IN RE: NEW CINGULAR WIRELESS PCS, LLC (AT&T) PETITION FOR A DECLARATORY RULING, PURSUANT TO CONNECTICUT GENERAL STATUTES §4-176 AND §16-50K, FOR THE PROPOSED INSTALLATION OF A WIRELESS TELECOMMUNICATIONS FACILITY AT AN EXISTING EVERSOURCE-OWNED ELECTRIC TRANSMISSION LINE STRUCTURE (#917) WITHIN AN EXISTING EVERSOURCE ELECTRIC TRANSMISSION LINE RIGHT-OF-WAY LOCATED AT 5 TALL PINES DRIVE, WESTON, CONNECTICUT.	**PETITION NO. 1386** November 11, 2019

RESPONSES TO SITING COUNCIL INTERROGATORIES

Q1. Referencing page 2 of the Petition, New Cingular Wireless, PCS LLC (AT&T) notes that, "Eversource transmission lines bisect the southern portion of the Site in a southwest to northwest direction." Was a southwest to northeast direction for the transmission lines intended?

A1. **The Eversource transmission lines bisect the southern portion of the Site in a southwest to northeast direction.**

Q2. Is AT&T's proposed facility needed for coverage only or also for capacity? Indicate which frequency bands (e.g. 700, 850, 1900 and 2100 MHz) for which the proposed facility would provide additional coverage and/or capacity.

A2. **The proposed facility is needed for coverage. The 700 and 850 MHZ frequency bands are used for coverage and the 1900 and 2100 MHz frequency bands are used to address capacity.**

Q3. Would the proposed project comply with DEEP noise control standards?

A3. **We note that pursuant to CT General Statutes Section 22a-69-1.8(m), operation of the emergency back-up power generator would be exempt from the CT DEEP noise control standards because it constitutes noise generated by a substation of a public utility providing telephone service. Further, operation of the generator for emergency back-up power purposes would be exempt from the Statute under Section 22a-69-1.8(f), because any noise created would be the result of an emergency.**

Nevertheless, AT&T intends to install sound attenuation blankets to the fencing around the equipment compound area in order to comply with the noise control standards provided in Connecticut General Statutes Section 22a-69-3.5. According to the specifications for the proposed Generac generator, the noise emitted from the generator measures approximately 71 dBA at 23 feet away from the unit. The nearest property line is 70' 8" from the proposed generator location. Using a basic Sound Pressure Level

equation, the sound at the property line is estimated to be approximately 61.25 dBA. Pursuant to Section 22a-69-3.5, maximum noise at the property line is 55 dBA within a Class A Noise Zone, which the is a residential zone. Given the residential area, AT&T is proposing the aforementioned sound attenuation blankets in order to mitigate noise from the generator to a level complying with DEEP noise control standards.

Q4. Provide the estimated dates for commencement and completion of construction. Also provide the proposed work hours and days of the week. Provide the anticipated date(s) of the transmission line outage, if known.

A4. **Pending weather conditions and outage coordination with the power network, AT&T anticipates construction starting on the proposed facility as soon as practicable once the Siting Council approves the facility and AT&T secures the requisite local building permit approvals from the Town of Weston. Civil site work will take place Monday through Friday, from approximately 7 AM to 3:30 PM and will be completed within approximately 12 weeks. There are no predetermined dates of transmission line outage. The transmission outage could extend into weekends, and would run from approximately 7 AM to dusk, for approximately 14 days. After the transmission outage, RF ground work would take place Monday through Friday, from approximately 7 AM to 3:30 PM for approximately 2 weeks.**

Q5. Would the proposed utilities (e.g. electric distribution connection and telecommunications connection) be run underground along the proposed utility easement? Where would the utilities connect, e.g. to an existing pole on the same or opposite side of White Birch Road?

A5. **The proposed electrical and telephone utilities will run underground from existing CL&P Pole No. 5985, parallel along White Birch Road and then along the proposed utility easement to the proposed step-down transformer and utility backboard located adjacent to the proposed fenced equipment compound area.**

Q6. Would the existing gravel access drive require improvement?

A6. **AT&T is proposing to provide new gravel surfacing along the existing access drive.**

Q7. Section 1-3 of the Structural Analysis indicates that, "Mast, appurtenances and connections to the utility tower were analyzed and designed in accordance with the Eversource Design Criteria Table, TIA-222-G and AISC standards." In addition, Attachment A – Eversource Design Criteria table appears to include "Antenna Mount." Were the proposed antenna mounts (i.e. the low profile platform) analyzed per TIA-222-G? If not, please provide a mount analysis signed/stamped by a Professional Engineer duly licensed in the State of Connecticut.

A7. **A Mount Analysis was performed by Centek Engineering, dated June 14, 2019 and enclosed herein as Attachment 1. The Mount Analysis concluded that the proposed antenna mount (low profile platform) has sufficient capacity to support the proposed antenna configuration.**

Q8. Referencing page 2 of the Wetland Inspection Field Form and the Wetland Inspection Map and page 1 of the Visual Assessment, a 13-foot by 24-foot compound is indicated. Was an 18-foot by 24-foot compound intended?

A8. **The proposed equipment compound will be 18-feet by 24-feet. AT&T was initially considering a layout with a 13-foot by 24-foot equipment compound and the Wetland Inspection Field Form and Map, as well as the Visual Assessment, were not updated to address the 5-foot expanded compound ultimately decided upon by AT&T.**

Q9. Referencing Sheet C-4, "Back-Up Generator Detail." The model number, fuel tank size in gallons and overall dimensions do not appear to match page 5 of the Generac Specifications Sheet under Tab 5 of the Petition. Please correct Sheet C-4 and/or submit a different specification sheet as necessary. Based on this correction, also estimate the full load run time of the generator based on its fuel tank capacity.

A9. **Enclosed herein as Attachment 2 are revised Sheet C-2, which corrects the proposed generator size to 20kW and a revised Sheet C-4 that corrects the generator model number to match Generac Specifications Sheet under Tab 5 of the Petition.**

Pursuant to the Generac specifications for the proposed emergency generator, based on a usable fuel capacity of 92 gallons, at a fuel consumption rate of 1.9 gallons per hour, the generator has a stated run time of 48 hours at 100% load.

Q10. Sheet C-2 and Page 1 of the Visual Assessment indicate that the proposed backup generator would be 50 kW. Is 20 kW the correct size for the proposed generator?

A10. **The proposed Generac diesel generator is 20 kW.**

Q11. Would the site have battery backup to prevent a reboot condition during the generator start-up delay period? If yes, how long could the battery backup provide power if the generator fails to start?

A11. **The proposed facility will have battery backup to prevent a reboot condition during the generator start-up delay period. Battery life is dependent on several factors, such as age, condition, and how busy the site is when there is a power failure. Given said variables, if the generator fails to start, the batteries can provide backup for approximately 2- 8 hours.**

Q12. Would the proposed backup generator run periodically for maintenance purposes, e.g. 20 minutes per week during the day?

A12. **The proposed Generac emergency backup power generator will run once a week for approximately 20 minutes. The day and time of said periodic operation can be set.**

1

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

Antenna Mount Analysis

AT&T Site #: CT1845

AT&T Site Name: Weston Tall Pines Drive

PACE #: MRCTB028440, MRCTB029933, MRCTB029832, MRCTB029853

PT #: 2051A0FKFT, 2051A0GB04, 2051A0GA5D, 2051A0GA54

FA #: 12685511

5 Tall Pines Drive
Weston, CT

Centek Project No. 18123.00

Date: June 14, 2019

Max Stress Ratio = 47.0%

STATE OF CONNECTICUT
TIMOTHY J. LYNN
No. 29336
LICENSED
PROFESSIONAL ENGINEER

Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

63-2 North Branford Road, Branford, CT 06405 203.488.0580 Fax 203.488.8587 www.CentekEng.com

Table of Contents

CENTEK engineering

Centered on Solutions℠

June 14, 2019

Mr. Mark Roberts
SAI
12 Industrial Way
Salem, NH 03079

Re: Structural Letter ~ Antenna Mount
AT&T – Site Ref: CT1845
5 Tall Pines Drive
Weston, CT 06883

Centek Project No. 18123.00

Dear Mr. Roberts,

Centek Engineering, Inc. has reviewed the AT&T Mobility antenna installation at the above referenced site. The purpose of the review is to determine the structural adequacy of the proposed mount, consisting of one (1) ±13-ft low profile platform w/ handrail (SitePro P/N: RMQLP-4096-HRK14) to support the equipment configuration. The review considered the effects of wind load, dead load and ice load in accordance with the 2015 International Building Code as modified by the 2018 Connecticut State Building Code (CTBC) including ASCE 7-10 and ANSI/TIA-222-G *Structural Standards for Steel Antenna Towers and Supporting Structures*.

The AT&T Mobility loads considered in this analysis consist of the following:

- **AT&T Mobility:**
  Low Profile Platform: Twelve (12) CCI HPA65R-BU8A panel antennas and twenty-four (24) CCI TMABPDB7823VG12A TMAs mounted on one (1) low profile platform with a RAD center elevation of 95-ft +/- AGL.

The antenna mount was analyzed per the requirements of the 2015 International Building Code as modified by the 2018 Connecticut State Building Code considering a nominal design wind speed of 93 mph for Weston as required in Appendix N of the 2018 Connecticut State Building Code.

Based on our review of the installation, it is our opinion that the **subject antenna mount has sufficient capacity** to support the aforementioned antenna configuration. If there are any questions regarding this matter, please feel free to call.

Respectfully Submitted by:

Timothy J. Lynn, PE
Structural Engineer

STATE OF CONNECTICUT
TIMOTHY J. LYNN
No. 29336
LICENSED
PROFESSIONAL ENGINEER

Prepared by:

Fernando J. Palacios
Engineer

Section 2 - Calculations

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Development of Design Heights, Exposure Coefficients, and Velocity Pressures Per TIA-222-G

Wind Speeds

Basic Wind Speed	$V := 93$	mph	(User Input - 2018 CSBC Appendix N)
Basic Wind Speed with Ice	$V_i := 50$	mph	(User Input per Annex B of TIA-222-G)

Input

Structure Type =	Structure_Type := Pole		(User Input)
Structure Category =	SC := II		(User Input)
Exposure Category =	Exp := C		(User Input)
Structure Height =	$h := 98.77$	ft	(User Input)
Height to Center of Antennas =	$z_{AT\&T} := 95$	ft	(User Input)
Radial Ice Thickness =	$t_i := 0.75$	in	(User Input per Annex B of TIA-222-G)
Radial Ice Density =	$Id := 56.00$	pcf	(User Input)
Topograpic Factor =	$K_{zt} := 1.0$		(User Input)
	$K_a := 1.0$		(User Input)
Gust Response Factor =	$G_H = 1.1$		(User Input)

Output

Wind Direction Probability Factor =

$K_d :=$ if Structure_Type = Pole: 0.95; if Structure_Type = Lattice: 0.85 $= 0.95$

(Per Table 2-2 of TIA-222-G)

(Per Table 2-3 of TIA-222-G)

Importance Factors =

$I_{Wind} :=$ if SC = 1: 0.87; if SC = 2: 1.00; if SC = 3: 1.15 $= 1$

$I_{Wind\_w\_Ice} :=$ if SC = 1: 0; if SC = 2: 1.00; if SC = 3: 1.00 $= 1$

$I_{ice} :=$ if SC = 1: 0; if SC = 2: 1.00; if SC = 3: 1.25 $= 1$

$$K_{iz} := \left(\frac{z_{AT\&T}}{33}\right)^{0.1} = 1.112$$

Velocity Pressure Coefficient Antennas =

$$t_{iz} := 2.0 \cdot t_i \cdot I_{ice} \cdot K_{iz} \cdot K_{zt}^{0.35} = 1.667$$

$$Kz_{AT\&T} := 2.01 \cdot \left(\left(\frac{z_{AT\&T}}{zg}\right)\right)^{\frac{2}{\alpha}} = 1.252$$

Velocity Pressure w/o Ice Antennas =

$$qz_{AT\&T} := 0.00256 \cdot K_d \cdot Kz_{AT\&T} \cdot V^2 \cdot I_{Wind} = 26.336$$

Velocity Pressure with Ice Antennas =

$$qz_{ice.AT\&T} := 0.00256 \cdot K_d \cdot Kz_{AT\&T} \cdot V_i^2 \cdot I_{Wind} = 7.612$$

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	CCI HPA65R-BU8A		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 96$	in	(User Input)
Antenna Width =	$W_{ant} := 11.7$	in	(User Input)
Antenna Thickness =	$T_{ant} := 7.6$	in	(User Input)
Antenna Weight =	$WT_{ant} := 57$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)
Antenna Aspect Ratio =	$Ar_{ant} := \frac{L_{ant}}{W_{ant}} = 8.2$		
Antenna Force Coefficient =	$Ca_{ant} = 1.44$		

