PRCTI20230490

RYKA CONSULTING

MOUNT MODIFICATION REPORT

City of Puyallup
Building
ACCEPTED

JMontgomery
05/26/2023
7:55:41 AM

CITY OF PUYALLUP
STATE OF WASHINGTON

THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION

Prepared For:

AT&T

AT&T Mobility
16221 NE 72nd Way
Redmond, WA 98052

Project Name:

Good Samaritan
WA6659

Project Address:

407 14th Avenue Southeast
Puyallup, WA 98371

Site Coordinates:

47.1795
-122.2906

Prepared By:

Ryan McDaniel, P.E.

April 7, 2023

PROJECT SCOPE:

AT&T Mobility proposes the following: Add (6) active radio antennas. New antennas to be installed on new T-arm mounts.

ANALYSIS:

The purpose of this analysis is to determine if the existing installation is adequately supported under the proposed loadings and provide any recommendations for modification in order to bring the support structure into compliance if needed. The installation has been analyzed in accordance with ASCE 7-16. The following parameters were used for lateral analysis:

Basic Wind Speed:	98	Risk Category:	IV
Wind Exposure:	B	Seismic Design Category:	D
Topographic Factor, kzt:	1.00	Mapped Parameter, Ss:	1.267
		Mapped Parameter, S1:	0.436

This Mount Analysis Report for the existing AT&T equipment is limited to the equipment mounting and support frames. This analysis is based on the specific assumptions and conditions as stated within the following report.

RESULTS:

Based on our review of the existing structure loadings, we have determined the following:

Design Element	Capacity	Status
Antenna Mount	67.2%	PASS

Equipment Support Rating: 67.2% PASS (with modifications)

Please refer to Appendix A for structural calculations supporting the above results and conclusions sections below for additional comments.

CONTENTS:

1 Antenna Sector Equipment Inventory

Existing Equipment Configuration

Elev. (ft)	Equipment Model	Sector	Mount	Qty.	Carrier
79.00	EPBQ-654L8H8-L2	A	Antenna Mount	1	AT&T
79.00	EPBQ-654L8H8-L2	A	Antenna Mount	1	AT&T
79.00	RRH 4T4R B5 160W AHCA	A	Antenna Mount	1	AT&T
79.00	RRH4x25-WCS-4R	A	Antenna Mount	1	AT&T
79.00	RRH 4T4R B12/14 320W AHLBA	A	Antenna Mount	1	AT&T
79.00	RRH 4T4R B25/66 320W AHFIB	A	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
79.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T
79.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T
79.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T

Final Equipment Configuration

80.00	EPBQ-654L8H8-L2	A	Antenna Mount	1	AT&T
80.00	EPBQ-654L8H8-L2	A	Antenna Mount	1	AT&T
88.75	Nokia AEQK	A	Antenna Mount	1	AT&T
88.75	Nokia AEQU	A	Antenna Mount	1	AT&T
80.00	RRH 4T4R B5 160W AHCA	A	Antenna Mount	1	AT&T
80.00	RRH4x25-WCS-4R	A	Antenna Mount	1	AT&T
80.00	RRH 4T4R B12/14 320W AHLBA	A	Antenna Mount	1	AT&T
80.00	RRH 4T4R B25/66 320W AHFIB	A	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	A	Antenna Mount	1	AT&T
80.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T
80.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T
80.00	FC12-PC6-10E	A	Antenna Mount	1	AT&T

See the Architectural and Structural Drawings for configuration, location, and elevations. See the structural calculations for a detailed account of the equipment and the capacity of the support structure.

1 Antenna Sector Equipment Inventory

Existing Equipment Configuration

Elev. (ft)	Equipment Model	Sector	Mount	Qty.	Carrier
80.00	EPBQ-654L8H8-L2	B	Antenna Mount	1	AT&T
80.00	EPBQ-654L8H8-L2	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B5 160W AHCA	B	Antenna Mount	1	AT&T
80.00	RRH4x25-WCS-4R	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B12/14 320W AHLBA	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B25/66 320W AHFIB	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T

Final Equipment Configuration

80.00	EPBQ-654L8H8-L2	B	Antenna Mount	1	AT&T
80.00	EPBQ-654L8H8-L2	B	Antenna Mount	1	AT&T
88.75	Nokia AEQK	B	Antenna Mount	1	AT&T
88.75	Nokia AEQU	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B5 160W AHCA	B	Antenna Mount	1	AT&T
80.00	RRH4x25-WCS-4R	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B12/14 320W AHLBA	B	Antenna Mount	1	AT&T
80.00	RRH 4T4R B25/66 320W AHFIB	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	B	Antenna Mount	1	AT&T

See the Architectural and Structural Drawings for configuration, location, and elevations. See the structural calculations for a detailed account of the equipment and the capacity of the support structure.

1 Antenna Sector Equipment Inventory

Existing Equipment Configuration

Elev. (ft)	Equipment Model	Sector	Mount	Qty.	Carrier
79.00	EPBQ-654L8H8-L2	C	Antenna Mount	1	AT&T
79.00	EPBQ-654L8H8-L2	C	Antenna Mount	1	AT&T
79.00	RRH 4T4R B5 160W AHCA	C	Antenna Mount	1	AT&T
79.00	RRH4x25-WCS-4R	C	Antenna Mount	1	AT&T
79.00	RRH 4T4R B12/14 320W AHLBA	C	Antenna Mount	1	AT&T
79.00	RRH 4T4R B25/66 320W AHFIB	C	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T
79.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T

Final Equipment Configuration

80.00	EPBQ-654L8H8-L2	C	Antenna Mount	1	AT&T
80.00	EPBQ-654L8H8-L2	C	Antenna Mount	1	AT&T
88.75	Nokia AEQK	C	Antenna Mount	1	AT&T
88.75	Nokia AEQU	C	Antenna Mount	1	AT&T
80.00	RRH 4T4R B5 160W AHCA	C	Antenna Mount	1	AT&T
80.00	RRH4x25-WCS-4R	C	Antenna Mount	1	AT&T
80.00	RRH 4T4R B12/14 320W AHLBA	C	Antenna Mount	1	AT&T
80.00	RRH 4T4R B25/66 320W AHFIB	C	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T
80.00	DC2-48-60-0-9E	C	Antenna Mount	1	AT&T

See the Architectural and Structural Drawings for configuration, location, and elevations. See the structural calculations for a detailed account of the equipment and the capacity of the support structure.

2 Reference Documents

The following data was used to model and analyze the structure.

Date	Document	Author
	2018 IBC	International Code Council
	ASCE 7-16	ASCE
12/14/2022	RFDS	AT&T
09-12-11	Construction Drawings	Cornerstone Engineering
May 12, 2015	Structural Calculations	Cornerstone Engineering

3 Design Comments

Telecommunication equipment is being reconfigured on an existing building. New active radio antennas will be mounted on new T-arm mounts at existing mount locations.

Load combinations are applied per ASCE 7-16 Sections 2.4.1. Combinations involving reduced dead loads, live loads, and seismic loads are eliminated because they do not apply, or by inspection. The following load combinations remain:

1. D
2. D + L
3. D + S
5. D + 0.6W

The new antenna mount is checked for the new antenna loads.

The new mounts and building support are analyzed for the scope of this report. The telecommunications equipment does not add an additional %5 weight or 10% lateral load to the existing building and does not require retrofit. Local elements are checked.

1 Conclusion / Recommendations

To the best of our knowledge and belief, the modified shroud anchorage and pipe mount will be in compliance with the requirements of the specifications codes and agencies having jurisdiction over the work.

2 Scope and Liability

1. This report is prepared with the information furnished to Ryka by our client. If the conditions of the site change, or if new information becomes available, the results of this report are not valid. Ryka should be notified so that the report can be updated and resubmitted.

2. This report is meant to show the level of conformance for the site with the referenced codes. No other assessment is implied.

3. Ryka has not performed invasive testing or inspection which might reveal corrosion, damage, or work not installed per plan. The contractor should report any of these occurrences upon discovery.

4. The contractor hired for construction of items included in this report are responsible for verifying that work described in previous plan sheets has been installed per plan.

5. Ryka has not engineered, tested, or inspected the manufacture of third party vendor items such as mounts, poles, and other support structures. We select equipment from vendors which provide their own engineering and quality control. Ryka cannot be responsible for defective hardware or supports which do not meet the published support capacity.

6. Ryka is not responsible for the conclusions, opinions and recommendations made by others based on the information contained herein.

7. It is assumed that the existing mounting structure is in good condition with no damage that could cause a reduced capacity.

A Appendix – Structural Calculations

SITE PARAMETERS:

Risk Category =	IV	(Table 1-1)	Latitude =	47.1795	(USGS)
Site Soil Classification =	D	(Table 20.3-1)	Longitude =	-122.2906	(USGS)

MAPPED ACCELERATION PARAMETERS:

Mapped Parameter, Ss =	1.267	(USGS)
Mapped Parameter, S_1 =	0.436	(USGS)

MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:

Site Coefficient, F_a =	1.20g	(Table 11.4-1)
Site Coefficient, F_v =	1.864g	(Table 11.4-2)
$S_{MS} = F_a S_S$ =	1.52g	(Eq 11.4-4)
$S_{M1} = F_v S_1$ =	0.813g	(Eq 11.4-1)

DESIGN SPECTRAL RESPONSE PARAMETERS:

$S_{DS} = ⅔ S_{MS}$ =	1.014g	(Eq 11.4-3)
$S_{D1} = ⅔ S_{M1}$ =	0.542g	(Eq 11.4-4)

SESIMIC DESIGN CATEGORY

Seismic Design Category =	D	(Tables 11.6-1 and 11.6-2)

SEISMIC DESIGN FORCE FOR NONSTRUCTURAL COMPONENTS:

Average Structure Height, h =	64.67	ft
Height of Component, z =	88.75	ft
Importance Factor, I_e =	1.50	(Sec 13.1-3)
Response Mod. Factor, R_p =	2.5	(Table 13.5-1 or 13.6-1)
Amplification Factor, a_p =	1.0	(Table 13.6-1)
$F_{p\,max}$ =	2.433	(Eqn 13.3-2)
$F_{p\,min}$ =	0.456	(Eqn 13.3-3)
Seismic Design Force, F_p =	0.730	(Eqn 13.3-1)
Seismic Design Force, Fp =	0.730	(Eq 12.8-1)
Seismic Design Force, Fp =	0.511	(ASD)

DESCRIPTION: ASCE 7-16 Wind Factors

Risk Category =	IV		(Table 1.5-1)
Wind Speed, V =	98	mph	(Figure 26.5-1)
Directionality Factor, K_d =	0.90		(Table 26.6-1)
Exposure Category =	B		(Section 26.7)
Topographic Factor, K_{zt} =	1.00		(Section 26.8 & Figure 26.8-1)
Ground Elevation Factor, K_e =	0.997		(Section 26.9 and Table 26.9-1)
Gust Factor, G =	0.85		(Section 26.11.1)
Avg Height of Equipment, z =	88.8	ft	
Velocity Pressure Coeff., K_h =	0.96		(Table 27.3-1)
velocity pressure, q_h =	0.00256 K_h K_{zt} K_d K_e V^2		(Eq 26.10-1)
velocity pressure, q_h =	21.1	psf	(Section 27.4.7 indicates 16 psf min. pressure)

DESIGN WIND LOADS: OTHER STRUCTURES

Design Lateral Wind Pressure, P_h =	17.9	psf	(From Eq. 29.4-2, where F = P Cf A_f)
Design Lateral Wind Pressure, P_h =	10.8	psf	(ASD)

Velocity Pressure, qz =	21.1	psf
G =	0.85	

Item	Flat / Round	Dish / Panel	Height in	Width in	Depth in	Cf(n)			Cf(t)		
						1	7	25	1	7	25
EPBQ-654L8H8-L2	F	P	96.00	21.00	6.30	1.3	1.4	2	1.3	1.4	2
RRH 4T4R B5 160W AHCA	F	P	13.37	11.61	6.50	1.3	1.4	2	1.3	1.4	2
RRH4x25-WCS-4R	F	P	31.50	12.00	8.70	1.3	1.4	2	1.3	1.4	2
RRH 4T4R B12/14 320W AHLBA	F	P	15.70	11.80	4.70	1.3	1.4	2	1.3	1.4	2
RRH 4T4R B25/66 320W AHFIB	F	P	28.70	15.40	9.40	1.3	1.4	2	1.3	1.4	2
DC2-48-60-0-9E	F	P	10.25	10.40	6.30	1.3	1.4	2	1.3	1.4	2
FC12-PC6-10E	F	P	14.75	16.10	6.59	1.3	1.4	2	1.3	1.4	2
Nokia AEQK	F	P	29.50	17.70	9.50	1.3	1.4	2	1.3	1.4	2
Nokia AEQU	F	P	29.50	17.70	9.50	1.3	1.4	2	1.3	1.4	2
2"x 120" S40 Stl Pipe	R	P	120.00	2.38	2.38	0.7	0.8	1.2	0.7	0.8	1.2
2"x 42" S40 Stl Pipe	R	P	42.00	2.38	2.38	0.7	0.8	1.2	0.7	0.8	1.2
2"x 30" S40 Stl Pipe	R	P	30.00	2.38	2.38	0.7	0.8	1.2	0.7	0.8	1.2
Emerson 5100	F	P	72.00	32.00	39.00	1.3	1.4	2	1.3	1.4	2
Emerson Netsure Battery Cabinet	F	P	72.06	36.02	36.79	1.3	1.4	2	1.3	1.4	2

Item	Height in	Width in	Depth in	Aspect (norm)	Aspect (tan)	Cf (norm)	Cf (tan)	Af (norm)	Af (tan)
EPBQ-654L8H8-L2	96.00	21.00	6.30	4.57	15.24	1.36	1.67	14.00	4.20
RRH 4T4R B5 160W AHCA	13.37	11.61	6.50	1.15	2.06	1.30	1.32	1.08	0.60
RRH4x25-WCS-4R	31.50	12.00	8.70	2.63	3.62	1.33	1.34	2.63	1.90
RRH 4T4R B12/14 320W AHLBA	15.70	11.80	4.70	1.33	3.34	1.31	1.34	1.29	0.51
RRH 4T4R B25/66 320W AHFIB	28.70	15.40	9.40	1.86	3.05	1.31	1.33	3.07	1.87
DC2-48-60-0-9E	10.25	10.40	6.30	0.99	1.63	1.30	1.31	0.74	0.45
FC12-PC6-10E	14.75	16.10	6.59	0.92	2.24	1.30	1.32	1.65	0.68
Nokia AEQK	29.50	17.70	9.50	1.67	3.11	1.31	1.34	3.63	1.95
Nokia AEQU	29.50	17.70	9.50	1.67	3.11	1.31	1.34	3.63	1.95
2"x 120" S40 Stl Pipe	120.00	2.38	2.38	50.42	50.42	1.20	1.20	1.98	1.98
2"x 42" S40 Stl Pipe	42.00	2.38	2.38	17.65	17.65	1.04	1.04	0.69	0.69
2"x 30" S40 Stl Pipe	30.00	2.38	2.38	12.61	12.61	0.92	0.92	0.50	0.50
Emerson 5100	72.00	32.00	39.00	2.25	1.85	1.32	1.31	16.00	19.50
Emerson Netsure Battery Cabinet	72.06	36.02	36.79	2.00	1.96	1.32	1.32	18.03	18.41

Fp = 0.511 W

S_{DS} = 1.014 g

Design Lateral Wind Pressure, P_h = 10.8 psf

Applied Forces (lbs)

Item	Weight	Eh	Ev	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	43.9	17.4	204.7	75.7
RRH 4T4R B5 160W AHCA	36.8	18.8	7.5	15.1	8.6
RRH4x25-WCS-4R	70.0	35.8	14.2	37.5	27.5
RRH 4T4R B12/14 320W AHLBA	32.6	16.7	6.6	18.1	7.4
RRH 4T4R B25/66 320W AHFIB	88.2	45.1	17.9	43.4	26.9
DC2-48-60-0-9E	16.0	8.2	3.2	10.4	6.3
FC12-PC6-10E	35.0	17.9	7.1	23.1	9.6
Nokia AEQK	99.2	50.7	20.1	51.1	27.9
Nokia AEQU	99.2	50.7	20.1	51.1	27.9
2"x 120" S40 Stl Pipe	36.5	18.6	7.4	25.6	25.6
2"x 42" S40 Stl Pipe	12.8	6.5	2.6	7.7	7.7
2"x 30" S40 Stl Pipe	9.1	4.7	1.8	4.9	4.9
Emerson 5100	2,300.0	1175.0	466.3	227.3	275.6
Emerson Netsure Battery Cabinet	4,010.0	2048.5	812.9	255.3	260.6

Existing Sector A Equipment (lbs)			
Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7
EPBQ-654L8H8-L2	86.0	204.7	75.7
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6
RRH4x25-WCS-4R	tember 23, 2	37.5	27.5
RRH 4T4R B12/14 320W AHLBA	04-21-11	18.1	rmit Drawir
RRH 4T4R B25/66 320W AHFIB	nuary 12, 20	43.4	tural Calcula
DC2-48-60-0-9E	01-28-11	10.4	omment Dra
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
FC12-PC6-10E	35.0	23.1	9.6
FC12-PC6-10E	35.0	23.1	9.6
FC12-PC6-10E	35.0	23.1	9.6
Sector Total	346		

Existing Sector B Equipment (lbs)			
Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7
EPBQ-654L8H8-L2	86.0	204.7	75.7
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6
RRH4x25-WCS-4R	70.0	37.5	27.5
RRH 4T4R B12/14 320W AHLBA	PTS	18.1	7.4
RRH 4T4R B25/66 320W AHFIB	rstone Engir	43.4	26.9
DC2-48-60-0-9E	rstone Engir	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
Sector Total	311		

Proposed Sector A Equipment (lbs)			
Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7
EPBQ-654L8H8-L2	86.0	204.7	75.7
Nokia AEQK	99.2	51.1	27.9
Nokia AEQU	99.2	51.1	27.9
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6
RRH4x25-WCS-4R	70.0	37.5	27.5
RRH 4T4R B12/14 320W AHLBA	32.6	18.1	7.4
RRH 4T4R B25/66 320W AHFIB	88.2	43.4	26.9
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
FC12-PC6-10E	35.0	23.1	9.6
FC12-PC6-10E	35.0	23.1	9.6
FC12-PC6-10E	35.0	23.1	9.6
Sector Total	751		

Proposed Sector B Equipment (lbs)			
Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7
EPBQ-654L8H8-L2	86.0	204.7	75.7
Nokia AEQK	99.2	51.1	27.9
Nokia AEQU	99.2	51.1	27.9
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6
RRH4x25-WCS-4R	70.0	37.5	27.5
RRH 4T4R B12/14 320W AHLBA	32.6	18.1	7.4
RRH 4T4R B25/66 320W AHFIB	88.2	43.4	26.9
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
DC2-48-60-0-9E	16.0	10.4	6.3
Sector Total	646		

Existing Sector C Equipment (lbs)				Existing Sector D Equipment (lbs)			
Item	Weight	F_{no}	F_{to}	Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7				
EPBQ-654L8H8-L2	86.0	204.7	75.7				
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6				
RRH4x25-WCS-4R	70.0	37.5	27.5				
RRH 4T4R B12/14 320W AHLBA	32.6	18.1	7.4				
RRH 4T4R B25/66 320W AHFIB	88.2	43.4	26.9				
DC2-48-60-0-9E	16.0	10.4	6.3				
DC2-48-60-0-9E	16.0	10.4	6.3				
DC2-48-60-0-9E	16.0	10.4	6.3				
Sector Total	448						

Proposed Sector C Equipment (lbs)				Proposed Sector D Equipment (lbs)			
Item	Weight	F_{no}	F_{to}	Item	Weight	F_{no}	F_{to}
EPBQ-654L8H8-L2	86.0	204.7	75.7				
EPBQ-654L8H8-L2	86.0	204.7	75.7				
Nokia AEQK	99.2	51.1	27.9				
Nokia AEQU	99.2	51.1	27.9				
RRH 4T4R B5 160W AHCA	36.8	15.1	8.6				
RRH4x25-WCS-4R	70.0	37.5	27.5				
RRH 4T4R B12/14 320W AHLBA	32.6	18.1	7.4				
RRH 4T4R B25/66 320W AHFIB	88.2	43.4	26.9				
DC2-48-60-0-9E	16.0	10.4	6.3				
DC2-48-60-0-9E	16.0	10.4	6.3				
DC2-48-60-0-9E	16.0	10.4	6.3				
Sector Total	646			Sector Total			

Applied Forces (lbs)									
Item	Weight	Eh	Ev	F_{no}	F_{to}				
Antenna Mount									
Nokia AEQK	99	50.7	20.1	51.1	27.9				
Nokia AEQU	99	50.7	20.1	51.1	27.9				
2"x 42" S40 Stl Pipe	13	6.5	2.6	7.7	7.7				
2"x 42" S40 Stl Pipe	13	6.5	2.6	7.7	7.7				
2"x 30" S40 Stl Pipe	9	4.7	1.8	4.9	4.9				
Total	**233**	**119**	**47**	**123**	**76**				
New Cabinets									
Emerson 5100	2,300	1,175	466	227	276				
Emerson Netsure Battery Cabinet	4,010	2,049	813	255	261				
Total	**6,310**	**3,223**	**1,279**	**483**	**536**	(least of all previous configs)			

DESCRIPTION: Antenna Mast

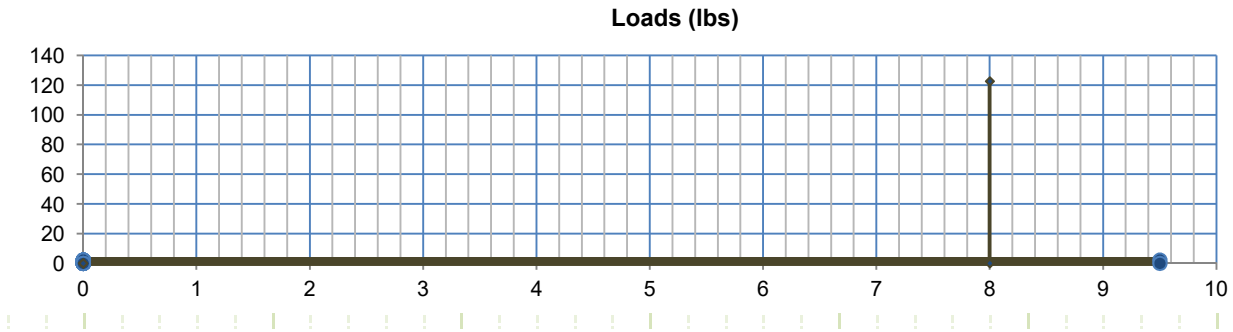
BEAM AND LOADING ATTRIBUTES:

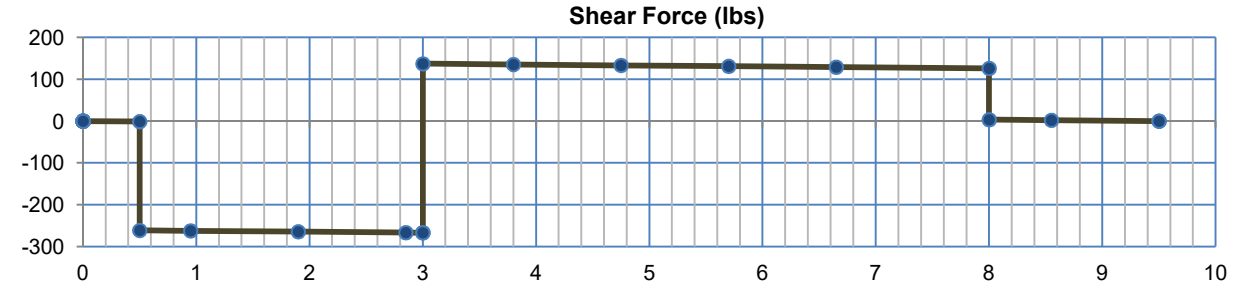
Beam Segments	
x End	EI
0	11,177
9.5	11,177
0	0
0	0

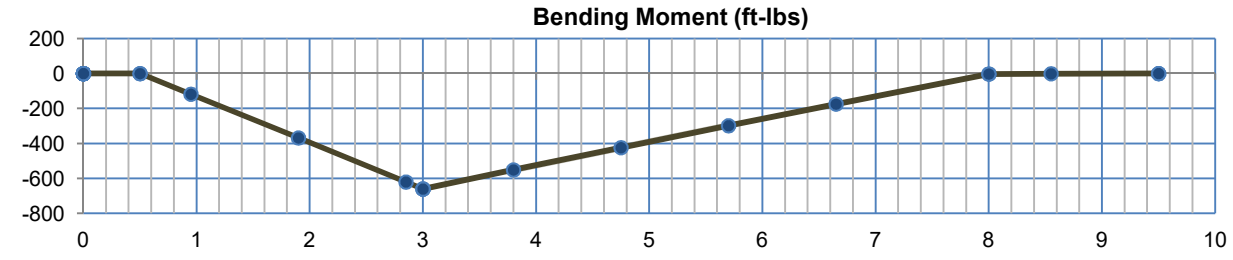
Supports
x
0.5
3
0
0
0

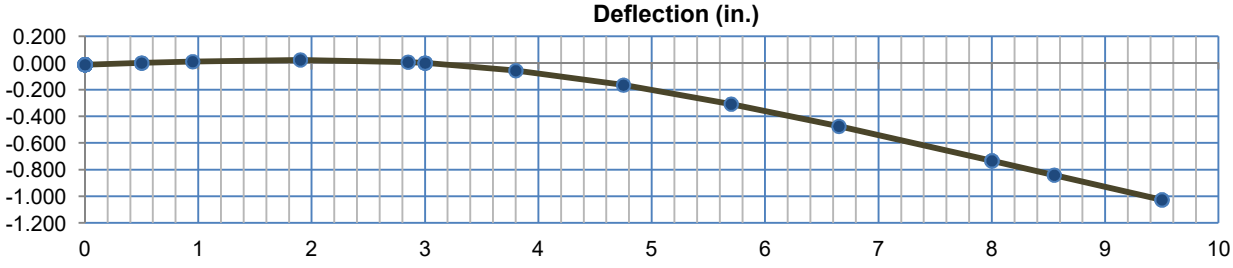
Point Loads		
x	lbs	Moment
8.0	-122.69	0
0.0	0	0
0	0	0
0	0	0
0	0	0

Distributed Loads			
x Start	x End	lbs	lbs
0.00	9.50	-2.21	-2.21
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00









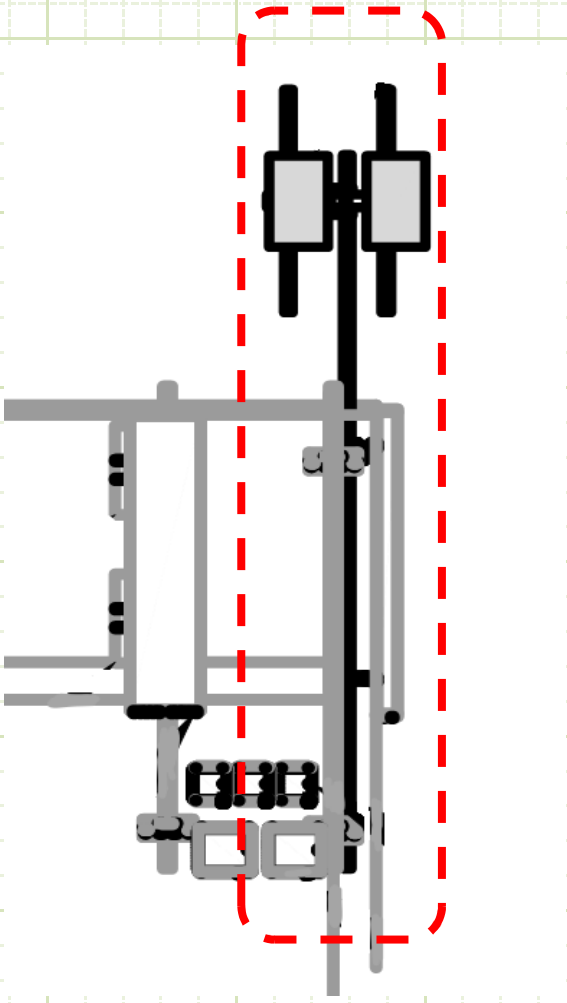
DESCRIPTION: Antenna Mast

BEAM PROPERTIES: Beam shape = **P 2" Sch 40**

A =	1.070	in^2	Sx =	0.561	in^3
Weight =	3.650	plf	Sy =	0.561	in^3
O.D. =	2.375	in	Ix =	0.666	in^4
			Iy =	0.666	in^4
			rx =	0.787	in.
			ry =	0.787	in.

MATERIAL PROPERTIES:

E =	29,000	ksi
F_y =	35,000	psi



BEAM LOADING:

Unsupported Length, L =	114	in.	
Moment, M =	0.660	kip-ft	
=	7,922	in-lbs	
Shear, V =	0.267	kips	
Deflection, Δ =	1.027	in.	
Span Length / Deflection =	111		

BEAM STRESS:

Bending stress, f_{bx} =	14,121	psi	
Allowable Bending , $F_{bx} = 0.6\ F_y$ =	21,000	psi	
Required S_x =	0.4	in^3	**O.K.**
Shear Stress fv =	249	psi	
Allowable Shear Stress = 0.4 Fy =	14,000	psi	**O.K.**
Required Area, A =	0.001	in^2	

SUMMARY: The calculated shear at the pipe supports is also the load to the mast anchorage. The load is small compared to the capacity of a 1/2" diameter A307 bolt.

Utilization = **67.24%** of capacity

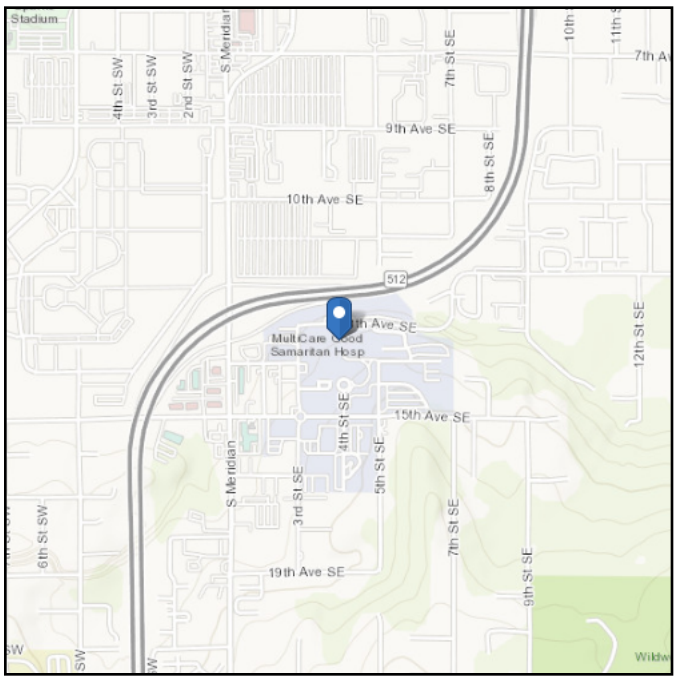
B Appendix – Referenced Documents

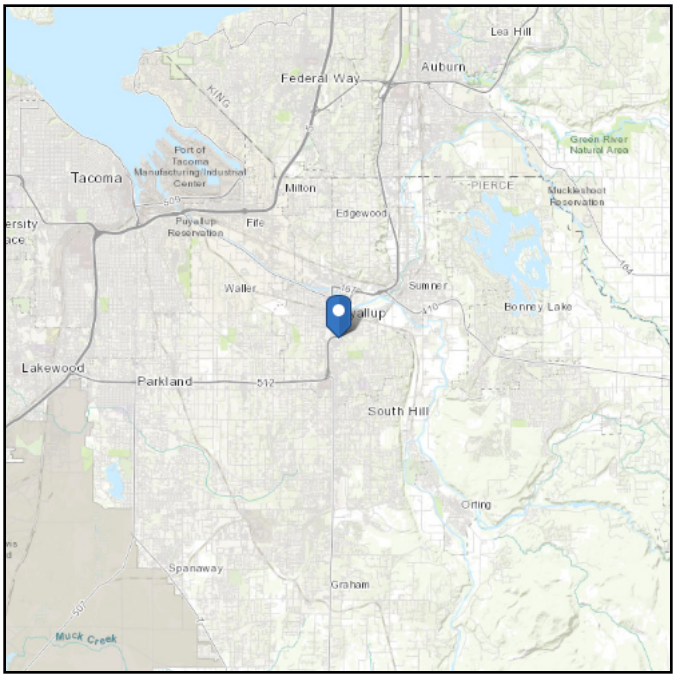
PRCTI20230490

ASCE 7 Hazards Report

Address:
407 14th Ave SE
Puyallup, Washington
98372

Standard:	ASCE/SEI 7-16	**Latitude:**	47.179251
Risk Category:	II	**Longitude:**	-122.289637
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	122.28247765975831 ft (NAVD 88)





Wind

Results:

Wind Speed	98 Vmph
10-year MRI	67 Vmph
25-year MRI	73 Vmph
50-year MRI	78 Vmph
100-year MRI	83 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Sun Apr 02 2023

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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

PRCTI20230490

AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.267	S_{D1} :	N/A
S_1 :	0.436	T_L :	6
F_a :	1.2	PGA :	0.5
F_v :	N/A	PGA_M :	0.6
S_{MS} :	1.52	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	1.013	C_v :	1.353

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Sun Apr 02 2023

Date Source: USGS Seismic Design Maps

PRCTI20230490

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	25 F
Gust Speed	30 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Sun Apr 02 2023

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 500-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.

PRCTI20230490

GENERAL DYNAMICS
Information Technology

MORRISON HERSHFIELD

Ms. Melissa Browning
General Dynamics Information Technology, Inc.
19240 Des Moines Memorial Drive South, Suite 300
SeaTac, WA 98148
(360) 485-7196

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Date: October 18, 2019

Subject: **Load Mapping Report**

Site mapping letter which shows equipment platform location on the existing roof framing and some cabinet weights.

AT&T Designation:
Site FA: 10029581
Site Name: GOOD SAMARITAN

Turf Vendor Number: WA6659

Site Address: 407 14th Ave Southeast, Puyallup, WA 98371
Site Coordinates: Latitude: 47.17950° N, Longitude: 122.29055°W

Tower Description: 68 ft – Building
Mount Description: **Roof Top Platform**

Morrison Hershfield Project Number: GED-577R4 / 1900279.00

Dear Ms. Browning,

Morrison Hershfield is pleased to submit this "**Load Mapping Report**" for the existing equipment located on the roof top mounted platform, at the above building site. This letter is in response to the letter by the building owner's structural review consultant, PCS Structural Solutions (PCS), dated August 22, 2019.

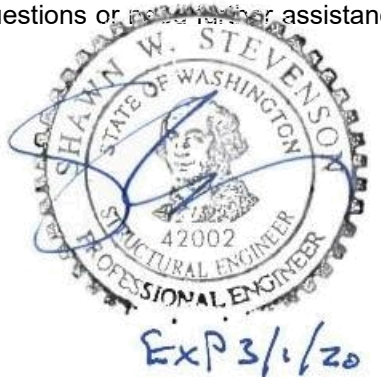
Item 1 of the PCS letter suggests that "the existing enclosure was not designed per the requirements of the Risk Category IV that is required for equipment that is being supported off the emergency electrical generation system of the hospital." We feel that it is not necessary, since the telecommunications equipment does not support emergency operations, or any operations of the hospital. Therefore, the equipment is "down stream" of the hospital equipment, and doesn't require Risk Category IV design. The International Building Code references ANSI-TIA 222 revision H, for the design of telecommunications support structures, in which Section 2.2.2.1 allows for use of Risk Category II in such cases as this, where non-critical equipment is supported by structures of higher Risk Category. Our understanding is that the equipment platform was designed using Risk Category III, based upon the review of the Smartlink Structural Analysis Report, dated October 28, 2015, for analysis of the structural platform.

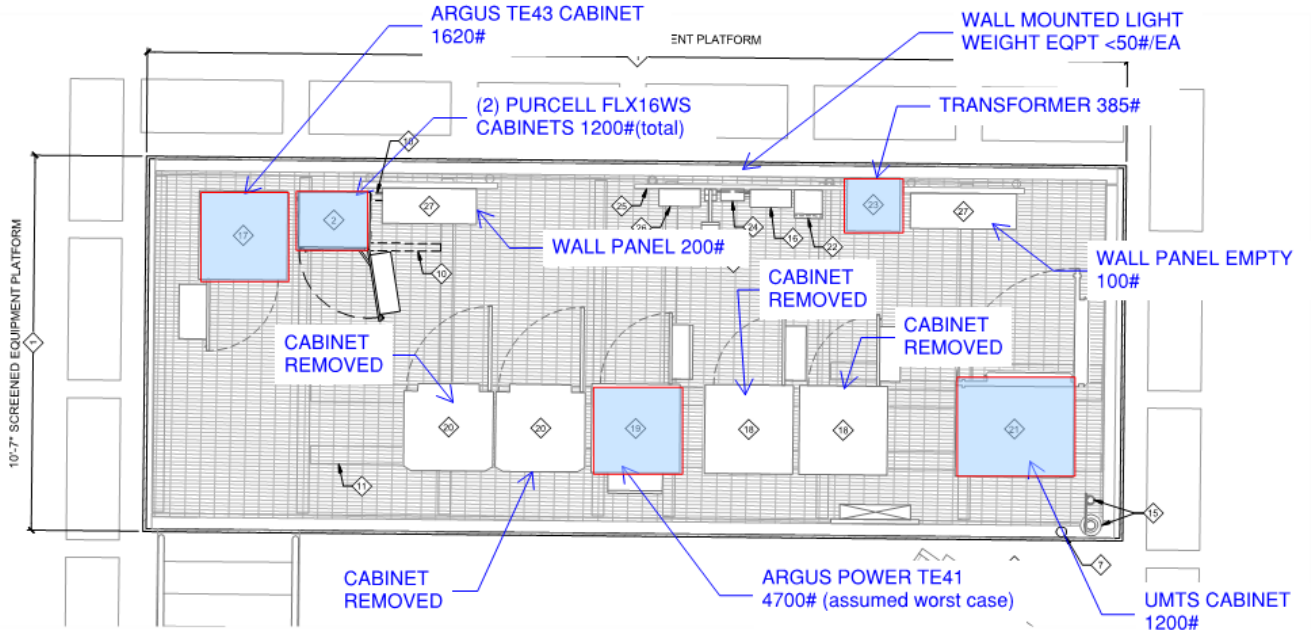
Item 2 of the PCS letter requests that the weights of the existing AT&T platform equipment be provided for review. Subsequently, Shawn Stevenson, SE, with MH called and discussed this item with Donald Scott, SE, with PCI to make sure we could address this concern appropriately. Shawn then visited the project site to map the equipment and any roof top building loads in the area of concern. The following pages include layout sketches with equipment information confirmed on site, along with the weights, as requested. We understand that PCS will be reviewing this information and report back to the building owner and project team with their findings.

We at *Morrison Hershfield* appreciate the opportunity of providing our continuing professional services to you and General Dynamics Information Technology, Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

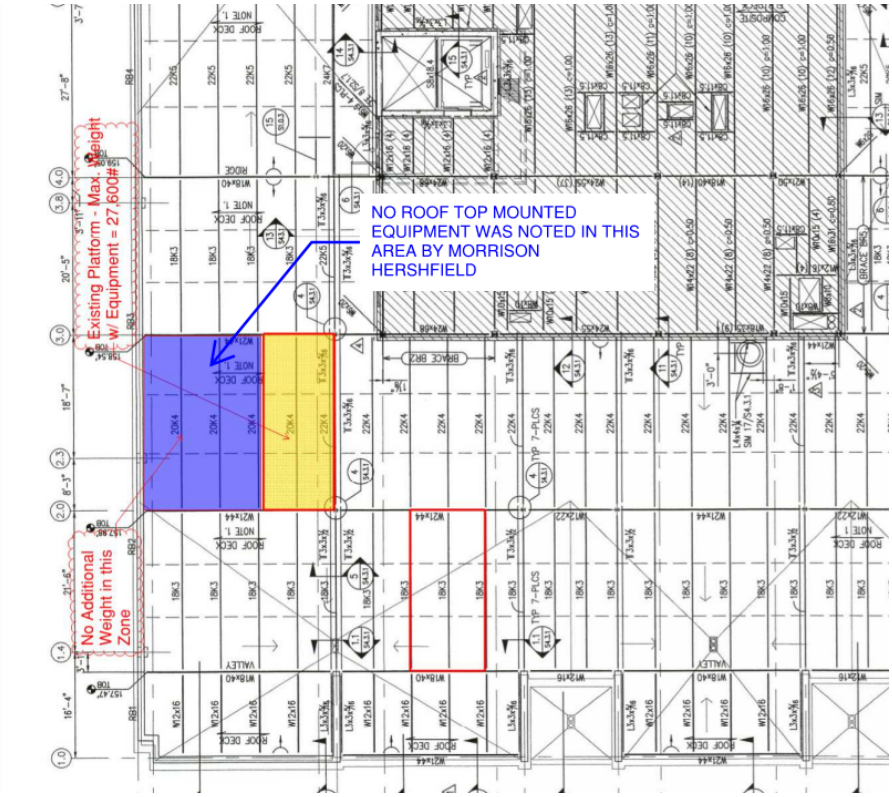
Respectfully submitted by:
Morrison Hershfield

Shawn W. Stevenson, S.E. (WA License No. 42002)
Senior Engineer





AT&T PLATFORM MAP

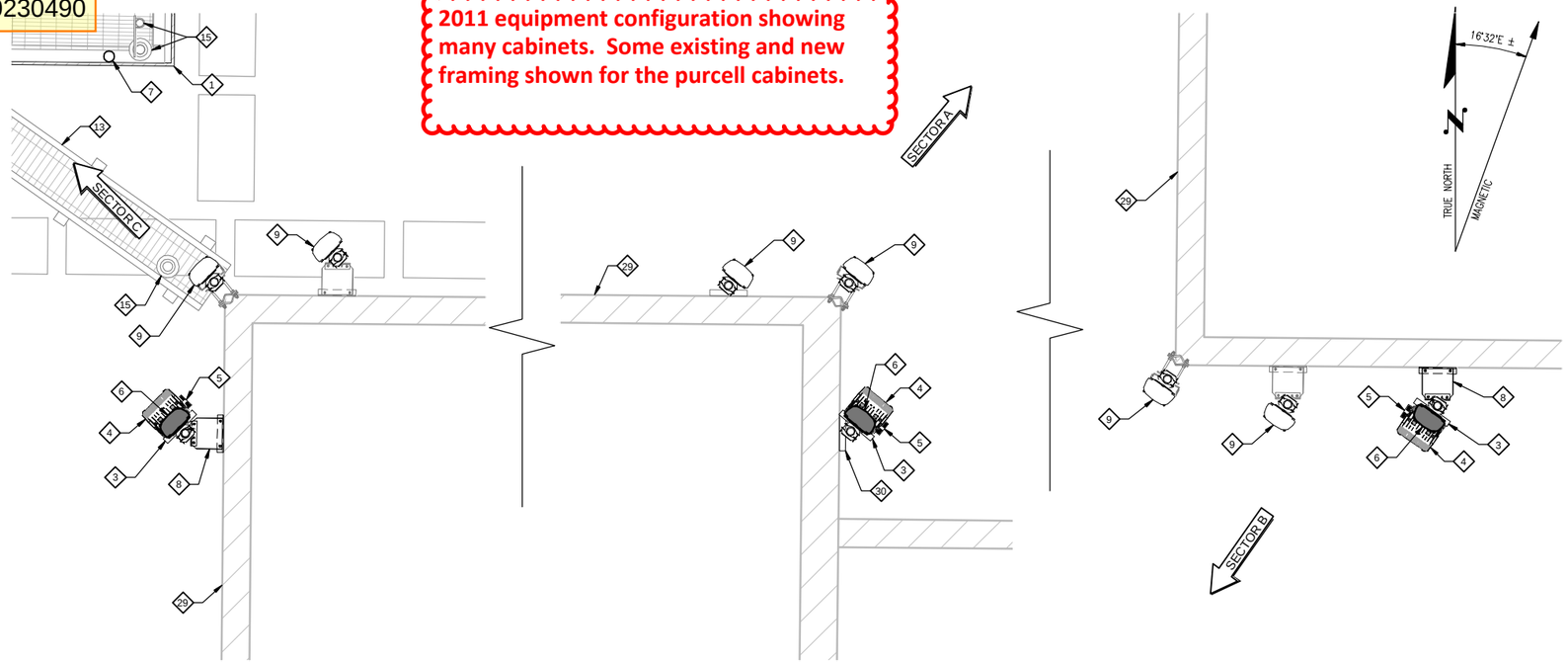


BUILDING ROOF TOP PARTIAL PLAN

Note: this sketch was part of an attachment to the PCI structural review letter, dated August 22, 2019. Morrison Hershfield notes have been added in blue.

