
363	M184	X	.001	.001	0	%100
364	M222	X	.006	.006	0	%100
365	M223	X	.006	.006	0	%100
366	M210A	X	.002	.002	0	%100
367	M211A	X	.01	.01	0	%100
368	M211B	X	.009	.009	0	%100
369	M173	X	.001	.001	0	%100
370	M174A	X	.01	.01	0	%100
371	M175A	X	.002	.002	0	%100
372	M176A	X	.006	.006	0	%100
373	M177B	X	.006	.006	0	%100
374	M178A	X	.002	.002	0	%100
375	M179B	X	.01	.01	0	%100
376	M180A	X	.009	.009	0	%100
377	M181B	X	.004	.004	0	%100
378	M182	X	.01	.01	0	%100
379	M183A	X	.001	.001	0	%100
380	M184A	X	.006	.006	0	%100
381	M185	X	.006	.006	0	%100
382	M186	X	.002	.002	0	%100
383	M187	X	.01	.01	0	%100
384	M188	X	.009	.009	0	%100
385	M189	X	.001	.001	0	%100
386	M190	X	.01	.01	0	%100
387	M191	X	.002	.002	0	%100
388	M192	X	.006	.006	0	%100
389	M193	X	.006	.006	0	%100



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Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
390	M194	X	.002	.002	0	%100
391	M195	X	.01	.01	0	%100
392	M196	X	.009	.009	0	%100
393	M202A	X	.002	.002	0	%100
394	M203A	X	.002	.002	0	%100
395	M204A	X	.002	.002	0	%100
396	M197	X	.006	.006	0	%100
397	M198	X	.003	.003	0	%100
398	M199	X	.006	.006	0	%100
399	M200	X	.003	.003	0	%100
400	B1	X	.004	.004	%94.4	%100

Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg))

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Z	0	0	0	%100
2	M5	Z	0	0	0	%100
3	M6	Z	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	Z	0	0	0	%100
6	M9	Z	0	0	0	%100
7	M10	Z	0	0	0	%100
8	M13	Z	0	0	0	%100
9	M14	Z	0	0	0	%100
10	M15	Z	0	0	0	%100
11	M16	Z	0	0	0	%100
12	M17	Z	0	0	0	%100
13	M18	Z	0	0	0	%100
14	M19	Z	0	0	0	%100
15	M20	Z	0	0	0	%100
16	M21	Z	0	0	0	%100
17	M22	Z	0	0	0	%100
18	M23	Z	0	0	0	%100
19	M24	Z	0	0	0	%100
20	M25	Z	0	0	0	%100
21	M26	Z	0	0	0	%100
22	M27	Z	0	0	0	%100
23	M28	Z	0	0	0	%100
24	M29	Z	0	0	0	%100
25	M30	Z	0	0	0	%100
26	M31	Z	0	0	0	%100
27	M32	Z	0	0	0	%100
28	M33	Z	0	0	0	%100
29	M34	Z	0	0	0	%100
30	M35	Z	0	0	0	%100
31	M36	Z	0	0	0	%100
32	M37	Z	0	0	0	%100
33	M38	Z	0	0	0	%100
34	M39	Z	0	0	0	%100
35	M40	Z	0	0	0	%100
36	M41	Z	0	0	0	%100
37	M42	Z	0	0	0	%100
38	M43	Z	0	0	0	%100
39	M44	Z	0	0	0	%100
40	M45	Z	0	0	0	%100
41	M46	Z	0	0	0	%100
42	M47	Z	0	0	0	%100



Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
43	M48	Z	0	0	0	%100
44	M49	Z	0	0	0	%100
45	M50	Z	0	0	0	%100
46	M51	Z	0	0	0	%100
47	M52	Z	0	0	0	%100
48	M53	Z	0	0	0	%100
49	M54	Z	0	0	0	%100
50	M56	Z	0	0	0	%100
51	M57	Z	0	0	0	%100
52	M58	Z	0	0	0	%100
53	M59	Z	0	0	0	%100
54	M60	Z	0	0	0	%100
55	M61	Z	0	0	0	%100
56	M62	Z	0	0	0	%100
57	M63	Z	0	0	0	%100
58	M64	Z	0	0	0	%100
59	M65	Z	0	0	0	%100
60	M66	Z	0	0	0	%100
61	M67	Z	0	0	0	%100
62	M68	Z	0	0	0	%100
63	M69	Z	0	0	0	%100
64	M70	Z	0	0	0	%100
65	M71	Z	0	0	0	%100
66	M72	Z	0	0	0	%100
67	M73	Z	0	0	0	%100
68	M74	Z	0	0	0	%100
69	M75	Z	0	0	0	%100
70	M76	Z	0	0	0	%100
71	M77	Z	0	0	0	%100
72	M78	Z	0	0	0	%100
73	M79	Z	0	0	0	%100
74	M80	Z	0	0	0	%100
75	M81	Z	0	0	0	%100
76	M82	Z	0	0	0	%100
77	M83	Z	0	0	0	%100
78	M84	Z	0	0	0	%100
79	M85	Z	0	0	0	%100
80	M86	Z	0	0	0	%100
81	M87	Z	0	0	0	%100
82	M88	Z	0	0	0	%100
83	M89	Z	0	0	0	%100
84	M90	Z	0	0	0	%100
85	M91	Z	0	0	0	%100
86	M92	Z	0	0	0	%100
87	M93	Z	0	0	0	%100
88	M94	Z	0	0	0	%100
89	M95	Z	0	0	0	%100
90	M96	Z	0	0	0	%100
91	M97	Z	0	0	0	%100
92	M98	Z	0	0	0	%100
93	M99	Z	0	0	0	%100
94	M100	Z	0	0	0	%100
95	M101	Z	0	0	0	%100
96	M102	Z	0	0	0	%100
97	M103	Z	0	0	0	%100
98	M104	Z	0	0	0	%100
99	M105	Z	0	0	0	%100



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 Designer : VB
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Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft. ...]	End Magnitude[k/ft. F...]	Start Location[ft. %]	End Location[ft. %]
100	M106	Z	0	0	%100
101	M107	Z	0	0	%100
102	M108	Z	0	0	%100
103	M109	Z	0	0	%100
104	M110	Z	0	0	%100
105	M111	Z	0	0	%100
106	M112	Z	0	0	%100
107	M113	Z	0	0	%100
108	M114	Z	0	0	%100
109	M115	Z	0	0	%100
110	M129	Z	0	0	%100
111	M133	Z	0	0	%100
112	M134	Z	0	0	%100
113	M135	Z	0	0	%100
114	M136	Z	0	0	%100
115	M138	Z	0	0	%100
116	M139	Z	0	0	%100
117	M140	Z	0	0	%100
118	M141	Z	0	0	%100
119	M142	Z	0	0	%100
120	M143	Z	0	0	%100
121	M144	Z	0	0	%100
122	M145	Z	0	0	%100
123	A1	Z	0	0	%5.6
124	A3	Z	0	0	%100
125	A4	Z	0	0	%100
126	M150	Z	0	0	%100
127	M151	Z	0	0	%100
128	M152	Z	0	0	%100
129	M153	Z	0	0	%100
130	M154	Z	0	0	%100
131	M155	Z	0	0	%100
132	M156	Z	0	0	%100
133	M157	Z	0	0	%100
134	D1	Z	0	0	%100
135	D2	Z	0	0	%100
136	D3	Z	0	0	%100
137	D4	Z	0	0	%100
138	M162	Z	0	0	%100
139	M163	Z	0	0	%100
140	M164	Z	0	0	%100
141	M165	Z	0	0	%100
142	M166	Z	0	0	%100
143	M167	Z	0	0	%100
144	M168	Z	0	0	%100
145	M169	Z	0	0	%100
146	C1	Z	0	0	%5.6
147	C3	Z	0	0	%100
148	C4	Z	0	0	%100
149	M174	Z	0	0	%100
150	M175	Z	0	0	%100
151	M176	Z	0	0	%100
152	M177	Z	0	0	%100
153	M178	Z	0	0	%100
154	M179	Z	0	0	%100
155	M180	Z	0	0	%100
156	M181	Z	0	0	%100



Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
157	B1	Z	0	0	%100
158	B2	Z	0	0	%100
159	B3	Z	0	0	%100
160	B4	Z	0	0	%100
161	M183	Z	0	0	%100
162	M184	Z	0	0	%100
163	M222	Z	0	0	%100
164	M223	Z	0	0	%100
165	M210A	Z	0	0	%100
166	M211A	Z	0	0	%100
167	M211B	Z	0	0	%100
168	M173	Z	0	0	%100
169	M174A	Z	0	0	%100
170	M175A	Z	0	0	%100
171	M176A	Z	0	0	%100
172	M177B	Z	0	0	%100
173	M178A	Z	0	0	%100
174	M179B	Z	0	0	%100
175	M180A	Z	0	0	%100
176	M181B	Z	0	0	%100
177	M182	Z	0	0	%100
178	M183A	Z	0	0	%100
179	M184A	Z	0	0	%100
180	M185	Z	0	0	%100
181	M186	Z	0	0	%100
182	M187	Z	0	0	%100
183	M188	Z	0	0	%100
184	M189	Z	0	0	%100
185	M190	Z	0	0	%100
186	M191	Z	0	0	%100
187	M192	Z	0	0	%100
188	M193	Z	0	0	%100
189	M194	Z	0	0	%100
190	M195	Z	0	0	%100
191	M196	Z	0	0	%100
192	M202A	Z	0	0	%100
193	M203A	Z	0	0	%100
194	M204A	Z	0	0	%100
195	M197	Z	0	0	%100
196	M198	Z	0	0	%100
197	M199	Z	0	0	%100
198	M200	Z	0	0	%100
199	A1	Z	0	0	%94.4
200	C1	Z	0	0	%94.4
201	M4	X	.003	.003	0
202	M5	X	.005	.005	0
203	M6	X	.003	.003	0
204	M7	X	.003	.003	0
205	M8	X	.003	.003	0
206	M9	X	.003	.003	0
207	M10	X	.003	.003	0
208	M13	X	.033	.033	0
209	M14	X	.033	.033	0
210	M15	X	.025	.025	0
211	M16	X	.025	.025	0
212	M17	X	.003	.003	0
213	M18	X	.005	.005	0



Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
214	M19	X	.003	.003	0 %100
215	M20	X	.003	.003	0 %100
216	M21	X	.003	.003	0 %100
217	M22	X	.003	.003	0 %100
218	M23	X	.047	.047	0 %100
219	M24	X	.047	.047	0 %100
220	M25	X	.033	.033	0 %100
221	M26	X	.033	.033	0 %100
222	M27	X	.033	.033	0 %100
223	M28	X	.033	.033	0 %100
224	M29	X	.047	.047	0 %100
225	M30	X	.047	.047	0 %100
226	M31	X	.033	.033	0 %100
227	M32	X	.033	.033	0 %100
228	M33	X	0	0	0 %100
229	M34	X	0	0	0 %100
230	M35	X	.033	.033	0 %100
231	M36	X	.033	.033	0 %100
232	M37	X	0	0	0 %100
233	M38	X	0	0	0 %100
234	M39	X	.033	.033	0 %100
235	M40	X	.033	.033	0 %100
236	M41	X	.047	.047	0 %100
237	M42	X	.047	.047	0 %100
238	M43	X	.033	.033	0 %100
239	M44	X	.033	.033	0 %100
240	M45	X	.047	.047	0 %100
241	M46	X	.047	.047	0 %100
242	M47	X	.033	.033	0 %100
243	M48	X	.033	.033	0 %100
244	M49	X	0	0	0 %100
245	M50	X	0	0	0 %100
246	M51	X	.033	.033	0 %100
247	M52	X	.033	.033	0 %100
248	M53	X	0	0	0 %100
249	M54	X	0	0	0 %100
250	M56	X	.005	.005	0 %100
251	M57	X	.006	.006	0 %100
252	M58	X	.005	.005	0 %100
253	M59	X	.006	.006	0 %100
254	M60	X	.005	.005	0 %100
255	M61	X	.006	.006	0 %100
256	M62	X	.005	.005	0 %100
257	M63	X	.006	.006	0 %100
258	M64	X	.005	.005	0 %100
259	M65	X	.006	.006	0 %100
260	M66	X	.005	.005	0 %100
261	M67	X	.006	.006	0 %100
262	M68	X	.005	.005	0 %100
263	M69	X	.006	.006	0 %100
264	M70	X	.005	.005	0 %100
265	M71	X	.006	.006	0 %100
266	M72	X	.004	.004	0 %100
267	M73	X	.003	.003	0 %100
268	M74	X	.004	.004	0 %100
269	M75	X	.003	.003	0 %100
270	M76	X	.025	.025	0 %100



Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
271	M77	X	.025	.025	0 %100
272	M78	X	.033	.033	0 %100
273	M79	X	.033	.033	0 %100
274	M80	X	.004	.004	0 %100
275	M81	X	.009	.009	0 %100
276	M82	X	0	0	0 %100
277	M83	X	0	0	0 %100
278	M84	X	.033	.033	0 %100
279	M85	X	.033	.033	0 %100
280	M86	X	.004	.004	0 %100
281	M87	X	.009	.009	0 %100
282	M88	X	0	0	0 %100
283	M89	X	0	0	0 %100
284	M90	X	.033	.033	0 %100
285	M91	X	.033	.033	0 %100
286	M92	X	.004	.004	0 %100
287	M93	X	.003	.003	0 %100
288	M94	X	.025	.025	0 %100
289	M95	X	.025	.025	0 %100
290	M96	X	.033	.033	0 %100
291	M97	X	.033	.033	0 %100
292	M98	X	.004	.004	0 %100
293	M99	X	.003	.003	0 %100
294	M100	X	.025	.025	0 %100
295	M101	X	.025	.025	0 %100
296	M102	X	.033	.033	0 %100
297	M103	X	.033	.033	0 %100
298	M104	X	.004	.004	0 %100
299	M105	X	.009	.009	0 %100
300	M106	X	0	0	0 %100
301	M107	X	0	0	0 %100
302	M108	X	.033	.033	0 %100
303	M109	X	.033	.033	0 %100
304	M110	X	.004	.004	0 %100
305	M111	X	.009	.009	0 %100
306	M112	X	0	0	0 %100
307	M113	X	0	0	0 %100
308	M114	X	.033	.033	0 %100
309	M115	X	.033	.033	0 %100
310	M129	X	.012	.012	0 %100
311	M133	X	.003	.003	0 %100
312	M134	X	.001	.001	0 %100
313	M135	X	.003	.003	0 %100
314	M136	X	.001	.001	0 %100
315	M138	X	0	0	0 %100
316	M139	X	0	0	0 %100
317	M140	X	0	0	0 %100
318	M141	X	0	0	0 %100
319	M142	X	0	0	0 %100
320	M143	X	0	0	0 %100
321	M144	X	0	0	0 %100
322	M145	X	0	0	0 %100
323	A1	X	.004	.004	0 %100
324	A2	X	.004	.004	0 %100
325	A3	X	.004	.004	0 %100
326	A4	X	.004	.004	0 %100
327	M150	X	.012	.012	0 %100



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Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
328	M151	X	.012	.012	0 %100
329	M152	X	.012	.012	0 %100
330	M153	X	.012	.012	0 %100
331	M154	X	.012	.012	0 %100
332	M155	X	.012	.012	0 %100
333	M156	X	.012	.012	0 %100
334	M157	X	.012	.012	0 %100
335	D1	X	.004	.004	0 %100
336	D2	X	.004	.004	0 %100
337	D3	X	.004	.004	0 %100
338	D4	X	.004	.004	0 %100
339	M162	X	0	0	0 %100
340	M163	X	0	0	0 %100
341	M164	X	0	0	0 %100
342	M165	X	0	0	0 %100
343	M166	X	0	0	0 %100
344	M167	X	0	0	0 %100
345	M168	X	0	0	0 %100
346	M169	X	0	0	0 %100
347	C1	X	.004	.004	0 %100
348	C2	X	.004	.004	0 %100
349	C3	X	.004	.004	0 %100
350	C4	X	.004	.004	0 %100
351	M174	X	.012	.012	0 %100
352	M175	X	.012	.012	0 %100
353	M176	X	.012	.012	0 %100
354	M177	X	.012	.012	0 %100
355	M178	X	.012	.012	0 %100
356	M179	X	.012	.012	0 %100
357	M180	X	.012	.012	0 %100
358	M181	X	.012	.012	0 %100
359	B1	X	.004	.004	0 %5.6
360	B3	X	.004	.004	0 %100
361	B4	X	.004	.004	0 %100
362	M183	X	.002	.002	0 %100
363	M184	X	.002	.002	0 %100
364	M222	X	.007	.007	0 %100
365	M223	X	.007	.007	0 %100
366	M210A	X	.003	.003	0 %100
367	M211A	X	.012	.012	0 %100
368	M211B	X	.01	.01	0 %100
369	M173	X	.003	.003	0 %100
370	M174A	X	.012	.012	0 %100
371	M175A	X	.002	.002	0 %100
372	M176A	X	.007	.007	0 %100
373	M177B	X	.007	.007	0 %100
374	M178A	X	.003	.003	0 %100
375	M179B	X	.012	.012	0 %100
376	M180A	X	.01	.01	0 %100
377	M181B	X	.003	.003	0 %100
378	M182	X	.012	.012	0 %100
379	M183A	X	.002	.002	0 %100
380	M184A	X	.007	.007	0 %100
381	M185	X	.007	.007	0 %100
382	M186	X	.003	.003	0 %100
383	M187	X	.012	.012	0 %100
384	M188	X	.01	.01	0 %100



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Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
385	M189	X	.003	.003	0	%100
386	M190	X	.012	.012	0	%100
387	M191	X	.002	.002	0	%100
388	M192	X	.007	.007	0	%100
389	M193	X	.007	.007	0	%100
390	M194	X	.003	.003	0	%100
391	M195	X	.012	.012	0	%100
392	M196	X	.01	.01	0	%100
393	M202A	X	.002	.002	0	%100
394	M203A	X	.002	.002	0	%100
395	M204A	X	.002	.002	0	%100
396	M197	X	.006	.006	0	%100
397	M198	X	.006	.006	0	%100
398	M199	X	.006	.006	0	%100
399	M200	X	.006	.006	0	%100
400	B1	X	.004	.004	%94.4	%100

Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg))

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M4	Z	.001	.001	0	%100
2	M5	Z	.002	.002	0	%100
3	M6	Z	.001	.001	0	%100
4	M7	Z	.001	.001	0	%100
5	M8	Z	.002	.002	0	%100
6	M9	Z	.001	.001	0	%100
7	M10	Z	.002	.002	0	%100
8	M13	Z	.016	.016	0	%100
9	M14	Z	.016	.016	0	%100
10	M15	Z	.012	.012	0	%100
11	M16	Z	.012	.012	0	%100
12	M17	Z	.002	.002	0	%100
13	M18	Z	.002	.002	0	%100
14	M19	Z	.002	.002	0	%100
15	M20	Z	.002	.002	0	%100
16	M21	Z	.001	.001	0	%100
17	M22	Z	.002	.002	0	%100
18	M23	Z	.023	.023	0	%100
19	M24	Z	.023	.023	0	%100
20	M25	Z	.016	.016	0	%100
21	M26	Z	.016	.016	0	%100
22	M27	Z	.016	.016	0	%100
23	M28	Z	.016	.016	0	%100
24	M29	Z	.023	.023	0	%100
25	M30	Z	.023	.023	0	%100
26	M31	Z	.016	.016	0	%100
27	M32	Z	.016	.016	0	%100
28	M33	Z	0	0	0	%100
29	M34	Z	0	0	0	%100
30	M35	Z	.016	.016	0	%100
31	M36	Z	.016	.016	0	%100
32	M37	Z	0	0	0	%100
33	M38	Z	0	0	0	%100
34	M39	Z	.016	.016	0	%100
35	M40	Z	.016	.016	0	%100
36	M41	Z	.023	.023	0	%100
37	M42	Z	.023	.023	0	%100