Wind Load (without ice)

Surface Area for One Antenna =	$SA_{antF} := \frac{L_{ant} \cdot W_{ant}}{144} = 7.8$	sf
Total Antenna Wind Force Front =	$F_{ant} := qz_{AT\&T} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antF} = 325$	lbs
Surface Area for One Antenna =	$SA_{antS} := \frac{L_{ant} \cdot T_{ant}}{144} = 5.1$	sf
Total Antenna Wind Force Side =	$F_{ant} := qz_{AT\&T} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antS} = 211$	lbs

Wind Load (with ice)

Surface Area for One Antenna w/ Ice =	$SA_{ICEantF} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (W_{ant} + 2 \cdot t_{iz})}{144} = 10.4$	sf
Total Antenna Wind Force w/ Ice Front =	$Fi_{ant} := qz_{ice.AT\&T} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantF} = 125$	lbs
Surface Area for One Antenna w/ Ice =	$SA_{ICEantS} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz})}{144} = 7.5$	sf
Total Antenna Wind Force w/ Ice Side =	$Fi_{ant} := qz_{ice.AT\&T} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantS} = 91$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 57$	lbs

Gravity Loads (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 8536$	cu in
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 2 \cdot t_{iz}) \cdot (W_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz}) - V_{ant} = 7794$	cu in
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 253$	lbs
Weight of Ice on All Antennas =	$W_{ICEant} \cdot N_{ant} = 253$	lbs

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road
Branford, CT 06405
P: (203) 488-0580
F: (203) 488-8587

Development of Wind & Ice Load on TMA's

TMA Data:

TMA Model =	CCI TMABP7819VG12A TMA		
TMA Shape =	Flat	in	(User Input)
TMA Height =	$L_{TMA} := 10.63$	in	(User Input)
TMA Width =	$W_{TMA} := 11.02$	in	(User Input)
TMA Thickness =	$T_{TMA} := 3.72$	lbs	(User Input)
TMA Weight =	$WT_{TMA} := 26$		(User Input)
Number of TMA's =	$N_{TMA} := 2$		(User Input)

TMA Aspect Ratio = $Ar_{TMA} := \frac{L_{TMA}}{W_{TMA}} = 1$

TMA Force Coefficient = $Ca_{TMA} = 1.2$

Wind Load (without ice)

Surface Area for One TMA = $SA_{TMAF} := \frac{L_{TMA} \cdot W_{TMA}}{144} = 0.8$ sf

Total TMA Wind Force = $F_{TMA} := qz_{AT\&T} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{TMAF} = 28$ **lbs**

Surface Area for One TMA = $SA_{TMAS} := \frac{L_{TMA} \cdot T_{TMA}}{144} = 0.3$ sf

Total TMA Wind Force = $F_{TMA} := qz_{AT\&T} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{TMAS} = 10$ **lbs**

Wind Load (with ice)

Surface Area for One TMA w/ Ice = $SA_{ICETMAF} := \frac{(L_{TMA} + 2 \cdot t_{iz}) \cdot (W_{TMA} + 2 \cdot t_{iz})}{144} = 1.4$ sf

Total TMA Wind Force w/ Ice = $Fi_{TMA} := qz_{ice.AT\&T} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{ICETMAF} = 14$ **lbs**

Surface Area for One TMA w/ Ice = $SA_{ICETMAS} := \frac{(L_{TMA} + 2 \cdot t_{iz}) \cdot (T_{TMA} + 2 \cdot t_{iz})}{144} = 0.7$ sf

Total TMA Wind Force w/ Ice = $Fi_{TMA} := qz_{ice.AT\&T} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{ICETMAS} = 7$ **lbs**

Gravity Load (without ice)

Weight of All TMAs = $WT_{TMA} \cdot N_{TMA} = 52$ **lbs**

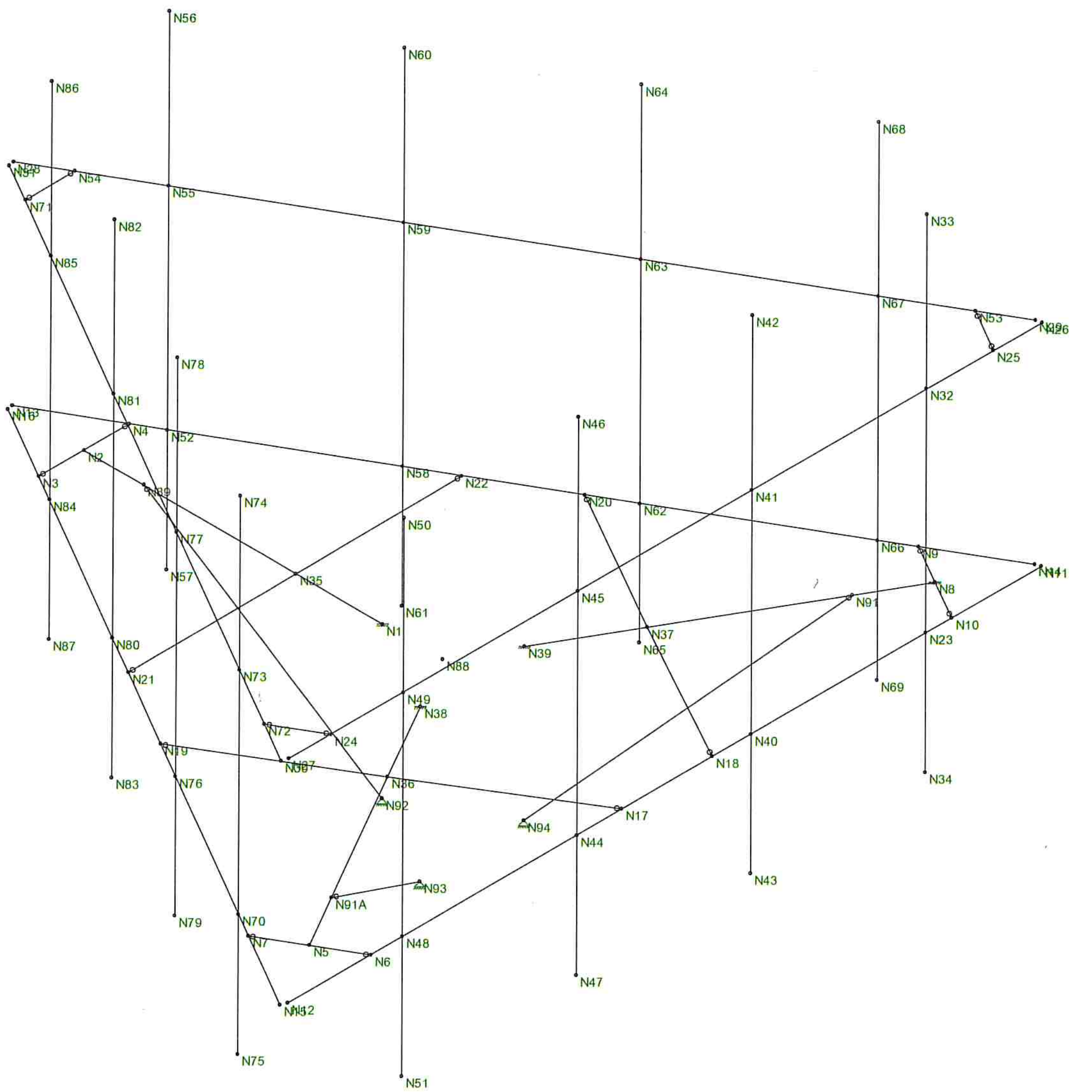
Gravity Loads (ice only)

Volume of Each TMA = $V_{TMA} := L_{TMA} \cdot W_{TMA} \cdot T_{TMA} = 436$ cu in

Volume of Ice on Each TMA = $V_{ice} := (L_{TMA} + 2 \cdot t_{iz}) \cdot (W_{TMA} + 2 \cdot t_{iz}) \cdot (T_{TMA} + 2 \cdot t_{iz}) - V_{TMA} = 978$ cu in

Weight of Ice on Each TMA = $W_{ICETMA} := \frac{V_{ice}}{1728} \cdot Id = 32$ lbs

Weight of Ice on All TMAs = $W_{ICETMA} \cdot N_{TMA} = 63$ **lbs**



Envelope Only Solution

Centek		
FJP	CT1845	Mar 5, 2019 at 8:54 AM
18123.00	Member Framing	Mount.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	No
RISAConnection Code	AISC 13th(360-05): ASD
Cold Formed Steel Code	AISI S100-10: ASD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: ASD
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	58	1.2
3	A992	29000	11154	.3	.65	.49	50	1.1	58	1.2
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
6	A53 Gr B	29000	11154	.3	.65	.49	35	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [i...	Izz [i...	J [in4]
1	Outrigger	HSS4X4X4	Beam	HSS Pipe	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
2	Horz Pipe	PIPE_3.0	Beam	Pipe	A53 Gr B	Typical	2.07	2.85	2.85	5.69
3	Antenna Pipe	PIPE_2.5	Beam	Pipe	A53 Gr B	Typical	1.61	1.45	1.45	2.89
4	Handrail	PIPE_2.0	Beam	Pipe	A53 Gr B	Typical	1.02	.627	.627	1.25
5	Support	HSS4X4X4	Beam	HSS Pipe	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
6	Handrail Corner	L2.5x2.5x4	Beam	Single An...	A36 Gr.36	Typical	1.19	.692	.692	.026
7	Double Angle Supports	LL2x3x3x6	Beam	Double A...	A36 Gr.36	Typical	1.83	4.92	.61	.024