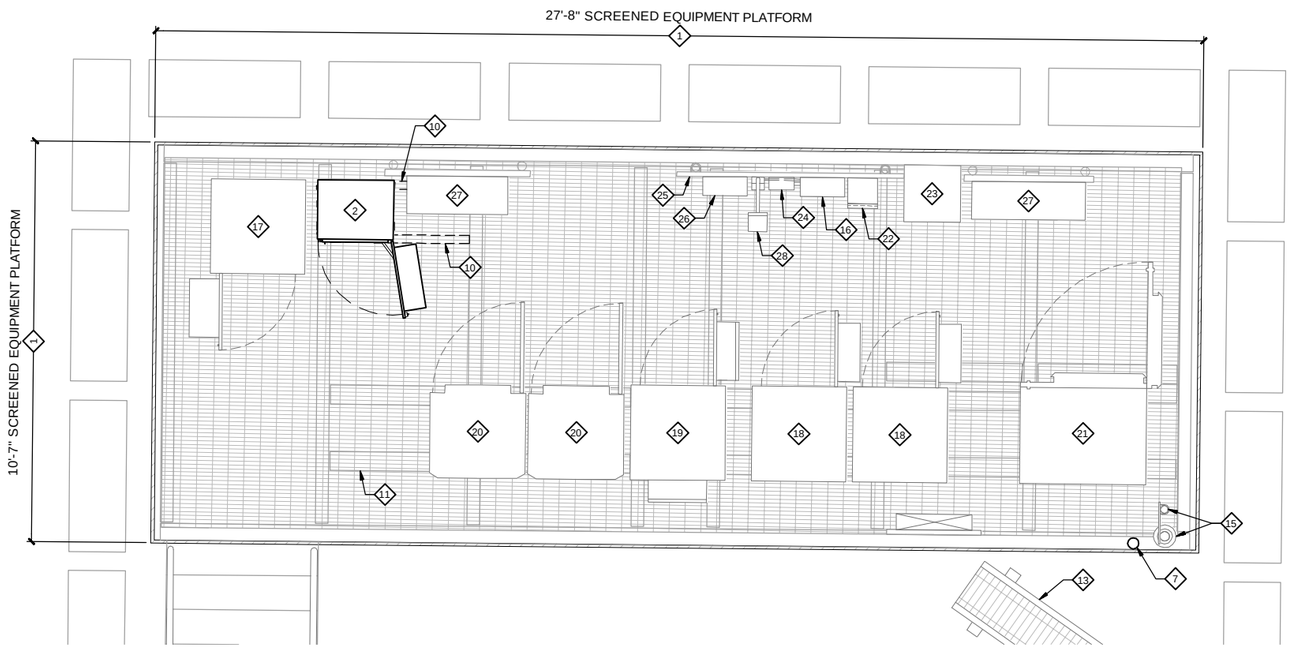
PRCTI20230490

2011 equipment configuration showing many cabinets. Some existing and new framing shown for the purcell cabinets.



ENLARGED ANTENNA PLAN

22"x34" SCALE: 1/2" = 1'-0" | 11"x17" SCALE: 1/4" = 1'-0" | 2



ENLARGED EQUIPMENT PLAN

22"x34" SCALE: 1/2" = 1'-0" | 11"x17" SCALE: 1/4" = 1'-0" | 1

CONSTRUCTION PLAN KEYED NOTES

1. EXISTING AT&T SCREENED EQUIPMENT PLATFORM (27' x 10').
2. PROPOSED AT&T PURCELL FLX16WS CABINET TO HOUSE LTE EQUIPMENT. (1/A-4)
3. PROPOSED AT&T RAYCAP SURGE SUPPRESSION BOX MOUNTED BELOW RRH'S ON PROPOSED ANTENNA MOUNT (TYP OF (1) PER SECTOR). (1/RF-2)
4. PROPOSED AT&T 700 MHZ RRH UNIT MOUNTED BELOW ANTENNA ON PROPOSED ANTENNA MOUNT (TYP OF (1) PER SECTOR). (3/RF-2)
5. PROPOSED AT&T AWS RRH UNIT MOUNTED BELOW ANTENNA ON PROPOSED ANTENNA MOUNT (TYP OF (1) PER SECTOR). (2/RF-2)
6. PROPOSED AT&T LTE PANEL ANTENNA TO BE ADDED TO AN EXISTING (3) SECTOR ANTENNA ARRAY (1) LTE ANTENNA PER SECTOR FOR A TOTAL OF (3) NEW LTE ANTENNAS. (4&5/RF-2)
7. PROPOSED AT&T LTE GPS ANTENNA MOUNTED NEXT TO EXISTING GPS ANTENNA WITHIN SCREENED EQUIPMENT PLATFORM. (6/RF-2)
8. PROPOSED AT&T SLIDER BRACKET WALL MOUNT. (4/S-1)
9. EXISTING AT&T PANEL ANTENNAS (TO REMAIN).
10. PROPOSED AT&T EQUIPMENT SUPPORT BEAM. (1&3/S-1)
11. EXISTING AT&T EQUIPMENT SUPPORT BEAM (TO REMAIN).
13. EXISTING AT&T CABLE TRAY (TO REMAIN).
15. EXISTING AT&T GPS ANTENNAS (TO REMAIN).
16. EXISTING AT&T AC PANEL (TO REMAIN).
17. EXISTING AT&T ARGUS TE43 CABINET (TO REMAIN).
18. EXISTING AT&T BBU CABINET (TO REMAIN).
19. EXISTING AT&T ARGUS POWER CABINET (TO REMAIN).
20. EXISTING AT&T GSM CABINET (TO REMAIN).
21. EXISTING AT&T UMTS CABINET (TO REMAIN).
22. EXISTING AT&T GEN PLUG ENCLOSURE (TO REMAIN).
23. EXISTING AT&T TRANSFORMER (TO REMAIN).
24. EXISTING AT&T SURGE SUPPRESSION BOX (TO REMAIN).
25. EXISTING AT&T UTILITY H-FRAME (TO REMAIN).
26. EXISTING AT&T TELCO DEMARC (TO REMAIN).
27. EXISTING AT&T HOFFMAN BOX (TO REMAIN).
28. EXISTING AT&T WATERPROOF SERVICE LIGHT (TO REMAIN)
29. EXISTING PENTHOUSE (TO REMAIN).
30. PROPOSED AT&T CANTILEVER WALL MOUNT. (5/S-1)

SITE NOTES

1. VERIFY ANTENNA MODEL, RAD CENTER & AZIMUTHS WITH LOCKDOWN SET RF SITE BUILD FORM.

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DATE:	9-16-11
DRAWN BY:	RMD
CHECKED BY:	RJA

REVISIONS

REV	DATE	DESCRIPTION	BY
1	9-16-11	PRELIMINARY CONSTRUCTION	RJA
2	12-13-11	FINAL CONSTRUCTION	RJA

RYAN J. ANDERSON — STATE OF WASHINGTON — 46331 — REGISTERED PROFESSIONAL ENGINEER

SITE
WA659
GOOD SAMARITAN

407 14TH AVE SE
PUYALLUP, WA 98372

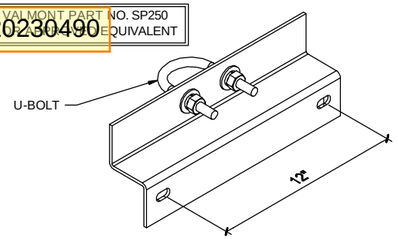
SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
A-2

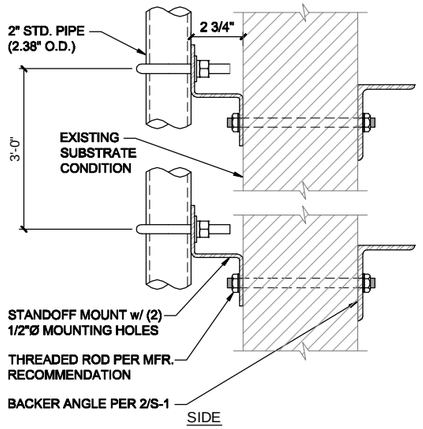
Drawing: P:\2011_Telecom\11-256 AT&T - WA659 Good Samaritan\Drawings\Construction\11-256 CD-A2-0.dwg Plotted: Dec 16, 2011 - 8:30am

PRCT20230490

VALMONT PART NO. SP250
OR APPROVED EQUIVALENT



ISO VIEW

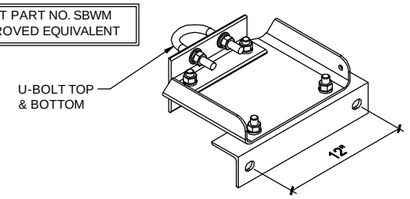


SIDE

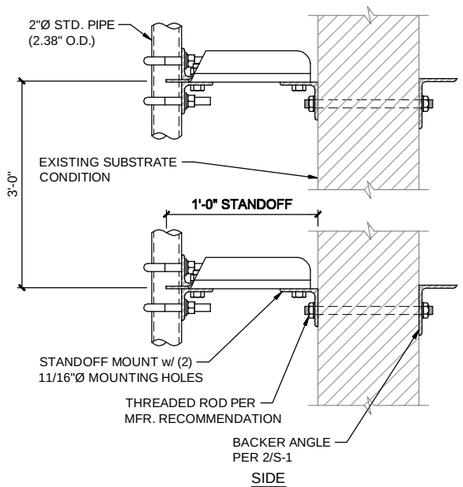
CANTILEVER WALL MOUNT

22"x34" SCALE: 3" = 1'-0" | 5

VALMONT PART NO. SBWM
OR APPROVED EQUIVALENT



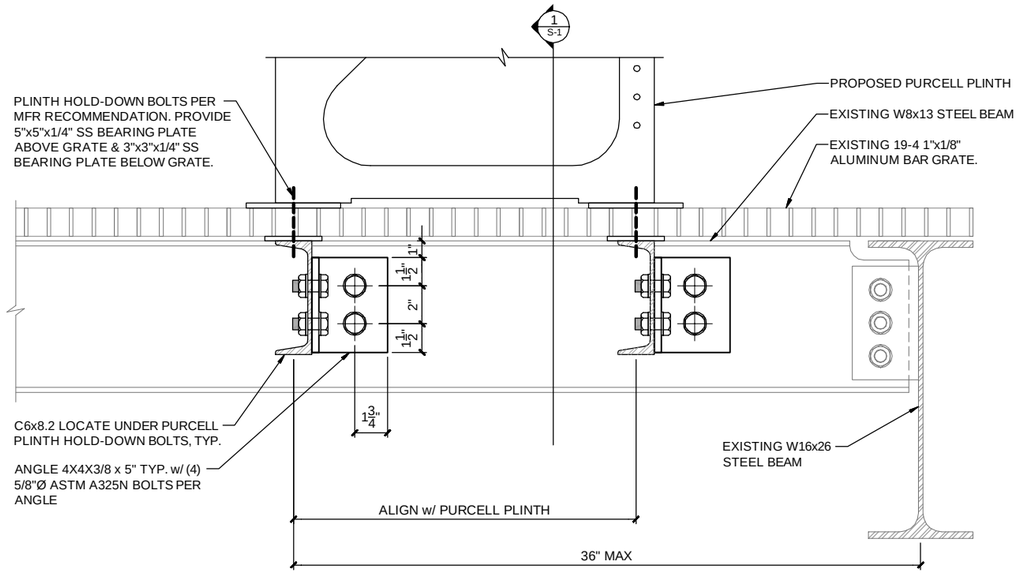
ISO VIEW



SIDE

SLIDER BRACKET WALL MOUNT

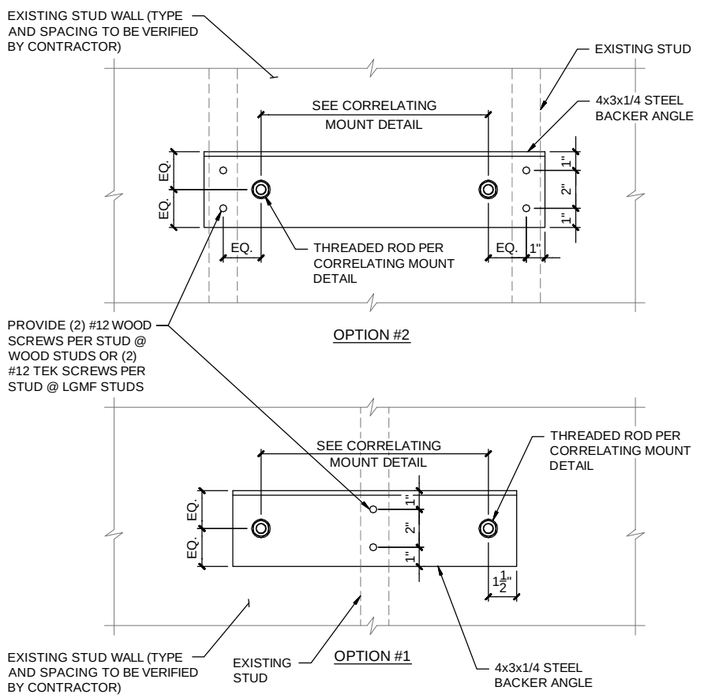
22"x34" SCALE: 2" = 1'-0" | 4



NOTE:
REFER TO SHEET G-2 FOR REQUIRED VERIFICATION AND INSPECTION

AT&T EQUIPMENT SUPPORT BEAM

22"x34" SCALE: 3" = 1'-0" | 3

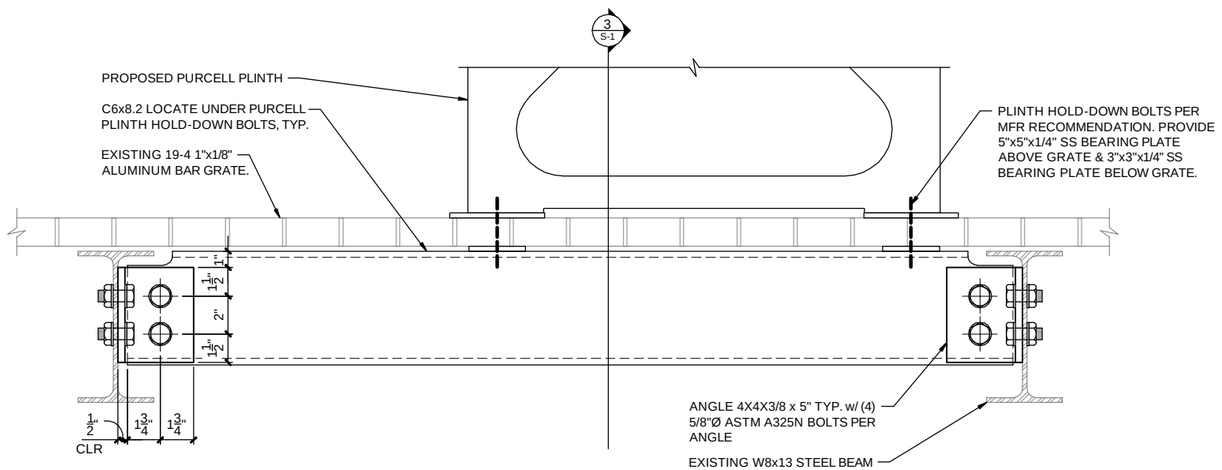


OPTION #2

OPTION #1

BACKER ANGLE REQUIREMENTS

22"x34" SCALE: 3" = 1'-0" | 2



NOTE:
REFER TO SHEET G-2 FOR REQUIRED VERIFICATION AND INSPECTION

AT&T EQUIPMENT SUPPORT BEAM

22"x34" SCALE: 3" = 1'-0" | 1

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DAVID A. OHNSAGER
STATE OF WASHINGTON
19257
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER
12-13-11

SITE
WA659
GOOD SAMARITAN

407 14TH AVE SE
PUYALLUP, WA 98372

SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S-1

Drawing: P:\2011_Telecom\11-256 AT&T - WA659 Good Samaritan\Drawings\Construction\11-256 CD-S1-0.dwg Plotted: Dec 16, 2011 - 8:31am

PRCTI20230490

2011 calculations for equipment configuration showing many cabinets.

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Commercial
Infrastructure
Residential

December 13, 2011

AT&T Mobility Corporation
c/o: Paul Long
Goodman Networks
8815 122nd Ave NE
Kirkland, WA 98033

RE: **Level 1 Structural Analysis**
WA659 Good Samaritan
407 14th Ave. SE
Puyallup, WA 98372

I. Introduction

At the request of Goodman Networks, we have performed a structural analysis and design of the existing cabinet platform, roof beam, and the new antenna masts and mounts at WA659 Good Samaritan in Puyallup, Washington. The evaluation was completed in conformance with the 2009 International Building Code, the Steel Construction Manual (AISC 13) and the American Society of Civil Engineers Standard 7-05 (ASCE/SEI 7-05)under the following site specific conditions:

Basic Wind Speed: 85 mph
Exposure Category: B
Occupancy Category: IV
Seismic Site Class: D

Based on a visual inspection performed on September 1, 2011 the existing cabinet platform appears to be relatively free of corrosion. This evaluation assumes that the cabinet platform was installed per the original design and has received proper maintenance since it was constructed. Two previous analyses were reviewed for our evaluation and design. One was by TRK Engineering dated May 11, 2006, and the other was by Velocitel, Inc. dated August 12, 2010.

The following sections detail the existing and proposed configurations in the areas subject to change.

II. Existing Antenna Configuration

Sector	Antenna Model	Antenna Weight	Effective Area
X	Vacant	N/A	N/A
Y	Vacant	N/A	N/A
Z	Vacant	N/A	N/A

III. Proposed Antenna Configuration

Sector	Antenna Model	Antenna Weight	Effective Area
X	KMW AM-X-CD-17-65-00T-RET	59.5 lbs	7.87 sf
Y	KMW AM-X-CD-14-65-00T-RET	36.4 lbs	3.93 sf
Z	KMW AM-X-CD-17-65-00T-RET	59.5 lbs	7.87 sf

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PRCTI20230490

Additional Appurtenances:

1. Mount an Alcatel-Lucent RRH 700MHz unit, and an Alcatel-Lucent RRH AWS unit on the new antenna mast at each new KMW antenna
2. Add Purcell FLX12WS, FLX16WS and a 14" plinth to the existing equipment platform.

IV. Conclusion

The subject antenna masts will be 2-inch diameter standard pipe (2.375" O.D.), and the mount bases are assumed to be Valmont Part Number SP250 in Sector X, and Valmont part number SBWM in Sectors Y and Z. Different mounts were used in order to match the existing mounts in the relevant sector. Wind was the controlling load, and the 2-inch pipe masts were judged to be structurally adequate to support the loading in conformance with IBC Chapters 16 and 22. Sail areas were calculated for wind from the front and the side of the antennas. For frontal area the RRH units were assumed to be shielded by the antenna. For side area, a 2" diameter pipe the length of the antenna was added to the side areas of the antenna plus the RRH units. Our evaluation compared proposed gravity plus wind loading with the design capacity of the system. The 2" diameter antenna mast was included in the gravity load. Seismic loads were calculated, but did not control.

The existing roof beam and equipment platform are adequate to support the weight of the new Purcell cabinets and plinth. C6X8.2 channels must be added to the platform to carry the new load because the existing aluminum bar grate which floors the platform lacks sufficient capacity to carry the cabinets without additional support.

LDC must be notified immediately if site conditions are found to vary from our assumptions because additional analysis and design may be necessary.

Our calculations are attached.

Please contact the undersigned with any questions relating to this work.

LDC, Inc.

David Ohnsager, P.E., S.E.

PRCTI20230490

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THE CIVIL ENGINEERING GROUP

Commercial
Infrastructure
Residential

AT&T
WA659
Good Samaritan

Structural Calculations:
Cabinet Platform and New Antenna Mounts

Prepared for

AT&T Mobility Corporation
c/o: Paul Long
Goodman Networks
8815 122nd Ave NE
Kirkland, WA 98033

Prepared by

LDC, Inc.
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Engineering Review:
David Ohnsager, P.E., S.E.

December 13, 2011

Job No: 11-256

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LDC, Inc.
11-256

WA659 Good Samaritan

407 14th Ave. SE, Puyallup WA 98372

Design Criteria

Wind Loading:

Basic Wind Speed:	85 mph
Exposure Category:	B
Occupancy Category:	IV

Seismic Loading:

IBC Site Soil Classification:	D
Seismic Design Category:	D
Occupancy Category:	IV

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Project Description

1. Add KMW AM-X-CD-17-65-00T-RET LTE panel antennas to sectors X and Z

2. Add KMW AM-X-CD-14-65-00T-RET LTE panel antennas to sector Y

3. Add Alacatel-Lucent RRH 700 MHz and RRH AWS to the antenna masts at new KMW antennas

Equipment Dimensions and Weights

	Height (inch)	Width (inch)	Depth (inch)	Front Area (ft^2)	Side Area (ft^2)	Weight (#)
Alcatel Lucent RRH 700 MHz	21.0	12.2	10.8	1.78	1.58	51.0
Alcatel-Lucent RRH AWS	24.4	10.6	6.7	1.80	1.14	43.0
KMW AM-X-CD-14-65-00T-RET	48.0	11.8	5.9	3.93	1.97	36.4
KMW AM-X-CD-17-65-00T-RET	96.0	11.8	6.0	7.87	4.00	59.5
Mounting Hardware (Assumed)						13.0

Total On Antenna Mast:

	Front Area	Side Area	Weight
KMW 14-65 LTE Antenna + RRH Units:	3.9 ft^2	5.47 ft^2	223.0 #
KMW 17-65 LTE Antenna + RRH Units:	7.9 ft^2	8.29 ft^2	260.8 #

Notes:
1. Front Area assumes both RRH's are mounted behind and shielded by antenna
2. Side Area assumes Antenna and RRH areas are additive, and includes a 2" std pipe the length of the antenna
3. Weight includes six sets of mounting hardware plus assumed antenna mast

Seismic

Latitude: 47° 10' 46.23" N (47.179508° N) (From Google Earth)

Longitude: 122° 17' 25.15" W (122.290319° W) (From Google Earth)

Ss = 1.180 (From USGS Seismic Hazard App. V 5.1)
S1 = 0.400 (From USGS Seismic Hazard App. V 5.1)

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Description: Loads on Rooftop Antenna Mounts and Cabinets

Codes: 2009 International Building Code (IBC-09), ASCE 7-05, AISC 13th Edition

Wind Criteria:

Building Height to Roof =	85.33	ft
Occupancy Category	IV	(ASCE 7 Table 1-1 Hospital)
Surface Roughness =	B	(ASCE 7 Section 6.5.6.2)
Exposure Category =	B	(ASCE 7 Section 6.5.6.3)
Basic Wind Speed, V (mph) =	85.00	(3 sec gust per ASCE 7 Fig 6-1)
Exposure Case =	1	(ASCE 7 Table 6-3)
Directionality Factor, Kd =	0.90	(Square, ASCE 7 Table 6-4)
Topographic Factor, Kzt =	1.00	(ASCE 7 Section 6.5.7)
Gust Factor, G =	0.85	(ASCE Section 6.5.8.1 worst case)
h/D =	8.000	(Component Height/Width for finding Cf)
Force Coefficient, Cf =	1.433	(ASCE 7 Fig 6-21 Square, Normal to Face)

Seismic Criteria:

Latitude:	47° 10' 46.23" N (47.179508° N)	
Longitude:	122° 17' 25.15" W (122.290319° W)	
Zip Code:		
Site Class:	D	
Component Amplification Factor, ap =	1.00	(ASCE 7 Table 13.6-1)
Component Response Modification Factor, Rp =	2.50	(ASCE 7 Table 13.6-1)
Component Importance Factor, Ip =	1.50	(ASCE 7 13.1.3)

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Description: Loads on Rooftop Antenna Mounts and Cabinets

Seismic Load Calculation for Components and System

(Derived from IBC-09 and ASCE 7)

Location for Input to USGS Seismic Hazard Application

Latitude: 47° 10' 46.23" N (47.179508° N)
Longitude: 122° 17' 25.15" W (122.290319° W)
Zip Code: 0

Seismic Ground Motion:

0.2s Spectral Response Acceleration, Site Class B, S_s	1.180	(from USGS App)
1.0s Spectral Response Acceleration, Site Class B, S_1	0.400	(from USGS App)
Site Class	D	(ASCE Table 20.3-1)
Occupancy Category	IV	(IBC Table 1604.5)

Calculated Values

Site Coefficient per Ss & Site Class, F_a	1.028	(ASCE Table 11.4-1)
Site Coefficient per S1 & Site Class, F_v	1.600	(ASCE Table 11.4-2)
$S_{MS} = F_a S_s$	1.213	(ASCE Eqn 11.4-1)
$S_{M1} = F_v S_1$	0.640	(ASCE Eqn 11.4-2)
$S_{DS} = 2/3 S_{MS}$	0.809	(ASCE Eqn 11.4-3)
$S_{D1} = 2/3 S_{M1}$	0.427	(ASCE Eqn 11.4-3)
Seismic Design Category per S_{DS}	D	(ASCE Table 11.6-1)

Seismic Design Requirements for Nonstructural Components:

Height in Structure at Component Point of Attachment, z	81.17	ft
Component Operating Weight, W_p	265.00	lb
Component Amplification Factor, a_p	1.00	(ASCE Table 13.5-1 or 13.6-1)
Component Response Modification Factor, R_p	2.50	(ASCE Table 13.5-1 or 13.6-1)
Component Importance Factor, I_p	1.50	(ASCE Sec 13.1.3)
Average Roof Height of Structure, h	85.33	ft

Seismic Design Force, F_p

$$\frac{0.4 a_p S_{DS} W_p}{R_p/I_p} \quad (1+2z/h)$$ (ASCE Eqn 13.3-1)

Max Seismic Design Force, F_{pmax} $1.6 S_{DS} I_p W_p$ (ASCE Eqn 13.3-2)
Min Seismic Design Force, F_{pmin} $0.3 S_{DS} I_p W_p$ (ASCE Eqn 13.3-3)

Seismic Design Force, Fp	0.563	W_p (ULT)
Max Seismic Design Force, F_{pmax}	1.941	Wp
Min Seismic Design Force, F_{pmin}	0.364	Wp

Seismic Design Force, F_p	0.563	Wp (ULT) =	149.28 lb
Seismic Design Force, F_p	0.402	Wp (ASD) =	106.63 lb

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Description: Loads on Rooftop Antenna Mounts and Cabinets

Wind Load Calculation for Other Structures

(Derived from IBC-09 and ASCE 7-05)

Wind Velocity Pressure:

V =	85.00	mph	Basic Wind Speed (3 second gust, ASCE 7-05 Fig. 6-1))
V' =	85.00	mph	(from ASCE 7-05 Figure 6-1)
h =	85.33	ft	(Building Roof Height)
$Delta_h$ =	6.92	ft	Height Increment for Pressure Calculation
Case =	1		(from ASCE 7-05 Table 6-3)
Exposure=	B		(from ASCE 7-05 Section 6.5.6.3)
K_d =	0.900		(Directionality Factor from ASCE 7-05 Table 6-4)
K_{zt} =	1.000		(Topographic Factor from ASCE 7-05 Section 6.5.7)
I_w =	1.150		(Importance Factor from ASCE 7-05 Table 6-1)
G =	0.850		(Gust Factor from ASCE 7-05 Section 6.5.8)
C_f =	1.433		(Force Coefficient from ASCE 7-05 Figure 6-20, 6-21, 6-22or 6-23)
Cf_2 =	0.000		(Rooftop Equipt. Increase per ASCE 7-05 Section 6.5.15.1)
Reduction =	0.000	%	(from ASCE 37-02 6.2.1)

Calculated Values

q =	19.14 psf	(from ASCE 7-05 6.5.10: $q = 0.00256*K_d*K_{zt}*V^2*I_w$)
$G*C_f$ =	1.218	
alpha =	7.00	(from ASCE 7-05 Table 6-2)
zg =	1200.00	(from ASCE 7-05 Table 6-2)

$q_z = q*K_z*G*C_f$ with K_z per ASCE 7-05 Table 6-3, Note 2

A = Projected Area at height z

Pressures and Forces at Z feet Above Grade						
z (ft)	K_z	q_z (psf)	A (f^2)	F (lb)	F(kips)	
30.00	0.70	16.34	1.00	16.3	0.02	(Z per ASCE 7-05 Table 6-3 Note 2)
36.92	0.74	17.34	1.00	17.3	0.02	
43.83	0.78	18.21	1.00	18.2	0.02	
50.75	0.81	18.99	1.00	19.0	0.02	
57.67	0.84	19.69	1.00	19.7	0.02	
64.58	0.87	20.34	1.00	20.3	0.02	
71.50	0.90	20.94	1.00	20.9	0.02	
78.42	0.92	21.50	1.00	21.5	0.02	
85.33	0.94	22.03	1.00	22.0	0.02	(Building Roof)
81.17	0.93	21.71	1.00	21.7	0.02	(Point of Interest)
			Total =	197	0.20	

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Antenna Mast

Loads

Gravity

Sky $P = 265\#$ (Worst Case)

Lateral

Seismic

$F_p = 106.6\#$

Wind

$w = 21.7 \Rightarrow 22 psf$

$A_w = 8.29\ ft^2$ (Worst Case)

$F_w = w \times A_w = 22 \times 8.3 = 182.6 \Rightarrow 190\#$ ← Controls

Moment

Assume Mast is 8' Cantilever (very conservative)

$\therefore M = F_w \ell/2 = 190 \times 4 = 760\ \#\text{-ft}$

$M = 0.76\ K\text{-ft} \Rightarrow 0.8\ K\text{-ft}$

Mast Size

From analysis 2" Std. Pipe (2.38" O.D.) is OK

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Description: Antenna Mast: 2" Standard Pipe (O.D. = 2.38", Design Wall Thickness = 0.143")

Compression and Flexure in Pipe and Rods per AISC 13th Edition Sections E3 and F8

Loads (ASD or LRFD) = ASD

Pr =	0.270	k
Mr =	0.800	k-ft

Dimensions

D =	2.375	in (Outside Diameter)
t =	0.143	in (Design Wall Thickness)
Fy =	35.000	ksi
E =	29000.000	ksi
Lu =	8.000	ft
k =	2.000	

Calculated Properties

di =	2.089	in (Inside Diameter)
D/t =	16.608	
Ag =	1.003	in^2
I =	0.627	in^4
r =	0.791	in
S =	0.528	in^3
Z =	0.713	in^3

Compression			Flexure		
Compactness			Compactness		
.11E/Fy =	91.14	(AISC 13 Table B4.1-15)	.07E/Fy =	58.00	(AISC 13 Table B4.1-15)
			.31E/Fy =	256.86	(AISC 13 Table B4.1-15)
Not Slender			Compact		
Ωc =	1.67	Φc = 0.9	Ωb =	1.67	Φb = 0.9
			Yielding: Mn = FyZ		
Lu =	96.00 in				
kl/r	242.81		Mn =	24.97 k-in	(AISC 13 F8-1)
4.71sqrt(E/Fy) =	135.58				
Fe =	4.85 ksi	(AISC 13 E3-4)	Local Buckling		
Fcr =	4.26 ksi	(AISC 13 E3-3)			
Pn =	4.27 k	(AISC 13 E3-1)	Mn =	N/A	
Pc =	2.56 k (ASD)		Mc =	1.25 k-ft (ASD)	
Pc =	3.84 k (LRFD)		Mc =	1.87 k-ft (LRFD)	

Combined Loads Check

Pr/Pc <0.2: Use AISC 13 Eqn H1-1b: **Pr/(2Pc) + Mr/Mc = 0.695 OK (ASD)**

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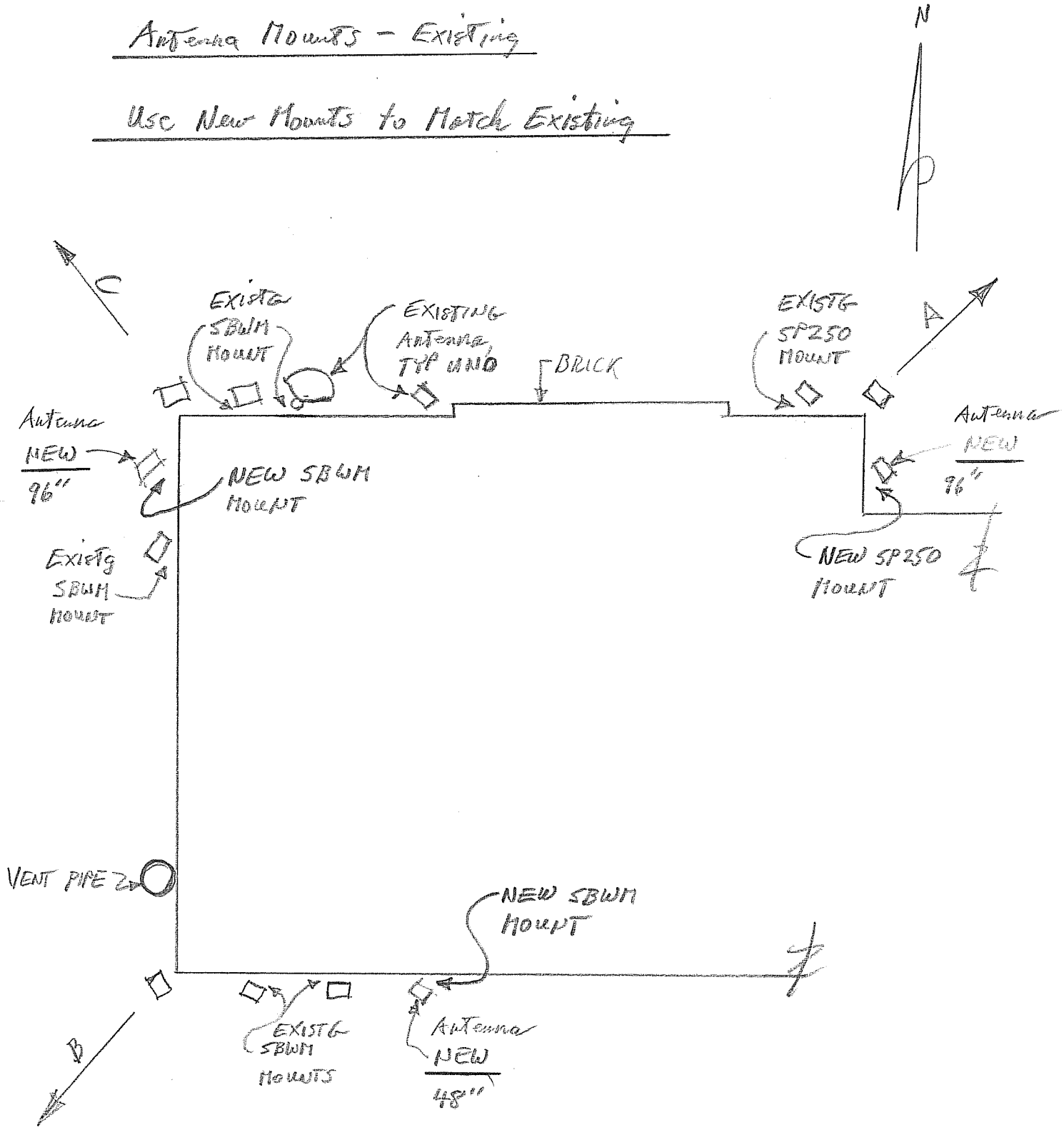
Antenna Mounts - Existing

Use New Mounts to Match Existing



By inspection standard mounting bolts for mounts are OK

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Equipment Cabinets

Existing Aluminum Bar Grate

From TRK dwg S-1, Bar Grate is Fishlow 19-4 1"x⅛" Aluminum Grate.

From Fisher & Ludlow website the safe uniform load for a 4' span 19-4 1"x⅛" Bar Grate is 105 psf

$\therefore M_a = wl^2/8 = 105 \times 4^2/8 = 210$ #-ft.

$\therefore w_a = \frac{8M_a}{l^2} = 8 \times 210/l^2 = 1680/l^2$ for Uniform Load/ft.

$M_a = Pl/4$ for Concentrated Load

$\therefore P_a = 4M_a/l = 840/l$ for Concentrated Load @ Mid-Span, #

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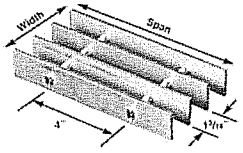
9

19-4/19-2 Aluminum Rectangular Bar Load Table & Panel Width Chart

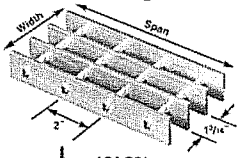
•Load Table
•Panel Width Chart

Back to 'Aluminum Rectangular Bar Load Tables'

Swaged - 1-3/16" Center to Center of Bearing Bars - Load Table



19AS4*



19AS2*

*Also available in press-locked (19AP4/19AP2) and flush top (19AF4/19AF2). See Types/Construction for descriptions of each.

Bar Size	Symbol / Approx. Weight*** Lbs/Sq. Ft.			Pad. Span	Sec. Mod. Per Ft. Of Width		Clear Span 2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"
3/4" x 1/8"	19AP4 1.5#	19AS4 1.5#	n/a	31"	.118	U	237	152	105	77									
						D	.192	.300	.432	.588									
	19AP2 1.8#	19AS2 1.8#	n/a			C	237	189	158	135									
						D	.154	.240	.346	.470									
3/4" x 3/16"	19AP4 2.3#	19AS4 2.1#	n/a	35"	.178	U	355	227	158	116									
						D	.192	.300	.432	.588									
	19AP2 2.8#	19AS2 2.4#	n/a			C	355	284	237	203									
						D	.154	.240	.346	.470									
1" x 1/8"	19AP4 1.9#	19AS4 1.9#	19AF4 1.8#	39"	.211	U	421	269	187	137	105								
						D	.144	.225	.324	.441	.576								
	19AP2 2.2#	19AS2 2.2#	19AF2 2.2#			C	421	337	281	241	211								
						D	.115	.180	.259	.353	.461								
1" x 3/16"	19AP4 2.8#	19AS4 2.7#	19AF4 2.5#	43"	.316	U	632	404	281	206	158	125							
						D	.144	.225	.324	.441	.576	.729							
	19AP2 3.3#	19AS2 3.0#	19AF2 2.9#			C	632	505	421	361	316	281							
						D	.115	.180	.259	.353	.461	.583							
1-1/4" x 1/8"	19AP4 2.4#	19AS4 2.3#	19AF4 2.2#	46"	.329	U	658	421	292	215	164	130							
						D	.115	.180	.259	.353	.461	.583							
	19AP2 2.8#	19AS2 2.6#	19AF2 2.6#			C	658	526	439	376	329	292							
						D	.092	.144	.207	.282	.369	.467							
1-1/4" x 3/16"	19AP4 3.6#	19AS4 3.2#	19AF4 3.1#	51"	.493	U	987	632	439	322	247	195	158						
						D	.115	.180	.259	.353	.461	.583	.720						
	19AP2 4.3#	19AS2 3.8#	19AF2 3.5#			C	987	789	658	564	493	439	395						
						D	.092	.144	.207	.282	.369	.467	.576						
1-1/2" x 1/8"	19AP4 2.8#	19AS4 2.7#	19AF4 2.7#	53"	.474	U	947	606	421	309	237	187	152						
						D	.096	.150	.216	.294	.384	.486	.600						
	19AP2 3.2#	19AS2 3.0#	19AF2 3.1#			C	947	758	632	541	474	421	379						
						D	.077	.120	.173	.235	.307	.389	.480						
1-1/2" x 3/16"	19AP4 4.2#	19AS4 3.8#	19AF4 3.8#	59"	.711	U	1421	909	632	464	355	261	227	188					
						D	.096	.150	.216	.294	.384	.486	.600	.726					
	19AP2 4.8#	19AS2 4.1#	19AF2 4.2#			C	1421	1137	947	812	711	632	568	517					
						D	.077	.120	.173	.235	.307	.389	.480	.581					
1-3/4" x 3/16"	19AP4 4.8#	19AS4 4.4#	19AF4 4.3#	66"	.967	U	1934	1238	860	632	484	382	309	256	215	183			
						D	.092	.129	.185	.252	.329	.417	.514	.622	.741	.869			
	19AP2 5.4#	19AS2 4.7#	19AF2 4.7#			C	1934	1547	1289	1105	967	860	774	703	645	595			
						D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695			
2" x 3/16"	19AP4 5.3#	19AS4 5.0#	19AF4 4.9#	73"	1.263	U	2526	1617	1123	825	632	499	404	334	281	239	206		
						D	.072	.113	.162	.221	.288	.365	.450	.545	.648	.761	.882		
	19AP2 6.0#	19AS2 5.3#	19AF2 5.3#			C	2526	2021	1684	1444	1263	1123	1011	919	842	777	722		
						D	.058	.090	.130	.176	.230	.292	.360	.436	.519	.608	.706		
2-1/4" x 3/16"	19AP4 5.9#	19AS4 5.6#	19AF4 5.5#	83"	1.599	U	3197	2046	1421	1044	799	632	512	423	355	303	261	200	
						D	.064	.100	.144	.198	.256	.324	.400	.484	.576	.676	.784	1.024	
	19AP2 6.6#	19AS2 5.9#	19AF2 5.9#			C	3197	2658	2132	1827	1599	1421	1279	1163	1066	984	914	799	
						D	.051	.080	.115	.157	.205	.259	.320	.387	.461	.541	.627	.819	
2-1/2" x 3/16"	19AP4 6.5#	19AS4 6.2#	19AF4 6.0#	87"	1.974	U	3947	2526	1754	1289	987	780	632	522	439	374	322	247	195
						D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922	1.166
	19AP2 7.2#	19AS2 6.5#	19AF2 6.4#			C	3947	3158	2632	2256	1974	1754	1579	1435	1316	1215	1128	987	877
						D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.487	.564	.737	.933

*** Weight depends on panel width, cross bar selection, mill tolerance and manufacturing tolerance.

U = Safe uniform load, lb/sq ft
C = Safe concentrated load, lbs/ft of grating width, at mid-span
D = Deflection in inches

Data is theoretical and based on 12,000 psi.

Install with cross rods on top.

Deflection: To ensure safe pedestrian comfort, maximum deflection (D) should be limited to 1/4" for uniform load of 100 psf (denoted by values to the left of heavy line in table above), however, this can be exceeded for non-pedestrian loading conditions at engineer's discretion.
Serrated Grating: For serrated grating, the depth of grating required for a specified load is 1/4" greater than shown in the above table.

Back to top

19-4/19-2 Panel Width Chart

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Product Catalogue

PRODUCTS / Bar Grating / Aluminum Grating

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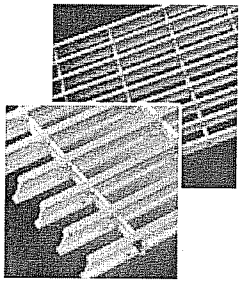
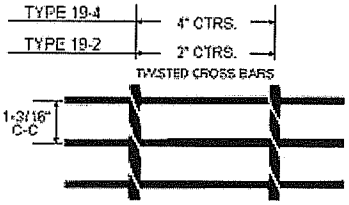
Fisholow Aluminum Grating



Fisholow aluminum gratings employ a unique interlocking system that joins the bearing and cross bars together in panels of exceptional rigidity and strength.