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Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
38	M43	Z	.016	.016	0	%100
39	M44	Z	.016	.016	0	%100
40	M45	Z	.023	.023	0	%100
41	M46	Z	.023	.023	0	%100
42	M47	Z	.016	.016	0	%100
43	M48	Z	.016	.016	0	%100
44	M49	Z	0	0	0	%100
45	M50	Z	0	0	0	%100
46	M51	Z	.016	.016	0	%100
47	M52	Z	.016	.016	0	%100
48	M53	Z	0	0	0	%100
49	M54	Z	0	0	0	%100
50	M56	Z	.003	.003	0	%100
51	M57	Z	.004	.004	0	%100
52	M58	Z	.002	.002	0	%100
53	M59	Z	.004	.004	0	%100
54	M60	Z	.003	.003	0	%100
55	M61	Z	.002	.002	0	%100
56	M62	Z	.002	.002	0	%100
57	M63	Z	.002	.002	0	%100
58	M64	Z	.002	.002	0	%100
59	M65	Z	.004	.004	0	%100
60	M66	Z	.003	.003	0	%100
61	M67	Z	.004	.004	0	%100
62	M68	Z	.002	.002	0	%100
63	M69	Z	.002	.002	0	%100
64	M70	Z	.003	.003	0	%100
65	M71	Z	.002	.002	0	%100
66	M72	Z	.002	.002	0	%100
67	M73	Z	.001	.001	0	%100
68	M74	Z	.001	.001	0	%100
69	M75	Z	.001	.001	0	%100
70	M76	Z	.012	.012	0	%100
71	M77	Z	.012	.012	0	%100
72	M78	Z	.016	.016	0	%100
73	M79	Z	.016	.016	0	%100
74	M80	Z	.001	.001	0	%100
75	M81	Z	.005	.005	0	%100
76	M82	Z	0	0	0	%100
77	M83	Z	0	0	0	%100
78	M84	Z	.016	.016	0	%100
79	M85	Z	.016	.016	0	%100
80	M86	Z	.002	.002	0	%100
81	M87	Z	.005	.005	0	%100
82	M88	Z	0	0	0	%100
83	M89	Z	0	0	0	%100
84	M90	Z	.016	.016	0	%100
85	M91	Z	.016	.016	0	%100
86	M92	Z	.002	.002	0	%100
87	M93	Z	.001	.001	0	%100
88	M94	Z	.012	.012	0	%100
89	M95	Z	.012	.012	0	%100
90	M96	Z	.016	.016	0	%100
91	M97	Z	.016	.016	0	%100
92	M98	Z	.001	.001	0	%100
93	M99	Z	.001	.001	0	%100
94	M100	Z	.012	.012	0	%100



Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
95	M101	Z	.012	.012	0 %100
96	M102	Z	.016	.016	0 %100
97	M103	Z	.016	.016	0 %100
98	M104	Z	.001	.001	0 %100
99	M105	Z	.005	.005	0 %100
100	M106	Z	0	0	0 %100
101	M107	Z	0	0	0 %100
102	M108	Z	.016	.016	0 %100
103	M109	Z	.016	.016	0 %100
104	M110	Z	.002	.002	0 %100
105	M111	Z	.005	.005	0 %100
106	M112	Z	0	0	0 %100
107	M113	Z	0	0	0 %100
108	M114	Z	.016	.016	0 %100
109	M115	Z	.016	.016	0 %100
110	M129	Z	.006	.006	0 %100
111	M133	Z	.001	.001	0 %100
112	M134	Z	0	0	0 %100
113	M135	Z	.001	.001	0 %100
114	M136	Z	0	0	0 %100
115	M138	Z	0	0	0 %100
116	M139	Z	0	0	0 %100
117	M140	Z	0	0	0 %100
118	M141	Z	0	0	0 %100
119	M142	Z	0	0	0 %100
120	M143	Z	0	0	0 %100
121	M144	Z	0	0	0 %100
122	M145	Z	0	0	0 %100
123	A1	Z	.002	.002	0 %5.6
124	A3	Z	.002	.002	0 %100
125	A4	Z	.002	.002	0 %100
126	M150	Z	.006	.006	0 %100
127	M151	Z	.006	.006	0 %100
128	M152	Z	.006	.006	0 %100
129	M153	Z	.006	.006	0 %100
130	M154	Z	.006	.006	0 %100
131	M155	Z	.006	.006	0 %100
132	M156	Z	.006	.006	0 %100
133	M157	Z	.006	.006	0 %100
134	D1	Z	.002	.002	0 %100
135	D2	Z	.002	.002	0 %100
136	D3	Z	.002	.002	0 %100
137	D4	Z	.002	.002	0 %100
138	M162	Z	0	0	0 %100
139	M163	Z	0	0	0 %100
140	M164	Z	0	0	0 %100
141	M165	Z	0	0	0 %100
142	M166	Z	0	0	0 %100
143	M167	Z	0	0	0 %100
144	M168	Z	0	0	0 %100
145	M169	Z	0	0	0 %100
146	C1	Z	.002	.002	0 %5.6
147	C3	Z	.002	.002	0 %100
148	C4	Z	.002	.002	0 %100
149	M174	Z	.006	.006	0 %100
150	M175	Z	.006	.006	0 %100
151	M176	Z	.006	.006	0 %100



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Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
152	M177	Z	.006	.006	0 %100
153	M178	Z	.006	.006	0 %100
154	M179	Z	.006	.006	0 %100
155	M180	Z	.006	.006	0 %100
156	M181	Z	.006	.006	0 %100
157	B1	Z	.002	.002	0 %100
158	B2	Z	.002	.002	0 %100
159	B3	Z	.002	.002	0 %100
160	B4	Z	.002	.002	0 %100
161	M183	Z	.001	.001	0 %100
162	M184	Z	.001	.001	0 %100
163	M222	Z	.003	.003	0 %100
164	M223	Z	.003	.003	0 %100
165	M210A	Z	.001	.001	0 %100
166	M211A	Z	.006	.006	0 %100
167	M211B	Z	.005	.005	0 %100
168	M173	Z	.002	.002	0 %100
169	M174A	Z	.006	.006	0 %100
170	M175A	Z	.001	.001	0 %100
171	M176A	Z	.003	.003	0 %100
172	M177B	Z	.003	.003	0 %100
173	M178A	Z	.001	.001	0 %100
174	M179B	Z	.006	.006	0 %100
175	M180A	Z	.005	.005	0 %100
176	M181B	Z	.001	.001	0 %100
177	M182	Z	.006	.006	0 %100
178	M183A	Z	.001	.001	0 %100
179	M184A	Z	.003	.003	0 %100
180	M185	Z	.003	.003	0 %100
181	M186	Z	.001	.001	0 %100
182	M187	Z	.006	.006	0 %100
183	M188	Z	.005	.005	0 %100
184	M189	Z	.002	.002	0 %100
185	M190	Z	.006	.006	0 %100
186	M191	Z	.001	.001	0 %100
187	M192	Z	.003	.003	0 %100
188	M193	Z	.003	.003	0 %100
189	M194	Z	.001	.001	0 %100
190	M195	Z	.006	.006	0 %100
191	M196	Z	.005	.005	0 %100
192	M202A	Z	.001	.001	0 %100
193	M203A	Z	.001	.001	0 %100
194	M204A	Z	.001	.001	0 %100
195	M197	Z	.002	.002	0 %100
196	M198	Z	.004	.004	0 %100
197	M199	Z	.002	.002	0 %100
198	M200	Z	.004	.004	0 %100
199	A1	Z	.002	.002	%94.4 %100
200	C1	Z	.002	.002	%94.4 %100
201	M4	X	.001	.001	0 %100
202	M5	X	.004	.004	0 %100
203	M6	X	.002	.002	0 %100
204	M7	X	.001	.001	0 %100
205	M8	X	.004	.004	0 %100
206	M9	X	.001	.001	0 %100
207	M10	X	.004	.004	0 %100
208	M13	X	.028	.028	0 %100



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Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
209	M14	X	.028	.028	0 %100
210	M15	X	.021	.021	0 %100
211	M16	X	.021	.021	0 %100
212	M17	X	.003	.003	0 %100
213	M18	X	.004	.004	0 %100
214	M19	X	.003	.003	0 %100
215	M20	X	.003	.003	0 %100
216	M21	X	.002	.002	0 %100
217	M22	X	.003	.003	0 %100
218	M23	X	.041	.041	0 %100
219	M24	X	.041	.041	0 %100
220	M25	X	.028	.028	0 %100
221	M26	X	.028	.028	0 %100
222	M27	X	.028	.028	0 %100
223	M28	X	.028	.028	0 %100
224	M29	X	.041	.041	0 %100
225	M30	X	.041	.041	0 %100
226	M31	X	.028	.028	0 %100
227	M32	X	.028	.028	0 %100
228	M33	X	0	0	0 %100
229	M34	X	0	0	0 %100
230	M35	X	.028	.028	0 %100
231	M36	X	.028	.028	0 %100
232	M37	X	0	0	0 %100
233	M38	X	0	0	0 %100
234	M39	X	.028	.028	0 %100
235	M40	X	.028	.028	0 %100
236	M41	X	.041	.041	0 %100
237	M42	X	.041	.041	0 %100
238	M43	X	.028	.028	0 %100
239	M44	X	.028	.028	0 %100
240	M45	X	.041	.041	0 %100
241	M46	X	.041	.041	0 %100
242	M47	X	.028	.028	0 %100
243	M48	X	.028	.028	0 %100
244	M49	X	0	0	0 %100
245	M50	X	0	0	0 %100
246	M51	X	.028	.028	0 %100
247	M52	X	.028	.028	0 %100
248	M53	X	0	0	0 %100
249	M54	X	0	0	0 %100
250	M56	X	.005	.005	0 %100
251	M57	X	.007	.007	0 %100
252	M58	X	.003	.003	0 %100
253	M59	X	.007	.007	0 %100
254	M60	X	.005	.005	0 %100
255	M61	X	.003	.003	0 %100
256	M62	X	.003	.003	0 %100
257	M63	X	.003	.003	0 %100
258	M64	X	.003	.003	0 %100
259	M65	X	.007	.007	0 %100
260	M66	X	.005	.005	0 %100
261	M67	X	.007	.007	0 %100
262	M68	X	.003	.003	0 %100
263	M69	X	.003	.003	0 %100
264	M70	X	.005	.005	0 %100
265	M71	X	.003	.003	0 %100



Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
266	M72	X	.004	.004	0 %100
267	M73	X	.002	.002	0 %100
268	M74	X	.002	.002	0 %100
269	M75	X	.002	.002	0 %100
270	M76	X	.021	.021	0 %100
271	M77	X	.021	.021	0 %100
272	M78	X	.028	.028	0 %100
273	M79	X	.028	.028	0 %100
274	M80	X	.002	.002	0 %100
275	M81	X	.008	.008	0 %100
276	M82	X	0	0	0 %100
277	M83	X	0	0	0 %100
278	M84	X	.028	.028	0 %100
279	M85	X	.028	.028	0 %100
280	M86	X	.004	.004	0 %100
281	M87	X	.008	.008	0 %100
282	M88	X	0	0	0 %100
283	M89	X	0	0	0 %100
284	M90	X	.028	.028	0 %100
285	M91	X	.028	.028	0 %100
286	M92	X	.004	.004	0 %100
287	M93	X	.002	.002	0 %100
288	M94	X	.021	.021	0 %100
289	M95	X	.021	.021	0 %100
290	M96	X	.028	.028	0 %100
291	M97	X	.028	.028	0 %100
292	M98	X	.002	.002	0 %100
293	M99	X	.002	.002	0 %100
294	M100	X	.021	.021	0 %100
295	M101	X	.021	.021	0 %100
296	M102	X	.028	.028	0 %100
297	M103	X	.028	.028	0 %100
298	M104	X	.002	.002	0 %100
299	M105	X	.008	.008	0 %100
300	M106	X	0	0	0 %100
301	M107	X	0	0	0 %100
302	M108	X	.028	.028	0 %100
303	M109	X	.028	.028	0 %100
304	M110	X	.004	.004	0 %100
305	M111	X	.008	.008	0 %100
306	M112	X	0	0	0 %100
307	M113	X	0	0	0 %100
308	M114	X	.028	.028	0 %100
309	M115	X	.028	.028	0 %100
310	M129	X	.01	.01	0 %100
311	M133	X	.002	.002	0 %100
312	M134	X	.001	.001	0 %100
313	M135	X	.002	.002	0 %100
314	M136	X	.001	.001	0 %100
315	M138	X	0	0	0 %100
316	M139	X	0	0	0 %100
317	M140	X	0	0	0 %100
318	M141	X	0	0	0 %100
319	M142	X	0	0	0 %100
320	M143	X	0	0	0 %100
321	M144	X	0	0	0 %100
322	M145	X	0	0	0 %100



Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft...	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
323	A1	X	.004	.004	0 %100
324	A2	X	.004	.004	0 %100
325	A3	X	.004	.004	0 %100
326	A4	X	.004	.004	0 %100
327	M150	X	.01	.01	0 %100
328	M151	X	.01	.01	0 %100
329	M152	X	.01	.01	0 %100
330	M153	X	.01	.01	0 %100
331	M154	X	.01	.01	0 %100
332	M155	X	.01	.01	0 %100
333	M156	X	.01	.01	0 %100
334	M157	X	.01	.01	0 %100
335	D1	X	.004	.004	0 %100
336	D2	X	.004	.004	0 %100
337	D3	X	.004	.004	0 %100
338	D4	X	.004	.004	0 %100
339	M162	X	0	0	0 %100
340	M163	X	0	0	0 %100
341	M164	X	0	0	0 %100
342	M165	X	0	0	0 %100
343	M166	X	0	0	0 %100
344	M167	X	0	0	0 %100
345	M168	X	0	0	0 %100
346	M169	X	0	0	0 %100
347	C1	X	.004	.004	0 %100
348	C2	X	.004	.004	0 %100
349	C3	X	.004	.004	0 %100
350	C4	X	.004	.004	0 %100
351	M174	X	.01	.01	0 %100
352	M175	X	.01	.01	0 %100
353	M176	X	.01	.01	0 %100
354	M177	X	.01	.01	0 %100
355	M178	X	.01	.01	0 %100
356	M179	X	.01	.01	0 %100
357	M180	X	.01	.01	0 %100
358	M181	X	.01	.01	0 %100
359	B1	X	.004	.004	0 %5.6
360	B3	X	.004	.004	0 %100
361	B4	X	.004	.004	0 %100
362	M183	X	.002	.002	0 %100
363	M184	X	.002	.002	0 %100
364	M222	X	.006	.006	0 %100
365	M223	X	.006	.006	0 %100
366	M210A	X	.002	.002	0 %100
367	M211A	X	.01	.01	0 %100
368	M211B	X	.009	.009	0 %100
369	M173	X	.004	.004	0 %100
370	M174A	X	.01	.01	0 %100
371	M175A	X	.001	.001	0 %100
372	M176A	X	.006	.006	0 %100
373	M177B	X	.006	.006	0 %100
374	M178A	X	.002	.002	0 %100
375	M179B	X	.01	.01	0 %100
376	M180A	X	.009	.009	0 %100
377	M181B	X	.001	.001	0 %100
378	M182	X	.01	.01	0 %100
379	M183A	X	.002	.002	0 %100



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 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
380	M184A	X	.006	.006	0	%100
381	M185	X	.006	.006	0	%100
382	M186	X	.002	.002	0	%100
383	M187	X	.01	.01	0	%100
384	M188	X	.009	.009	0	%100
385	M189	X	.004	.004	0	%100
386	M190	X	.01	.01	0	%100
387	M191	X	.001	.001	0	%100
388	M192	X	.006	.006	0	%100
389	M193	X	.006	.006	0	%100
390	M194	X	.002	.002	0	%100
391	M195	X	.01	.01	0	%100
392	M196	X	.009	.009	0	%100
393	M202A	X	.002	.002	0	%100
394	M203A	X	.002	.002	0	%100
395	M204A	X	.002	.002	0	%100
396	M197	X	.003	.003	0	%100
397	M198	X	.006	.006	0	%100
398	M199	X	.003	.003	0	%100
399	M200	X	.006	.006	0	%100
400	B1	X	.004	.004	%94.4	%100

Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg))

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M4	Z	.001	.001	0	%100
2	M5	Z	.001	.001	0	%100
3	M6	Z	.001	.001	0	%100
4	M7	Z	.001	.001	0	%100
5	M8	Z	.004	.004	0	%100
6	M9	Z	.001	.001	0	%100
7	M10	Z	.004	.004	0	%100
8	M13	Z	.028	.028	0	%100
9	M14	Z	.028	.028	0	%100
10	M15	Z	.021	.021	0	%100
11	M16	Z	.021	.021	0	%100
12	M17	Z	.006	.006	0	%100
13	M18	Z	.001	.001	0	%100
14	M19	Z	.006	.006	0	%100
15	M20	Z	.004	.004	0	%100
16	M21	Z	.001	.001	0	%100
17	M22	Z	.004	.004	0	%100
18	M23	Z	.041	.041	0	%100
19	M24	Z	.041	.041	0	%100
20	M25	Z	.028	.028	0	%100
21	M26	Z	.028	.028	0	%100
22	M27	Z	.028	.028	0	%100
23	M28	Z	.028	.028	0	%100
24	M29	Z	.041	.041	0	%100
25	M30	Z	.041	.041	0	%100
26	M31	Z	.028	.028	0	%100
27	M32	Z	.028	.028	0	%100
28	M33	Z	0	0	0	%100
29	M34	Z	0	0	0	%100
30	M35	Z	.028	.028	0	%100
31	M36	Z	.028	.028	0	%100
32	M37	Z	0	0	0	%100



Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
33	M38	Z	0	0	0	%100
34	M39	Z	.028	.028	0	%100
35	M40	Z	.028	.028	0	%100
36	M41	Z	.041	.041	0	%100
37	M42	Z	.041	.041	0	%100
38	M43	Z	.028	.028	0	%100
39	M44	Z	.028	.028	0	%100
40	M45	Z	.041	.041	0	%100
41	M46	Z	.041	.041	0	%100
42	M47	Z	.028	.028	0	%100
43	M48	Z	.028	.028	0	%100
44	M49	Z	0	0	0	%100
45	M50	Z	0	0	0	%100
46	M51	Z	.028	.028	0	%100
47	M52	Z	.028	.028	0	%100
48	M53	Z	0	0	0	%100
49	M54	Z	0	0	0	%100
50	M56	Z	.007	.007	0	%100
51	M57	Z	.007	.007	0	%100
52	M58	Z	.001	.001	0	%100
53	M59	Z	.007	.007	0	%100
54	M60	Z	.007	.007	0	%100
55	M61	Z	.003	.003	0	%100
56	M62	Z	.001	.001	0	%100
57	M63	Z	.003	.003	0	%100
58	M64	Z	.001	.001	0	%100
59	M65	Z	.007	.007	0	%100
60	M66	Z	.007	.007	0	%100
61	M67	Z	.007	.007	0	%100
62	M68	Z	.001	.001	0	%100
63	M69	Z	.003	.003	0	%100
64	M70	Z	.007	.007	0	%100
65	M71	Z	.003	.003	0	%100
66	M72	Z	.004	.004	0	%100
67	M73	Z	.001	.001	0	%100
68	M74	Z	.002	.002	0	%100
69	M75	Z	.001	.001	0	%100
70	M76	Z	.021	.021	0	%100
71	M77	Z	.021	.021	0	%100
72	M78	Z	.028	.028	0	%100
73	M79	Z	.028	.028	0	%100
74	M80	Z	.002	.002	0	%100
75	M81	Z	.009	.009	0	%100
76	M82	Z	0	0	0	%100
77	M83	Z	0	0	0	%100
78	M84	Z	.028	.028	0	%100
79	M85	Z	.028	.028	0	%100
80	M86	Z	.004	.004	0	%100
81	M87	Z	.009	.009	0	%100
82	M88	Z	0	0	0	%100
83	M89	Z	0	0	0	%100
84	M90	Z	.028	.028	0	%100
85	M91	Z	.028	.028	0	%100
86	M92	Z	.004	.004	0	%100
87	M93	Z	.001	.001	0	%100
88	M94	Z	.021	.021	0	%100
89	M95	Z	.021	.021	0	%100