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[...	Lcomp bot[...	L-torq...	Kyy	Kzz	Cb	Functi...
1	M1	Outrigger	5	Segment	Segment	Segment	Segment	Segm...				Lateral
2	M2	Outrigger	5	Segment	Segment	Segment	Segment	Segm...				Lateral
3	M3	Outrigger	5	Segment	Segment	Segment	Segment	Segm...				Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[...	Lcomp bot[...	L-torq...	Kyy	Kzz	Cb	Functi...
4	M4	Horz Pipe	12.5	Segment		Lbyy						Lateral
5	M5	Horz Pipe	12.475	Segment		Lbyy						Lateral
6	M6	Horz Pipe	12.5	Segment		Lbyy						Lateral
7	M10	Support	2.786			Lbyy						Lateral
8	M11	Support	2.837			Lbyy						Lateral
9	M12	Support	2.786			Lbyy						Lateral
10	M13	Handrail	12.5			Lbyy						Lateral
11	M14	Handrail	12.475			Lbyy						Lateral
12	M15	Handrail	12.5			Lbyy						Lateral
13	M16	Antenna Pi...	8			Lbyy						Lateral
14	M17	Support	2.811			Lbyy						Lateral
15	M18	Support	2.761			Lbyy						Lateral
16	M19	Support	2.736			Lbyy						Lateral
17	M20	Antenna Pi...	8			Lbyy						Lateral
18	M21	Antenna Pi...	8			Lbyy						Lateral
19	M22	Antenna Pi...	8			Lbyy						Lateral
20	M23	Antenna Pi...	8			Lbyy						Lateral
21	M24	Antenna Pi...	8			Lbyy						Lateral
22	M25	Antenna Pi...	8			Lbyy						Lateral
23	M26	Antenna Pi...	8			Lbyy						Lateral
24	M27	Antenna Pi...	8			Lbyy						Lateral
25	M28	Antenna Pi...	8			Lbyy						Lateral
26	M29	Antenna Pi...	8			Lbyy						Lateral
27	M30	Antenna Pi...	8			Lbyy						Lateral
28	M31	Handrail C...	.821			Lbyy						Lateral
29	M32	Handrail C...	.821			Lbyy						Lateral
30	M33	Handrail C...	.821			Lbyy						Lateral
31	M34	Double An...	4.717			Lbyy						Lateral
32	M35	Double An...	4.717			Lbyy						Lateral
33	M36	Double An...	4.717			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Outrigger	Beam	HSS Pipe	A500 Gr.46	Typical
2	M2	N38	N5			Outrigger	Beam	HSS Pipe	A500 Gr.46	Typical
3	M3	N39	N8			Outrigger	Beam	HSS Pipe	A500 Gr.46	Typical
4	M4	N16	N15			Horz Pipe	Beam	Pipe	A53 Gr B	Typical
5	M5	N13	N14			Horz Pipe	Beam	Pipe	A53 Gr B	Typical
6	M6	N12	N11			Horz Pipe	Beam	Pipe	A53 Gr B	Typical
7	M7	N9	N10			RIGID	None	None	RIGID	Typical
8	M8	N7	N6			RIGID	None	None	RIGID	Typical
9	M9	N3	N4			RIGID	None	None	RIGID	Typical
10	M10	N22	N35			Support	Beam	HSS Pipe	A500 Gr.46	Typical
11	M11	N36	N17			Support	Beam	HSS Pipe	A500 Gr.46	Typical
12	M12	N37	N20			Support	Beam	HSS Pipe	A500 Gr.46	Typical
13	M13	N31	N30			Handrail	Beam	Pipe	A53 Gr B	Typical
14	M14	N28	N29			Handrail	Beam	Pipe	A53 Gr B	Typical
15	M15	N27	N26			Handrail	Beam	Pipe	A53 Gr B	Typical
16	M16	N34	N33			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
17	M17	N35	N21			Support	Beam	HSS Pipe	A500 Gr.46	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
18	M18	N36	N19			Support	Beam	HSS Pipe	A500 Gr.46	Typical
19	M19	N18	N37			Support	Beam	HSS Pipe	A500 Gr.46	Typical
20	M20	N43	N42			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
21	M21	N47	N46			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
22	M22	N51	N50			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
23	M23	N57	N56			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
24	M24	N61	N60			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
25	M25	N65	N64			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
26	M26	N69	N68			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
27	M27	N75	N74			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
28	M28	N79	N78			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
29	M29	N83	N82			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
30	M30	N87	N86			Antenna Pipe	Beam	Pipe	A53 Gr B	Typical
31	M31	N53	N25			Handrail Corner	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N72	N24			Handrail Corner	Beam	Single Angle	A36 Gr.36	Typical
33	M33	N54	N71			Handrail Corner	Beam	Single Angle	A36 Gr.36	Typical
34	M34	N91	N94			Double Angle Supp...	Beam	Double Angle ...	A36 Gr.36	Typical
35	M35	N89	N92			Double Angle Supp...	Beam	Double Angle ...	A36 Gr.36	Typical
36	M36	N91A	N93			Double Angle Supp...	Beam	Double Angle ...	A36 Gr.36	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
1	N1	-1	0	0.	0	
2	N2	-6	0	0.	0	
3	N3	-6	0	0.75	0	
4	N4	-6	0	-0.75	0	
5	N5	3	0	5.196152	0	
6	N6	3.649519	0	4.821152	0	
7	N7	2.350481	0	5.571152	0	
8	N8	3	0	-5.196152	0	
9	N9	2.350481	0	-5.571152	0	
10	N10	3.649519	0	-4.821152	0	
11	N11	3.649519	0	-6.3	0	
12	N12	3.649519	0	6.2	0	
13	N13	-7.237418	0	-0.035576	0	
14	N14	3.566249	0	-6.273076	0	
15	N15	3.60955	0	6.298076	0	
16	N16	-7.215768	0	0.048076	0	
17	N17	3.649519	0	.65	0	
18	N18	3.649519	0	-.85	0	
19	N19	-1.131939	0	3.560576	0	
20	N20	-1.17524	0	-3.535576	0	
21	N21	-2.430977	0	2.810576	0	
22	N22	-2.474279	0	-2.785576	0	
23	N23	3.649519	0	-4.4	0	
24	N24	3.649519	3.5	5.5	0	
25	N25	3.649519	3.5	-5.5	0	
26	N26	3.649519	3.5	-6.3	0	
27	N27	3.649519	3.5	6.2	0	
28	N28	-7.237418	3.5	-0.035576	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
29	N29	3.566249	3.5	-6.273076	0	
30	N30	3.60955	3.5	6.298076	0	
31	N31	-7.215768	3.5	0.048076	0	
32	N32	3.649519	3.5	-4.4	0	
33	N33	3.649519	6	-4.4	0	
34	N34	3.649519	-2	-4.4	0	
35	N35	-2.452725	0	0.	0	
36	N36	1.237334	0	2.143125	0	
37	N37	1.248013	0	-2.161623	0	
38	N38	0.5	0	0.866025	0	
39	N39	0.5	0	-0.866025	0	
40	N40	3.649519	0	-1.5	0	
41	N41	3.649519	3.5	-1.5	0	
42	N42	3.649519	6	-1.5	0	
43	N43	3.649519	-2	-1.5	0	
44	N44	3.649519	0	1.4	0	
45	N45	3.649519	3.5	1.4	0	
46	N46	3.649519	6	1.4	0	
47	N47	3.649519	-2	1.4	0	
48	N48	3.649519	0	4.3	0	
49	N49	3.649519	3.5	4.3	0	
50	N50	3.649519	6	4.3	0	
51	N51	3.649519	-2	4.3	0	
52	N52	-5.59197	0	-0.985576	0	
53	N53	2.93838	3.5	-5.910576	0	
54	N54	-6.587899	3.5	-0.410576	0	
55	N55	-5.59197	3.5	-0.985576	0	
56	N56	-5.59197	6	-0.985576	0	
57	N57	-5.59197	-2	-0.985576	0	
58	N58	-3.102147	0	-2.423076	0	
59	N59	-3.102147	3.5	-2.423076	0	
60	N60	-3.102147	6	-2.423076	0	
61	N61	-3.102147	-2	-2.423076	0	
62	N62	-0.590673	0	-3.873076	0	
63	N63	-0.590673	3.5	-3.873076	0	
64	N64	-0.590673	6	-3.873076	0	
65	N65	-0.590673	-2	-3.873076	0	
66	N66	1.9208	0	-5.323076	0	
67	N67	1.9208	3.5	-5.323076	0	
68	N68	1.9208	6	-5.323076	0	
69	N69	1.9208	-2	-5.323076	0	
70	N70	1.964102	0	5.348076	0	
71	N71	-6.587899	3.5	0.410576	0	
72	N72	2.93838	3.5	5.910576	0	
73	N73	1.964102	3.5	5.348076	0	
74	N74	1.964102	6	5.348076	0	
75	N75	1.964102	-2	5.348076	0	
76	N76	-0.547372	0	3.898076	0	
77	N77	-0.547372	3.5	3.898076	0	
78	N78	-0.547372	6	3.898076	0	
79	N79	-0.547372	-2	3.898076	0	
80	N80	-3.058846	0	2.448076	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
81	N81	-3.058846	3.5	2.448076	0	
82	N82	-3.058846	6	2.448076	0	
83	N83	-3.058846	-2	2.448076	0	
84	N84	-5.570319	0	0.998076	0	
85	N85	-5.570319	3.5	0.998076	0	
86	N86	-5.570319	6	0.998076	0	
87	N87	-5.570319	-2	0.998076	0	
88	N88	0	0	0	0	
89	N89	-5	0	0.	0	
90	N91	2.5	0	-4.330127	0	
91	N91A	2.5	0	4.330127	0	
92	N92	-1	-2.5	0.	0	
93	N93	0.5	-2.5	0.866025	0	
94	N94	0.5	-2.5	-0.866025	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	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N38	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N39	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N8	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N92	Reaction	Reaction	Reaction			
6	N93	Reaction	Reaction	Reaction			
7	N94	Reaction	Reaction	Reaction			

Member Point Loads (BLC 2 : Equipment Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	Y	-.029	.333
2	M20	Y	-.029	.333
3	M21	Y	-.029	.333
4	M22	Y	-.029	.333
5	M27	Y	-.029	.333
6	M28	Y	-.029	.333
7	M29	Y	-.029	.333
8	M30	Y	-.029	.333
9	M23	Y	-.029	.333
10	M24	Y	-.029	.333
11	M25	Y	-.029	.333
12	M26	Y	-.029	.333
13	M16	Y	-.029	7.667
14	M20	Y	-.029	7.667
15	M21	Y	-.029	7.667
16	M22	Y	-.029	7.667
17	M27	Y	-.029	7.667
18	M28	Y	-.029	7.667
19	M29	Y	-.029	7.667
20	M30	Y	-.029	7.667
21	M23	Y	-.029	7.667
22	M24	Y	-.029	7.667

Member Point Loads (BLC 2 : Equipment Weight) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
23	M25	Y	-.029	7.667
24	M26	Y	-.029	7.667
25	M16	Y	-.052	4
26	M20	Y	-.052	4
27	M21	Y	-.052	4
28	M22	Y	-.052	4
29	M27	Y	-.052	4
30	M28	Y	-.052	4
31	M29	Y	-.052	4
32	M30	Y	-.052	4
33	M23	Y	-.052	4
34	M24	Y	-.052	4
35	M25	Y	-.052	4
36	M26	Y	-.052	4

Member Point Loads (BLC 3 : Ice Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	Y	-.127	.333
2	M20	Y	-.127	.333
3	M21	Y	-.127	.333
4	M22	Y	-.127	.333
5	M27	Y	-.127	.333
6	M28	Y	-.127	.333
7	M29	Y	-.127	.333
8	M30	Y	-.127	.333
9	M23	Y	-.127	.333
10	M24	Y	-.127	.333
11	M25	Y	-.127	.333
12	M26	Y	-.127	.333
13	M16	Y	-.127	7.667
14	M20	Y	-.127	7.667
15	M21	Y	-.127	7.667
16	M22	Y	-.127	7.667
17	M27	Y	-.127	7.667
18	M28	Y	-.127	7.667
19	M29	Y	-.127	7.667
20	M30	Y	-.127	7.667
21	M23	Y	-.127	7.667
22	M24	Y	-.127	7.667
23	M25	Y	-.127	7.667
24	M26	Y	-.127	7.667
25	M16	Y	-.063	4
26	M20	Y	-.063	4
27	M21	Y	-.063	4
28	M22	Y	-.063	4
29	M27	Y	-.063	4
30	M28	Y	-.063	4
31	M29	Y	-.063	4
32	M30	Y	-.063	4
33	M23	Y	-.063	4
34	M24	Y	-.063	4

Member Point Loads (BLC 3 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
35	M25	Y	-.063	4
36	M26	Y	-.063	4

Member Point Loads (BLC 4 : Wind w/ Ice X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	X	.063	.333
2	M20	X	.063	.333
3	M21	X	.063	.333
4	M22	X	.063	.333
5	M16	X	.063	7.667
6	M20	X	.063	7.667
7	M21	X	.063	7.667
8	M22	X	.063	7.667
9	M27	X	.045	.333
10	M28	X	.045	.333
11	M29	X	.045	.333
12	M30	X	.045	.333
13	M27	X	.045	7.667
14	M28	X	.045	7.667
15	M29	X	.045	7.667
16	M30	X	.045	7.667
17	M23	X	.045	.333
18	M24	X	.045	.333
19	M25	X	.045	.333
20	M26	X	.045	.333
21	M23	X	.045	7.667
22	M24	X	.045	7.667
23	M25	X	.045	7.667
24	M26	X	.045	7.667
25	M16	X	.007	4
26	M20	X	.007	4
27	M21	X	.007	4
28	M22	X	.007	4
29	M27	X	.014	4
30	M28	X	.014	4
31	M29	X	.014	4
32	M30	X	.014	4
33	M23	X	.014	4
34	M24	X	.014	4
35	M25	X	.014	4
36	M26	X	.014	4

Member Point Loads (BLC 5 : Wind X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	X	.163	.333
2	M20	X	.163	.333
3	M21	X	.163	.333
4	M22	X	.163	.333
5	M16	X	.163	7.667
6	M20	X	.163	7.667
7	M21	X	.163	7.667

Member Point Loads (BLC 5 : Wind X) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
8	M22	X	.163	7.667
9	M27	X	.105	.333
10	M28	X	.105	.333
11	M29	X	.105	.333
12	M30	X	.105	.333
13	M27	X	.105	7.667
14	M28	X	.105	7.667
15	M29	X	.105	7.667
16	M30	X	.105	7.667
17	M23	X	.105	.333
18	M24	X	.105	.333
19	M25	X	.105	.333
20	M26	X	.105	.333
21	M23	X	.105	7.667
22	M24	X	.105	7.667
23	M25	X	.105	7.667
24	M26	X	.105	7.667
25	M16	X	.01	4
26	M20	X	.01	4
27	M21	X	.01	4
28	M22	X	.01	4
29	M27	X	.028	4
30	M28	X	.028	4
31	M29	X	.028	4
32	M30	X	.028	4
33	M23	X	.028	4
34	M24	X	.028	4
35	M25	X	.028	4
36	M26	X	.028	4

Member Point Loads (BLC 6 : Wind w/ Ice Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	Z	.045	.333
2	M20	Z	.045	.333
3	M21	Z	.045	.333
4	M22	Z	.045	.333
5	M16	Z	.045	7.667
6	M20	Z	.045	7.667
7	M21	Z	.045	7.667
8	M22	Z	.045	7.667
9	M27	Z	.063	.333
10	M28	Z	.063	.333
11	M29	Z	.063	.333
12	M30	Z	.063	.333
13	M27	Z	.063	7.667
14	M28	Z	.063	7.667
15	M29	Z	.063	7.667
16	M30	Z	.063	7.667
17	M23	Z	.063	.333
18	M24	Z	.063	.333
19	M25	Z	.063	.333