Lightweight, corrosion-resistant, non-sparking alloys are ideal for pedestrian platforms in chemical, petroleum, hydro and food processing plants, in sewage, water and waste water treatment facilities.
Also available in close mesh and serrated.

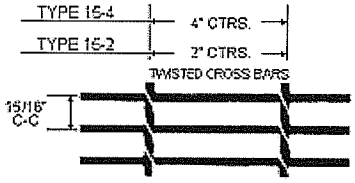
Standard Mesh Aluminum Grating



Standard Bar / I Bar- Type 19
Bearing Bars - 1-3 / 16" centers

View Table of Safe Loads

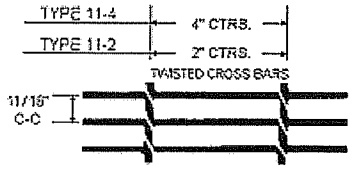
Close Mesh Aluminum Grating



Loads, multiply values in Standard Mesh tabel above By 1.28.

Type 15P - Standard Bar
Type 15I - I Bar

View Table of Safe Loads



ADA Compatible with 3/16" bars
Loads, multiply values in Standard Mesh tabel above By 1.71.

Type 11P - Standard Bar
Type 11I - I Bar

View Table of Safe Loads

Table of Safe Loads - Imperial

NOTE:

Choose a span: 4'-0"

Bearing Bar Size inches	Weight lbs./sq.ft. Type 19-4	Weight lbs./sq.ft. Type 19-2	Sec. Mod. per feet of width	Span: 4'-0" inches	
1 x 1/8	1.92	2.27	.210	U	105
				D	0.576
				C	211
				D	0.461
1 x 3/16	2.72	3.06	.316	U	158
				D	0.576
				C	316
				D	0.461
1 1/4 x 1/8	2.31	2.65	.329	U	164
				D	0.461
				C	329
				D	0.369

Imperial
U = Safe Uniform Load, in lbs, per sq. ft.
C = Safe Concentrated Load, in lbs, per foot of grating width.
D = Deflection in inches.

PRCTI20230490

Project: WA659 Good Samaritan

LDC #: 11-256 Date: 11/10/11 Engineer: DAO Page: 11 of 19

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Equipment Cabinets

Purcell Cabinets + Plinth

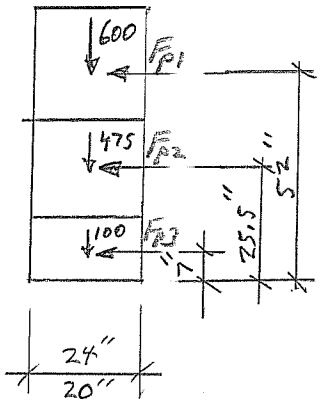
FLX16WS = 600# H=30" W=25" D=20"

FLX12WS = 475# (Assumed) H=23" W=24" D=20"

Plinth = 100# (Assumed) H=14" W=24" D=20" (Assumed)

Seismic Loads

$F_p = .563\ W_p$ (ULT)



$F_{p1} = .563 \times 600 = 338\#$ $M_{p1} = 52 \times 338 = 17576\ \#\text{-in}$

$F_{p2} = .563 \times 475 = 267\#$ $M_{p2} = 25.5 \times 267 = 6809\ \#\text{-in}$

$F_{p1} = .563 \times 100 = 56\#$ $M_{p3} = 7 \times 56 = 392\ \#\text{-in}$

$\Sigma F = 661\# = V_u$ $\Sigma M = 24777\ \#\text{-in}$

Overturning Reactions

Dead Load = $1.2D/L = 1.2(600+475+100)/2 = 705\#$ (LRFD)

Long Way

$R = 24777/24 \pm 705 = 1032 \pm 705 \Rightarrow 1737\#$ DN, $327\#$ Up

Short Way

$R = 24777/20 \pm 705 = 1239 \pm 705 \Rightarrow 1944\#$ DN, $534\#$ Up

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Project: WA659 Good Samaritan

LDC #: 11-256 Date: 11/10/11 Engineer: DAO Page: 12 of 19

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Platform Beams

Use Velocitel Calcs

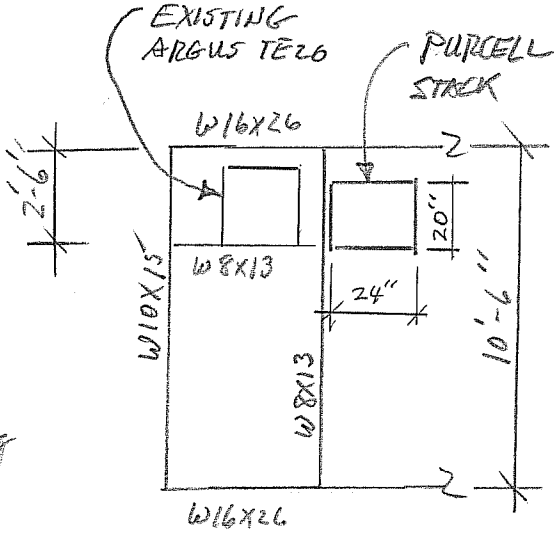
Assume Worst Case

W8X13

Code Check = 0.397

Additional Load adds to Strong Axis Bending Only.

M_a = 25.62 K-ft (from Velocitel Calcs)

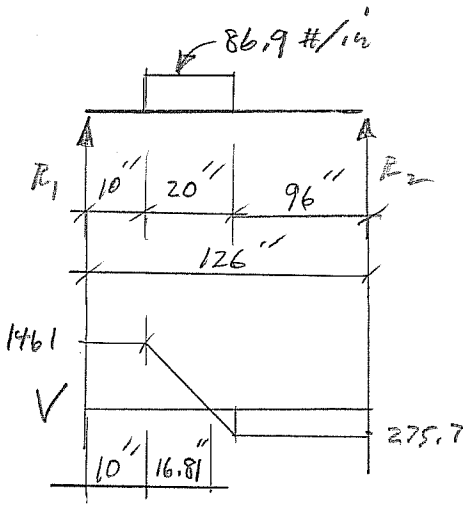


PLAN

$w_u = 1.2D + E = 1737/20 = 86.9\ \#/in$

$R_1 = 1737 \times (96+20/2)/126$

$R_1 = 1461\ \#$ $R_2 = 1737 - 1461 = 275.7$



$\therefore M = 1461 \times 10 + 1461 \times 16.81/2$

$M = 26890\ \#\text{-in} = 2.24\ \text{K-ft}$

$\frac{M}{M_a} = \frac{2.24}{25.62} = 0.0874$

$0.397 + .087 = 0.484 < 1.0$ OK

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Platform Beams, Cont

W10X15

Not Applicable. New Purcell Cabinet does NOT load W10X15

W16X26

M_a = 119.34 K-ft, (From Velocitel Calcs)

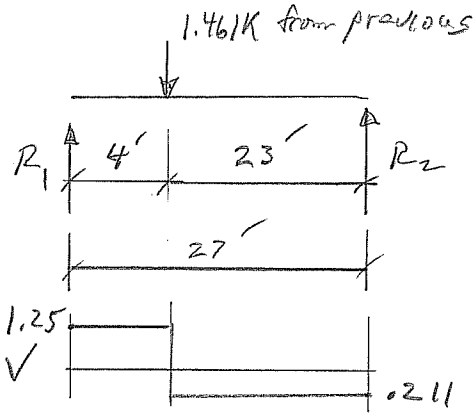
Code Check = .803

$R_1 = 23 \times 1.461/27 \Rightarrow 1.25K$

$R_2 = .211\ K$

$\therefore M = 1.25 \times 4 = 5\ K\text{-ft}.$

$\frac{M}{M_a} = \frac{5}{119.34} = .042$



$\therefore$ Code Check = .803 + .042 = .845 < 1.0 ok

PRCTI20230490

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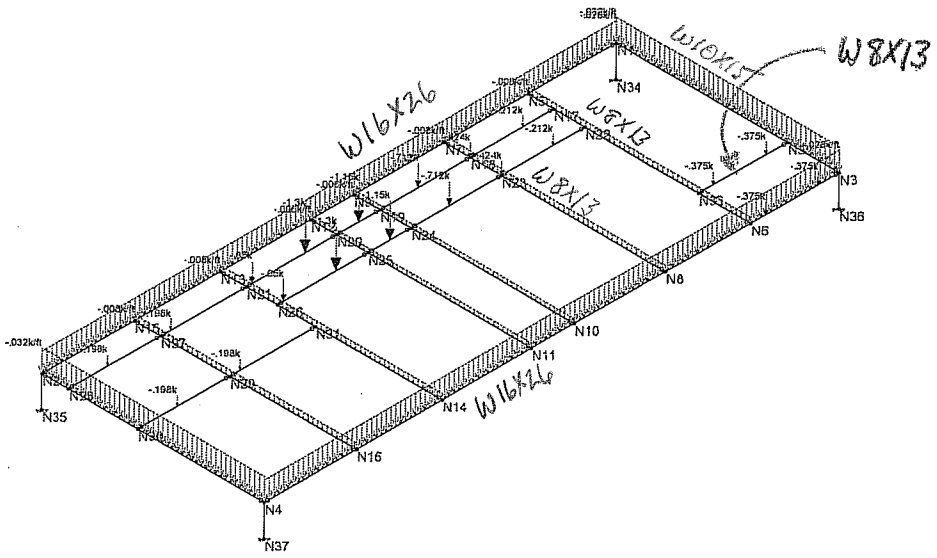

Loads: BLC 1,
Solution: Envelope

Velocitel Inc	Platform Design	
NDT		Aug 12, 2010 at 1:13 PM
10029581 - Good Samarit...	Dead Loads	platform.r3d

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	y Shear...	LC	z Shear...	LC	Torque[...	LC	y-y Moment[k-ft]	LC	z-z Moment[...	LC
240			min	8.011	1	-1.412	5	0	1	0	1	0	1	0	5
241	M25	1	max	8.368	2	0	1	1.266	4	0	1	0	1	0	1
242			min	3.568	1	-1.293	5	0	1	0	1	-1.899	4	-1.94	5
243		2	max	8.363	2	0	1	1.266	4	0	1	0	1	0	1
244			min	3.563	1	-1.293	5	0	1	0	1	-1.424	4	-1.455	5
245		3	max	8.359	2	0	1	1.266	4	0	1	0	1	0	1
246			min	3.558	1	-1.293	5	0	1	0	1	-.949	4	-.97	5
247		4	max	8.354	2	0	1	1.266	4	0	1	0	1	0	1
248			min	3.552	1	-1.293	5	0	1	0	1	-.475	4	-.485	5
249		5	max	8.35	2	0	1	1.266	4	0	1	0	1	0	1
250			min	3.547	1	-1.293	5	0	1	0	1	0	4	0	5
251	M26	1	max	9.576	2	0	1	1.437	4	0	1	0	1	0	1
252			min	4.898	1	-1.294	5	0	1	0	1	-2.155	4	-1.941	5
253		2	max	9.572	2	0	1	1.437	4	0	1	0	1	0	1
254			min	4.893	1	-1.294	5	0	1	0	1	-1.616	4	-1.455	5
255		3	max	9.567	2	0	1	1.437	4	0	1	0	1	0	1
256			min	4.887	1	-1.294	5	0	1	0	1	-1.078	4	-.97	5
257		4	max	9.563	2	0	1	1.437	4	0	1	0	1	0	1
258			min	4.882	1	-1.294	5	0	1	0	1	-.539	4	-.485	5
259		5	max	9.558	2	0	1	1.437	4	0	1	0	1	0	5
260			min	4.877	1	-1.294	5	0	1	0	1	0	4	0	1
261	M27	1	max	11.849	2	0	1	1.438	4	0	1	0	1	0	1
262			min	7.549	1	-1.412	5	0	1	0	1	-2.158	4	-2.118	5
263		2	max	11.845	2	0	1	1.438	4	0	1	0	1	0	1
264			min	7.544	1	-1.412	5	0	1	0	1	-1.618	4	-1.589	5
265		3	max	11.84	2	0	1	1.438	4	0	1	0	1	0	1
266			min	7.539	1	-1.412	5	0	1	0	1	-1.079	4	-1.059	5
267		4	max	11.836	2	0	1	1.438	4	0	1	0	1	0	1
268			min	7.533	1	-1.412	5	0	1	0	1	-.539	4	-.53	5
269		5	max	11.831	2	0	1	1.438	4	0	1	0	4	0	5
270			min	7.528	1	-1.412	5	0	1	0	1	0	1	0	1

Envelope AISC 13th LRFD Steel Code Checks

	Mem...	Shape	Code Check	Loc...	LC	Sh...	L...	Dir	LC	phi*P...	phi*Pnt...	phi*Mn y-y [k-ft]	phi*Mn z...	Cb	Eqn
1	M1	W16X26	.803	14....	2	.128	2...	y	2	202.3...	248.832	14.796	119.34	1	H1...
2	M2	W16X26	.496	14....	2	.095	0	y	2	202.3...	248.832	14.796	119.34	1	H1...
3	M3	W10X15	.125	5.891	2	.030	1...	y	2	39.824	142.884	6.21	28.637	1....	H1...
4	M4	W10X15	.119	4.89	2	.028	0	y	2	39.824	142.884	6.21	29.394	1...	H1...
5	M5	W8X13	.255	5.446	2	.061	1...	y	2	37.619	124.416	5.805	22.591	1....	H1...
6	M6	W8X13	.308	4.224	2	.090	0	y	2	37.619	124.416	5.805	22.834	1...	H1...
7	M7	W8X13	.301	2.779	5	.086	0	y	2	37.619	124.416	5.805	24.936	1....	H1...
8	M8	W8X13	.397	2.779	5	.111	0	y	4	37.619	124.416	5.805	25.622	1...	H1...
9	M9	W8X13	.378	2.779	4	.129	0	y	4	37.619	124.416	5.805	24.665	1....	H1...
10	M10	W8X13	.252	4.668	2	.063	0	y	2	37.619	124.416	5.805	23.49	1...	H1...
11	M11	W8X13	.010	1.5	1	.008	0	y	1	104.9...	124.416	5.805	30.78	1....	H1...
12	M12	W8X13	.035	2.481	1	.017	4...	y	1	101.8...	124.416	5.805	30.78	1...	H1...
13	M13	W8X13	.027	1.001	1	.025	0	y	1	118.99	124.416	5.805	30.78	1....	H1...
14	M14	W8X13	.069	1.519	4	.062	4...	y	4	102.2...	124.416	5.805	30.78	1...	H1...
15	M15	W8X13	.004	3.573	1	.008	4...	y	1	104.1...	124.416	5.805	30.78	1....	H1...
16	M16	W8X13	.017	2.507	4	.011	4...	y	4	101.4...	124.416	5.805	30.78	1...	H1...
17	M17	W8X13	.018	1.5	5	.012	0	y	5	104.9...	124.416	5.805	30.78	1....	H1...
18	M18	W8X13	.060	2.481	5	.028	4...	y	5	101.8...	124.416	5.805	30.78	1...	H1...
19	M19	W8X13	.048	1.001	5	.040	0	y	5	118.99	124.416	5.805	30.78	1....	H1...
20	M20	W8X13	.113	1.519	5	.072	4...	y	5	102.2...	124.416	5.805	30.78	1...	H1...
21	M21	W8X13	.007	3.573	5	.015	4...	y	5	104.1...	124.416	5.805	30.78	1....	H1...
22	M22	W8X13	.017	2.507	4	.013	4...	y	4	101.4...	124.416	5.805	30.78	1...	H1...

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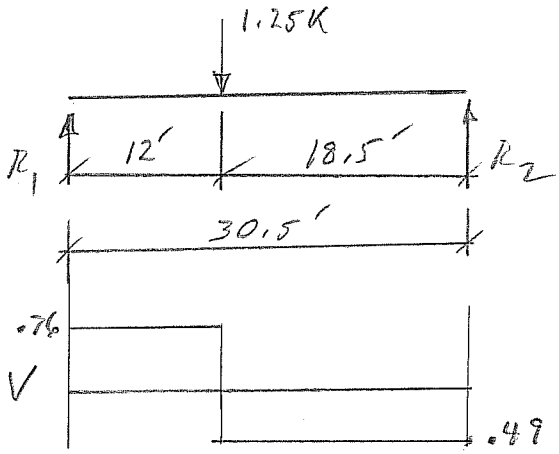
Roof Beam

W21x44

From Vebocitel Cales $\phi M_n = 250$ K-ft.

$M_u = 221$ K-ft.



$R_1 = 1.25 \times 18.5/30.5 = 0.76$ K

$R_2 = 1.25 - 0.76 = 0.49$ K

$\therefore M = 0.76 \times 12 = 9.12$ K-ft.

$\therefore M_u = 221 + 9.12 = 230.1$ K-ft.

$230.1 < 250$ ok

Note: The previous beam checks are very conservative because the moment from the cabinet is added to the worst case condition for the beam, but with the exception of the W21x44 Floor Beam, they do not occur at the same place

PRCTI20230490

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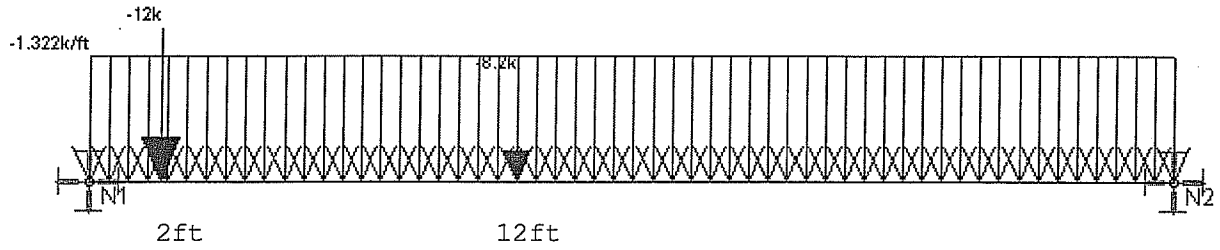
Client: AT&T
Site Name: Good Samaritan
Site Id: 10029581

570 Colonial Park Dr. Ste #307
Roswell, GA 30075

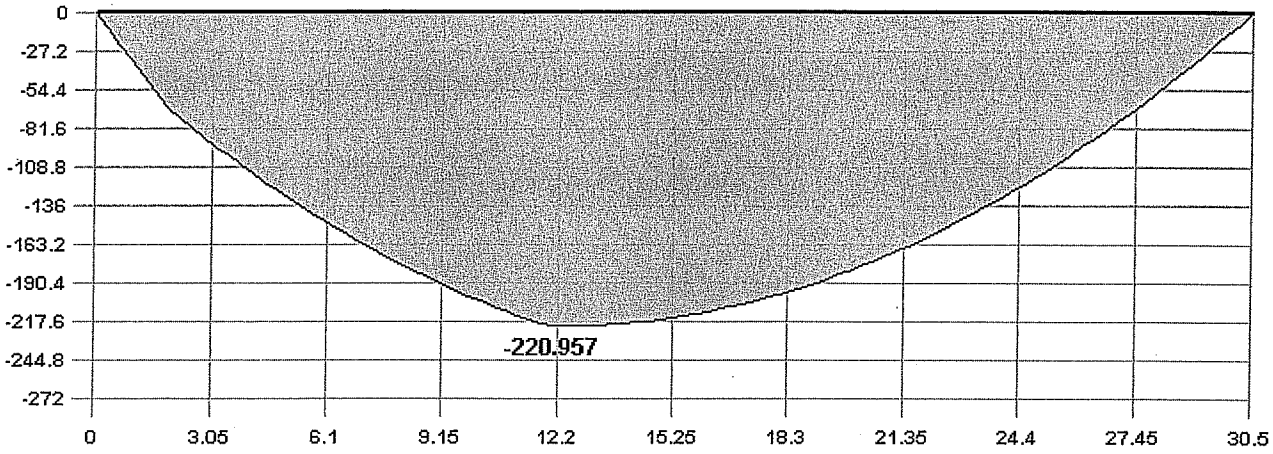
velocitel
complete wireless solutions

Member Loads



Member Moments

W21X44



$M_u := 221kip \cdot ft$ $V_u := 36.3kip$

			Y-Y	Z-Z
Fy	36 ksi	Lb	6 ft	6 ft
phi*Pnc	331.965 k	KL/r	57.058	8.941
phi*Pnt	421.2 k	Sway	No	No
phi*Mny	27.515 k-ft			
phi*Mnz	250.232 k-ft	L Comp Flange	6 ft	
phi*Vny	156.19 k	Torque Length	30.5 ft	
phi*Vnz	113.724 k			
Cb	1			

$\varphi M_n := 250kip \cdot ft$ > $M_u = 221kip \cdot ft$ OK

$\varphi V_n := 113.7kip$ > $V_u = 36.3kip$ OK

Therefore, the existing steel girders supporting the equipment platform have adequate capacity to support the additional loads due to the proposed new cabinet. Therefore, the proposed installation can be implemented as intended.

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Project: WA659 Good Samaritan

LDC #: 11-256 Date: 11/10/11 Engineer: DAO Page: 18 of 19

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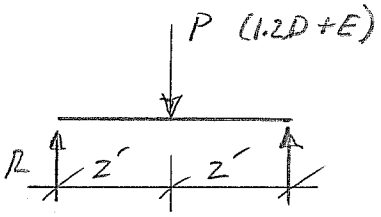
Purcell Cabinet Support Beams

Try C6X8.2 $F_y = 36$ ksi

$P_u = 1737/2 = 868.5$ from previous



Say $P_u = 1$ K (LRFD)

$\therefore M = Pl/4 = 1 \times 4/4 = 1$ K-ft.

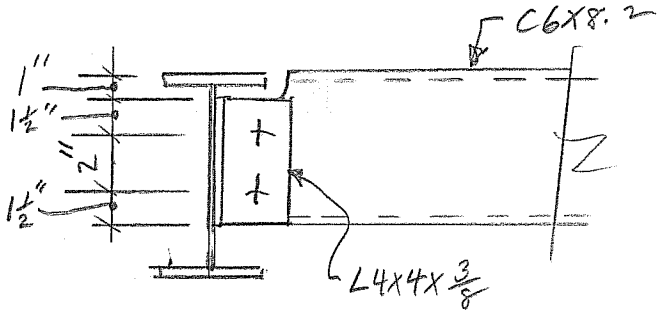
From Analysis $\phi M_n = 12.66$ K-ft.

$12.66 > 1$ ok

Use C6X8.2 support beams

By inspection (2) 5/8" ø ASTM A325N bolts @ each end will be ok ($2 \times 7.36 = 14.72$ K > 1 K)

An L4X4X3/8 x 0'-5" will be ok for clip angle thus:



PRCTI20230490

WA659 Good Samaritan
407 14th Ave SE Puyallup, WA 98372
Project: 11-256

Page: 19
Engineer: DAO
Date: 11/10/2011

LDC

Strong Axis Bending Capacity
AISC 13 Strong Axis Bending of Channels and Wideflanges Per Sections F2 And F3

C6X8.2	Ω_b =	1.67	Φ_b =	0.9	

d =	6.000	in	L =	4.00	ft (Span Length)
t_w =	0.200	in	L_b =	4.00	ft (Unbraced Length)
b_f =	1.920	in	C_b =	1.00	(Conservative)
t_f =	0.343	in	F_y =	36	ksi
k =	0.813	in	E =	29000	ksi
S_x =	4.350	in^3	M_{max} =		k-ft (AISC 13 Eqn F1-1)
Z_x =	5.160	in^3	M_A =		k-ft (AISC 13 Eqn F1-1)
I_y =	0.687	in^4	M_B =		k-ft (AISC 13 Eqn F1-1)
r_y =	0.536	in	M_C =		k-ft (AISC 13 Eqn F1-1)
J =	0.074	in^4	Result =	LRFD	(LRFD or ASD)
C_w =	4.700	in^6			

Calculated Values

M_p =	185.76	k-in	Equation F2-1
M_p =	15.48	k-ft	
L_p =	26.77	in	Equation F2-5
L_p =	2.23	ft	
h =	4.38	in	
h_0 =	5.66	in	
c =	1.08		
r_{ts} =	0.64	in	Equation F2-7
L_r =	122.21	in	Equation F2-6
L_r =	10.18	ft	

Flange Compactness Check (AISC 13 B4.1-1)		
$b_f/2t_f$ =	2.80	
λ_p =	10.79	Compact Flange
λ_r =	28.38	
k_c =	0.76	

Web Compactness Check (AISC 13 B4.1-9)		
h/t_w =	21.88	
λ_p =	106.72	Compact Web
λ_r =	161.78	

Yielding Moment:

M_n = 185.76 k-in — Compact Flanges: Equation F2-1

Lateral-Torsional Buckling Moment:

F_{cr} = 79.62 ksi — Equation F2-4

M_n = 168.83 k-in — Equation F2-2 **<==== Controls**

Results

Mc = 12.66 k-ft — **LRFD Maximum Moment**

W = 6.33 k/ft — **LRFD Maximum Uniform Load**

PRCTI20230490

GENERAL DYNAMICS
Information Technology

Ms. Melissa Browning
General Dynamics Information Technology, Inc.
19240 Des Moines Memorial Drive South, Suite 300
SeaTac, WA 98148
(360) 485-7196

MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

2020 equipment configuration showing cabinets and platform screen.

Date: December 5, 2019

Subject: **Equipment Platform Structural Analysis Report**

AT&T Designation:
Site USID: 75153-A
Site FA: 10029581
Site Name: GOOD SAMARITAN

Site Address: 407 14th Avenue Southeast, Puyallup, Pierce County, WA 98371
Site Coordinates: Latitude: 47° 10' 46.2" N, Longitude: 122° 17' 26.009" W

Tower Description: 68’ 1” ft – Building
Mount Description: Roof top Platform

Morrison Hershfield Project Number: GED-577R5 / 2000204

Dear Ms. Browning,

Morrison Hershfield is pleased to submit this “**Equipment Platform Structural Analysis Report**” to determine the structural integrity of existing equipment mounting system for the existing equipment on the above mentioned supporting building structure.

This mount analysis has been performed in accordance with the 2015 IBC based upon an ultimate 3-second gust wind speed of 115 mph. Exposure Category C with a maximum topographic factor, K_{zt}, of 1.0 and Risk Category IV were used in this analysis.

Our analysis demonstrates that the existing equipment platform **IS in conformance** with the requirements of the above noted standards under the effects of loading described.

Summary of Results		
Mount Components	**84.3%**	**Sufficient**

We at *Morrison Hershfield* appreciate the opportunity of providing our continuing professional services to you and General Dynamics Information Technology, Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
Morrison Hershfield

Shawn W. Stevenson, S.E. (WA License No. 42002)
Senior Engineer

INTRODUCTION

This is a 68' 1" ft tall building. Existing equipment are located on the roof top mounted platform, at the above building site.

ANALYSIS CRITERIA

The following design parameters have been used in our analysis:

Design Standard:	2015 International Building Code ASCE 7-10, Minimum Design Loads for Building and Other Structures AISC 325-11, Manual of Steel Construction ACI 318-11, Building Code Requirements for Structural Concrete
Design Wind Speed:	115 mph (Ultimate 3-sec gust)
Risk Category:	IV
Exposure Category:	C
Topographic Factor, K_{zt}:	1.0

The mount analysis was based on the following documentation:

Table 1 – Documentation

Document	Description	Source
Load Mapping Report	Morrison Hershfield, Site Name: GOOD SAMARITAN, dated 10/18/2019	MH
Previous Mount Analysis	Morrison Hershfield, Site Name: GOOD SAMARITAN, dated 11/08/2018	MH
Previous Platform Analysis	Smartlink, Site Name: GOOD SAMARITAN, dated 10/28/2015	Client
Previous Platform Analysis	Smartlink, Site Name: GOOD SAMARITAN, dated 02/09/2016	Client
As Built Drawings	Smartlink, Site Name: GOOD SAMARITAN, dated 09/09/2016	Client
Roof Framing Plan	Martens Consulting Engineers, Site Name: GOOD SAMARITAN HOSPITAL, dated 10/15/1999	Client
RF Design Sheet	AT&T, RFDS Name: COL01074_Iliff_&_I225, dated 4/2/2019	Client

1.0 ANALYSIS LOADING

The existing equipment considered in this analysis were provided by the client and are noted in Table 2.

Table 2 – Equipment Loads

Mounting Level (ft)	Existing Equipment Description	Note
67.5	(1) Argus TE43 Cabinet	1
	(2) Purcell FLX16WS Cabinet	
	(1) Argus TE41 Cabinet	
	(1) UMTS Cabinet	
	(1) Transformer	
	(1) Hoffman Box	
	(1) Surge Suppressor Box	
	(1) Telco Demarc	
	(1) AC Panel	

Note: Any discrepancies in loading from this listing should be brought to Morrison Hershfield's attention; results of this assessment cannot be used if the loading is different.

1. *Existing equipment.*

ANALYSIS PROCEDURE

RISA-3D (version 17.0.4), 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.

2.0 ASSUMPTIONS

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and/or manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4) This analysis assumes the screen wall system and its connection to the building structure to have been designed to meet or exceed the current wind loading requirements**.**
5) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
6) 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 35)

7) The existing platform geometry and member sizes are taken from the previous platform structural analysis by Smartlink, Site Name: GOOD SAMARITAN, dated 02/09/2016 and is considered to be correct.
8) The equipment loading is taken from load mapping report prepared by Morrison Hershfield, Site Name: GOOD SAMARITAN, dated 10/18/2019, and are considered to be correct.

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

3.0 SUMMARY OF RESULTS

The following tables summarize the location and utilized percentage of available capacity for each component of the mount. With consideration to the appropriate safety factors, 100% represents the full capacity of the component. Percentages below 100% indicate available capacity and conformance of the component. Percentages between 100% and 105% indicate an acceptable capacity. Percentages above 105% indicate an overstressed situation requiring structural modification to ensure conformance with the applicable codes and standards.

A full seismic analysis has been performed in accordance with ASCE 7-10. However, the results due to seismic analysis are not controlling; the analysis results due to wind loading are controlling for the overall capacity.

Based on our analysis results, the existing roof top platform **ARE within capacity** to support the loads under the current loading scenario.

Mount Component Stresses vs. Capacity (Roof top Platform)

Component	Critical Member	% Capacity	Pass / Fail
Platform Support	M25	84.3	Pass
Platform Perimeter Beam (N and S)	M22	8.0	Pass
Platform Perimeter Beam (E and W)	M23	1.7	Pass
Secondary Framing	M3	27.9	Pass
Support Framing	M41	3.5	Pass

Structure Rating (max from all components) =	**84.3%**

4.0 RECOMMENDATIONS

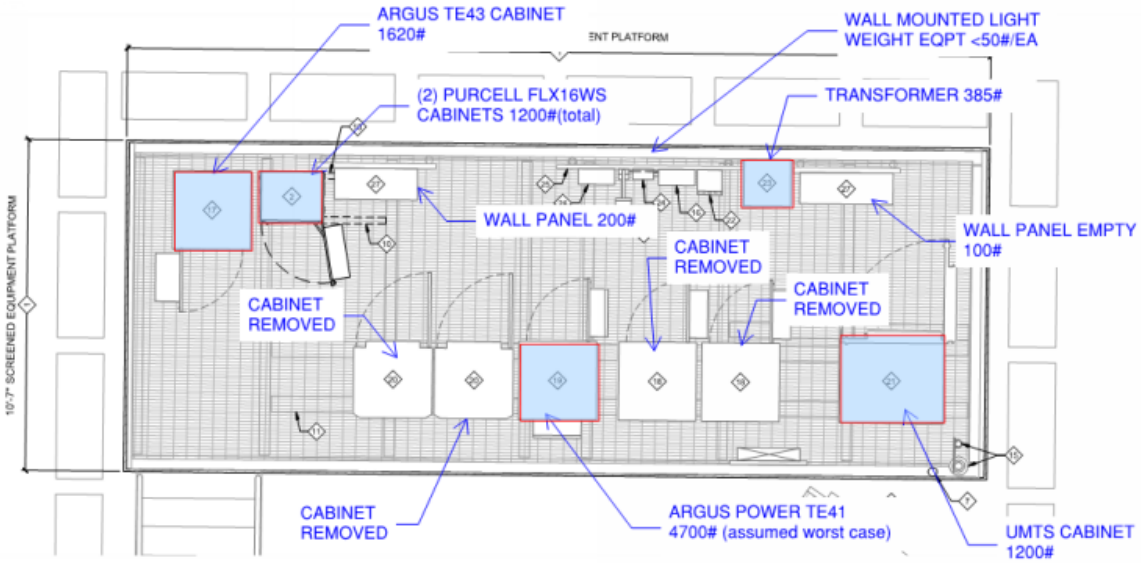
The existing platform have sufficient capacity to support the equipment loads. No modifications are required at this time.

ATTACHMENTS: Software Input Calculations, Wire Frame and Rendered Models, Software Analysis Output & ASCE hazard tool report

Stealth Enclosed Platform:

Weight of Stealth Screen Enclosure = **28plf (from previous analysis)**

Weight of Equipment:



AT&T PLATFORM MAP

WIND LOAD CALCULATIONS ON APPURTENANCES AND MOUNTS:

Code Search

Code: International Building Code 2015

Occupancy:

Occupancy Group = B Business

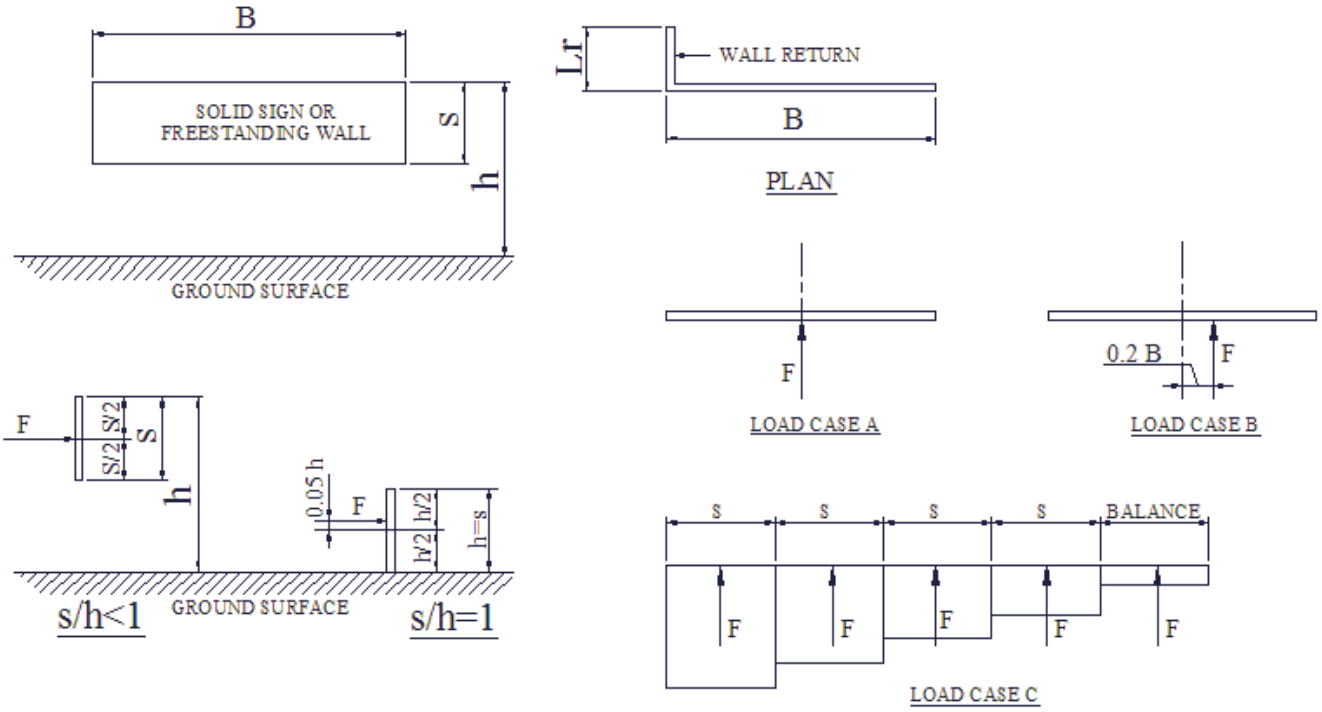
Risk Category & Importance Factors:

Risk Category : Category IV : Buildings and other structures designated as essential facilities

Wind Loads - Other Structures: ASCE 7- 10

Ultimate Wind Pressures

Wind Factor =	1.00		
Gust Effect Factor (G) =	0.85	Ultimate Wind Speed =	115 mph
Kzt =	1.00	Exposure =	C



Front:

A. Solid Freestanding Walls & Solid Signs (& open signs with less than 30% open)

		s/h =	0.08		Case A & B	
Dist to sign top (h)	73.5 ft	B/s =	4.61		C_f =	1.85
Height (s)	6.0 ft	Lr/s =	0.00		F = qz G Cf As =	**53.7 As**
Width (B)	27.7 ft	Kz =	1.186		As =	166.2 sf
Wall Return (Lr) =		qz =	34.1 psf		F =	8921 lbs
Directionality (Kd)	0.85	ASCE7 Load Combinations Used				
Percent of open area		Open reduction			CaseC	
to gross area	0.0%	factor =	1.00	Horiz dist from windward edge	Cf	F=qzGCfAs (psf)
		Case C reduction factors		0 to s	3.02	87.7 **As**
		Factor if s/h>0.8 =	1.00	s to 2s	1.96	56.9 **As**
		Wall return factor		2s to 3s	1.39	40.4 **As**
		for Cf at 0 to s =	1.00	3s to 10s	1.07	31.0 **As**

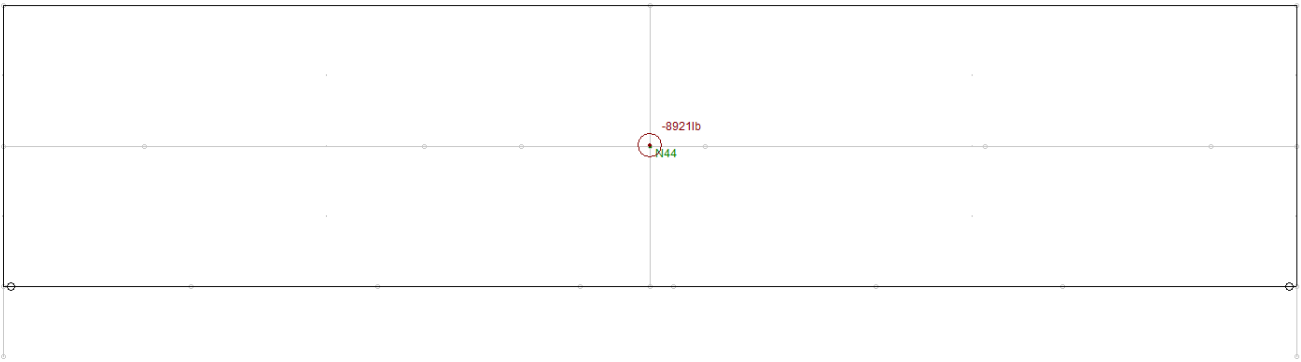
Side:

A. Solid Freestanding Walls & Solid Signs (& open signs with less than 30% open)

		s/h =	0.08		Case A & B	
Dist to sign top (h)	73.5 ft	B/s =	1.75		C_f =	1.80
Height (s)	6.0 ft	Lr/s =	0.00		F = qz G Cf As =	**52.2 As**
Width (B)	10.5 ft	Kz =	1.186		As =	63.0 sf
Wall Return (Lr) =		qz =	34.1 psf		F =	3290 lbs
Directionality (Kd)	0.85	ASCE7 Load Combinations Used				
Percent of open area		Open reduction			CaseC	
to gross area	0.0%	factor =	1.00	Horiz dist from windward edge	Cf	F=qzGCfAs (psf)
		Case C reduction factors		0 to s	2.25	65.3 **As**
		Factor if s/h>0.8 =	1.00	s to 2s	1.50	43.5 **As**
		Wall return factor				
		for Cf at 0 to s =	1.00			

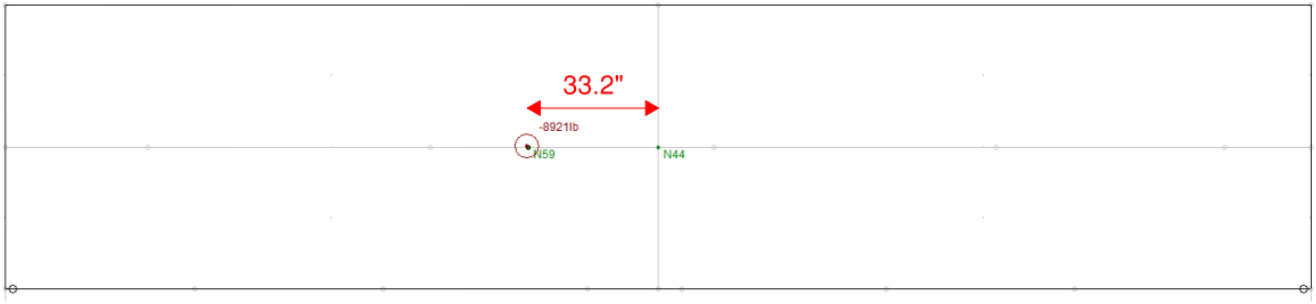
Front Face:

Load Case A: Applying the wind force on the front face 8921 lb directly at the centre

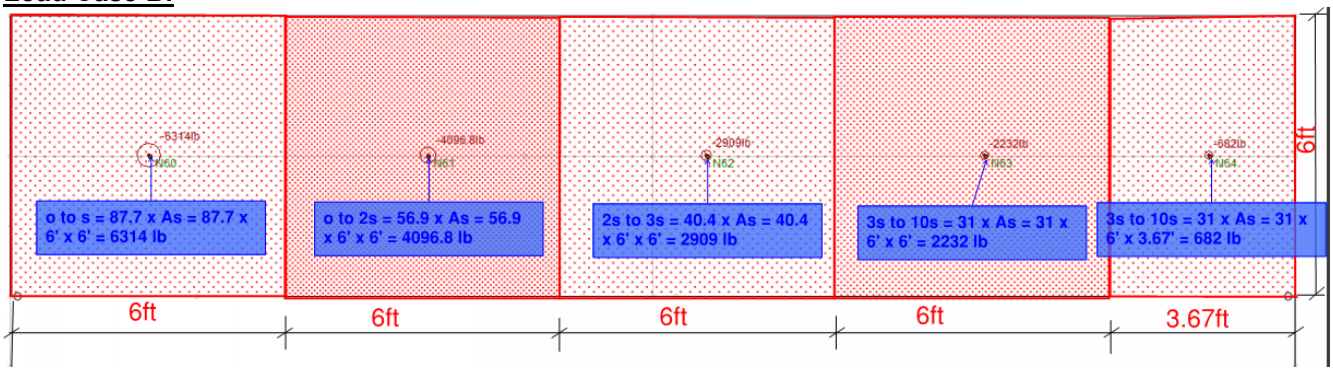


Load Case B:

Applying the wind force calculated on the front face 8921 lb at the 0.2 x length of the face = 0.2 x 166 = 33.2 in

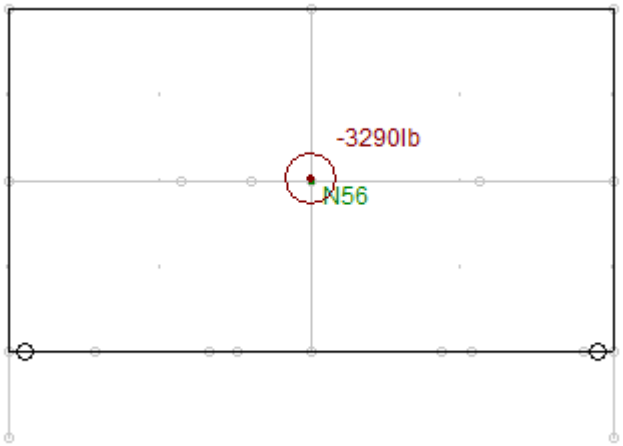


Load Case B:



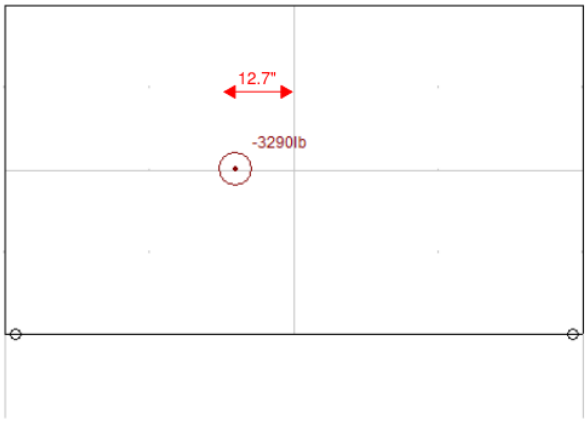
Side Face:

Load Case A: Applying the wind force on the side face 3290 lb directly at the centre

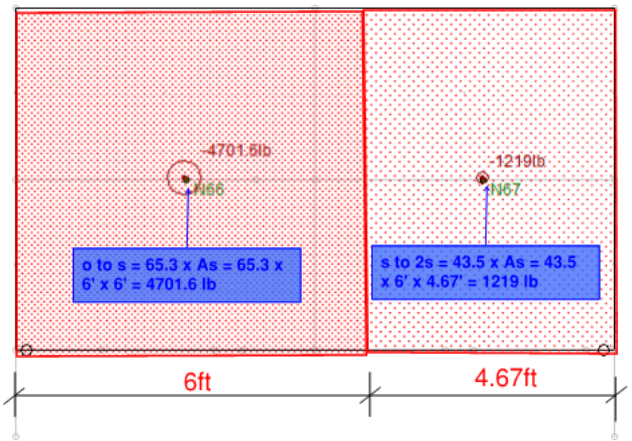


Load Case B:

Applying the wind force calculated on the front face 3290 lb at the 0.2 x length of the face = 0.2 x 63.5 = 12.7 in



Load Case B:



SEISMIC LOAD CALCULATIONS ON APPURTENANCES AND MOUNTS:

Per Table 15.4-1, ASCE 7-10 for Steel storage racks,
Response modification coefficient, R = 4.0
Overstrength factor, Ω = 2.0

Per Table 13.6-1, ASCE 7-10 for generators, batteries and other electrical equipment
Component amplification factor, a_p =1.0
Component response modification factor, R_p =2.5

Seismic Loads: IBC 2015 Strength Level Forces

Risk Category : IV
Importance Factor (I) : 1.50
Site Class : D — Class D

Ss (0.2 sec) = 125.00 %g
S1 (1.0 sec) = 48.00 %g

Fa =	1.000	Sms =	1.250	S_{DS} =	0.833	Design Category =	D
Fv =	1.520	Sm1 =	0.730	S_{D1} =	0.486	Design Category =	D

MECH AND ELEC COMPONENTS SEISMIC COEFFICIENTS

Mech or Electrical Component : Generators, batteries, inverters, motors, transformers, and other electrical components
Importance Factor (Ip) : Ip = 1.5 Life safety component required to function after an earthquake (e.g. fire protection sprinkler s

Component Amplification Factor (a_p) = 1 h= 64.7 feet
Comp Response Modification Factor (R_p) = 2.5 z= 67.5 feet z/h = 1.00

Fp = $0.4a_pSdsIpWp(1+2z/h)/Rp$ = 0.600 Wp
not greater than Fp = 1.6SdsIpWp = 2.000 Wp
but not less than Fp = 0.3SdsIpWp = 0.375 Wp use Fp = 0.600 Wp

Cabinets	Wp (lbs)	Seismic Design force (Fp = 0.600 Wp lbs)
ARGUS TE43 Cabinet	1620	972
Purcell FLX16WS Cabinet	1200	720
Argus TE41 Cabinet	4700	2820
UMTS Cabinet	1200	720

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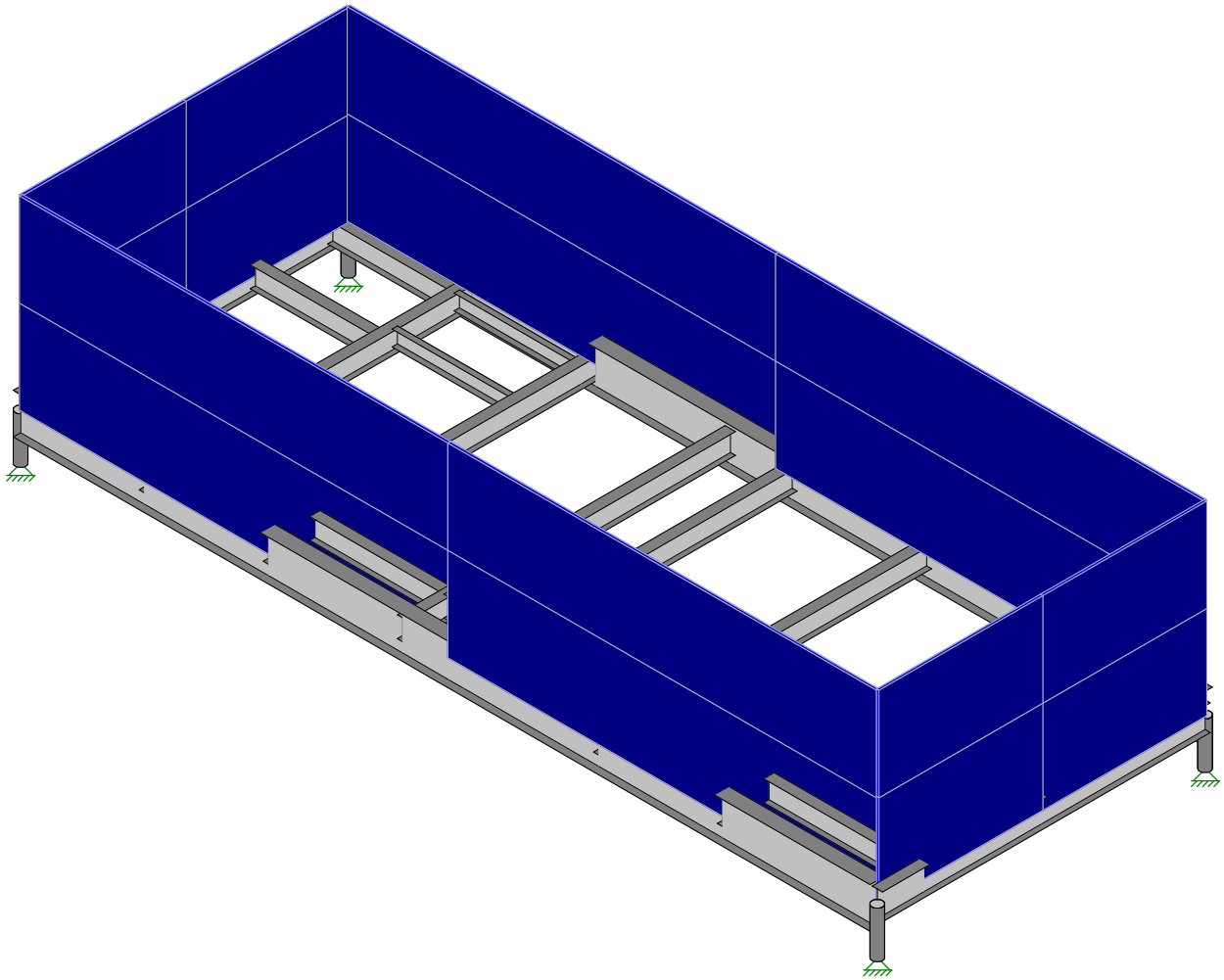

Envelope Only Solution

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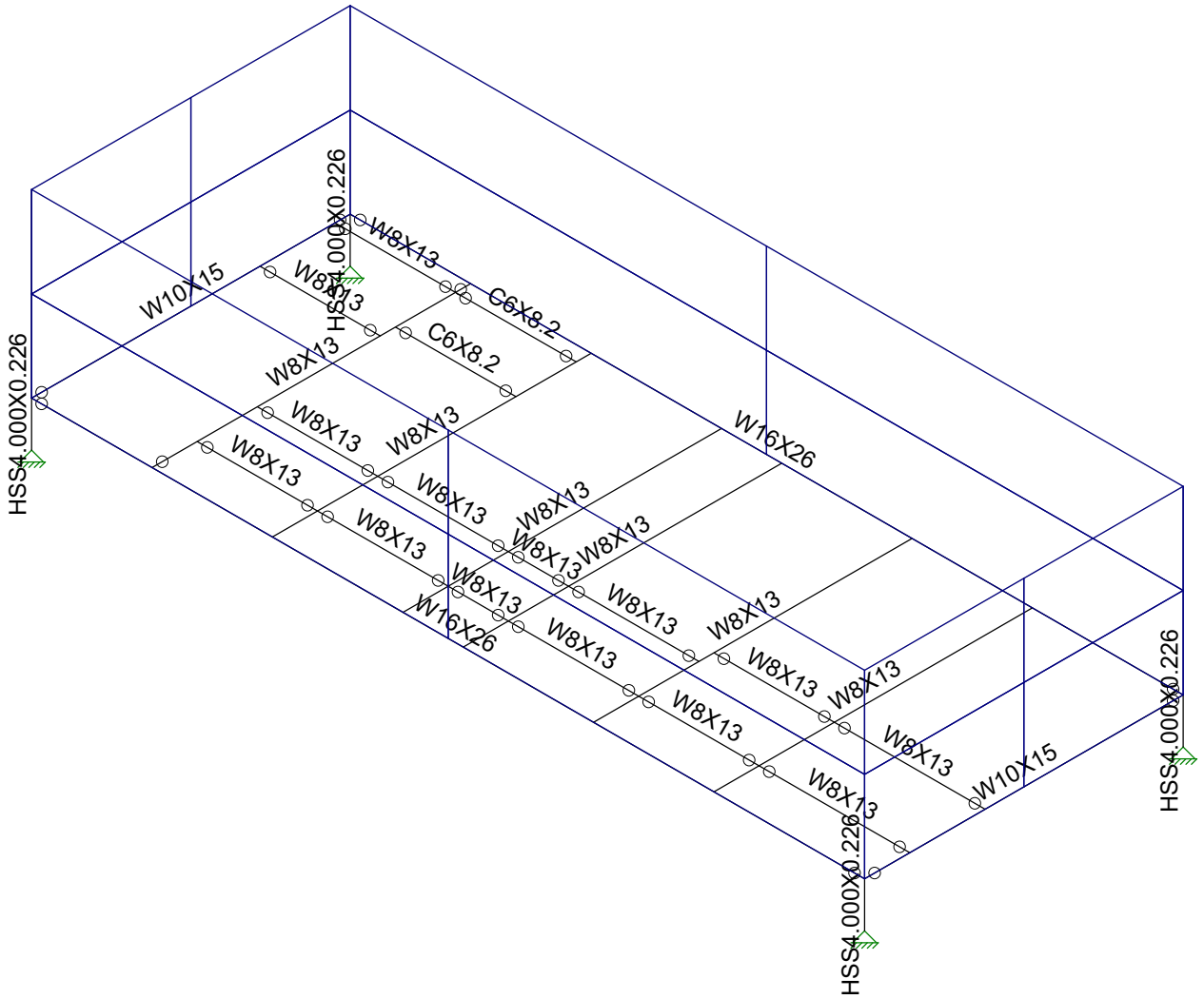
GED-577R5 / 2000204		Platform Analysis.r3d

PRCTI20230490



Envelope Only Solution

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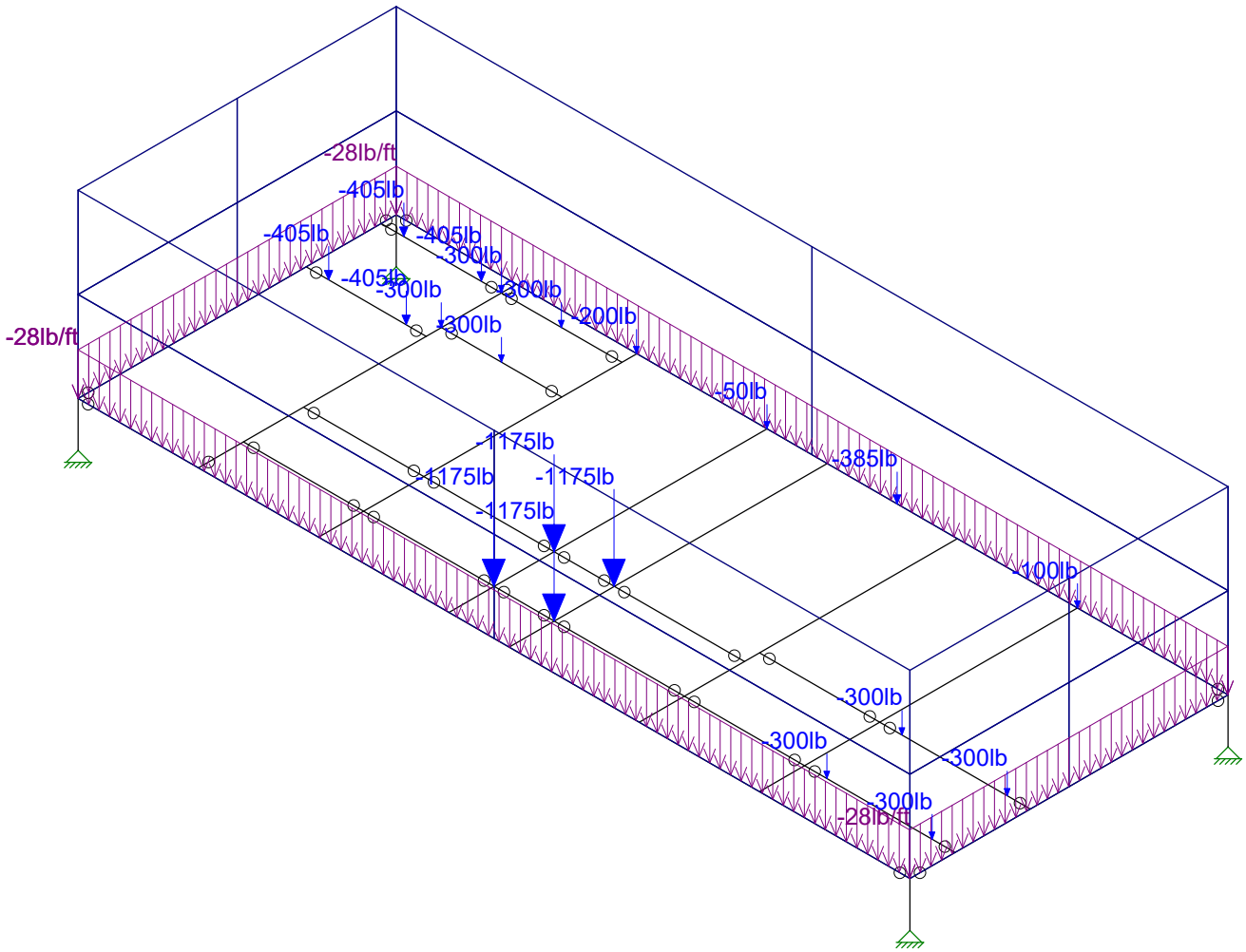

Loads: BLC 1, Dead Load
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 3
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GED-577R5 / 2000204		Platform Analysis.r3d

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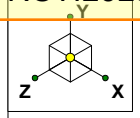

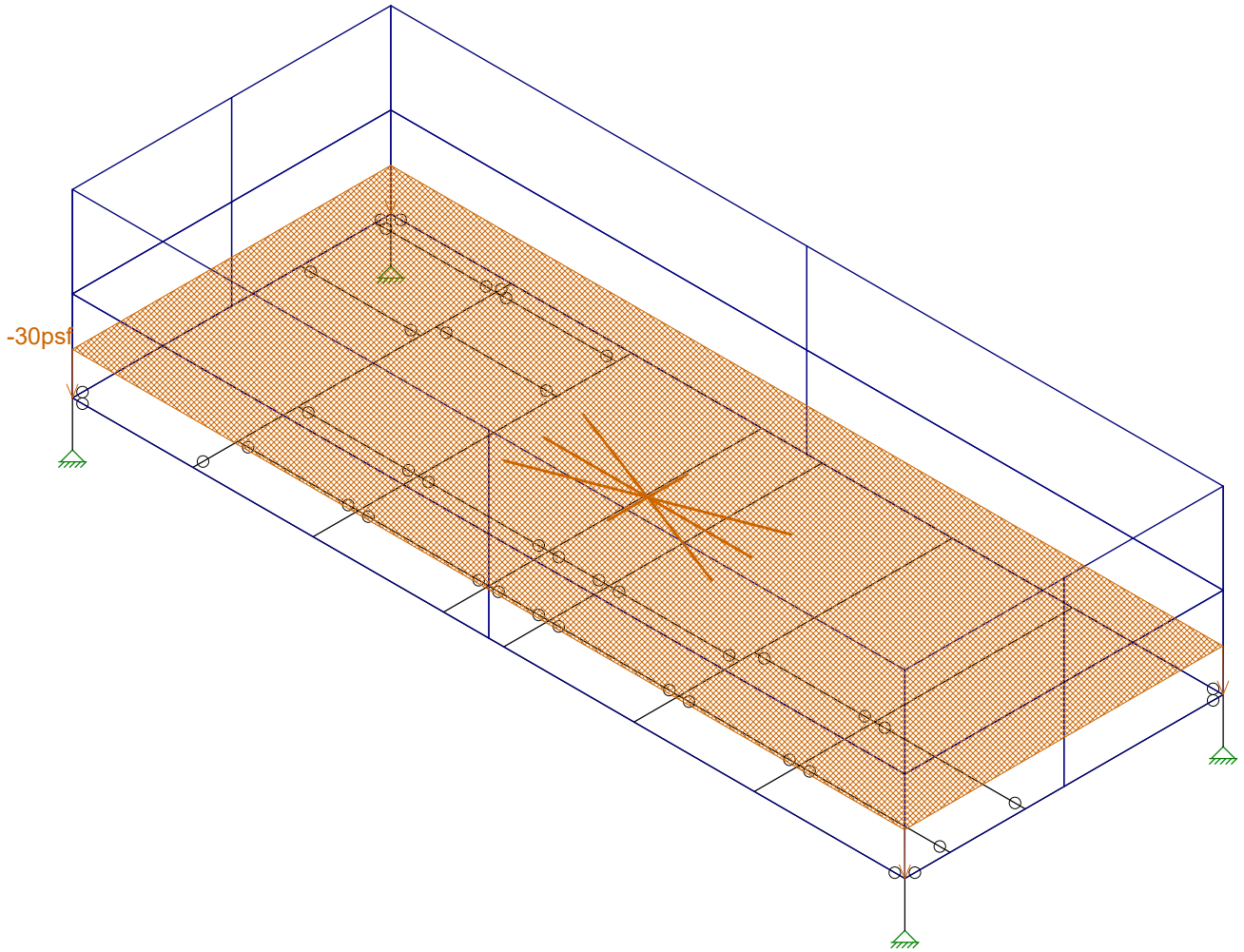

Loads: BLC 8, Snow Load
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 5
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GED-577R5 / 2000204		Platform Analysis.r3d

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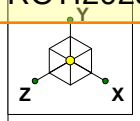
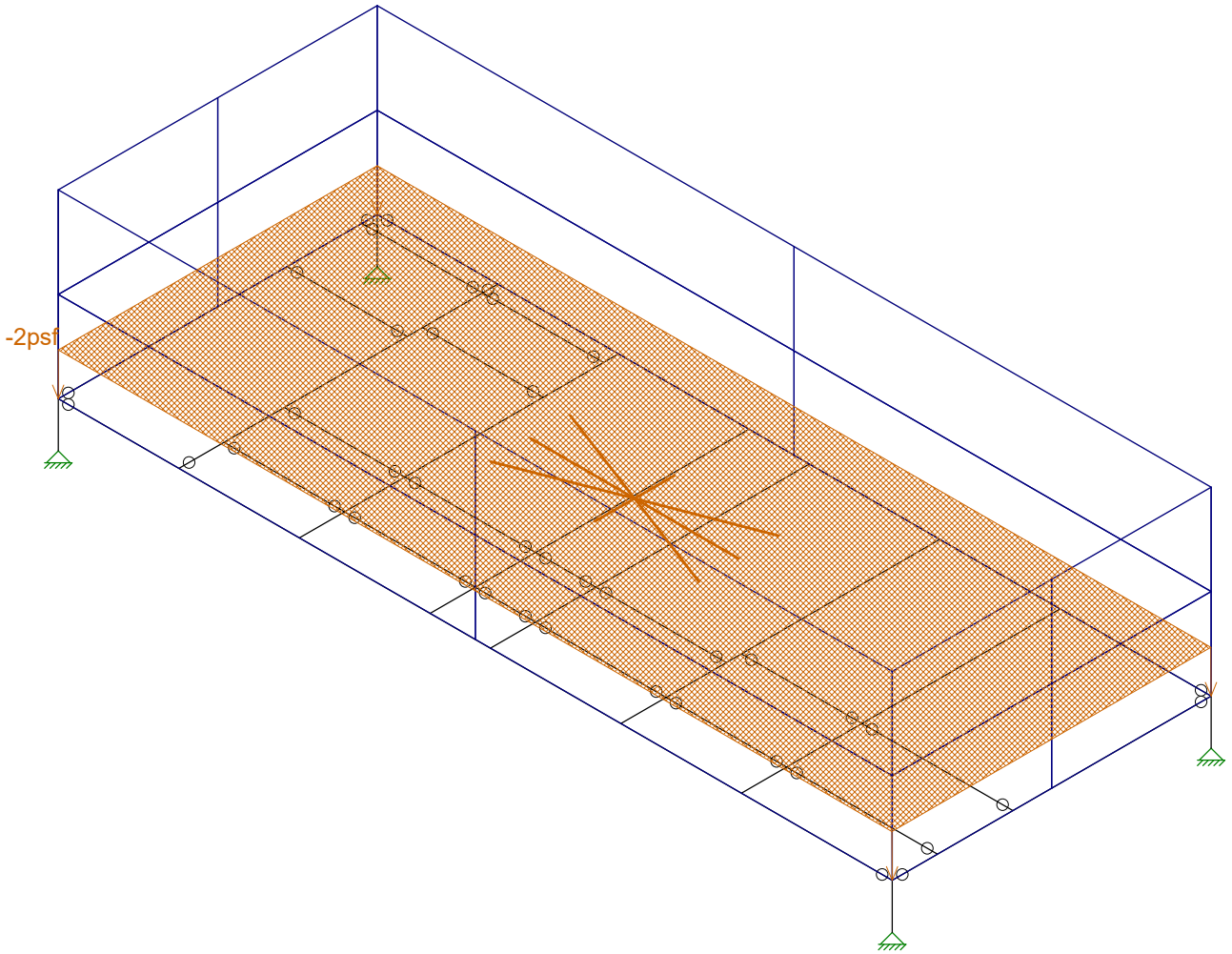
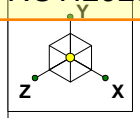


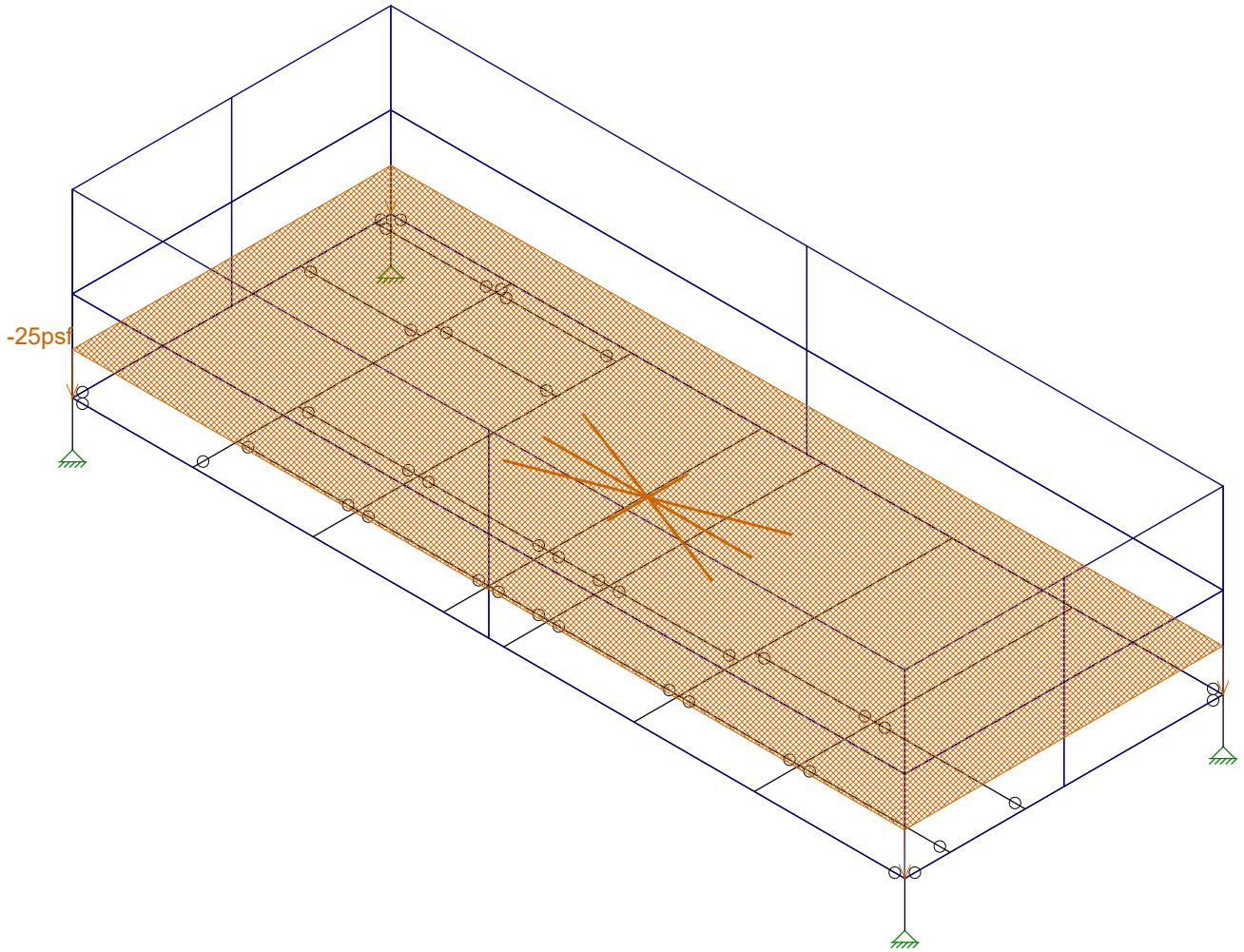


Loads: BLC 9, Weight Of aluminum grating
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 6
ML		Dec 5, 2019 at 2:37 PM
GED-577R5 / 2000204		Platform Analysis.r3d

PRCTI20230490





Loads: BLC 10, Live Load
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 7
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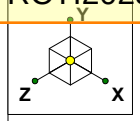
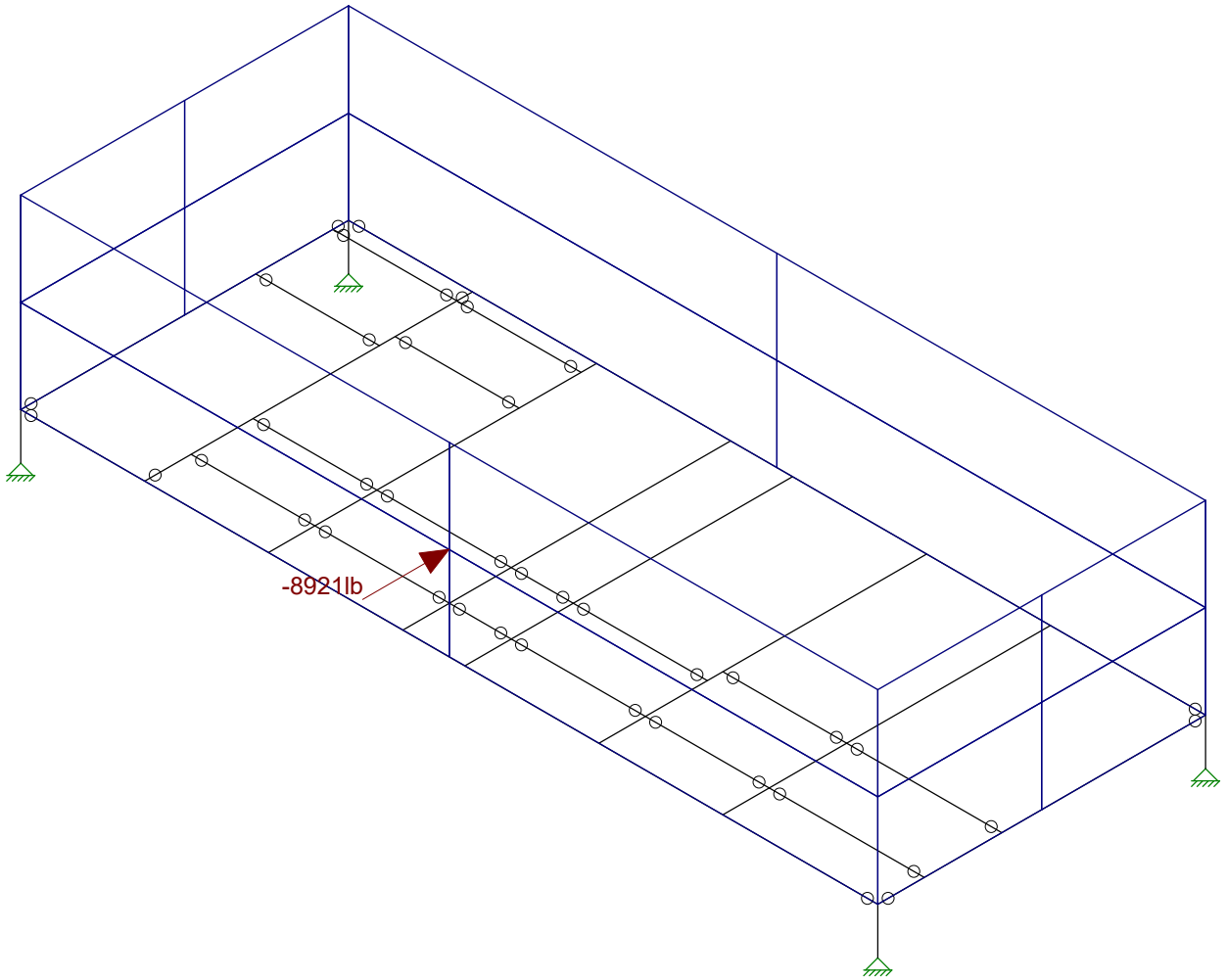
GED-577R5 / 2000204		Platform Analysis.r3d

PRCTI20230490





Loads: BLC 2, LCA Z
Envelope Only Solution

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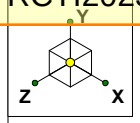

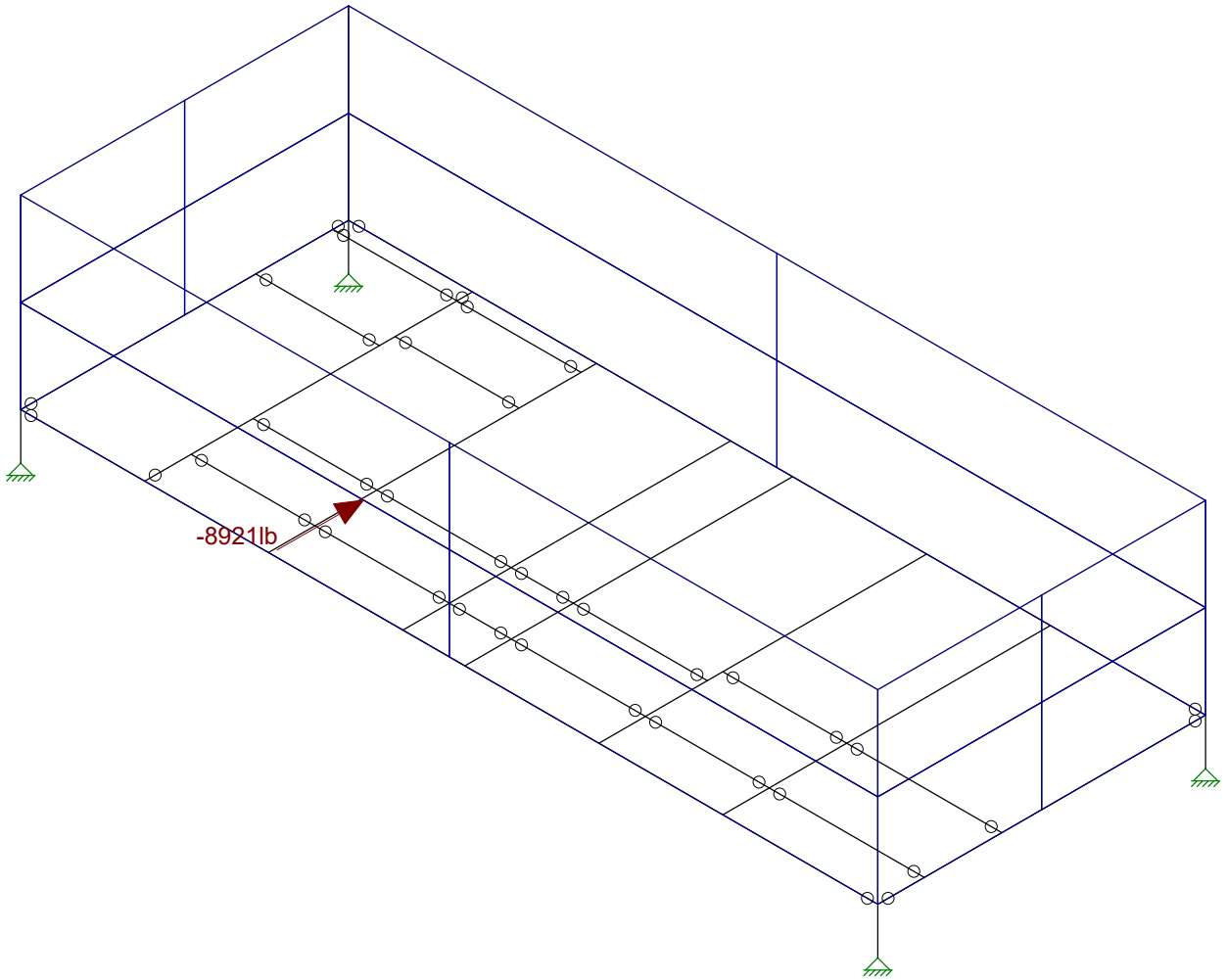

Loads: BLC 3, LCB Z
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 9
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GED-577R5 / 2000204		Platform Analysis.r3d

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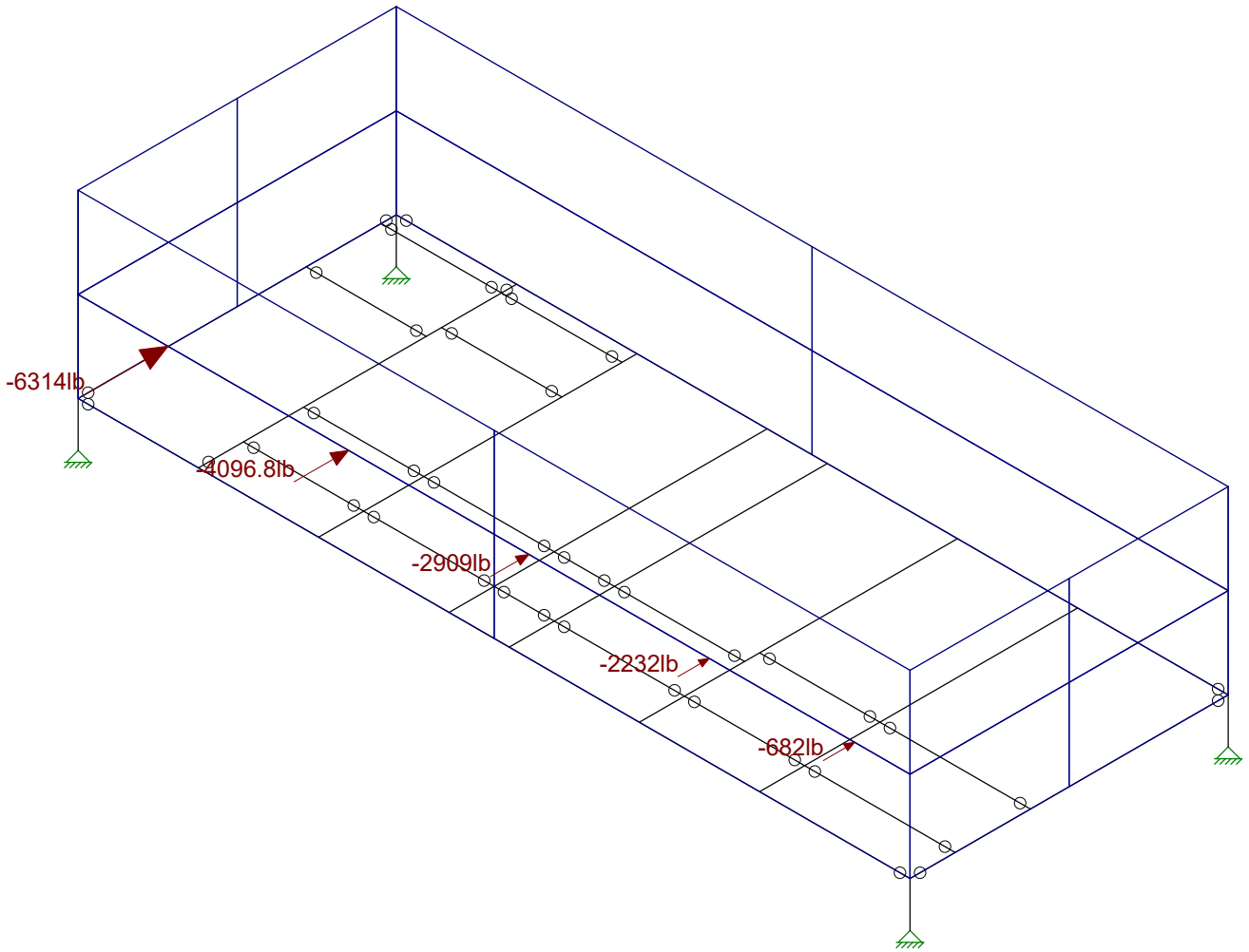

Loads: BLC 4, LCC Z
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 10
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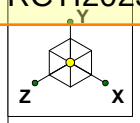

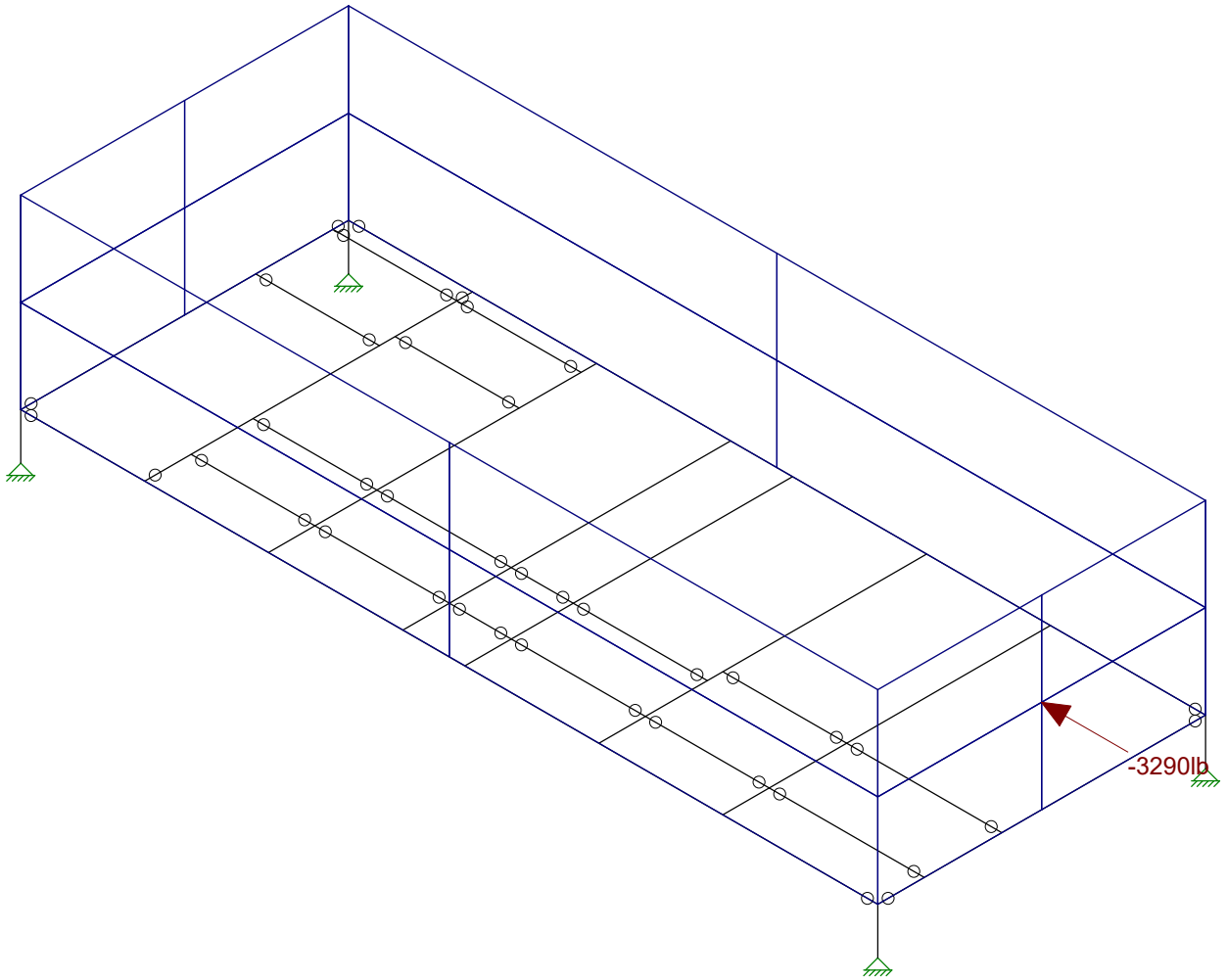

Loads: BLC 5, LCA X
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 11
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GED-577R5 / 2000204		Platform Analysis.r3d

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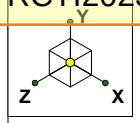