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Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
90	M96	Z	.028	.028	0	%100
91	M97	Z	.028	.028	0	%100
92	M98	Z	.002	.002	0	%100
93	M99	Z	.001	.001	0	%100
94	M100	Z	.021	.021	0	%100
95	M101	Z	.021	.021	0	%100
96	M102	Z	.028	.028	0	%100
97	M103	Z	.028	.028	0	%100
98	M104	Z	.002	.002	0	%100
99	M105	Z	.009	.009	0	%100
100	M106	Z	0	0	0	%100
101	M107	Z	0	0	0	%100
102	M108	Z	.028	.028	0	%100
103	M109	Z	.028	.028	0	%100
104	M110	Z	.004	.004	0	%100
105	M111	Z	.009	.009	0	%100
106	M112	Z	0	0	0	%100
107	M113	Z	0	0	0	%100
108	M114	Z	.028	.028	0	%100
109	M115	Z	.028	.028	0	%100
110	M129	Z	.01	.01	0	%100
111	M133	Z	.003	.003	0	%100
112	M134	Z	0	0	0	%100
113	M135	Z	.003	.003	0	%100
114	M136	Z	0	0	0	%100
115	M138	Z	0	0	0	%100
116	M139	Z	0	0	0	%100
117	M140	Z	0	0	0	%100
118	M141	Z	0	0	0	%100
119	M142	Z	0	0	0	%100
120	M143	Z	0	0	0	%100
121	M144	Z	0	0	0	%100
122	M145	Z	0	0	0	%100
123	A1	Z	.004	.004	0	%5.6
124	A3	Z	.004	.004	0	%100
125	A4	Z	.004	.004	0	%100
126	M150	Z	.01	.01	0	%100
127	M151	Z	.01	.01	0	%100
128	M152	Z	.01	.01	0	%100
129	M153	Z	.01	.01	0	%100
130	M154	Z	.01	.01	0	%100
131	M155	Z	.01	.01	0	%100
132	M156	Z	.01	.01	0	%100
133	M157	Z	.01	.01	0	%100
134	D1	Z	.004	.004	0	%100
135	D2	Z	.004	.004	0	%100
136	D3	Z	.004	.004	0	%100
137	D4	Z	.004	.004	0	%100
138	M162	Z	0	0	0	%100
139	M163	Z	0	0	0	%100
140	M164	Z	0	0	0	%100
141	M165	Z	0	0	0	%100
142	M166	Z	0	0	0	%100
143	M167	Z	0	0	0	%100
144	M168	Z	0	0	0	%100
145	M169	Z	0	0	0	%100
146	C1	Z	.004	.004	0	%5.6



Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
147	C3	Z	.004	.004	0 %100
148	C4	Z	.004	.004	0 %100
149	M174	Z	.01	.01	0 %100
150	M175	Z	.01	.01	0 %100
151	M176	Z	.01	.01	0 %100
152	M177	Z	.01	.01	0 %100
153	M178	Z	.01	.01	0 %100
154	M179	Z	.01	.01	0 %100
155	M180	Z	.01	.01	0 %100
156	M181	Z	.01	.01	0 %100
157	B1	Z	.004	.004	0 %100
158	B2	Z	.004	.004	0 %100
159	B3	Z	.004	.004	0 %100
160	B4	Z	.004	.004	0 %100
161	M183	Z	.002	.002	0 %100
162	M184	Z	.002	.002	0 %100
163	M222	Z	.006	.006	0 %100
164	M223	Z	.006	.006	0 %100
165	M210A	Z	.002	.002	0 %100
166	M211A	Z	.01	.01	0 %100
167	M211B	Z	.009	.009	0 %100
168	M173	Z	.004	.004	0 %100
169	M174A	Z	.01	.01	0 %100
170	M175A	Z	.001	.001	0 %100
171	M176A	Z	.006	.006	0 %100
172	M177B	Z	.006	.006	0 %100
173	M178A	Z	.002	.002	0 %100
174	M179B	Z	.01	.01	0 %100
175	M180A	Z	.009	.009	0 %100
176	M181B	Z	.001	.001	0 %100
177	M182	Z	.01	.01	0 %100
178	M183A	Z	.002	.002	0 %100
179	M184A	Z	.006	.006	0 %100
180	M185	Z	.006	.006	0 %100
181	M186	Z	.002	.002	0 %100
182	M187	Z	.01	.01	0 %100
183	M188	Z	.009	.009	0 %100
184	M189	Z	.004	.004	0 %100
185	M190	Z	.01	.01	0 %100
186	M191	Z	.001	.001	0 %100
187	M192	Z	.006	.006	0 %100
188	M193	Z	.006	.006	0 %100
189	M194	Z	.002	.002	0 %100
190	M195	Z	.01	.01	0 %100
191	M196	Z	.009	.009	0 %100
192	M202A	Z	.002	.002	0 %100
193	M203A	Z	.002	.002	0 %100
194	M204A	Z	.002	.002	0 %100
195	M197	Z	.003	.003	0 %100
196	M198	Z	.006	.006	0 %100
197	M199	Z	.003	.003	0 %100
198	M200	Z	.006	.006	0 %100
199	A1	Z	.004	.004	%94.4 %100
200	C1	Z	.004	.004	%94.4 %100
201	M4	X	.001	.001	0 %100
202	M5	X	.001	.001	0 %100
203	M6	X	0	0	0 %100



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 Designer : VB
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 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
204	M7	X	.001	.001	0 %100
205	M8	X	.002	.002	0 %100
206	M9	X	.001	.001	0 %100
207	M10	X	.002	.002	0 %100
208	M13	X	.016	.016	0 %100
209	M14	X	.016	.016	0 %100
210	M15	X	.012	.012	0 %100
211	M16	X	.012	.012	0 %100
212	M17	X	.003	.003	0 %100
213	M18	X	.001	.001	0 %100
214	M19	X	.003	.003	0 %100
215	M20	X	.002	.002	0 %100
216	M21	X	0	0	0 %100
217	M22	X	.002	.002	0 %100
218	M23	X	.023	.023	0 %100
219	M24	X	.023	.023	0 %100
220	M25	X	.016	.016	0 %100
221	M26	X	.016	.016	0 %100
222	M27	X	.016	.016	0 %100
223	M28	X	.016	.016	0 %100
224	M29	X	.023	.023	0 %100
225	M30	X	.023	.023	0 %100
226	M31	X	.016	.016	0 %100
227	M32	X	.016	.016	0 %100
228	M33	X	0	0	0 %100
229	M34	X	0	0	0 %100
230	M35	X	.016	.016	0 %100
231	M36	X	.016	.016	0 %100
232	M37	X	0	0	0 %100
233	M38	X	0	0	0 %100
234	M39	X	.016	.016	0 %100
235	M40	X	.016	.016	0 %100
236	M41	X	.023	.023	0 %100
237	M42	X	.023	.023	0 %100
238	M43	X	.016	.016	0 %100
239	M44	X	.016	.016	0 %100
240	M45	X	.023	.023	0 %100
241	M46	X	.023	.023	0 %100
242	M47	X	.016	.016	0 %100
243	M48	X	.016	.016	0 %100
244	M49	X	0	0	0 %100
245	M50	X	0	0	0 %100
246	M51	X	.016	.016	0 %100
247	M52	X	.016	.016	0 %100
248	M53	X	0	0	0 %100
249	M54	X	0	0	0 %100
250	M56	X	.004	.004	0 %100
251	M57	X	.004	.004	0 %100
252	M58	X	.001	.001	0 %100
253	M59	X	.004	.004	0 %100
254	M60	X	.004	.004	0 %100
255	M61	X	.002	.002	0 %100
256	M62	X	.001	.001	0 %100
257	M63	X	.002	.002	0 %100
258	M64	X	.001	.001	0 %100
259	M65	X	.004	.004	0 %100
260	M66	X	.004	.004	0 %100



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 Designer : VB
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Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
261	M67	X	.004	.004	0 %100
262	M68	X	.001	.001	0 %100
263	M69	X	.002	.002	0 %100
264	M70	X	.004	.004	0 %100
265	M71	X	.002	.002	0 %100
266	M72	X	.002	.002	0 %100
267	M73	X	0	0	0 %100
268	M74	X	.001	.001	0 %100
269	M75	X	0	0	0 %100
270	M76	X	.012	.012	0 %100
271	M77	X	.012	.012	0 %100
272	M78	X	.016	.016	0 %100
273	M79	X	.016	.016	0 %100
274	M80	X	.001	.001	0 %100
275	M81	X	.005	.005	0 %100
276	M82	X	0	0	0 %100
277	M83	X	0	0	0 %100
278	M84	X	.016	.016	0 %100
279	M85	X	.016	.016	0 %100
280	M86	X	.002	.002	0 %100
281	M87	X	.005	.005	0 %100
282	M88	X	0	0	0 %100
283	M89	X	0	0	0 %100
284	M90	X	.016	.016	0 %100
285	M91	X	.016	.016	0 %100
286	M92	X	.002	.002	0 %100
287	M93	X	0	0	0 %100
288	M94	X	.012	.012	0 %100
289	M95	X	.012	.012	0 %100
290	M96	X	.016	.016	0 %100
291	M97	X	.016	.016	0 %100
292	M98	X	.001	.001	0 %100
293	M99	X	0	0	0 %100
294	M100	X	.012	.012	0 %100
295	M101	X	.012	.012	0 %100
296	M102	X	.016	.016	0 %100
297	M103	X	.016	.016	0 %100
298	M104	X	.001	.001	0 %100
299	M105	X	.005	.005	0 %100
300	M106	X	0	0	0 %100
301	M107	X	0	0	0 %100
302	M108	X	.016	.016	0 %100
303	M109	X	.016	.016	0 %100
304	M110	X	.002	.002	0 %100
305	M111	X	.005	.005	0 %100
306	M112	X	0	0	0 %100
307	M113	X	0	0	0 %100
308	M114	X	.016	.016	0 %100
309	M115	X	.016	.016	0 %100
310	M129	X	.006	.006	0 %100
311	M133	X	.002	.002	0 %100
312	M134	X	0	0	0 %100
313	M135	X	.002	.002	0 %100
314	M136	X	0	0	0 %100
315	M138	X	0	0	0 %100
316	M139	X	0	0	0 %100
317	M140	X	0	0	0 %100



Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
318	M141	X	0	0	0	%100
319	M142	X	0	0	0	%100
320	M143	X	0	0	0	%100
321	M144	X	0	0	0	%100
322	M145	X	0	0	0	%100
323	A1	X	.002	.002	0	%100
324	A2	X	.002	.002	0	%100
325	A3	X	.002	.002	0	%100
326	A4	X	.002	.002	0	%100
327	M150	X	.006	.006	0	%100
328	M151	X	.006	.006	0	%100
329	M152	X	.006	.006	0	%100
330	M153	X	.006	.006	0	%100
331	M154	X	.006	.006	0	%100
332	M155	X	.006	.006	0	%100
333	M156	X	.006	.006	0	%100
334	M157	X	.006	.006	0	%100
335	D1	X	.002	.002	0	%100
336	D2	X	.002	.002	0	%100
337	D3	X	.002	.002	0	%100
338	D4	X	.002	.002	0	%100
339	M162	X	0	0	0	%100
340	M163	X	0	0	0	%100
341	M164	X	0	0	0	%100
342	M165	X	0	0	0	%100
343	M166	X	0	0	0	%100
344	M167	X	0	0	0	%100
345	M168	X	0	0	0	%100
346	M169	X	0	0	0	%100
347	C1	X	.002	.002	0	%100
348	C2	X	.002	.002	0	%100
349	C3	X	.002	.002	0	%100
350	C4	X	.002	.002	0	%100
351	M174	X	.006	.006	0	%100
352	M175	X	.006	.006	0	%100
353	M176	X	.006	.006	0	%100
354	M177	X	.006	.006	0	%100
355	M178	X	.006	.006	0	%100
356	M179	X	.006	.006	0	%100
357	M180	X	.006	.006	0	%100
358	M181	X	.006	.006	0	%100
359	B1	X	.002	.002	0	%5.6
360	B3	X	.002	.002	0	%100
361	B4	X	.002	.002	0	%100
362	M183	X	.001	.001	0	%100
363	M184	X	.001	.001	0	%100
364	M222	X	.003	.003	0	%100
365	M223	X	.003	.003	0	%100
366	M210A	X	.001	.001	0	%100
367	M211A	X	.006	.006	0	%100
368	M211B	X	.005	.005	0	%100
369	M173	X	.002	.002	0	%100
370	M174A	X	.006	.006	0	%100
371	M175A	X	.001	.001	0	%100
372	M176A	X	.003	.003	0	%100
373	M177B	X	.003	.003	0	%100
374	M178A	X	.001	.001	0	%100



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Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
375	M179B	X	.006	.006	0	%100
376	M180A	X	.005	.005	0	%100
377	M181B	X	.001	.001	0	%100
378	M182	X	.006	.006	0	%100
379	M183A	X	.001	.001	0	%100
380	M184A	X	.003	.003	0	%100
381	M185	X	.003	.003	0	%100
382	M186	X	.001	.001	0	%100
383	M187	X	.006	.006	0	%100
384	M188	X	.005	.005	0	%100
385	M189	X	.002	.002	0	%100
386	M190	X	.006	.006	0	%100
387	M191	X	.001	.001	0	%100
388	M192	X	.003	.003	0	%100
389	M193	X	.003	.003	0	%100
390	M194	X	.001	.001	0	%100
391	M195	X	.006	.006	0	%100
392	M196	X	.005	.005	0	%100
393	M202A	X	.001	.001	0	%100
394	M203A	X	.001	.001	0	%100
395	M204A	X	.001	.001	0	%100
396	M197	X	.002	.002	0	%100
397	M198	X	.004	.004	0	%100
398	M199	X	.002	.002	0	%100
399	M200	X	.004	.004	0	%100
400	B1	X	.002	.002	%94.4	%100

Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M5	Y	2.187e-5	-.000118	11.6	12.567
2	M5	Y	-.000118	-.0003892	12.567	13.533
3	M5	Y	-.0003892	-.0006516	13.533	14.5
4	M10	Y	-.0007934	-.0008135	3.683	4.604
5	M10	Y	-.0008135	-.0008336	4.604	5.525
6	M19	Y	-.0006516	-.0003892	0	.967
7	M19	Y	-.0003892	-.000118	.967	1.933
8	M19	Y	-.000118	2.187e-5	1.933	2.9
9	M184	Y	-.004	-.004	.156	.781
10	M184	Y	-.004	-.004	.781	1.406
11	M9	Y	-.011	-.019	0	1.105
12	M9	Y	-.019	-.024	1.105	2.21
13	M9	Y	-.024	-.023	2.21	3.315
14	M9	Y	-.023	-.013	3.315	4.42
15	M9	Y	-.013	-.0006571	4.42	5.525
16	M10	Y	-.0007948	-.014	3.683	4.788
17	M10	Y	-.014	-.024	4.788	5.893
18	M10	Y	-.024	-.024	5.893	6.998
19	M10	Y	-.024	-.019	6.998	8.103
20	M10	Y	-.019	-.011	8.103	9.208
21	M19	Y	-.004	-.015	0	2.071
22	M19	Y	-.015	-.014	2.071	4.143
23	M19	Y	-.014	-.006	4.143	6.214
24	M19	Y	-.006	-.006	6.214	8.286
25	M19	Y	-.006	-.014	8.286	10.357
26	M19	Y	-.014	-.014	10.357	12.429
27	M19	Y	-.014	-.006	12.429	14.5



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Designer : VB
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Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
28	M22	Y	-0.007	-0.013	0	1.217
29	M22	Y	-0.013	-0.018	1.217	2.433
30	M22	Y	-0.018	-0.018	2.433	3.65
31	M22	Y	-0.018	-0.013	3.65	4.867
32	M22	Y	-0.013	-0.006	4.867	6.083
33	M47	Y	-0.047	-0.047	0	.015
34	M48	Y	-.11	-.11	0	.015
35	M49	Y	-0.001	-0.001	0	.02
36	M50	Y	-0.006	-0.006	0	.021
37	M51	Y	-.04	-.04	0	.015
38	M52	Y	-0.008	-0.008	0	.015
39	M53	Y	-0.008	-0.008	0	.021
40	M54	Y	-0.005	-0.005	0	.021
41	M56	Y	-0.007	-0.005	0	.15
42	M56	Y	-0.005	-0.004	.15	.3
43	M56	Y	-0.004	-0.005	.3	.45
44	M56	Y	-0.005	-0.004	.45	.6
45	M56	Y	-0.004	-0.002	.6	.75
46	M57	Y	-0.001	-0.002	0	.083
47	M57	Y	-0.002	-0.003	.083	.167
48	M57	Y	-0.003	-0.003	.167	.25
49	M57	Y	-0.003	-0.002	.25	.333
50	M57	Y	-0.002	-.0008463	.333	.417
51	M60	Y	-0.008	-0.004	0	.15
52	M60	Y	-0.004	-0.004	.15	.3
53	M60	Y	-0.004	-0.005	.3	.45
54	M60	Y	-0.005	-0.004	.45	.6
55	M60	Y	-0.004	-.000692	.6	.75
56	M61	Y	-.0005793	-0.003	0	.083
57	M61	Y	-0.003	-0.003	.083	.167
58	M61	Y	-0.003	-0.002	.167	.25
59	M61	Y	-0.002	-0.002	.25	.333
60	M61	Y	-0.002	-0.001	.333	.417
61	M104	Y	-0.035	-0.017	0	.15
62	M104	Y	-0.017	-0.009	.15	.3
63	M104	Y	-0.009	-0.008	.3	.45
64	M104	Y	-0.008	-0.004	.45	.6
65	M104	Y	-0.004	.0002329	.6	.75
66	M105	Y	-5.708e-5	-.0006297	0	.05
67	M105	Y	-.0006297	-0.002	.05	.1
68	M105	Y	-0.002	-0.003	.1	.15
69	M105	Y	-0.003	-0.012	.15	.2
70	M105	Y	-0.012	-0.031	.2	.25
71	M106	Y	-0.002	-0.002	.001	.038
72	M107	Y	-.0004042	-.0004042	.006	.034
73	M108	Y	-0.002	-0.002	0	.015
74	M109	Y	-0.004	-0.004	0	.015
75	M110	Y	-0.035	-0.021	0	.15
76	M110	Y	-0.021	-0.012	.15	.3
77	M110	Y	-0.012	-0.009	.3	.45
78	M110	Y	-0.009	-0.006	.45	.6
79	M110	Y	-0.006	.0004235	.6	.75
80	M111	Y	.001	-.0009086	0	.05
81	M111	Y	-.0009086	-0.002	.05	.1
82	M111	Y	-0.002	-0.002	.1	.15
83	M111	Y	-0.002	-0.015	.15	.2
84	M111	Y	-0.015	-0.039	.2	.25



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Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft.%,]	End Location[ft.%,]
85	M112	Y	-.007	-.0009086	0	.042
86	M113	Y	-.0003456	-.0003456	.001	.038
87	M114	Y	-.005	-.005	0	.015
88	M115	Y	-.006	-.006	0	.015
89	M163	Y	-.002	-.002	0	.1
90	M165	Y	-.002	-.002	0	.1
91	M184	Y	-.000407	-.009	0	.25
92	M184	Y	-.009	-.015	.25	.5
93	M184	Y	-.015	-.008	.5	.75
94	M184	Y	-.008	-.000407	.75	1
95	M184	Y	-.000407	-.000407	1	1.25
96	M191	Y	-.0003762	-.0003762	.312	.562
97	M191	Y	-.0003762	-.009	.562	.812
98	M191	Y	-.009	-.015	.812	1.062
99	M191	Y	-.015	-.008	1.062	1.312
100	M191	Y	-.008	-.000781	1.312	1.562
101	M9	Y	-.0007934	-.0008135	3.683	4.604
102	M9	Y	-.0008135	-.0008336	4.604	5.525
103	M18	Y	-.0006516	-.0003892	0	.967
104	M18	Y	-.0003892	-.000118	.967	1.933
105	M18	Y	-.000118	2.187e-5	1.933	2.9
106	M19	Y	2.187e-5	-.000118	11.6	12.567
107	M19	Y	-.000118	-.0003892	12.567	13.533
108	M19	Y	-.0003892	-.0006516	13.533	14.5
109	M191	Y	-.004	-.004	.156	.781
110	M191	Y	-.004	-.004	.781	1.406
111	M8	Y	-.011	-.019	0	1.105
112	M8	Y	-.019	-.024	1.105	2.21
113	M8	Y	-.024	-.023	2.21	3.315
114	M8	Y	-.023	-.013	3.315	4.42
115	M8	Y	-.013	-.0006571	4.42	5.525
116	M9	Y	-.0007948	-.014	3.683	4.788
117	M9	Y	-.014	-.024	4.788	5.893
118	M9	Y	-.024	-.024	5.893	6.998
119	M9	Y	-.024	-.019	6.998	8.103
120	M9	Y	-.019	-.011	8.103	9.208
121	M18	Y	-.004	-.015	0	2.071
122	M18	Y	-.015	-.014	2.071	4.143
123	M18	Y	-.014	-.006	4.143	6.214
124	M18	Y	-.006	-.006	6.214	8.286
125	M18	Y	-.006	-.014	8.286	10.357
126	M18	Y	-.014	-.014	10.357	12.429
127	M18	Y	-.014	-.006	12.429	14.5
128	M21	Y	-.007	-.013	0	1.217
129	M21	Y	-.013	-.018	1.217	2.433
130	M21	Y	-.018	-.018	2.433	3.65
131	M21	Y	-.018	-.013	3.65	4.867
132	M21	Y	-.013	-.006	4.867	6.083
133	M39	Y	-.047	-.047	0	.015
134	M40	Y	-.11	-.11	0	.015
135	M41	Y	-.001	-.001	0	.02
136	M42	Y	-.006	-.006	0	.021
137	M43	Y	-.04	-.04	0	.015
138	M44	Y	-.008	-.008	0	.015
139	M45	Y	-.008	-.008	0	.021
140	M46	Y	-.005	-.005	0	.021
141	M62	Y	-.007	-.005	0	.15



Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft.	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
142	M62	Y	-0.005	-0.004	.15	.3
143	M62	Y	-0.004	-0.005	.3	.45
144	M62	Y	-0.005	-0.004	.45	.6
145	M62	Y	-0.004	-0.002	.6	.75
146	M63	Y	-0.001	-0.002	0	.083
147	M63	Y	-0.002	-0.003	.083	.167
148	M63	Y	-0.003	-0.003	.167	.25
149	M63	Y	-0.003	-0.002	.25	.333
150	M63	Y	-0.002	-0.0008463	.333	.417
151	M64	Y	-0.008	-0.004	0	.15
152	M64	Y	-0.004	-0.004	.15	.3
153	M64	Y	-0.004	-0.005	.3	.45
154	M64	Y	-0.005	-0.004	.45	.6
155	M64	Y	-0.004	-0.000692	.6	.75
156	M65	Y	-0.0005793	-0.003	0	.083
157	M65	Y	-0.003	-0.003	.083	.167
158	M65	Y	-0.003	-0.002	.167	.25
159	M65	Y	-0.002	-0.002	.25	.333
160	M65	Y	-0.002	-0.001	.333	.417
161	M92	Y	-0.035	-0.017	0	.15
162	M92	Y	-0.017	-0.009	.15	.3
163	M92	Y	-0.009	-0.008	.3	.45
164	M92	Y	-0.008	-0.004	.45	.6
165	M92	Y	-0.004	.0002338	.6	.75
166	M93	Y	-6.079e-5	-0.0006315	0	.05
167	M93	Y	-0.0006315	-0.002	.05	.1
168	M93	Y	-0.002	-0.003	.1	.15
169	M93	Y	-0.003	-0.012	.15	.2
170	M93	Y	-0.012	-0.031	.2	.25
171	M94	Y	-0.002	-0.002	.001	.038
172	M95	Y	-0.0004042	-0.0004042	.006	.034
173	M96	Y	-0.002	-0.002	0	.015
174	M97	Y	-0.004	-0.004	0	.015
175	M98	Y	-0.035	-0.021	0	.15
176	M98	Y	-0.021	-0.012	.15	.3
177	M98	Y	-0.012	-0.009	.3	.45
178	M98	Y	-0.009	-0.006	.45	.6
179	M98	Y	-0.006	.0004235	.6	.75
180	M99	Y	.001	-0.0009093	0	.05
181	M99	Y	-0.0009093	-0.002	.05	.1
182	M99	Y	-0.002	-0.002	.1	.15
183	M99	Y	-0.002	-0.015	.15	.2
184	M99	Y	-0.015	-0.039	.2	.25
185	M100	Y	-0.007	-0.0009093	0	.042
186	M101	Y	-0.0003456	-0.0003456	.001	.038
187	M102	Y	-0.005	-0.005	0	.015
188	M103	Y	-0.006	-0.006	0	.015
189	M151	Y	-0.002	-0.002	0	.1
190	M153	Y	-0.002	-0.002	0	.1
191	M183A	Y	-0.0003762	-0.0003762	.312	.562
192	M183A	Y	-0.0003762	-0.009	.562	.812
193	M183A	Y	-0.009	-0.015	.812	1.062
194	M183A	Y	-0.015	-0.008	1.062	1.312
195	M183A	Y	-0.008	-0.0007819	1.312	1.562
196	M191	Y	-0.0004069	-0.009	0	.25
197	M191	Y	-0.009	-0.015	.25	.5
198	M191	Y	-0.015	-0.008	.5	.75



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
199	M191	Y	-0.008	-0.0004069	.75	1
200	M191	Y	-0.0004069	-0.0004069	1	1.25
201	M8	Y	-0.0007934	-0.0008135	3.683	4.604
202	M8	Y	-0.0008135	-0.0008336	4.604	5.525
203	M17	Y	-0.0006516	-0.0003892	0	.967
204	M17	Y	-0.0003892	-0.000118	.967	1.933
205	M17	Y	-0.000118	2.187e-5	1.933	2.9
206	M18	Y	2.187e-5	-0.000118	11.6	12.567
207	M18	Y	-0.000118	-0.0003892	12.567	13.533
208	M18	Y	-0.0003892	-0.0006516	13.533	14.5
209	M183A	Y	-0.004	-0.004	.156	.781
210	M183A	Y	-0.004	-0.004	.781	1.406
211	M7	Y	-0.011	-0.019	0	1.105
212	M7	Y	-0.019	-0.024	1.105	2.21
213	M7	Y	-0.024	-0.023	2.21	3.315
214	M7	Y	-0.023	-0.013	3.315	4.42
215	M7	Y	-0.013	-0.0006571	4.42	5.525
216	M8	Y	-0.0007948	-0.014	3.683	4.788
217	M8	Y	-0.014	-0.024	4.788	5.893
218	M8	Y	-0.024	-0.024	5.893	6.998
219	M8	Y	-0.024	-0.019	6.998	8.103
220	M8	Y	-0.019	-0.011	8.103	9.208
221	M17	Y	-0.004	-0.015	0	2.071
222	M17	Y	-0.015	-0.014	2.071	4.143
223	M17	Y	-0.014	-0.006	4.143	6.214
224	M17	Y	-0.006	-0.006	6.214	8.286
225	M17	Y	-0.006	-0.014	8.286	10.357
226	M17	Y	-0.014	-0.014	10.357	12.429
227	M17	Y	-0.014	-0.006	12.429	14.5
228	M20	Y	-0.007	-0.013	0	1.217
229	M20	Y	-0.013	-0.018	1.217	2.433
230	M20	Y	-0.018	-0.018	2.433	3.65
231	M20	Y	-0.018	-0.013	3.65	4.867
232	M20	Y	-0.013	-0.006	4.867	6.083
233	M31	Y	-0.047	-0.047	0	.015
234	M32	Y	-.11	-.11	0	.015
235	M33	Y	-0.001	-0.001	0	.02
236	M34	Y	-0.006	-0.006	0	.021
237	M35	Y	-.04	-.04	0	.015
238	M36	Y	-0.008	-0.008	0	.015
239	M37	Y	-0.008	-0.008	0	.021
240	M38	Y	-0.005	-0.005	0	.021
241	M66	Y	-0.007	-0.005	0	.15
242	M66	Y	-0.005	-0.004	.15	.3
243	M66	Y	-0.004	-0.005	.3	.45
244	M66	Y	-0.005	-0.004	.45	.6
245	M66	Y	-0.004	-0.002	.6	.75
246	M67	Y	-0.001	-0.002	0	.083
247	M67	Y	-0.002	-0.003	.083	.167
248	M67	Y	-0.003	-0.003	.167	.25
249	M67	Y	-0.003	-0.002	.25	.333
250	M67	Y	-0.002	-0.0008463	.333	.417
251	M70	Y	-0.008	-0.004	0	.15
252	M70	Y	-0.004	-0.004	.15	.3
253	M70	Y	-0.004	-0.005	.3	.45
254	M70	Y	-0.005	-0.004	.45	.6
255	M70	Y	-0.004	-0.000692	.6	.75



Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
256	M71	Y	-0.005793	-0.003	0	.083
257	M71	Y	-0.003	-0.003	.083	.167
258	M71	Y	-0.003	-0.002	.167	.25
259	M71	Y	-0.002	-0.002	.25	.333
260	M71	Y	-0.002	-0.001	.333	.417
261	M80	Y	-0.035	-0.017	0	.15
262	M80	Y	-0.017	-0.009	.15	.3
263	M80	Y	-0.009	-0.008	.3	.45
264	M80	Y	-0.008	-0.004	.45	.6
265	M80	Y	-0.004	.0002329	.6	.75
266	M81	Y	-5.708e-5	-0.0006297	0	.05
267	M81	Y	-0.0006297	-0.002	.05	.1
268	M81	Y	-0.002	-0.003	.1	.15
269	M81	Y	-0.003	-0.012	.15	.2
270	M81	Y	-0.012	-0.031	.2	.25
271	M82	Y	-0.002	-0.002	.001	.038
272	M83	Y	-0.0004042	-0.0004042	.006	.034
273	M84	Y	-0.002	-0.002	0	.015
274	M85	Y	-0.004	-0.004	0	.015
275	M86	Y	-0.035	-0.021	0	.15
276	M86	Y	-0.021	-0.012	.15	.3
277	M86	Y	-0.012	-0.009	.3	.45
278	M86	Y	-0.009	-0.006	.45	.6
279	M86	Y	-0.006	.0004235	.6	.75
280	M87	Y	.001	-0.0009103	0	.05
281	M87	Y	-0.0009103	-0.002	.05	.1
282	M87	Y	-0.002	-0.002	.1	.15
283	M87	Y	-0.002	-0.015	.15	.2
284	M87	Y	-0.015	-0.039	.2	.25
285	M88	Y	-0.007	-0.0009103	0	.042
286	M89	Y	-0.0003456	-0.0003456	.001	.038
287	M90	Y	-0.005	-0.005	0	.015
288	M91	Y	-0.006	-0.006	0	.015
289	M139	Y	-0.002	-0.002	0	.1
290	M141	Y	-0.002	-0.002	0	.1
291	M175A	Y	-0.0003762	-0.0003762	.312	.562
292	M175A	Y	-0.0003762	-0.009	.562	.812
293	M175A	Y	-0.009	-0.015	.812	1.062
294	M175A	Y	-0.015	-0.008	1.062	1.312
295	M175A	Y	-0.008	-0.000781	1.312	1.562
296	M183A	Y	-0.000407	-0.009	0	.25
297	M183A	Y	-0.009	-0.015	.25	.5
298	M183A	Y	-0.015	-0.008	.5	.75
299	M183A	Y	-0.008	-0.000407	.75	1
300	M183A	Y	-0.000407	-0.000407	1	1.25
301	M5	Y	-0.0006516	-0.0003892	0	.967
302	M5	Y	-0.0003892	-0.000118	.967	1.933
303	M5	Y	-0.000118	2.187e-5	1.933	2.9
304	M7	Y	-0.000939	-0.0008135	3.683	4.604
305	M7	Y	-0.0008135	-0.0006879	4.604	5.525
306	M17	Y	2.187e-5	-0.000118	11.6	12.567
307	M17	Y	-0.000118	-0.0003892	12.567	13.533
308	M17	Y	-0.0003892	-0.0006516	13.533	14.5
309	M175A	Y	-0.004	-0.004	.156	.781
310	M175A	Y	-0.004	-0.004	.781	1.406
311	M5	Y	-0.007	-0.015	0	2.071
312	M5	Y	-0.015	-0.014	2.071	4.143



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
313	M5	-0.014	-0.005	4.143	6.214
314	M5	-0.005	-0.005	6.214	8.286
315	M5	-0.005	-0.014	8.286	10.357
316	M5	-0.014	-0.015	10.357	12.429
317	M5	-0.015	-0.006	12.429	14.5
318	M6	-0.006	-0.012	0	1.217
319	M6	-0.012	-0.019	1.217	2.433
320	M6	-0.019	-0.019	2.433	3.65
321	M6	-0.019	-0.012	3.65	4.867
322	M6	-0.012	-0.006	4.867	6.083
323	M7	-0.007419	-0.014	3.683	4.788
324	M7	-0.014	-0.025	4.788	5.893
325	M7	-0.025	-0.024	5.893	6.998
326	M7	-0.024	-0.019	6.998	8.103
327	M7	-0.019	-0.01	8.103	9.208
328	M10	-0.008	-0.02	0	1.105
329	M10	-0.02	-0.024	1.105	2.21
330	M10	-0.024	-0.024	2.21	3.315
331	M10	-0.024	-0.014	3.315	4.42
332	M10	-0.014	-0.0008698	4.42	5.525
333	M13	-0.006	-0.006	0	.015
334	M14	-0.038	-0.038	0	.015
335	M15	-0.002	-0.002	0	.042
336	M16	-0.0003125	-0.0003125	0	.042
337	M23	-0.0009526	-0.0009526	0	.021
338	M24	-0.0003642	-0.0003642	0	.021
339	M25	-0.02	-0.02	0	.015
340	M26	-0.005	-0.005	0	.015
341	M27	-0.007	-0.007	0	.015
342	M28	-0.003	-0.003	0	.015
343	M29	-0.0009476	-0.0009476	0	.021
344	M30	-0.002	-0.002	0	.021
345	M58	-0.007	-0.004	0	.15
346	M58	-0.004	-0.004	.15	.3
347	M58	-0.004	-0.005	.3	.45
348	M58	-0.005	-0.004	.45	.6
349	M58	-0.004	-0.001	.6	.75
350	M59	-0.000423	-0.002	0	.083
351	M59	-0.002	-0.003	.083	.167
352	M59	-0.003	-0.003	.167	.25
353	M59	-0.003	-0.002	.25	.333
354	M59	-0.002	-0.001	.333	.417
355	M68	-0.007	-0.004	0	.15
356	M68	-0.004	-0.003	.15	.3
357	M68	-0.003	-0.005	.3	.45
358	M68	-0.005	-0.004	.45	.6
359	M68	-0.004	-0.001	.6	.75
360	M69	-0.0005453	-0.002	0	.083
361	M69	-0.002	-0.003	.083	.167
362	M69	-0.003	-0.003	.167	.25
363	M69	-0.003	-0.002	.25	.333
364	M69	-0.002	-0.001	.333	.417
365	M72	-0.04	-0.019	0	.15
366	M72	-0.019	-0.01	.15	.3
367	M72	-0.01	-0.009	.3	.45
368	M72	-0.009	-0.004	.45	.6
369	M72	-0.004	-0.0002881	.6	.75



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 48 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft. ...	End Magnitude[k/ft.F...	Start Location[ft. %]	End Location[ft. %]
370	M73	Y	.0009878	-.0009389	0	.05
371	M73	Y	-.0009389	-.003	.05	.1
372	M73	Y	-.003	-.003	.1	.15
373	M73	Y	-.003	-.013	.15	.2
374	M73	Y	-.013	-.034	.2	.25
375	M74	Y	-.035	-.018	0	.15
376	M74	Y	-.018	-.01	.15	.3
377	M74	Y	-.01	-.009	.3	.45
378	M74	Y	-.009	-.004	.45	.6
379	M74	Y	-.004	-.0003256	.6	.75
380	M75	Y	.0007176	-.0008159	0	.05
381	M75	Y	-.0008159	-.002	.05	.1
382	M75	Y	-.002	-.004	.1	.15
383	M75	Y	-.004	-.014	.15	.2
384	M75	Y	-.014	-.031	.2	.25
385	M76	Y	-.0009912	-.0009912	0	.042
386	M77	Y	-.0007323	-.0007323	0	.042
387	M78	Y	-.012	-.012	0	.015
388	M79	Y	-.015	-.015	0	.015
389	M177	Y	-.009	-.009	0	.1
390	M184	Y	-.0006395	-.009	.469	.833
391	M184	Y	-.009	-.01	.833	1.198
392	M184	Y	-.01	-.0006395	1.198	1.562
393	M175A	Y	-.0006374	-.01	0	.365
394	M175A	Y	-.01	-.008	.365	.729
395	M175A	Y	-.008	-.0006374	.729	1.094

Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft. ...	End Magnitude[k/ft.F...	Start Location[ft. %]	End Location[ft. %]
1	M5	Y	-.0007059	-.0004216	0	.967
2	M5	Y	-.0004216	-.0001279	.967	1.933
3	M5	Y	-.0001279	2.369e-5	1.933	2.9
4	M7	Y	-.001	-.0008812	3.683	4.604
5	M7	Y	-.0008812	-.0007453	4.604	5.525
6	M17	Y	2.369e-5	-.0001279	11.6	12.567
7	M17	Y	-.0001279	-.0004216	12.567	13.533
8	M17	Y	-.0004216	-.0007059	13.533	14.5
9	M175A	Y	-.004	-.004	.156	.781
10	M175A	Y	-.004	-.004	.781	1.406
11	M5	Y	-.004	-.016	0	2.071
12	M5	Y	-.016	-.016	2.071	4.143
13	M5	Y	-.016	-.006	4.143	6.214
14	M5	Y	-.006	-.006	6.214	8.286
15	M5	Y	-.006	-.015	8.286	10.357
16	M5	Y	-.015	-.016	10.357	12.429
17	M5	Y	-.016	-.006	12.429	14.5
18	M6	Y	-.007	-.014	0	1.217
19	M6	Y	-.014	-.02	1.217	2.433
20	M6	Y	-.02	-.02	2.433	3.65
21	M6	Y	-.02	-.014	3.65	4.867
22	M6	Y	-.014	-.006	4.867	6.083
23	M7	Y	-.0007631	-.015	3.683	4.788
24	M7	Y	-.015	-.026	4.788	5.893
25	M7	Y	-.026	-.025	5.893	6.998
26	M7	Y	-.025	-.02	6.998	8.103
27	M7	Y	-.02	-.013	8.103	9.208



Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
85	M76	Y	-0.008	-0.0003939	0	.042
86	M77	Y	-0.0003744	-0.0003744	.001	.038
87	M78	Y	-0.012	-0.012	0	.015
88	M79	Y	-0.008	-0.008	0	.015
89	M175	Y	-0.002	-0.002	0	.1
90	M177	Y	-0.002	-0.002	0	.1
91	M184	Y	-0.0004075	-0.0004075	.312	.562
92	M184	Y	-0.0004075	-.01	.562	.812
93	M184	Y	-.01	-.016	.812	1.062
94	M184	Y	-.016	-.009	1.062	1.312
95	M184	Y	-.009	-0.0008467	1.312	1.562
96	M175A	Y	-0.0004409	-.009	0	.25
97	M175A	Y	-.009	-.016	.25	.5
98	M175A	Y	-.016	-.009	.5	.75
99	M175A	Y	-.009	-0.0004409	.75	1
100	M175A	Y	-0.0004409	-0.0004409	1	1.25
101	M5	Y	2.369e-5	-0.0001279	11.6	12.567
102	M5	Y	-0.0001279	-0.0004216	12.567	13.533
103	M5	Y	-0.0004216	-0.0007059	13.533	14.5
104	M10	Y	-0.0008595	-0.0008812	3.683	4.604
105	M10	Y	-0.0008812	-0.000903	4.604	5.525
106	M19	Y	-0.0007059	-0.0004216	0	.967
107	M19	Y	-0.0004216	-0.0001279	.967	1.933
108	M19	Y	-0.0001279	2.369e-5	1.933	2.9
109	M184	Y	-.004	-.004	.156	.781
110	M184	Y	-.004	-.004	.781	1.406
111	M9	Y	-0.012	-0.021	0	1.105
112	M9	Y	-0.021	-0.026	1.105	2.21
113	M9	Y	-0.026	-0.025	2.21	3.315
114	M9	Y	-0.025	-0.014	3.315	4.42
115	M9	Y	-0.014	-0.0007118	4.42	5.525
116	M10	Y	-0.0008611	-.015	3.683	4.788
117	M10	Y	-.015	-0.026	4.788	5.893
118	M10	Y	-0.026	-0.026	5.893	6.998
119	M10	Y	-0.026	-0.021	6.998	8.103
120	M10	Y	-0.021	-0.012	8.103	9.208
121	M19	Y	-.004	-0.016	0	2.071
122	M19	Y	-0.016	-0.016	2.071	4.143
123	M19	Y	-0.016	-0.006	4.143	6.214
124	M19	Y	-0.006	-0.006	6.214	8.286
125	M19	Y	-0.006	-0.015	8.286	10.357
126	M19	Y	-0.015	-0.016	10.357	12.429
127	M19	Y	-0.016	-0.006	12.429	14.5
128	M22	Y	-0.007	-0.014	0	1.217
129	M22	Y	-0.014	-.02	1.217	2.433
130	M22	Y	-.02	-.02	2.433	3.65
131	M22	Y	-.02	-0.014	3.65	4.867
132	M22	Y	-0.014	-0.006	4.867	6.083
133	M47	Y	-0.051	-0.051	0	.015
134	M48	Y	-.12	-.12	0	.015
135	M49	Y	-0.001	-0.001	0	.02
136	M50	Y	-0.006	-0.006	0	.021
137	M51	Y	-0.043	-0.043	0	.015
138	M52	Y	-0.008	-0.008	0	.015
139	M53	Y	-0.009	-0.009	0	.021
140	M54	Y	-0.005	-0.005	0	.021
141	M56	Y	-0.008	-0.005	0	.15



Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
142	M56	Y	-0.005	-0.004	.15 .3
143	M56	Y	-0.004	-0.005	.3 .45
144	M56	Y	-0.005	-0.004	.45 .6
145	M56	Y	-0.004	-0.002	.6 .75
146	M57	Y	-0.001	-0.003	0 .083
147	M57	Y	-0.003	-0.003	.083 .167
148	M57	Y	-0.003	-0.003	.167 .25
149	M57	Y	-0.003	-0.002	.25 .333
150	M57	Y	-0.002	-0.0009168	.333 .417
151	M60	Y	-0.008	-0.005	0 .15
152	M60	Y	-0.005	-0.004	.15 .3
153	M60	Y	-0.004	-0.006	.3 .45
154	M60	Y	-0.006	-0.004	.45 .6
155	M60	Y	-0.004	-0.0007497	.6 .75
156	M61	Y	-0.0006276	-0.003	0 .083
157	M61	Y	-0.003	-0.004	.083 .167
158	M61	Y	-0.004	-0.003	.167 .25
159	M61	Y	-0.003	-0.002	.25 .333
160	M61	Y	-0.002	-0.001	.333 .417
161	M104	Y	-0.037	-0.019	0 .15
162	M104	Y	-0.019	-0.01	.15 .3
163	M104	Y	-0.01	-0.008	.3 .45
164	M104	Y	-0.008	-0.005	.45 .6
165	M104	Y	-0.005	.0002523	.6 .75
166	M105	Y	-6.183e-5	-0.0006822	0 .05
167	M105	Y	-0.0006822	-0.002	.05 .1
168	M105	Y	-0.002	-0.003	.1 .15
169	M105	Y	-0.003	-0.013	.15 .2
170	M105	Y	-0.013	-0.034	.2 .25
171	M106	Y	-0.002	-0.002	.001 .038
172	M107	Y	-0.0004379	-0.0004379	.006 .034
173	M108	Y	-0.002	-0.002	0 .015
174	M109	Y	-0.005	-0.005	0 .015
175	M110	Y	-0.038	-0.023	0 .15
176	M110	Y	-0.023	-0.013	.15 .3
177	M110	Y	-0.013	-0.01	.3 .45
178	M110	Y	-0.01	-0.006	.45 .6
179	M110	Y	-0.006	.0004588	.6 .75
180	M111	Y	.001	-0.0009843	0 .05
181	M111	Y	-0.0009843	-0.002	.05 .1
182	M111	Y	-0.002	-0.003	.1 .15
183	M111	Y	-0.003	-0.016	.15 .2
184	M111	Y	-0.016	-0.042	.2 .25
185	M112	Y	-0.008	-0.0009843	0 .042
186	M113	Y	-0.0003744	-0.0003744	.001 .038
187	M114	Y	-0.005	-0.005	0 .015
188	M115	Y	-0.007	-0.007	0 .015
189	M163	Y	-0.002	-0.002	0 .1
190	M165	Y	-0.002	-0.002	0 .1
191	M184	Y	-0.0004409	-0.009	0 .25
192	M184	Y	-0.009	-0.016	.25 .5
193	M184	Y	-0.016	-0.009	.5 .75
194	M184	Y	-0.009	-0.0004409	.75 1
195	M184	Y	-0.0004409	-0.0004409	1 1.25
196	M191	Y	-0.0004075	-0.0004075	.312 .562
197	M191	Y	-0.0004075	-0.01	.562 .812
198	M191	Y	-0.01	-0.016	.812 1.062



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft.%]	End Location[ft.%]	
199	M191	Y	-0.016	-0.009	1.062	1.312
200	M191	Y	-0.009	-0.0008461	1.312	1.562
201	M9	Y	-0.0008595	-0.0008812	3.683	4.604
202	M9	Y	-0.0008812	-0.000903	4.604	5.525
203	M18	Y	-0.0007059	-0.0004216	0	.967
204	M18	Y	-0.0004216	-0.0001279	.967	1.933
205	M18	Y	-0.0001279	2.369e-5	1.933	2.9
206	M19	Y	2.369e-5	-0.0001279	11.6	12.567
207	M19	Y	-0.0001279	-0.0004216	12.567	13.533
208	M19	Y	-0.0004216	-0.0007059	13.533	14.5
209	M191	Y	-0.004	-0.004	.156	.781
210	M191	Y	-0.004	-0.004	.781	1.406
211	M8	Y	-0.012	-0.021	0	1.105
212	M8	Y	-0.021	-0.026	1.105	2.21
213	M8	Y	-0.026	-0.025	2.21	3.315
214	M8	Y	-0.025	-0.014	3.315	4.42
215	M8	Y	-0.014	-0.0007119	4.42	5.525
216	M9	Y	-0.0008611	-0.015	3.683	4.788
217	M9	Y	-0.015	-0.026	4.788	5.893
218	M9	Y	-0.026	-0.026	5.893	6.998
219	M9	Y	-0.026	-0.021	6.998	8.103
220	M9	Y	-0.021	-0.012	8.103	9.208
221	M18	Y	-0.004	-0.016	0	2.071
222	M18	Y	-0.016	-0.016	2.071	4.143
223	M18	Y	-0.016	-0.006	4.143	6.214
224	M18	Y	-0.006	-0.006	6.214	8.286
225	M18	Y	-0.006	-0.015	8.286	10.357
226	M18	Y	-0.015	-0.016	10.357	12.429
227	M18	Y	-0.016	-0.006	12.429	14.5
228	M21	Y	-0.007	-0.014	0	1.217
229	M21	Y	-0.014	-0.02	1.217	2.433
230	M21	Y	-0.02	-0.02	2.433	3.65
231	M21	Y	-0.02	-0.014	3.65	4.867
232	M21	Y	-0.014	-0.006	4.867	6.083
233	M39	Y	-0.051	-0.051	0	.015
234	M40	Y	-.12	-.12	0	.015
235	M41	Y	-0.001	-0.001	0	.02
236	M42	Y	-0.006	-0.006	0	.021
237	M43	Y	-0.043	-0.043	0	.015
238	M44	Y	-0.008	-0.008	0	.015
239	M45	Y	-0.009	-0.009	0	.021
240	M46	Y	-0.005	-0.005	0	.021
241	M62	Y	-0.008	-0.005	0	.15
242	M62	Y	-0.005	-0.004	.15	.3
243	M62	Y	-0.004	-0.005	.3	.45
244	M62	Y	-0.005	-0.004	.45	.6
245	M62	Y	-0.004	-0.002	.6	.75
246	M63	Y	-0.001	-0.003	0	.083
247	M63	Y	-0.003	-0.003	.083	.167
248	M63	Y	-0.003	-0.003	.167	.25
249	M63	Y	-0.003	-0.002	.25	.333
250	M63	Y	-0.002	-0.0009168	.333	.417
251	M64	Y	-0.008	-0.005	0	.15
252	M64	Y	-0.005	-0.004	.15	.3
253	M64	Y	-0.004	-0.006	.3	.45
254	M64	Y	-0.006	-0.004	.45	.6
255	M64	Y	-0.004	-0.0007497	.6	.75



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
256	M65	Y	-0.006276	-0.003	0	.083
257	M65	Y	-0.003	-0.004	.083	.167
258	M65	Y	-0.004	-0.003	.167	.25
259	M65	Y	-0.003	-0.002	.25	.333
260	M65	Y	-0.002	-0.001	.333	.417
261	M92	Y	-0.037	-0.019	0	.15
262	M92	Y	-0.019	-0.01	.15	.3
263	M92	Y	-0.01	-0.008	.3	.45
264	M92	Y	-0.008	-0.005	.45	.6
265	M92	Y	-0.005	.0002533	.6	.75
266	M93	Y	-6.586e-5	-0.0006841	0	.05
267	M93	Y	-0.0006841	-0.002	.05	.1
268	M93	Y	-0.002	-0.003	.1	.15
269	M93	Y	-0.003	-0.013	.15	.2
270	M93	Y	-0.013	-0.034	.2	.25
271	M94	Y	-0.002	-0.002	.001	.038
272	M95	Y	-0.0004379	-0.0004379	.006	.034
273	M96	Y	-0.002	-0.002	0	.015
274	M97	Y	-0.005	-0.005	0	.015
275	M98	Y	-0.038	-0.023	0	.15
276	M98	Y	-0.023	-0.013	.15	.3
277	M98	Y	-0.013	-0.01	.3	.45
278	M98	Y	-0.01	-0.006	.45	.6
279	M98	Y	-0.006	.0004588	.6	.75
280	M99	Y	.001	-0.0009851	0	.05
281	M99	Y	-0.0009851	-0.002	.05	.1
282	M99	Y	-0.002	-0.003	.1	.15
283	M99	Y	-0.003	-0.016	.15	.2
284	M99	Y	-0.016	-0.042	.2	.25
285	M100	Y	-0.008	-0.0009851	0	.042
286	M101	Y	-0.0003744	-0.0003744	.001	.038
287	M102	Y	-0.005	-0.005	0	.015
288	M103	Y	-0.007	-0.007	0	.015
289	M151	Y	-0.002	-0.002	0	.1
290	M153	Y	-0.002	-0.002	0	.1
291	M183A	Y	-0.0004075	-0.0004075	.312	.562
292	M183A	Y	-0.0004075	-0.01	.562	.812
293	M183A	Y	-0.01	-0.016	.812	1.062
294	M183A	Y	-0.016	-0.009	1.062	1.312
295	M183A	Y	-0.009	-0.000847	1.312	1.562
296	M191	Y	-0.0004408	-0.009	0	.25
297	M191	Y	-0.009	-0.016	.25	.5
298	M191	Y	-0.016	-0.009	.5	.75
299	M191	Y	-0.009	-0.0004408	.75	1
300	M191	Y	-0.0004408	-0.0004408	1	1.25
301	M8	Y	-0.0008595	-0.0008812	3.683	4.604
302	M8	Y	-0.0008812	-0.000903	4.604	5.525
303	M17	Y	-0.0007059	-0.0004216	0	.967
304	M17	Y	-0.0004216	-0.0001279	.967	1.933
305	M17	Y	-0.0001279	2.369e-5	1.933	2.9
306	M18	Y	2.369e-5	-0.0001279	11.6	12.567
307	M18	Y	-0.0001279	-0.0004216	12.567	13.533
308	M18	Y	-0.0004216	-0.0007059	13.533	14.5
309	M183A	Y	-0.004	-0.004	.156	.781
310	M183A	Y	-0.004	-0.004	.781	1.406
311	M7	Y	-0.012	-0.021	0	1.105
312	M7	Y	-0.021	-0.026	1.105	2.21



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
313	M7	-0.026	-0.025	2.21	3.315
314	M7	-0.025	-0.014	3.315	4.42
315	M7	-0.014	-.0007118	4.42	5.525
316	M8	-.0008611	-0.015	3.683	4.788
317	M8	-0.015	-0.026	4.788	5.893
318	M8	-0.026	-0.026	5.893	6.998
319	M8	-0.026	-0.021	6.998	8.103
320	M8	-0.021	-0.012	8.103	9.208
321	M17	-0.004	-0.016	0	2.071
322	M17	-0.016	-0.016	2.071	4.143
323	M17	-0.016	-0.006	4.143	6.214
324	M17	-0.006	-0.006	6.214	8.286
325	M17	-0.006	-0.015	8.286	10.357
326	M17	-0.015	-0.016	10.357	12.429
327	M17	-0.016	-0.006	12.429	14.5
328	M20	-0.007	-0.014	0	1.217
329	M20	-0.014	-0.02	1.217	2.433
330	M20	-0.02	-0.02	2.433	3.65
331	M20	-0.02	-0.014	3.65	4.867
332	M20	-0.014	-0.006	4.867	6.083
333	M31	-0.051	-0.051	0	.015
334	M32	-0.12	-0.12	0	.015
335	M33	-0.001	-0.001	0	.02
336	M34	-0.006	-0.006	0	.021
337	M35	-0.043	-0.043	0	.015
338	M36	-0.008	-0.008	0	.015
339	M37	-0.009	-0.009	0	.021
340	M38	-0.005	-0.005	0	.021
341	M66	-0.008	-0.005	0	.15
342	M66	-0.005	-0.004	.15	.3
343	M66	-0.004	-0.005	.3	.45
344	M66	-0.005	-0.004	.45	.6
345	M66	-0.004	-0.002	.6	.75
346	M67	-0.001	-0.003	0	.083
347	M67	-0.003	-0.003	.083	.167
348	M67	-0.003	-0.003	.167	.25
349	M67	-0.003	-0.002	.25	.333
350	M67	-0.002	-.0009168	.333	.417
351	M70	-0.008	-0.005	0	.15
352	M70	-0.005	-0.004	.15	.3
353	M70	-0.004	-0.006	.3	.45
354	M70	-0.006	-0.004	.45	.6
355	M70	-0.004	-.0007496	.6	.75
356	M71	-.0006276	-0.003	0	.083
357	M71	-0.003	-0.004	.083	.167
358	M71	-0.004	-0.003	.167	.25
359	M71	-0.003	-0.002	.25	.333
360	M71	-0.002	-0.001	.333	.417
361	M80	-0.037	-0.019	0	.15
362	M80	-0.019	-.01	.15	.3
363	M80	-.01	-0.008	.3	.45
364	M80	-0.008	-0.005	.45	.6
365	M80	-0.005	.0002523	.6	.75
366	M81	-6.184e-5	-.0006822	0	.05
367	M81	-.0006822	-0.002	.05	.1
368	M81	-0.002	-0.003	.1	.15
369	M81	-0.003	-0.013	.15	.2



Member Distributed Loads (BLC 49 : BLC 2 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]	
370	M81	Y	-.013	-.034	.2	.25
371	M82	Y	-.002	-.002	.001	.038
372	M83	Y	-.0004379	-.0004379	.006	.034
373	M84	Y	-.002	-.002	0	.015
374	M85	Y	-.005	-.005	0	.015
375	M86	Y	-.038	-.023	0	.15
376	M86	Y	-.023	-.013	.15	.3
377	M86	Y	-.013	-.01	.3	.45
378	M86	Y	-.01	-.006	.45	.6
379	M86	Y	-.006	.0004588	.6	.75
380	M87	Y	.001	-.0009862	0	.05
381	M87	Y	-.0009862	-.002	.05	.1
382	M87	Y	-.002	-.003	.1	.15
383	M87	Y	-.003	-.016	.15	.2
384	M87	Y	-.016	-.042	.2	.25
385	M88	Y	-.008	-.0009862	0	.042
386	M89	Y	-.0003744	-.0003744	.001	.038
387	M90	Y	-.005	-.005	0	.015
388	M91	Y	-.007	-.007	0	.015
389	M139	Y	-.002	-.002	0	.1
390	M141	Y	-.002	-.002	0	.1
391	M175A	Y	-.0004075	-.0004075	.312	.562
392	M175A	Y	-.0004075	-.01	.562	.812
393	M175A	Y	-.01	-.016	.812	1.062
394	M175A	Y	-.016	-.009	1.062	1.312
395	M175A	Y	-.009	-.0008461	1.312	1.562
396	M183A	Y	-.0004409	-.009	0	.25
397	M183A	Y	-.009	-.016	.25	.5
398	M183A	Y	-.016	-.009	.5	.75
399	M183A	Y	-.009	-.0004409	.75	1
400	M183A	Y	-.0004409	-.0004409	1	1.25

Member Area Loads (BLC 1 : Dead)

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N10	N237	N37	Y	Two Way	-.012
2	N37	N237	N236	Y	Two Way	-.012
3	N35	N38	N236	Y	Two Way	-.012
4	N35	N236	N235	Y	Two Way	-.012
5	N36	N235	N33	Y	Two Way	-.012
6	N33	N235	N234A	Y	Two Way	-.012
7	N34	N9	N234A	Y	Two Way	-.012
8	N10	N237	N234A	Y	Two Way	-.012

Member Area Loads (BLC 2 : Ice Dead)

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N34	N9	N234A	Y	Two Way	-.013
2	N9	N234A	N237	Y	Two Way	-.013
3	N37	N10	N237	Y	Two Way	-.013
4	N37	N237	N236	Y	Two Way	-.013
5	N35	N38	N236	Y	Two Way	-.013
6	N35	N236	N235	Y	Two Way	-.013
7	N36	N235	N33	Y	Two Way	-.013
8	N33	N235	N234A	Y	Two Way	-.013



Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...)
1	Dead	None		-1			12		8	
2	Ice Dead	None					12	200	8	
3	Full Wind Antenna (0 Deg)	None					18			
4	Full Wind Antenna (30 Deg)	None					36			
5	Full Wind Antenna (60 Deg)	None					36			
6	Full Wind Antenna (90 Deg)	None					36			
7	Full Wind Antenna (120 Deg)	None					36			
8	Full Wind Antenna (150 Deg)	None					36			
9	Full Wind Members (0 Deg)	None						168		
10	Full Wind Members (30 Deg)	None						168		
11	Full Wind Members (60 Deg)	None						168		
12	Full Wind Members (90 Deg)	None						168		
13	Full Wind Members (120 Deg)	None						168		
14	Full Wind Members (150 Deg)	None						168		
15	Ice Wind Antenna (0 Deg)	None					18			
16	Ice Wind Antenna (30 Deg)	None					36			
17	Ice Wind Antenna (60 Deg)	None					36			
18	Ice Wind Antenna (90 Deg)	None					36			
19	Ice Wind Antenna (120 Deg)	None					36			
20	Ice Wind Antenna (150 Deg)	None					36			
21	Ice Wind Members (0 Deg)	None						400		
22	Ice Wind Members (30 Deg)	None						400		
23	Ice Wind Members (60 Deg)	None						400		
24	Ice Wind Members (90 Deg)	None						400		
25	Ice Wind Members (120 Deg)	None						400		
26	Ice Wind Members (150 Deg)	None						400		
27	Seismic Antenna (0 Deg)	None					12			
28	Seismic Antenna (90 Deg)	None					12			
29	Seismic Members (0 Deg)	None		-0.038	-0.094					
30	Seismic Members (30 Deg)	None	.047	-0.038	-0.081					
31	Seismic Members (60 Deg)	None	.081	-0.038	-0.047					
32	Seismic Members (90 Deg)	None	.094	-0.038	-5.758e-...					
33	Seismic Members (120 Deg)	None	.081	-0.038	.047					
34	Seismic Members (150 Deg)	None	.047	-0.038	.081					
35	Seismic Members (180 Deg)	None	1.152e-17	-0.038	.094					
36	Seismic Members (210 Deg)	None	-.047	-0.038	.081					
37	Seismic Members (240 Deg)	None	-.081	-0.038	.047					
38	Seismic Members (270 Deg)	None	-.094	-0.038	1.727e-17					
39	Seismic Members (300 Deg)	None	-.081	-0.038	-.047					
40	Seismic Members (330 Deg)	None	-.047	-0.038	-.081					
41	Seismic Vertical Antennas	None					12			
42	Man 1 (500 lbs)	None				1				
43	Man 2 (500 lbs)	None				1				
44	Man 3 (500 lbs)	None				1				
45	Man 4 (250 lbs)	None				1				
46	Man 5 (250 lbs)	None				1				
47	Man 6 (250 lbs)	None				1				
48	BLC 1 Transient Area Loads	None						395		
49	BLC 2 Transient Area Loads	None						400		

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4																
2	1.2D + 1.0W 0°	Yes	Y		1	1.2	3	1	9	1												



Company : Mastec Network Solutions
 Designer : VB
 Job Number : 18750-MOD1
 Model Name : Granby - Higley Road

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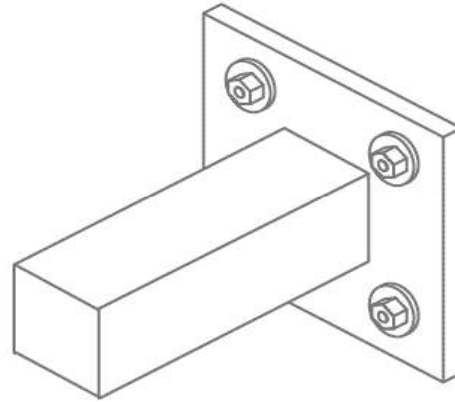
Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