Member Point Loads (BLC 6 : Wind w/ Ice Z) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
20	M26	Z	.063	.333
21	M23	Z	.063	7.667
22	M24	Z	.063	7.667
23	M25	Z	.063	7.667
24	M26	Z	.063	7.667
25	M16	Z	.014	4
26	M20	Z	.014	4
27	M21	Z	.014	4
28	M22	Z	.014	4
29	M27	Z	.007	4
30	M28	Z	.007	4
31	M29	Z	.007	4
32	M30	Z	.007	4
33	M23	Z	.007	4
34	M24	Z	.007	4
35	M25	Z	.007	4
36	M26	Z	.007	4

Member Point Loads (BLC 7 : Wind Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M16	Z	.105	.333
2	M20	Z	.105	.333
3	M21	Z	.105	.333
4	M22	Z	.105	.333
5	M16	Z	.105	7.667
6	M20	Z	.105	7.667
7	M21	Z	.105	7.667
8	M22	Z	.105	7.667
9	M27	Z	.163	.333
10	M28	Z	.163	.333
11	M29	Z	.163	.333
12	M30	Z	.163	.333
13	M27	Z	.163	7.667
14	M28	Z	.163	7.667
15	M29	Z	.163	7.667
16	M30	Z	.163	7.667
17	M23	Z	.163	.333
18	M24	Z	.163	.333
19	M25	Z	.163	.333
20	M26	Z	.163	.333
21	M23	Z	.163	7.667
22	M24	Z	.163	7.667
23	M25	Z	.163	7.667
24	M26	Z	.163	7.667
25	M16	Z	.028	4
26	M20	Z	.028	4
27	M21	Z	.028	4
28	M22	Z	.028	4
29	M27	Z	.01	4
30	M28	Z	.01	4
31	M29	Z	.01	4

Member Point Loads (BLC 7 : Wind Z) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
32	M30	Z	.01	4
33	M23	Z	.01	4
34	M24	Z	.01	4
35	M25	Z	.01	4
36	M26	Z	.01	4

Member Distributed Loads (BLC 4 : Wind w/ Ice X)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
1	M15	X	.002	.002	0	1.412
2	M15	X	.002	.002	2.387	4.313
3	M15	X	.002	.002	5.288	7.212
4	M15	X	.002	.002	8.188	10.112
5	M15	X	.002	.002	11.088	12.5
6	M6	X	.002	.002	0	1.412
7	M6	X	.002	.002	2.387	4.313
8	M6	X	.002	.002	5.288	7.212
9	M6	X	.002	.002	8.188	10.112
10	M6	X	.002	.002	11.088	12.5
11	M14	X	.002	.002	0	1.412
12	M14	X	.002	.002	2.387	4.313
13	M14	X	.002	.002	5.288	7.212
14	M14	X	.002	.002	8.188	10.112
15	M14	X	.002	.002	11.088	12.5
16	M5	X	.002	.002	0	1.412
17	M5	X	.002	.002	2.387	4.313
18	M5	X	.002	.002	5.288	7.212
19	M5	X	.002	.002	8.188	10.112
20	M5	X	.002	.002	11.088	12.5
21	M13	X	.002	.002	0	1.412
22	M13	X	.002	.002	2.387	4.313
23	M13	X	.002	.002	5.288	7.212
24	M13	X	.002	.002	8.188	10.112
25	M13	X	.002	.002	11.088	12.5
26	M4	X	.002	.002	0	1.412
27	M4	X	.002	.002	2.387	4.313
28	M4	X	.002	.002	5.288	7.212
29	M4	X	.002	.002	8.188	10.112
30	M4	X	.002	.002	11.088	12.5
31	M35	X	.004	.004	0	0
32	M36	X	.001	.001	0	0
33	M34	X	.001	.001	0	0

Member Distributed Loads (BLC 5 : Wind X)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
1	M15	X	.005	.005	0	1.412
2	M15	X	.005	.005	2.387	4.313
3	M15	X	.005	.005	5.288	7.212
4	M15	X	.005	.005	8.188	10.112
5	M15	X	.005	.005	11.088	12.5
6	M14	X	.005	.005	0	1.412

Member Distributed Loads (BLC 5 : Wind X) (Continued)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
7	M14	X	.005	.005	2.387	4.313
8	M14	X	.005	.005	5.288	7.212
9	M14	X	.005	.005	8.188	10.112
10	M14	X	.005	.005	11.088	12.5
11	M13	X	.005	.005	0	1.412
12	M13	X	.005	.005	2.387	4.313
13	M13	X	.005	.005	5.288	7.212
14	M13	X	.005	.005	8.188	10.112
15	M13	X	.005	.005	11.088	12.5
16	M6	X	.008	.008	0	1.412
17	M6	X	.008	.008	2.387	4.313
18	M6	X	.008	.008	5.288	7.212
19	M6	X	.008	.008	8.188	10.112
20	M6	X	.008	.008	11.088	12.5
21	M5	X	.008	.008	0	1.412
22	M5	X	.008	.008	2.387	4.313
23	M5	X	.008	.008	5.288	7.212
24	M5	X	.008	.008	8.188	10.112
25	M5	X	.008	.008	11.088	12.5
26	M4	X	.008	.008	0	1.412
27	M4	X	.008	.008	2.387	4.313
28	M4	X	.008	.008	5.288	7.212
29	M4	X	.008	.008	8.188	10.112
30	M4	X	.008	.008	11.088	12.5
31	M35	X	.013	.013	0	0
32	M36	X	.004	.004	0	0
33	M34	X	.004	.004	0	0

Member Distributed Loads (BLC 6 : Wind w/ Ice Z)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
1	M15	Z	.002	.002	0	1.412
2	M15	Z	.002	.002	2.387	4.313
3	M15	Z	.002	.002	5.288	7.212
4	M15	Z	.002	.002	8.188	10.112
5	M15	Z	.002	.002	11.088	12.5
6	M6	Z	.002	.002	0	1.412
7	M6	Z	.002	.002	2.387	4.313
8	M6	Z	.002	.002	5.288	7.212
9	M6	Z	.002	.002	8.188	10.112
10	M6	Z	.002	.002	11.088	12.5
11	M14	Z	.002	.002	0	1.412
12	M14	Z	.002	.002	2.387	4.313
13	M14	Z	.002	.002	5.288	7.212
14	M14	Z	.002	.002	8.188	10.112
15	M14	Z	.002	.002	11.088	12.5
16	M5	Z	.002	.002	0	1.412
17	M5	Z	.002	.002	2.387	4.313
18	M5	Z	.002	.002	5.288	7.212
19	M5	Z	.002	.002	8.188	10.112
20	M5	Z	.002	.002	11.088	12.5
21	M13	Z	.002	.002	0	1.412

Member Distributed Loads (BLC 6 : Wind w/ Ice Z) (Continued)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
22	M13	Z	.002	.002	2.387	4.313
23	M13	Z	.002	.002	5.288	7.212
24	M13	Z	.002	.002	8.188	10.112
25	M13	Z	.002	.002	11.088	12.5
26	M4	Z	.002	.002	0	1.412
27	M4	Z	.002	.002	2.387	4.313
28	M4	Z	.002	.002	5.288	7.212
29	M4	Z	.002	.002	8.188	10.112
30	M4	Z	.002	.002	11.088	12.5
31	M35	Z	.004	.004	0	0
32	M36	Z	.001	.001	0	0
33	M34	Z	.001	.001	0	0

Member Distributed Loads (BLC 7 : Wind Z)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
1	M15	Z	.005	.005	0	1.412
2	M15	Z	.005	.005	2.387	4.313
3	M15	Z	.005	.005	5.288	7.212
4	M15	Z	.005	.005	8.188	10.112
5	M15	Z	.005	.005	11.088	12.5
6	M14	Z	.005	.005	0	1.412
7	M14	Z	.005	.005	2.387	4.313
8	M14	Z	.005	.005	5.288	7.212
9	M14	Z	.005	.005	8.188	10.112
10	M14	Z	.005	.005	11.088	12.5
11	M13	Z	.005	.005	0	1.412
12	M13	Z	.005	.005	2.387	4.313
13	M13	Z	.005	.005	5.288	7.212
14	M13	Z	.005	.005	8.188	10.112
15	M13	Z	.005	.005	11.088	12.5
16	M6	Z	.008	.008	0	1.412
17	M6	Z	.008	.008	2.387	4.313
18	M6	Z	.008	.008	5.288	7.212
19	M6	Z	.008	.008	8.188	10.112
20	M6	Z	.008	.008	11.088	12.5
21	M5	Z	.008	.008	0	1.412
22	M5	Z	.008	.008	2.387	4.313
23	M5	Z	.008	.008	5.288	7.212
24	M5	Z	.008	.008	8.188	10.112
25	M5	Z	.008	.008	11.088	12.5
26	M4	Z	.008	.008	0	1.412
27	M4	Z	.008	.008	2.387	4.313
28	M4	Z	.008	.008	5.288	7.212
29	M4	Z	.008	.008	8.188	10.112
30	M4	Z	.008	.008	11.088	12.5
31	M35	Z	.013	.013	0	0
32	M36	Z	.004	.004	0	0
33	M34	Z	.004	.004	0	0

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)

Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitu...	End Magnitu...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.033	-.019	2	3.5
2	M1	Y	-.019	-.005	3.5	5
3	M4	Y	-.003	-.006	0	2.5
4	M4	Y	-.006	-.01	2.5	5
5	M5	Y	.0003221	-.006	0	2.495
6	M5	Y	-.006	-.013	2.495	4.99
7	M9	Y	-.006	-.006	.317	1.183
8	M10	Y	-.012	-.012	.242	2.779
9	M17	Y	-.013	-.013	.0003842	2.559
10	M2	Y	-.0005053	-.006	.5	1.4
11	M2	Y	-.006	-.022	1.4	2.3
12	M2	Y	-.022	-.026	2.3	3.2
13	M2	Y	-.026	-.015	3.2	4.1
14	M2	Y	-.015	-.005	4.1	5
15	M4	Y	-8.296e-5	-.005	6.25	7.5
16	M4	Y	-.005	-.011	7.5	8.75
17	M4	Y	-.011	-.01	8.75	10
18	M4	Y	-.01	-.004	10	11.25
19	M4	Y	-.004	-8.296e-5	11.25	12.5
20	M6	Y	-9.688e-5	-.004	0	1.25
21	M6	Y	-.004	-.01	1.25	2.5
22	M6	Y	-.01	-.011	2.5	3.75
23	M6	Y	-.011	-.005	3.75	5
24	M6	Y	-.005	-9.688e-5	5	6.25
25	M8	Y	-.006	-.006	.319	1.182
26	M11	Y	-.002	-.009	0	.567
27	M11	Y	-.009	-.013	.567	1.135
28	M11	Y	-.013	-.01	1.135	1.702
29	M11	Y	-.01	-.005	1.702	2.27
30	M11	Y	-.005	-.0006188	2.27	2.837
31	M18	Y	-.001	-.009	0	.552
32	M18	Y	-.009	-.013	.552	1.104
33	M18	Y	-.013	-.01	1.104	1.657
34	M18	Y	-.01	-.006	1.657	2.209
35	M18	Y	-.006	-.0007552	2.209	2.761
36	M3	Y	-.032	-.019	2	3.5
37	M3	Y	-.019	-.005	3.5	5
38	M5	Y	-.009	-.006	7.485	9.98
39	M5	Y	-.006	-.003	9.98	12.475
40	M6	Y	-.013	-.006	7.5	10
41	M6	Y	-.006	.0002987	10	12.5
42	M7	Y	-.006	-.006	.318	1.182
43	M12	Y	-.012	-.012	0	2.537
44	M19	Y	-.012	-.012	.229	2.723

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gra...	Joint	Point	Distribu...	Area(M...	Surface(Plate/Wall)
1	Self Weight	DL		-1						
2	Equipment Weight	None					36		3	
3	Ice Weight	None					36			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gra...	Joint	Point	Distribu...	Area(M...	Surface(Plate/Wall)
4	Wind w/ Ice X	None					36	33		
5	Wind X	None					36	33		
6	Wind w/ Ice Z	None					36	33		
7	Wind Z	None					36	33		
8	BLC 2 Transient Area Loads	None						44		

Load Combinations

	Description	Solve	PD...	SR...	B...	F...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2D + 1.6W (X-direction)	Yes	Y		1	1.2	2	1.2	5	1.6														
2	0.9D + 1.6W (X-direction)	Yes	Y		1	.9	2	.9	5	1.6														
3	1.2D + 1.0Di + 1.0Wi (X-...	Yes	Y		1	1.2	2	1.2	3	1	4	1												
4	1.2D + 1.6W (X-direction)	Yes	Y		1	1.2	2	1.2	7	1.6														
5	0.9D + 1.6W (X-direction)	Yes	Y		1	.9	2	.9	7	1.6														
6	1.2D + 1.0Di + 1.0Wi (X-...	Yes	Y		1	1.2	2	1.2	3	1	6	1												