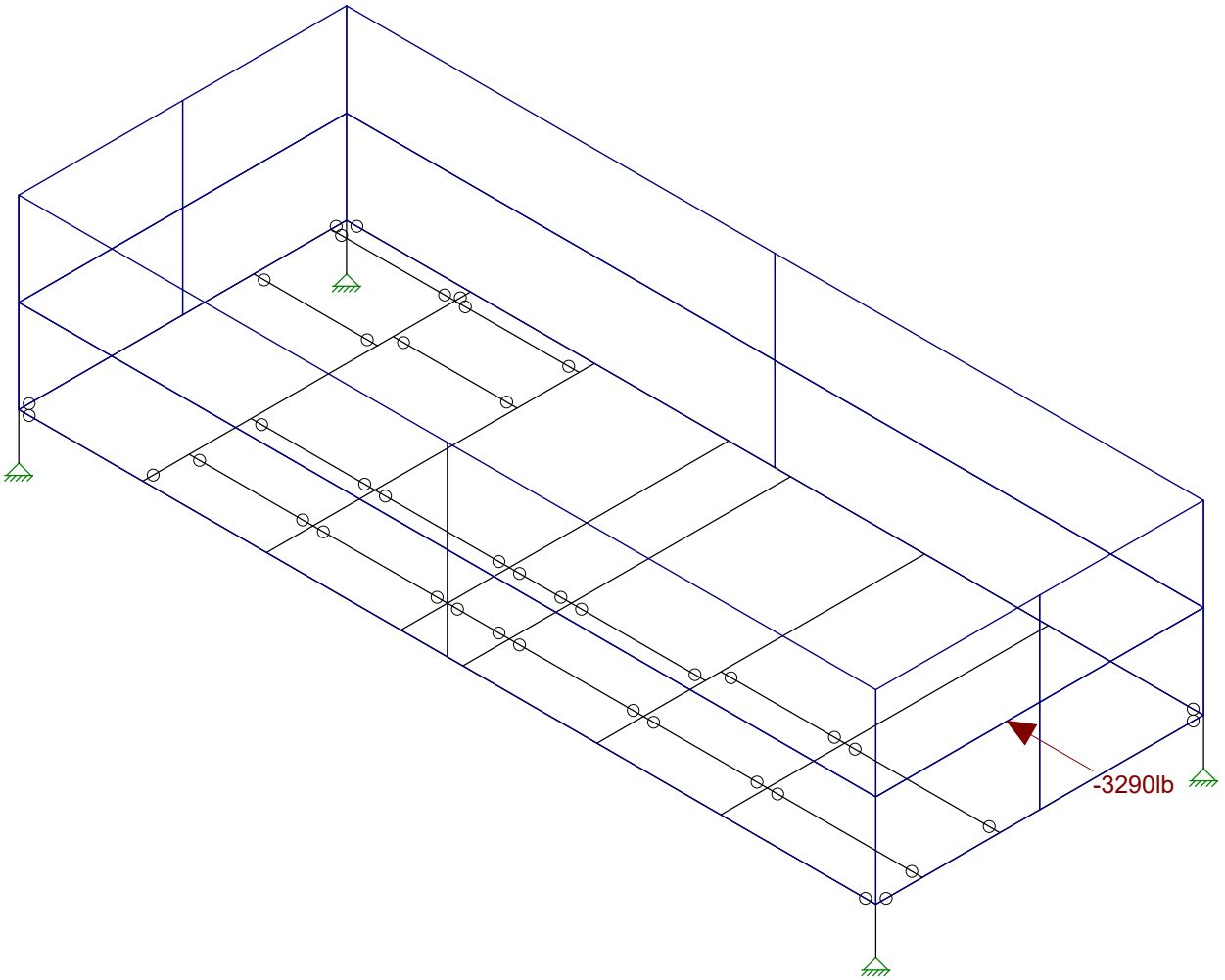

Loads: BLC 6, LCB X
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 12
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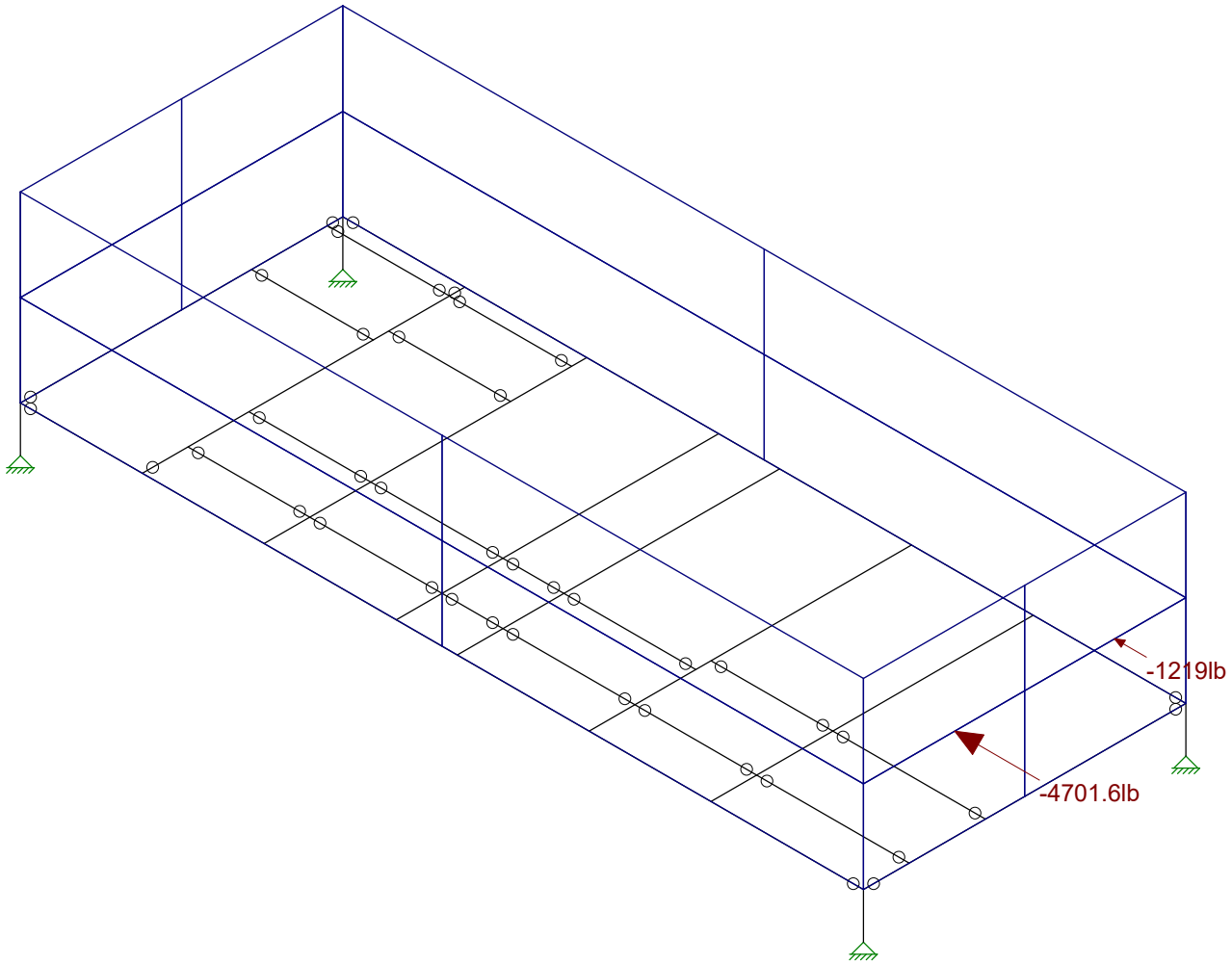


Loads: BLC 7, LCC X
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 13
ML		Dec 5, 2019 at 2:39 PM
GED-577R5 / 2000204		Platform Analysis.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A500 Gr.B Rect	29000	11154	.3	.65	.53	46	1.4	58	1.3
4	A500 Gr.B RND	29000	11154	.3	.65	.53	42	1.4	58	1.3
5	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [in...	Izz [i...	J [in4]
1	Platform Support	HSS4.000X0.2...	Column	HSS Pipe	A500 Gr.B RND	Typical	2.5	4.5	4.5	9.01
2	Platform Perimeter Beam (N and...	W16X26	Beam	Wide Flange	A992	Typical	7.68	9.59	301	.26
3	Platform Perimeter Beam (E and...	W10X15	Beam	Wide Flange	A992	Typical	4.41	2.89	68.9	.1
4	Secondary Framing	W8X13	Beam	Wide Flange	A992	Typical	3.84	2.73	39.6	.09
5	Support Framing	C6X8.2	Beam	Channel	A992	Typical	2.39	.69	13.1	.07

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	N5	Reaction	Reaction	Reaction			
2	N7	Reaction	Reaction	Reaction			
3	N6	Reaction	Reaction	Reaction			
4	N8	Reaction	Reaction	Reaction			

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Dead Load	DL		-1			20	4		
2	LCA Z	OL1				1				
3	LCB Z	OL2				1				
4	LCC Z	OL3				5				
5	LCA X	OL4				1				
6	LCB X	OL5				1				
7	LCC X	OL6				2				
8	Snow Load	SL							1	
9	Weight Of aluminum gr...	DL							1	
10	Live Load	LL							1	
11	BLC 9 Transient Area ...	None						132		
12	BLC 10 Transient Area...	None						132		
13	BLC 8 Transient Area ...	None						132		

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	M17	Y	-300	9
2	M19	Y	-300	9
3	M17	Y	-300	51
4	M19	Y	-300	51
5	M13	Y	-1175	0
6	M12	Y	-1175	0
7	M13	Y	-1175	%100
8	M12	Y	-1175	%100
9	M7	Y	-405	9
10	M20	Y	-405	9
11	M7	Y	-405	40

Member Point Loads (BLC 1 : Dead Load) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	M20	Y	-405	40
13	M41	Y	-300	0
14	M42	Y	-300	0
15	M41	Y	-300	%50
16	M42	Y	-300	%50
17	M2	Y	-200	%100
18	M3	Y	-50	%100
19	M22	Y	-385	200
20	M6	Y	-100	%100

Member Distributed Loads (BLC 1 : Dead Load)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M21	PY	-28	-28	0	0
2	M22	PY	-28	-28	0	0
3	M23	PY	-28	-28	0	0
4	M24	PY	-28	-28	0	0

Member Distributed Loads (BLC 11 : BLC 9 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-2.76	-3.87	0	25.4
2	M1	Y	-3.87	-5.75	25.4	50.8
3	M1	Y	-5.75	-4.94	50.8	76.2
4	M1	Y	-4.94	-2.5	76.2	101.6
5	M1	Y	-2.5	-1.91	101.6	127
6	M2	Y	-3.82	-2.65	0	25.4
7	M2	Y	-2.65	-3.85	25.4	50.8
8	M2	Y	-3.85	-5.65	50.8	76.2
9	M2	Y	-5.65	-4.27	76.2	101.6
10	M2	Y	-4.27	-1.5	101.6	127
11	M3	Y	-1.88	-2.1	0	25.4
12	M3	Y	-2.1	-3.48	25.4	50.8
13	M3	Y	-3.48	-6.13	50.8	76.2
14	M3	Y	-6.13	-5.03	76.2	101.6
15	M3	Y	-5.03	-.24	101.6	127
16	M4	Y	-1.88	-1.98	0	25.4
17	M4	Y	-1.98	-3.52	25.4	50.8
18	M4	Y	-3.52	-6.34	50.8	76.2
19	M4	Y	-6.34	-4.81	76.2	101.6
20	M4	Y	-4.81	-.18	101.6	127
21	M5	Y	-1.9	-2.33	0	25.4
22	M5	Y	-2.33	-4.16	25.4	50.8
23	M5	Y	-4.16	-7.26	50.8	76.2
24	M5	Y	-7.26	-6.44	76.2	101.6
25	M5	Y	-6.44	-1.82	101.6	127
26	M6	Y	-2.93	-2.6	0	25.4
27	M6	Y	-2.6	-4.1	25.4	50.8
28	M6	Y	-4.1	-7.3	50.8	76.2
29	M6	Y	-7.3	-7.57	76.2	101.6
30	M6	Y	-7.57	-5.06	101.6	127
31	M7	Y	-.23	-2.34	0	9.6
32	M7	Y	-2.34	-5.99	9.6	19.2
33	M7	Y	-5.99	-7.04	19.2	28.8
34	M7	Y	-7.04	-3.56	28.8	38.4
35	M7	Y	-3.56	-.23	38.4	48
36	M8	Y	-1.85	-3.36	4.8	17.6

Member Distributed Loads (BLC 11 : BLC 9 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
37	M8	Y	-3.36	-3.05	17.6	30.4
38	M8	Y	-3.05	-.93	30.4	43.2
39	M9	Y	-.97	-2.99	0	12
40	M9	Y	-2.99	-6.02	12	24
41	M9	Y	-6.02	-5.15	24	36
42	M9	Y	-5.15	-.36	36	48
43	M10	Y	-.93	-3.05	5.2	19.07
44	M10	Y	-3.05	-3.36	19.07	32.93
45	M10	Y	-3.36	-1.85	32.93	46.8
46	M11	Y	-.44	-4.74	0	13
47	M11	Y	-4.74	-6.57	13	26
48	M11	Y	-6.57	-4.05	26	39
49	M11	Y	-4.05	-.44	39	52
50	M12	Y	-1.76	-1.76		24
51	M13	Y	-3.4	-3.4	.0004422	24
52	M14	Y	-.45	-3.58	0	10.4
53	M14	Y	-3.58	-5.57	10.4	20.8
54	M14	Y	-5.57	-5.55	20.8	31.2
55	M14	Y	-5.55	-3.68	31.2	41.6
56	M14	Y	-3.68	-.82	41.6	52
57	M15	Y	-4.66	-2.48	5.2	14.56
58	M15	Y	-2.48	-2.73	14.56	23.92
59	M15	Y	-2.73	-3.92	23.92	33.28
60	M15	Y	-3.92	-2.24	33.28	42.64
61	M15	Y	-2.24	.03	42.64	52
62	M16	Y	-.15	-2.39	0	8.64
63	M16	Y	-2.39	-3.88	8.64	17.28
64	M16	Y	-3.88	-4.15	17.28	25.92
65	M16	Y	-4.15	-3.69	25.92	34.56
66	M16	Y	-3.69	-2	34.56	43.2
67	M17	Y	-.46	-2.95	.02	10.01
68	M17	Y	-2.95	-4.2	10.01	20.01
69	M17	Y	-4.2	-4.21	20.01	30
70	M17	Y	-4.21	-4.2	30	39.99
71	M17	Y	-4.2	-2.95	39.99	49.99
72	M17	Y	-2.95	-.46	49.99	59.98
73	M18	Y	-.11	-2.74	0	8.64
74	M18	Y	-2.74	-4.76	8.64	17.28
75	M18	Y	-4.76	-7.01	17.28	25.92
76	M18	Y	-7.01	-4.45	25.92	34.56
77	M18	Y	-4.45	-.11	34.56	43.2
78	M19	Y	-3.23	-4.99	6	18
79	M19	Y	-4.99	-5.9	18	30
80	M19	Y	-5.9	-5.04	30	42
81	M19	Y	-5.04	-3.27	42	54
82	M20	Y	-1.01	-1.73	0	9.6
83	M20	Y	-1.73	-2.97	9.6	19.2
84	M20	Y	-2.97	-3.17	19.2	28.8
85	M20	Y	-3.17	-1.81	28.8	38.4
86	M20	Y	-1.81	-.44	38.4	48
87	M21	Y	-3.03	-2.57	0	25.54
88	M21	Y	-2.57	-1.87	25.54	51.08
89	M21	Y	-1.87	-.92	51.08	76.62
90	M21	Y	-.92	-.98	76.62	102.15
91	M21	Y	-.98	-1	102.15	127.69
92	M21	Y	-1	-.94	127.69	153.23
93	M21	Y	-.94	-1.45	153.23	178.77

Member Distributed Loads (BLC 11 : BLC 9 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
94	M21	Y	-1.45	-1	178.77	204.31
95	M21	Y	-1	-.94	204.31	229.85
96	M21	Y	-.94	-1.22	229.85	255.38
97	M21	Y	-1.22	-1.1	255.38	280.92
98	M21	Y	-1.1	-1.45	280.92	306.46
99	M21	Y	-1.45	-2.04	306.46	332
100	M22	Y	-.62	-.45	0	25.54
101	M22	Y	-.45	-.45	25.54	51.08
102	M22	Y	-.45	-.54	51.08	76.62
103	M22	Y	-.54	-1.75	76.62	102.15
104	M22	Y	-1.75	-2.59	102.15	127.69
105	M22	Y	-2.59	-2.4	127.69	153.23
106	M22	Y	-2.4	-2.26	153.23	178.77
107	M22	Y	-2.26	-2.47	178.77	204.31
108	M22	Y	-2.47	-2.49	204.31	229.85
109	M22	Y	-2.49	-.99	229.85	255.38
110	M22	Y	-.99	-1.55	255.38	280.92
111	M22	Y	-1.55	-2.79	280.92	306.46
112	M22	Y	-2.79	-2.18	306.46	332
113	M23	Y	-.15	-2.71	0	25.4
114	M23	Y	-2.71	-3.9	25.4	50.8
115	M23	Y	-3.9	-2.84	50.8	76.2
116	M23	Y	-2.84	-1.67	76.2	101.6
117	M23	Y	-1.67	-.62	101.6	127
118	M24	Y	-1.32	-1.44	12.7	33.02
119	M24	Y	-1.44	-2.5	33.02	53.34
120	M24	Y	-2.5	-5.2	53.34	73.66
121	M24	Y	-5.2	-4.9	73.66	93.98
122	M24	Y	-4.9	-.86	93.98	114.3
123	M41	Y	-.31	-3.42	0	9.6
124	M41	Y	-3.42	-4.99	9.6	19.2
125	M41	Y	-4.99	-6.05	19.2	28.8
126	M41	Y	-6.05	-4.5	28.8	38.4
127	M41	Y	-4.5	-.31	38.4	48
128	M42	Y	-.72	-1.8	0	9.6
129	M42	Y	-1.8	-2.55	9.6	19.2
130	M42	Y	-2.55	-2.56	19.2	28.8
131	M42	Y	-2.56	-1.79	28.8	38.4
132	M42	Y	-1.79	-.68	38.4	48

Member Distributed Loads (BLC 12 : BLC 10 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-34.53	-48.35	0	25.4
2	M1	Y	-48.35	-71.83	25.4	50.8
3	M1	Y	-71.83	-61.71	50.8	76.2
4	M1	Y	-61.71	-31.3	76.2	101.6
5	M1	Y	-31.3	-23.88	101.6	127
6	M2	Y	-47.73	-33.08	0	25.4
7	M2	Y	-33.08	-48.17	25.4	50.8
8	M2	Y	-48.17	-70.65	50.8	76.2
9	M2	Y	-70.65	-53.38	76.2	101.6
10	M2	Y	-53.38	-18.69	101.6	127
11	M3	Y	-23.51	-26.29	0	25.4
12	M3	Y	-26.29	-43.47	25.4	50.8
13	M3	Y	-43.47	-76.58	50.8	76.2
14	M3	Y	-76.58	-62.86	76.2	101.6

Member Distributed Loads (BLC 12 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
15	M3	Y	-62.86	-3.02	101.6	127
16	M4	Y	-23.55	-24.72	0	25.4
17	M4	Y	-24.72	-44.06	25.4	50.8
18	M4	Y	-44.06	-79.26	50.8	76.2
19	M4	Y	-79.26	-60.1	76.2	101.6
20	M4	Y	-60.1	-2.28	101.6	127
21	M5	Y	-23.81	-29.16	0	25.4
22	M5	Y	-29.16	-51.99	25.4	50.8
23	M5	Y	-51.99	-90.75	50.8	76.2
24	M5	Y	-90.75	-80.48	76.2	101.6
25	M5	Y	-80.48	-22.72	101.6	127
26	M6	Y	-36.69	-32.46	0	25.4
27	M6	Y	-32.46	-51.3	25.4	50.8
28	M6	Y	-51.3	-91.29	50.8	76.2
29	M6	Y	-91.29	-94.63	76.2	101.6
30	M6	Y	-94.63	-63.22	101.6	127
31	M7	Y	-2.93	-29.23	0	9.6
32	M7	Y	-29.23	-74.93	9.6	19.2
33	M7	Y	-74.93	-87.94	19.2	28.8
34	M7	Y	-87.94	-44.54	28.8	38.4
35	M7	Y	-44.54	-2.93	38.4	48
36	M8	Y	-23.16	-41.99	4.8	17.6
37	M8	Y	-41.99	-38.16	17.6	30.4
38	M8	Y	-38.16	-11.67	30.4	43.2
39	M9	Y	-12.15	-37.36	0	12
40	M9	Y	-37.36	-75.19	12	24
41	M9	Y	-75.19	-64.41	24	36
42	M9	Y	-64.41	-4.56	36	48
43	M10	Y	-11.67	-38.15	5.2	19.07
44	M10	Y	-38.15	-41.97	19.07	32.93
45	M10	Y	-41.97	-23.13	32.93	46.8
46	M11	Y	-5.54	-59.2	0	13
47	M11	Y	-59.2	-82.1	13	26
48	M11	Y	-82.1	-50.6	26	39
49	M11	Y	-50.6	-5.54	39	52
50	M12	Y	-22	-22		24
51	M13	Y	-42.52	-42.52	.0004422	24
52	M14	Y	-5.61	-44.78	0	10.4
53	M14	Y	-44.78	-69.56	10.4	20.8
54	M14	Y	-69.56	-69.33	20.8	31.2
55	M14	Y	-69.33	-46	31.2	41.6
56	M14	Y	-46	-10.21	41.6	52
57	M15	Y	-58.27	-30.97	5.2	14.56
58	M15	Y	-30.97	-34.15	14.56	23.92
59	M15	Y	-34.15	-49.04	23.92	33.28
60	M15	Y	-49.04	-27.99	33.28	42.64
61	M15	Y	-27.99	.43	42.64	52
62	M16	Y	-1.86	-29.93	0	8.64
63	M16	Y	-29.93	-48.51	8.64	17.28
64	M16	Y	-48.51	-51.89	17.28	25.92
65	M16	Y	-51.89	-46.12	25.92	34.56
66	M16	Y	-46.12	-25.01	34.56	43.2
67	M17	Y	-5.79	-36.92	.02	10.01
68	M17	Y	-36.92	-52.56	10.01	20.01
69	M17	Y	-52.56	-52.63	20.01	30
70	M17	Y	-52.63	-52.55	30	39.99
71	M17	Y	-52.55	-36.91	39.99	49.99

Member Distributed Loads (BLC 12 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
72	M17	Y	-36.91	-5.8	49.99	59.98
73	M18	Y	-1.33	-34.2	0	8.64
74	M18	Y	-34.2	-59.46	8.64	17.28
75	M18	Y	-59.46	-87.57	17.28	25.92
76	M18	Y	-87.57	-55.66	25.92	34.56
77	M18	Y	-55.66	-1.33	34.56	43.2
78	M19	Y	-40.32	-62.4	6	18
79	M19	Y	-62.4	-73.74	18	30
80	M19	Y	-73.74	-62.98	30	42
81	M19	Y	-62.98	-40.87	42	54
82	M20	Y	-12.67	-21.63	0	9.6
83	M20	Y	-21.63	-37.11	9.6	19.2
84	M20	Y	-37.11	-39.59	19.2	28.8
85	M20	Y	-39.59	-22.57	28.8	38.4
86	M20	Y	-22.57	-5.54	38.4	48
87	M21	Y	-37.86	-32.18	0	25.54
88	M21	Y	-32.18	-23.35	25.54	51.08
89	M21	Y	-23.35	-11.5	51.08	76.62
90	M21	Y	-11.5	-12.23	76.62	102.15
91	M21	Y	-12.23	-12.48	102.15	127.69
92	M21	Y	-12.48	-11.74	127.69	153.23
93	M21	Y	-11.74	-18.17	153.23	178.77
94	M21	Y	-18.17	-12.53	178.77	204.31
95	M21	Y	-12.53	-11.76	204.31	229.85
96	M21	Y	-11.76	-15.22	229.85	255.38
97	M21	Y	-15.22	-13.72	255.38	280.92
98	M21	Y	-13.72	-18.1	280.92	306.46
99	M21	Y	-18.1	-25.45	306.46	332
100	M22	Y	-7.81	-5.61	0	25.54
101	M22	Y	-5.61	-5.61	25.54	51.08
102	M22	Y	-5.61	-6.73	51.08	76.62
103	M22	Y	-6.73	-21.93	76.62	102.15
104	M22	Y	-21.93	-32.32	102.15	127.69
105	M22	Y	-32.32	-30	127.69	153.23
106	M22	Y	-30	-28.27	153.23	178.77
107	M22	Y	-28.27	-30.85	178.77	204.31
108	M22	Y	-30.85	-31.12	204.31	229.85
109	M22	Y	-31.12	-12.36	229.85	255.38
110	M22	Y	-12.36	-19.35	255.38	280.92
111	M22	Y	-19.35	-34.82	280.92	306.46
112	M22	Y	-34.82	-27.27	306.46	332
113	M23	Y	-1.87	-33.86	0	25.4
114	M23	Y	-33.86	-48.71	25.4	50.8
115	M23	Y	-48.71	-35.56	50.8	76.2
116	M23	Y	-35.56	-20.83	76.2	101.6
117	M23	Y	-20.83	-7.7	101.6	127
118	M24	Y	-16.55	-18.01	12.7	33.02
119	M24	Y	-18.01	-31.19	33.02	53.34
120	M24	Y	-31.19	-65.05	53.34	73.66
121	M24	Y	-65.05	-61.23	73.66	93.98
122	M24	Y	-61.23	-10.77	93.98	114.3
123	M41	Y	-3.91	-42.71	0	9.6
124	M41	Y	-42.71	-62.33	9.6	19.2
125	M41	Y	-62.33	-75.56	19.2	28.8
126	M41	Y	-75.56	-56.25	28.8	38.4
127	M41	Y	-56.25	-3.91	38.4	48
128	M42	Y	-9.06	-22.47	0	9.6

Member Distributed Loads (BLC 12 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
129	M42	Y	-22.47	-31.93	9.6	19.2
130	M42	Y	-31.93	-32.02	19.2	28.8
131	M42	Y	-32.02	-22.39	28.8	38.4
132	M42	Y	-22.39	-8.46	38.4	48

Member Distributed Loads (BLC 13 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-41.44	-58.02	0	25.4
2	M1	Y	-58.02	-86.2	25.4	50.8
3	M1	Y	-86.2	-74.06	50.8	76.2
4	M1	Y	-74.06	-37.56	76.2	101.6
5	M1	Y	-37.56	-28.65	101.6	127
6	M2	Y	-57.28	-39.7	0	25.4
7	M2	Y	-39.7	-57.8	25.4	50.8
8	M2	Y	-57.8	-84.79	50.8	76.2
9	M2	Y	-84.79	-64.06	76.2	101.6
10	M2	Y	-64.06	-22.43	101.6	127
11	M3	Y	-28.21	-31.55	0	25.4
12	M3	Y	-31.55	-52.16	25.4	50.8
13	M3	Y	-52.16	-91.89	50.8	76.2
14	M3	Y	-91.89	-75.43	76.2	101.6
15	M3	Y	-75.43	-3.62	101.6	127
16	M4	Y	-28.26	-29.67	0	25.4
17	M4	Y	-29.67	-52.87	25.4	50.8
18	M4	Y	-52.87	-95.11	50.8	76.2
19	M4	Y	-95.11	-72.12	76.2	101.6
20	M4	Y	-72.12	-2.74	101.6	127
21	M5	Y	-28.57	-34.99	0	25.4
22	M5	Y	-34.99	-62.39	25.4	50.8
23	M5	Y	-62.39	-108.9	50.8	76.2
24	M5	Y	-108.9	-96.58	76.2	101.6
25	M5	Y	-96.58	-27.27	101.6	127
26	M6	Y	-44.02	-38.95	0	25.4
27	M6	Y	-38.95	-61.56	25.4	50.8
28	M6	Y	-61.56	-109.55	50.8	76.2
29	M6	Y	-109.55	-113.55	76.2	101.6
30	M6	Y	-113.55	-75.87	101.6	127
31	M7	Y	-3.52	-35.08	0	9.6
32	M7	Y	-35.08	-89.92	9.6	19.2
33	M7	Y	-89.92	-105.53	19.2	28.8
34	M7	Y	-105.53	-53.44	28.8	38.4
35	M7	Y	-53.44	-3.52	38.4	48
36	M8	Y	-27.8	-50.39	4.8	17.6
37	M8	Y	-50.39	-45.79	17.6	30.4
38	M8	Y	-45.79	-14	30.4	43.2
39	M9	Y	-14.58	-44.84	0	12
40	M9	Y	-44.84	-90.23	12	24
41	M9	Y	-90.23	-77.29	24	36
42	M9	Y	-77.29	-5.47	36	48
43	M10	Y	-14	-45.79	5.2	19.07
44	M10	Y	-45.79	-50.37	19.07	32.93
45	M10	Y	-50.37	-27.75	32.93	46.8
46	M11	Y	-6.65	-71.04	0	13
47	M11	Y	-71.04	-98.52	13	26
48	M11	Y	-98.52	-60.72	26	39
49	M11	Y	-60.72	-6.65	39	52

Member Distributed Loads (BLC 13 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
50	M12	Y	-26.4	-26.4		24
51	M13	Y	-51.02	-51.02	.0004422	24
52	M14	Y	-6.73	-53.74	0	10.4
53	M14	Y	-53.74	-83.48	10.4	20.8
54	M14	Y	-83.48	-83.2	20.8	31.2
55	M14	Y	-83.2	-55.2	31.2	41.6
56	M14	Y	-55.2	-12.25	41.6	52
57	M15	Y	-69.92	-37.17	5.2	14.56
58	M15	Y	-37.17	-40.98	14.56	23.92
59	M15	Y	-40.98	-58.84	23.92	33.28
60	M15	Y	-58.84	-33.59	33.28	42.64
61	M15	Y	-33.59	.52	42.64	52
62	M16	Y	-2.24	-35.91	0	8.64
63	M16	Y	-35.91	-58.21	8.64	17.28
64	M16	Y	-58.21	-62.27	17.28	25.92
65	M16	Y	-62.27	-55.34	25.92	34.56
66	M16	Y	-55.34	-30.01	34.56	43.2
67	M17	Y	-6.95	-44.3	.02	10.01
68	M17	Y	-44.3	-63.07	10.01	20.01
69	M17	Y	-63.07	-63.15	20.01	30
70	M17	Y	-63.15	-63.06	30	39.99
71	M17	Y	-63.06	-44.29	39.99	49.99
72	M17	Y	-44.29	-6.96	49.99	59.98
73	M18	Y	-1.6	-41.04	0	8.64
74	M18	Y	-41.04	-71.35	8.64	17.28
75	M18	Y	-71.35	-105.08	17.28	25.92
76	M18	Y	-105.08	-66.79	25.92	34.56
77	M18	Y	-66.79	-1.6	34.56	43.2
78	M19	Y	-48.39	-74.88	6	18
79	M19	Y	-74.88	-88.49	18	30
80	M19	Y	-88.49	-75.58	30	42
81	M19	Y	-75.58	-49.05	42	54
82	M20	Y	-15.21	-25.96	0	9.6
83	M20	Y	-25.96	-44.53	9.6	19.2
84	M20	Y	-44.53	-47.51	19.2	28.8
85	M20	Y	-47.51	-27.08	28.8	38.4
86	M20	Y	-27.08	-6.64	38.4	48
87	M21	Y	-45.43	-38.61	0	25.54
88	M21	Y	-38.61	-28.02	25.54	51.08
89	M21	Y	-28.02	-13.8	51.08	76.62
90	M21	Y	-13.8	-14.68	76.62	102.15
91	M21	Y	-14.68	-14.97	102.15	127.69
92	M21	Y	-14.97	-14.09	127.69	153.23
93	M21	Y	-14.09	-21.8	153.23	178.77
94	M21	Y	-21.8	-15.04	178.77	204.31
95	M21	Y	-15.04	-14.11	204.31	229.85
96	M21	Y	-14.11	-18.26	229.85	255.38
97	M21	Y	-18.26	-16.47	255.38	280.92
98	M21	Y	-16.47	-21.72	280.92	306.46
99	M21	Y	-21.72	-30.54	306.46	332
100	M22	Y	-9.37	-6.73	0	25.54
101	M22	Y	-6.73	-6.73	25.54	51.08
102	M22	Y	-6.73	-8.08	51.08	76.62
103	M22	Y	-8.08	-26.32	76.62	102.15
104	M22	Y	-26.32	-38.79	102.15	127.69
105	M22	Y	-38.79	-36	127.69	153.23
106	M22	Y	-36	-33.92	153.23	178.77

Member Distributed Loads (BLC 13 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
107	M22	Y	-33.92	-37.02	178.77	204.31
108	M22	Y	-37.02	-37.35	204.31	229.85
109	M22	Y	-37.35	-14.83	229.85	255.38
110	M22	Y	-14.83	-23.22	255.38	280.92
111	M22	Y	-23.22	-41.78	280.92	306.46
112	M22	Y	-41.78	-32.72	306.46	332
113	M23	Y	-2.24	-40.63	0	25.4
114	M23	Y	-40.63	-58.46	25.4	50.8
115	M23	Y	-58.46	-42.67	50.8	76.2
116	M23	Y	-42.67	-25	76.2	101.6
117	M23	Y	-25	-9.25	101.6	127
118	M24	Y	-19.86	-21.61	12.7	33.02
119	M24	Y	-21.61	-37.43	33.02	53.34
120	M24	Y	-37.43	-78.06	53.34	73.66
121	M24	Y	-78.06	-73.47	73.66	93.98
122	M24	Y	-73.47	-12.92	93.98	114.3
123	M41	Y	-4.69	-51.25	0	9.6
124	M41	Y	-51.25	-74.79	9.6	19.2
125	M41	Y	-74.79	-90.68	19.2	28.8
126	M41	Y	-90.68	-67.5	28.8	38.4
127	M41	Y	-67.5	-4.69	38.4	48
128	M42	Y	-10.87	-26.97	0	9.6
129	M42	Y	-26.97	-38.32	9.6	19.2
130	M42	Y	-38.32	-38.43	19.2	28.8
131	M42	Y	-38.43	-26.87	28.8	38.4
132	M42	Y	-26.87	-10.15	38.4	48

Load Combinations

	Description	S...	P...	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4 DL	Y...	Y		1	1.4																		
2	1.2 DL + 1.0 LCA X	Y...	Y		1	1.2	5	1																
3	1.2 DL - 1.0 LCA X	Y...	Y		1	1.2	5	-1																
4	1.2 DL + 1.0 LCB X	Y...	Y		1	1.2	6	1																
5	1.2 DL - 1.0 LCB X	Y...	Y		1	1.2	6	-1																
6	1.2 DL + 1.0 LCC X	Y...	Y		1	1.2	7	1																
7	1.2 DL + 1.0 LCC X	Y...	Y		1	1.2	7	-1																
8	1.2 DL + 1.0 LCA Z	Y...	Y		1	1.2	2	1																
9	1.2 DL - 1.0 LCA Z	Y...	Y		1	1.2	2	-1																
10	1.2 DL + 1.0 LCB Z	Y...	Y		1	1.2	3	1																
11	1.2 DL - 1.0 LCB Z	Y...	Y		1	1.2	3	-1																
12	1.2 DL + 1.0 LCC Z	Y...	Y		1	1.2	4	1																
13	1.2 DL - 1.0 LCC Z	Y...	Y		1	1.2	4	-1																
14	0.9 DL + 1.0 LCA X	Y...	Y		1	.9	5	1																
15	0.9 DL - 1.0 LCA X	Y...	Y		1	.9	5	-1																
16	0.9 DL + 1.0 LCB X	Y...	Y		1	.9	6	1																
17	0.9 DL - 1.0 LCB X	Y...	Y		1	.9	6	-1																
18	0.9 DL + 1.0 LCC X	Y...	Y		1	.9	7	1																
19	0.9 DL + 1.0 LCC X	Y...	Y		1	.9	7	-1																
20	0.9 DL + 1.0 LCA Z	Y...	Y		1	.9	2	1																
21	0.9 DL - 1.0 LCA Z	Y...	Y		1	.9	2	-1																
22	0.9 DL + 1.0 LCB Z	Y...	Y		1	.9	3	1																
23	0.9 DL - 1.0 LCB Z	Y...	Y		1	.9	3	-1																
24	0.9 DL + 1.0 LCC Z	Y...	Y		1	.9	4	1																
25	0.9 DL - 1.0 LCC Z	Y...	Y		1	.9	4	-1																
26	IBC 16-1	Y...	Y		DL	1.4																		

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
27	IBC 16-2 (a)	Y...	Y		DL	1.2	LL	1.6	LLS	1.6														
28	IBC 16-2 (b)	Y...	Y		DL	1.2	LL	1.6	LLS	1.6	SL	.5	S...	.5										
29	IBC 16-3 (c)	Y...	Y		DL	1.2	SL	1.6	SLN	1.6	LL	.5	L...	1										

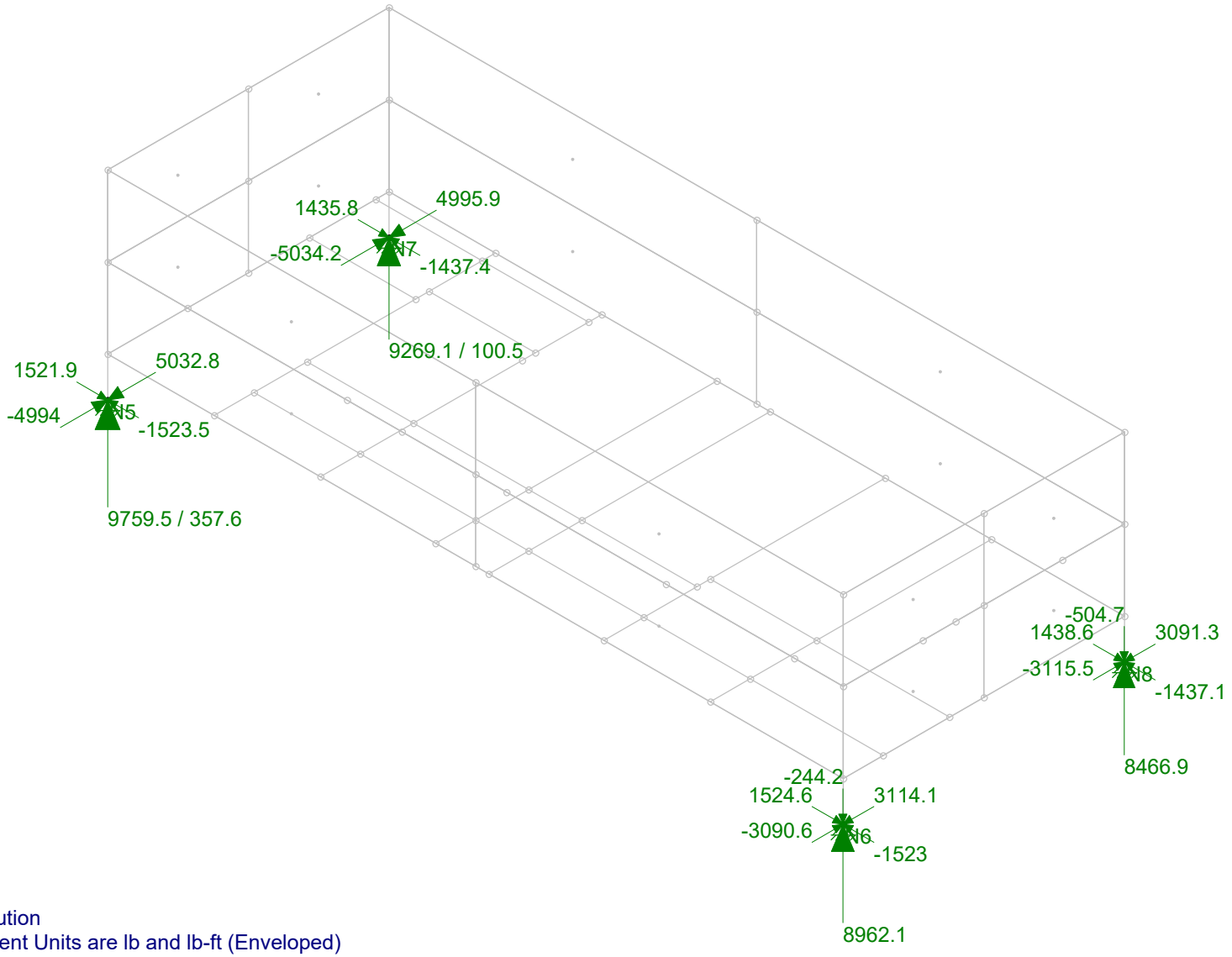
Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N5	max	1521.898	18	9759.458	29	5032.808	24	0	29	0	29	0	29
2		min	-1523.486	19	357.582	24	-4994.045	25	0	1	0	1	0	1
3	N7	max	1435.836	18	9269.093	29	4995.94	12	0	29	0	29	0	29
4		min	-1437.394	19	100.492	25	-5034.163	13	0	1	0	1	0	1
5	N6	max	1524.646	6	8962.089	29	3114.058	24	0	29	0	29	0	29
6		min	-1522.994	7	-244.235	24	-3090.55	25	0	1	0	1	0	1
7	N8	max	1438.552	6	8466.897	29	3091.331	12	0	29	0	29	0	29
8		min	-1437.058	7	-504.681	25	-3115.483	13	0	1	0	1	0	1
9	Totals:	max	5920.599	18	36457.537	29	16233.796	24						
10		min	-5920.599	19	13530.05	24	-16233.796	25						

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

	Member	Shape	Code Che...	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	...	Eqn
1	M1	W8X13	.228	87.313	29	.059	127	y	29	38237...	172...	806...	244...	...	H1-...
2	M2	W8X13	.168	58.208	29	.029	127	y	29	38237...	172...	806...	239...	...	H1-...
3	M3	W8X13	.279	42.333	29	.060	0	y	29	38237...	172...	806...	269...	...	H1-...
4	M4	W8X13	.275	42.333	29	.060	0	y	29	38237...	172...	806...	269...	...	H1-...
5	M5	W8X13	.155	54.24	29	.026	0	y	29	38237...	172...	806...	247...	...	H1-...
6	M6	W8X13	.211	48.948	29	.038	0	y	29	38237...	172...	806...	255...	...	H1-...
7	M7	W8X13	.016	24	29	.018	48	y	29	13634...	172...	806...	42750	...	H1-...
8	M8	W8X13	.005	23.5	29	.004	0	y	29	13634...	172...	806...	42750	...	H1-...
9	M9	W8X13	.008	25	29	.006	48	y	29	13634...	172...	806...	42750	...	H1-...
10	M10	W8X13	.006	26.542	29	.006	52	y	29	13084...	172...	806...	42750	...	H1-...
11	M11	W8X13	.009	25.458	29	.006	0	y	29	13084...	172...	806...	42750	...	H1-...
12	M12	W8X13	.001	12	29	.001	24	y	29	16286...	172...	806...	42750	...	H1-...
13	M13	W8X13	.001	12	29	.003	24	y	29	16286...	172...	806...	42750	...	H1-...
14	M14	W8X13	.009	26	29	.006	52	y	29	13084...	172...	806...	42750	...	H1-...
15	M15	W8X13	.006	26.542	29	.007	0	y	29	13084...	172...	806...	42750	...	H1-...
16	M16	W8X13	.006	24	29	.005	0	y	29	13634...	172...	806...	42750	...	H1-...
17	M17	W8X13	.017	30	29	.016	0	y	29	11932...	172...	806...	406...	...	H1-...
18	M18	W8X13	.008	24.5	29	.005	0	y	29	13634...	172...	806...	42750	...	H1-...
19	M19	W8X13	.019	30	29	.014	60	y	29	11932...	172...	806...	410...	...	H1-...
20	M20	W8X13	.013	23	29	.018	48	y	29	13634...	172...	806...	421...	...	H1-...
21	M21	W16X26	.076	166	29	.156	166	y	29	78609.9	345...	20550	165...	...	H1-...
22	M22	W16X26	.080	166	29	.127	166	y	29	78609.9	345...	20550	165...	...	H1-...
23	M23	W10X15	.017	91.281	29	.014	127	y	29	10533...	198...	8625	60000	...	H1-...
24	M24	W10X15	.016	63.5	29	.018	63.5	y	29	10533...	198...	8625	60000	...	H1-...
25	M25	HSS4.000X0.226	.843	18	13	.178	0		12	93461...	94500	9513	9513	...	H1-...
26	M26	HSS4.000X0.226	.841	18	12	.178	0		12	93461...	94500	9513	9513	...	H1-...
27	M27	HSS4.000X0.226	.536	18	13	.111	0		13	93461...	94500	9513	9513	...	H1-...
28	M28	HSS4.000X0.226	.534	18	12	.111	0		12	93461...	94500	9513	9513	...	H1-...
29	M41	C6X8.2	.035	24	29	.016	48	y	29	59853...	107...	292...	19350	...	H1-...
30	M42	C6X8.2	.027	24	29	.013	0	y	29	59853...	107...	292...	19350	...	H1-...