Member	Shape	Code	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn ...	Cb	Eqn	
37	M87	PL3x3/8	.238	.063	21	.251	0	y	2	35.006	36.45	.285	2.278	1.015	H1-1b
38	M92	PL3x3/8	.151	.273	16	.056	.273	y	18	25.332	36.45	.285	2.278	2.521	H1-1b
39	M93	PL3x3/8	.157	.063	17	.159	0	y	22	35.006	36.45	.285	2.278	1.084	H1-1b
40	M98	PL3x3/8	.143	.273	21	.050	.273	y	17	25.332	36.45	.285	2.278	2.705	H1-1b
41	M99	PL3x3/8	.159	.063	21	.109	0	y	11	35.006	36.45	.285	2.278	1.065	H1-1b
42	M104	PL3x3/8	.192	.273	14	.059	.273	y	15	25.332	36.45	.285	2.278	1.625	H1-1b
43	M105	PL3x3/8	.222	.063	22	.253	0	y	8	35.006	36.45	.285	2.278	1.113	H1-1b
44	M110	PL3x3/8	.209	.75	20	.080	.273	y	25	25.332	36.45	.285	2.278	2.354	H1-1b
45	M111	PL3x3/8	.244	.063	15	.307	.063	y	20	35.006	36.45	.285	2.278	1.108	H1-1b
46	M133	PIPE...	.330	5.121	8	.172	.452		8	24.045	32.13	1.872	1.872	1	H1-1b
47	M134	PIPE...	.233	14.007	8	.059	14.157		15	24.045	32.13	1.872	1.872	3.158	H1-1b
48	M135	PIPE...	.328	5.121	2	.168	.452		2	24.045	32.13	1.872	1.872	1	H1-1b
49	M136	PIPE...	.330	5.121	11	.170	.452		11	24.045	32.13	1.872	1.872	1	H1-1b
50	A1	PIPE...	.318	4.648	17	.117	1.039		8	27.339	32.13	1.872	1.872	1.985	H1-1b
51	A2	PIPE...	.294	4.648	5	.089	2.68		8	27.339	32.13	1.872	1.872	1.985	H1-1b
52	A3	PIPE...	.316	4.648	11	.118	4.648		8	27.339	32.13	1.872	1.872	1	H1-1b
53	A4	PIPE...	.285	4.648	23	.120	4.648		11	27.339	32.13	1.872	1.872	1	H1-1b
54	D1	PIPE...	.205	4.648	2	.073	4.648		2	27.339	32.13	1.872	1.872	1	H1-1b
55	D2	PIPE...	.249	4.648	2	.063	4.648		2	27.339	32.13	1.872	1.872	1	H1-1b
56	D3	PIPE...	.255	4.648	8	.056	4.648		8	27.339	32.13	1.872	1.872	1	H1-1b
57	D4	PIPE...	.198	4.648	8	.113	4.648		8	27.339	32.13	1.872	1.872	1	H1-1b
58	C1	PIPE...	.332	4.648	23	.114	1.039		2	27.339	32.13	1.872	1.872	1	H1-1b
59	C2	PIPE...	.237	4.648	11	.084	2.68		2	27.339	32.13	1.872	1.872	1	H1-1b
60	C3	PIPE...	.245	4.648	5	.124	4.648		2	27.339	32.13	1.872	1.872	1.881	H1-1b
61	C4	PIPE...	.277	4.648	17	.073	1.039		2	27.339	32.13	1.872	1.872	1.974	H1-1b
62	B1	PIPE...	.310	4.648	20	.120	1.039		11	27.339	32.13	1.872	1.872	1.947	H1-1b
63	B2	PIPE...	.320	4.648	8	.085	2.68		11	27.339	32.13	1.872	1.872	1.803	H1-1b
64	B3	PIPE...	.343	4.648	2	.124	4.648		11	27.339	32.13	1.872	1.872	1.749	H1-1b
65	B4	PIPE...	.271	4.648	14	.115	4.648		2	27.339	32.13	1.872	1.872	1.44	H1-1b
66	M183	PL4.3...	.215	0	8	.110	.796	y	2	56.278	70.875	.738	6.46	1.185	H1-1b
67	M184	PL8.2...	.513	.57	14	.098	0	y	14	40.148	133.65	1.392	22.971	1.273	H1-1b
68	M210A	PL8x ...	.104	.208	18	.008	.208	z	14	75.799	97.2	.759	15.493	1.008	H1-1b
69	M173	HSS 6...	.161	6.354	22	.050	6.354	y	23	139.38	202.601	25.387	33.828	2.051	H1-1b
70	M175A	PL8.2...	.508	.57	22	.093	0	y	23	40.148	133.65	1.392	22.971	1.265	H1-1b
71	M178A	PL8x ...	.103	.208	16	.007	.208	z	22	75.799	97.2	.759	15.462	1.006	H1-1b
72	M181B	HSS 6...	.145	6.354	18	.051	6.354	y	20	139.38	202.601	25.387	33.828	2.06	H1-1b
73	M183A	PL8.2...	.483	.57	19	.101	0	y	20	40.148	133.65	1.392	22.971	1.261	H1-1b
74	M186	PL8x ...	.098	.208	24	.007	.208	z	19	75.799	97.2	.759	15.456	1.006	H1-1b
75	M189	HSS 6...	.110	6.354	16	.034	6.354	y	14	139.38	202.601	25.387	33.828	2.278	H1-1b
76	M191	PL8.2...	.371	.993	14	.073	.993	y	8	40.148	133.65	1.392	22.971	1.226	H1-1b
77	M194	PL8x ...	.084	.208	22	.005	.208	z	15	75.799	97.2	.759	15.401	1.002	H1-1b
78	M202A	PL4.3...	.201	0	5	.116	.796	y	11	56.278	70.875	.738	6.46	1.204	H1-1b
79	M203A	PL4.3...	.210	0	2	.109	.796	y	8	56.278	70.875	.738	6.46	1.178	H1-1b
80	M204A	PL4.3...	.153	.796	8	.061	0	y	8	56.278	70.875	.738	6.46	1.088	H1-1b
81	M197	LL2.5x...	.412	3.489	14	.005	6.978	z	10	31.344	58.32	3.3	2.55	1.136	H1-1a
82	M198	LL2.5x...	.410	3.489	20	.005	0	z	13	31.344	58.32	3.3	2.55	1.136	H1-1a
83	M199	LL2.5x...	.380	3.489	17	.005	0	z	10	31.344	58.32	3.3	2.55	1.136	H1-1a
84	M200	LL2.5x...	.315	3.489	14	.005	0	z	13	31.344	58.32	3.3	2.55	1.136	H1-1a

APPENDIX D
ADDITIONAL CALCUATIONS

Bolt Calculations:

Bolt Size:	5/8	in
# Bolts:	4	
Plate Width:	8.5	in
Plate Height:	8.5	in
Bolt H Gap:	6	in
Bolt V Gap:	6	in
Plate T:	0.75	in
Bolt Grade:	A325N	
$F_{u\text{bolt}}$	120	ksi
r:	4.243	in
J:	72.000	in ⁴ /in ²
Bolt Area, Normal:	0.307	
Bolt Area, Net Tensile:	0.226	in ²



Allowable Shear:	12.4	kip
Allowable Tension:	20.3	kip

Tension Capacity:	9.8%
Shear Capacity:	11.1%
Combined Capacity:	1.8%

Bolt Capacity:	11.1%
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Plate Calculations:

Horizontal Member Height:	6	in
Horizontal Member Width:	4	in
Plate Grade:	A36	
Plate F_y :	36	ksi

$M_x =$	3.603	k*in
$M_z =$	0.000	k*in

$Z_x =$	1.195	in ³
$Z_z =$	1.195	in ³

$\emptyset M_{py} (X) =$	38.728	k - in
$\emptyset M_{px} (X) =$	38.728	k - in

Plate Capacity:	9.3%
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APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD) / SUPPLEMENTAL DRAWINGS

MOUNT REINFORCEMENT DRAWINGS PREPARED FOR CROWN CASTLE

SITE NAME: GRANBY - HIGLEY ROAD
BU NUMBER: 846295

SITE ADDRESS:
30 HIGLEY ROAD
WEST GRANBY, CT 06090
HARTFORD COUNTY

PROJECT CONTACTS:

1. CROWN PROJECT MANAGER
CHARLES MCGUIRT
CHARLES.MCGUIRT@CROWNCastle.COM
2. DESIGN ENGINEER - MAIN RFI CONTACT
VLADIMIR BLANCHARD, EI
919-674-5885
VLADIMIR.BLANCHARD@MASTEC.COM
3. ENGINEER OF RECORD
RAPHAEL I. MOHAMED, PE, PEng
919-674-5895
507 AIRPORT BLVD.
SUITE 111
MORRISVILLE, NC 27560
RAPHAEL.MOHAMED@MASTEC.COM
4. FOR FABRICATION AND CONSTRUCTION
RELATED INQUIRIES: CONTACT MASTEC
DESIGN ENGINEER AND ENGINEER OF RECORD.


TOWER INFORMATION

TOWER HEIGHT / TYPE: 119 FT ONOPOLE TOWER
MOUNT HEIGHT/TYPE: 110 FT 14.5 FT PLATFORM MOUNT
TOWER LOCATION: LAT: 41° 57' 56.80"
LONG: -72° 51' 19"
MODIFICATION DRAWINGS: MASTEC
MASTEC PROJECT NUMBER: 18750-MOD1
MA FILING CCI DOCUMENT ID: 8409770
MOUNT ANALYSIS DATE: 05/16/2019
ORDER NUMBER: 479846, REV. 0
JDE JOB NUMBER: 559284

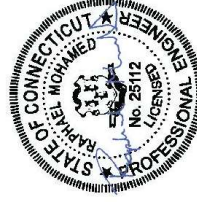
CODE COMPLIANCE

ANSI/TIA-222-H
2018 CONNECTICUT BUILDING CODE


ATTENTION ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.

 <p>507 AIRPORT BLVD., SUITE 111 MORRISVILLE, NC 27560</p>			
<p>THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE PROPERTY OF MASTEC. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE WRITTEN PERMISSION OF MASTEC NETWORK SOLUTIONS IS PROHIBITED.</p>			
NO.	DATE	DESCRIPTION	BY
0	08/12/19	FIRST ISSUE	JMB

<p>SITE NAME: GRANBY - HIGLEY ROAD BU NUMBER: 846295 WO NUMBER: 479846 MNS ENG. NUMBER: 18750 - MOD1</p>	
<p>SITE ADDRESS: 30 HIGLEY ROAD WEST GRANBY, CT 06090 HARTFORD COUNTY, USA</p>	
<p>DRAWN BY: JMB CHECKED BY: VB APPROVED BY: RIM SCALE: N.T.S</p>	
<p>TITLE SHEET</p>	
<p>REV. 0</p>	



DRAWINGS INCLUDED		
SHEET NO.	DESCRIPTION	SHEET NO.
T-1	TITLE SHEET	
N-1	MODIFICATION INSPECTION CHECKLIST	
N-2	GENERAL NOTES	
S-1	MODIFICATION SCHEDULE	
S-2	PLATFORM REINFORCEMENT DETAILS	
S-3	HANDRAIL KIT DETAILS	
A-1	MANUFACTURER SPECIFICATIONS I	



SAFETY CLIMB: LOOK UP! WIRE ROPE SAFETY CLIMB SYSTEM SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER REINFORCEMENTS AND EQUIPMENT INSTALLATIONS SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE WIRE ROPE LIMITED TO PINCHING OF THE WIRE ROPE. BENDING OF THE WIRE ROPE SHALL BE LIMITED TO 90 DEGREES. WIRE ROPE WEAR SHALL BE LIMITED TO 10% OF THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR OR IMPACT TO THE ANCHORAGE POINTS IN ANY WAY THAT COMPROMISES SAFETY CLIMB MUST BE REPORTED TO YOUR SUPERVISOR FOR RESOLUTION, INCLUDING EXISTING CONDITIONS.

QUALIFIED ENGINEERING SERVICES ARE AVAILABLE FROM MASTEC NETWORK SOLUTIONS TO ASSIST CONTRACTORS IN CLASS IV RIGGING PLAN REVIEWS. FOR REQUESTED QUALIFIED ENGINEERING SERVICES, PLEASE CONTACT RAPHAEL MOHAMED AT (919) 244-5207.

RAPHAEL I. MOHAMED, P.Eng
SENIOR DIRECTOR OF ENGINEERING
CT PE LICENSE NO. 25112

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

MI CHECKLIST	
CONSTRUCTION INSTALLATION INSPECTION (CONSTRUCTION TESTING REQUIRED (COMPLETED BY EOR))	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
N/A	FOR APPROVAL
X	FABRICATION INSPECTION
N/A	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
N/A	CONTINUOUS FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS
N/A	GROUT COMP. STRENGTH (ASTM C109)
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
N/A	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS.
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
 N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF THE TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR)
2. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR POINT OF CONTACT (POC).

MI INSPECTOR:

1. THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM
 - REVIEW THE REQUIREMENTS OF THE MI CHECKLIST WORK WITH THE GC INCLUDING FOUNDATION INSPECTIONS,
2. THE MI IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTORS (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT.

GENERAL CONTRACTORS:

1. THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:
 - REVIEW THE REQUIREMENTS OF THE MI CHECKLIST.
 - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
 - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.
 - THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

MI VERIFICATION INSPECTIONS:

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED AS MARKED BY THE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS:

BETWEEN THE GC AND THE MI INSPECTOR, THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION DIRECTIONS AND INSPECTION:
- RAW MATERIALS
- PHOTOS OF ALL CRITICAL DETAILS
- FOUNDATION MODIFICATIONS
- WELD PREPARATION
- BOLT INSTALLATION AND TORQUE
- FINAL INSTALLED CONDITION
- SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
- FINAL IN-FIELD CONDITIONS

PHOTOS OF ELEVATED MODIFICATION TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

CORRECTION OF FALLING MI'S:

IF THE MODIFICATION INSTALLATION WOULD FAIL, THE MI (FAILED MI), THE GC SHALL WORK WITH THE TOWER OWNER TO COORDINATE A REEVALUATION PLAN IN ONE OF TWO WAYS:


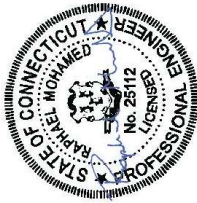
- CORRECT FALLING ISSUES TO COMPLY WITH THE SPECIFICATIONS AND RE-EVALUATE THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, THE GC MAY WORK WITH THE EOR TO REANALYZE THE MODIFICATION ENFORCEMENT USING THE AS-BUILT CONDITION.

RECOMMENDATIONS:

- THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:
- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
 - THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
 - WHEN POSSIBLE IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
 - IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTIONS TO COMMENCE WITH ONE SITE VISIT.
 - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI:

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON SITE, ETC.). TOWER OWNER CONTRACTORS SPECIALLY FOR A DELAY OF MI, ESPECIALLY WHEN THE DELAY IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

			
<small>THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE PROPERTY OF MASTEC NETWORK SOLUTIONS. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART THEREOF WITHOUT THE WRITTEN PERMISSION OF MASTEC NETWORK SOLUTIONS IS PROHIBITED.</small>			
NO.	DATE	DESCRIPTION	BY
0	08/12/19	FIRST ISSUE	JMB
			
SITE NAME: GRANBY - HIGLEY ROAD BU NUMBER: 846295 WO NUMBER: 479846 MINS ENG. NUMBER: 18750 - MOD1 SITE ADDRESS: 30 HIGLEY ROAD WEST GRANBY, CT 06090 HARTFORD COUNTY, USA DRAWN BY: JMB CHECKED BY: VB APPROVED BY: RIM SCALE: N:1/S			
MODIFICATION INSPECTION CHECKLIST			
RAPHAEL I. MOHAMED PE PEng SENIOR DIRECTOR OF ENGINEERING CTE LICENSE NO. 25112		I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.	
N-1		REV 0	

GENERAL NOTES:

- ALL WORK PRESENTED IN THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR MUST HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE WITH ELEVATOR ERECTION AND REPAIRS SIMILAR TO THAT DESCRIBED HEREIN.
- ALL CONSTRUCTION IS TO BE COMPLETE IN ACCORDANCE WITH THE ELEVATOR MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR MUST HAVE CONSIDERABLE WORKING KNOWLEDGE IN THESE STANDARDS TO ACCEPT THIS WORK. BY ACCEPTING THIS PROJECT, THE CONTRACTOR IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE, ABILITY, AND KNOWLEDGE OF THE WORK TO BE PERFORMED AND IS PROPERLY LICENSED AND REGISTERED TO COMPLETE THIS WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS PRIOR TO BEGINNING ANY MATERIAL ORDERS, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES OR CHANGES MUST BE IMMEDIATELY REPORTED TO THE ARCHITECT FOR DISCUSSION. CHANGES MUST BE RESOLVED BEFORE THE CONTRACTOR MAY PROCEED WITH THE PROJECT.
- ANY WORK PERFORMED WITHOUT A PRE-FABRICATION MARKING IS DONE AT THE RISK OF THE CONTRACTOR AND/OR FABRICATOR.
- ALL MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION MUST BE FOLLOWED EXACTLY AS SPECIFIED. ANY CHANGES TO THESE DRAWINGS, THE MANUFACTURER'S SPECIFICATIONS SHALL GOVERN.
- ALL MATERIALS AND EQUIPMENT USED IN THE INSTALLATION OF THESE DRAWINGS SHALL BE IN NEW OR GOOD WORKING QUALITY, FREE FROM DEFECTS, AND SHALL BE IDENTIFIED BY THE MANUFACTURER'S CONTRACT DOCUMENTS. ALL SUBSTITUTIONS MUST BE GIVEN WRITTEN APPROVAL FROM THE EOR PRIOR TO INSTALLATION. ALL MATERIALS SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL INTENDED CONSTRUCTION ACTIVITY INCLUDING MATERIALS, ACCESS AND WORK SCHEDULE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND WILL BE RESPONSIBLE FOR ABIDING BY ALL REQUIREMENTS AND CONDITIONS OF THE PERMITS, WHEN OBTAINING PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JURISDICTION PRIOR TO BEGINNING OF ANY CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS INCLUDING ALL CONSTRUCTION PLANS, PERMITS, ERECTION PLANS, AND REPAIRS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE PROPOSED WORK SHALL MEET ANSISSE A10-48, OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANS/M1A-322 INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.

- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE INSTALLATION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENTS DURING ERECTION AND/OR HELD ALTERATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE SEQUENCE OF ERECTION, THE ORDER OF DISASSEMBLY, AND THE ORDER OF RE-ERECTOR. SUCH MATERIAL SHALL BE REMOVED AFTER THE COMPLETION OF THE PROJECT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT, AND RELATED WORK COMPLETES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
 - THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE EOR.
 - INCORRECTLY FABRICATED, DAMAGED, MIS-FITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO THE EOR PRIOR TO ANY REMEDIAL OR CORRECTING ACTION. ALL ACTIONS SHALL REQUIRE EOR APPROVAL.
- STEEL:**
- THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
 - HOLES SHALL NOT BE TORCH CUT THROUGH STRUCTURAL STEEL FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC SPECIFICATIONS.
 - HOT-DIP GALVANIZE ALL ITEMS AFTER FABRICATION IN COMPLIANCE WITH ASTM A423 UNLESS OTHERWISE SPECIFIED. ALL NEW STEEL IS TO BE PAINTED TO MATCH THE EXISTING STEEL.
 - NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES, SLOTTED AND DOUBLY DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION UNLESS OTHERWISE SPECIFIED.
 - ALL CONNECTIONS NOT DETAILED IN THESE DRAWINGS MUST BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS.
 - ALL BOLTED CONNECTIONS MUST BE INSTALLED TO A SNUG-TIGHTENED CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM 325 OR ASTM 305 OR ASTM A490 BOLTS SECTION 8.1 UNLESS OTHERWISE SPECIFIED.
 - CONTRACTOR MAY BE REQUIRED TO STACK WASHERS FOR BOLTS WHERE THREADS ARE EXCLUDED FROM SHEAR PLANE TO OBTAIN FULL STRENGTH. ALL BOLTED CONNECTIONS MUST BE INSTALLED ON UNPROPOSED AND/OR REBOLTED BOLTS. GALVANIZED ASTM 325 OR A490 BOLTS SHALL NOT BE REUSED.

- COLD GALVANIZATION:**
- ALL DAMAGED SURFACES SHALL BE REPAIRED WITH A COLD-GALVANIZING COATING CONFORMING TO ASTM 780. THIS COATING SHALL BE APPLIED BY BRUSH. THE GALVANIZING COMPOUND SHALL CONTAIN A MINIMUM OF 95% PURE ZINC. THE FINISHED COATING SHALL BE A MINIMUM THICKNESS OF 4 MILS.
 - CONTRACTOR TO USE ZINGA OR ZRC COLD GALVANIZATION COMPOUNDS OR APPROVED EQUIVALENTS.
 - CLEAN AREAS TO BE PREPARED AND REMOVE SLAG FROM WELDS FOR TREATMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 - IF THE TOWER IS PAINTED, ALL TREATED AREAS ARE TO BE BRUSH PAINTED TO MATCH THE TOWER AFTER COLD GALVANIZING COMPOUND IS ALLOWED TO CURE.
- U-BOLTS:**
- ALL U-BOLTS ARE TO BE ASTM A307, SAE 429 GR. 2 UNLESS OTHERWISE SPECIFIED.
 - U-BOLTS SHALL MEET REQUIREMENTS OF ASME B18.3.1.5-2011 BENT BOLTS.
 - U-BOLT ASSEMBLY SHALL COME COMPLETE WITH NUTS (ASTM A683), WASHERS (ASTM F436), AND LOCK WASHERS.
 - A153/A153M OR A123, AS APPLICABLE.