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1.942	6	.627	3	-.044	3	-.023	3	-.059	3	-.067	2
2		min	-3.657	2	.205	5	-1.373	4	-.337	4	-1.326	4	-.642	6
3	N38	max	-1.466	6	.579	3	-2.427	3	-.205	2	.453	4	.523	1
4		min	-2.945	1	.111	5	-4.631	4	-.618	6	-1.08	2	.102	5
5	N39	max	-.106	6	.706	3	-.021	3	.54	3	.53	1	.706	1
6		min	-.63	1	.273	5	-.284	5	-.168	5	.083	6	.271	5
7	N8	max	2.058	4	1.719	3	1.279	2	.37	2	-.222	6	-.403	2
8		min	-1.182	2	-.298	5	-3.432	4	-.902	6	-1.045	5	-.797	4
9	N92	max	1.055	2	1.971	6	0	3	0	6	0	6	0	6
10		min	-3.126	6	-.677	2	-.049	5	0	1	0	1	0	1
11	N93	max	1.846	6	2.324	6	3.194	6	0	6	0	6	0	6
12		min	1.166	2	1.49	2	2.047	2	0	1	0	1	0	1
13	N94	max	.189	3	.265	1	.139	5	0	6	0	6	0	6
14		min	-.09	5	-.099	5	-.343	1	0	1	0	1	0	1
15	Totals:	max	0	4	7.693	6	0	2						
16		min	-5.903	2	2.926	2	-6.517	4						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotation [...	LC	Z Rotation [...	LC
1	N1	max	0	6	0	6	0	6	0	6	0	6	0	6
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	N2	max	.002	2	.015	2	.015	4	-1.542e-05	2	8.009e-05	1	4.296e-04	6
4		min	0	6	-.016	6	.001	3	-2.887e-03	4	-4.904e-04	5	-9.898e-04	2
5	N3	max	.003	2	.022	5	.015	4	8.798e-03	4	3.827e-04	1	4.296e-04	6
6		min	-.004	4	-.011	3	.001	3	-1.53e-03	2	-3.474e-04	5	-9.898e-04	2
7	N4	max	.005	5	.015	2	.015	4	8.051e-03	5	-3.789e-05	3	4.296e-04	6
8		min	0	3	-.032	4	.001	3	-4.076e-04	3	-3.871e-04	5	-9.898e-04	2
9	N5	max	.012	1	-.017	2	.004	4	1.635e-03	1	3.201e-04	5	1.327e-03	2
10		min	0	5	-.027	4	-.005	2	4.537e-04	6	-3.54e-04	1	-1.616e-03	4
11	N6	max	.013	1	0	2	.001	6	1.916e-03	5	1.417e-07	5	8.169e-04	5

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotation [...	LC	Z Rotation [...	LC
12		min	-.002	5	-.037	4	-.002	2	-3.368e-03	1	-5.938e-04	1	-7.37e-03	1
13	N7	max	.01	1	-.015	5	.006	4	4.327e-03	4	6.011e-04	5	4.892e-03	4
14		min	0	6	-.037	1	-.007	2	-1.969e-03	2	-7.303e-06	3	-4.845e-03	2
15	N8	max	0	6	0	6	0	6	0	6	0	6	0	6
16		min	0	1	0	1	0	1	0	1	0	1	0	1
17	N9	max	0	6	0	6	0	6	2.697e-03	5	6.475e-04	4	-2.762e-04	3
18		min	0	1	0	1	0	1	1.595e-04	3	9.341e-05	3	-4.67e-03	5
19	N10	max	0	6	0	6	0	6	3.811e-03	1	6.946e-04	2	-1.359e-03	6
20		min	0	1	0	1	0	1	7.848e-04	6	-6.744e-06	6	-6.601e-03	1
21	N11	max	0	6	.068	1	0	5	3.802e-03	1	6.831e-04	2	-1.359e-03	6
22		min	-.012	2	.014	6	0	1	7.762e-04	6	-6.744e-06	6	-6.601e-03	1
23	N12	max	.004	2	.056	2	.001	6	1.922e-03	5	1.417e-07	5	8.169e-04	5
24		min	-.002	5	-.069	4	-.002	2	-3.361e-03	1	-5.844e-04	1	-7.37e-03	1
25	N13	max	.001	5	.014	2	.009	4	8.054e-03	5	-3.695e-05	3	4.363e-04	6
26		min	0	3	-.103	4	0	3	-4.037e-04	3	-3.78e-04	5	-9.847e-04	2
27	N14	max	0	3	-.003	3	-.001	3	2.693e-03	5	6.39e-04	4	-2.85e-04	3
28		min	-.005	4	-.046	5	-.009	4	1.544e-04	3	9.252e-05	3	-4.677e-03	5
29	N15	max	.01	2	.02	5	0	6	4.332e-03	4	5.916e-04	5	4.884e-03	4
30		min	.001	6	-.092	1	-.008	2	-1.965e-03	2	-6.312e-06	3	-4.851e-03	2
31	N16	max	0	2	.093	5	.01	4	8.793e-03	4	3.778e-04	1	4.384e-04	6
32		min	-.001	4	-.008	3	.003	6	-1.534e-03	2	-3.389e-04	5	-9.831e-04	2
33	N17	max	.006	1	-.013	5	.001	4	1.313e-04	6	5.166e-04	1	-1.111e-04	5
34		min	-.002	5	-.049	1	0	2	-7.903e-04	2	-1.458e-04	5	-8.599e-03	1
35	N18	max	.003	2	-.017	5	0	4	6.418e-04	1	-1.556e-05	6	-6.666e-04	6
36		min	0	6	-.051	1	0	2	-5.457e-05	5	-1.918e-04	2	-8.612e-03	1
37	N19	max	.006	2	.006	2	.006	4	6.677e-03	4	2.293e-04	2	4.51e-03	4
38		min	0	6	-.04	4	0	2	-3.239e-03	2	-2.63e-04	4	-2.334e-03	2
39	N20	max	.001	2	.023	5	.004	4	6.11e-03	5	-4.978e-05	6	-2.423e-04	3
40		min	0	6	-.018	3	0	3	5.016e-04	3	-1.93e-04	1	-4.15e-03	5
41	N21	max	.006	2	.004	2	.007	4	7.594e-03	4	3.938e-04	4	3.558e-03	4
42		min	0	6	-.041	4	0	3	-3.101e-03	2	-4.537e-05	2	-1.442e-03	2
43	N22	max	.001	5	.022	5	.007	4	7.194e-03	5	4.973e-04	5	-1.419e-05	3
44		min	0	3	-.021	3	0	3	5.097e-04	3	-1.444e-06	3	-3.209e-03	5
45	N23	max	.004	2	-.004	6	0	4	2.544e-03	1	6.535e-04	1	-1.284e-03	6
46		min	0	6	-.016	1	0	2	8.059e-04	6	-4.579e-05	4	-7.559e-03	1
47	N24	max	.53	1	-.021	2	.108	4	2.923e-03	4	-1.851e-03	3	4.84e-03	4
48		min	-.262	4	-.069	4	.002	2	1.542e-04	2	-6.583e-03	4	-1.803e-02	1
49	N25	max	.507	1	.031	5	.108	4	2.872e-03	4	4.63e-03	1	-1.14e-03	6
50		min	.059	6	-.019	1	.003	2	-1.14e-04	2	-5.189e-03	5	-1.788e-02	1
51	N26	max	.463	2	.058	5	.108	4	2.869e-03	4	4.625e-03	1	-1.14e-03	6
52		min	.064	6	-.02	1	.003	2	-1.161e-04	2	-5.189e-03	5	-1.788e-02	1
53	N27	max	.491	2	-.022	2	.108	4	2.925e-03	4	-1.85e-03	3	4.84e-03	4
54		min	-.317	4	-.094	4	.002	2	1.557e-04	2	-6.583e-03	4	-1.803e-02	1
55	N28	max	.262	4	.068	2	.602	4	1.775e-02	4	8.181e-04	6	-9.82e-04	3
56		min	.02	3	-.057	4	-.026	2	7.264e-04	3	-4.956e-03	2	-7.974e-03	5
57	N29	max	.321	1	.062	5	.388	1	1.342e-02	4	5.715e-03	5	-1.207e-03	6
58		min	.023	6	-.04	1	.087	6	2.427e-03	3	-4.152e-03	1	-7.886e-03	1
59	N30	max	.345	1	-.035	6	.305	4	1.33e-02	4	6.606e-03	4	5.173e-03	4
60		min	-.087	5	-.081	1	-.389	1	-8.929e-03	2	1.743e-03	3	-8.166e-03	1
61	N31	max	.09	1	.074	2	.596	4	1.771e-02	4	5.235e-03	2	7.967e-03	4
62		min	-.255	4	-.006	6	.012	3	-2.066e-03	2	-8.47e-04	6	-4.232e-03	2
63	N32	max	.564	1	-.005	6	.108	4	2.748e-03	4	3.734e-03	1	-1.169e-03	6

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotation [...	LC	Z Rotation [...	LC
64		min	.052	6	-.016	1	.003	2	-3.207e-04	2	-4.075e-03	5	-1.806e-02	1
65	N33	max	1.151	1	-.005	6	.22	4	4.106e-03	4	3.734e-03	1	-1.171e-03	6
66		min	.087	6	-.016	1	-.007	2	-3.208e-04	2	-4.075e-03	5	-2.015e-02	1
67	N34	max	-.031	6	-.004	6	-.012	5	2.543e-03	1	6.535e-04	1	-1.283e-03	6
68		min	-.156	1	-.016	1	-.061	1	2.783e-04	5	-4.579e-05	4	-6.321e-03	1
69	N35	max	0	2	0	2	.007	4	4.939e-04	4	3.043e-04	4	2.063e-04	6
70		min	0	6	-.003	6	0	3	3.303e-05	3	2.547e-05	3	-1.77e-04	2
71	N36	max	.005	1	-.003	2	.002	4	4.229e-04	4	2.535e-04	2	5.267e-06	5
72		min	-.001	5	-.004	6	-.002	2	-1.761e-05	2	-6.325e-05	4	-5.385e-04	1
73	N37	max	.002	1	0	5	.001	2	4.138e-04	5	-4.036e-06	6	-1.381e-04	6
74		min	0	6	-.004	3	0	6	-4.734e-05	3	-2.988e-05	1	-7.698e-04	1
75	N38	max	0	6	0	6	0	6	0	6	0	6	0	6
76		min	0	1	0	1	0	1	0	1	0	1	0	1
77	N39	max	0	6	0	6	0	6	0	6	0	6	0	6
78		min	0	1	0	1	0	1	0	1	0	1	0	1
79	N40	max	.006	2	-.017	5	0	4	2.646e-04	6	-1.854e-05	6	-7.871e-04	6
80		min	0	6	-.048	1	0	2	2.244e-04	2	-2.647e-04	2	-9.479e-03	1
81	N41	max	.665	1	-.017	5	.108	4	1.861e-03	4	1.398e-03	1	-7.723e-04	6
82		min	.034	6	-.048	1	.002	2	3.582e-04	2	-2.696e-03	5	-2.024e-02	1
83	N42	max	1.318	1	-.017	5	.193	4	3.218e-03	4	1.398e-03	1	-7.73e-04	6
84		min	.057	6	-.048	1	.013	2	3.583e-04	2	-2.696e-03	5	-2.233e-02	1
85	N43	max	-.019	6	-.017	5	.01	5	2.582e-04	3	-1.854e-05	6	-7.866e-04	6
86		min	-.2	1	-.048	1	-.007	1	-5.775e-04	5	-2.647e-04	2	-8.241e-03	1
87	N44	max	.012	1	-.014	5	.001	4	2.878e-04	4	5.882e-04	1	3.239e-04	5
88		min	-.003	5	-.045	1	-.001	2	-2.451e-04	2	-1.356e-04	5	-9.713e-03	1
89	N45	max	.678	1	-.014	5	.108	4	1.819e-03	5	-2.395e-04	3	1.034e-03	5
90		min	-.033	5	-.045	1	.002	2	-2.869e-04	1	-2.855e-03	4	-2.034e-02	1
91	N46	max	1.334	1	-.014	5	.192	4	3.176e-03	4	-2.395e-04	3	1.034e-03	5
92		min	-.064	5	-.045	1	-.006	2	-2.87e-04	1	-2.855e-03	4	-2.244e-02	1
93	N47	max	.005	5	-.014	5	.009	5	1.046e-05	3	5.882e-04	1	3.239e-04	5
94		min	-.199	1	-.045	1	0	3	-5.237e-04	5	-1.356e-04	5	-8.475e-03	1
95	N48	max	.017	1	-.016	2	.001	6	1.238e-03	5	-4.02e-05	6	1.469e-03	5
96		min	-.002	5	-.028	4	-.002	2	-2.07e-03	1	-5.316e-04	1	-8.339e-03	1
97	N49	max	.593	1	-.017	2	.108	4	2.703e-03	4	-1.333e-03	3	4.974e-03	4
98		min	-.175	5	-.029	4	.002	2	1.914e-04	3	-4.935e-03	4	-1.823e-02	1
99	N50	max	1.186	1	-.017	2	.219	4	4.06e-03	4	-1.333e-03	3	4.976e-03	4
100		min	-.324	5	-.029	4	.013	3	1.916e-04	3	-4.935e-03	4	-2.032e-02	1
101	N51	max	.033	5	-.016	2	.048	1	4.351e-04	5	-4.02e-05	6	1.469e-03	5
102		min	-.161	1	-.028	4	-.014	5	-2.07e-03	1	-5.316e-04	1	-7.101e-03	1
103	N52	max	.006	5	.014	2	.017	4	8.389e-03	5	-3.283e-05	3	-1.445e-04	3
104		min	0	3	-.02	6	.002	3	-3.026e-04	3	-2.982e-04	5	-1.893e-03	5
105	N53	max	.303	2	.044	5	.356	1	1.342e-02	4	5.719e-03	5	-1.205e-03	6
106		min	.025	6	-.02	1	.092	6	2.428e-03	3	-4.15e-03	1	-7.885e-03	1
107	N54	max	.261	5	.047	2	.599	4	1.775e-02	4	8.174e-04	6	-9.84e-04	3
108		min	.022	3	-.039	4	.007	3	7.252e-04	3	-4.958e-03	2	-7.976e-03	5
109	N55	max	.259	5	.015	2	.595	4	1.777e-02	4	5.511e-04	6	-1.022e-03	3
110		min	.026	3	-.02	6	.014	3	7.021e-04	3	-3.861e-03	2	-8.389e-03	4
111	N56	max	.51	5	.015	2	1.174	4	1.987e-02	4	5.511e-04	6	-1.388e-03	3
112		min	.065	3	-.02	6	.035	3	7.027e-04	3	-3.861e-03	2	-8.392e-03	4
113	N57	max	0	3	.014	2	.009	3	7.151e-03	5	-3.283e-05	3	7.192e-05	3
114		min	-.04	5	-.02	6	-.163	5	-3.024e-04	3	-2.982e-04	5	-1.893e-03	5
115	N58	max	.004	5	.017	5	.011	4	8.032e-03	5	5.692e-04	5	-1.939e-04	3