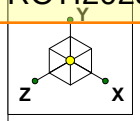
PRCTI20230490

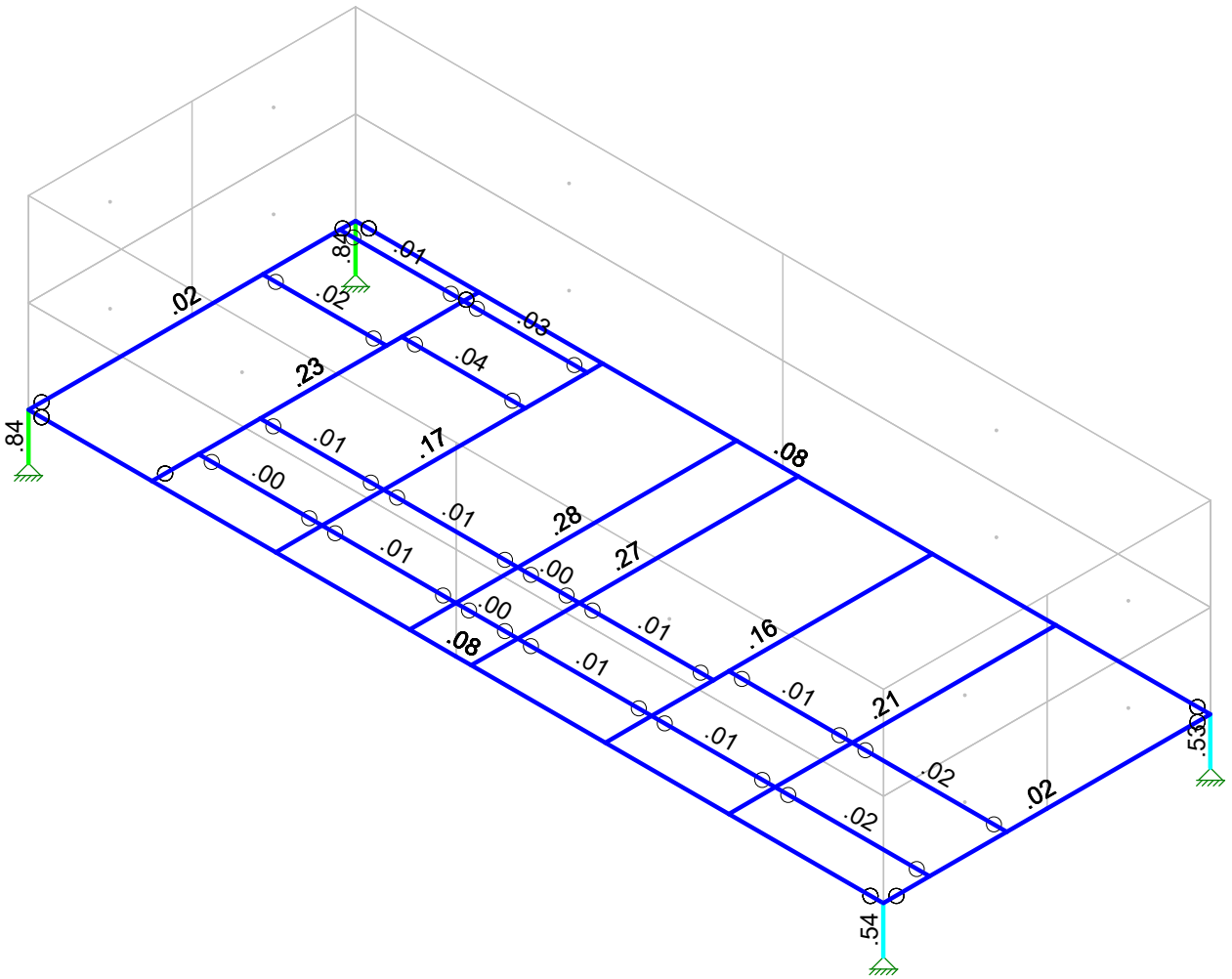


Envelope Only Solution
Reaction and Moment Units are lb and lb-ft (Enveloped)

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 14
ML		Dec 5, 2019 at 2:40 PM
GED-577R5 / 2000204		Platform Analysis.r3d

PRCTI20230490

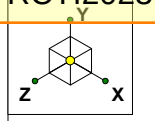


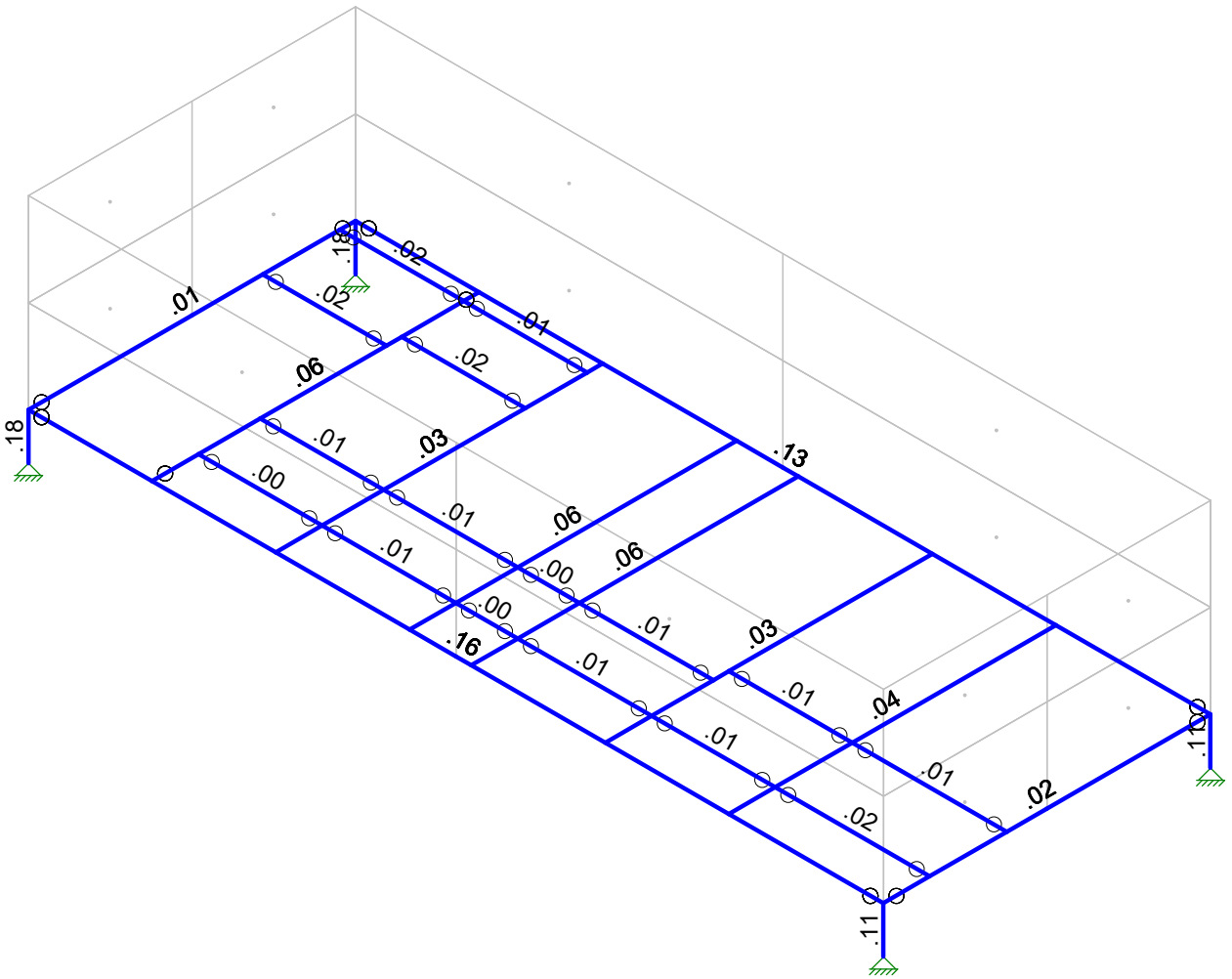


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 16
ML		Dec 5, 2019 at 2:42 PM
GED-577R5 / 2000204		Platform Analysis.r3d

PRCTI20230490





Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 17
ML		Dec 5, 2019 at 2:43 PM
GED-577R5 / 2000204		Platform Analysis.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A500 Gr.B Rect	29000	11154	.3	.65	.53	46	1.4	58	1.3
4	A500 Gr.B RND	29000	11154	.3	.65	.53	42	1.4	58	1.3
5	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [in...	Izz [i...	J [in4]
1	Platform Support	HSS4.000X0.2...	Column	HSS Pipe	A500 Gr.B RND	Typical	2.5	4.5	4.5	9.01
2	Platform Plinth Beam (N and S)	W16X26	Beam	Wide Flange	A992	Typical	7.68	9.59	301	.26
3	Platform Plinth Beam (E and W)	W10X15	Beam	Wide Flange	A992	Typical	4.41	2.89	68.9	.1
4	Secondary Framing	W8X13	Beam	Wide Flange	A992	Typical	3.84	2.73	39.6	.09
5	Support Framing	C6X8.2	Beam	Channel	A992	Typical	2.39	.69	13.1	.07

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	N5	Reaction	Reaction	Reaction			
2	N7	Reaction	Reaction	Reaction			
3	N6	Reaction	Reaction	Reaction			
4	N8	Reaction	Reaction	Reaction			

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Dead Load	DL		-1		1	20			
2	Snow Load	SL							1	
3	Weight Of aluminum gr...	DL							1	
4	Live Load	LL								
5	BLC 3 Transient Area ...	None						132		
6	BLC 2 Transient Area ...	None						132		

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	M17	Y	-300	9
2	M19	Y	-300	9
3	M17	Y	-300	51
4	M19	Y	-300	51
5	M13	Y	-1175	0
6	M12	Y	-1175	0
7	M13	Y	-1175	%100
8	M12	Y	-1175	%100
9	M7	Y	-405	9
10	M20	Y	-405	9
11	M7	Y	-405	40
12	M20	Y	-405	40
13	M41	Y	-300	0
14	M42	Y	-300	0
15	M41	Y	-300	%50
16	M42	Y	-300	%50
17	M2	Y	-200	%100
18	M3	Y	-50	%100

Member Point Loads (BLC 1 : Dead Load) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
19	M22	Y	-385	200
20	M6	Y	-100	%100

Member Distributed Loads (BLC 5 : BLC 3 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-2.76	-3.87	0	25.4
2	M1	Y	-3.87	-5.75	25.4	50.8
3	M1	Y	-5.75	-4.94	50.8	76.2
4	M1	Y	-4.94	-2.5	76.2	101.6
5	M1	Y	-2.5	-1.91	101.6	127
6	M2	Y	-3.82	-2.65	0	25.4
7	M2	Y	-2.65	-3.85	25.4	50.8
8	M2	Y	-3.85	-5.65	50.8	76.2
9	M2	Y	-5.65	-4.27	76.2	101.6
10	M2	Y	-4.27	-1.5	101.6	127
11	M3	Y	-1.88	-2.1	0	25.4
12	M3	Y	-2.1	-3.48	25.4	50.8
13	M3	Y	-3.48	-6.13	50.8	76.2
14	M3	Y	-6.13	-5.03	76.2	101.6
15	M3	Y	-5.03	-.24	101.6	127
16	M4	Y	-1.88	-1.98	0	25.4
17	M4	Y	-1.98	-3.52	25.4	50.8
18	M4	Y	-3.52	-6.34	50.8	76.2
19	M4	Y	-6.34	-4.81	76.2	101.6
20	M4	Y	-4.81	-.18	101.6	127
21	M5	Y	-1.9	-2.33	0	25.4
22	M5	Y	-2.33	-4.16	25.4	50.8
23	M5	Y	-4.16	-7.26	50.8	76.2
24	M5	Y	-7.26	-6.44	76.2	101.6
25	M5	Y	-6.44	-1.82	101.6	127
26	M6	Y	-2.93	-2.6	0	25.4
27	M6	Y	-2.6	-4.1	25.4	50.8
28	M6	Y	-4.1	-7.3	50.8	76.2
29	M6	Y	-7.3	-7.57	76.2	101.6
30	M6	Y	-7.57	-5.06	101.6	127
31	M7	Y	-.23	-2.34	0	9.6
32	M7	Y	-2.34	-5.99	9.6	19.2
33	M7	Y	-5.99	-7.04	19.2	28.8
34	M7	Y	-7.04	-3.56	28.8	38.4
35	M7	Y	-3.56	-.23	38.4	48
36	M8	Y	-1.85	-3.36	4.8	17.6
37	M8	Y	-3.36	-3.05	17.6	30.4
38	M8	Y	-3.05	-.93	30.4	43.2
39	M9	Y	-.97	-2.99	0	12
40	M9	Y	-2.99	-6.02	12	24
41	M9	Y	-6.02	-5.15	24	36
42	M9	Y	-5.15	-.36	36	48
43	M10	Y	-.93	-3.05	5.2	19.07
44	M10	Y	-3.05	-3.36	19.07	32.93
45	M10	Y	-3.36	-1.85	32.93	46.8
46	M11	Y	-.44	-4.74	0	13
47	M11	Y	-4.74	-6.57	13	26
48	M11	Y	-6.57	-4.05	26	39
49	M11	Y	-4.05	-.44	39	52
50	M12	Y	-1.76	-1.76		24

Member Distributed Loads (BLC 5 : BLC 3 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
51	M13	Y	-3.4	-3.4	.0004422	24
52	M14	Y	-.45	-3.58	0	10.4
53	M14	Y	-3.58	-5.57	10.4	20.8
54	M14	Y	-5.57	-5.55	20.8	31.2
55	M14	Y	-5.55	-3.68	31.2	41.6
56	M14	Y	-3.68	-.82	41.6	52
57	M15	Y	-4.66	-2.48	5.2	14.56
58	M15	Y	-2.48	-2.73	14.56	23.92
59	M15	Y	-2.73	-3.92	23.92	33.28
60	M15	Y	-3.92	-2.24	33.28	42.64
61	M15	Y	-2.24	.03	42.64	52
62	M16	Y	-.15	-2.39	0	8.64
63	M16	Y	-2.39	-3.88	8.64	17.28
64	M16	Y	-3.88	-4.15	17.28	25.92
65	M16	Y	-4.15	-3.69	25.92	34.56
66	M16	Y	-3.69	-2	34.56	43.2
67	M17	Y	-.46	-2.95	.02	10.01
68	M17	Y	-2.95	-4.2	10.01	20.01
69	M17	Y	-4.2	-4.21	20.01	30
70	M17	Y	-4.21	-4.2	30	39.99
71	M17	Y	-4.2	-2.95	39.99	49.99
72	M17	Y	-2.95	-.46	49.99	59.98
73	M18	Y	-.11	-2.74	0	8.64
74	M18	Y	-2.74	-4.76	8.64	17.28
75	M18	Y	-4.76	-7.01	17.28	25.92
76	M18	Y	-7.01	-4.45	25.92	34.56
77	M18	Y	-4.45	-.11	34.56	43.2
78	M19	Y	-3.23	-4.99	6	18
79	M19	Y	-4.99	-5.9	18	30
80	M19	Y	-5.9	-5.04	30	42
81	M19	Y	-5.04	-3.27	42	54
82	M20	Y	-1.01	-1.73	0	9.6
83	M20	Y	-1.73	-2.97	9.6	19.2
84	M20	Y	-2.97	-3.17	19.2	28.8
85	M20	Y	-3.17	-1.81	28.8	38.4
86	M20	Y	-1.81	-.44	38.4	48
87	M21	Y	-3.03	-2.57	0	25.54
88	M21	Y	-2.57	-1.87	25.54	51.08
89	M21	Y	-1.87	-.92	51.08	76.62
90	M21	Y	-.92	-.98	76.62	102.15
91	M21	Y	-.98	-1	102.15	127.69
92	M21	Y	-1	-.94	127.69	153.23
93	M21	Y	-.94	-1.45	153.23	178.77
94	M21	Y	-1.45	-1	178.77	204.31
95	M21	Y	-1	-.94	204.31	229.85
96	M21	Y	-.94	-1.22	229.85	255.38
97	M21	Y	-1.22	-1.1	255.38	280.92
98	M21	Y	-1.1	-1.45	280.92	306.46
99	M21	Y	-1.45	-2.04	306.46	332
100	M22	Y	-.62	-.45	0	25.54
101	M22	Y	-.45	-.45	25.54	51.08
102	M22	Y	-.45	-.54	51.08	76.62
103	M22	Y	-.54	-1.75	76.62	102.15
104	M22	Y	-1.75	-2.59	102.15	127.69
105	M22	Y	-2.59	-2.4	127.69	153.23
106	M22	Y	-2.4	-2.26	153.23	178.77
107	M22	Y	-2.26	-2.47	178.77	204.31

Member Distributed Loads (BLC 5 : BLC 3 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
108	M22	Y	-2.47	-2.49	204.31	229.85
109	M22	Y	-2.49	-.99	229.85	255.38
110	M22	Y	-.99	-1.55	255.38	280.92
111	M22	Y	-1.55	-2.79	280.92	306.46
112	M22	Y	-2.79	-2.18	306.46	332
113	M23	Y	-.15	-2.71	0	25.4
114	M23	Y	-2.71	-3.9	25.4	50.8
115	M23	Y	-3.9	-2.84	50.8	76.2
116	M23	Y	-2.84	-1.67	76.2	101.6
117	M23	Y	-1.67	-.62	101.6	127
118	M24	Y	-1.32	-1.44	12.7	33.02
119	M24	Y	-1.44	-2.5	33.02	53.34
120	M24	Y	-2.5	-5.2	53.34	73.66
121	M24	Y	-5.2	-4.9	73.66	93.98
122	M24	Y	-4.9	-.86	93.98	114.3
123	M41	Y	-.31	-3.42	0	9.6
124	M41	Y	-3.42	-4.99	9.6	19.2
125	M41	Y	-4.99	-6.05	19.2	28.8
126	M41	Y	-6.05	-4.5	28.8	38.4
127	M41	Y	-4.5	-.31	38.4	48
128	M42	Y	-.72	-1.8	0	9.6
129	M42	Y	-1.8	-2.55	9.6	19.2
130	M42	Y	-2.55	-2.56	19.2	28.8
131	M42	Y	-2.56	-1.79	28.8	38.4
132	M42	Y	-1.79	-.68	38.4	48

Member Distributed Loads (BLC 6 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-41.44	-58.02	0	25.4
2	M1	Y	-58.02	-86.2	25.4	50.8
3	M1	Y	-86.2	-74.06	50.8	76.2
4	M1	Y	-74.06	-37.56	76.2	101.6
5	M1	Y	-37.56	-28.65	101.6	127
6	M2	Y	-57.28	-39.7	0	25.4
7	M2	Y	-39.7	-57.8	25.4	50.8
8	M2	Y	-57.8	-84.79	50.8	76.2
9	M2	Y	-84.79	-64.06	76.2	101.6
10	M2	Y	-64.06	-22.43	101.6	127
11	M3	Y	-28.21	-31.55	0	25.4
12	M3	Y	-31.55	-52.16	25.4	50.8
13	M3	Y	-52.16	-91.89	50.8	76.2
14	M3	Y	-91.89	-75.43	76.2	101.6
15	M3	Y	-75.43	-3.62	101.6	127
16	M4	Y	-28.26	-29.67	0	25.4
17	M4	Y	-29.67	-52.87	25.4	50.8
18	M4	Y	-52.87	-95.11	50.8	76.2
19	M4	Y	-95.11	-72.12	76.2	101.6
20	M4	Y	-72.12	-2.74	101.6	127
21	M5	Y	-28.57	-34.99	0	25.4
22	M5	Y	-34.99	-62.39	25.4	50.8
23	M5	Y	-62.39	-108.9	50.8	76.2
24	M5	Y	-108.9	-96.58	76.2	101.6
25	M5	Y	-96.58	-27.27	101.6	127
26	M6	Y	-44.02	-38.95	0	25.4
27	M6	Y	-38.95	-61.56	25.4	50.8
28	M6	Y	-61.56	-109.55	50.8	76.2

Member Distributed Loads (BLC 6 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
29	M6	Y	-109.55	-113.55	76.2	101.6
30	M6	Y	-113.55	-75.87	101.6	127
31	M7	Y	-3.52	-35.08	0	9.6
32	M7	Y	-35.08	-89.92	9.6	19.2
33	M7	Y	-89.92	-105.53	19.2	28.8
34	M7	Y	-105.53	-53.44	28.8	38.4
35	M7	Y	-53.44	-3.52	38.4	48
36	M8	Y	-27.8	-50.39	4.8	17.6
37	M8	Y	-50.39	-45.79	17.6	30.4
38	M8	Y	-45.79	-14	30.4	43.2
39	M9	Y	-14.58	-44.84	0	12
40	M9	Y	-44.84	-90.23	12	24
41	M9	Y	-90.23	-77.29	24	36
42	M9	Y	-77.29	-5.47	36	48
43	M10	Y	-14	-45.79	5.2	19.07
44	M10	Y	-45.79	-50.37	19.07	32.93
45	M10	Y	-50.37	-27.75	32.93	46.8
46	M11	Y	-6.65	-71.04	0	13
47	M11	Y	-71.04	-98.52	13	26
48	M11	Y	-98.52	-60.72	26	39
49	M11	Y	-60.72	-6.65	39	52
50	M12	Y	-26.4	-26.4		24
51	M13	Y	-51.02	-51.02	.0004422	24
52	M14	Y	-6.73	-53.74	0	10.4
53	M14	Y	-53.74	-83.48	10.4	20.8
54	M14	Y	-83.48	-83.2	20.8	31.2
55	M14	Y	-83.2	-55.2	31.2	41.6
56	M14	Y	-55.2	-12.25	41.6	52
57	M15	Y	-69.92	-37.17	5.2	14.56
58	M15	Y	-37.17	-40.98	14.56	23.92
59	M15	Y	-40.98	-58.84	23.92	33.28
60	M15	Y	-58.84	-33.59	33.28	42.64
61	M15	Y	-33.59	.52	42.64	52
62	M16	Y	-2.24	-35.91	0	8.64
63	M16	Y	-35.91	-58.21	8.64	17.28
64	M16	Y	-58.21	-62.27	17.28	25.92
65	M16	Y	-62.27	-55.34	25.92	34.56
66	M16	Y	-55.34	-30.01	34.56	43.2
67	M17	Y	-6.95	-44.3	.02	10.01
68	M17	Y	-44.3	-63.07	10.01	20.01
69	M17	Y	-63.07	-63.15	20.01	30
70	M17	Y	-63.15	-63.06	30	39.99
71	M17	Y	-63.06	-44.29	39.99	49.99
72	M17	Y	-44.29	-6.96	49.99	59.98
73	M18	Y	-1.6	-41.04	0	8.64
74	M18	Y	-41.04	-71.35	8.64	17.28
75	M18	Y	-71.35	-105.08	17.28	25.92
76	M18	Y	-105.08	-66.79	25.92	34.56
77	M18	Y	-66.79	-1.6	34.56	43.2
78	M19	Y	-48.39	-74.88	6	18
79	M19	Y	-74.88	-88.49	18	30
80	M19	Y	-88.49	-75.58	30	42
81	M19	Y	-75.58	-49.05	42	54
82	M20	Y	-15.21	-25.96	0	9.6
83	M20	Y	-25.96	-44.53	9.6	19.2
84	M20	Y	-44.53	-47.51	19.2	28.8
85	M20	Y	-47.51	-27.08	28.8	38.4

Member Distributed Loads (BLC 6 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,p...	Start Location[in,%]	End Location[in,%]
86	M20	Y	-27.08	-6.64	38.4	48
87	M21	Y	-45.43	-38.61	0	25.54
88	M21	Y	-38.61	-28.02	25.54	51.08
89	M21	Y	-28.02	-13.8	51.08	76.62
90	M21	Y	-13.8	-14.68	76.62	102.15
91	M21	Y	-14.68	-14.97	102.15	127.69
92	M21	Y	-14.97	-14.09	127.69	153.23
93	M21	Y	-14.09	-21.8	153.23	178.77
94	M21	Y	-21.8	-15.04	178.77	204.31
95	M21	Y	-15.04	-14.11	204.31	229.85
96	M21	Y	-14.11	-18.26	229.85	255.38
97	M21	Y	-18.26	-16.47	255.38	280.92
98	M21	Y	-16.47	-21.72	280.92	306.46
99	M21	Y	-21.72	-30.54	306.46	332
100	M22	Y	-9.37	-6.73	0	25.54
101	M22	Y	-6.73	-6.73	25.54	51.08
102	M22	Y	-6.73	-8.08	51.08	76.62
103	M22	Y	-8.08	-26.32	76.62	102.15
104	M22	Y	-26.32	-38.79	102.15	127.69
105	M22	Y	-38.79	-36	127.69	153.23
106	M22	Y	-36	-33.92	153.23	178.77
107	M22	Y	-33.92	-37.02	178.77	204.31
108	M22	Y	-37.02	-37.35	204.31	229.85
109	M22	Y	-37.35	-14.83	229.85	255.38
110	M22	Y	-14.83	-23.22	255.38	280.92
111	M22	Y	-23.22	-41.78	280.92	306.46
112	M22	Y	-41.78	-32.72	306.46	332
113	M23	Y	-2.24	-40.63	0	25.4
114	M23	Y	-40.63	-58.46	25.4	50.8
115	M23	Y	-58.46	-42.67	50.8	76.2
116	M23	Y	-42.67	-25	76.2	101.6
117	M23	Y	-25	-9.25	101.6	127
118	M24	Y	-19.86	-21.61	12.7	33.02
119	M24	Y	-21.61	-37.43	33.02	53.34
120	M24	Y	-37.43	-78.06	53.34	73.66
121	M24	Y	-78.06	-73.47	73.66	93.98
122	M24	Y	-73.47	-12.92	93.98	114.3
123	M41	Y	-4.69	-51.25	0	9.6
124	M41	Y	-51.25	-74.79	9.6	19.2
125	M41	Y	-74.79	-90.68	19.2	28.8
126	M41	Y	-90.68	-67.5	28.8	38.4
127	M41	Y	-67.5	-4.69	38.4	48
128	M42	Y	-10.87	-26.97	0	9.6
129	M42	Y	-26.97	-38.32	9.6	19.2
130	M42	Y	-38.32	-38.43	19.2	28.8
131	M42	Y	-38.43	-26.87	28.8	38.4
132	M42	Y	-26.87	-10.15	38.4	48

Load Combinations

	Description	S...	P...	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	Seismic Mass	Y...	Y		DL	1																		
2	IBC 16-5 (a)	Y...	Y		DL	1.2	Sds*...	.2	SZ*SF	1	LL	.5	L...	1	SL	.2	S...	.7						
3	IBC 16-5 (b)	Y...	Y		DL	1.2	Sds*...	.2	SZ*SF	1	LL	.5	L...	1	SL	.2	S...	.7						
4	IBC 16-5 (c)	Y...	Y		DL	1.2	Sds*...	.2	SX*...	-1	LL	.5	L...	1	SL	.2	S...	.7						
5	IBC 16-5 (d)	Y...	Y		DL	1.2	Sds*...	.2	SZ*SF	-1	LL	.5	L...	1	SL	.2	S...	.7						

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
6	IBC 16-7 (a)	Y...	Y		DL	.9	Sds*...	-.2	SZ*SF	1														
7	IBC 16-7 (b)	Y...	Y		DL	.9	Sds*...	-.2	SZ*SF	1														
8	IBC 16-7 (c)	Y...	Y		DL	.9	Sds*...	-.2	SX*...	-1														
9	IBC 16-7 (d)	Y...	Y		DL	.9	Sds*...	-.2	SZ*SF	-1														
10	IBC 16-5 (os-a)	Y...	Y		DL	1.2	Sds*...	.2	Om*...	1	LL	.5	L...	1	SL	.2	S...	.7						
11	IBC 16-5 (os-b)	Y...	Y		DL	1.2	Sds*...	.2	Om*...	1	LL	.5	L...	1	SL	.2	S...	.7						
12	IBC 16-5 (os-c)	Y...	Y		DL	1.2	Sds*...	.2	Om*...	-1	LL	.5	L...	1	SL	.2	S...	.7						
13	IBC 16-5 (os-d)	Y...	Y		DL	1.2	Sds*...	.2	Om*...	-1	LL	.5	L...	1	SL	.2	S...	.7						
14	IBC 16-7 (os-a)	Y...	Y		DL	.9	Sds*...	-.2	Om*...	1														
15	IBC 16-7 (os-b)	Y...	Y		DL	.9	Sds*...	-.2	Om*...	1														
16	IBC 16-7 (os-c)	Y...	Y		DL	.9	Sds*...	-.2	Om*...	-1														
17	IBC 16-7 (os-d)	Y...	Y		DL	.9	Sds*...	-.2	Om*...	-1														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N5	max	1065.136	4	6796.959	5	1207.649	9	0	9	0	9	0	9
2		min	-121.567	6	2891.015	6	-1207.657	2	0	1	0	1	0	1
3	N7	max	1027.863	8	6393.724	5	1207.65	9	0	9	0	9	0	9
4		min	-162.584	2	2670.109	6	-1207.655	2	0	1	0	1	0	1
5	N6	max	1065.124	4	5887.39	5	861.389	5	0	9	0	9	0	9
6		min	-121.572	6	2391.949	6	-861.383	6	0	1	0	1	0	1
7	N8	max	1027.857	8	5465.924	5	861.389	5	0	9	0	9	0	9
8		min	-162.595	2	2181.465	6	-861.381	6	0	1	0	1	0	1
9	Totals:	max	4185.969	8	24543.997	5	4138.073	5						
10		min	-568.309	2	10134.538	6	-4138.073	6						

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

	Member	Shape	Code Che...	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	...	Eqn
1	M1	W8X13	.142	96.573	3	.044	127	y	5	38237...	172...	806...	269...	...	H1-...
2	M2	W8X13	.123	0	3	.019	121.708	z	3	38237...	172...	806...	233...	...	H1-...
3	M3	W8X13	.232	42.333	3	.050	0	y	3	38237...	172...	806...	284...	...	H1-...
4	M4	W8X13	.219	42.333	4	.050	0	y	3	38237...	172...	806...	285...	...	H1-...
5	M5	W8X13	.094	0	3	.014	47.625	z	4	38237...	172...	806...	250...	...	H1-...
6	M6	W8X13	.097	48.948	3	.018	0	y	3	38237...	172...	806...	271...	...	H1-...
7	M7	W8X13	.012	21.5	4	.013	48	y	5	13634...	172...	806...	410...	...	H1-...
8	M8	W8X13	.002	23.5	3	.002	0	y	5	13634...	172...	806...	42750...	...	H1-...
9	M9	W8X13	.002	24.5	3	.002	48	y	5	13634...	172...	806...	42750...	...	H1-...
10	M10	W8X13	.005	0	7	.005	52	y	3	13084...	172...	806...	42750...	...	H1-...
11	M11	W8X13	.002	26	3	.003	0	y	3	13084...	172...	806...	42750...	...	H1-...
12	M12	W8X13	.002	12	4	.001	24	y	5	16286...	172...	806...	42750...	...	H1-...
13	M13	W8X13	.008	0	3	.001	24	y	5	16286...	172...	806...	42750...	...	H1-...
14	M14	W8X13	.005	26	4	.003	52	y	5	13084...	172...	806...	42750...	...	H1-...
15	M15	W8X13	.007	0	7	.005	0	y	5	13084...	172...	806...	42750...	...	H1-...
16	M16	W8X13	.004	0	7	.002	0	y	3	13634...	172...	806...	42750...	...	H1-...
17	M17	W8X13	.011	30	4	.010	0	y	5	11932...	172...	806...	386...	...	H1-...
18	M18	W8X13	.004	24	4	.002	0	y	3	13634...	172...	806...	42750...	...	H1-...
19	M19	W8X13	.014	30	4	.010	60	y	5	11932...	172...	806...	388...	...	H1-...
20	M20	W8X13	.013	19.5	3	.015	48	y	5	13634...	172...	806...	408...	...	H1-...
21	M21	W16X26	.144	166	3	.112	166	y	3	78609.9	345...	20550	165...	...	H1-...
22	M22	W16X26	.140	166	3	.084	166	y	5	78609.9	345...	20550	165...	...	H1-...
23	M23	W10X15	.057	63.5	4	.011	127	y	5	10533...	198...	8625	60000	...	H1-...
24	M24	W10X15	.103	63.5	4	.016	48.948	z	4	10533...	198...	8625	60000	...	H1-...
25	M25	HSS4.000X0.226	.228	18	3	.043	0		5	93461...	94500	9513	9513	...	H1-...
26	M26	HSS4.000X0.226	.226	18	3	.043	0		5	93461...	94500	9513	9513	...	H1-...

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

	Member	Shape	Code Che...	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	...	Eqn
27	M27	HSS4.000X0.226	.198	18	4	.038	0		4	93461...	94500	9513	9513	...	H1-...
28	M28	HSS4.000X0.226	.189	18	4	.036	0		8	93461...	94500	9513	9513	...	H1-...
29	M41	C6X8.2	.025	24	3	.010	48	y	3	59853...	107...	292...	19350	...	H1-...
30	M42	C6X8.2	.031	24	3	.011	0	y	3	59853...	107...	292...	19350	...	H1-...

Mode Shape 1

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.137	-.005	1.454	0	.002	0
N2	.137	-.005	.682	0	.002	0
N3	-.158	.005	1.454	0	.002	0
N4	-.158	.005	.682	0	.002	0
N5	0.000	0.000	0.000	.112	.002	-.011
N6	0.000	0.000	0.000	.053	.002	-.011
N7	0.000	0.000	0.000	.112	.002	.012
N8	0.000	0.000	0.000	.053	.002	.012
N9	.142	-.005	10.603	0	-.09	0
N10	-.16	.005	10.641	0	-.09	0
N11	.149	-.005	9.447	0	.099	0
N12	-.171	.005	9.461	0	.1	0
N13	.143	-.005	2.088	0	.091	0
N14	-.162	.005	2.093	0	.098	0
N15	.136	-.005	1.059	0	.003	0
N16	-.158	.005	1.064	0	0	0
N17	.13	-.005	1.357	0	0	0
N18	-.158	.005	1.357	0	-.005	0
N19	.131	-.005	1.351	0	.01	0
N20	-.158	.005	1.353	0	.006	0
N21	-.218	-.004	.682	0	.012	0
N22	-.307	-.003	10.612	0	.013	0
N23	-.313	-.004	9.451	0	-.005	0
N24	-.291	-.004	2.092	0	-.003	0
N25	-.268	-.004	1.062	0	.018	0
N26	-.236	-.004	1.357	0	.018	0
N27	-.223	-.004	1.352	0	.015	0
N28	-.153	-.001	.682	0	-.012	0
N29	-.21	-.001	10.623	0	-.015	0
N30	-.208	-.002	9.455	0	-.009	0
N31	-.21	-.003	2.094	0	-.014	0
N32	-.213	-.003	1.064	0	-.009	0
N33	-.162	-.001	1.358	0	-.007	0
N34	-.159	-.002	1.353	0	-.008	0
N35	-.214	-.002	1.358	0	-.009	0
N36	.608	.002	1.454	0	-.019	0
N37	.614	.003	10.644	0	-.012	0
N38	.137	-.005	1.459	0	.002	0
N39	.137	-.005	.688	0	.002	0
N40	-.158	.005	1.459	0	.002	0
N41	-.158	.005	.688	0	.002	0
N42	.137	-.005	1.074	0	.002	0
N43	.137	-.005	1.456	0	.002	0
N44	.137	-.005	1.071	0	.002	0
N45	.137	-.005	.685	0	.002	0
N46	.137	-.005	1.07	0	.002	0
N47	-.01	0	1.459	0	.002	0
N48	-.01	0	1.456	0	.002	0
N49	-.158	.005	1.456	0	.002	0

Mode Shape 1, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N50	-.01	0	1.454	0	.002	0
N51	-.158	.005	1.074	0	.002	0
N52	-.158	.005	1.071	0	.002	0
N53	-.158	.005	.685	0	.002	0
N54	-.158	.005	1.069	0	.002	0
N55	-.01	0	.688	0	.002	0
N56	-.01	0	.685	0	.002	0
N57	-.01	0	.682	0	.002	0
N58	-.01	0	1.071	0	0.000	0
N59	.137	-.005	1.148	0	.002	0
N60	.137	-.005	1.373	0	.002	0
N61	.137	-.005	1.206	0	.002	0
N62	.137	-.005	1.038	0	.002	0
N63	.137	-.005	.871	0	.002	0
N64	.137	-.005	.736	0	.002	0
N65	.019	-.001	.685	0	.002	0
N66	.054	-.002	.685	0	.002	0
N67	-.093	.003	.685	0	.002	0
N68	.626	.002	9.46	0	-.011	0
N69	.673	.003	10.645	0	-.005	0
N70	.678	.003	9.461	0	-.006	0
N71	.195	.005	10.644	0	.051	0
N72	.25	.005	9.461	0	.055	0
N73	.18	.005	1.454	0	.05	0

Mode Shape 2

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.014	-.005	.585	0	-.003	0
N2	.014	-.006	1.694	0	-.003	0
N3	.438	.006	.585	0	-.003	0
N4	.438	.005	1.694	0	-.003	0
N5	0.000	0.000	0.000	.045	-.003	-.001
N6	0.000	0.000	0.000	.131	-.003	-.001
N7	0.000	0.000	0.000	.045	-.003	-.034
N8	0.000	0.000	0.000	.131	-.003	-.034
N9	.016	-.005	-1.574	0	.02	0
N10	.439	.007	-1.58	0	.018	0
N11	.017	-.006	-1.088	0	-.034	0
N12	.443	.007	-1.089	0	-.027	0
N13	.016	-.006	.877	0	-.027	0
N14	.439	.006	.874	0	-.025	0
N15	.012	-.006	1.344	0	-.058	0
N16	.438	.006	1.333	0	-.055	0
N17	.003	-.006	10.13	0	-.149	0
N18	.44	.005	10.145	0	-.177	0
N19	.015	-.006	14.634	0	.019	0
N20	.439	.005	14.621	0	.044	0
N21	.567	-.005	1.695	0	-.019	0
N22	.567	-.003	-1.575	0	-.019	0
N23	.573	-.004	-1.089	0	-.02	0
N24	.586	-.005	.879	0	-.022	0
N25	.596	-.005	1.346	0	-.015	0
N26	.61	-.005	10.135	0	.006	0
N27	.572	-.005	14.644	0	-.032	0
N28	.457	-.002	1.695	0	.02	0
N29	.649	0	-1.578	0	.006	0
N30	.648	-.001	-1.089	0	.006	0

Mode Shape 2, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N31	.643	-.004	.88	0	.009	0
N32	.638	-.004	1.346	0	.011	0
N33	.466	-.002	10.14	0	.035	0
N34	.467	-.002	14.649	0	.009	0
N35	.626	-.002	10.139	0	.017	0
N36	.265	.003	.585	0	0	0
N37	.265	.004	-1.582	0	.004	0
N38	.014	-.005	.592	0	-.003	0
N39	.014	-.006	1.7	0	-.003	0
N40	.438	.006	.592	0	-.003	0
N41	.438	.005	1.7	0	-.003	0
N42	.014	-.006	1.146	0	-.003	0
N43	.014	-.005	.588	0	-.003	0
N44	.014	-.006	1.143	0	-.003	0
N45	.014	-.006	1.697	0	-.003	0
N46	.014	-.006	1.142	0	-.003	0
N47	.226	0	.592	0	-.003	0
N48	.226	0	.588	0	-.003	0
N49	.438	.006	.588	0	-.003	0
N50	.226	0	.585	0	-.003	0
N51	.438	.006	1.146	0	-.003	0
N52	.438	.006	1.143	0	-.003	0
N53	.438	.005	1.697	0	-.003	0
N54	.438	.006	1.141	0	-.003	0
N55	.226	0	1.7	0	-.003	0
N56	.226	0	1.697	0	-.003	0
N57	.226	0	1.694	0	-.003	0
N58	.226	0	1.143	0	0.000	0
N59	.014	-.006	1.032	0	-.003	0
N60	.014	-.005	.709	0	-.003	0
N61	.014	-.006	.949	0	-.003	0
N62	.014	-.006	1.19	0	-.003	0
N63	.014	-.006	1.43	0	-.003	0
N64	.014	-.006	1.624	0	-.003	0
N65	.183	-.002	1.697	0	-.003	0
N66	.134	-.003	1.697	0	-.003	0
N67	.344	.003	1.697	0	-.003	0
N68	.27	.003	-1.09	0	.005	0
N69	.246	.005	-1.582	0	.002	0
N70	.245	.004	-1.09	0	.003	0
N71	.354	.006	-1.581	0	-.012	0
N72	.335	.006	-1.09	0	-.014	0
N73	.361	.006	.585	0	-.011	0

Mode Shape 3

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	3.812	.009	.021	0	.001	0
N2	3.812	-.007	-.365	0	.001	0
N3	3.664	.007	.021	0	.001	0
N4	3.664	-.009	-.365	0	.001	0
N5	0.000	0.000	0.000	.002	.001	-.294
N6	0.000	0.000	0.000	-.028	.001	-.294
N7	0.000	0.000	0.000	.002	.001	-.282
N8	0.000	0.000	0.000	-.028	.001	-.282
N9	3.82	.007	.332	0	.006	0
N10	3.681	.006	.349	0	-.005	0
N11	3.827	.005	-.04	0	-.009	0

Mode Shape 3, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N12	3.695	.004	-.035	0	.032	0
N13	3.819	.002	-.238	0	-.012	0
N14	3.673	0	-.235	0	-.004	0
N15	3.816	0	-.175	0	-.003	0
N16	3.665	-.001	-.198	0	.008	0
N17	3.829	-.003	-1	0	0	0
N18	3.669	-.005	-.997	0	.012	0
N19	3.829	-.005	-1.166	0	-.022	0
N20	3.669	-.007	-1.174	0	-.002	0
N21	5.055	-.007	-.365	0	-.071	0
N22	4.99	.009	.335	0	-.063	0
N23	4.986	.005	-.039	0	-.077	0
N24	5.008	.004	-.238	0	-.08	0
N25	5.013	0	-.179	0	-.082	0
N26	5.015	-.003	-1	0	-.093	0
N27	5.023	-.006	-1.169	0	-.066	0
N28	5.474	-.007	-.365	0	.107	0
N29	6.222	.01	.339	0	-.032	0
N30	6.223	.005	-.038	0	-.032	0
N31	6.217	.005	-.238	0	-.017	0
N32	6.194	0	-.184	0	-.017	0
N33	5.666	-.004	-.999	0	.072	0
N34	5.589	-.007	-1.171	0	.013	0
N35	6.102	-.003	-1	0	.045	0
N36	5.875	.007	.021	0	-.041	0
N37	5.906	.01	.346	0	.03	0
N38	3.815	.009	.02	0	.001	0
N39	3.815	-.007	-.366	0	.001	0
N40	3.668	.007	.02	0	.001	0
N41	3.668	-.009	-.366	0	.001	0
N42	3.815	0	-.173	0	.001	0
N43	3.814	.009	.021	0	.001	0
N44	3.814	0	-.172	0	.001	0
N45	3.814	-.007	-.365	0	.001	0
N46	3.812	0	-.172	0	.001	0
N47	3.742	.008	.02	0	.001	0
N48	3.74	.008	.021	0	.001	0
N49	3.666	.007	.021	0	.001	0
N50	3.739	.008	.021	0	.001	0
N51	3.668	0	-.173	0	.001	0
N52	3.666	0	-.172	0	.001	0
N53	3.666	-.009	-.365	0	.001	0
N54	3.665	0	-.172	0	.001	0
N55	3.742	-.008	-.366	0	.001	0
N56	3.74	-.008	-.365	0	.001	0
N57	3.74	-.008	-.365	0	.001	0
N58	3.74	0	-.172	0	0.000	0
N59	3.814	.002	-.134	0	.001	0
N60	3.814	.007	-.021	0	.001	0
N61	3.814	.004	-.105	0	.001	0
N62	3.814	0	-.189	0	.001	0
N63	3.814	-.003	-.272	0	.001	0
N64	3.814	-.006	-.34	0	.001	0
N65	3.755	-.007	-.365	0	.001	0
N66	3.772	-.007	-.365	0	.001	0
N67	3.699	-.008	-.365	0	.001	0
N68	6.027	.005	-.036	0	.046	0
N69	5.714	.01	.346	0	.04	0