MODIFICATION MATERIALS

SCOPE	SHAPE	GRADE	YIELD STRENGTH (Fy)	ULTIMATE STRENGTH (Fu)
ALL	PIPE	A53 GR. B	35 KSI	60 KSI
ALL	ANGLE	A36	36 KSI	58 KSI



RAPHAEL I. MOHAMED PE PEng
 SENIOR DIRECTOR OF ENGINEERING
 CT PE LICENSE NO. 25112
 I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

Mastec Network Solutions
 507 AIRPORT BLVD., SUITE 111
 HARTFORD, CT 06105

THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE PROPERTY OF MASTEC NETWORK SOLUTIONS. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART THEREOF WITHOUT THE WRITTEN PERMISSION OF MASTEC NETWORK SOLUTIONS IS PROHIBITED.

SITE NAME: GRANBY - HIGLEY ROAD
 BU NUMBER: 646295
 WO NUMBER: 479846
 MINS ENG. NUMBER: 18750 - MOD1
 SITE ADDRESS:
 30 HIGLEY ROAD
 WEST GRANBY, CT 06090
 HARTFORD COUNTY, USA
 DRAWN BY: JMB
 CHECKED BY: VB
 APPROVED BY: RIM
 SCALE: N.T.S

NO.	DATE	DESCRIPTION	BY
0	08/12/19	FIRST ISSUE	JMB

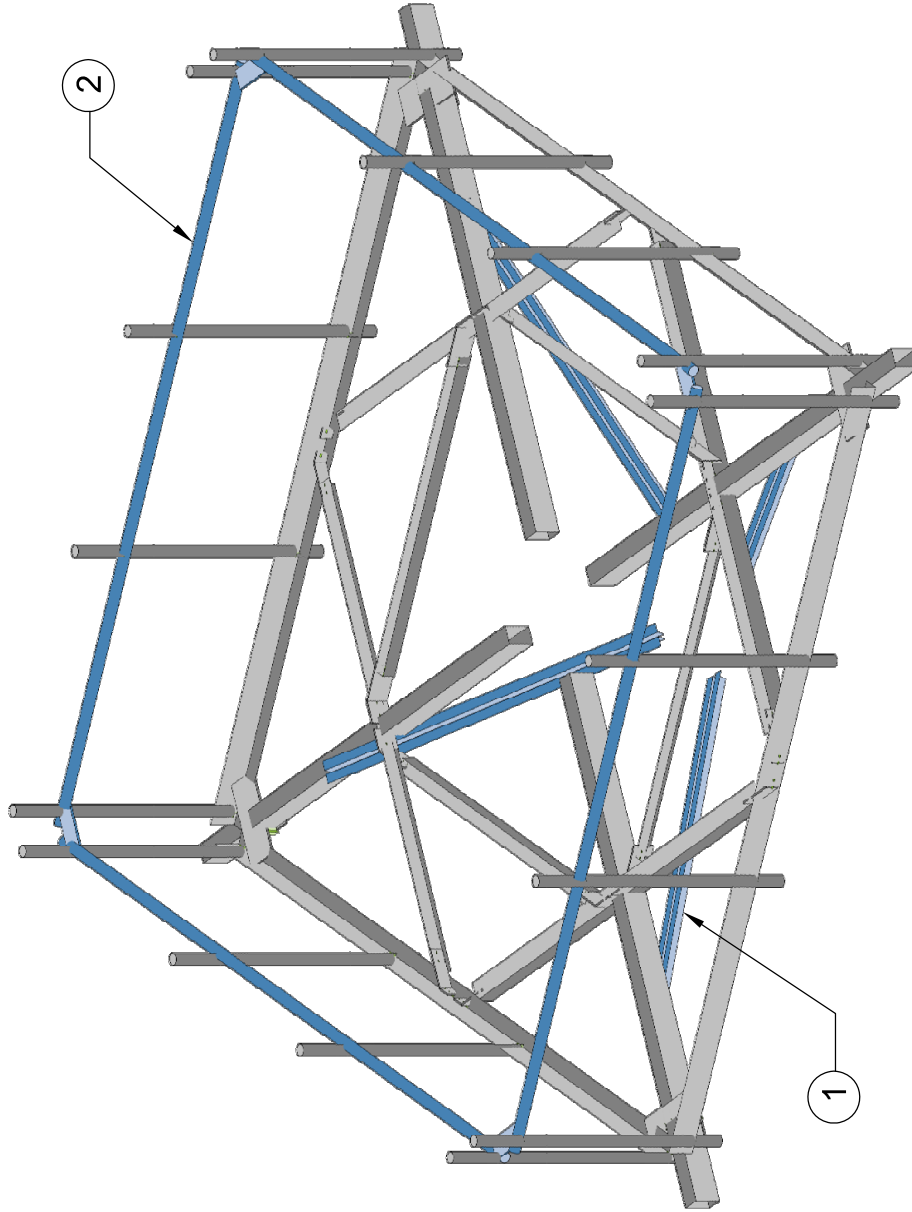
REVISIONS

NOTES

N-2	REV 0
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MODIFICATION SCHEDULE

SCOPE NO.	MODIFICATION DESCRIPTION	BOTTOM ELEVATION	TOP ELEVATION	SHEET NO.
1	INSTALLATION OF NEW PLATFORM REINFORCEMENT KIT	-	110'-0" ±	S-2
2	INSTALLATION OF NEW HANDRAIL KIT	-	110'-0" ±	S-3



NOTES:

1. APPURTENANCES MAY INTERFERE WITH PROPOSED MODIFICATIONS.
2. ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT MUST NOT BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION OF PROPOSED MODIFICATIONS.
3. ANTENNA AND COAX NOT SHOWN FOR CLARITY; SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING AND COAX CONFIGURATION.
4. PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN INFORMATION PROVIDED IS FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
5. EXISTING RRUS AND ANCILLARY EQUIPMENT MAY NEED TO BE TEMPORARILY RELOCATED AS NECESSARY TO COMPLETE THIS MODIFICATION. EQUIPMENT IS NOT TO BE TAKEN OFF AIR AT ANY TIME DURING INSTALLATION. PLEASE CONTACT EOR IF THIS CANNOT BE MET.
6. CONTACT EOR IF PROPOSED MOUNT REINFORCEMENT DIMENSIONS CANNOT BE MET.



507 AIRPORT BLVD, SUITE 111
MIDDLETOWN, CT 06450

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REVISIONS

NO.	DATE	DESCRIPTION	BY
0	08/12/19	FIRST ISSUE	JMB

SITE NAME: GRANBY - HIGLEY ROAD

BU NUMBER: 846295

WO NUMBER: 479846

MINS ENG. NUMBER: 18750 - MOD1

SITE ADDRESS:
30 HIGLEY ROAD
WEST GRANBY, CT 06090
HARTFORD COUNTY, USA

DRAWN BY: JMB

CHECKED BY: VB

APPROVED BY: RIM

SCALE: N.T.S

MODIFICATION SCHEDULE

S-1	REV	0
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PROFESSIONAL ENGINEER
STATE OF CONNECTICUT
RAPHAEEL I. MOHAMED PE PEP
No. 25112
SENIOR DIRECTOR OF ENGINEERING
CT PE LICENSE NO. 25112

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

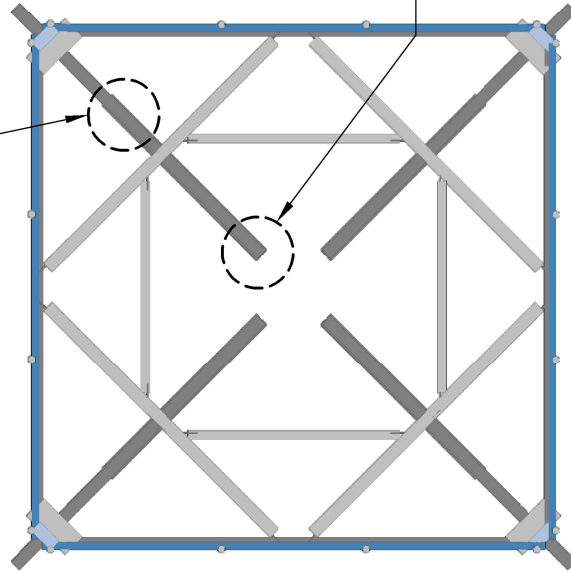
NEW PLATFORM REINFORCEMENT KIT MATERIAL LIST

SITE PRO PART NO.	QTY.	LENGTH	DESCRIPTION
PQ-1245L	1	ADJUSTABLE	PLATFORM REINFORCEMENT KIT
G12R-12	16	12"	1/2" X 12" HOT-DIP GALVANIZED THREADED ROD

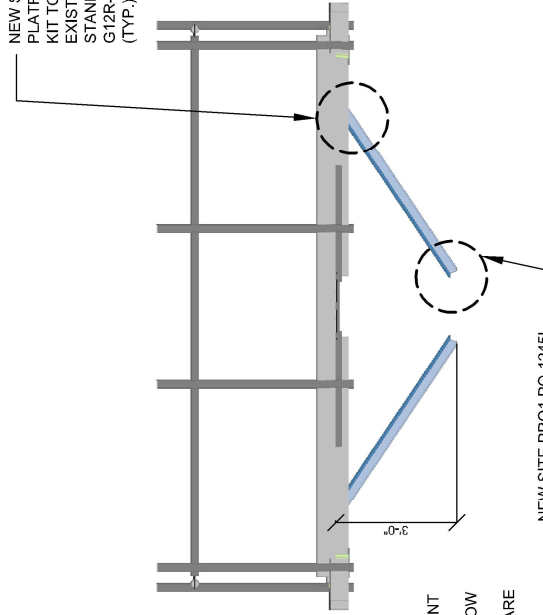
NOTES:

1. CONTRACTOR TO FIELD VERIFY THE REQUIRED LENGTH OF THE NEW ANGLES AND MAY CUT ENDS AS REQUIRED TO AVOID UNNECESSARY OVERHANG AND OVERLAP.
2. TWO COATS OF COLD GALVANIZING COATING MUST BE APPLIED TO ALL CUT ENDS IN ACCORDANCE TO ASTM A180 PRIOR TO INSTALLATION.

NEW SITE PRO1 PQ-1245L
PLATFORM REINFORCEMENT KIT
(TYP.)



1
S-2
PQ-1245L INSTALLATION
PLAN VIEW
NTS




2
S-2
PQ-1245L INSTALLATION
FRONT VIEW
NTS

NEW SITE PRO1 PQ-1245L
PLATFORM REINFORCEMENT
KIT TO BE CONNECTED TO
EXISTING PLATFORM HSS
STAND-OFF USING SITE PRO1
G12R-12 THREADED RODS.
(TYP.)

NEW SITE PRO1 PQ-1245L
PLATFORM REINFORCEMENT
KIT TO BE CONNECTED TO
EXISTING MONOPOLE BELOW
EXISTING COLLAR MOUNT
USING PROVIDED HARDWARE
(TYP.)

NEW SITE PRO1 PQ-1245L
PLATFORM REINFORCEMENT
KIT TO BE CONNECTED TO
EXISTING MONOPOLE BELOW
EXISTING COLLAR MOUNT
USING PROVIDED HARDWARE
(TYP.)

	<p style="text-align: center;">Mastec Network Solutions ADDRESS: 507 AIRPORT BLVD., SUITE 111 MORRISVILLE, NC 27560</p> <p style="text-align: center;"><small>THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE PROPERTY OF MASTEC NETWORK SOLUTIONS. REPRODUCTION OR CAUTION TO BE TAKEN. THE WHOLE OR ANY PART OF THESE DRAWINGS OR ANY PART OF THE INFORMATION CONTAINED HEREIN IS PROHIBITED.</small></p>			<p style="text-align: center;">SITE NAME: GRANBY - HIGLEY ROAD</p> <p>BU NUMBER: 846295 WO NUMBER: 479846 MINS ENG. NUMBER: 18750 - MOD1</p> <p>SITE ADDRESS: 30 HIGLEY ROAD WEST GRANBY, CT 06090 HARTFORD COUNTY, USA</p> <p>DRAWN BY: JMB CHECKED BY: VB APPROVED BY: RIM SCALE: N.T.S.</p>			
NO.	DATE	DESCRIPTION	BY				
0	08/12/19	FIRST ISSUE	JMB				
REVISIONS							
PLATFORM REINFORCEMENT DETAILS							
S-2							
REV 0							

RAPHAEL I. MOHAMED, PE/ENY
SENIOR DIRECTOR OF ENGINEERING
CT PE LICENSE NO. 25112

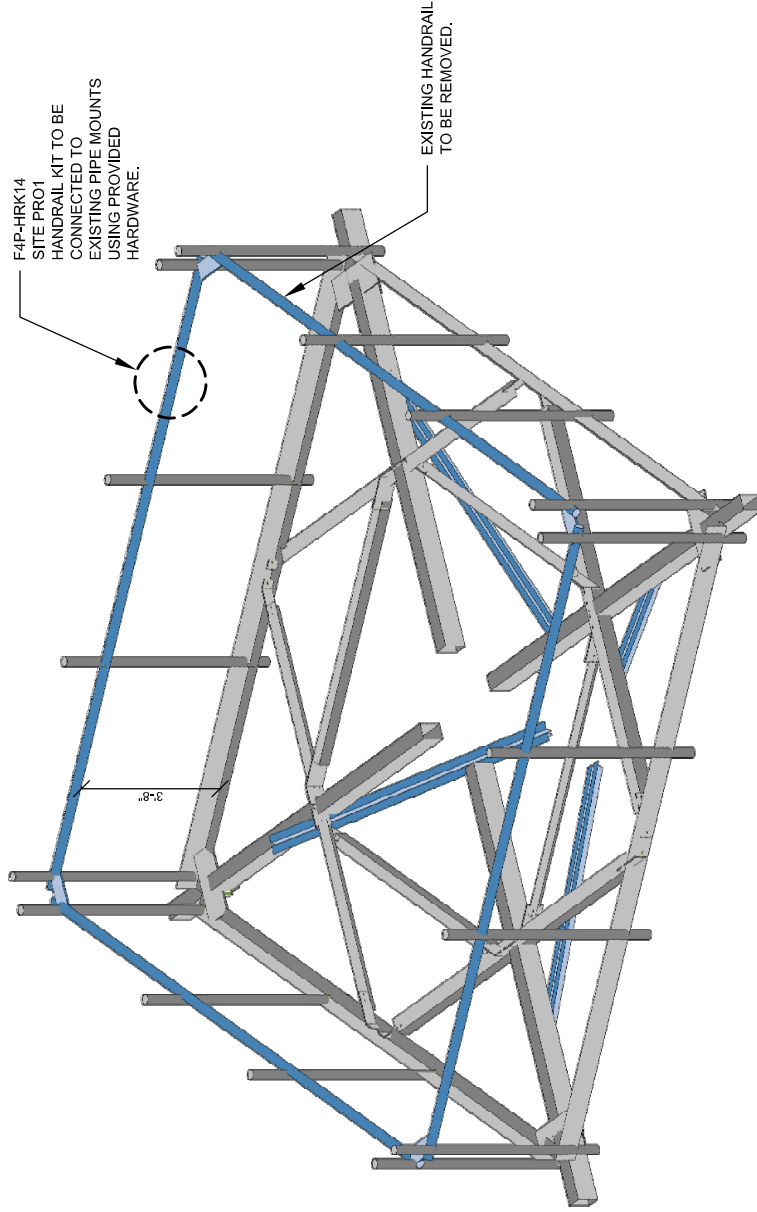
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NEW PLATFORM HANDRAIL KIT MATERIAL LIST

SITE PROJ PART NO.	QTY.	LENGTH	DESCRIPTION
F4P-HRK14	1	ADJUSTABLE	HANDRAIL KIT



NOTES:

1. CONTRACTOR TO FIELD VERIFY THE REQUIRED LENGTH OF THE NEW PIPES AND MAY CUT ENDS AS REQUIRED TO AVOID UNNECESSARY OVERHANG AND OVERLAP.
2. TWO COATS OF COLD GALVANIZING COATING MUST BE APPLIED TO ALL CUT ENDS IN ACCORDANCE TO ASTM A780 PRIOR TO INSTALLATION.



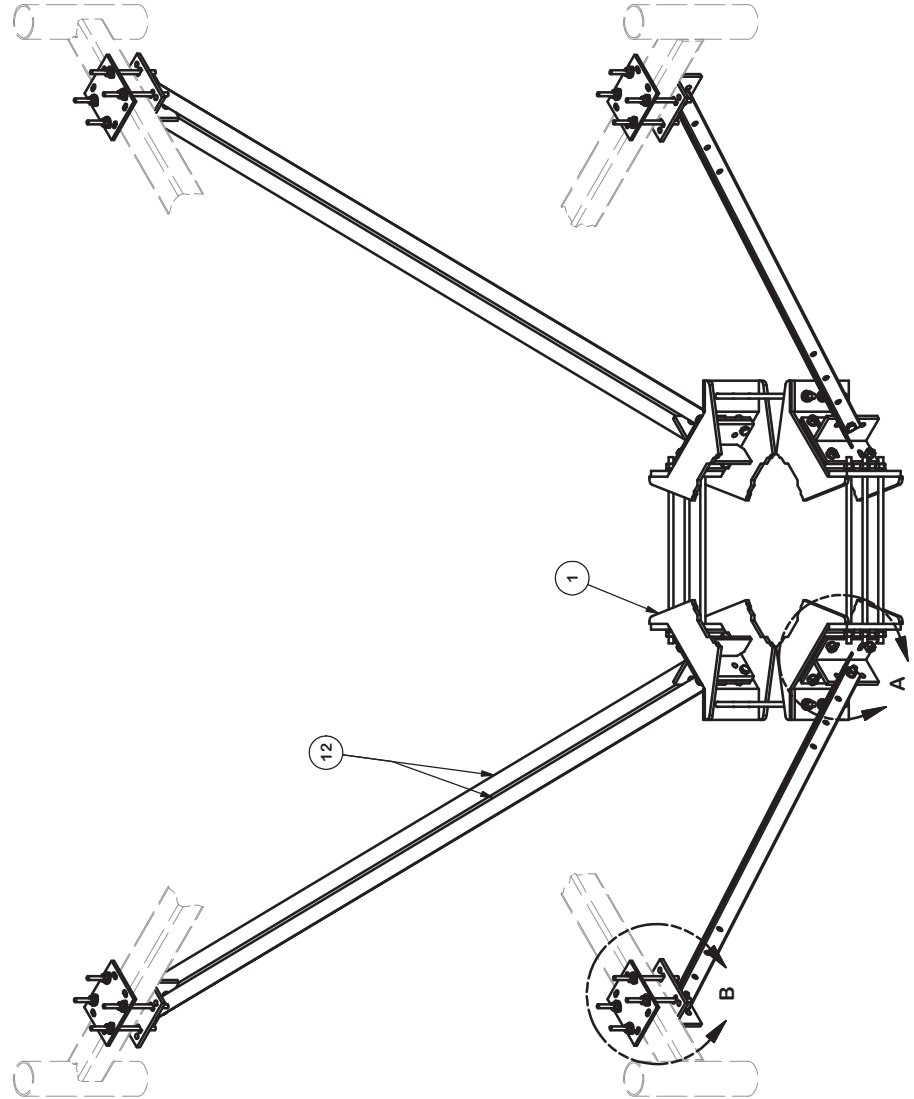
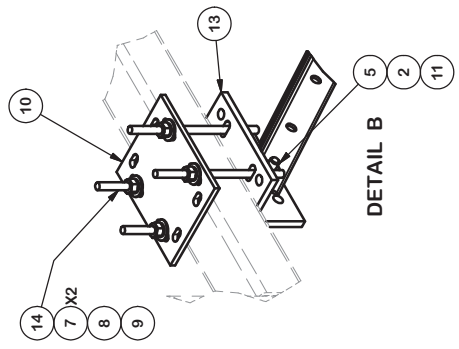
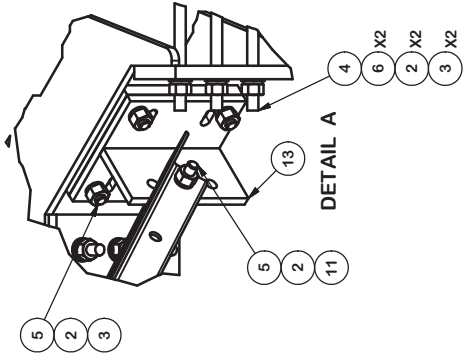
1
S-3