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotation [...	LC	Z Rotation [...	LC
116		min	0	3	-.023	3	0	3	3.968e-04	3	2.089e-05	3	-4.078e-03	5
117	N59	max	.251	5	.017	5	.582	5	1.713e-02	5	9.406e-04	4	-1.087e-03	3
118		min	.036	3	-.023	3	.031	3	1.119e-03	3	-2.216e-03	2	-8.103e-03	5
119	N60	max	.495	5	.017	5	1.141	5	1.923e-02	5	9.406e-04	4	-1.454e-03	3
120		min	.077	3	-.023	3	.064	3	1.12e-03	3	-2.216e-03	2	-8.105e-03	5
121	N61	max	-.001	3	.017	5	-.009	3	6.794e-03	5	5.692e-04	5	2.254e-05	3
122		min	-.094	5	-.023	3	-.159	5	3.965e-04	3	2.089e-05	3	-4.078e-03	5
123	N62	max	.002	2	.022	5	.005	4	6.974e-03	5	-5.871e-05	6	-2.366e-04	3
124		min	0	6	-.018	3	.001	3	7.142e-04	3	-2.065e-04	4	-3.925e-03	5
125	N63	max	.231	2	.021	5	.53	5	1.564e-02	5	2.287e-03	5	-1.124e-03	3
126		min	.04	6	-.018	3	.048	3	1.747e-03	3	-1.959e-03	1	-7.76e-03	5
127	N64	max	.455	5	.021	5	1.044	5	1.773e-02	5	2.287e-03	5	-1.475e-03	6
128		min	.084	6	-.018	3	.101	3	1.748e-03	3	-1.959e-03	1	-7.762e-03	5
129	N65	max	-.001	3	.022	5	-.016	3	5.736e-03	5	-5.871e-05	6	-2.01e-05	3
130		min	-.093	5	-.018	3	-.14	5	7.138e-04	3	-2.065e-04	4	-3.924e-03	5
131	N66	max	.002	4	.012	5	.004	4	4.188e-03	5	6.119e-04	4	-1.631e-04	3
132		min	0	3	0	3	0	3	7.05e-04	3	6.068e-05	3	-4.049e-03	5
133	N67	max	.276	2	.012	5	.416	4	1.365e-02	4	4.55e-03	5	-1.145e-03	6
134		min	.03	6	-.001	3	.077	3	2.525e-03	3	-3.064e-03	1	-7.725e-03	2
135	N68	max	.538	2	.012	5	.871	4	1.574e-02	4	4.55e-03	5	-1.146e-03	6
136		min	.064	6	-.001	3	.152	3	2.527e-03	3	-3.064e-03	1	-9.084e-03	2
137	N69	max	0	3	.012	5	-.012	6	3.857e-03	2	6.119e-04	4	5.328e-05	3
138		min	-.095	5	0	3	-.091	2	4.567e-04	6	6.068e-05	3	-4.048e-03	5
139	N70	max	.01	1	-.021	2	.009	4	5.253e-03	4	5.853e-04	5	4.456e-03	4
140		min	-.001	5	-.026	4	-.007	2	-3.306e-03	2	1.925e-05	3	-4.373e-03	2
141	N71	max	.113	2	.051	2	.599	4	1.771e-02	4	5.237e-03	2	7.965e-03	4
142		min	-.256	4	-.01	6	.007	3	-2.065e-03	2	-8.477e-04	6	-4.233e-03	2
143	N72	max	.325	1	-.03	6	.358	4	1.33e-02	4	6.61e-03	4	5.175e-03	4
144		min	-.117	4	-.057	4	-.353	2	-8.93e-03	2	1.743e-03	3	-8.164e-03	1
145	N73	max	.297	2	-.021	2	.43	4	1.347e-02	4	5.172e-03	4	5.132e-03	4
146		min	-.159	4	-.027	4	-.306	2	-9.228e-03	1	1.276e-03	3	-8.011e-03	1
147	N74	max	.567	2	-.021	2	.88	4	1.556e-02	4	5.172e-03	4	5.134e-03	4
148		min	-.313	4	-.027	4	-.583	2	-9.231e-03	1	1.276e-03	3	-9.37e-03	1
149	N75	max	.106	4	-.021	2	.072	2	4.015e-03	4	5.853e-04	5	4.456e-03	4
150		min	-.08	2	-.026	4	-.095	4	-3.305e-03	2	1.925e-05	3	-3.57e-03	2
151	N76	max	.008	1	.002	2	.009	4	7.578e-03	4	3.149e-04	2	4.294e-03	4
152		min	0	5	-.039	4	-.002	2	-3.861e-03	2	-2.968e-04	4	-2.748e-03	2
153	N77	max	.248	2	.002	2	.553	4	1.595e-02	4	2.288e-03	4	7.971e-03	4
154		min	-.23	4	-.039	4	-.221	2	-7.102e-03	2	6.17e-04	3	-6.204e-03	2
155	N78	max	.464	2	.002	2	1.077	4	1.805e-02	4	2.288e-03	4	7.973e-03	4
156		min	-.47	4	-.039	4	-.435	2	-7.103e-03	2	6.17e-04	3	-7.563e-03	2
157	N79	max	.103	4	.002	2	.09	2	6.34e-03	4	3.149e-04	2	4.293e-03	4
158		min	-.044	2	-.039	4	-.151	4	-3.861e-03	2	-2.968e-04	4	-1.945e-03	2
159	N80	max	.006	2	.004	2	.011	4	8.493e-03	4	5.297e-04	4	4.372e-03	4
160		min	-.002	4	-.036	4	0	3	-2.901e-03	2	-2.924e-05	2	-2.e-03	2
161	N81	max	.207	2	.003	2	.601	4	1.756e-02	4	2.352e-03	2	8.231e-03	4
162		min	-.257	4	-.036	4	-.152	2	-5.2e-03	2	6.832e-05	6	-4.919e-03	2
163	N82	max	.384	2	.003	2	1.173	4	1.965e-02	4	2.352e-03	2	8.234e-03	4
164		min	-.504	4	-.036	4	-.308	2	-5.201e-03	2	6.832e-05	6	-6.277e-03	2
165	N83	max	.103	4	.004	2	.07	2	7.255e-03	4	5.297e-04	4	4.372e-03	4
166		min	-.028	2	-.036	4	-.171	4	-2.901e-03	2	-2.924e-05	2	-1.197e-03	2
167	N84	max	.004	2	.014	2	.017	4	9.079e-03	4	3.977e-04	1	2.036e-03	4

Envelope Joint Displacements (Continued)

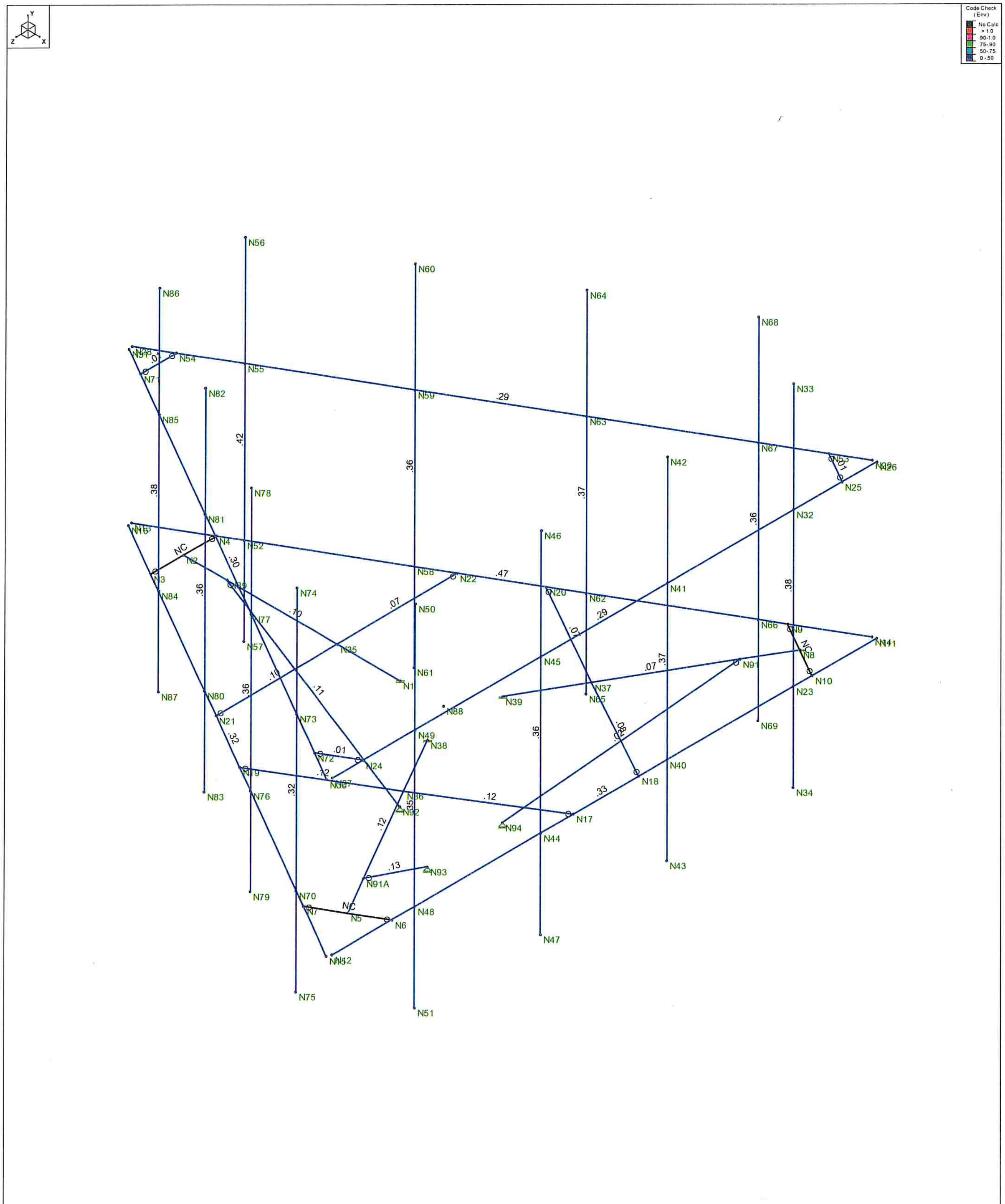
	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotation [...	LC	Z Rotation [...	LC
168		min	-.005	4	-.016	6	0	3	-1.541e-03	2	-2.596e-04	5	-1.301e-03	2
169	N85	max	.147	2	.014	2	.603	4	1.778e-02	4	4.092e-03	2	8.316e-03	4
170		min	-.259	4	-.016	6	-.047	2	-2.049e-03	2	-5.884e-04	6	-4.266e-03	1
171	N86	max	.305	2	.014	2	1.182	4	1.988e-02	4	4.092e-03	2	8.319e-03	4
172		min	-.508	4	-.017	6	-.108	2	-2.05e-03	2	-5.884e-04	6	-5.624e-03	1
173	N87	max	.044	4	.014	2	.039	2	7.841e-03	4	3.977e-04	1	2.035e-03	4
174		min	-.013	2	-.016	6	-.179	4	-1.54e-03	2	-2.596e-04	5	-4.983e-04	2
175	N88	max	0	6	0	6	0	6	0	6	0	6	0	6
176		min	0	1	0	1	0	1	0	1	0	1	0	1
177	N89	max	.002	2	.005	2	.017	4	1.312e-05	2	7.36e-05	1	4.666e-04	6
178		min	0	6	-.009	6	.001	3	-1.934e-03	4	1.787e-05	6	-5.408e-04	2
179	N91	max	0	1	0	5	0	2	2.304e-04	1	7.255e-05	2	2.123e-05	3
180		min	0	6	-.001	1	0	6	1.025e-05	5	1.106e-05	6	-1.527e-04	5
181	N91A	max	.013	1	-.009	2	.004	4	1.117e-03	1	5.762e-05	5	8.378e-04	2
182		min	-.003	5	-.013	4	-.005	2	3.353e-04	5	6.744e-06	6	-1.072e-03	4
183	N92	max	0	6	0	6	0	6	5.334e-06	2	1.218e-03	4	3.696e-04	6
184		min	0	1	0	1	0	1	-1.204e-03	4	4.055e-05	3	-3.277e-04	2
185	N93	max	0	6	0	6	0	6	7.879e-04	1	8.135e-04	2	4.926e-04	2
186		min	0	1	0	1	0	1	1.889e-04	5	-3.98e-04	4	-6.711e-04	4
187	N94	max	0	6	0	6	0	6	2.413e-05	5	8.646e-05	1	-1.355e-04	6
188		min	0	1	0	1	0	1	-1.937e-04	3	1.477e-05	6	-3.353e-04	1