Mode Shape 3, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N70	5.719	.005	-.036	0	.057	0
N71	4.16	.007	.349	0	.079	0
N72	4.072	.004	-.035	0	.07	0
N73	4.193	.007	.021	0	.092	0

Mode Shape 4

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.002	-.056	.01	0	0	0
N2	.002	-.04	.009	0	0	0
N3	.001	-.03	.01	0	0	0
N4	.001	-.014	.009	0	0	0
N5	0.000	0.000	0.000	0	0	0
N6	0.000	0.000	0.000	0	0	0
N7	0.000	0.000	0.000	0	0	0
N8	0.000	0.000	0.000	0	0	0
N9	.002	-.901	-.006	-.002	0	-.013
N10	.001	-.612	-.006	.006	0	-.008
N11	.002	-1.25	-.003	-.004	0	.001
N12	.001	-.743	-.003	.013	0	.003
N13	.002	-.669	.009	-.42	0	.023
N14	.001	-.324	.009	.32	0	.012
N15	.002	.095	.009	.04	0	.022
N16	.001	.05	.009	-.031	0	.011
N17	.002	.763	-.004	0	0	.005
N18	.001	.395	-.004	-.005	0	.003
N19	.002	.67	-.012	.008	0	-.007
N20	.001	.349	-.012	-.011	0	-.004
N21	.003	-.037	.009	0	0	0
N22	.003	-1.224	-.006	-.016	0	-.012
N23	.003	-1.326	-.003	-.003	0	.001
N24	.003	-8.287	.009	-.362	0	.022
N25	.003	.831	.009	.035	0	.021
N26	.003	.761	-.004	0	0	.004
N27	.003	.817	-.012	.007	0	-.007
N28	.003	-.031	.009	0	0	0
N29	.004	-1.561	-.006	-.01	0	-.011
N30	.004	-1.371	-.003	0	0	.002
N31	.004	-14.943	.009	-.151	0	.02
N32	.004	1.472	.009	.014	0	.019
N33	.003	.723	-.004	-.002	0	.004
N34	.003	.931	-.012	0	0	-.006
N35	.004	.735	-.004	-.002	0	.004
N36	.001	-.038	.01	0	0	0
N37	.001	-1.512	-.006	.015	0	-.009
N38	-.002	-.056	.024	0	0	0
N39	-.002	-.04	.023	0	0	0
N40	-.002	-.03	.024	0	0	0
N41	-.002	-.014	.023	0	0	0
N42	-.002	-.048	.024	0	0	0
N43	0	-.056	.017	0	0	0
N44	0	-.048	.016	0	0	0
N45	0	-.04	.016	0	0	0
N46	.002	-.048	.009	0	0	.024
N47	-.002	-.043	.024	0	0	0
N48	0	-.043	.017	0	0	0
N49	0	-.03	.017	0	0	0
N50	.002	-.043	.01	0	0	0

Mode Shape 4, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N51	-.002	-.022	.024	0	0	0
N52	0	-.022	.016	0	0	0
N53	0	-.014	.016	0	0	0
N54	.001	-.022	.009	0	0	.012
N55	-.002	-.027	.023	0	0	0
N56	0	-.027	.016	0	0	0
N57	.002	-.027	.009	0	0	0
N58	0	-.035	.016	0	0.000	0
N59	0	-.05	.016	0	0	0
N60	0	-.054	.017	0	0	0
N61	0	-.051	.017	0	0	0
N62	0	-.047	.016	0	0	0
N63	0	-.044	.016	0	0	0
N64	0	-.041	.016	0	0	0
N65	0	-.03	.016	0	0	0
N66	0	-.033	.016	0	0	0
N67	0	-.02	.016	0	0	0
N68	.001	-1.153	-.003	.009	0	.002
N69	0	-1.408	-.006	.019	0	-.009
N70	0	-1.098	-.003	.01	0	.002
N71	0	-.796	-.006	.028	0	-.008
N72	0	-.821	-.003	.012	0	.002
N73	.001	-.031	.01	0	0	0

Mode Shape 5

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	0	.06	-.016	0	0	0
N2	0	.063	-.015	0	0	0
N3	0	.02	-.016	0	0	0
N4	0	.024	-.015	0	0	0
N5	0.000	0.000	0.000	-.001	0	0
N6	0.000	0.000	0.000	-.001	0	0
N7	0.000	0.000	0.000	-.001	0	0
N8	0.000	0.000	0.000	-.001	0	0
N9	0	-.071	.011	0	0	-.002
N10	0	-.056	.011	0	0	-.001
N11	0	-.122	.004	0	0	0
N12	0	-.076	.004	0	0	0
N13	0	-.014	-.015	.046	0	.004
N14	0	-.014	-.015	-.034	0	.002
N15	0	.167	-.016	.439	0	.007
N16	0	.063	-.015	-.33	0	.003
N17	0	.38	.006	.001	0	.001
N18	0	.158	.006	-.004	0	0
N19	0	.337	.019	.004	0	-.003
N20	0	.142	.019	-.006	0	-.001
N21	0	.059	-.015	0	0	0
N22	-.001	-.104	.011	-.002	0	-.002
N23	-.001	-.126	.004	0	0	0
N24	-.001	.812	-.015	.039	0	.004
N25	-.001	8.138	-.016	.38	0	.006
N26	0	.398	.006	0	0	.001
N27	0	.41	.019	.003	0	-.003
N28	-.001	.049	-.015	0	0	0
N29	-.001	-.138	.011	-.001	0	-.002
N30	-.001	-.128	.004	0	0	0
N31	-.001	1.54	-.015	.017	0	.004

Mode Shape 5, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N32	-.001	15.145	-.016	.159	0	.006
N33	-.001	.393	.006	-.001	0	.001
N34	-.001	.464	.019	0	0	-.002
N35	-.001	.398	.006	0	0	.001
N36	.003	.032	-.016	0	0	0
N37	.003	-.139	.011	.001	0	-.001
N38	-.001	.06	-.039	0	0	0
N39	-.001	.063	-.038	0	0	0
N40	-.001	.02	-.039	0	0	0
N41	-.001	.024	-.038	0	0	0
N42	-.001	.062	-.038	0	0	0
N43	-.001	.06	-.027	0	0	0
N44	-.001	.062	-.027	0	0	0
N45	-.001	.063	-.026	0	0	0
N46	0	.062	-.016	0	0	.007
N47	-.001	.04	-.039	0	0	0
N48	0	.04	-.027	0	0	0
N49	0	.02	-.027	0	0	0
N50	0	.04	-.016	0	0	0
N51	-.001	.022	-.038	0	0	0
N52	0	.022	-.027	0	0	0
N53	0	.024	-.026	0	0	0
N54	0	.022	-.015	0	0	.003
N55	-.001	.044	-.038	0	0	0
N56	0	.044	-.026	0	0	0
N57	0	.044	-.015	0	0	0
N58	0	.042	-.027	0	0.000	0
N59	-.001	.061	-.027	0	0	0
N60	-.001	.06	-.027	0	0	0
N61	-.001	.061	-.027	0	0	0
N62	-.001	.062	-.027	0	0	0
N63	-.001	.062	-.027	0	0	0
N64	-.001	.063	-.026	0	0	0
N65	0	.047	-.026	0	0	0
N66	-.001	.052	-.026	0	0	0
N67	0	.032	-.026	0	0	0
N68	.003	-.109	.004	0	0	0
N69	.003	-.129	.011	.002	0	-.001
N70	.003	-.104	.004	0	0	0
N71	.001	-.073	.011	.003	0	-.001
N72	.001	-.082	.004	0	0	0
N73	0	.023	-.016	0	0	0

Mode Shape 6

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.025	.05	.532	0	0	0
N2	.025	-.029	.479	0	0	0
N3	.005	.119	.532	0	0	0
N4	.005	.04	.479	0	0	0
N5	0.000	0.000	0.000	.041	0	-.002
N6	0.000	0.000	0.000	.037	0	-.002
N7	0.000	0.000	0.000	.041	0	0
N8	0.000	0.000	0.000	.037	0	0
N9	.024	1.392	-.281	.031	.004	.014
N10	.005	4.632	-.287	-.008	.005	.049
N11	.024	1.334	.056	.061	-.01	-.012
N12	.005	4.547	.056	-.017	-.012	-.037

Mode Shape 6, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N13	.025	.335	.549	-.058	0	-.019
N14	.005	1.257	.54	.057	0	-.063
N15	.025	-.084	.506	.013	.002	-.015
N16	.005	-.227	.502	-.012	.002	-.049
N17	.027	-.662	-.003	-.015	.009	-.006
N18	.005	-1.761	-.004	-.003	.012	-.011
N19	.026	-.68	-.368	-.045	-.001	.005
N20	.005	-1.568	-.367	.023	-.002	.016
N21	.041	-.019	.48	0	0	0
N22	.051	7.896	-.282	.336	-.001	.019
N23	.051	2.441	.056	.058	.001	-.015
N24	.046	-.716	.553	-.049	-.001	-.025
N25	.043	.153	.51	.011	-.001	-.02
N26	.039	-.936	-.003	-.014	-.003	-.007
N27	.04	-1.485	-.369	-.04	0	.007
N28	.045	-.003	.48	0	.002	0
N29	.048	15.066	-.284	.232	.002	.025
N30	.049	3.714	.056	.045	.001	-.02
N31	.05	-1.592	.553	-.017	0	-.033
N32	.051	.354	.511	.004	0	-.027
N33	.049	-1.317	-.003	-.01	0	-.008
N34	.047	-2.391	-.369	-.017	0	.009
N35	.05	-1.252	-.003	-.011	0	-.008
N36	-.147	.105	.533	0	.004	0
N37	-.148	17.469	-.288	-.188	.002	.039
N38	.042	.05	.571	0	0	0
N39	.042	-.029	.518	0	0	0
N40	.022	.119	.571	0	0	0
N41	.022	.04	.518	0	0	0
N42	.042	.011	.544	0	0	0
N43	.034	.05	.551	0	0	0
N44	.034	.011	.525	0	0	0
N45	.034	-.029	.499	0	0	0
N46	.025	.011	.507	0	0	-.016
N47	.032	.085	.571	0	0	0
N48	.024	.085	.551	0	0	0
N49	.014	.119	.551	0	0	0
N50	.015	.085	.532	0	0	0
N51	.022	.08	.544	0	0	0
N52	.014	.08	.525	0	0	0
N53	.014	.04	.499	0	0	0
N54	.005	.08	.506	0	0	-.054
N55	.032	.006	.518	0	0	0
N56	.024	.006	.499	0	0	0
N57	.015	.006	.479	0	0	0
N58	.024	.045	.525	0	0.000	0
N59	.034	.019	.53	0	0	0
N60	.034	.042	.546	0	0	0
N61	.034	.025	.534	0	0	0
N62	.034	.008	.523	0	0	0
N63	.034	-.01	.511	0	0	0
N64	.034	-.023	.502	0	0	0
N65	.026	-.001	.499	0	0	0
N66	.028	-.009	.499	0	0	0
N67	.018	.025	.499	0	0	0
N68	-.15	4.947	.056	.004	.002	-.03
N69	-.156	16.107	-.288	-.252	0	.04
N70	-.156	4.952	.056	-.002	0	-.031

Mode Shape 6, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N71	-.052	7.317	-.288	-.412	-.009	.047
N72	-.055	4.666	.056	-.016	-.009	-.035
N73	-.051	.118	.532	0	-.009	0

Mode Shape 7

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.292	-.041	5.838	0	.002	0
N2	.292	-.035	5.221	0	.002	0
N3	.056	.027	5.838	0	.002	0
N4	.056	.033	5.221	0	.002	0
N5	0.000	0.000	0.000	.45	.002	-.023
N6	0.000	0.000	0.000	.402	.002	-.023
N7	0.000	0.000	0.000	.45	.002	-.004
N8	0.000	0.000	0.000	.402	.002	-.004
N9	.285	-.167	-3.06	-.002	.046	-.001
N10	.054	-.388	-3.13	.001	.05	-.004
N11	.278	-.161	.707	-.005	-.114	.001
N12	.061	-.379	.709	.002	-.132	.003
N13	.29	-.067	6.038	.007	-.003	.002
N14	.058	-.077	5.944	-.006	-.001	.006
N15	.295	-.03	5.534	.001	.017	.001
N16	.056	.059	5.493	0	.023	.005
N17	.311	.018	.027	.002	.102	0
N18	.055	.202	.024	.001	.127	.001
N19	.303	.017	-3.95	.004	-.012	0
N20	.056	.185	-3.942	0	-.017	-.001
N21	.51	-.026	5.229	0	-.013	0
N22	.621	-.768	-3.076	-.031	-.015	-.002
N23	.618	-.252	.708	-.005	.01	.001
N24	.564	.067	6.081	.006	-.015	.002
N25	.539	-.006	5.58	.001	-.019	.002
N26	.493	.053	.027	.002	-.04	0
N27	.502	.092	-3.96	.004	-.009	0
N28	.576	-.01	5.229	0	.024	0
N29	.635	-1.428	-3.096	-.021	.023	-.002
N30	.641	-.355	.709	-.003	.016	.002
N31	.661	.187	6.091	.003	.003	.003
N32	.665	.023	5.597	0	0	.002
N33	.62	.106	.026	.002	0	0
N34	.602	.184	-3.966	.002	.005	0
N35	.657	.096	.026	.002	.008	0
N36	-1.598	.008	5.849	0	.047	0
N37	-1.615	-1.62	-3.134	.018	.024	-.004
N38	.291	-.041	5.876	0	.002	0
N39	.291	-.035	5.26	0	.002	0
N40	.055	.027	5.876	0	.002	0
N41	.055	.033	5.26	0	.002	0
N42	.291	-.038	5.568	0	.002	0
N43	.292	-.041	5.857	0	.002	0
N44	.292	-.038	5.549	0	.002	0
N45	.292	-.035	5.241	0	.002	0
N46	.292	-.038	5.54	0	.002	.001
N47	.173	-.007	5.876	0	.002	0
N48	.174	-.007	5.857	0	.002	0
N49	.056	.027	5.857	0	.002	0
N50	.174	-.007	5.838	0	.002	0
N51	.055	.03	5.568	0	.002	0

Mode Shape 7, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N52	.056	.03	5.549	0	.002	0
N53	.056	.033	5.241	0	.002	0
N54	.056	.03	5.537	0	.002	.005
N55	.173	0	5.26	0	.002	0
N56	.174	0	5.241	0	.002	0
N57	.175	0	5.221	0	.002	0
N58	.174	-.004	5.549	0	0.000	0
N59	.292	-.039	5.61	0	.002	0
N60	.292	-.041	5.79	0	.002	0
N61	.292	-.039	5.656	0	.002	0
N62	.292	-.038	5.523	0	.002	0
N63	.292	-.037	5.389	0	.002	0
N64	.292	-.035	5.282	0	.002	0
N65	.197	-.008	5.241	0	.002	0
N66	.225	-.016	5.241	0	.002	0
N67	.108	.018	5.241	0	.002	0
N68	-1.635	-.437	.71	0	.022	.003
N69	-1.709	-1.487	-3.136	.024	.003	-.004
N70	-1.711	-.434	.71	0	.001	.003
N71	-.566	-.644	-3.135	.039	-.094	-.004
N72	-.6	-.393	.709	.002	-.096	.003
N73	-.558	.024	5.842	0	-.095	0

Mode Shape 8

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.002	.048	.017	0	0	0
N2	.002	.107	0	0	0	0
N3	-.005	.018	.017	0	0	0
N4	-.005	.076	0	0	0	0
N5	0.000	0.000	0.000	.001	0	0
N6	0.000	0.000	0.000	0	0	0
N7	0.000	0.000	0.000	.001	0	0
N8	0.000	0.000	0.000	0	0	0
N9	.002	-.947	-.005	-.004	0	-.017
N10	-.005	.056	-.005	.013	0	-.003
N11	.002	-1.47	.008	-.007	0	0
N12	-.005	-.254	.008	.026	0	-.004
N13	.002	-.653	.013	.037	0	.035
N14	-.005	-.195	.013	-.023	0	.011
N15	.002	.43	.009	-.025	0	.055
N16	-.005	.191	.009	.017	0	.022
N17	.002	3.86	.002	.02	0	.049
N18	-.005	1.722	.002	-.045	0	.022
N19	.002	4.883	-.004	.544	0	-.027
N20	-.005	2.198	-.005	-.469	0	-.012
N21	.01	.108	0	0	0	0
N22	.011	.375	-.005	.069	0	-.015
N23	.011	-1.597	.008	-.005	0	0
N24	.01	.023	.013	.034	0	.031
N25	.01	-.033	.009	-.023	0	.05
N26	.01	4.214	.002	.015	0	.045
N27	.01	14.734	-.004	.471	0	-.025
N28	.011	.1	0	0	0	0
N29	.016	1.853	-.005	.049	0	-.012
N30	.016	-1.651	.008	.002	0	0
N31	.017	.692	.013	.017	0	.027
N32	.017	-.485	.009	-.011	0	.044

Mode Shape 8, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N33	.013	4.362	.002	-.008	0	.039
N34	.012	24.599	-.005	.124	0	-.022
N35	.016	4.393	.002	-.003	0	.04
N36	-.026	.028	.017	0	0	0
N37	-.026	2.478	-.005	-.034	0	-.007
N38	-.011	.048	0	0	0	0
N39	-.011	.107	-.017	0	0	0
N40	-.018	.018	0	0	0	0
N41	-.018	.076	-.017	0	0	0
N42	-.011	.078	-.008	0	0	0
N43	-.005	.048	.009	0	0	0
N44	-.005	.078	0	0	0	0
N45	-.005	.107	-.008	0	0	0
N46	.002	.078	.009	0	0	.05
N47	-.014	.033	0	0	0	0
N48	-.008	.033	.009	0	0	0
N49	-.011	.018	.009	0	0	0
N50	-.002	.033	.017	0	0	0
N51	-.018	.047	-.008	0	0	0
N52	-.011	.047	0	0	0	0
N53	-.011	.076	-.008	0	0	0
N54	-.005	.047	.009	0	0	.019
N55	-.014	.092	-.017	0	0	0
N56	-.008	.092	-.008	0	0	0
N57	-.002	.092	0	0	0	0
N58	-.008	.062	0	0	0.000	0
N59	-.005	.072	.002	0	0	0
N60	-.005	.055	.007	0	0	0
N61	-.005	.067	.003	0	0	0
N62	-.005	.08	0	0	0	0
N63	-.005	.093	-.004	0	0	0
N64	-.005	.103	-.007	0	0	0
N65	-.007	.095	-.008	0	0	0
N66	-.007	.098	-.008	0	0	0
N67	-.01	.083	-.008	0	0	0
N68	-.026	-1.122	.008	.019	0	-.003
N69	-.027	2.226	-.005	-.047	0	-.006
N70	-.027	-1	.008	.021	0	-.003
N71	-.011	.559	-.005	-.078	0	-.004
N72	-.01	-.413	.008	.026	0	-.004
N73	-.011	.02	.017	0	-.001	0

Mode Shape 9

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	-.689	-.005	-2.383	0	-.019	0
N2	-.689	-.008	4.085	0	-.019	0
N3	1.786	.008	-2.383	0	-.019	0
N4	1.786	.005	4.085	0	-.019	0
N5	0.000	0.000	0.000	-.184	-.019	.053
N6	0.000	0.000	0.000	.315	-.019	.053
N7	0.000	0.000	0.000	-.184	-.019	-.138
N8	0.000	0.000	0.000	.315	-.019	-.138
N9	-.704	-.01	-1.033	0	-.037	0
N10	1.854	.005	-1.03	0	-.066	0
N11	-.718	-.012	.036	0	.02	0
N12	1.929	.004	.023	0	.127	0
N13	-.706	-.009	.576	0	.01	0

Mode Shape 9, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N14	1.823	.006	.452	0	-.041	0
N15	-.696	-.006	.914	0	.009	0
N16	1.787	.008	.957	0	-.016	0
N17	-.723	.003	.279	0	.045	0
N18	1.794	.013	.269	0	.029	0
N19	-.726	.005	-.596	.002	.024	0
N20	1.793	.014	-.573	-.001	-.026	0
N21	-3.171	-.007	4.094	0	.123	0
N22	-3.229	-.013	-1.036	0	.137	0
N23	-3.195	-.011	.034	0	.17	0
N24	-3.173	-.001	.566	0	.146	0
N25	-3.161	-.002	.934	0	.147	0
N26	-3.132	.006	.278	0	.153	0
N27	-3.12	.034	-.596	.001	.125	0
N28	-3.016	-.003	4.094	0	-.23	0
N29	-4.26	-.015	-1.039	0	-.147	0
N30	-4.318	-.009	.032	0	-.158	0
N31	-4.436	.007	.547	0	-.014	0
N32	-4.431	.003	.948	0	-.017	0
N33	-3.339	.009	.276	0	-.16	0
N34	-3.218	.064	-.592	0	-.063	0
N35	-4.291	.009	.276	0	-.114	0
N36	11.304	.005	-2.39	0	-.23	0
N37	11.405	-.009	-1.043	0	-.092	0
N38	-.688	-.005	-2.376	0	-.019	0
N39	-.688	-.008	4.093	0	-.019	0
N40	1.786	.008	-2.376	0	-.019	0
N41	1.786	.005	4.093	0	-.019	0
N42	-.688	-.007	.859	0	-.019	0
N43	-.688	-.005	-2.379	0	-.019	0
N44	-.688	-.007	.855	0	-.019	0
N45	-.688	-.008	4.089	0	-.019	0
N46	-.689	-.007	.852	0	-.019	0
N47	.549	.002	-2.376	0	-.019	0
N48	.549	.002	-2.379	0	-.019	0
N49	1.786	.008	-2.379	0	-.019	0
N50	.551	.002	-2.383	0	-.02	0
N51	1.786	.007	.859	0	-.019	0
N52	1.786	.007	.855	0	-.019	0
N53	1.786	.005	4.089	0	-.019	0
N54	1.786	.007	.852	0	-.019	0
N55	.549	-.001	4.093	0	-.019	0
N56	.549	-.001	4.089	0	-.019	0
N57	.545	-.001	4.085	0	-.02	0
N58	.549	0	.855	0	0.000	0
N59	-.688	-.006	.208	0	-.019	0
N60	-.688	-.005	-1.678	0	-.019	0
N61	-.688	-.006	-.275	0	-.019	0
N62	-.688	-.007	1.127	0	-.019	0
N63	-.688	-.007	2.53	0	-.019	0
N64	-.688	-.008	3.66	0	-.019	0
N65	.301	-.003	4.089	0	-.019	0
N66	.013	-.004	4.089	0	-.019	0
N67	1.24	.002	4.089	0	-.019	0
N68	11.49	-.002	.027	0	-.072	0
N69	11.491	-.007	-1.042	0	.073	0
N70	11.428	0	.026	0	.102	0
N71	4.188	.003	-1.034	0	.396	0

Mode Shape 9, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N72	3.77	.003	.024	0	.36	0
N73	4.308	.008	-2.386	0	.429	0

Mode Shape 10

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N1	.059	-.019	3.5	0	.01	0
N2	.059	-.015	.163	0	.01	0
N3	-1.217	.016	3.5	0	.01	0
N4	-1.217	.02	.163	0	.01	0
N5	0.000	0.000	0.000	.27	.01	-.005
N6	0.000	0.000	0.000	.012	.01	-.005
N7	0.000	0.000	0.000	.27	.01	.094
N8	0.000	0.000	0.000	.012	.01	.094
N9	.066	-.025	5.725	0	.322	0
N10	-1.221	.02	6.004	0	.317	0
N11	.07	-.024	-15.183	0	.091	0
N12	-1.227	.021	-15.402	0	.132	0
N13	.049	-.019	-1.342	0	-.26	0
N14	-1.22	.018	-1.37	0	-.3	0
N15	.061	-.017	1.856	0	-.005	0
N16	-1.219	.018	1.827	0	0	0
N17	.071	-.015	1.286	0	.026	0
N18	-1.226	.023	1.295	0	.034	0
N19	.07	-.014	-.849	0	.016	0
N20	-1.225	.025	-.846	0	.023	0
N21	.198	-.011	.164	0	.003	0
N22	.204	-.031	5.79	0	.008	0
N23	.216	-.017	-15.25	0	-.021	0
N24	.298	-.006	-1.374	0	.06	0
N25	.273	-.006	1.891	0	-.001	0
N26	.223	-.011	1.29	0	-.007	0
N27	.203	-.002	-.854	0	-.005	0
N28	-.333	-.002	.164	0	.021	0
N29	-.156	-.035	5.872	0	-.002	0
N30	-.169	-.007	-15.321	0	.007	0
N31	-.204	.009	-1.393	0	.04	0
N32	-.203	.008	1.903	0	.027	0
N33	-.33	-.002	1.294	0	.019	0
N34	-.331	.016	-.857	0	.022	0
N35	-.198	-.004	1.293	0	.024	0
N36	1.254	.006	3.515	0	-.037	0
N37	1.277	-.018	6.024	0	-.001	0
N38	.058	-.019	3.519	0	.01	0
N39	.058	-.015	.183	0	.01	0
N40	-1.218	.016	3.519	0	.01	0
N41	-1.218	.02	.183	0	.01	0
N42	.058	-.017	1.851	0	.01	0
N43	.059	-.019	3.51	0	.01	0
N44	.059	-.017	1.841	0	.01	0
N45	.059	-.015	.173	0	.01	0
N46	.059	-.017	1.827	0	.01	0
N47	-.58	-.002	3.519	0	.01	0
N48	-.579	-.002	3.51	0	.01	0
N49	-1.217	.016	3.51	0	.01	0
N50	-.578	-.002	3.5	0	.01	0
N51	-1.218	.018	1.851	0	.01	0
N52	-1.217	.018	1.841	0	.01	0

Mode Shape 10, (continued)

Joint Label	X Translation	Y Translation	Z Translation	X Rotation	Y Rotation	Z Rotation
N53	-1.217	.02	.173	0	.01	0
N54	-1.217	.018	1.829	0	.01	0
N55	-.58	.002	.183	0	.01	0
N56	-.579	.002	.173	0	.01	0
N57	-.579	.002	.163	0	.01	0
N58	-.579	0	1.841	0	0.000	0
N59	.059	-.018	2.175	0	.01	0
N60	.059	-.019	3.148	0	.01	0
N61	.059	-.018	2.424	0	.01	0
N62	.059	-.017	1.701	0	.01	0
N63	.059	-.016	.977	0	.01	0
N64	.059	-.016	.394	0	.01	0
N65	-.452	-.001	.173	0	.01	0
N66	-.303	-.005	.173	0	.01	0
N67	-.936	.012	.173	0	.01	0
N68	1.291	.012	-15.411	0	0	0
N69	1.219	-.012	6.033	0	.025	0
N70	1.217	.014	-15.42	0	.026	0
N71	-.551	.014	6.025	.001	.107	0
N72	-.523	.02	-15.414	0	.109	0
N73	-.55	.014	3.506	0	.11	0

Response Spectra Data

X Direction Spectra	ASCE 2010, Parametric Design Spectra
Modes Used	All 10 modes
Mode No. for Signs	
Modal Combination Method	CQC
Damping Ratio	5 Percent

Y Direction Spectra	ASCE 2010, Parametric Design Spectra
Modes Used	All 10 modes
Mode No. for Signs	
Modal Combination Method	CQC
Damping Ratio	5 Percent

Z Direction Spectra	ASCE 2010, Parametric Design Spectra
Modes Used	All 10 modes
Mode No. for Signs	
Modal Combination Method	CQC
Damping Ratio	5 Percent

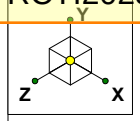
Frequencies / Participation

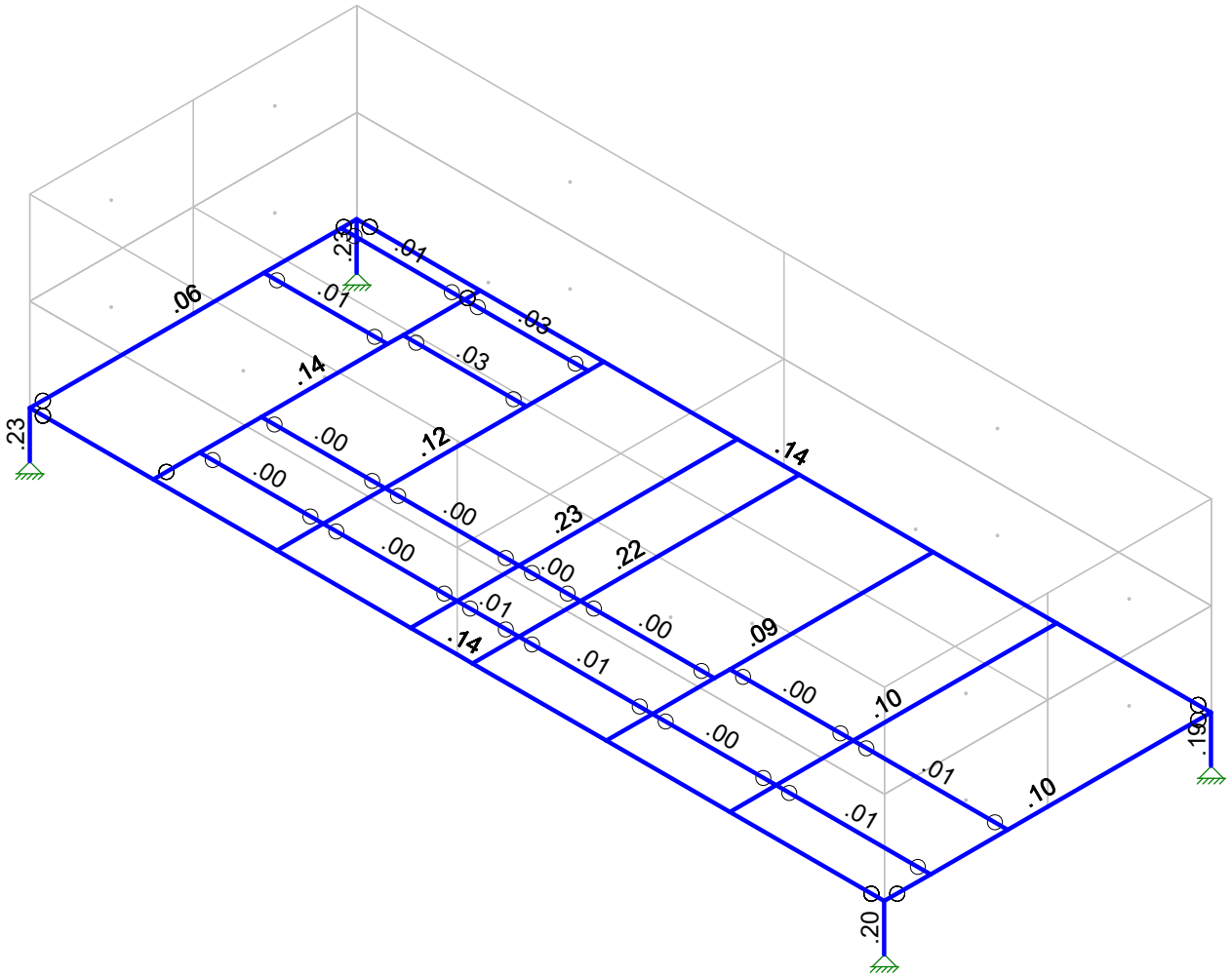
Mode Number	Frequency (Hz)	Period (Sec)	Percent Modal Participation X Spectra	Y Spectra	Z Spectra
1	7.09	.14			43.99
2	9.07	.11	.73		18.67
3	10.94	.09	95.21		.2
4	13.69	.07		14.31	
5	14.03	.07		18.55	
6	16.89	.06		10.31	.29
7	17.04	.06	.04	.07	35.25
8	20.52	.05		9.02	
9	21.13	.05	.15		.35

Frequencies / Participation, (continued)

Mode Number	Frequency (Hz)	Period (Sec)	Percent Modal Participation X Spectra	Y Spectra	Z Spectra
10	25.08	.04	.08		.82
Totals :			96.22	52.26	99.58

PRCTI20230490

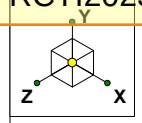


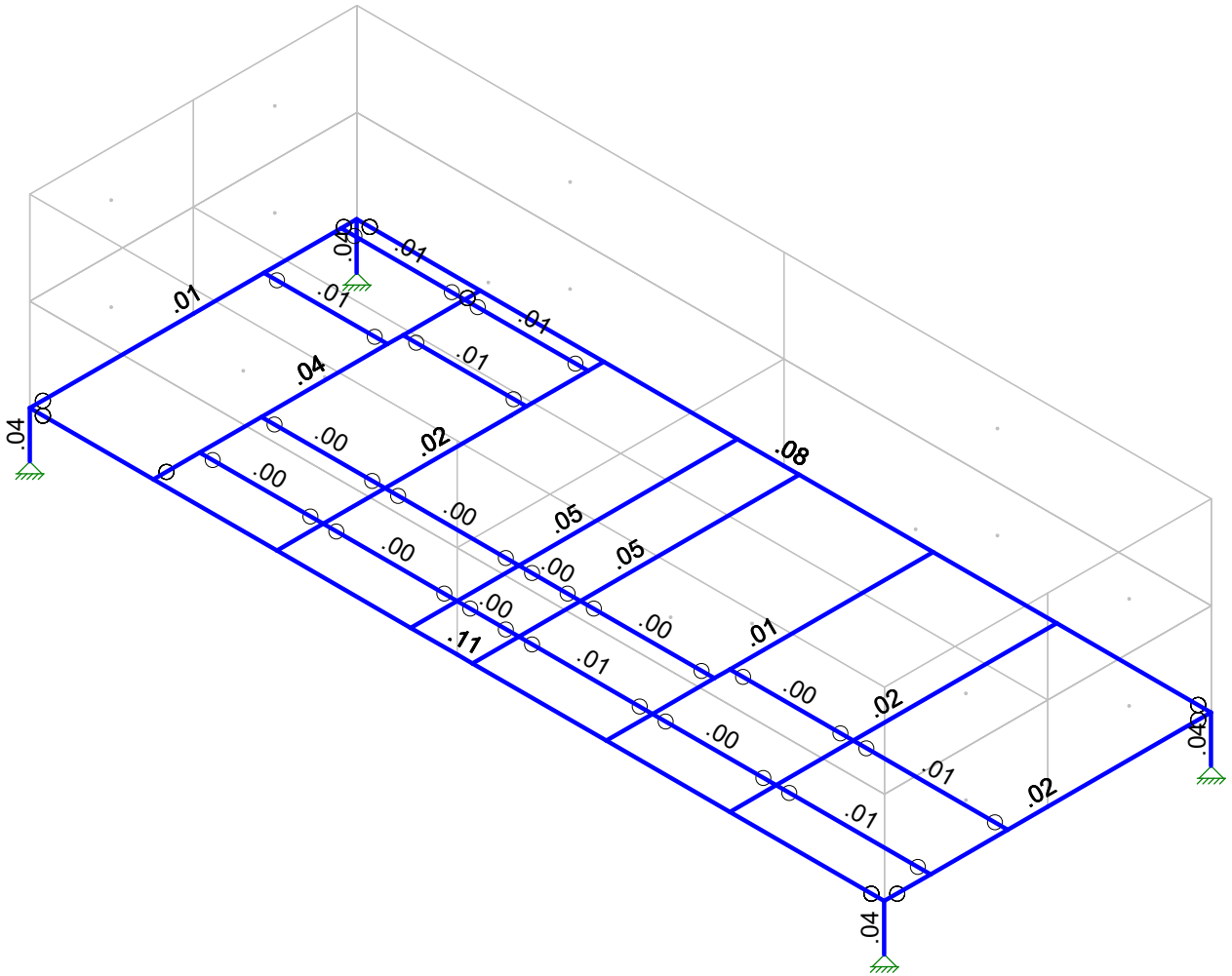


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 1
ML		Dec 5, 2019 at 3:01 PM
GED-577R5 / 2000204		Platform Analysis_Seismic.r3d

PRCTI20230490

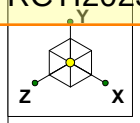


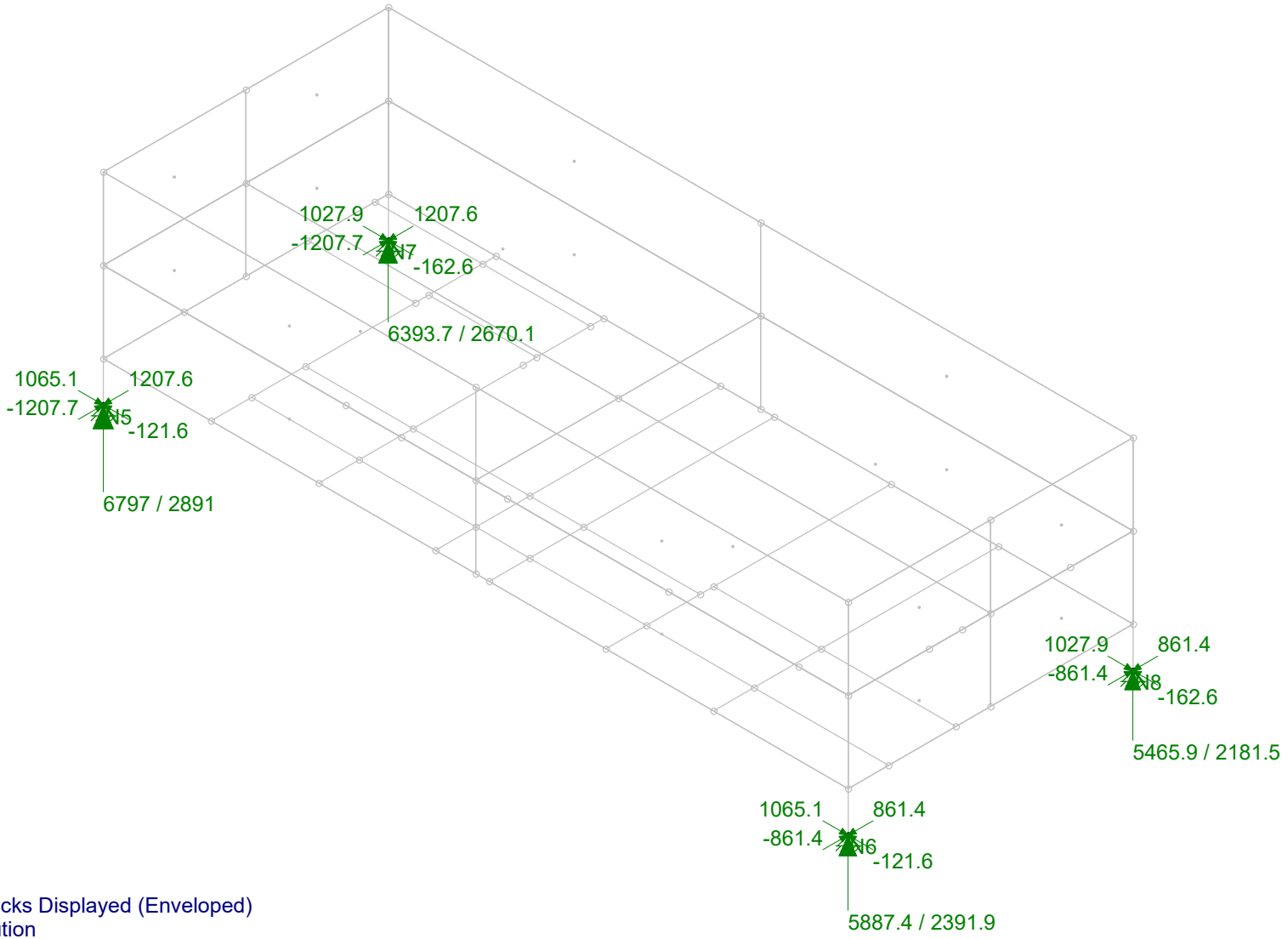


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 2
ML		Dec 5, 2019 at 3:01 PM
GED-577R5 / 2000204		Platform Analysis_Seismic.r3d

PRCTI20230490

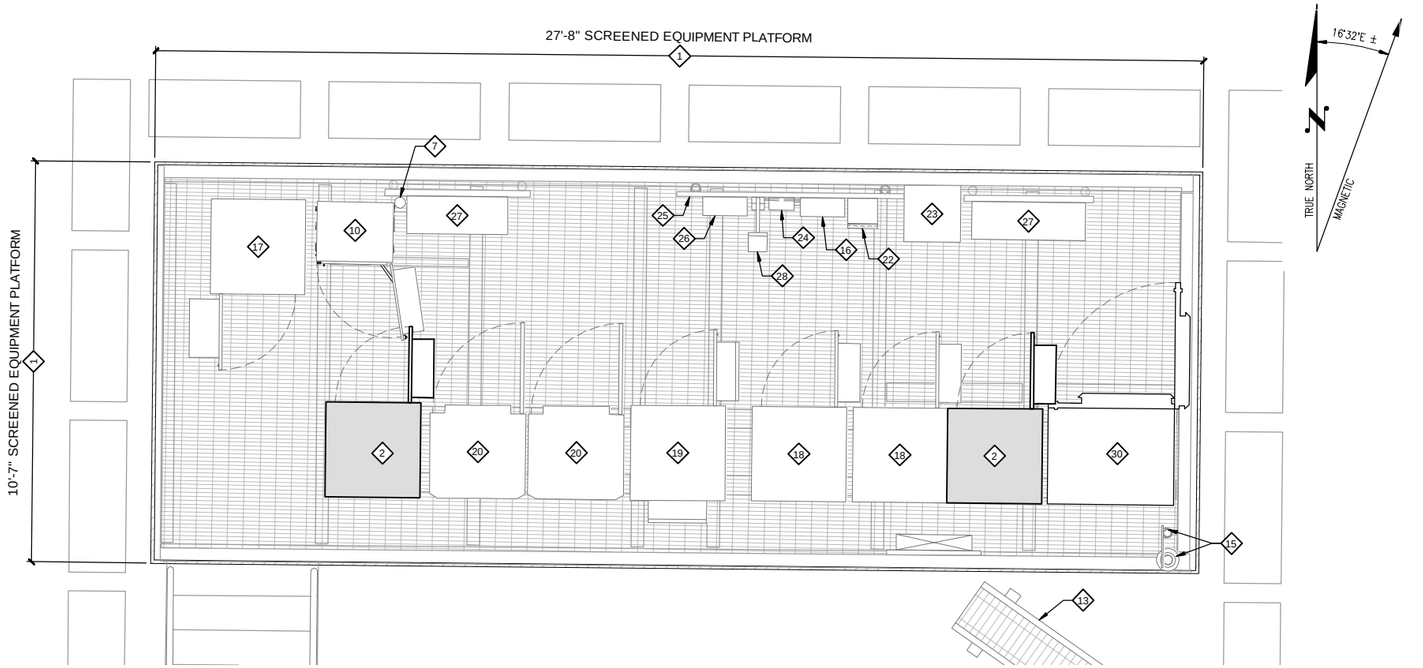




Member Shear Checks Displayed (Enveloped)
Envelope Only Solution
Reaction and Moment Units are lb and lb-ft (Enveloped)

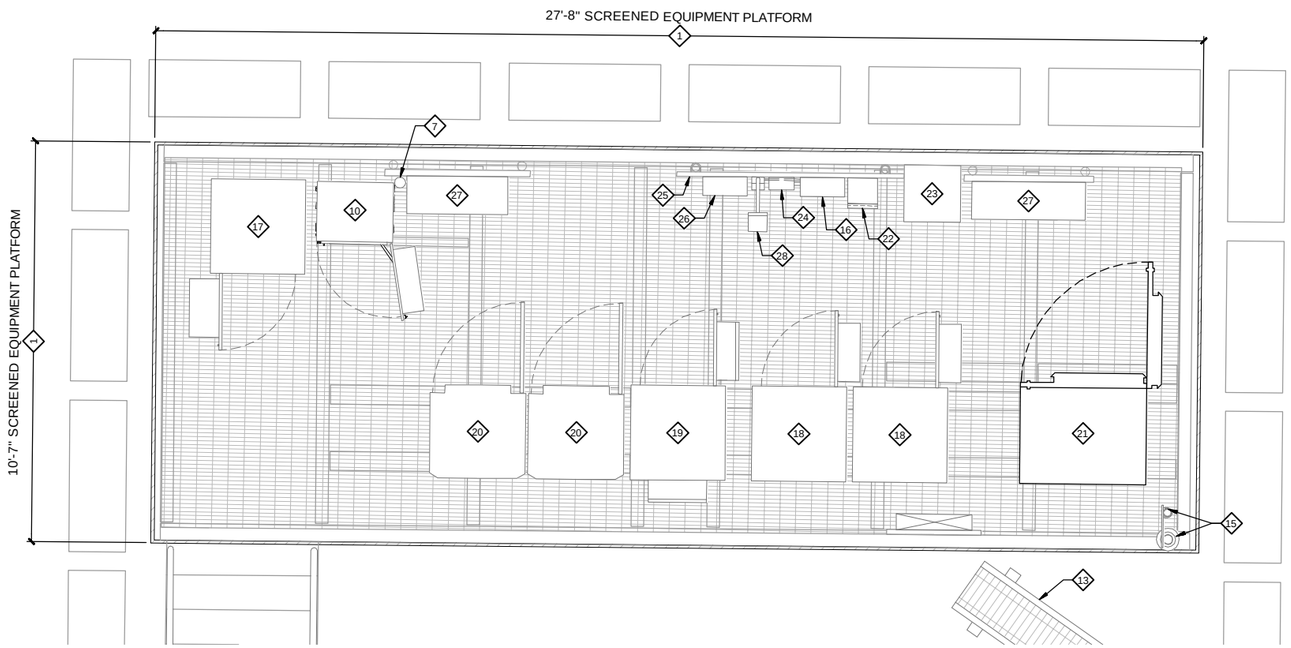
Morrison Hershfield	75153-A /GOOD SAMARITAN	SK - 3
ML		Dec 5, 2019 at 3:02 PM
GED-577R5 / 2000204		Platform Analysis_Seismic.r3d

PRCTI20230490



PROPOSED ENLARGED ANTENNA PLAN

22"x34" SCALE: 1/2" = 1'-0" | 11"x17" SCALE: 1/4" = 1'-0" | **2**



EXISTING ENLARGED EQUIPMENT PLAN

22"x34" SCALE: 1/2" = 1'-0" | 11"x17" SCALE: 1/4" = 1'-0" | **1**

CONSTRUCTION PLAN KEYED NOTES

1. EXISTING AT&T SCREENED EQUIPMENT PLATFORM (27' x 10').
2. PROPOSED AT&T BBU CABINETS W/ (38) BATTERIES TO BE INSTALLED. (1/A4)
7. EXISTING AT&T LTE GPS ANTENNA (TO REMAIN).
10. EXISTING AT&T LTE PURCELL CABINET (TO REMAIN).
13. EXISTING AT&T CABLE TRAY (TO REMAIN).
15. EXISTING AT&T GPS ANTENNAS (TO REMAIN).
16. EXISTING AT&T AC PANEL (TO REMAIN).
17. EXISTING AT&T ARGUS TE43 CABINET (TO REMAIN).
18. EXISTING AT&T BBU CABINET (TO REMAIN).
19. EXISTING AT&T ARGUS POWER CABINET (TO INSTALL (4) CORDEX RECTIFIERS) (TO REMAIN).
20. EXISTING AT&T GSM CABINET (TO REMAIN).
21. EXISTING AT&T UMTS CABINET (TO BE RELOCATED).
22. EXISTING AT&T GEN PLUG ENCLOSURE (TO REMAIN).
23. EXISTING AT&T TRANSFORMER (TO REMAIN).
24. EXISTING AT&T SURGE SUPPRESSION BOX (TO REMAIN).
25. EXISTING AT&T UTILITY H-FRAME (TO REMAIN).
26. EXISTING AT&T TELCO DEMARC (TO REMAIN).
27. EXISTING AT&T HOFFMAN BOX (TO REMAIN).
28. EXISTING AT&T WATERPROOF SERVICE LIGHT (TO REMAIN)
30. RELOCATED AT&T UMTS CABINET.