HANDRAIL KIT INSTALLATION
ISOMETRIC VIEW
NTS

 <p style="font-size: 8px;">MASTEC Network Solutions 507 AIRPORT BLVD., SUITE 111 MIDDLETOWN, CT 06450</p>	THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE PROPERTY OF MASTEC. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE WRITTEN PERMISSION OF MASTEC NETWORK SOLUTIONS IS PROHIBITED.	NO. | DATE | DESCRIPTION | REVISIONS 0 | 08/12/19 | FIRST ISSUE | JMB BY	SITE NAME: GRANBY - HIGLEY ROAD BU NUMBER: 846295 WO NUMBER: 479846 MINS ENG. NUMBER: 18750 - MOD1 SITE ADDRESS: 30 HIGLEY ROAD WEST GRANBY, CT 06090 HARTFORD COUNTY, USA DRAWN BY: JMB CHECKED BY: VB APPROVED BY: RIM SCALE: N.T.S.		HANDRAIL KIT DETAILS RAPHAEEL I. MOHAMED, PE/ENG SENIOR DIRECTOR OF ENGINEERING CT PE LICENSE NO. 25112 I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.
			S-3	REV	0

PARTS LIST							NET WT.
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.	
1	4	X-162290	QUAD BRACKET		54.48	217.94	
2	48	G58LW	5/8" HDG LOCKWASHER		0.03	1.25	
3	40	A58NUT	5/8" HDG A325 HEX NUT		0.13	5.20	
4	12	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	4.79	
4	12	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	4.79	
5	24	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	7.50	
6	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82	
7	32	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	1.09	
8	32	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.44	
9	32	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	2.29	
10	4	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	24.09	
11	8	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	1.04	
12	8	X-254923	PLATFORM REINFORCEMENT KIT ANGLE	84 in	22.83	182.66	
13	8	X-253992	T-BRACKET FOR REINFORCEMENT KIT		13.55	108.36	
14	16	G12R-40	1/2" x 40" GALV. THREADED ROD		0.69	9.37	
						TOTAL WT. #	633.13

**USE (16) SITE PRO 1
G12R-12 THREADED
RODS (1/2"x 12")**



TOLERANCE NOTES
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)
 PROPRIETARY NOTE:
 INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY INFORMATION OF VALMONT
 INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF
 VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION		PLATFORM REINFORCEMENT KIT ON A 12" TO 60" POLE 7" ANGLE	
CPD NO.	DRAWN BY	ENG. APPROVAL	CHECKED BY
81	CEK	1/22/2015	BMC
CLASS / SUB	DRAWING USAGE	CUSTOMER	1/6/2016
81 / 01	CUSTOMER		

SITE PRO 1
 A valmont COMPANY

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

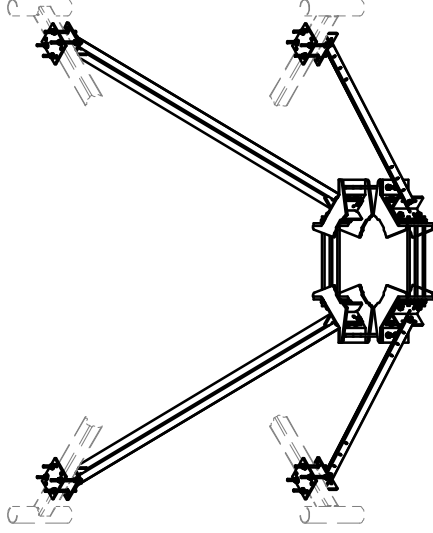
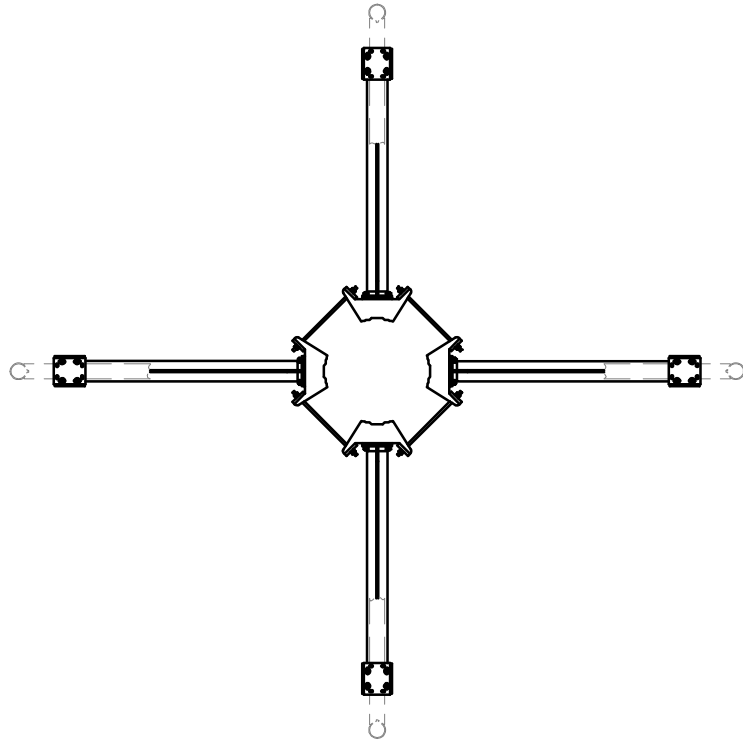
Engineering
 Support Team:
 1-888-753-7446

PART NO. **PQ-1245L**
 DWG. NO. **PQ-1245L**

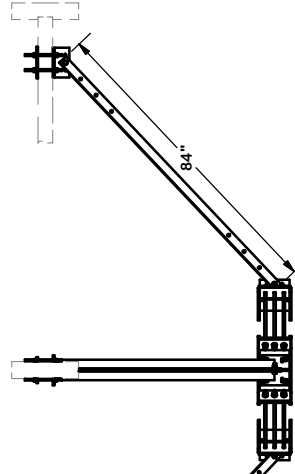
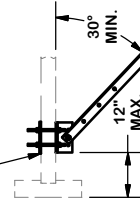
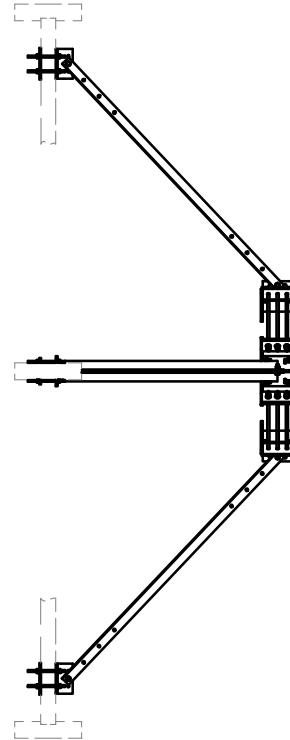
1 OF 2

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	CHANGED B12065 TO G12R-10 AND UPDATED HARDWARE		MS	12/18/2015
A	CHANGED ALL 5/8" BOLTS TO A582114		CEK	10/1/2015

REVISION HISTORY



FITS UP TO 4" ROUND OR SQUARE TUBES



TOLERANCE NOTES

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

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

DESCRIPTION
 PLATFORM REINFORCEMENT KIT
 ON A 12" TO 60" POLE
 7' ANGLE

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
81	CEK	1/22/2015	PQ-1245L
CLASS	DRAWING USAGE	CHECKED BY	DWG. NO.
81	CUSTOMER	BMC	PQ-1245L
SUB			
01			



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

Engineering
 Support Team:
 1-888-753-7446

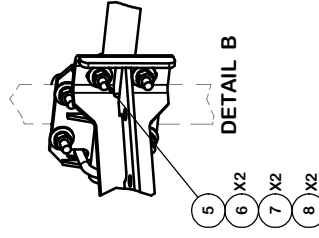
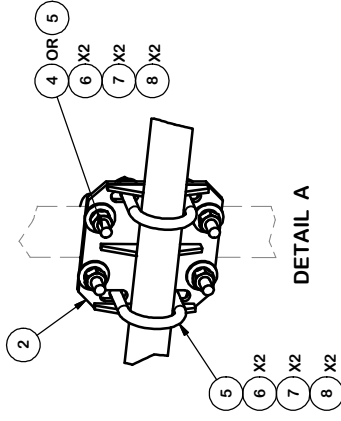
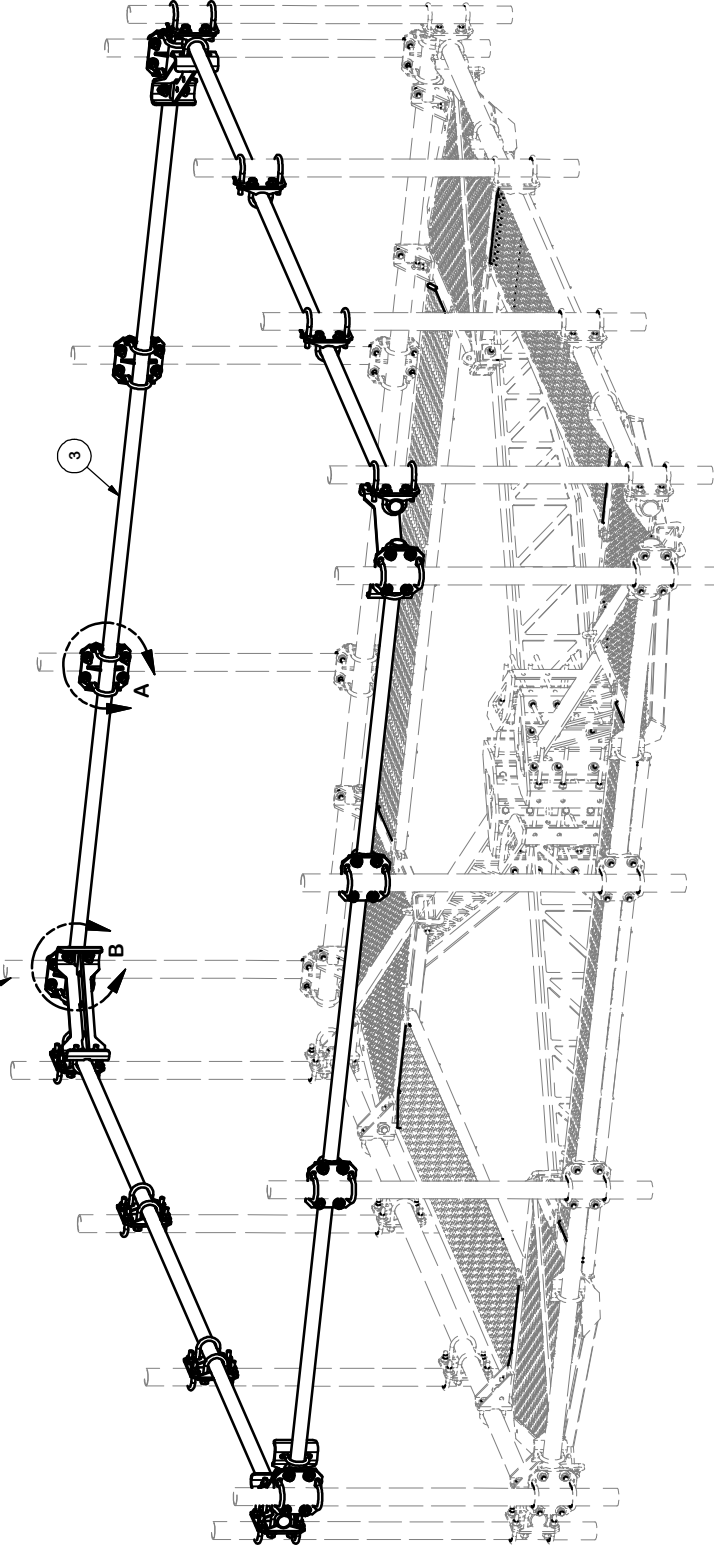
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	CHANGED B12065 TO G12R-10 AND UPDATED HARDWARE		MS	12/18/2015
A	CHANGED ALL 5/8" BOLTS TO A582114		CEK	10/1/2015

REVISION HISTORY

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-F4PHRW	CORNER WELDMENT FOR 4-SIDED FORTRESS PLATFORM HADNRAIL KITS		19.32	77.27
2	16	X-SCX3-FR	FORTRESS CROSSEVER PLATE		6.61	106.82
3	4	P2174	2-3/8" OD X 174" SCH 40 GALVANIZED PIPE	174 in	55.75	222.98
4	32	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	36.78
5	72	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	72.01
6	144	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	10.15
7	144	G58LW	5/8" HDG LOCKWASHER		0.03	3.76
8	144	G58NUT	5/8" HDG HEAVY ZH HEX NUT		0.13	18.70
TOTAL WT. #						547.48

2-3/8" TO 2-7/8"
ANTENNA MOUNTING PIPES
(ORDERED SEPARATELY)



TOLERANCE NOTES

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

PROPRIETARY NOTE:
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 INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF
 VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION

HANDRAIL KIT FOR
 14' 4-SIDED FORTRESS™ PLATFORM

CPD NO.	DRAWN BY	ENG. APPROVAL
	CEK	8/29/2017
CLASS	DRAWING USAGE	CHECKED BY
81	CUSTOMER	



Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 St. Louis, MO
 Dallas, TX

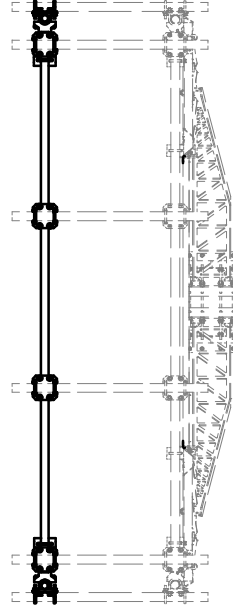
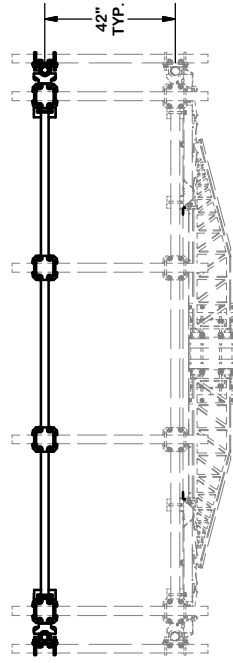
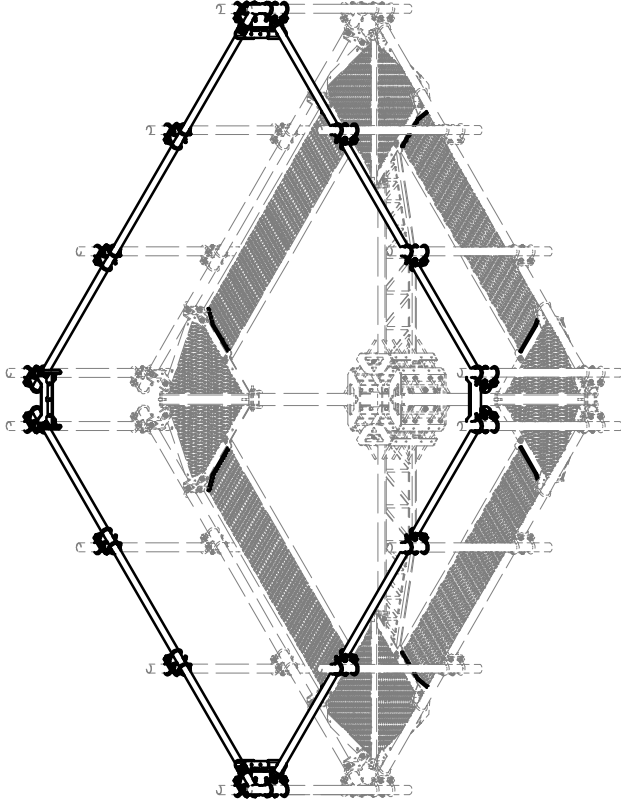
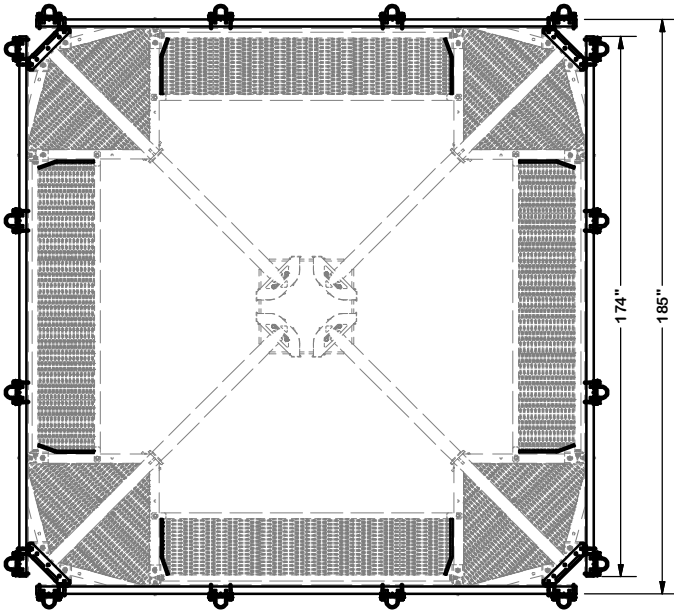
Engineering
 Support Team:
 1-888-753-7446

PART NO.

F4P-HRK14

DWG. NO.

F4P-HRK14



TOLERANCE NOTES

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

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

DESCRIPTION
**HANDRAIL KIT FOR
 14' 4-SIDED FORTRESS™ PLATFORM**

CPD NO.	DRAWN BY	ENG. APPROVAL
81	CEK	8/29/2017
CLASS	DRAWING USAGE	CHECKED BY
81	02	CUSTOMER



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

Engineering
 Support Team:
 1-888-753-7446

PART NO. **F4P-HRK14**
 DWG. NO. **F4P-HRK14**

Exhibit F

Power Density/RF Emissions Report

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CTHA162A

CTHA162/CINGATT Permit_FT
30 Higley Road
West Granby, CT 06090

May 17, 2019

Transcom Engineering Project Number: 737001-0021

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	10.52 %

Transcom Engineering, Inc.

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May 17, 2019

T-MOBILE

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CTHA162A – CTHA162/CINGATT Permit_FT**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **30 Higley Road, West Granby, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

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CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **30 Higley Road, West Granby, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel 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 for directional panel antennas, was focused at the base of the tower. 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.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
GSM	1900 MHz (PCS)	1	15
LTE	1900 MHz (PCS)	4	40
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

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The following antennas listed in *Table 2* were used in the modeling for transmission in the 600, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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	RFS APX16DWV-16DWV-S-E-ACU	107
A	2	RFS APXVAARR24 43-U-NA20	107
B	1	RFS APX16DWV-16DWV-S-E-ACU	107
B	2	RFS APXVAARR24 43-U-NA20	107
C	1	RFS APX16DWV-16DWV-S-E-ACU	107
C	2	RFS APXVAARR24 43-U-NA20	107

Table 2: Antenna Data

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

Cable losses were factored in the calculations for this site. Since all **1900 MHz (PCS)** radios are ground mounted the following cable loss values were used. For each ground mounted **1900 MHz (PCS)** radio there was **1.95 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for 160 feet of 1-1/4" coax

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RESULTS

Per the calculations completed for the proposed T-MOBILE 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)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS)	15.9	5	175	4,345.48	1.53
Antenna A2	RFS APXVAARR24 43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	2.04
Sector A Composite MPE%							3.57
Antenna B1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS)	15.9	5	175	4,345.48	1.53
Antenna B2	RFS APXVAARR24 43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	2.04
Sector B Composite MPE%							3.57
Antenna C1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS)	15.9	5	175	4,345.48	1.53
Antenna C2	RFS APXVAARR24 43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	2.04
Sector C Composite MPE%							3.57

Table 3: T-MOBILE Emissions Levels

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The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	3.57 %
AT&T	2.73 %
Verizon Wireless	4.22 %
Site Total MPE %:	10.52 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	3.57 %
T-MOBILE Sector B Total:	3.57 %
T-MOBILE Sector C Total:	3.57 %
Site Total:	10.52 %

Table 5: Site MPE Summary

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FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 1900 MHz (PCS) GSM	1	372.47	107	1.31	1900 MHz (PCS)	1000	0.13%
T-Mobile 1900 MHz (PCS) LTE	4	993.25	107	14.00	1900 MHz (PCS)	1000	1.40%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	107	5.56	600 MHz	400	1.39%
T-Mobile 700 MHz LTE	2	432.54	107	3.05	700 MHz	467	0.65%
						Total:	3.57%

Table 6: T-MOBILE Maximum Sector MPE Power Values

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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 T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	3.57 %
Sector B:	3.57 %
Sector C:	3.57 %
T-MOBILE Maximum Total (per sector):	3.57 %
Site Total:	10.52 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **10.52 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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.



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