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

	Me...	Shape	Code C...	Loc...	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pn...	phi*P...	phi*Mn...	phi*...	Cb	Eqn
1	M1	HSS4X4X4	.102	0	4	.086	4.01	y	4	138.291	139.5...	16.181	16.181	1.961	H1-1b
2	M2	HSS4X4X4	.120	3.9...	4	.079	4.01	y	1	135.844	139.5...	16.181	16.181	2.22	H1-1b
3	M3	HSS4X4X4	.066	0	1	.054	0	z	1	138.217	139.5...	16.181	16.181	1.812	H1-1b
4	M4	PIPE_3.0	.322	1.4...	5	.242	1.823		5	28.251	65.205	5.749	5.749	1.024	H1-1b
5	M5	PIPE_3.0	.470	1.4...	4	.294	1.429		4	28.345	65.205	5.749	5.749	2.653	H3-6
6	M6	PIPE_3.0	.327	10....	2	.216	10.677		2	28.251	65.205	5.749	5.749	1.006	H1-1b
7	M10	HSS4X4X4	.070	2.7...	6	.089	0	z	5	135.06	139.5...	16.181	16.181	1.721	H1-1b
8	M11	HSS4X4X4	.122	0	1	.106	0	y	1	134.897	139.5...	16.181	16.181	1.7	H1-1b
9	M12	HSS4X4X4	.068	0	3	.083	2.786	y	5	135.06	139.5...	16.181	16.181	1.717	H1-1b
10	M13	PIPE_2.0	.297	10....	4	.110	10.547		4	6.295	32.13	1.872	1.872	3.507	H1-1b
11	M14	PIPE_2.0	.287	10....	5	.098	7.797		5	6.321	32.13	1.872	1.872	3.525	H1-1b
12	M15	PIPE_2.0	.286	10....	5	.116	1.953		4	6.295	32.13	1.872	1.872	3.249	H1-1b
13	M16	PIPE_2.5	.384	2	2	.099	2		5	30.038	50.715	3.596	3.596	1.314	H1-1b
14	M17	HSS4X4X4	.099	0	4	.102	0	y	4	134.981	139.5...	16.181	16.181	1.716	H1-1b
15	M18	HSS4X4X4	.116	0	4	.095	0	y	4	135.137	139.5...	16.181	16.181	1.697	H1-1b
16	M19	HSS4X4X4	.084	2.7...	1	.101	2.736	y	1	135.214	139.5...	16.181	16.181	1.711	H1-1b
17	M20	PIPE_2.5	.367	2	2	.081	2		5	30.038	50.715	3.596	3.596	1.385	H1-1b
18	M21	PIPE_2.5	.364	2	1	.083	2		4	30.038	50.715	3.596	3.596	1.383	H1-1b
19	M22	PIPE_2.5	.350	2	2	.118	2		4	30.038	50.715	3.596	3.596	1.286	H1-1b
20	M23	PIPE_2.5	.422	2	4	.089	2		2	30.038	50.715	3.596	3.596	1.667	H1-1b
21	M24	PIPE_2.5	.358	2	4	.072	2		2	30.038	50.715	3.596	3.596	1.698	H1-1b
22	M25	PIPE_2.5	.368	2	4	.075	2		5	30.038	50.715	3.596	3.596	2.448	H1-1b
23	M26	PIPE_2.5	.360	2	5	.104	2		5	30.038	50.715	3.596	3.596	2.219	H1-1b
24	M27	PIPE_2.5	.320	2	1	.115	2		4	30.038	50.715	3.596	3.596	1.505	H1-1b
25	M28	PIPE_2.5	.359	2	4	.078	2		4	30.038	50.715	3.596	3.596	2.595	H1-1b
26	M29	PIPE_2.5	.355	2	5	.075	2		2	30.038	50.715	3.596	3.596	1.749	H1-1b

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

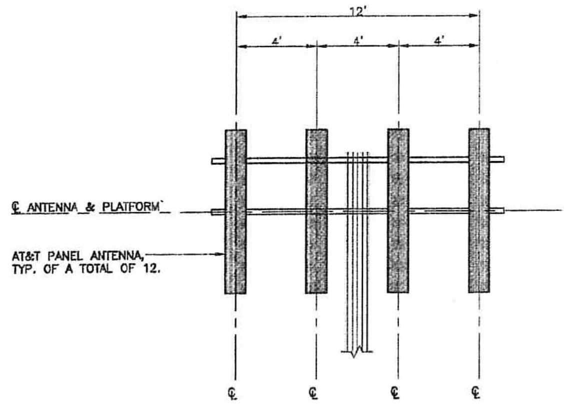
	Me...	Shape	Code C...	Loc...	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pn...	phi*P...	phi*Mn...	phi*...	Cb	Eqn
27	M30	PIPE_2.5	.385	2	5	.092	2		2	30.038	50.715	3.596	3.596	1.67	H1-1b
28	M31	L2.5x2.5x4	.007	.411	5	.157	0	y	1	37.717	38.556	1.114	2.537	1.136	H2-1
29	M32	L2.5x2.5x4	.009	.411	4	.156	.821	y	1	37.717	38.556	1.114	2.537	1.136	H2-1
30	M33	L2.5x2.5x4	.007	.411	2	.193	.821	y	4	37.717	38.556	1.114	2.537	1.136	H2-1
31	M34	LL2x3x3x6	.023	2.3...	1	.001	0	y	1	34.077	59.292	6.298	1.713	1.136	H1-1b
32	M35	LL2x3x3x6	.108	4.7...	6	.002	0	z	5	34.077	59.292	6.298	1.713	1.136	H1-1b*
33	M36	LL2x3x3x6	.128	4.7...	6	.002	4.717	y	4	34.077	59.292	6.298	1.713	1.136	H1-1b*

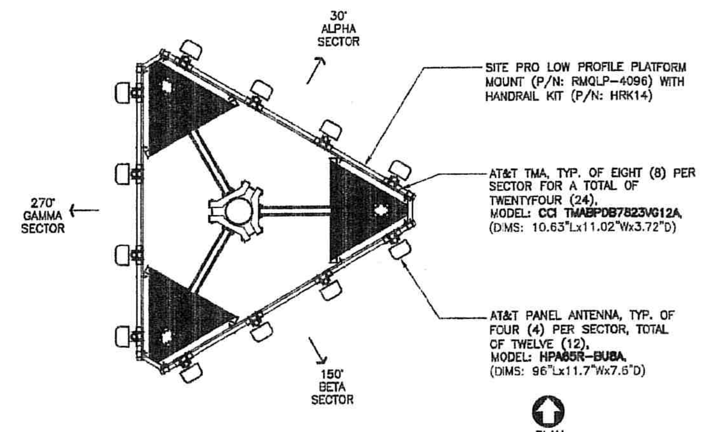


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Centek	CT1845	
FJP		Mar 5, 2019 at 8:55 AM
18123.00	Member Unity Check	Mount.r3d

2





2 (C-2) ANTENNA CONFIGURATION DETAILS

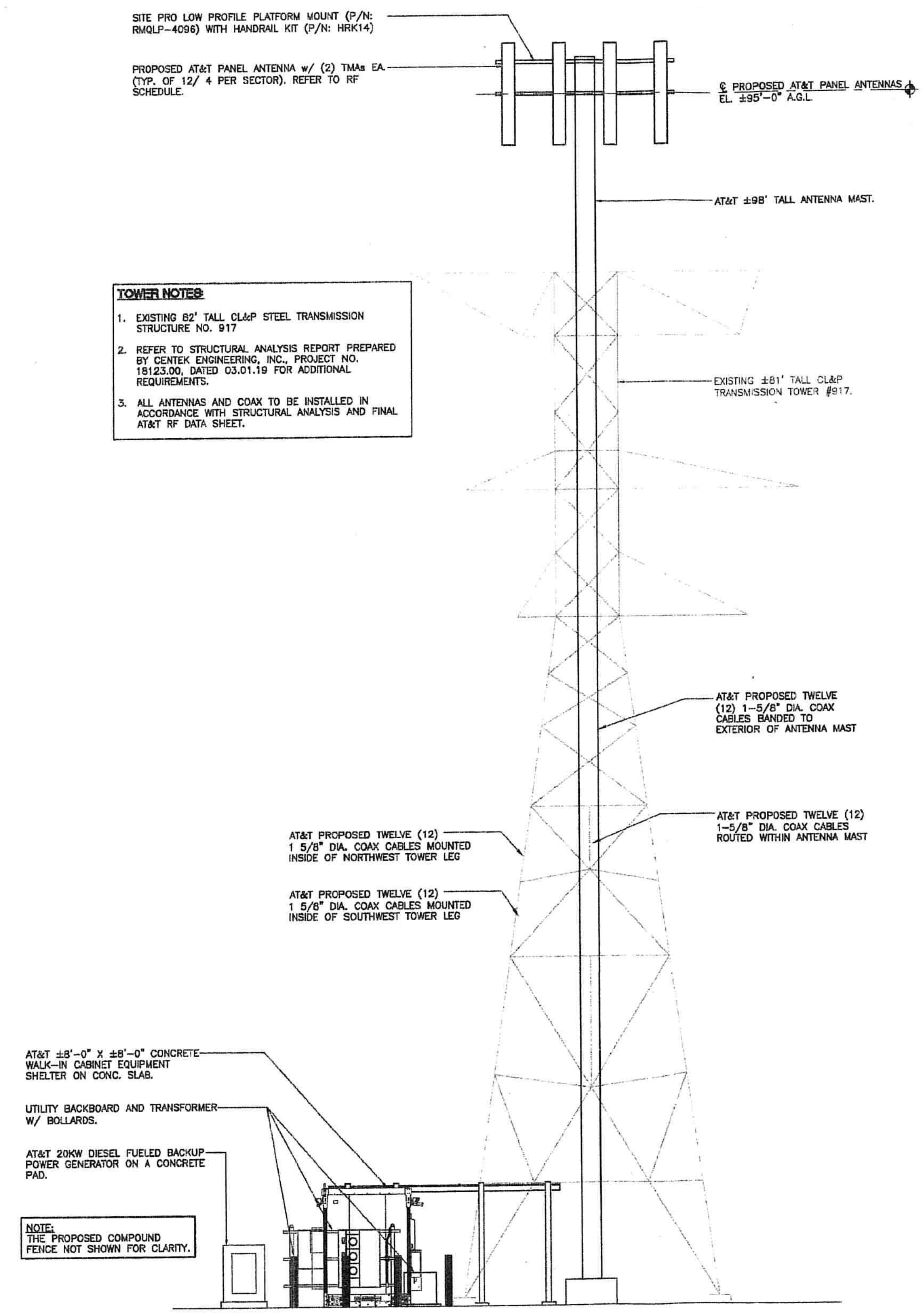
SCALE: 1/4" = 1' - 0"

RF EQUIPMENT TABLE

SECTOR	PANEL ANTENNAS					FILTER	FROM TMA				TMA		FROM SHELTER	
	AZIMUTH	QTY.	MAKE: MODEL	RAD CENTER (AGL)	DOWNTILT	QTY.	COAX QTY.	COAX SIZE	COAX LENGTH	RET QTY.	QTY.	MAKE & MODEL	COAX QTY.	FIBER & DC LENGTH
ALPHA	30°	4	CCI: HPA65R-BU8A	95.0'	0°M/0°E	0	16	1-5/8" Ø	169' ±	0	8	CCI TMABPDB7823VG12A	48	169' ±
BETA	150°	4	CCI: HPA65R-BU8A	95.0'	0°M/0°E	0	16	1-5/8" Ø	169' ±	0	8	CCI TMABPDB7823VG12A		169' ±
GAMMA	270°	4	CCI: HPA65R-BU8A	95.0'	0°M/0°E	0	16	1-5/8" Ø	169' ±	0	8	CCI TMABPDB7823VG12A		169' ±

TOWER NOTES:

1. EXISTING 82' TALL CL&P STEEL TRANSMISSION STRUCTURE NO. 917
2. REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING, INC., PROJECT NO. 18123.00, DATED 03.01.19 FOR ADDITIONAL REQUIREMENTS.
3. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS AND FINAL AT&T RF DATA SHEET.



NOTE:
THE PROPOSED COMPOUND FENCE NOT SHOWN FOR CLARITY.

1 (C-2) WEST ELEVATION

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

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	11/11/19	CAG	TJL	CSC - REVISED PER INTERROGATORIES
1	09/20/19	TJL	CAG	CSC - REVISED TO MATCH FINAL CDS
0	03/14/19	KAW	CAG	CSC - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

at&t

SAI communications

CENTEK engineering
Centered on Solutions™
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

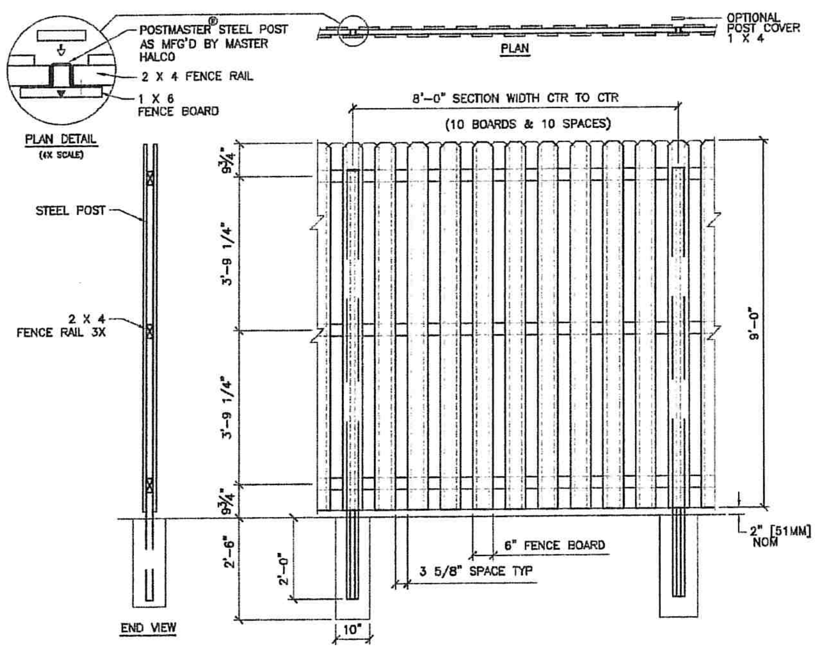
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
TALL PINES DRIVE
SITE NUMBER: CTSR1845
5 TALL PINES DRIVE
WESTON, CT 06883

DATE:	03/14/19
SCALE:	AS NOTED
JOB NO.	18123.00

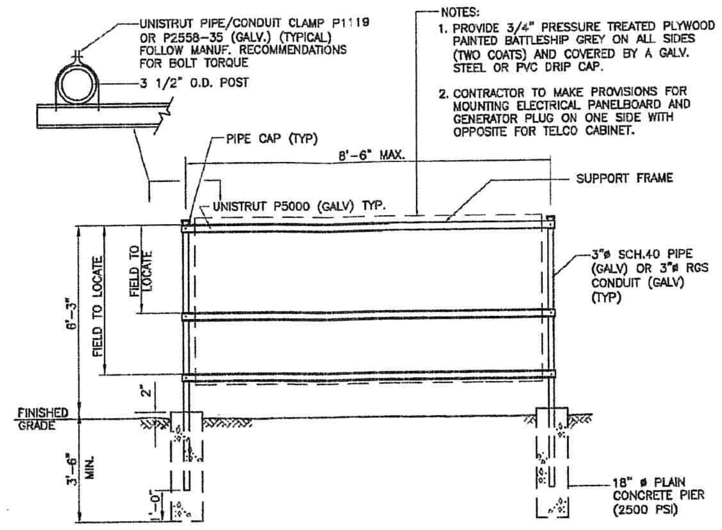
ELEVATION AND ANTENNA CONFIGURATION

C-2

Sheet No. 5 of 7

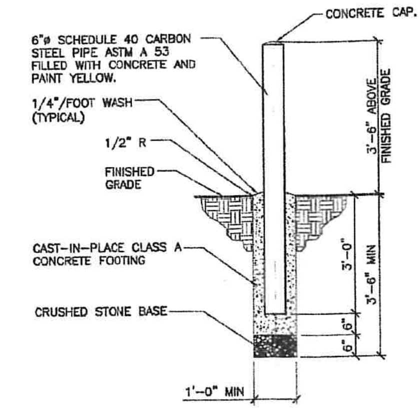


6 / C-4 **FENCE DETAIL**
NOT TO SCALE

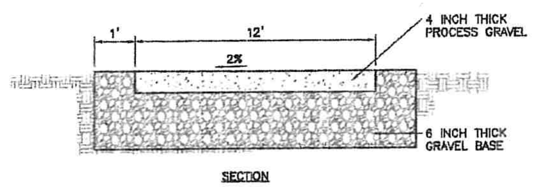


NOTES:
1. PROVIDE 3/4" PRESSURE TREATED PLYWOOD PAINTED BATTLESHIP GREY ON ALL SIDES (TWO COATS) AND COVERED BY A GALV. STEEL OR PVC DRIP CAP.
2. CONTRACTOR TO MAKE PROVISIONS FOR MOUNTING ELECTRICAL PANELBOARD AND GENERATOR PLUG ON ONE SIDE WITH OPPOSITE FOR TELCO CABINET.

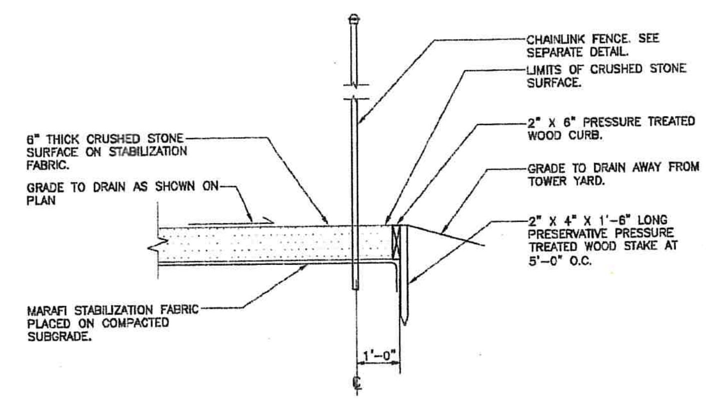
5 / C-4 **UTILITY SUPPORT FRAME (TYP)**
NOT TO SCALE



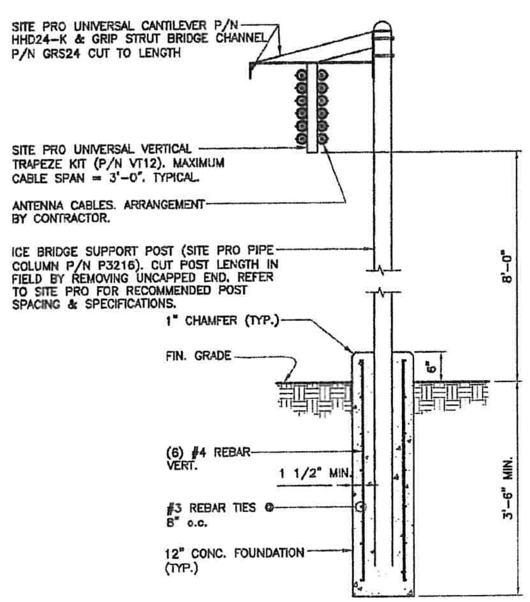
3 / C-4 **BOLLARD DETAIL**
NOT TO SCALE



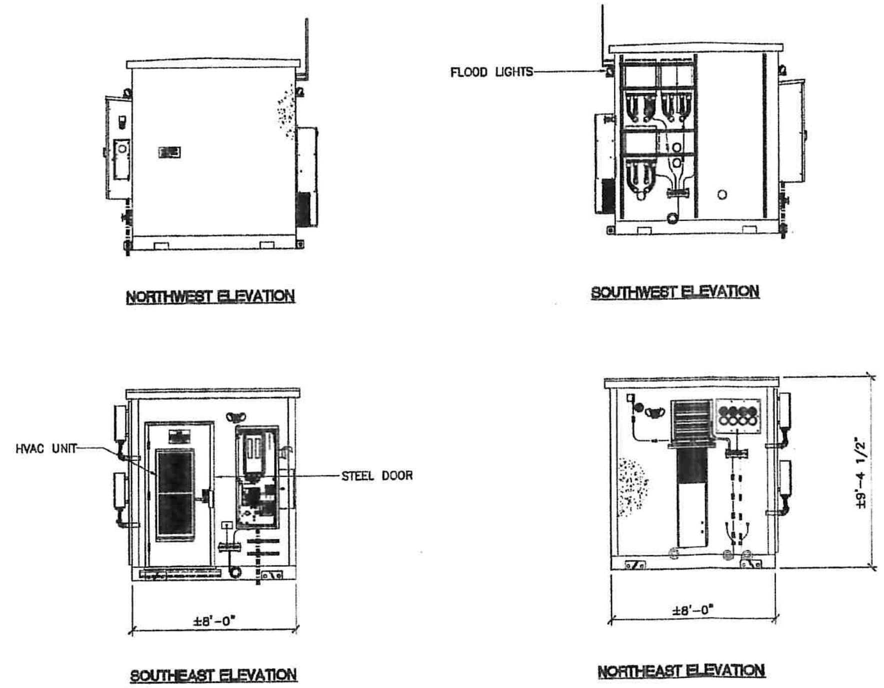
8 / C-4 **GRAVEL SURFACE PARKING AREA AND ACCESS DRIVE**
NOT TO SCALE

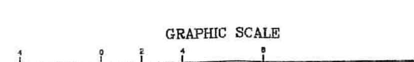


2 / C-4 **COMPOUND SURFACING DETAIL**
NOT TO SCALE

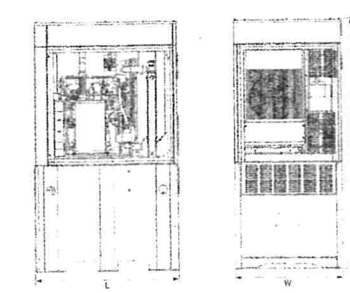


7 / C-4 **ICE BRIDGE DETAIL**
NOT TO SCALE





4 / C-4 **EQUIPMENT SHELTER ELEVATIONS**
SCALE: 1/4" = 1'-0"



DIESEL FUELED BACKUP POWER GENERATOR			
EQUIPMENT	FUEL TANK SIZE (GAL)	DIMENSIONS	WEIGHT (LBS)
MAKE: GENERAC MODEL: SDC20 (W/LEVEL 2 ACOUSTIC ENCLOSURE AND DOUBLE WALL FUEL TANK)	92	48"L x 36"W x 90"H	2400

NOTES:
1. FUEL LEVEL/SECONDARY CONTAINMENT SHALL BE ALARMED AND IN COMMUNICATION WITH AT&T'S NOC.
2. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION AND ALL OPTIONAL FEATURES WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

1 / C-4 **BACK-UP GENERATOR DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	11/11/19	CAG	TJL	CSC – REVISED PER INTERROGATORIES
1	09/20/19	TJL	CAG	CSC – REVISED TO MATCH FINAL CDS
0	03/14/19	KAW	CAG	CSC – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

at&t

SAI communications

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
TALL PINES DRIVE
SITE NUMBER: CTSR1845
5 TALL PINES DRIVE
WESTON, CT 06883

DATE: 03/14/19
SCALE: AS NOTED
JOB NO. 18123.00

TYPICAL DETAILS

C-4