SITE NOTES

1. CONTRACTOR TO FIELD VERIFY SITE CONDITIONS DEPICTED IN THESE DRAWING AND NOTIFY THE ENGINEER OF RECORDED OF ANY DISCREPANCIES RELATED TO THE PROPOSED SCOPE OF WORK.
2. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL CALL FOR LOCATES PRIOR TO DIGGING.

Plan 2012 equipment configuration showing many cabinets.

WESTOWER

at&t Your world. Delivered.

LDC THE CIVIL ENGINEERING GROUP
Commercial Infrastructure Residential Telecom
14201 NE 200th St., #100 Woodinville, WA 98072
Ph. 425.806.1869 Fx. 425.482.2893
www.LDCcorp.com

DATE:	10-19-12
DRAWN BY:	CAG
CHECKED BY:	MEV

REVISIONS

REV	DATE	DESCRIPTION	BY
1	10-19-12	PRELIMINARY CONSTRUCTION	MEV
2	11-02-12	FINAL CONSTRUCTION	MEV

MARK E. VILLWOCK STATE OF WASHINGTON 40906 REGISTERED PROFESSIONAL ENGINEER

SITE
WA659
GOOD SAMARITAN

407 14TH AVE SE
PUYALLUP, WA 98372

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
A-2

Drawing: P:\2012_Telecom\12-298 AT&T - WA659 Good Samaritan\Drawings\Construction\12-298 CD-A2-0.dwg Plotted: Nov 02, 2012 - 3:05pm

PRCTI20230490

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	WATAU3055	DATE:	03/29/2021	RF DESIGN ENG:	Gisele Lima
ISSUE:		Approved? (Y/N):	Yes	RF DESIGN PHONE:	4259193253
REVISION:	2	RF MANAGER:	Piero Rovani	RF DESIGN EMAIL:	gl013y@us.att.com
INITIATIVE /PROJECT:	v3.1 Rescoped on (12/14/2022): Putting C-band & Dod on the existing lease area 3' on top of LTE at 90' tip height. C-band and Dod will be side by side on Pos 5 & Pos 6. V3: (02/11/2022) C&E request to have 2 KMW-L2 antennas per sector due to space issue. EPBQ-652L8H8 will be remove and UMTS will be shutdown early. Updated Sec 15 V2: (12/15/2021) Updated BBU, CellID, RF Configuration/Equipment. V1: (03/29/2021) Initial RFDS Remove UMTS, We need 3' separation from C-Band and other Antennas.				

RF PERF ENG:	Aldin Hajiric	RFDS PROGRAM TYPE:	2022 5G NR Radio		
RF PERF PHONE:	4257538163	RFDS TECHNOLOGY:	5G NR 1SR CBAND		
RF PERF EMAIL:	ah263n@us.att.com	STATE/STATUS:	Final/Approved		
ADDITIONAL WORKFLOW NOTIFICATIONS:		RFDS ID:	4441431		
RFDS VERSION:	1.00	Created By:	jx615k	Updated By:	mc482r
UMTS FREQUENCY:		Date Created:	3/29/2021 4:18:09 PM	Date Updated:	12/16/2022 7:57:19 PM
LTE FREQUENCY:		Estimated SQIN:	21,518	Expiration :	
5G FREQUENCY:	CBAND, DoD	RER Initiative:		Calculation ID:	2022121619513024 51
I-PLAN JOB # 1:	WR_-RWOR-21-04503	IPLAN PRD GRP || SUB GRP #1:	5G NR Software Radio || 5G NR Activation		
I-PLAN JOB # 2:	WR_-RWOR-21-04504	IPLAN PRD GRP || SUB GRP #2:	5G NR Software Radio || 5G NR Activation		
I-PLAN JOB # 3:	WR_-RWOR-21-04505	IPLAN PRD GRP || SUB GRP #3:	5G NR Radio || 5G NR 1SR CBand		
I-PLAN JOB # 4:	WR_-RWOR-21-04165	IPLAN PRD GRP || SUB GRP #4:	5G NR Radio || 5G NR 1SR CBand		
I-PLAN JOB # 5:		IPLAN PRD GRP || SUB GRP #5:			
I-PLAN JOB # 6:		IPLAN PRD GRP || SUB GRP #6:			
I-PLAN JOB # 7:		IPLAN PRD GRP || SUB GRP #7:			
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 9:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 10:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 11:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 12:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 13:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 14:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 15:		IPLAN PRD GRP || SUB GRP #8:			
I-PLAN JOB # 16:		IPLAN PRD GRP || SUB GRP #8:			

Section 2 - LOCATION INFORMATION

USID:	75153	FA LOCATION CODE:	10029581	LOCATION NAME:	GOOD SAMARITAN
REGION:	WEST	MARKET CLUSTER:	SEATTLE/OREGON/NO. ID	MARKET:	WASHINGTON
ADDRESS:	407 14TH AVENUE SOUTHEAST	CITY:	PUYALLUP	STATE:	WA
ZIP CODE:	98371	COUNTY:	PIERCE	LONG (DEC. DEG.):	-122.2905583
LATITUDE (D-M-S):	47d 10m46.2s	LONGITUDE (D-M-S):	-122d -17m-26.00988s	LAT (DEC. DEG.):	47.1795000
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	FROM SEATTLE, GO SOUTH ON I-5.TAKE EXIT 154A (ON THE LEFT SIDE OF THE FREEWAY) AND MERGE ONTO I-405 HEADING WEST TOWARDS RENTON.TAKE EXIT 2 AND MERGE ONTO HWY 167 GOING SOUTH TOWARD PUYALLUP.TAKE HWY 167 TO THE HWY 512/161 EXIT JUST PASS THE HWY 410 EXIT.EXIT HWY 167 ONTO HWY 512.FROM HWY 512 TAKE THE EXIT FOR S MERIDIAN.TURN LEFT AT THE END OF THE OFF RAMP AND FOLLOW S MERIDIAN SOUTH TO THE SE<15TH AVE>SW INTERSECTION.TURN LEFT ONTO SE 15TH AVE. FOLLOW THIS UP THE HILL TO THE 3RD ST SE ROUNDABOUT AND GO LEFT (NORTH) ON 3RD ST SE.FOLLOW THIS DOWN THE HILL AND THE ROAD WILL TURN RIGHT (EAST) BECOMING 13TH AVE SE.LEVEL C - MEADOW PICK UP WILL BE TO THE RIGHT AFTER THE PARKING GARAGE.FIND A PLACE TO PARK ON THE STREET AND GO TO THE LEVEL C - MEADOW PICK UP LOBBY.CONTACT STEVE PRIDEAUX (THE FACILITIES MANAGER) FOR AN ESCORT TO THE SITE AT (CELL) 253-732-5849.BE SURE TO HAVE AN AT&T BADGE VISIBLE.THE EQUIPMENT IS ON ROOF TOP OF THE NORTHWEST BUILDING WITH THE FLAG POLE NEXT TO THE PARKING GARAGETHE SITE COMPOUND IS TO THE LEFT AS YOU EXIT THE ROOF DOOR AND DOES NOT HAVE A LOCK.WHEN EXITING THE ELEVATORS AT THE PENTHOUSE, THE POWER METER IS ON THE FAR WALL STRAIGHT AHEAD.THIS SITE HAS 24/7 ACCESS.AT&T TECHNICIANS:BUSINESS HOURS ACCESS: CONTACT STEVE PRIDEAUX AND REQUEST ACCESS/ESCORT TO EQUIPMENT ON ROOF (CELL) 253-732-5849.IF POSSIBLE, LET HIM KNOW IN ADVANCE.ALSO, IF THERE IS NO RESPONSE FROM STEVE PRIDEAUX, CONTACT SECURITY FOR ACCESS.AFTER HOURS ACCESS: CALL MAINT FIRST AT 253 697-1802, IF THAT FAILS THEN CALL CALL SECURITY AT 253 697-1735.VENDORS:CONTACT STEVE PRIDEAUX (THE FACILITIES MANAGER) FOR ANY WORK BEING DONE. (CELL) 253-732-5849MAKE CONTACT WITH HIM A FEW DAYS BEFORE GOING THERE AND BRIEF HIM ON THE SCOPE.TELCO: GSM T1S ARE GSMOE.POWER METER SERIAL NUMBER:2647-481674 POWER PROVIDER: GOOD SAMARITAN HOSPITALGEN PLUG: N/A - ROOFTOP SITEGEN CORD LENGTH: N/A - ROOFTOP SITEVALIDATED BY CL8296 9/14/2016				

ORACLE PTN # 1:		PACE JOB # 1:	MRWOR058813		
ORACLE PTN # 2:		PACE JOB # 2:	MRWOR058864		
ORACLE PTN # 3:	3801A10ZF0	PACE JOB # 3:	MRWOR059479		
ORACLE PTN # 4:	3801A10ZVD	PACE JOB # 4:	MRWOR059318		
ORACLE PTN # 5:		PACE JOB # 5:			
ORACLE PTN # 6:		PACE JOB # 6:			
ORACLE PTN # 7:		PACE JOB # 7:			
ORACLE PTN # 8:		PACE JOB # 8:			
ORACLE PTN # 9:		PACE JOB # 9:			
ORACLE PTN # 10:		PACE JOB # 10:			
ORACLE PTN # 11:		PACE JOB # 11:			
ORACLE PTN # 12:		PACE JOB # 12:			
ORACLE PTN # 13:		PACE JOB # 13:			
ORACLE PTN # 14:		PACE JOB # 14:			
ORACLE PTN # 15:		PACE JOB # 15:			
ORACLE PTN # 16:		PACE JOB # 16:			
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:			
AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:			
FREQ COORD:		BTA:		MSA / RSA:	
		LAC(UMTS):	42970		
RF DISTRICT:	17				
RF ZONE:	A	RNC(UMTS):	TACNWADNCRAR22		
		MME POOL ID(LTE):	FF49		
PARENT NAME(UMTS):	TACOMA - ALU RNC 9370-22				

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No)::	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			

CGSA CALL SIGNS:	

Section 4 - TOWER/REGULATORY INFORMATION

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

PRCTI20230490

ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2			
ANTENNA VENDOR	KMW			KMW			
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3			
ANTENNA WEIGHT	86			86			
AZIMUTH	40			40			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	79			79			
ANTENNA TIP HEIGHT	83			83			
MECHANICAL DOWNTILT	0			0			
FEEDER AMOUNT	0			0			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E			3 FC12-PC6-10E			
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(02) , L7_PS(02) , L9(02) , L2(02) , L2_1(02) ERP: N005(463) , WCS(3672) , L7(3228) , L7_PS(3228) , L9(4897) , L2(2741) , L2_1(2741)						
Local Market Note 2	ANTENNA PORTS: N005(7c+7d+7g+7h) , WCS(7i+7j+7k+7l) , L7(10c+10d+10g+10h) , L7_PS(10c+10d+10g+10h) , L9(10a+10b+10e+10f) , L2(10a+10b+10e+10f) , L2_1(10a+10b+10e+10f)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005A_1) , WCS(WAL03055_3A_1) , L7(WAL03055_7A_1) , L7_PS(WAL03055_7A_2_F) , L9(WAL03055_9A_1) , L2(WAL03055_2A_1) , L2_1(WAL03055_2A_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1			WAWN003055_N005A_1	WAWN003055_N005A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 2			WAWN003055_N005	WAWN003055_N005		5G 850	EPBQ-654L8H8-	16		2	Top	FIBER	100						463			

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				A_1	A_1			L2_851MHz_02DT															
	PORT 3			WAWN003055_N005 A_1	WAWN003055_N005 A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4			WAWN003055_N005 A_1	WAWN003055_N005 A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9			WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10			WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11			WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12			WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 1			WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 2			WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 3			WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 4			WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
ANTENNA POSITION 4	PORT 5			WAL03055_9A_1, WAL03055_2A_1	WAL03055_9A_1, WAL03055_2A_1, WAL03055_2A_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 6			WAL03055_9A_1, WAL03055_2A_1	WAL03055_9A_1, WAL03055_2A_1, WAL03055_2A_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 7			WAL03055_9A_1, WAL03055_2A_1	WAL03055_9A_1, WAL03055_2A_1, WAL03055_2A_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 8			WAL03055_9A_1, WAL03055_2A_1	WAL03055_9A_1, WAL03055_2A_1, WAL03055_2A_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

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ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2			
ANTENNA VENDOR	KMW			KMW			
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3			
ANTENNA WEIGHT	86			86			
AZIMUTH	215			215			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	80			80			
ANTENNA TIP HEIGHT	84			84			
MECHANICAL DOWNTILT	2			2			
FEEDER AMOUNT	0			0			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E						
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(04) , L7_PS(04) , L9(02) , L2(02) , L2_1(02) ERP: N005(463) , WCS(3672) , L7(3303) , L7_PS(3303) , L9(4897) , L2(2741) , L2_1(2741)						
Local Market Note 2	ANTENNA PORTS: N005(13c+13d+13g+13h) , WCS(13i+13j+13k+13l) , L7(16c+16d+16g+16h) , L7_PS(16c+16d+16g+16h) , L9(16a+16b+16e+16f) , L2(16a+16b+16e+16f) , L2_1(16a+16b+16e+16f)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005B_1) , WCS(WAL03055_3B_1) , L7(WAL03055_7B_1) , L7_PS(WAL03055_7B_2_F) , L9(WAL03055_9B_1) , L2(WAL03055_2B_1) , L2_1(WAL03055_2B_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1			WAWN003055_N005B_1	WAWN003055_N005B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 2			WAWN003055_N005	WAWN003055_N005		5G 850	EPBQ-654L8H8-	16		2	Top	FIBER	100						463			

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				B_1	B_1			L2_851MHz_02DT															
	PORT 3			WAWN003055_N005 B_1	WAWN003055_N005 B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4			WAWN003055_N005 B_1	WAWN003055_N005 B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9			WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10			WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11			WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12			WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 1			WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 2			WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 3			WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 4			WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
ANTENNA POSITION 4	PORT 5			WAL03055_9B_1, WAL03055_2B_1	WAL03055_9B_1, WAL03055_2B_1, WAL03055_2B_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 6			WAL03055_9B_1, WAL03055_2B_1	WAL03055_9B_1, WAL03055_2B_1, WAL03055_2B_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 7			WAL03055_9B_1, WAL03055_2B_1	WAL03055_9B_1, WAL03055_2B_1, WAL03055_2B_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 8			WAL03055_9B_1, WAL03055_2B_1	WAL03055_9B_1, WAL03055_2B_1, WAL03055_2B_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

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ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2			
ANTENNA VENDOR	KMW			KMW			
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3			
ANTENNA WEIGHT	86			86			
AZIMUTH	315			315			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	79			79			
ANTENNA TIP HEIGHT	83			83			
MECHANICAL DOWNTILT	2			2			
FEEDER AMOUNT	0			0			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E						
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(02) , L7_PS(02) , L9(03) , L2(03) , L2_1(03) ERP: N005(463) , WCS(3672) , L7(3228) , L7_PS(3228) , L9(5011) , L2(2741) , L2_1(2741)						
Local Market Note 2	ANTENNA PORTS: N005(1c+1d+1g+1h) , WCS(1i+1j+1k+1l) , L7(4c+4d+4g+4h) , L7_PS(4c+4d+4g+4h) , L9(4a+4b+4e+4f) , L2(4a+4b+4e+4f) , L2_1(4a+4b+4e+4f)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005C_1) , WCS(WAL03055_3C_1) , L7(WAL03055_7C_1) , L7_PS(WAL03055_7C_2_F) , L9(WAL03055_9C_1) , L2(WAL03055_2C_1) , L2_1(WAL03055_2C_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1			WAWN003055_N005C_1	WAWN003055_N005C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 2			WAWN003055_N005	WAWN003055_N005		5G 850	EPBQ-654L8H8-	16		2	Top	FIBER	100						463			

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				C_1	C_1			L2_851MHz_02DT															
	PORT 3			WAWN003055_N005 C_1	WAWN003055_N005 C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4			WAWN003055_N005 C_1	WAWN003055_N005 C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9			WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10			WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11			WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12			WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 1			WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 2			WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 3			WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 4			WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
ANTENNA POSITION 4	PORT 5			WAL03055_9C_1, WAL03055_2C_1	WAL03055_9C_1, WAL03055_2C_1, WAL03055_2C_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 6			WAL03055_9C_1, WAL03055_2C_1	WAL03055_9C_1, WAL03055_2C_1, WAL03055_2C_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 7			WAL03055_9C_1, WAL03055_2C_1	WAL03055_9C_1, WAL03055_2C_1, WAL03055_2C_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 8			WAL03055_9C_1, WAL03055_2C_1	WAL03055_9C_1, WAL03055_2C_1, WAL03055_2C_2		LTE 1900,LTE AWS	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

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ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2	AEQK	AEQU	
ANTENNA VENDOR	KMW			KMW	Nokia	Nokia	
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3	29.5X17.7X9.5	29.5X17.7X9.5	
ANTENNA WEIGHT	86			86	99.2	99.2	
AZIMUTH	40			40	40	40	
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	80			80	88.75	88.75	
ANTENNA TIP HEIGHT	84			84	90	90	
MECHANICAL DOWNTILT	0			0	0	0	
FEEDER AMOUNT	0			0	0	0	
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E			3 FC12-PC6-10E			
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)					1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQK	1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQU	
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(02) , L7_PS(02) , L9(02) , L2(02) , N002(02) , N066(02) , L2_1(02) , N077(00) , N077_1(00) ERP: N005(463) , WCS(3672) , L7(3228) , L7_PS(3228) , L9(4897) , L2(2741) , N002(0) , N066(0) , L2_1(2741) , N077(34276) , N077_1(34276)						
Local Market Note 2	ANTENNA PORTS: N005(7c+7d+7g+7h) , WCS(7i+7j+7k+7l) , L7(10c+10d+10g+10h) , L7_PS(10c+10d+10g+10h) , L9(10a+10b+10e+10f) , L2(10a+10b+10e+10f) , N002(10a+10b+10e+10f) , N066(10a+10b+10e+10f) , L2_1(10a+10b+10e+10f) , N077(11a+11b) , N077_1(12a+12b)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005A_1) , WCS(WAL03055_3A_1) , L7(WAL03055_7A_1) , L7_PS(WAL03055_7A_2_F) , L9(WAL03055_9A_1) , L2(WAL03055_2A_1) , N002(WAWN003055_N002A_1) , N066(WAWN003055_N066A_1) , L2_1(WAL03055_2A_2) , N077(WAWN003055_N077A_1) , N077_1(WAWN003055_N077A_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	75153.A.850.5G.1		WAWN003055_N005A_1	WAWN003055_N005A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			

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	PORT 2	75153.A.850.5G.1		WAWN003055_N005 A_1	WAWN003055_N005 A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 3	75153.A.850.5G.1		WAWN003055_N005 A_1	WAWN003055_N005 A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4	75153.A.850.5G.1		WAWN003055_N005 A_1	WAWN003055_N005 A_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9	75153.A.WCS.4G.1		WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10	75153.A.WCS.4G.1		WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11	75153.A.WCS.4G.1		WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12	75153.A.WCS.4G.1		WAL03055_3A_1	WAL03055_3A_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
ANTENNA POSITION 4	**PORT 1**	75153.A.700.4G.1, 75153.A.700.4G.1		WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 2	75153.A.700.4G.1, 75153.A.700.4G.1		WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 3	75153.A.700.4G.1, 75153.A.700.4G.1		WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 4	75153.A.700.4G.1, 75153.A.700.4G.1		WAL03055_7A_1, WAL03055_7A_2_F	WAL03055_7A_1, WAL03055_7A_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 5	75153.A.1900.4G.1, 75153.A.AWS.4G.1, 75153.A.1900.5G.1*****		WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1	WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1, WAL03055_2A_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 6	75153.A.1900.4G.1, 75153.A.AWS.4G.1, 75153.A.1900.5G.1*****		WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1	WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1, WAL03055_2A_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 7	75153.A.1900.4G.1, 75153.A.AWS.4G.1, 75153.A.1900.5G.1*****		WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1	WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1, WAL03055_2A_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 8	75153.A.1900.4G.1, 75153.A.AWS.4G.1, 75153.A.1900.5G.1*****		WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1	WAL03055_9A_1, WAL03055_2A_1, WAWN003055_N002 A_1, WAWN003055_N066 A_1, WAL03055_2A_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
ANTENNA POSITION 5	**PORT 3**	75153.A.CBAND.5G.1		WAWN003055_N077 A_1	WAWN003055_N077 A_1		5G CBAND		24		0		FIBER	0						9999			
	PORT 4	75153.A.CBAND.5G.1		WAWN003055_N077 A_1	WAWN003055_N077 A_1		5G CBAND		24		0		FIBER	0						9999			
ANTENNA POSITION 6	**PORT 3**	75153.A.CBAND.5G.2		WAWN003055_N077 A_2	WAWN003055_N077 A_2		5G DoD		24		0		FIBER	0						9999			
	PORT 4	75153.A.CBAND.5G.2		WAWN003055_N077 A_2	WAWN003055_N077 A_2		5G DoD		24		0		FIBER	0						9999			

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

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ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2	AEQK	AEQU	
ANTENNA VENDOR	KMW			KMW	Nokia	Nokia	
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3	29.5X17.7X9.5	29.5X17.7X9.5	
ANTENNA WEIGHT	86			86	99.2	99.2	
AZIMUTH	215			215	215	215	
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	80			80	88.75	88.75	
ANTENNA TIP HEIGHT	84			84	90	90	
MECHANICAL DOWNTILT	2			2	0	0	
FEEDER AMOUNT	0			0	0	0	
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E						
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)					1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQK	1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQU	
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(04) , L7_PS(04) , L9(02) , L2(02) , N002(02) , N066(02) , L2_1(02) , N077(00) , N077_1(00) ERP: N005(463) , WCS(3672) , L7(3303) , L7_PS(3303) , L9(4897) , L2(2741) , N002(0) , N066(0) , L2_1(2741) , N077(34276) , N077_1(34276)						
Local Market Note 2	ANTENNA PORTS: N005(13c+13d+13g+13h) , WCS(13i+13j+13k+13l) , L7(16c+16d+16g+16h) , L7_PS(16c+16d+16g+16h) , L9(16a+16b+16e+16f) , L2(16a+16b+16e+16f) , N002(16a+16b+16e+16f) , N066(16a+16b+16e+16f) , L2_1(16a+16b+16e+16f) , N077(17a+17b) , N077_1(18a+18b)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005B_1) , WCS(WAL03055_3B_1) , L7(WAL03055_7B_1) , L7_PS(WAL03055_7B_2_F) , L9(WAL03055_9B_1) , L2(WAL03055_2B_1) , N002(WAWN003055_N002B_1) , N066(WAWN003055_N066B_1) , L2_1(WAL03055_2B_2) , N077(WAWN003055_N077B_1) , N077_1(WAWN003055_N077B_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	75153.B.850.5G.1		WAWN003055_N005B_1	WAWN003055_N005B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			

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	PORT 2	75153.B.850.5G.1		WAWN003055_N005 B_1	WAWN003055_N005 B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 3	75153.B.850.5G.1		WAWN003055_N005 B_1	WAWN003055_N005 B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4	75153.B.850.5G.1		WAWN003055_N005 B_1	WAWN003055_N005 B_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9	75153.B.WCS.4G.1		WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10	75153.B.WCS.4G.1		WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11	75153.B.WCS.4G.1		WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12	75153.B.WCS.4G.1		WAL03055_3B_1	WAL03055_3B_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
ANTENNA POSITION 4	**PORT 1**	75153.B.700.4G.1, 75153.B.700.4G.1		WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 2	75153.B.700.4G.1, 75153.B.700.4G.1		WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 3	75153.B.700.4G.1, 75153.B.700.4G.1		WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 4	75153.B.700.4G.1, 75153.B.700.4G.1		WAL03055_7B_1, WAL03055_7B_2_F	WAL03055_7B_1, WAL03055_7B_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_04DT	15		4	Top	FIBER	106						6606			
	PORT 5	75153.B.1900.4G.1, 75153.B.AWS.4G.1, 75153.B.1900.5G.1*****		WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1	WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1, WAL03055_2B_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 6	75153.B.1900.4G.1, 75153.B.AWS.4G.1, 75153.B.1900.5G.1*****		WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1	WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1, WAL03055_2B_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 7	75153.B.1900.4G.1, 75153.B.AWS.4G.1, 75153.B.1900.5G.1*****		WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1	WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1, WAL03055_2B_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
	PORT 8	75153.B.1900.4G.1, 75153.B.AWS.4G.1, 75153.B.1900.5G.1*****		WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1	WAL03055_9B_1, WAL03055_2B_1, WAWN003055_N002 B_1, WAWN003055_N066 B_1, WAL03055_2B_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_02DT	18		2	Top	FIBER	106						9999			
ANTENNA POSITION 5	**PORT 3**	75153.B.CBAND.5G.1		WAWN003055_N077 B_1	WAWN003055_N077 B_1		5G CBAND		24		0		FIBER	0						9999			
	PORT 4	75153.B.CBAND.5G.1		WAWN003055_N077 B_1	WAWN003055_N077 B_1		5G CBAND		24		0		FIBER	0						9999			
ANTENNA POSITION 6	**PORT 3**	75153.B.CBAND.5G.2		WAWN003055_N077 B_2	WAWN003055_N077 B_2		5G DoD		24		0		FIBER	0						9999			
	PORT 4	75153.B.CBAND.5G.2		WAWN003055_N077 B_2	WAWN003055_N077 B_2		5G DoD		24		0		FIBER	0						9999			

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

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ANTENNA POSITION is LEFT to RIGHT from 12 o'clock (unless otherwise specified)

	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	EPBQ-654L8H8-L2			EPBQ-654L8H8-L2	AEQK	AEQU	
ANTENNA VENDOR	KMW			KMW	Nokia	Nokia	
ANTENNA SIZE (H x W x D)	96X21X6.3			96X21X6.3	29.5X17.7X9.5	29.5X17.7X9.5	
ANTENNA WEIGHT	86			86	99.2	99.2	
AZIMUTH	315			315	315	315	
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	80			80	88.75	88.75	
ANTENNA TIP HEIGHT	84			84	90	90	
MECHANICAL DOWNTILT	2			2	0	0	
FEEDER AMOUNT	0			0	0	0	
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)	3 DC2-48-60-0-9E						
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B12/14 320W AHLBA			
RRH - 850 band (QTY/MODEL)	1 AirScale RRH 4T4R B5 160W AHCA						
RRH - 1900 band (QTY/MODEL)				1 AirScale Dual RRH 4T4R B25/66 320W AHFIB			
RRH - AWS band (QTY/MODEL)				1 RRH is shared with another band			
RRH - WCS band (QTY/MODEL)	1 RRH4x25-WCS-4R						
Additional RRH #1 - any band (QTY/MODEL)					1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQK	1 integrated within: AirScale MAA 64T64R 192AE n77 200W AEQU	
Additional RRH #2 - any band (QTY/MODEL)							
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	ELECTRICAL TILTS: N005(02) , WCS(02) , L7(02) , L7_PS(02) , L9(03) , L2(03) , N002(02) , N066(03) , L2_1(03) , N077(00) , N077_1(00) ERP: N005(463) , WCS(3672) , L7(3228) , L7_PS(3228) , L9(5011) , L2(2741) , N002(0) , N066(0) , L2_1(2741) , N077(34276) , N077_1(34276)						
Local Market Note 2	ANTENNA PORTS: N005(1c+1d+1g+1h) , WCS(1i+1j+1k+1l) , L7(4c+4d+4g+4h) , L7_PS(4c+4d+4g+4h) , L9(4a+4b+4e+4f) , L2(4a+4b+4e+4f) , N002(4a+4b+4e+4f) , N066(4a+4b+4e+4f) , L2_1(4a+4b+4e+4f) , N077(5a+5b) , N077_1(6a+6b)						
Local Market Note 3	SECTOR NAME: N005(WAWN003055_N005C_1) , WCS(WAL03055_3C_1) , L7(WAL03055_7C_1) , L7_PS(WAL03055_7C_2_F) , L9(WAL03055_9C_1) , L2(WAL03055_2C_1) , N002(WAWN003055_N002C_1) , N066(WAWN003055_N066C_1) , L2_1(WAL03055_2C_2) , N077(WAWN003055_N077C_1) , N077_1(WAWN003055_N077C_2)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	75153.C.850.5G.1		WAWN003055_N005C_1	WAWN003055_N005C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			

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	PORT 2	75153.C.850.5G.1		WAWN003055_N005 C_1	WAWN003055_N005 C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 3	75153.C.850.5G.1		WAWN003055_N005 C_1	WAWN003055_N005 C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 4	75153.C.850.5G.1		WAWN003055_N005 C_1	WAWN003055_N005 C_1		5G 850	EPBQ-654L8H8-L2_851MHz_02DT	16		2	Top	FIBER	100						463			
	PORT 9	75153.C.WCS.4G.1		WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 10	75153.C.WCS.4G.1		WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 11	75153.C.WCS.4G.1		WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
	PORT 12	75153.C.WCS.4G.1		WAL03055_3C_1	WAL03055_3C_1		LTE WCS	EPBQ-654L8H8-L2_2355MHz_02DT	18		2	Top	FIBER	106						3672			
ANTENNA POSITION 4	**PORT 1**	75153.C.700.4G.1, 75153.C.700.4G.1		WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 2	75153.C.700.4G.1, 75153.C.700.4G.1		WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 3	75153.C.700.4G.1, 75153.C.700.4G.1		WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 4	75153.C.700.4G.1, 75153.C.700.4G.1		WAL03055_7C_1, WAL03055_7C_2_F	WAL03055_7C_1, WAL03055_7C_2_F		LTE 700	EPBQ-654L8H8-L2_722MHz_02DT	15		2	Top	FIBER	106						6456			
	PORT 5	75153.C.1900.4G.1, 75153.C.AWS.4G.1, 75153.C.1900.5G.1*****		WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1	WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1, WAL03055_2C_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 6	75153.C.1900.4G.1, 75153.C.AWS.4G.1, 75153.C.1900.5G.1*****		WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1	WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1, WAL03055_2C_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 7	75153.C.1900.4G.1, 75153.C.AWS.4G.1, 75153.C.1900.5G.1*****		WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1	WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1, WAL03055_2C_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
	PORT 8	75153.C.1900.4G.1, 75153.C.AWS.4G.1, 75153.C.1900.5G.1*****		WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1	WAL03055_9C_1, WAL03055_2C_1, WAWN003055_N002 C_1, WAWN003055_N066 C_1, WAL03055_2C_2		LTE 1900,LTE AWS,5G 1900*****	EPBQ-654L8H8-L2_2130MHz_03DT	18		3	Top	FIBER	106						9999			
ANTENNA POSITION 5	**PORT 3**	75153.C.CBAND.5G.1		WAWN003055_N077 C_1	WAWN003055_N077 C_1		5G CBAND		24		0		FIBER	0						9999			
	PORT 4	75153.C.CBAND.5G.1		WAWN003055_N077 C_1	WAWN003055_N077 C_1		5G CBAND		24		0		FIBER	0						9999			
ANTENNA POSITION 6	**PORT 3**	75153.C.CBAND.5G.2		WAWN003055_N077 C_2	WAWN003055_N077 C_2		5G DoD		24		0		FIBER	0						9999			
	PORT 4	75153.C.CBAND.5G.2		WAWN003055_N077 C_2	WAWN003055_N077 C_2		5G DoD		24		0		FIBER	0						9999			

Diagram - Sector A | Diagram File Name - 10029581_ABC.vsdx

Atoll Site Name - PRCTI20230490 | Location Name - GOOD SAMARITAN | Market - WASHINGTON | Market Cluster - SEATTLE/OREGON/NO. ID

Comments:

Sector A,B&C

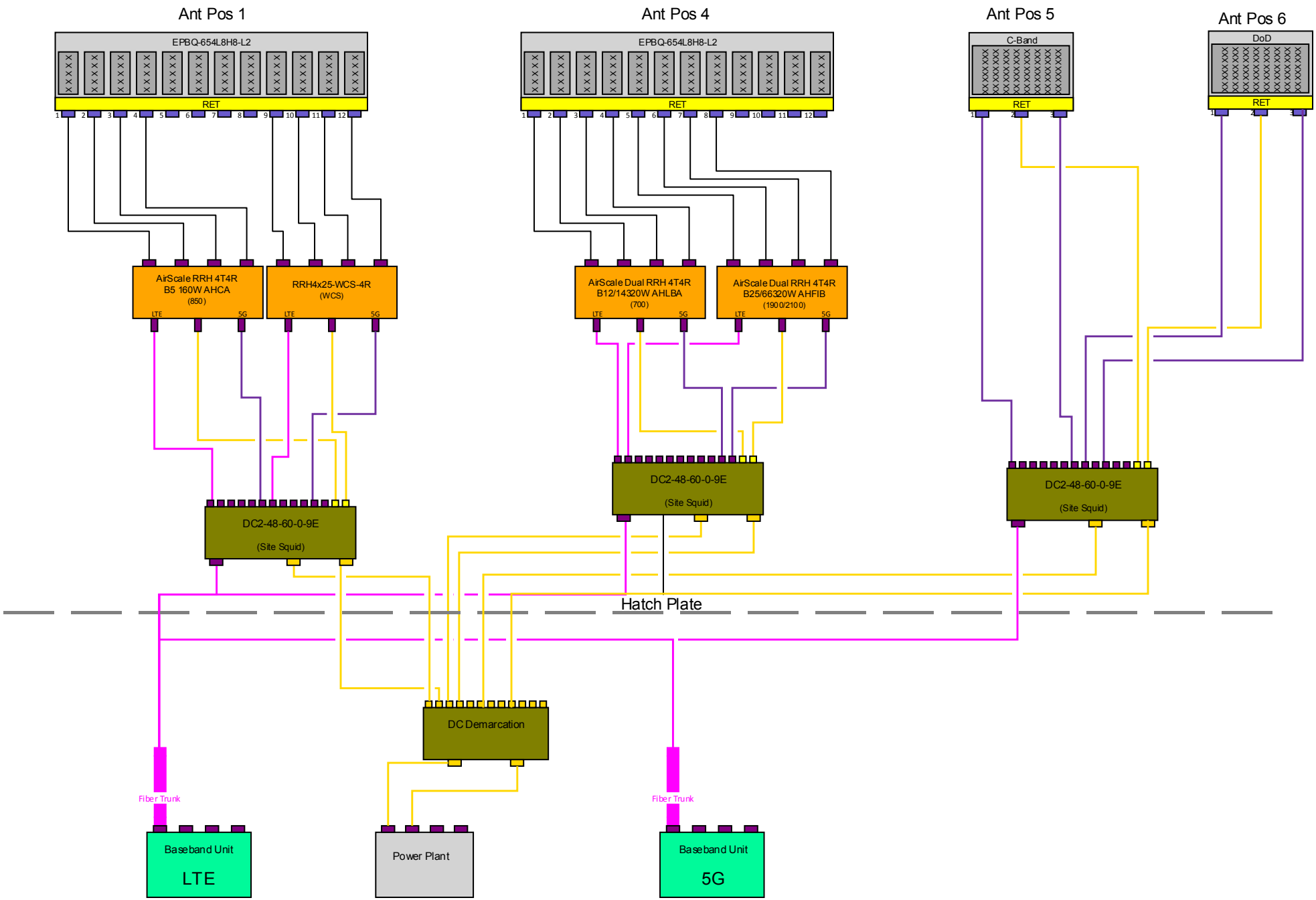

Diagram - Sector B | Diagram File Name - 10029581_ABC.vsdx

Atoll Site Name - PRCTI20230490 | Location Name - GOOD SAMARITAN | Market - WASHINGTON | Market Cluster - SEATTLE/OREGON/NO. ID

Comments:

Sector A,B&C

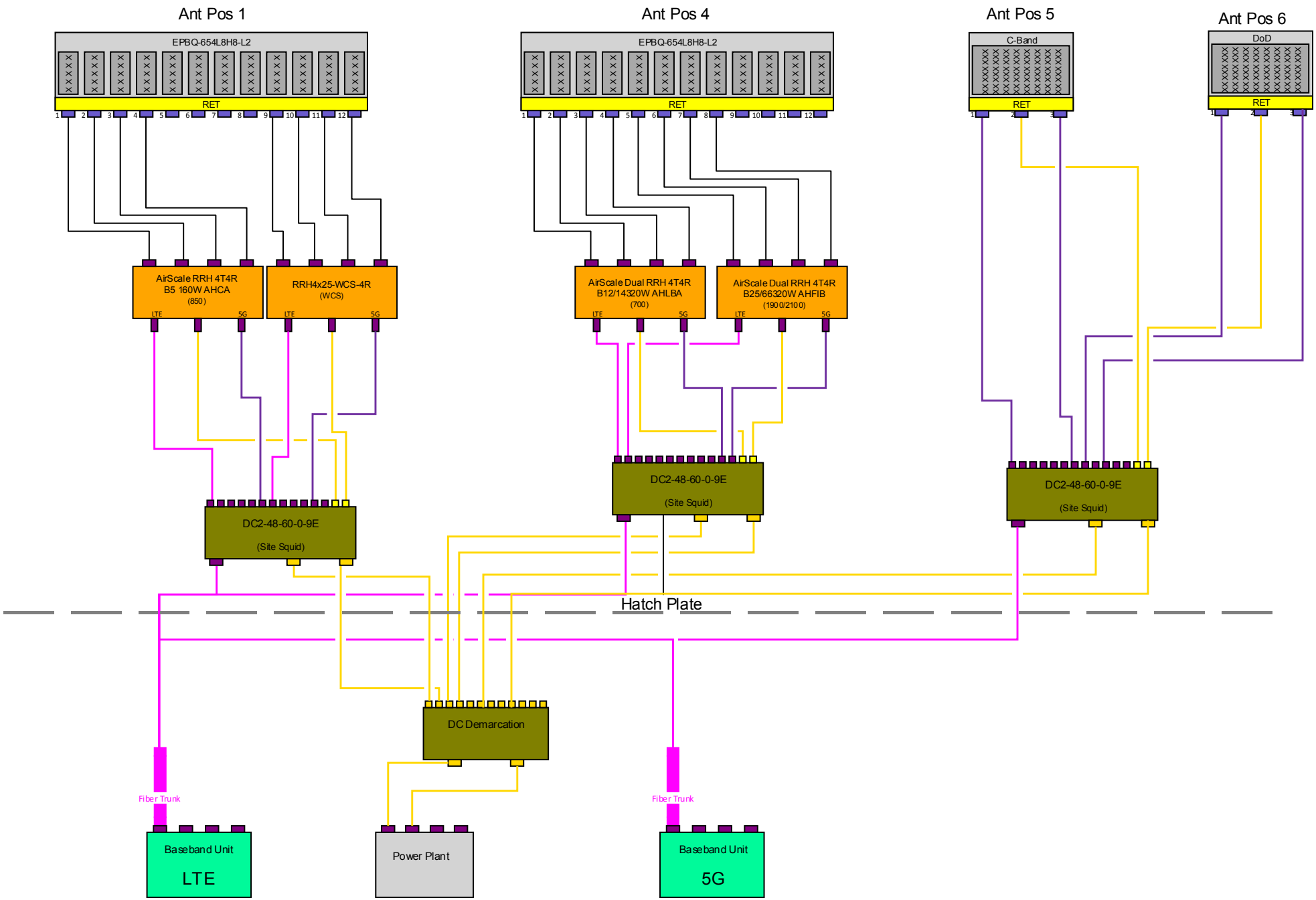

Diagram - Sector C | Diagram File Name - 10029581_ABC.vsdx

Atoll Site Name - PRCTI20230490 | Location Name - GOOD SAMARITAN | Market - WASHINGTON | Market Cluster - SEATTLE/OREGON/NO. ID

Comments: