

lextel

ORIGINAL

48 Spruce Street Oakland, NJ 07436 Phone: (845) 499-4712 Jennifer Palumbo

January 28, 2013

# **Hand Delivered**

Ms. Linda Roberts Executive Director Connecticut Siting Council 10 Franklin Square New Britain, CT 06051



RE: Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at 93 Old Amity Road, Bethany, CT 06524. Known to Sprint Spectrum L.P. as site CT03XC043.

# Dear Ms. Roberts:

In order to accommodate technological changes, implement Code Division Multiple Access ("CDMA") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the state of Connecticut, Sprint Spectrum L.P. plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

CDMA employs Spread-Spectrum technology and special coding scheme to allow multiple users to be multiplexed over the same physical channel. LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

As part of the project the new multi-mode 800/1900 antenna will replace existing antennas. These antennas will provide more flexibility for optimization by allowing fast and easy electrical tilt adjustment from remote location and will enable the transmission of multiple technologies from a single antenna. As Sprint Nextel's network evolves to meet the demands of its customers, it is essential for Sprint Nextel to install modern equipment and antennas in order to provide reliable wireless voice and data services. The

proposed equipment will include multi-mode radios that will allow Sprint Nextel to transmit at different frequencies using different technologies, including LTE technology. Likewise, the proposed antennas are quad-pole multi-band high gain antennas that will allow Sprint to operate using its multiple frequency bands and technologies, including LTE technology. The proposed equipment and antennas will improve the reliability, coverage and capacity of Sprint Nextel's voice and data networks across Sprint Nextel's various FCC licensed frequency bands and significantly increase the data speeds of Sprint Nextel's network by utilizing the latest LTE technology. Without the proposed modifications Sprint Nextel will be unable to provide reliable wireless voice and data service using the latest technologies.

Sprint Spectrum L.P. will have an interim (testing) period during the modification/installation prior to the final configuration. This antenna configuration is shown on the attached drawings of the planned modifications. Also included is the power density calculation reflecting the change in Sprint's operations at the site and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modification as defined Connecticut General Statues ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for the R.C.S.A. Section 16-50i-72(b)(2).

- 1. The height of the overall structure will not be affected.
- 2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
- 3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
- 4. Radio Frequency power density may increase due to the use of one or more CDMA transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons Sprint Spectrum L.P. respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (845)-499-4712 or email <u>JPalumbo@Transcendwireless.com</u> with questions concerning this matter. Thank you for your consideration.

Sincerely,

Jennifer Palumbo Real Estate Consultant



# **Structural Analysis Report**

Structure

: 337.5 ft AT&T Tag Type 'H' Self Supported

**Tower** 

**ATC Site Name** 

: Bethany CT, CT

**ATC Site Number** 

: 88008

**Proposed Carrier** 

**Sprint Nextel** 

**Carrier Site Name** 

Bethany, CT (American Towers, Inc.)

Carrier Site Number :

CT03XC043

County

: New Haven

Eng. Number

: 49564721

**Date** 

: June 28, 2012

Usage

: 104%

Result

: Fail

Submitted by: Avery B. Long, E.I. Design Engineer

**American Tower Engineering Services** 400 Regency Forest Drive Cary, NC 27518

Phone: 919-468-0112



# Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 337.5 ft AT&T Tag Type 'H' Self Supported Tower located at 93 Old Amity Rd., Bethany, CT 06524, New Haven County (ATC site #88008). The tower was originally designed and manufactured to AT&T Tag Type 'H' standards in 1966 by the Flint Steel Corporation. Tower geometry and member information was taken from a structural analysis by CSEI (Eng. #73115244, dated November 18, 2002). The tower has been modified per design by ATC (Project #44269933, dated January 6, 2010).

# **Analysis**

The tower was analyzed using Semaan Engineering Solutions, Inc., Software.

Basic Wind Speed: 85 mph (Fastest Mile)

Radial Ice:

74 mph (Fastest Mile) w/ ½" ice

Code:

ANSI/TIA/EIA-222-F / 2003 IBC w/ 2005 CT Supplement & 2009 CT

Amendments

# Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
Lievi(it)	1	Rohde & Schwarz ADD090	Platform w/	(2) 7/8	US Treasury
338.0			Handrails	(1) 7/8	Unknown
320.0			Catwalk	_	e mano viii
220.0	1	Sinclair SC381-HL			
310.0		Sinclair SC281-L	Sector Frame	(2) 7/8	US Treasury
287.5	_	**	Rest Platform	_	
275.0	1	Sinclair SC281-L	Sector Frame	(1) 7/8	US Treasury
250.0	12	Decibel DB844H90E-XY	Pipes	(12) 1 5/8	Sprint Nextel
237.0	_		Working Platform	-	
	6	Remec S20057A1	_	(10) 1 5 6	,
220.0	3	RFS APX16PV-16PVL-E-00	Sector Frames	(12) 1 5/8	T-Mobile
	6	RCU		(1) 0.315	
204.8	6	Andrew DB980H90E-M	Leg	(6) 1 5/8	Sprint Nextel
200.0	-	***	Rest Platform		
194.0		Andrew DB616E-BC	Side Arm	(1) 1 1/4	US Treasury
	6	RFS FD9R6004/1C-3L			
	3	Powerwave P65-16-XL-2		(12) 1 5/8	
180.0	3	Rymsa MGD3-800TX	Sector Frames	(12) 1 3/8	Verizon
	6	Andrew DB844H90E-XY		(1) 1/2	
	1	GPS			
	3	Raycap DC2-48-60-0-9E			
	3	Aligon LGP 21901			
	1	Raycap FC12-PC6-10E		(1) 3" Cond.	
165.0	6	Ericsson RRUS 11 (Band 12)	Sector Frames	(1) 10mm	AT&T Mobility
100.0	2	Andrew SBNH-1D6565C	Sector Frances	(2) 19.7mm	711ce i woomity
	1	KMW AM-X-CD-16-65-00T-RET		(12) 1 5/8	
	6	Allgon 7770.00			
	6	Powerwave LGP21401			
150.0			Rest Platform	<del></del>	
125.0			Working Platform	_	

**Existing Antennas (Continued)** 

Elev.(ft)	Qty	Antennas	Mount	Coax (in)	Carrier
100.0	3	RFS APXV18-206517S-C	Leg	(6) 1 5/8	Metro PCS
48.0	1	PCTEL GPS-TMB	Leg	(1) 1/2	Sprint Nextel
20.0	1	Nortel NTGB01MA	Leg	(1) 7/8	Metro PCS

Proposed Antennas

Elev.(ft)	Qty	Antennas	Mount	Coax (in)	Carrier
	3	RFS APXVSPP18-C-A20			
240.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	Pipes	(3) 1 1/4	Sprint Nextel
240.0	3	Alcatel-Lucent 800 MHz 2X50W	ripes	(3)11/4	Sprint Nexter
	د	RRH w/ Filter			

Install proposed coax on same tower face as existing coax.

### Results

The maximum structure usage is: 104%

Leg Forces	Current Analysis Reactions
Uplift (Kips)	346.8
Axial (Kips)	467.2

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required. These calculations are located after the software output within this analysis. The foundations & anchor bolts have a safety factor greater than or equal to 2.

### Conclusion

Based on the analysis results, the structure  $\bf does\ not$  meet requirements per the ANSI/TIA/EIA-222-F standard and the 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendments.

The tower and foundation can support the existing and proposed equipment after the modifications listed below are completed:

- Reinforce tower diagonals from 150 ft to 175 ft.
- Reinforce outermost trussed diagonals from 93 ft to 100 ft.
- Reinforce innermost trussed diagonals from 118 ft to 125 ft.
- Reinforce trussed horizontal at 93 ft.
- Reinforce horizontal at 75 ft.

If you have any questions or require additional information, please call 919-466-5069.

### **Standard Conditions**

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

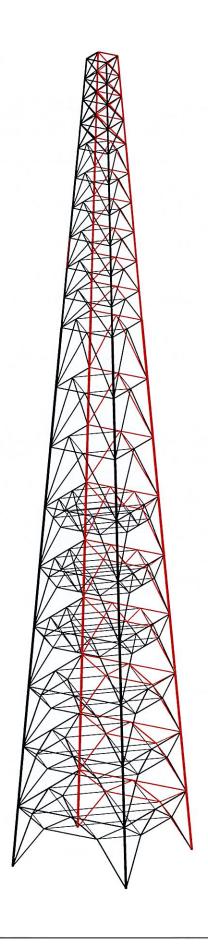
- -- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- -- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

American Tower Corp., Project: "88008-sprint-06262012"
Tower Version 12.10, 12:51:34 PM Thursday, June 28, 2012
Undeformed geometry displayed





Project Name : 88008 - Sethany CT, CT Project Notes: 387.5' ARX Tag Self Supported Tower Project File : SRLPL - ATOPSSORS.19849'] - Sprint Nextel\88008-sprint-06262012.tow Date run : 12446139 PM Thursday, June 28, 2012 by : Tower Version 12.10 Licensed to : American Tower Corp.

Successfully performed nonlinear analysis

The model has 0 warnings.

Nember check option: TIA/EIA 223-F
Connection rupture checks Not Checked
Crossing diagonal check: Fixed
Included angle checks None
Climbing load checks None
Climbing load checks None
Climbing load checks With: Actual Force
Loadwart Checked With: Actual Checked With: Actual Force
Lo

· · · Analysis Results:

Maximum element usage is 103.93% for Angle 'D 13%' in load case 'W -90'  $^{\circ}$  NG

Summary of Joint Support Reactions For All Load Cases:

W		OXY	-45.27 -44.11	-24.33			(ft-k)	(ft-k)	(ft-k)	(ft-k)	
W I W I	0 0	OXY			318.64	51.39	-0.46	-4.73	-2.56	4.75	0.00
W I W I	0 80	OXY		25.01	314.95	50.70	0.23	-4.53	2.56	4.54	0.00
W I W I	30		-34 15		-198.65	37.02	0.55	-5.15	2.33	5.18	0.00
W I	30	OY	-35.16		-199.89	37.71	-0.38	-5.34	-2.32	5.36	0.00
W 1		OP	35.16		-197.91	37.66		5.38	2.32	5.40	0.00
		OX			-196.73	36.96		5.19	-2.34	5.22	0.00
		OXY	44.10	24.86	313.03	50.62	0.23	4.57	-2.57	4.58	0.00
W 1			45.27		316.66	51.32	-0.46	4.77	2.57	4.79	0.00
W			-51.52		467.23	72.99			0.00	5.13	
28			-21.70		57.39	24.32	4.24	-3.55	3.84	5.53	
W					-346.22	59.09	4.36	-4.39	-0.00	6.18	0.00
W			-10.83		56.66	24.09		-4.20	-3.84	5.48	0.00
W -		0.0	-22.56	11.45	60.36	25.30		-3.68	-3.84	5.75	0.00
77 -			-50.57	52.18	464.27	72.73		-3.47	-0.00	5.16	0.00
W -			-10.14	21.05	57.18	23.36	-3.41	-4.06	3.85	5.30	0.00
W -			-42.53		-346.75	59.24	-4.25	-4.52	0.02	5.30	0.00
			-24.24		318.98	51.51	4.76	0.49	2.56	4.79	
7		OX			-199.49	37.80	5.38	0.37	2.31	5.39	0.00
W					-198.31	36.91	5.13	-0.56	-2.33	5.16	0.00
W		OY	35 35	-43.92	313.39	50.56	4.51	-0.20	-2.56	4.52	0.00
w -		OP	13.44		-198.25	37.77	-5.41	0.37	-2.30	5.42	0.00
W -				45.46	317.73	51.47		0.49	-2.57	4.81	0.00
W -		OXY	24.95		312.69	50.51	-4.54	-0.20	2.57	4.54	0.00
8 -			-14.24		-197.12	36.87	-5.15	-0.56	2.34	5.18	0.00
WOI			-40.03		299.97	45.67	-1.73	-2.68	-2.16	3.20	0.00
WOI			-38.88	22.62	295.87	44.98	1.51	-2.50	2.16	2.92	0.00
	ce				-151.62	31.10	1.81	-5.72	2.00	6.00	0.00
	ce		-29.67		-152.27	31.72	-1.66	-5.90	-1.98	6.13	0.00
	ce	OP	29.67		-149.54	31.65	-1.66	5.96	1.99		0.00
	ce	OX		11.01	-148.96	31.02	1.81	5.77	-2.00	6.05	0.00
	ce	OXY	38.87	22.41	293.20	44.87	1.51	2.55	-2.00	2.96	0.00
	ce	OY		-21.77	293.20	45.57	-1.74	2.74	2.17	3.24	0.00
	ce	0.0	-46.57		437.25	65.99	1.87	-1.83	0.00	2.62	0.00
	ce.		-19.78	-9.04	71.77	21.75	5.06	-1.78	3.37	5.36	0.00
W 45 I					-287.85	51.68	5.16	-5.18	-0.00	7.31	0.00
	ce	OY		-19.59	70.79	21.53	1.76	-5.01	-3.37	5.31	0.00
W -45 I			-20.64	9.51	75.18	22.72	-5.23	-1.91	-3.38	5.57	0.00
W -45 I			-45.71	47.21	433.84	65.71	-2.04		-0.01	2.66	0.00
	ce		-8.32	19.14	70.75	20.87	-1.66	-1.70		5.16	
		OXY	-8.32			51.79			3.38		0.00
	ce				-287.82		-5.06	-5.31	0.02	7.34	0.00
	ce	OP		-40.22	300.29	45.78	2.72	1.77	2.16	3.24 6.17	0.00
					-151.61 -151.30	31.79	5.94	1.65	1.98		0.00
	0.0					31.00	5.70	-1.82	-2.00	5.98	0.00
	ce	OY		-38.69	294.58	44.83	2.48	-1.48		2.89	0.00
	ce	OP	10.99	29.78	-149.85	31.75	-5.98	1.65	-1.98	6.20	0.00
	ce		-21.74	40.22	298.54	45.72	-2.76	1.77	-2.17	3.27	0.00
W -90 I W -90 I	ce	OXY	22.51	38.69	292.88	44.76	-2.51 -5.73	-1.48 -1.82	2.16	2.92 6.02	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case					Residual Shear Perpendicular	Horizontal	Horizontal	Horizontal	Long.	Tran.	Vert.
				(kips)	To Leg (kips)	To Leg - Res. (kips)	To Leg - Long. (kips)	To Leg - Tran.	(kips)		Force (kips)
W O	0.5	1.9	L 1P		25.295	25.362	25.030		-45.27		
M 0	0X	110		318.064	24.545	24.614	24.100		-44.11	25.01	
W O	OXY	1XY		-200.917	21.546	21.596					-198.65
W O	0.4	17		-202.171	22.434	22.482	22.463	-0.926	-35.16		-199.89
W 180	0.0			-200.194	22.561	22.609					-197.91
W 180	OX			-198.994	21.664	21.714	-21.651				-196.73
W 180	OXY									24.86	
W 180	0.7		LIY				-25.157			-24.18	
W 45	0P		L 1P			31.022			-51.52		467.23
W 45	0X	1X	LIX	57.838	23.226	23.227	18.060	14.607	-21.70	-10.96	57.39
W 45	OXY	133	L 1XY	-350.119	27.877	27.989	19.858	19.725	-41.85	-41.72	-346.22
W 45	0.4		L 1Y		23.005	23.006			-10.83	-21.52	56.66
W -45	0.2	1.2	L 1P	60.819	24.167	24.168	18.723	-15,281	-22.56	11.45	60.36
W -45	0X	133	L 1X	468.913	30.915	31.039	21.180	-22.690	-50.67	52.18	464.27
W -45	OXY	133	L 1XY	57.643	22,202	22,204	13.776				57.18
W -45	0.7	17	L 17	-350.660	27.985	28.098	20.508	-19,206	-42.53	41.23	-346.75
W 90	0P		L 1P			25.504	3,975		-24.24		
W 90	0X	111	1.18	-201.783	22.589						-199.49
W 90	OXY	133		-200.575	21,439	21.489					-198.31
W 90	0.4	17		316.991	24.452	24.521	-5,108			-43.92	
W -90	0.8	19		-200.537		22.719					-198.25
W -90	0X	1X	Lix		25.515	25.582	3,962			45.46	
W -90	OXY	122	L IXY			24.589					312.69
W -90	0.7			-199,382	21.511	21.561	1,720				-197.12
W O Ice	0P		L 1P			21.182	20.980		-40.03		
W 0 Ice	0X	ix	L ix			20.444			-38.88		
W 0 Ice	OXY	1XY		-153.584	19.198	19.245					-151.62
W 0 Ice	94	17		-154.244	20.008	20.054	19,994		-29.67		-152.27
W 180 Ice	0P			-151.510			-20,170				-149.54
W 180 Ice	0X			-150.913		19.408	-19.283				-148.96
	087							2.192			
M 180 Ice	OXI	187	L 1XY		20.544	20.600 21.351	-20,250				
W 180 Ice			L 1Y			21.351				-21.77	297.24
W 45 Ice	OP		L 1P		26.607	26.714	18.796		-46.57		
W 45 Ice	0X	1%	L 1X		20.415	20.415			-19.78		71.77
W 45 Ice	OXY			-291.322	25.717	25.821	18.316				-287.85
W 45 Ice	OY	14	L 1Y			20,203	13.426			-19.59	70.79
W -45 Ice	0 P	1P	L 19		21.345	21.345				9.51	75.18
W -45 Ice	OX	1.X			26.644	26.751	18.153			47.21	433.84
W -45 Ice	OXY	133	L IXY		19.462	19.463				19.14	70.75
W -45 Ice	94	18		-291.296	25.839	25.943					-287.82
W 90 Ice	0P	18	L IP		21.277	21.331			-21.87		300.29
W 90 Ice	0X			-153.589	20.161	20.207					-151.61
W 90 Ice	OXY	1XY	L IXY	-153.262	19.108	19.155	2.278	19.019	-11.89	-28.63	-151.30
W 90 Ice	94	17	L 1Y	297.276	20.305	20.361	-3.930		22.64	-38.69	294.58
W -90 Ice	OP			-151.333	20,272	20.319					-149.85
W -90 Ice	0X	18		301.258	21.387	21,441				40.22	298.54
W -90 Ice	OXY	122	t ixy		20.403	20,459				38.69	292.88
W -90 ice	0.7			-151.568	19,210						-149.61

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)		Moment
W 90 W -90 W 0 Ide W 190 Ide W 45 Ide W -45 Ide W 90 Ide	63.477 21080.021 -20953.437 26732.974 -26606.570	101.361 23336.826 -23056.732 18832.719 18832.993 140.251	26568.774 29838.446 29749.368 26733.166 26606.763 23336.998 23056.907 26597.687

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Count			Width	Area	Face Af Adjust Factor	Adjust	Load
328.9-337.5 320.3-328.9 310.3-320.3	328.917	320.334	3	16	10.09	11.18	91.28	1.1220	1.1610	1.393

\*\* Overall summary for all load cases - Usage - Maximum Stress / Allowate Stress Printed capacities do not include Eld allowable attess increas for wind load cases. Printed capacities do not include the strength factor entered for each load case. The Group Stress was considered to the entered for each load case.

Group	Summary	(Compression	Portion)	:

Group Label	Grou Desc	p Ang	le Angle pe Size	Steel Strength		Usage Cont- rol	Use	Comp. Control Member	Comp. Force	Comp. Control Load Case		Connect. Shear		RLX	RLY	RLZ	L/R	KL/R	Length Comp. Member (ft)	No.	No. Of Bolts Comp.
	L 8" x 8" x 1.125		AE BXBX1.13		72.71		72.71		-405.076		417.820						54 29		25.101		0
Leg S1 Leg S2	L 8" x 8" x 1.125	· S	AE 8X8X1.13	36.0	70.53	Comp	70.53	L 2P	-362.171	W 45	385.120	0.000	0.000	0.281	0.281	0.281	54.29	54.29	25.101	1	0
Leg S3	L 8" x 8" x 1.125 L 8" x 8" x 1.125	. 3	AE 8X8X1.13 AE 8X8X1.13		67.56 66.95	Comp	67.56		-317.937 -268.273	W 45	352.980	0.000	0.000	0.281	0.281	0.281	54.29		25.101	1	0
Leg S4 Leg S5	L 8" x 8" x 1	* 3	AE SXSX1		62.38	Comp	62.38	L SP	-224.111	W 45	269.473	0.000	0.000	0.281	0.281	0.281	54.29	54.29	25.101	1	0
Leg S6	L 3" x 8" x 1	+ 5	AE BX8X1	36.0	50.49	Comp	50.49	L 6P	-181.409	W 45		0.000	0.000	0.281	0.281	0.281	54.29		25.101		0
Leg S7 Leg S8	L 8" x 8" x 0.875 L 8" x 8" x 0.75	. 3	AE 8X8X0.88 AE 8X8X0.75	36.0 36.0	56.40	Comp	56.40		-169.573 -134.571	W 45 W 45	225.502 195.450	0.000			0.333		63.54		25.101	i	0
Leg 39	L 8" x 8" x 0.75	. 5	AE 8X8X0.75	36.0	39.45	Comp	39.45	L 9P	-102.811	W 45	195.450	0.000	0.000	0.333	0.333	0.333	63.54	63.54	25.101	1	0
Leg Sio	L 6" x 6" x 0.875	. 3	AE 6X6X0.88		39.75	Comp	39.75	L 10P	-87.678 -74.047	W 45	165.443	0.000	0.000	0.500	0.500	0.500	64.36		12.550	1	0
Leg S11 Leg S12	L 6" x 6" x 0.75 L 6" x 6" x 0.75		AE 6X6X0.75 AE 6X6X0.75		38.70	Comp	32.64		-62.453		143.509				0.500		64.36		12.550	1	0
Leg S13	L 6" x 6" x 0.5625	* S	AE 6X6X0.56	36.0	34.87	Comp	34.37	L 13P	-50.991	W 45	109.680	0.000	0.000	0.500	0.500	0.500	63.82		12.550	1	0
Leg 314	L 6" x 6" x 0.5625 L 6" x 6" x 0.4375	• s	AE 6X6X0.56 AE 6X6X0.44		27.25	Comp	27.25	L 14P L 15P	-39.845	W 45	109.680 86.579	0.000	0.000	0.500	0.500	0.500	63.82		12.550	1	0
Leg S15 Leg S16	L 5" x 5" x 0.4375	* 3	AE 5X5X0.44		23.70	Comp	23.70		-22.750	W 45	71.999	0.000	0.000	0.500	0.500	0.500	62.12	62.12	10.208	î	0
Leg S17	I. 5" × 5" × 0.4375	* S	AE 5X5X0.44	36.0	15.23	Comp	15.23	L 17P	-14.623	W 45	71.999	0.000	0.000	0.500	0.500	0.500	62.12		10.208	1	0
Leg S18 Leg S19	L 5" x 5" x 0.3125 L 5" x 5" x 0.3125	* S	AE 5X5X0.31 AE 5X5X0.31	36.0 36.0	10.62	Comp	10.62	L 18P	-7.771W		54.896 54.896	0.000	0.000	0.500	0.500	0.500	52.02		8.613	1	ő
Diag 31	B/B L3"x4"x0.375		As 4x3x0.38		53.90	Comp	53.90	D 2X	-44.929	W -90	62.516	0.000	0.000	0.333	0.667	0.333	103.12	103.12	22.664	1	0
Diag 32	B/B L3"x4"x0.25	. D	AS 4X3X0.25		75.70	Comp	75.70	D 4X	-44.679	W -90	44.268	0.000	0.000	0.333	0.667	0.333	99.05		22.190	1	0
Diag S3 Diag S4	B/B L3"x4"x0.25 B/B L3"x3.5"x0.25	• D	AS 4X3X0.25 AS 3.5X3X0.25		73.02 87.57	Comp	73.02	D 6X D 8X	-43.932 -46.899	W -90 W -90	45.126	0.000	0.000	0.333	0.667	0.333	101.13	101.13	20.858	1	ő
Diag S5	B/B L3"x3.5"x0.25	* D	AS 3.5X3X0.25		84.10	Comp	84.10	D 10X	-45.848	W -90	40.889	0.000	0.000	0.333	0.667	0.333	99.32	99.32	20.484	1	0
Diag S6	B/B L2.5"x3.5"x0.25	. D	AS 3.5X2.5X0.25 AS 3X2.5X0.25		98.22	Comp	98.22		-44.249 -28.722	W -90	33.788	0.000							20.132	6	0 NG
Diag SR	B/B L2.5"x3"x0.25 B/B L2.5"x3"x0.25	, D	AS 3X2.5X0.25 AS 3X2.5X0.25		86.32	Comp	86.32	D 16Y	-24.770	W 180	21.522	0.000	0.000	0.300	0.600	0.300	144.53	135.09	29.107	6	0
Diag 39	B/B L2.5"x3"x0.25	. D	AS 3X2.5X0.25	36.0	74.94	Comp	74.94	D 18Y	-22.279	W 180	22.297	0.000	0.000	0.300	0.600	0.300	140.68	132.72	28.331	- 6	0
Diag 510	B/B L2.5"x2.5"x0.25 B/B L2.5"x2.5"x0.25	. D	AE 2.5X2.5X0.25 AE 2.5X2.5X0.25	36.0 36.0	61.39 50.66	Comp	61.39 50.66	D 20Y	-12.547 -10.816	W 180	15.329	0.000	0.000	0.500	1.000	0.500	167.19	148 98	17.103	6	0
Diag Sil	B/B L2.5"x2.5"x0.25	5 D	AE 2.5%2.5%0.25		42.60	Comp	42.60	D 24Y	-9.493	W 180	16.714	0.000	0.000	0.500	1.000	0.500	161.99	145.82	16.064	6	0
Diag S13	B/B L2.5"x2"x0.25	. D	AL 2.5X2X0.25	36.0	63.37	Comp	63.37	D 26Y	-9.392	W 180	11.115	0.000	0.000	0.500	1.000	0.500	199.94	169.16	15.579	6	0
Diag S14 Diag S15	B/B L2.5"x2"x0.25 B/B L2.5"x2"x0.25	· D	AL 2.5X2X0.25 AL 2.5X2X0.25		55.08	Comp	55.08	D 28Y	-8.523 -8.119	W 180 W -90	11.607	0.000	0.000	0.500	1.000	0.500	188.54	162.15	15.120	6	0
Diag S16	L 3.5" x 3.5" x 0.25	· S	AE 3.5X3.5X0.25	36.0	30.30	Comp	30.30	D 32X	-5.029	W -90	12.446	0.000	0.000	0.520	0.750	0.520	149.34	142.40	16.609		0
Diag 517	L 3.5" x 3.5" x 0.25	· 3	AE 3.5X3.5X0.25		22.02	Comp	22.02	D 34X	-4.034	W -90	13.736	0.000	0.000	0.520	0.750	0.520	140.35	135.55	15.609	5	0
Diag S18 Diag S19	L 3" x 3" x 0.25 L 3" x 3" x 0.25		AE 3X3X0.25 AE 3X3X0.25	36.0 36.0	17.36	Comp	17.36	D 36P D 38X	-2.596 -2.190	W =90	11.217	0.000							12.848	5	ő
Horiz 1	B/B L4"x3"x0.25	, D	AL 4X3X0.25	36.0	76.81	Comp	76.81	H 1P	-38.449	W -90	37.543	0.000	0.000	0.500	0.500	0.500	114.14	114.14	24.350	1	0
	B/B L3.5"x2.5"x0.25		AL 3.5X2.5X0.25		96.57	Comp	96.57	H 3P	-36.381 -34.282	W -90	28.256	0.000	0.000	0.500	0.500	0.500	125.29	123.26	22.762	6	0 10
Horiz 3	B/B L3"x2.5"x0.25 B/B L3.5"x2.5"x0.25		AL 3X2.5X0.25 AL 3.5X2.5X0.25			Comp	98.50	H 7P	-34.764	W -90	26.470		0.000	0.900	0.900	0.900	129.37	125.76	13.057	- 6	0
Horiz 5	B/B 13.5"x2.5"x0.25		AL 3.5X2.5X0.25	36.0	89.75	Comp	89.75	H 9P	-31.689	W -90	26.482	0.000	0.000	1.000	1.000	1.000	132.09	127.44	11.998	6	0
Horiz 6	B/B L3"x2.5"x0.25 B/B L3"x2.5"x0.25	. 0	AL 3X2.5X0.25 AL 3X2.5X0.25		94.51 70.12	Comp	94.51	H 11P	-28.560 -13.999	W -90 W 180	22.665	0.000	0.000	1.000	1.000	1.000	188.92	161.95	10.940	6	0
Horiz 7	B/B 13"x2.5"x0.25	5* D	AL 3X2.5X0.25		48.23	Comp	48.23	H 16P	-11.293	W 180	17.560	0.000	0.000	1.000	1.000	1.000	168.05	149.55	13.234	- 6	0
Horiz 9	B/B L2.5"x2.5"x0.25	5** D	AE 2.5X2.5X0.25	36.0	47.89	Comp	47.89	H 18P	-9.095	W 180	14.243	0.000	0.000	1.000	1.000	1.000	181.73	157.96	11.646	6	0
Horiz 10 Horiz 11	B/B L2.5"x2.5"x0.25 B/B L2.5"x2.5"x0.25		AE 2.5%2.5%0.25 AE 2.5%2.5%0.25		36.15	Comp	36.15	H 20P	-7.578 -6.257	W 180	15.724	0.000	0.000	1.000	1.000	1.000	156.95	142.72	10.852	6	0
Horiz 12	B/B L2.5"x2.5"x0.25	5" 0	AE 2.5X2.5X0.25	36.0	20.33	Comp	20.33	H 24P	-5.279	W 180	19.471	0.000	0.000	1,000	1.000	1.000	144.56	135.10	9.264	6	0
Horiz 13	B/B L2.5"x2.5"x0.25	5" 0	AE 2.5X2.5X0.25	36.0	18.80	Comp	18.80	H 26P	-5.483	W 180 W -90	21.868	0.000	0.000	1.000	1.000	1.000	132.17	127.48	8.470	6	0
Horiz 14 Horiz 15	B/B L2.5"x2.5"x0.25 B/B L2.5"x2.5"x0.25		AE 2.5%2.5%0.25 AE 2.5%2.5%0.25		13.78	Comp	9.61	H 27P H 29X	-4.511 -3.664	W -90	28.609		0.000	1.000	1.070	1.000	107.39	107.39	6.882	î	ő
Horiz 16	L 3" x 2.5" x 0.25	5" 3	AU 3X2,5X0.25	36.0	5.24	Comp	5.24	H 31P	-0.768	W 180	10.999	0.000	0.000	0.500	0.520	0.500	141.73	133.36	12.472	6	0
Horiz 17 Horiz 18	B/B L3"x2.5"x0.25 L 3" x 2.5" x 0.25		AL 3X2.5X0.25 AU 3X2.5X0.25	36.0	2.04	Tens	0.45	H 34P	-0.411	W -90 W 90	27.518	0.000	0.000	0.500	0.600	0.500	114.66	117.33	11.181	3	
Horiz 19	C8×11.	.5 0	HN C8x11.5		1.29	Comp	1.29	H 38P	-0.374	W 180	21.711	0.000	0.000	1.000	1.000	1.000	172.80	152.47	9.000	6	0
LD 1	B/B L3"x2.5"x0.3125	5** D	AL 3X2.5X0.31		72.63	Comp	72.63	LD 1X	-21.874	W -45	22.590		0.000	0.904	0.904	0.904	162.84	146.35	14.066	6	0
LD 2 LD 4	B/B L4"x3"x0.3125 B/B L3"x2"x0.25		AL 4X3X0.31 AL 3X2X0.25		36.63 90.16	Comp	96.63	LD 3X LD 7X	-49.579 -19.930	W -90 W -45	42.927 16.578	0.000	0.000	0.904	0.904	0.904	162.96	146.42	13.384	6	0
LD 5	B/B L4"x3"x0.25		AL 4X3X0.25	36.0		Comp	94.92	LD 9X	-47.928	W -90	37.871	0.000	0.000	0.904	0.904	0.904	113.43	113.43	13.384	1	0
LD 7	B/B L2.5"x2.5"x0.37	5" 0	AE 2.5X2.5X0.38		71.62	Comp	71.62	LD 13X	-19.607 -45.728	W -45 W -90	20.532	0.000	0.000	0.904	0.904	0.904	183.19	158.86	12.716	0.4	0
LD 10	B/B L3.5"x3"x0.25 B/B L2.5"x2"x0.25		AL 3.5X3X0.25		98.53	Comp	98.53		-22.080	W -90	15.980								11.381		O NO
LD 11	B/B L2.5"x2"x0.25	5" 0	AL 2.5X2X0.25		86.93	Comp	86.93	LD 21X	-30.702	W -90	26,490	0.000	0.000	0.850	0.850	0.850	106.16	106,16	8.160	1	0
LD 12	B/B L3"x2"x0.25	5* 0	AL 3X2X0.25		89.89	Comp	89.89	LD 23P	-33.379	W -90 W -45	27.850 17.340		0.000	0.960	0.860	0.860	111.24	111.24	9.604	1	. 0
LD 13	B/B L2.5"x2"x0.25 B/B L2.5"x2"x0.25		AL 2.5X2X0.25		95.36	Comp	95.36	LD 25X	-22.046	W -40	26.990	0.000	0.000	0.850	0.850	0.850	104.26	104.26	8.014	1	9
LD 15	B/B L2.5"x2.5"x0.25	5- D	AE 2.5X2.5X0.2	36.0	100.50	Comp	100.50		-32.132	W -90	23.980	0.000	0.000	0.860	0.860	0.860	124.17	122.56	9.253	6	0 NG
LD 16	B/B L2.5"x2"x0.25	5" 0	AL 2.5X2X0.25			Comp	81.95	LD 31X	-20.628	W -45	18.880		0.000	0.830	0.830	0.830	129.95	102.43	7.876	6	0
LD 17	B/B L2.5"x2"x0.25 B/B L2.5"x2"x0.25		AL 2.5%2%0.25 AL 2.5%2%0.25		79.24	Comp	79.24	LD 33X	-28.821 -30.209	W -90	27.280		0.000	0.360	0.860	0.860	117.40	117.40	8.919	i	ő
LH 1	B/B L2.5"x3"x0.25	5" E	AS 3X2.5X0.25	36.0	56.18	Comp	56.18	LH 1P	-10.164	W 0	13.569	0.000	0.000	0.500	1.000	0.500	201.51	170.13	24.350	- 5	0
LH 2	B/B L2.5"x3"x0.25		AS 3X2.5X0.25			Comp	37.75	LH 3P	-7.528 -8.046	W O	14.956			0.500	1.000	0.500	188.37	153.05	22.762	5	0
LH 3 LH 4	B/B L2.5"x3"x0.25 B/B L2.5"x3"x0.25	5" D	AS 3X2.5X0.25 AS 3X2.5X0.25		102.16	Comp	102 16		-24.993	W -45			0.000	0.940	1.880	0.940	165,65	148.07	10.647	6	0 NG
LH 5	B/B L2.5"x3"x0.25	5" 0	AS 3X2.5X0.25	36.0	90.48	Comp	90.48	LH 9X	-24.118	W -45	19.992		0.000	0.940	1.880	0.940	152.78	140.16	9.820	6	0
LH 6	B/B L2.5"x3"x0.25	5" 5	0AS 3X2.5X0.2			Comp	72.10	BR 13XY	-21.586 -1.086	W -45 W 45							139.91	2.50	8.993		0
DUM 1	Dummy Bracing Membe	er r	O.1KO.1K	30.0	0.00		0.00	DR IDAI	-11086	W 45	0.210	0.000	0.000	2,000			2.02	4.00			

Group Summary (Tension Portion):

Group Label		Group Desc.		Angle Size	Steel Strength (ksi)		rol	Use	Tension Control Member		Control		Connect. Shear	Tension Connect. Bearing Capacity (kips)	Connect. Rupture	Tens.	No. No. Of Of Bolts Holes Tens.	Hole Diameter (in)
				8X8X1.13						206 000	W -45	361.367	0.000	0.000	0.000	25.101	0 0,000	
Leg 31	L 8" x 8" x	1.125"	SAE	8X8X1.13	36.0	72.71	Comp			296.088	W -45	361.367	0.000	0.000		25.101	0 0.000	0
Leg S2	L 8" x 8" x									234.221	W 45	361.367	0.000	0.000		25.101	0 0.000	0
Leg S3		1.125	SAE	8X8X1.13	36.0	67.56	Comp.				W 45	361.367	0.000	0.000		25.101	0 0.000	
Leg 34	L 8" x 8" x		SAE	8X8X1.13	36.0	66.95	Comp			197,430		323,999	0.000	0.000		25.101	0 0.000	
Leg S5	L 8" x 8		SAE	SXSXI	36.0	62.38	Comp			165.077	W 45					25.101	0 0.000	
Leg Se	L 8" x 8	- × 1"	SAE	SXBX1	36.0	50.49	Comp			134.879	W 45	323.999	0.000	0.000		25.101	0 0.000	
Leg S7		0.875"	SAE	8X8X0.88	36.0	56.40	Comp			129.340	W 45	285.768	0.000				0 0.000	
Leg S8	L 8" x 8" x		SAE	8X8X0.75	36.0	51.64	Comp			101,779	W 45	247.104	0.000	0.000	0.000	25.101	0 0.000	
Leg S9		0.75"	SAE	8X9X0.75	36.0	39.45	Comp		L 9XY	75.460	W 45	247.104	0.000	0.000			0 0.000	
Leg S10	1 6" x 6" x		SAE	6X6X0.88	36.0	39.75	Comp		L 10XY	63.866	W 45	210.168	0.000	0.000		12.550		
Leg 311		0.75"	SAE	6X6X0.75	36.0	38.70	Comp		L 11MY	53.902	W 45	182.304	0.000	0.000		12.550	0 0.000	
Leg S12	L 6" x 6" x		SAE	6X6X0.75	36.0	32.64	Comp		L 12Y	44.727	W -45	182.304	0.000	0.000	0.000	12.550	0 0.000	
Leg 313	L 6" x 6" x 0		SAE	6X6X0.56	36.0	34.97	Comp		L 13Y	35,266	W -45	138.888	0.000	0.000		12.550	0 0.000	
Leg S14	L 6" x 6" x 0		SAE	6X6X0.56	36.0	27.25	Comp		1 147	26.156	W -45	138.888	0.000	0.000		12.550	0 0.000	
Leg 315		.4375"	SAE	6X6X0.44	36.0	24.80	Comp		L 15Y	17.231	W -45	109.296	0.000	0.000		12.550	0.000	
Leg S16	L 5" x 5" x 9		SAE	5X5X0.44	36.0	23.70	Comp		L 16Y	13.306	W -45	90.288	0.000	0.000		10.208	0 0.000	
Leg Si7	1 5" x 5" x 0		SAE	5X5X0.44	36.0	15.23		5.79	L 17Y	6.968	W -45	90.288	0.000	0.000		10.208	0 0.000	
Leg S18	1 5" x 5" x 0		SAE	5X5X0.31	36.0	10.62		3.52	L 18Y	3.075	W -45	55.448	0.000	0.000	0.000		0 0.000	
Leg S19		.3125"	SAE	5X5X0.31	36.0	5.18		0.09	L 19Y	0.081	W -45	65.448	0.000	0.000		8.618	0 0.000	
Diag Si	B/B L3"x4"x		DAS	4X3X0.38	36.0	53.90	Comp		D 2P	38.646	W -90	107.352	0.000	0.000		22.664	0 0.000	
Diad S2	B/B L3"x4"		DAS	4X3X0.25	36.0	75.70	Comp		D 4P	38.744	W -90	73.008	0.000	0.000		22.190	0 0.000	
Diag S3	B/B L3"x4"	x0.25"	DAS	4X3X0.25	36.0	73.02	Comp		D 6P	38.646	W -90	73.008	0.000	0.000		21.736	0 0.000	
Diag 34	B/B L3"x3.5"		DAS	3.5X3X0.25	36.0	87.57	Comp	45.50	D BP	41.012	W -90	67.608	0.000	0.000		20,858	0.000	
Diag S5	B/B L3"x3.5"	x0.25	DAS	3.5X3X0.25	36.0	84.10	Comp		D 10P		W -90	67.608	0.000	0.000		20.484	0.000	
Diag S6	B/B L2.5"x3.5"	x0.25	DAS	3.5X2.5X0.25	36.0	98.22	Comp		D 12P	38.442	W -90	62.208	0.000	0.000		20.132	0 0.000	
Diag S7	B/B L2.5"x3"	x0.25"	DAS	3X2.5X0.25	36.0	103.93	Comp	35.45	D 13P	26.848	W -90	56.808	0.000	0.000		29.947	0 0.000	
Diag 38	B/B L2.5"x3"	x0.25"	DAS	3X2.5X0.25	36.0	86.32	Comp	30.27	D 16P	22.929		56.808	0.000	0.000		29.107	0 0.000	
Diag 39	B/B L2.5"x3"	x0.25"	DAS	3X2.5X0.25	36.0	74.94	Comp		D 18P	20.982	W 180	56.808	0.000	0.000	0.000	28.331	0 0.000	
iag Sio	B/B 12.5"x2.5"	x0.25*	DAE	2.5X2.5X0.25	36.0	61.39	Comp	16.37	D 20P	11.565		51.408	0.000	0.000		17.103	0 0.000	
1ag 311	B/B 12.5"x2.5"	x0.25"	DAE	2.5X2.5X0.25	36.0	50.66	Comp		D 22P	9.937	W 180	51.408	0.000	0.000		16.572	0 0.000	
1ag S12	B/B 12.5"x2.5"	x0.25"	DAE	2.5%2.5%0.25	35.0	42.60	Comp	12.75	D 24P	8.742		51.408	0.000	0.000		16.064	0 0.000	
1ag 213	B/B L2.5"x2"	x0.25"	DAL	2.5X2X0.25	36.0	63.37	Comp	14.25	D 26P	8.744	W 180	46.008	0.000	0.000		15.579	0 0.000	
100 514	B/B L2.5"x2"	x0.25"	DAL	2.5X2X0.25	36.0	55.08	Comp	12.95	D. 23P	7.944	W 130	46.008	0.000	0.000	0.000	15.120	0.000	
1ag 315	B/B 12.5"x2"	x0.25"	DAL	2.5X2X0.25	36.0	50.34	Comp	12.35	D 29P	7.580		46.008	0.000	0.000		14.690	0 0.000	
1ag 316			SAE	3.5X3.5X0.25	36.0	30.30	Comp	3.69	D 32X	4.230	W 90	36.504	0.000	0.000		16.609	0.000	
				3.5X3.5X0.25	36.0	22.02	Comp	6.85	D 34X	3.334	W 90	36.504	0.000	0.000		15,609	0.000	
1ag 218		0.25"	SAE	3X3X0.25	36.0	17.36	Comp	5.19	D 36P	2.151	W -90	31.104	0.000	0.000		13.678	0.00.000	
lag 319	1 3" x 3" x		SAE	3X3X0.25	36.0	13.27		4.17	D 39X	1.730	W 90	31.104	0.000	0.000		12.848	0.000	
Horiz 1	B/B L4"x3"		DAL	4X3X0.25	36.0	76.81		42.83	H 1X	41.691	W -90	73.008	0.000	0.000		24.350	0.00.000	
Horiz 2	B/B L3.5"x2.5"			3.5X2.5X0.25	35.0	96.57		48.13	H 3X	39.921	W -90	62.208	0.000	0.008	0.000	22.762	0.000	
Horiz 3	B/B L3"x2.5"		DAL	3X2.5X0.25		100.05		49.72		37,658	W -90	56,808	0.000	0.000	0.000	21.174	0 0.000	0

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· · · Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

	Element Type	ment abel		Maximum Usage t	Load Case
NG	Angle	14P	D	102.75	WO
NG	Angle	141	D	103.32	W 180
	Angle	19P	LD	99.69	W 45
NG	Angle	19X	LD	103.63	W -45
NG	Angle	13P	D	103.37	W 90
NG	Angle	13X	D	103.93	W -90
	Angle	14P	Ð	91.58	W 0 Ice
	Angle	144	D	92.41	W 180 Ice
	Angle	19P	LD	89.96	W 45 Ice
	Angle	19X	LD	93.91	W -45 Ice
	Angle	13P	D	92.09	W 90 Ice
	Angle	13X	D	92.87	W -90 Ice

\*\*\* Weight of structure (lbs):
Weight of Angles Section DLF: 176113.2
Total: 176113.2

· · · End of Report

				959	1: Built up Horizs. w/ A 2: Built up Horizs. w/ M	A: Typical A brace	X: Typical X brace	Drop: Use only for types 1 & 2	19																																									
337.5 ft		2/24/2012 # Sub-Brace	m .	3 Types:	m m	3	2 2	2	1 # Sections:				-																																					
Taper Change:	FW @ Top:	Last Updated: FW (ft)	51.875	45.52314815	39.1712963	35.99537037	32.81944444	26.46759259	23.29166667	20.11574074	18.5277778	15.35185185	13.76388889	12.47230333	10.09035889	n																																		
100		Spreadsheet Version Last Updated:  Z-Elev. (ft) FW (ft)	0 10	2 8	2, 20	125	150	200	225	250	262.5	287.5	300	310.167	328.917	7.750																																		
-0.127037	51.875 ft	Spread Count Z		1 E	4 m	9	r 00	6	9 1	12	13	15	16	17	61 6	3																																		
Taper: -0.127037	FW @ Base:	Type			~ ~	2	∢ ∢	· <b>4</b>	۷ د	4	∢ •	< <	×	××	×																																			
		Height (ft)	25	25	22 22	25	25	25	12.5	12.5	12.5	12.5	10.167	10.167	8.583																																			
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	-	k) # Vert		m										1																																				
Ice: 74 mph	Drop	3 S	1																																															
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Windspeed: No Ice: 85 mph	t Nextel	X Rot. Y Rot Rest. Rest	d Fixed		Free		Free		Free			Free		Free			Free		Free			Free		Free							Free		Free			Free				Free		Free	Free				Free			Free
peed: N	Carrier Sprie	oleso)	Fixed	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free		Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Pree	Free	Free	Free	Free	Free	Free	Free	Free	Free	Fre	Free
Winds		p. ZDisp. t. Rest.	E 2	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Ĕ.	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
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er: ABL		X Disp. Rest.	O Fix	50 Free	75 Free	25 Free	50 Free	00 Free	225 Free 237.5 Free	250 Free	262.5 Free	2/5 Free 287.5 Free	300 Free	310.167 Free	328.917 Free		25 Free	50 Free	50 Free	75 Free	100 Free	25 Free	125 Free	50 Free	175 Free	175 Free	200 Free	225 Free	237.5 Free	237.5 Free	250 Free	262.5 Free	262.5 Free	275 Free	287.5 Free	287.5 Free	300 Free	17.97 Free	17.97 Free	42.97 Free	42.97 Free	67.97 Free 67.97 Free	92.97 Free	97 Free	97 Free	117.97 Free	97 Free	117.97 Free	142.97 Free	142.97 Free 142.97 Free
Engine	Date:	Z Coord.			•				23	7	26	28		310.1	328.9	8									-	-			23.	23	, ,,	56	56		28	28		71	1	42	42	67	92	92	92	711	117	711	142	142
		Y Coord.	25.9375	22.76157407	21.17361111	17.99768519	16.40972222	13.2337963	10.85185185	10.05787037	9.263888889	7.675925926	6.88194444	5.536151667	5.045179444	n (	24 34953704	0	22.76157407	21.17361111	6.528549383	5.999228395	17.99768519	5.46990/40/	0	14.82175926	13.2337963	0	0	10.85185185	10.05787037	0	9.263888889	8.469907407	0	7.675925926	6.88194444	12.17476852	24.79607222	11.38078704	23.20810926	10.58680556	10.64674074	20.03218333	20.03218333	9.81972963	18.44422037	18.44422037	16.85625741	0 16.85625741
		X Coord.	25.9375	22.76157407	21.17361111	17.99768519	16.40972222	13.2337963	11.64583333	10.05787037	9.263888889	7.675925926	6.88194444	6.236151667	5.045179444	Ŷ	24.34953704	22.76157407	0	0	19.58564815	17.99768519	5.999228395	5.469907407	14.82175926	0	0	11,64583333	10.85185185	0	10.03767037	9.263888889	0	0	7.675925926	0	0	24.79607222	12.17476852	23.20810926	11.38078704	21.6201463	20.03218333	10.646/40/4	0	18,44422037	18,44422037	0	8.992718519	16.85625741 0
Site #: 88008	Name: Bethany CT, CT	Symmetry Code	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	AT-Symmetry	Y-Symmetry X-Symmetry	Y-Symmetry	X-Symmetry	r-symmetry X-Symmetry	XY-Symmetry	XY-Symmetry XY-Symmetry	XY-Symmetry	XY-Symmetry XY-Symmetry	Y-Symmetry	X-Symmetry	X-Symmetry	Y-Symmetry	Y-Symmetry	X-Symmetry	X-Symmetry	Y-Symmetry	X-Symmetry	X-Symmetry	Y-Symmetry	X-Symmetry	X-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry	XY-Symmetry XY-Symmetry	XY-Symmetry	XY-Symmetry Y-Symmetry	X-Symmetry	XY-Symmetry	XT-Symmetry Y-Symmetry	X-Symmetry	XY-Symmetry XY-Symmetry	Y-Symmetry X-Symmetry
Site #:	Name	Joint		7 7	m 4	· w	9 1	- 00	6 01	1 11	12	13	15	16	18	<b>1</b>	F 4	<b>.</b> 2	A4	A A	A :	A9 A	A10	A11	A13	A14	A16	A17	A19	A20	A22	A23	A24	A26	A27	A28	A29	Ħ	12	£	9	H9	H13	H H	H16	H17	H18	H20	H22	H23 H24

Site No.:	88008	
Engineer:	ABL	
Date:	06/28/2012	
Carrier:	Sprint Nextel	

When inputting thickness values, include all decimal places.

Tower	Section	Type	Diameter	Thickness [2]	F <sub>Y</sub>
Section	Elevations	of	or		
#		Shape [1]	Length		
	(ft)		(in)	(in)	(ksi)
1	0.000-25.00	L	8	1.125	36
2	25.00-50.00	L	8	1.125	36
3	50.00-75.00	L	8	1.125	36
4	75.00-100.0	L	8	1.125	36
5	100.0-125.0	L	8	1	36
6	125.0-150.0	L	8	1	36
7	150.0-175.0	L	8	0.875	36
8	175.0-200.0	L	8	0.75	36
9	200.0-225.0	L	8	0.75	36
10	225.0-237.5	L	6	0.875	36
11	237.5-250.0	L	6	0.75	36
12	250.0-262.5	L	6	0.75	36
13	262.5-275.0	L	6	0.5625	36
14	275.0-287.5	L	6	0.5625	36
15	287.5-300.0	L	6	0.4375	36
16	300.0-310.2	L	5	0.4375	36
17	310.2-320.3	L	5	0.4375	36
18	320.3-328.9	L	5	0.3125	36
19	328.9-337.5	L	5	0.3125	36
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# Notes:

 $<sup>\</sup>overline{}^{[1]}$  Type of Leg Shape: **R** = Round or **P** = Bent Plate or **S** = Schifflerized Angle. **L** = Even Leg

For Solid Round Leg Shapes Thickness Equals Zero.

<sup>[3]</sup> Adjust for Bent Plate Leg Shapes.

# Diagonals

 Site No.:
 88008

 Engineer:
 ABL

 Date:
 06/28/2012

 Carrier:
 Sprint Nextel

When inputting thickness values, include all decimal places.

Tower	Section	Туре	Diameter [2]	Web	Flange	Thickness	F <sub>y</sub>	Is Diag.
Section	Elevations	of [1]		Length [3]	Length [3]			Tension
#		Shape [1]						Only?
	(ft)	122.6	(in)	(in)	(in)	(in)	(ksi)	(Y/N)
1	0.000-25.00	2L		3	4	0.375	36	
2	25.00-50.00	2L	1	3	4	0.25	36	
3	50.00-75.00	2L		3	4	0.25	36	
4	75.00-100.0	2L		3	3.5	0.25	36	
5	100.0-125.0	2L		3	3.5	0.25	36	
6	125.0-150.0	2L		2.5	3.5	0.25	36	
7	150.0-175.0	2L		2.5	3	0.25	36	
8	175.0-200.0	2L		2.5	3	0.25	36	
9	200.0-225.0	2L	_	2.5	3	0.25	36	
10	225.0-237.5	2L		2.5	2.5	0.25	36	
11	237.5-250.0	2L		2.5	2.5	0.25	36	
12	250.0-262.5	2L		2.5	2.5	0.25	36	
13	262.5-275.0	2L		2.5	2	0.25	36	
14	275.0-287.5	2L		2.5	2	0.25	36	п
15	287.5-300.0	2L		2.5	2	0.25	36	
16	300.0-310.2	L		3.5	3.5	0.25	36	Y
17	310.2-320.3	L		3.5	3.5	0.25	36	Y
18	320.3-328.9	L		3	3	0.25	36	Y
19	328.9-337.5	L		3	3	0.25	36	Y
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# Notes:

Type of Diagonal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

 $<sup>^{\</sup>hbox{\scriptsize [2]}}$  Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

<sup>[3]</sup> Applies to Single-Angle and Double-Angle Shapes only.

<sup>[4]</sup> Applies to Double-Angle Shapes only.

<sup>[5]</sup> Applies to Single-Angle Shapes only.

# Horizontals

 Site No.:
 88008

 Engineer:
 ABL

 Date:
 06/28/2012

 Carrier:
 Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section	Section Elevations	Type of	Diameter [2]	Web Length <sup>[3]</sup>	Flange Length <sup>[3]</sup>	Thickness	Fy	
#	Liciations	Shape [1]		zengen	zengen			
	(ft)	Shape	(in)	(in)	(in)	(in)	(ksi)	
1	0.000-25.00	2L		4	3	0.25	36	
2	25.00-50.00	2L		3.5	2.5	0.25	36	
3	50.00-75.00	2L		3	2.5	0.25	36	
4	75.00-100.0	2L		3.5	2.5	0.25	36	
5	100.0-125.0	2L		3.5	2.5	0.25	36	
6	125.0-150.0	2L		3	2.5	0.25	36	
7	150.0-175.0	2L		3	2.5	0.25	36	
8	175.0-200.0	2L	l li	3	2.5	0.25	36	
9	200.0-225.0	2L		2.5	2.5	0.25	36	
10	225.0-237.5	2L		2.5	2.5	0.25	36	
11	237.5-250.0	2L		2.5	2.5	0.25	36	
12	250.0-262.5	2L		2.5	2.5	0.25	36	
13	262.5-275.0	2L		2.5	2.5	0.25	36	
14	275.0-287.5	2L		2.5	2.5	0.25	36	
15	287.5-300.0	2L		2.5	2.5	0.25	36	
16	300.0-310.2	L		3	2.5	0.25	36	
17	310.2-320.3	2L		3	2.5	0.25	36	
18	320.3-328.9	L		3	2.5	0.25	36	
19	328.9-337.5	С		8	11.5		36	
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#### Notes

 $<sup>\</sup>overline{\ ^{[1]}}$  Type of Horizontal Shape:  $\mathbf{R}$  = Round,  $\mathbf{L}$  = Single-Angle,  $\mathbf{2L}$  = Double-Angle,  $\mathbf{C}$  = Channel,  $\mathbf{W}$  = W Shape

 $<sup>^{[2]}</sup>$  Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

<sup>[3]</sup> Applies to Single-Angle and Double-Angle Shapes only.

<sup>[4]</sup> Applies to Double-Angle Shapes only.

<sup>[5]</sup> Applies to Single-Angle Shapes only.

# **Built-up Diagonals**

 Site No.:
 88008

 Engineer:
 ABL

 Date:
 06/28/2012

 Carrier:
 Sprint Nextel

When inputting thickness values, include all decimal places. Input diags. from left to center & from base section upward.

Tower Built-up Diag.#	Section Elevations	Type of Shape <sup>[1]</sup>	Diameter <sup>[2]</sup>	Web Length <sup>[3]</sup>	Flange Length <sup>[3]</sup> (in)	Thickness (in)	F <sub>y</sub> (ksi)
1 2 3 4 5 6 7 8 9 10 11 12 13	0.000-25.00 0.000-25.00 25.00-50.00 25.00-50.00 50.00-75.00 75.00-100.0 75.00-100.0 100.0-125.0 100.0-125.0 125.0-150.0 125.0-150.0	2L 2L 2L 2L 2L 2L 2L 2L 2L 2L 2L 2L	(III)	3 4 3 4 2.5 3.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	2.5 3 2.5 3 2.5 3 2 2 2 2 2 2.5 2 2 2 2	0.3125 0.3125 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.	36 36 36 36 36 36 36 36 36 36
15	125.0-150.0	2L		2.5	2	0.25	36

#### Notes

 $<sup>^{[1]}</sup>$  Type of Diagonal Shape:  $\bf R$  = Round,  $\bf L$  = Single-Angle or  $\bf 2L$  = Double-Angle.

 $<sup>^{[2]}</sup>$  Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

 $<sup>^{\</sup>mbox{\scriptsize [3]}}$  Applies to Single-Angle and Double-Angle Shapes only.

<sup>[4]</sup> Applies to Double-Angle Shapes only.

<sup>&</sup>lt;sup>[5]</sup> Applies to Single-Angle Shapes only.

# **Built-up Horizontals**

Site No.: 88008
Engineer: ABL
Date: 06/28/2012
Carrier: Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape <sup>[1]</sup>	Diameter <sup>[2]</sup>	Web Length <sup>[3]</sup>	Flange Length <sup>[3]</sup>	Thickness (in)	F <sub>v</sub> (ksi)	Is Horiz. Tension Only? (Y/N)
1 2 3 4 5 6	0.000-25.00 25.00-50.00 50.00-75.00 75.00-100.0 100.0-125.0 125.0-150.0	2L 2L 2L 2L 2L 2L		2.5 2.5 2.5 2.5 2.5 2.5	3 3 3 3 3 3	0.25 0.25 0.25 0.25 0.25 0.25	36 36 36 36 36 36	

# Notes:

 $<sup>^{[1]}</sup>$  Type of Horizontal Shape:  $\mathbf{R}$  = Round,  $\mathbf{L}$  = Single-Angle or  $\mathbf{2L}$  = Double-Angle.

 $<sup>^{\</sup>hbox{\scriptsize [2]}}$  Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

<sup>[3]</sup> Applies to Single-Angle and Double-Angle Shapes only.

<sup>[4]</sup> Applies to Double-Angle Shapes only.

<sup>&</sup>lt;sup>[5]</sup> Applies to Single-Angle Shapes only.

Dishes

		Joint Orientation
	Dish Types	0
S	Standard	, ×
R	Standard w/ Radome	
Н	High Performance	906
9	Grid	
		<b>~</b>

Joint Orientation					Association of the last	
Dish Type						
Dish Angle (deg)						
Dish Dia. (ft)						
Dish Elevation (ft)						

ElA Antenna Orientation Angle (deg)	
Equipment Property Set	
Attach Label	
Equipment Label	

Site No.:	88008
Engineer:	ABL
Date:	06/28/12
Carrier.	Sprint Nextel

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06/28/12 Sprint Nextel

Date: Carrier:

88008 ABL

Orig by MED, Last Updated by ABL on 29 March 2012

Site No.: Engineer:

Include in	Wind Load	(Yes/No)	No	No	No	S.	Yes	S <sub>0</sub>	N <sub>O</sub>	No	N <sub>o</sub>	Yes	N <sub>o</sub>	No	No	0 V	N <sub>O</sub>	N	No	No	N <sub>o</sub>							
Part of Face	Solidity Ratio	(Yes/No)	ON	No	No	No	Yes	No	No	No	No	Yes	No.	No.	S S	No	N <sub>o</sub>	No	No No	No	No							
Til.	Weight	(lb/ft)	0.544	0.544	0.544	0.544	1.08	-	12.96	0.064	0.664	12.96	0.144	12.96	1.08	0.144	7.58	0.07	0.59	0.144	1.08							
Perimeter		(in)	3.5	3.5	3.5	3.5	6.2	4.9	30.0	1.0	4.9	30.0	2.0	30.0	6.2	2.0	11.0	1.2	4.0	3.4	6.2							
Width or	Diameter	(in)	1.11	1.11	1.11	1.11	1.98	1.55	11.88	0.315	1.55	11.88	0.63	11.88	1.98	0.63	3.5	0.39	0.78	1.09	1.98							
Shape			Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round	Round							
Quantity			1	2	2	T	12	m	1	т	Т	1	1	-	9	1	-	1	-	1	9							
5		(ft)	337.5	337.5	310	275	250	240	220	220	194	180	180	165	100	48	165	165	165	20	204.8							
From		(#)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
Description			Aband 1	USCG 1	USCG 2	USCG 3	Sprint Nextel 1	Sprint Nextel 2	T-Mobile	T-Mobile 2	US Treasury 1	Verizon 1	Verizon 2	AT&T Mobility 1	Metro PCS	Sprint Nextel 3	AT&T Mobility 2	AT&T Mobility 3	AT&T Mobility 4	Metro PCS 3	Sprint Nextel 5							

Coax (p. 2 of 2)

Wind Load Include in In Face Zone 2 2 2 8 2 2 8 No. N<sub>o</sub> 8 8 Yes S 2 2 Yes 임 8 8 S. 2 9 N<sub>o</sub> 2 S<sub>N</sub> No. 8 8 8 8 2 2 9 9 2 2 2 8 Sprint Nextel 06/28/12 Weight 12.96 0.544 0.544 0.544 12.96 0.064 0.664 12.96 0.144 0.144 0.544 0.144 1.08 0.59 Unit 1.08 7.58 0.07 1.08 Date: Carrier: Perimeter 30.0 1.0 4.9 30.0 2.0 30.0 3.5 3.5 3.5 6.2 4.9 6.2 17 4.0 3.4 6.2 (in) **Block Depth** (# coax) 1 ч 7 7 88008 ABL **Block Width** (# coax) 17 н m 9 9 2 Engineer: Site No.: Round/Flat) Shape Round 2.58 Spacing (iii % Exposed 00 100 100 100 01 01 001 100 100 8 8 8 8 8 8 8 8 8 8 100 8 0 0 0 0 0 0 0 0 100 0 20 0 0 0 7 k<sub>2 max</sub> 33 k<sub>2 min</sub> Considered Coax Shape Block / Flat / (pul 2 2 2 1 2 Coax Width 1.11 1.98 1.55 1.98 0.32 1.98 1.98 1.98 0.63 3.50 0.39 0.78 1.09 1.98  $\alpha_{\rm g}$ (1-4, A-D) Face # m < m m 7 н 2 7 Quantity 12 12 12 12 Н н 9 ч m н 9 7 Tia Code: TIA-222-F 337.5 337.5 250 240 220 310 275 220 180 180 100 165 165 165 20 မ Œ From E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Sprint Nextel 2 Sprint Nextel 3 AT&T Mobility 2 AT&T Mobility 3 AT&T Mobility 4 Sprint Nextel 1 Sprint Nextel 5 AT&T Mobility 1 US Treasury 1 Metro PCS 3 Metro PCS T-Mobile 2 Description T-Mobile Verizon 1 Verizon 2 Aband 1 USCG 1 USCG 2 USCG 3

Yes

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Engineer: ABL Date: 06/28/12

Site #: 88008 Name: Sprint Nextel

Section	Section	Joint	Dead		Adj.	Adj.	Area	Weight	
Label	Color	Defining	Load		Factor	Factor	Multiplier	Multiplier	
		Bottom	Adj.		Flat	Round			
		Section	Factor						
0.000-25.00		00	1.585195713		1.320996427	1.320996427	н	1.2	
25.00-50.00		1P	1.590007719		1.325006432	1.325006432	П	1.2	
50.00-75.00		2P	1.605588167		1.337990139	1.337990139	-1	1.2	
75.00-100.0		3P	1.478926854		1.232439045	1.232439045	H	1.2	
100.0-125.0		4P	1.472824734		1.227353945	1.227353945	ਜ	1.2	
125.0-150.0		5P	1.47553471		1.229612258	1.229612258	<b>ન</b>	1.2	
150.0-175.0		6P	1.545180868		1.287650723	1.287650723	П	1.2	
175.0-200.0		7P	1.527887654		1.273239712	1.273239712	н	1.2	
200.0-225.0		8P	1.516391419		1.263659516	1.263659516	Н	1.2	
225.0-237.5		9P	1.478249179		1.231874316	1.231874316	П	1.2	
237.5-250.0		10P	1.471209196		1.226007664	1.226007664	1	1.2	
250.0-262.5		11P	1.464012143		1.220010119	1.220010119	1	1.2	
262.5-275.0		12P	1.456672479		1.213893733	1.213893733	Н	1.2	
275.0-287.5		13P	1.449208368		1.20767364	1.20767364	н	1.2	
287.5-300.0		14P	1.441641869		1.201368224	1.201368224	н	1.2	
300.0-310.2		15P	1.384856588		1.154047156	1.154047156	Н	1.2	
310.2-320.3		16P	1.436421012		1.19701751	1.19701751	1	1.2	
320.3-328.9		17P	1.393105127		1.160920939	1.160920939	1	1.2	
328.9-337.5		18P	1.346209977		1.121841647	1.121841647	1	1.2	

Site #: 88008 Name: Sprint Nextel Engineer: ABL
Date: 06/28/12

Group	Group	Angle	Angle	Material	Element	Group	Optimize
Label	Description	Type	Size	Туре	Туре	Туре	Group
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	A 36	Beam	Leg	None
Leg S2	L 8" x 8" x 1.125"	SAE	8X8X1.13	A 36	Beam	Leg	None
Leg S3	L 8" x 8" x 1.125"	SAE	8X8X1.13	A 36	Beam	Leg	None
Leg S4	L 8" x 8" x 1.125"	SAE	8X8X1.13	A 36	Beam	Leg	None
Leg S5	L 8" x 8" x 1"	SAE	8X8X1	A 36	Beam	Leg	None
Leg S6	L 8" x 8" x 1"	SAE	8X8X1	A 36	Beam	Leg	None
Leg S7	L 8" x 8" x 0.875"	SAE	8X8X0.88	A 36	Beam	Leg	None
Leg S8	L 8" x 8" x 0.75"	SAE	8X8X0.75	A 36	Beam	Leg	None
Leg S9	L 8" x 8" x 0.75"	SAE	8X8X0.75	A 36 A 36	Beam	Leg	None None
Leg S10	L 6" x 6" x 0.875" L 6" x 6" x 0.75"	SAE SAE	6X6X0.88 6X6X0.75	A 36	Beam Beam	Leg Leg	None
Leg S11 Leg S12	L 6" x 6" x 0.75"	SAE	6X6X0.75	A 36	Beam	Leg	None
Leg S12	L 6" x 6" x 0.5625"	SAE	6X6X0.56	A 36	Beam	Leg	None
Leg S14	L 6" x 6" x 0.5625"	SAE	6X6X0.56	A 36	Beam	Leg	None
Leg S15	L 6" x 6" x 0.4375"	SAE	6X6X0.44	A 36	Beam	Leg	None
Leg S16	L 5" x 5" x 0.4375"	SAE	5X5X0.44	A 36	Beam	Leg	None
Leg S17	L 5" x 5" x 0.4375"	SAE	5X5X0.44	A 36	Beam	Leg	None
Leg S18	L 5" x 5" x 0.3125"	SAE	5X5X0.31	A 36	Beam	Leg	None
Leg S19	L 5" x 5" x 0.3125"	SAE	5X5X0.31	A 36	Beam	Leg	None
Diag S1	B/B L3"x4"x0.375"	DAS	4X3X0.38	A 36	Beam	Other	None
Diag S2	B/B L3"x4"x0.25"	DAS	4X3X0.25	A 36	Beam	Other	None
Diag S3	B/B L3"x4"x0.25"	DAS	4X3X0.25	A 36	Beam	Other	None
Diag S4	B/B L3"x3.5"x0.25"	DAS	3.5X3X0.25	A 36	Beam	Other	None
Diag S5	B/B L3"x3.5"x0.25"	DAS	3.5X3X0.25	A 36	Beam	Other	None
Diag S6	B/B L2.5"x3.5"x0.25"	DAS	3.5X2.5X0.25	A 36	Beam	Other	None
Diag S7	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
Diag S8	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
Diag S9	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
Diag S10	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36	Beam	Other	None
Diag S11	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36 A 36	Beam	Other Other	None None
Diag S12	B/B L2.5"x2.5"x0.25" B/B L2.5"x2"x0.25"	DAE DAL	2.5X2.5X0.25 2.5X2X0.25	A 36	Beam Beam	Other	None
Diag S13 Diag S14	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
Diag S14 Diag S15	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
Diag S16	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	A 36	T-Only	Other	None
Diag S17	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	A 36	T-Only	Other	None
Diag S18	L 3" x 3" x 0.25"	SAE	3X3X0.25	A 36	T-Only	Other	None
Diag S19	L 3" x 3" x 0.25"	SAE	3X3X0.25	A 36	T-Only	Other	None
Horiz 1	B/B L4"x3"x0.25"	DAL	4X3X0.25	A 36	Beam	Other	None
Horiz 2	B/B L3.5"x2.5"x0.25"	DAL	3.5X2.5X0.25	A 36	Beam	Other	None
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A 36	Beam	Other	None
Horiz 4	B/B L3.5"x2.5"x0.25"	DAL	3.5X2.5X0.25	A 36	Beam	Other	None
Horiz 5	B/B L3.5"x2.5"x0.25"	DAL	3.5X2.5X0.25	A 36	Beam	Other	None
Horiz 6	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A 36	Beam	Other	None
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A 36	Beam	Other	None
Horiz 8	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A 36	Beam	Other	None
Horiz 9	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36	Beam	Other	None
Horiz 10	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36	Beam	Other	None
Horiz 11	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36 A 36	Beam	Other Other	None None
Horiz 12 Horiz 13	B/B L2.5"x2.5"x0.25"	DAE DAE	2.5X2.5X0.25 2.5X2.5X0.25	A 36	Beam Beam	Other	None
Horiz 13	B/B L2.5"x2.5"x0.25" B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25 2.5X2.5X0.25	A 36	Beam	Other	None
Horiz 15	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25 2.5X2.5X0.25	A 36	Beam	Other	None
Horiz 16	L 3" x 2.5" x 0.25"	SAU	3X2.5X0.25	A 36	Beam	Other	None
Horiz 17	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A 36	Beam	Other	None
Horiz 18	L 3" x 2.5" x 0.25"	SAU	3X2.5X0.25	A 36	Beam	Other	None
Horiz 19	C8x11.5	CHN	C8x11.5	A 36	Beam	Other	None
LD 1	B/B L3"x2.5"x0.3125"	DAL	3X2.5X0.31	A 36	Beam	Other	None
LD 2	B/B L4"x3"x0.3125"	DAL	4X3X0.31	A 36	Beam	Other	None
LD 4	B/B L3"x2"x0.25"	DAL	3X2X0.25	A 36	Beam	Other	None
LD 5	B/B L4"x3"x0.25"	DAL	4X3X0.25	A 36	Beam	Other	None
LD 7	B/B L2.5"x2.5"x0.375"	DAE	2.5X2.5X0.38	A 36	Beam	Other	None
LD 8	B/B L3.5"x3"x0.25" B/B L2.5"x2"x0.25"	DAL DAL	3.5X3X0.25 2.5X2X0.25	A 36 A 36	Beam Beam	Other Other	None None

Group	Group	Angle	Angle	Material	Element	Group	Optimize
Label	Description	Туре	Size	Type	Type	Туре	Group
D 11	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
.D 12	B/B L3"x2"x0.25"	DAL	3X2X0.25	A 36	Beam	Other	None
D 13	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
.D 14	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
.D 15	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A 36	Beam	Other	None
.D 16	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
.D 17	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
.D 18	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A 36	Beam	Other	None
H 1	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
H 2	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
H 3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
H 4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
H 5	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
H 6	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A 36	Beam	Other	None
UM 1	<b>Dummy Bracing Member</b>	DUM	0.1X0.1X1	A 36	Beam	Fictitious	None

Site #: 88008 Name: Sprint Nextel Engineer: ABL
Date: 06/28/12

Member	Group	Section	Symmetry	Origin	End	Ecc.	Rest.	Ratio	Ratio	Ratio
Label	Label	Label	Code	Joint	Joint	Code	Code	RLX	RLY	RLZ
L1	Leg S1		XY-Symmetry	OP	1P	1			0.2812	0.2812 0.2812
L 2	Leg S2		XY-Symmetry	1P 2P	2P 3P	1			0.2812 0.2812	0.2812
L 3 L 4	Leg S3		XY-Symmetry	3P	3P 4P	1			0.2812	0.2812
L 4 L 5	Leg S4 Leg S5		XY-Symmetry XY-Symmetry	4P	4P 5P	1			0.2812	0.2812
L6	Leg S6		XY-Symmetry	5P	6P	1			0.2812	0.2812
L7	Leg S7		XY-Symmetry	6P	7P	1		0.333333333	0.333333333	0.333333333
L8	Leg S8		XY-Symmetry	7P	8P	1		0.333333333	0.333333333	0.333333333
L9	Leg S9		XY-Symmetry	8P	9P	1			0.333333333	0.333333333
L 10	Leg S10		XY-Symmetry	9P	10P	1			0.5	0.5
L 11	Leg S11		XY-Symmetry	10P	11P	1			0.5	0.5
L 12	Leg S12		XY-Symmetry	11P	12P	1			0.5	0.5
L 13	Leg S13		XY-Symmetry	12P	13P	1			0.5	0.5
L 14	Leg S14		XY-Symmetry	13P	14P	1	4		0.5	0.5
L 15	Leg S15		XY-Symmetry	14P	15P	1	4	0.5	0.5	0.5
L 16	Leg S16		XY-Symmetry	15P	16P	1	4	0.5	0.5	0.5
L 17	Leg S17		XY-Symmetry	16P	17P	1	4	0.5	0.5	0.5
L 18	Leg S18		XY-Symmetry	17P	18P	1	4	0.5	0.5	0.5
L 19	Leg S19		XY-Symmetry	18P	19P	1	4	0.5	0.5	0.5
D 1	Diag S1		XY-Symmetry	OP	H2P	1	6	0.333333333	0.666666667	0.333333333
D 2	Diag S1		XY-Symmetry	OP	H1P	1	6	0.333333333	0.666666667	0.33333333
D 3	Diag S2		XY-Symmetry	1P	Н6Р	1	6	0.333333333	0.666666667	0.333333333
D 4	Diag S2		XY-Symmetry	1P	H5P	1	6	0.333333333	0.666666667	0.333333333
D 5	Diag S3		XY-Symmetry	2P	H10P	1	6	0.333333333	0.666666667	0.333333333
D 6	Diag S3		XY-Symmetry	2P	H9P	1	6	0.333333333	0.666666667	0.333333333
D 7	Diag S4		XY-Symmetry	3P	H14P	1	6	0.333333333	0.666666667	0.333333333
D 8	Diag S4		XY-Symmetry	3P	H13P	1	6	0.333333333	0.666666667	0.333333333
D 9	Diag S5		XY-Symmetry	4P	H18P	1	6	0.333333333	0.666666667	0.33333333
D 10	Diag S5		XY-Symmetry	4P	H17P	1	6	0.333333333	0.666666667	0.333333333
D 11	Diag S6		XY-Symmetry	5P	H22P	1	6	0.333333333	0.666666667	0.333333333
D 12	Diag S6		XY-Symmetry	5P	H21P	1	6	0.333333333	0.666666667	0.333333333
D 13	Diag S7		XY-Symmetry	6P	A13P	1	6	0.3	0.6	0.3
D 14	Diag S7		XY-Symmetry	6P	A14P	1	6	0.3	0.6	0.3
D 15	Diag S8		XY-Symmetry	7P	A15P	1	6	0.3	0.6	0.3
D 16	Diag S8		XY-Symmetry	7P	A16P	1	6	0.3	0.6	0.3
D 17	Diag S9		XY-Symmetry	8P	A17P	1			0.6	0.3
D 18	Diag S9		XY-Symmetry	8P	A18P	1		1000000	0.6	0.3
D 19	Diag S10		XY-Symmetry	9P	A19P	1			1	0.5
D 20	Diag S10		XY-Symmetry	9P	A20P	1			1	0.5
D 21	Diag S11		XY-Symmetry	10P	A21P	1		100000000	1	0.5
D 22	Diag S11		XY-Symmetry	10P	A22P	1			1	
D 23	Diag S12		XY-Symmetry	11P	A23P	1			1	0.5
D 24	Diag S12		XY-Symmetry	11P	A24P	1			1	
D 25	Diag S13		XY-Symmetry	12P	A25P	1			1	
D 26	Diag S13		XY-Symmetry	12P	A26P	1		019400014	1	
D 27	Diag S14		XY-Symmetry	13P	A27P	1			1	
D 28	Diag S14		XY-Symmetry	13P	A28P	1		100000000	1	
D 29	Diag S15		XY-Symmetry	14P	A29P	1		and the second		
D 30	Diag S15		XY-Symmetry	14P	A30P	1				0.5 0.52
D 31	Diag S16		XY-Symmetry	15P	16Y	2				
D 32	Diag S16		XY-Symmetry	15P	16X	2 2	5			0.52 0.52
D 33	Diag S17		XY-Symmetry	16P	17Y					
D 34	Diag S17		XY-Symmetry	16P	17X	2 2	5			0.52 0.52
D 35	Diag S18		XY-Symmetry	17P	18Y	2				
D 36	Diag S18		XY-Symmetry	17P	18X	2				
D 37	Diag S19		XY-Symmetry	18P	19Y	2				
D 38	Diag S19		XY-Symmetry	18P	19X	2	5	0.32	0.75	0.52
ш 1	Horiz 1		YV-Symmetry	1P	A1P	1	6	0.5	0.5	0.5
H 1	Horiz 1		XY-Symmetry	1P 1P	A2P	1				
H 2 H 3	Horiz 1 Horiz 2		XY-Symmetry XY-Symmetry	1P 2P	A3P	1				20000000
H 4	Horiz 2		XY-Symmetry	2P 2P	A4P	1				
H 5	Horiz 3		XY-Symmetry	2P 3P	A5P	1				
пэ	HU112 3		A1-Symmetry	or.	HJI.	1	0	0.40	0.40	0.40

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
H 6	Horiz 3	Label	XY-Symmetry	3P	A6P			6 0.46	0.46	0.46
H 7	Horiz 4		XY-Symmetry	4P	А7Р			6 0.9	0.9	0.9
H 8	Horiz 4		XY-Symmetry	4P	A8P			6 0.9	0.9	0.9
H 9	Horiz 5		XY-Symmetry	5P	A9P			6 1	1	1
H 10	Horiz 5		XY-Symmetry	5P	A10P			6 1	1 1	1 1
H 11	Horiz 6		XY-Symmetry	6P 6P	A11P A12P			6 1	1	1
H 12 H 13	Horiz 6 Horiz 7		XY-Symmetry XY-Symmetry	7P	A13P			5 1	1	1
H 14	Horiz 7		XY-Symmetry	7P	A14P			5 1	1	1
H 15	Horiz 8		XY-Symmetry	8P	A15P			6 1	1	1
H 16	Horiz 8		XY-Symmetry	8P	A16P			<mark>6</mark> 1	1	1
H 17	Horiz 9		XY-Symmetry	9P	A17P		1	<mark>6</mark> 1	1	1
H 18	Horiz 9		XY-Symmetry	9P	A18P			<mark>6</mark> 1	1	1
H 19	Horiz 10		XY-Symmetry	10P	A19P			<mark>6</mark> 1	1	1
H 20	Horiz 10		XY-Symmetry	10P	A20P			5 1	1	1
H 21	Horiz 11		XY-Symmetry	11P	A21P			5 1	1	1
H 22	Horiz 11		XY-Symmetry	11P	A22P			6 1	1 1	1
H 23	Horiz 12		XY-Symmetry	12P	A23P A24P			6 1	1	1
H 24 H 25	Horiz 12 Horiz 13		XY-Symmetry XY-Symmetry	12P 13P	A24P A25P			5 1	1	1
H 26	Horiz 13		XY-Symmetry	13P	A26P			5 1	1	1
H 27	Horiz 14		XY-Symmetry	14P	A27P			5 1	1.2	1
H 28	Horiz 14		XY-Symmetry	14P	A28P			5 1	1.2	1
H 29	Horiz 15		XY-Symmetry	15P	A29P		1	<mark>6</mark> 1	1.07	1
H 30	Horiz 15		XY-Symmetry	15P	A30P		1	<mark>6</mark> 1	1.07	1
H 31	Horiz 16		Y-Symmetry	16P	16X			6 0.5	0.52	0.5
H 32	Horiz 16		X-Symmetry	16P	16Y			6 0.5	0.52	0.5
H 33	Horiz 17		Y-Symmetry	17P	17X			6 0.5	1	0.5
H 34	Horiz 17		X-Symmetry	17P	17Y			6 0.5	1	0.5
H 35	Horiz 18		Y-Symmetry	18P	18X			6 0.5 6 0.5	0.6 0.6	0.5 0.5
H 36	Horiz 18		X-Symmetry	18P	18Y 19X			6 0.5 6 1	1	1
H 37 H 38	Horiz 19 Horiz 19		Y-Symmetry X-Symmetry	19P 19P	19X 19Y			6 1	1	1
П 36	HO112 19		x-symmetry	191	151				•	( <del></del>
H 45	Horiz 4		Y-Symmetry	A7P	A7X		1	6 1	1	1
H 46	Horiz 4		X-Symmetry	A8P	A8Y			<mark>6</mark> 1	1	1
H 47	Horiz 5		Y-Symmetry	A9P	A9X		1	<mark>6</mark> 1	1	1
H 48	Horiz 5		X-Symmetry	A10P	A10Y		1	<mark>6</mark> 1	1	1
H 49	Horiz 6		Y-Symmetry	A11P	A11X			<mark>6</mark> 1	1	1
H 50	Horiz 6		X-Symmetry	A12P	A12Y		1	<mark>6</mark> 1	1	1
LH 1	LH 1		Y-Symmetry	H1P	H1X		1	6 0.5	1	0.5
LH 2	LH 1		X-Symmetry	H2P	H2Y		1	<mark>6</mark> 0.5	1	0.5
LH 3	LH 2		Y-Symmetry	H5P	H5X			<mark>6</mark> 0.5	1	0.5
LH 4	LH 2		X-Symmetry	H6P	H6Y			6 0.5	1	0.5
LH 5	LH 3		Y-Symmetry	H9P	н9х			6 0.5	1	0.5
LH 6	LH 3		X-Symmetry	H10P	H10Y			0.5	1 00	0.5
LH 7	LH 4		XY-Symmetry	H13P	H15P			6 0.94 6 0.94	1.88 1.88	0.94 0.94
LH 8	LH 4		XY-Symmetry	H14P	H16P			6 0.94	1.88	0.94
LH 9 LH 10	LH 5 LH 5		XY-Symmetry XY-Symmetry	H17P H18P	H19P H20P			6 0.94	1.88	0.94
LH 11	LH 6		XY-Symmetry	H21P	H23P			6 0.94	1.88	0.94
LH 12	LH 6		XY-Symmetry	H22P	H24P			6 0.94	1.88	0.94
154	10.4		VOV. 5	IIAD.	10		1	0.004	0.004	0.904
LD 1	LD 1		XY-Symmetry	H1P	1P			6 0.904 6 0.904	0.904 0.904	0.904
LD 2 LD 3	LD 1 LD 2		XY-Symmetry XY-Symmetry	H2P H1P	1P A1P			6 0.904 6 0.904	0.904	0.904
LD 4	LD 2		XY-Symmetry	H2P	A2P			6 0.904	0.904	0.904
LD 7	LD 4		XY-Symmetry	Н5Р	2P		1	6 0.904	0.904	0.904
LD 8	LD 4		XY-Symmetry	H6P	2P			6 0.904	0.904	0.904
LD 9	LD 5		XY-Symmetry	HSP	АЗР			6 0.904		0.904
LD 10	LD 5		XY-Symmetry	Н6Р	A4P			6 0.904	0.904	0.904
LD 13	LD 7		XY-Symmetry	Н9Р	3P		1	6 0.904	0.904	0.904

Member	Group	Section	Symmetry	Origin	End	Ecc.	Rest.	Ratio	Ratio	Ratio RLZ
Label	Label LD 7	Label	Code XY-Symmetry	Joint H10P	Joint 3P	Code	Code 6	0.904	0.904	0.904
LD 14 LD 15	LD 7 LD 8		and the second s	H3D	A5P		1 6		0.904	0.904
LD 16	LD 8		XY-Symmetry XY-Symmetry	H10P	ASP A6P		1 6		0.904	0.904
LD 10	LD 8		X1-Symmetry	HIOF	AUF		1	0.504	0.504	0.50 1
LD 19	LD 10		XY-Symmetry	H13P	4P		1 6	0.83	0.83	0.83
LD 20	LD 10		XY-Symmetry	H14P	4P		1 6	0.83	0.83	0.83
LD 21	LD 11		XY-Symmetry	H13P	A7P		1 6	0.85	0.85	0.85
LD 22	LD 11		XY-Symmetry	H14P	A8P		1 6	0.85	0.85	0.85
LD 23	LD 12		XY-Symmetry	A7P	H15P		1 6	0.86	0.86	0.86
LD 24	LD 12		XY-Symmetry	A8P	H16P		1 6	0.86	0.86	0.86
LD 25	LD 13		XY-Symmetry	H17P	5P		1 6	0.83	0.83	0.83
LD 26	LD 13		XY-Symmetry	H18P	5P		1 6	0.83	0.83	0.83
LD 27	LD 14		XY-Symmetry	H17P	A9P		1 6	0.85	0.85	0.85 0.85
LD 28	LD 14		XY-Symmetry	H18P	A10P		1 6 1 6	0.85	0.85 0.86	0.85
LD 29	LD 15		XY-Symmetry	A9P	H19P H20P		1 6 1 6	0.86 0.86	0.86	0.86
LD 30 LD 31	LD 15		XY-Symmetry	A10P H21P	6P		1 6	0.83	0.83	0.83
LD 31 LD 32	LD 16 LD 16		XY-Symmetry	H22P	6P		1 6	0.83	0.83	0.83
LD 32 LD 33	LD 16 LD 17		XY-Symmetry XY-Symmetry	H21P	A11P		1 6	0.85	0.85	0.85
LD 33	LD 17		XY-Symmetry	H22P	A12P		1 6	0.85	0.85	0.85
LD 35	LD 18		XY-Symmetry	A11P	H23P		1 6	0.86	0.86	0.86
LD 36	LD 18		XY-Symmetry	A12P	H24P		1 6		0.86	0.86
22 30	20 20		,		4 <del></del> 11.					
BR 1	DUM 1		XY-Symmetry	A1P	A2P		1 4	1	1	1
BR 3	DUM 1		XY-Symmetry	АЗР	A4P		1 4	1	1	1
BR 5	DUM 1		XY-Symmetry	ASP	A6P		1 4	1	1	1
DN 3	DOWLI		AT-Symmetry		AOF					
BR 7	DUM 1		XY-Symmetry	A7P	A8P		1 4	1	1	1
BR 8	DUM 1		XY-Symmetry	A7P	A8XY		1 4	1	1	1
BR 9	DUM 1		XY-Symmetry	A9P	A10P		1 4	1	1	1
BR 10	DUM 1		XY-Symmetry	A9P	A10XY		1 4	1	1	1
BR 11	DUM 1		XY-Symmetry	A11P	A12P		1 4	1	1	1
BR 12	DUM 1		XY-Symmetry	A11P	A12XY		1 4 1 4	1 1	1 1	1 1
BR 13	DUM 1		XY-Symmetry	A13P	A14P		1 4	1	1	1.0
BR 15	DUM 1		XY-Symmetry	A15P	A16P		1 4	1	1	1
BR 17	DUM 1		XY-Symmetry	A17P	A18P		1 4	1	1	1
BR 19	DUM 1		XY-Symmetry	A19P	A20P		1 4	1	1	1
BR 21	DUM 1		XY-Symmetry	A21P	A22P		1 4	1	1	1
BR 23	DUM 1		XY-Symmetry	A23P	A24P		1 4	1	1	1
BR 25	DUM 1		XY-Symmetry	A25P	A26P		1 4	1	1	1
BR 27	DUM 1		XY-Symmetry	A27P	A28P		1 4	1	1	1
BR 29	DUM 1		XY-Symmetry	A29P	A30P		1 4	1	1	1
BR 61	DUM 1		XY-Symmetry	H1P	H2P		1 4			1
BR 62	DUM 1		XY-Symmetry	H1P	H2XY		1 4	1	1	1
BR 64	DUM 1		XY-Symmetry	H5P	Н6Р		1 4	1		1
BR 65	DUM 1		XY-Symmetry	H5P	H6XY		1 4	1	1	1
BR 67	DUM 1		XY-Symmetry	Н9Р	H10P		1 4	1	1	1
BR 68	DUM 1		XY-Symmetry XY-Symmetry	нэр НЭР	H10P H10XY		1 4			1
DIT OO	DOIVI 1		A1-Symmetry	1131	HIOM					-
BR 70	DUM 1		XY-Symmetry	H13P	H14P		1 4	1	1	1
BR 71	DUM 1		XY-Symmetry	H13P	H14XY		1 4			1
BR 72	DUM 1		XY-Symmetry	H15P	H16P		1 4	1	1	1
BR 73	DUM 1		XY-Symmetry	H17P	H18P		1 4	1	1	1

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
BR 74	DUM 1		XY-Symmetry	H17P	H18XY	1	4	1	1	1
BR 75	DUM 1		XY-Symmetry	H19P	H20P	1	4	1	1	1
BR 76	DUM 1		XY-Symmetry	H21P	H22P	1	4	1	1	1
BR 77	DUM 1		XY-Symmetry	H21P	H22XY	1	4	1	1	1
BR 78	DUM 1		XY-Symmetry	H23P	H24P	1	4	1	1	1

AREA MODERNA M 9.12703704 51.875 Dug 2 D 14.0586584 13.78696578 12.70831822 8.147416772 8.447416772 8.46737528 Taper: 0 Base FW: Engineer: ABL Date: 06/28/12 40 TANNER OF THE STREET OF THE н3 4.207101235 1.942440741 3.677780247 3.178480864 2.674830247 7.67117963 100003170 2 10003170 2

3 ₹

Point Loads
Tower Height:

88008 ABL 06/28/2012 Sprint Nextel

Tower Height:	337.5	£
<del>ij</del> :	1.08	
Wind Speed:	85.00	mph
Wind Speed (Ice):	73.61	mph
Radial Ice Diameter:	0.5	э.

University   1555   1   1   1   1   1   1   1   1	Columny   200   1	No.	Carrier	Elevation	Quantity	Number of	Model	Height	Width	Depth	Weight Fla	/Round Re		CAP.C	Weight	M/H	S.	42
Column   C	Columny   13   1   Columny   13		IIS Treatmy	(ft)	-	Azimuths	Robde & Schwarz ADD090	(in) 78.7	(in) 31.5	9 8		F/R)		t <sub>2</sub> /ea)	(k/ea)	2.50	1.40	(sd)
Colorano   110   11   11   11   11   11   11	Column	1	OS HEASURY	338	1	4	Platform						1.000	80.00	6.00	} •	} •	35.9
Distribution   200	Colument   District	2	US Treasury	310	1	1	Sinclair SC381-HL	160	4.5	4.5	47		1.000	15.00	030	35.56	1.20	35.0
Separationary   275   21   21   21   21   21   21   21   2	Secret Frendered   250   11   1   1   Secret Frendered   251   1   1   1   1   1   1   1   1   1	3	US Treasury	310			Sinclair SC281-L	251	2	S	79		1.000			50.20	1.20	35.0
Special Methods   250   21   21   21   21   21   21   21   2	Specification   200   12   2   2   10   10   10   10	4	US Treasury	275	1	1.	Sinclair SC281-L	251	2	5	79		1.000	700	06.0	50.20	1.20	33.9
Figure   F	Spein Netter   200   2   2   2   Alcient Lucine Light   201   21   21   21   21   21   21   2	2	Sprint Nextel	250	12	- m	Decibel DB844H90E-XY	48	8	6.5	14		0.730	13.00	0000	00.9	1.40	32.9
This continue	1,400-bit   200   3   3   1,500-bit   200   3   3   1,500-bit   200   3   3   3   3   3   3   3   3   3	1000	Sprint Nextel		m m	m m	Alcatel-Lucent 1900 MHz 4X45 RRH	25.1	11.1	10.7	09		0.500	8.00	0.20	2.26	1.40	
Various   100   0   0   0   0   0   0   0   0	Friedlish   200   3   1   Friedlish   200   3   1   Friedlish   200   3   3   4   5   4   5   5   5   5   5   5   5	9		240	3	3	Pipes						799.0	8.00	0.20			32.60
Weight Weight         180         6         3         Secretarian (BSC Digital Secretary (BSC Digital	Weight   110   2   2   2   2   2   2   2   2   2	7	T-Mobile	220	3		RFS APX16PV-16PVL-E-00 Sector Frames + (12) TTA's	53	12.9	3.1	39.6		0.650	19 60	0.40	4.11	1.40	31.80
Weining         180         3         Scientification of Signature (S) 10 kg 2         1         5         3 Section (Local Spicial Color Spicial Col	Weiting         13         Septic Frenche         72         12         5         147         0.01           ANTE Modelly         180         3         3         Forting 1815         3         1         5         6.0         2.0	α	Verizon	180	9	n m	Andrew DB844H90E-XY	48	8.5	9	10		0.730			5.65	1.40	30.03
Virtualization         130         3         3         3         100         100         15	Westions         110         3         3         Province processor of the control				8	e (	Sector Frames + (6) RFS Diplexers						0.667	14.74	0.31		, ,	
Makes   Make	Mario PGS   180   3   3   5   5   11   5   15   5   5   6   6   6   6   6   6   6	6	Verizon	180	m m	m m	Powerwave Pb5-16-XL-2 Rymsa MGD3-800T0 + GPS	77	7.1	٠	3	l	0.780	3.65	0.02	00:0	1.40	30.03
Motion Picts   100   3   3   Section 16   174,	Marcia   Sprintened   48	01	AT&T Mobility	165	9	3	Allgon 7770.00	55	11	5	35		0.640			2.00	1.40	29.26
Sprint Netered 44 1 1 1 Note of the CTL Ges Processes of the CTL Ges Pr	Spirit Note   54   1   1   New IN TROUGH AS MELLON   1   1   NEW I	=	Metro PCS	100	ж ж	m m	Sector Frames + (6) TTA's RFS APXV18-2065175-C	72	6.8	3.2	26.4		0.790	16.80	0.35	10.59	1.52	25.35
Marcia   48   1   1   1   Marcia Vicinical Marcia   4   1   1   1   1   1   1   1   1   1	March Pictor   Accordance   A	988	Sprint Nextel			Western Annual Street										0:00	0:00	
Marcia Pick   1	1.00   Motto PICS   20	12		48	I	1	PCTEL GPS-TMG-HR-26N						1.000	60.0	0.01	١.	•	20.5
Spirit Notelial   1	Sprint Needed   240   3   Andrew Desire George   231   35   35   31   8   1000   620   615	13	Metro PCS	20	1	1	Nortel NTGB01MA	4	4	4	1		1.000			1.00	0.80	18.5
Sprint Netted         20         3         1         1         100         6.20         0.15         1.00         6.00         1.00         6.20         0.15         1.00         6.00         1.00         6.00         1.00         6.00         1.	Sprint Nettel         240         3         3         ARTACHALLAND         72         11.8         7         57         F         1.000         6.20         6.10           Sprint Nettel         240         3         3         ARTACHALLAND         72         1.18         7         57         F         0.500         240         0.50           Sprint Nettel         230         1         4         Chwells         7         7         7         7         7         7         6.00         2.00         0.00           150         1         4         Working Paldram         1         1.00         30.00         2.50         0.00           ARIZI Mcbillity         1.65         3         3         8 Norting Paldram         1.00         6.2         1.00         30.00         2.00         0.00           ARIZI Mcbillity         1.65         3         3         8 Norting Paldram         1.00         6.0         2.50         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00         0.00         1.00	14	US Treasury	194	1	1	Andrew DB616E-BC	. 231	3.5	3.5	51		1.000			00.99	1.20	30.6
Sprint Netetic         240         3         3         Ainstehler And Only 1250AND         7         51 ft 60         650         2.40         0.66         6.50         1.40           Sprint Netetic         320         1         4         Working Paletim         1,000         55.00         4.00         0.00	Sprint Netted         240         3         3         Allar Method Net 250M 86H         72         11.8         7         57         6         6.060         2.40         6.0           Sprint Netted         320         1         4         Artafluten Soon Net 250M 86H         1         1000         55.00         4.00         1.00	4			1	1	Side Arm						1.000	6.20	0.15		•	
150   1	150   150   1	15	Sprint Nextel	240	m m	m m	RFS APXVSP18-C-A20 Alcatel-Lucent 800 MHz 2X50W RRH	72	11.8	7	57		0.500	2.40	90.0	6.10	1.40	32.6
150   150	150   150	16		320	-	4	Catwalk						1.000	55.00	4.00	0.00	0.00	35.4
150   1   1   1   1   1   1   1   1   1	150   1	17		757												0.00	0.00	32.4
150   150   150   100	150   1	, T		/87	1	4	Working Platform						1.000	30.00	2.50	, 6	, 60	-
ATRI Mobility   165   3   3   Raycap DC2-48-660-Def   10.2   10.2   10.2   10.2   10.2   10.2   10.2   10.2   10.2   10.3   10.0   10.0   10.0     ATRI Mobility   165   6   3   Raycap DC2-48-660-Def   10.2   10.2   10.2   10.3   10.3   0.23   0.23   0.01   10.0   10.0     ATRI Mobility   165   6   3   Raycap DC2-48-660-Def   15.5   16.3   6.6   2.5   F   0.333   0.23   0.01   10.0   1.40     ATRI Mobility   165   1   Aracap RC12-PC-PC   15.5   16.3   6.6   2.5   F   0.333   0.23   0.01   1.40     ATRI Mobility   165   1   Aracap RC12-PC-PC   15.5   16.3   6.6   2.5   F   0.500   2.99   0.05   1.40     ATRI Mobility   165   1   Aracap RC12-PC-PC   15.5   16.3   F   0.500   1.200   0.50   1.40     ATRI Mobility   165   1   Aracap RC12-PC-PC   1.50   1.50   1.200   0.50   1.40     ATRI Mobility   2.04.8   6   3   Andrew DB880H90E-M   6.0   6.3   3   8.5   F   0.670   1.200   0.50   1.48     ATRI Mobility   2.04.8   6   3   Andrew DB880H90E-M   6.0   6.3   3   8.5   F   0.670   1.200   0.50   1.48     ATRI Mobility   2.04.8   6   3   Andrew DB880H90E-M   6.0   6.3   3   8.5   F   0.670   1.200   0.50   1.48     ATRI Mobility   2.04.8   6   3   Andrew DB880H90E-M   6.0   6.3   3   8.5   F   0.670   1.200   0.50   1.48     ATRI Mobility   2.04.8   6   3   Andrew DB880H90E-M   6.0   6.3   3   8.5   F   0.670   1.200   0.50   1.48     ATRI MOBILITY   2.04.8   2.04	ATRI Mobility   165   3   3   Rayca DCA 46-60-9E   102   102   62   16   F   0.333   0.23   0.00	18		150	1	1	Rest Platform						1.000	20.00	1.00	0.00	0:00	28.5
ATRAT Mobility         165         3         3         Raycap DCZ-48-60-0-9E         10.2         10.2         16         F         0.333         0.23         0.01         1.00         14.0           ATRAT Mobility         165         1         1         Raycap CCZ-48-60-0-9E         15.5         16.3         5.6         2.5         F         0.333         0.23         0.01         -	ATRI Mobility   165   3   3   Raycap DCA 860-05E   10.2   10.2   6.2   16   F   0.333   0.23   0.01	19	*	125	-	c	Working Blatform						1 000	30.00	2.00	0.00	0.00	27.0
ATRIT Mobility   165   6   3   Frieszen Rius II, 18   1   Raycap FCL2-PC6-10E   15.5   16.3   6.6   25   F   0.333   0.23   0.055   1.40	ATRI Mobility   165   6   3   Flowerwater   15   16.3   6   6   25   6   0.333   0.233   0.015	ç	AT&T Mobility	165	3 8	3 6	Raycap DC2-48-60-0-9E	10.2	10.2	6.2	16	-	0.333			1.00	1.40	29.2
ATRIT Mobility   165   1	ATRIT Mobility         165         6         3         Effective 10E         15.5         16.3         6.6         25         F         0.350         2.99         0.05           ATRIT Mobility         165         2         2         Andrew 38NH-10656SC         96.4         11.9         7.1         60.8         F         0.700         2.99         0.05            200         1         1         Rest Platform         1.00         12.00         12.00         0.00            287.5         1         1         Rest Platform         60         6.3         3         8.5         F         0.670         12.00         0.50            204.8         6         3         Andrew DB980H90E-M         60         6.3         3         8.5         F         0.670         12.00         0.50	3			3	8	Powerwave LGP21901						0.333	0.23	0.01		•	
AT&T Mobility   165   2	ATRIT Mobility   165   1	21	AT&T Mobility	165	1	3	Raycap FC12-PC6-10E Ericsson RRUS 11 (Band 12)	15.5	16.3	9.9	25	4	0.333	2.99	0.05	. 0.95	1.40	29.2
200 1 1 1 NNW ANY X-LU-DS-001-RE1 1 1 Rest Platform 1.000 12.000 0	200 1 1 1 Rest Platform 1.000 12.00 0.50 0.000 0	22	AT&T Mobility	165	2	2	Andrew SBNH-1D6565C	96.4	11.9	7.1	8.09	F	0.700	900	900	8.10	1.44	29.2
Sprint Nextel   204.8   6   3   Andrew DB980H90E-M   60   6.3   3   8.5   F   0.670   12.00   0.00	Sprint Nextel 204.8 6 3 Andrew DB980H90E-M 60 6.3 3 8.5 F 0.670 12.00 0.50	23	•	200	•		AININ AININ AININ CO-63-001-REI						8000	00.01	0	0.00	0.00	30.9
Sprint Nextel         204.8         6         3         Andrew DB980H90E-M         60         6.3         3         8.5         F         0.670         1.000         12.00         0.52         1.48           9.52         1.48	Sprint Nextel         204.8         6         3         Andrew DB980H90E-M         60         6.3         3         8.5         F         0.670         12.00         0.50         -			The second secon	1	1	Rest Platform						1.000	12.00	0.50	0.00	0.00	
Sprint Nextel         204.8         6         3         Andrew DB980H90E-M         60         6.3         3         8.5         F         0.670         9.52         1.48           . <td< td=""><td>Sprint Nextel         60         6.3         3         8.5         F         0.670         9.52  .</td><td>54</td><td></td><td>287.5</td><td>1</td><td>1</td><td>Rest Platform</td><td></td><td></td><td></td><td></td><td></td><td>1.000</td><td>12.00</td><td>0.50</td><td>3 .</td><td>8 -</td><td>34.3</td></td<>	Sprint Nextel         60         6.3         3         8.5         F         0.670         9.52  .	54		287.5	1	1	Rest Platform						1.000	12.00	0.50	3 .	8 -	34.3
26       27       28       29	26 27 28 29	25	Sprint Nextel	204.8	9	3	Andrew DB980H90E-M	09	6.3	3	8.5		0.670			9.52	1.48	31.16
27       28       29	27 28 29	26																
28	28	- 12			y a de la company de la compan	100								-				
53	55	28		4														
		29																

Elevation (ft)	n (ft²)	(H)	(K)	(K)	(K)	(K)	(K)	(K)	(K)	(k)
338	24.10	25.18	0.936	0.734	0.088	0.286	4.04	3.88	60.9	8.09
	80.00	7.38	3.108	3.146	6.000	0.100		CONTRACTOR CONTRACTOR		
310	6.00	7.075	0.227	0.276	0.047	0.100	0.80	62.0	0.35	0.49
	10.46	12.60	0.398	0.358	6200	0.170				1
310	000	000	0.000	0000	0.000	0.000	0.40	0.36	80.0	0.17
	10.46	12.60	0.383	0.346	0.079	0.170	000	000	0.00	950
275	15.00	20.25	0.549	0.556	0.300	0.390	0.33	OC:O	00	000
0.50	32.70	37.56	1.166	1.004	0.168	0.484	1 74	82.	0.77	1 26
057	16.01	21.61	0.571	0.578	0.600	0.780				
240	4.06	4.61	0.143	0.122	0.180	0.249	0.71	0.69	0.78	1.03
-	16.01	21.61	0.564	0.571	009'0	0.780				
066	12.96	14.23	0.445	0.367	0.119	0.212	1.79	1.73	1.32	1.77
077	39.22	52.95	1.348	1.364	1.200	1.560				
180	17.37	19.82	0.564	0.482	090'0	0.218	1.52	1.45	86.0	1.41
	29.49	39.82	0.957	0.969	0.919	1.194				
180	16.13	17.71	0.523	0.431	660.0	0.233	0.80	0.71	0.16	0.31
	8.54	11.53	0.277	0.281	0.059	0.077				
391	22.59	25.09	0.715	0.595	0.210	0.406	1.78	1.67	1.26	17.1
100	33.62	45.38	1.064	1.077	1.050	1.365				
00.	12.25	14.24	0.336	0.293	6200	0.159	0.34	0.29	0.08	0.16
100	0.00	0.00	0.000	0.000	0.000	0.000				
48	00:0	00.0	0.000	00000	0.000	0.000	0.00	0.00	0.01	0.01
2	60.0	0.12	0.002	0.002	0.005	0.007	The second second		Section (SECOND SEC	
00	60.0	0.14	0.002	0.002	0.001	0.003	0.00	0.00	0.00	0.00
2	0.00	0.00	0.000	0.000	0.000	0.000				
194	6.74	8.70	0.223	0.216	0.051	0.112	0.43	0.42	0.20	0.31
	6.20	8.37	0.206	0.208	0.150	0.195	Section of the sectio			
240		18.53	0.594	0.490	0.101	0.320	0.72	0.62	0.36	0.57
		4.86	0.12/	0.128	0.000	0.250		ACCOUNT OF THE PARTY OF THE PAR	Company of Company	DRIVER STREET, SALES
320	0.00	0.00	0.000	2 130	0.000	5 200	2.10	2.13	4.00	5.20
	0.00	0.00	0.000	0.000	0.000	0.000				
237	30.00	40.50	1.053	1.066	2.500	3.250	1.05	1.07	7.50	3.25
	NOT BUT STATE OF	0.00	0.000	0.000	0000	0000	630	63.0	1001	1 30
150		27.00	0.616	0.624	1.000	1.300	70'0	70.0	200	25.4
	00:00	0.00	0.000	0.000	0.000	0.000	88.0	080	2 00	2 60
175	30.00	40.50	0.877	0.888	2.000	2.600	900	600	2011	2012
165		1.22	0.032	0.029	0.048	0.073	0.04	0.04	0.06	60.0
COT		0.31	0.007	0.007	0.017	0.021				
165	0.82	0.92	0.026	0.022	0.025	0.041	0.31	0.31	0.33	0.43
COT	8.97	12.11	0.284	0.287	0.300	0.390				
165	16.02	17.55	0.507	0.417	0.122	0.253	89'0	0.59	0.17	0.32
THE STREET STREET	5.45	7.36	0.173	0.175	0.049	0.063				
200		00:00	0.000	0.000	0.000	0.000	0.40	0.41	0.50	0.65
		16.20	0.401	0.406	0.500	0.650				
287.5		00:00	0.000	0.000	0000	0000	0.45	0.45	0.50	0.65
	THE STATE OF	16.20	0.445	0.451	0.500	0.650				
204.8		18.45	0.527	0.466	0.051	0.177	0.53	0.47	0.05	0.18
		00.00	0.000	0.000	0.000	0.000				
							I		I	
STATE OF THE STATE										
	And Annual and Annual A									
							STANDARD BUT SAN THE			

Site: 88008 Carrier: Sprint Nextel

Load Case Description	Dead Load Factor	Wind Load Factor	Ice Load Factor	Strength Factor	Allowable Stress Inc. Factor	Basic Wind Speed	Wind Dir.	Ice Thick.	Ice Density	Temp.	Point Loads
w o	1.1	1	1	1	1.333333333	85	0	0	56	50	
W 180	1.1	1	1	1	1.333333333	85	180	0	56	50	
W 45	1.1	1	1	1	1.333333333	85	45	0	56	50	
W-45	1.1	1	1	1	1.333333333	85	-45	0	56	50	
W 90	1.1	1	1	1	1.333333333	85	90	0	56	50	
W-90	1.1	1	1	1	1.333333333	85	-90	0	56	50	
W O Ice	1.1	1	1	1	1.333333333	73.61	0	0.5	56	10	
W 180 Ice	1.1	1	1	1	1.333333333	73.61	180	0.5	56	10	
W 45 Ice	1.1	1	1	1	1.333333333	73.61	45	0.5	56	10	
W -45 Ice	1.1	1	1	1	1.333333333	73.61	-45	0.5	56	10	
W 90 Ice	1.1	1	1	1	1.333333333	73.61	90	0.5	56	10	
W -90 Ice	1.1	1	1	1	1.333333333	73.61	-90	0.5	56	10	

							With Ice			
Joint Label	Force X-Dir	Force Y-Dir (lbs)	Force Vertical (lbs)	Moment X-Axis (ft-lbs)	Moment Y-Axis (ft-lbs)	Moment Z-Axis (ft-lbs)	Joint Label	Force X-Dir (lbs)	Force Y-Dir (lbs)	For Vert
19P	(lbs) 1713.23	0.00	1588.2	(11-105)	(1(-105)	(11-105)	19P	1520.28	0.00	2235.
19X 19Y	776.94 776.94	0.00	1500 1500				19X 19Y	786.61 786.61	0.00	
19XY	776.94	0.00	1500				19XY	786.61	0.00	
16P	795.88	0.00	347				16P	785.30	0.00	489.8
16X 16Y	0.00	0.00	0				16X 16Y	0.00	0.00	
16XY	0.00	0.00	0				16XY	0.00	0.00	
16P	396.36	0.00	79				16P	358.13	0.00	169.6
16X 16Y	0.00	0.00	0				16X 16Y	0.00	0.00	
16XY	0.00	0.00	0				16XY	0.00	0.00	
13P	932.38	0.00	379				13P	902.27	0.00	559.6
13X	0.00	0.00	0				13X 13Y	0.00	0.00	
13Y 13XY	0.00	0.00	0				13XY	0.00	0.00	
11P	578.70	0.00	256				11P	527.17	0.00	421.1
11X	578.70	0.00	256				11X 11Y	527.17 527.17	0.00	421.1 421.1
11Y 11XY	578.70 0.00	0.00	256 0				11XY	0.00	0.00	421.1
10P	235.68	0.00	260				10P	230.87	0.00	343.1
10X	235.68	0.00	260				10X	230.87	0.00	343.1
10Y	235.68	0.00	260				10Y 10XY	230.87	0.00	343.1
10XY 9P	0.00 597.68	0.00	0 439.6				9P	577.04	0.00	590.6
9X	597.68	0.00	439.6				9X	577.04	0.00	590.6
9Y	597.68	0.00	439.6				94	577.04	0.00	590.6
9XY 7P	0.00 506.92	0.00	0 326.2				9XY 7P	0.00 483.76	0.00	470.5
7X	506.92	0.00	326.2				7X	483.76	0.00	470.5
7Y	506.92	0.00	326.2				79	483.76	0.00	470.5
7XY 7P	0.00	0.00	0 52.8				7XY 7P	0.00 237.22	0.00	103.2
7X	266.81 266.81	0.00	52.8				7X	237.22	0.00	103.2
7Y	266.81	0.00	52.8				7Y	237.22	0.00	103.2
7XY	0.00	0.00	0				7XY 7P	0.00 557.57	0.00	590.2
7P 7X	592.95 592.95	0.00	420 420				7X	557.57	0.00	590.2
7Y	592.95	0.00	420				7Y	557.57	0.00	590.2
7XY	0.00	0.00	0				7XY	0.00 97.65	0.00	53.12
4P 4X	111.96 111.96	0.00	26.4 26.4				4P 4X	97.65	0.00	53.12
4Y	111.96	0.00	26.4				4Y	97.65	0.00	53.12
4XY	0.00	0.00	0				4XY	0.00	0.00	
2P	2.00 0.00	0.00	5				2P 2X	2.03	0.00	
2X 2Y	0.00	0.00	0				2Y	0.00	0.00	
2XY	0.00	0.00	0				2XY	0.00	0.00	-0.2
1P	1.78 0.00	0.00	1 0				1P 1X	2.08	0.00	2.976
1X 1Y	0.00	0.00	0				1Y	0.00	0.00	
1XY	0.00	0.00	0				1XY	0.00	0.00	
8P	428.86	0.00	201				8P 8X	424.36 0.00	0.00	306.5
8X 8Y	0.00	0.00	0				8Y	0.00	0.00	
8XY	0.00	0.00	0				exy	0.00	0.00	
10P	240.13	0.00	121				10P	206.00	0.00	189.7
10X 10Y	240.13 240.13	0.00	121 121				10X 10Y	206.00	0.00	189.
10XY	0.00	0.00	0				10XY	0.00	0.00	
17P	525.86	0.00	1000				17P	532.40	0.00	
17X	525.86	0.00	1000				17X 17Y	532.40 532.40	0.00	
17Y 17XY	525.86 525.86	0.00	1000				17XY	532.40	0.00	
10P	263.25	0.00	625				10P	266.53	0.00	
10X	263.25	0.00	625				10X	266.53 266.53	0.00	
10Y 10XY	263.25 263.25	0.00	625 625				10Y 10XY	266.53	0.00	
6P	616.00	0.00	1000				6P	623.67	0.00	
6X	0.00	0.00	0				6X	0.00	0.00	
6XY	0.00	0.00	0				6XY	0.00	0.00	
5P	438.55	0.00	1000				SP	444.01	0.00	
5X	438.55	0.00	1000				5X	444.01	0.00	
5Y	0.00	0.00	0				5Y 5XY	0.00	0.00	
5XY 7P	0.00 13.08	0.00	21.5				7P	12.09	0.00	
7X	13.08	0.00	21.5				7X	12.09	0.00	
7Y	13.08	0.00	21.5				7Y 7XY	12.09	0.00	
7XY 7P	0.00 120.52	0.00	0 125				7XY 7P	117.75	0.00	17
7X	94.63	0.00	100				7x	95.81	0.00	
7Y	94.63	0.00	100				7Y	95.81	0.00	
7XY	0.00	0.00	100.3				7XY 7P	0.00 382.98	0.00	
7P 7X	426.12 253.57	0.00	109.3 60.8				7X	208.29	0.00	
7Y	0.00	0.00	0				7Y	0.00	0.00	
7XY	0.00	0.00	0				7XY	0.00	0.00	
8P	401.26	0.00	500				8P 8X	406.26 0.00	0.00	
8X 8Y	0.00	0.00	0				8X 8Y	0.00	0.00	
8XY	0.00	0.00	0				8XY	0.00	0.00	
14P	445.10	0.00	500				14P	450.64	0.00	
14X	0.00	0.00	0				14X	0.00	0.00	
14Y 14XY	0.00	0.00	0				14Y 14XY	0.00	0.00	
8P	175.75	0.00	17				8P	155.27	0.00	58.9
8X	175.75	0.00	17				8X	155.27	0.00	
84	175.75	0.00	17				8Y	155.27	0.00	58.9

# Foundation

# Design Loads (Factored)

8		
k	467.23	Compression/Leg:
k	346.75	Uplift/Leg:
ft	4.00	Face Width @ Top of Pier (d <sub>1</sub> ):
ft	7.50	Face Width @ Bottom of Pier (d <sub>2</sub> ):
ft	7.25	Total Length of Pier (I):
ft	0.50	Height of Pedestal Above Ground (h):
ft	21.50	Width of Pad (W):
ft	21.50	Length of Pad (L):
ft	2.50	Thickness of Pad (t):
ft	20	Water Table Depth (w):
рс	150.0	Unit Weight of Concrete:
рс	131.0	Unit Weight of Soil (Above Water Table):
рс	65.0	Unit Weight of Soil (Below Water Table):
۰	0	Friction Angle of Uplift (A):
ps	8700	Allowable Compressive Bearing Pressure:
ps	630	Allowable Skin Friction:

Volume Pier (Total):	247.10	ft3
Volume Pad (Total):	1155.63	ft3
Volume Soil (Total):	2881.58	ft³
Volume Pier (Buoyant):	0.00	ft3
Volume Pad (Buoyant):	0.00	ft <sup>3</sup>
Volume Soil (Buoyant):	0.00	ft <sup>3</sup>
Weight Pier:	37.07	k
Weight Pad:	173.34	k
Weight Soil:	377.49	k

# **Uplift Check**

Uplift Resistance (k)	Ratio	Result
361.67	0.96	OK

# **Axial Check**

Axial Resistance (k)	Ratio	Result		
4021.58	0.12	ОК		

# **Anchor Bolt Check**

Bolt Description:

(6) 2-1/4" A36

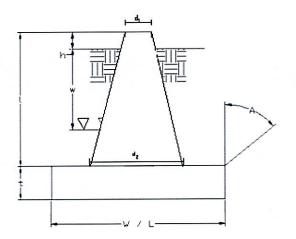
φRnt	Ratio	Result	
456.60	0.76	ОК	

 Site No.:
 88008

 Engineer:
 ABL

 Date:
 06/28/12

 Carrier:
 Sprint Nextel



Ultimate Skin Friction:	135.45 k
Difference in Soil Volume 1:	993.04 ft <sup>3</sup>
Difference in Soil Volume 2:	168.92 ft <sup>3</sup>
Difference in Soil Weight:	152.22 k



# RADIO FREQUENCY EMISSIONS ANALYSIS REPORT EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

**Sprint Existing Facility** 

Site ID: CT03XC043

Bethany 93 Old Amity Road Bethany, CT 06524

August 21, 2012



August 21, 2012

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Emissions Values for Site CT03XC043 - Bethany

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 93 Old Amity Road, Bethany, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu$ W/cm²). The general population exposure limit for the cellular band is approximately 567  $\mu$ W/cm², and the general population exposure limit for the PCS band is 1000  $\mu$ W/cm². Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

# **CALCULATIONS**

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 93 Old Amity Road, Bethany, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all emissions were calculated using the following assumptions:

- 1) 2 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
- 2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
- 3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.



- 6) The antenna mounting height centerline of the proposed antennas is **240.7 feet** above ground level (AGL)
- 7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

	Site ID	СТ	03XC043 - Beth	anv													
	Site Addresss																
Site Type Self Support Tower																	
			torities sales														
							Secto	or i									
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	240.7	234.7	1/2 "	0.5	0	1386.9474	9.051901	0.90519%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	240.7	234.7	1/2 "	0.5	0		2.545129	0.44888%
												Sector tot	al Power De	ensity Value:	1.354%		
	1						Secto	ır 2									
					Г												
Antenna Number	Antenna Make		Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	Participation of the second	Cable Size		Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	240.7	234.7	1/2 "	0.5	0	1386.9474	9.051901	0.90519%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	240.7	234.7	1/2 "	0.5	0	389.96892	2.545129	0.44888%
and the second second								LV enrome entro				Sector tot	al Power De	ensity Value:	1.354%		
							Secto	r3									
Antenna						Power Out Per Channel	Number of	Composite	Antenna Gain in direction of sample	Antenna	analysis		minoral solutions	Additional		Power Density	Power Density
	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	(Watts)	Channels	Power	point (dBd)			Cable Size	(dB)	Loss	ERP	Value	Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	240.7	234.7	1/2 "	0.5	0	1386.9474	9.051901	0.90519%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	240.7	234.7	1/2 "	0.5	0		2.545129	0.44888%
												Sector tot	al Power De	ensity Value:	1.354%		

`\

Cartilla Commission Control Control	site MPE %
Carrier	MPE %
Sprint	4.062%
AT&T	2.850%
Pocket	6.810%
Verizon Wireless	6.240%
Industrial Comm.	1.590%
Nextel	1.600%
T-Mobile	0.910%
Rescue 21	2.100%



## **Summary**

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

The anticipated Maximum Composite contributions from the Sprint facility are 4.062% (1.354% from each sector) of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is 26.162% of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

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

Scott Heffernan

RF Engineering Director

**EBI Consulting** 

21 B Street

Burlington, MA 01803

21 B Street Burlington, MA 01803



# **AMERICAN TOWER®**

CORPORATION

ATC TOWER SERVICES, INC. 400 REGENCY FOREST DRIVE CARY, NORTH CAROLINA 27518 PHONE: (919) 468-0112 / FAX: (919) 466-5040

# 88008 - BETHANY CT, CONNECTICUT

# 337.5 FT AT&T TAG TYPE "H" SELF SUPPORT TOWER MODIFICATIONS

### PROJECT DESCRIPTION:

THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 49564721 DATED 06/28/12. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.

AS-BUILT SIGN-OFF			
DESCRIPTION	SIGNATURE	DATE	
CONTRACTOR NAME			
CONTRACTOR REP. (PRINT NAME)			
CONTRACTOR REP. (SIGNATURE)			
REDEVELOPMENT P.M. (PRINT NAME)			
REDEVELOPMENT P.M. (SIGNATURE)			

SHEET TITLE

BILL OF MATERIALS (1 PAGE)

**IBC GENERAL NOTES** 

MODIFICATION PROFILE

REINFORCEMENT PLATE INSTALLATION DETAILS
TRUSS DIAGONAL & SUB-HORIZONTAL INSTALLATION DETAILS

DIAGONAL UPGRADE INSTALLATION DETAILS

ANGLE & REINFORCEMENT PLATE FABRICATION DETAILS

REV.

## **PROJECT SUMMARY**

ATC PROJECT NUMBER: 49564732

**CUSTOMER: SPRINT NEXTEL** 

CUSTOMER SITE NUMBER: CT03XC043

**CUSTOMER SITE NAME:** BETHANY, CT (AMERICAN TOWERS, INC.)

SITE ADDRESS: 93 OLD AMITY ROAD

BETHANY, CT 06524

**DATE:** 07/05/12

REVISION: 0



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the state of Connecticut.

SHEET

**IGN** 

A-2

A-4

F-1

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4 8 16 16 16 192 144 272 416	A 88008-1  4 88008-2  16 88008-3  16 88008-4  16 88008-5  202  151  286  437	MATERIAL & HARDWARE  PL 1/2" X 5 1/2"  L 3" X 3" X 3/8"  L 3" X 3" X 1/4"  L 3" X 3" X 1/4"  L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325  FLAT WASHER, 3/4"Ø  DESCRIPTION  MATERIAL & HARDWARE  PL 1/2" X 5 1/2"  BOLT, 3" X 3" X 3/8"  BOLT, 3" X 3" X 1/4"  BOLT, 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  FLAT WASHER, 3/4"Ø	LENGTH  41'-9" 21'-6" 12'-3" 9'-8" 30'-5"  2" 2 1/4" 2 1/2"	A-2, F-1 A-3, F-1 A-3, F-1 A-4, F-1	PART WEIGHT  447.5 162.5 63.0 49.7 230.0	WEIGHT (lb)  1790 1300 1008 795 3680	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED GALVANIZED [SPACERS]
8 16 16 16 192 144 272	8 88008-2 16 88008-3 16 88008-4 16 88008-5  202 151 286	PL 1/2" X 5 1/2"  L 3" X 3" X 3/8"  L 3" X 3" X 1/4"  L 3" X 3" X 1/4"  L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325	21'-6" 12'-3" 9'-8" 30'-5" 2" 2 1/4" 2 1/2"	A-3, F-1 A-3, F-1 A-3, F-1 A-4, F-1	162.5 63.0 49.7 230.0	1300 1008 795 3680	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
8 16 16 16 16 192 144 272	8 88008-2 16 88008-3 16 88008-4 16 88008-5  202 151 286	L 3" X 3" X 3/8"  L 3" X 3" X 1/4"  L 3" X 3" X 1/4"  L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325	21'-6" 12'-3" 9'-8" 30'-5" 2" 2 1/4" 2 1/2"	A-3, F-1 A-3, F-1 A-3, F-1 A-4, F-1	162.5 63.0 49.7 230.0	1300 1008 795 3680	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
16 16 16 192 144 272	16     88008-3       16     88008-4       16     88008-5       202        151        286	L 3" X 3" X 1/4" L 3" X 3" X 1/4" L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325	12'-3" 9'-8" 30'-5" 2" 2 1/4" 2 1/2"	A-3, F-1 A-3, F-1 A-4, F-1	63.0 49.7 230.0	1008 795 3680 	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
16 16 192 144 272	16 88008-4 16 88008-5 202 151 286	L 3" X 3" X 1/4" L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325	9'-8" 30'-5" 2" 2 1/4" 2 1/2"	A-3, F-1 A-4, F-1	49.7 230.0	795 3680 	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
16 192 144 272	16 88008-5  202 151 286	L 3" X 3" X 3/8"  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325  BOLT, 3/4"Ø ASTM A325	30'-5" 2" 2 1/4" 2 1/2"	A-4, F-1	230.0	3680  	HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
192 144 272	202 151 286	BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325	2" 2 1/4" 2 1/2"				HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
144 272	151 286	BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325	2 1/4" 2 1/2"				HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
144 272	151 286	BOLT, 3/4"Ø ASTM A325 BOLT, 3/4"Ø ASTM A325	2 1/4" 2 1/2"				HHN-LKW / GALVANIZED HHN-LKW / GALVANIZED
272	286	BOLT, 3/4"Ø ASTM A325	2 1/2"				HHN-LKW / GALVANIZED
							PAGE 1



### **AMERICAN TOWER®**

## ATC TOWER SERVICES, INC.

400 REGENCY FOREST DRIVE SUITE 300 CARY, NC 27518 PHONE: (919) 468-0112 FAX: (919) 466-5415 NYSE AMT

NYSE AMT

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ATC SITE NUMBER:

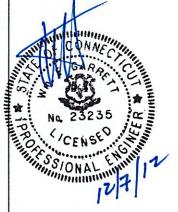
88008

ATC SITE NAME: BETHANY CT

CONNECTICUT

SITE ADDRESS:

93 OLD AMITY ROAD BETHANY, CT 06524



DRAWN BY:	DMB
APPROVED BY:	
DATE DRAWN:	07/05/12
ATC JOB NO:	49564732

SHEET TITLE:

**BILL OF MATERIALS** 

SHEET NUMBER:

BOM

REV. #

#### GENERAL

- ALL METHODS, MATERIALS AND WORKMANSHIP SHALL FOLLOW THE DICTATES OF GOOD CONSTRUCTION PRACTICE.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
- 4. ANY SUBSTITUTIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 5. ANY MANUFACTURED DESIGN ELEMENTS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER TIA-1019-A-2011, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- 8. CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

### STRUCTURAL STEEL

- ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
- 2. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
- ALL U-BOLTS SHALL BE ASTM A307 OR EQUIVALENT, WITH LOCKING DEVICE, UNI ESS NOTED OTHERWISE.
- 4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
- ALL FIELD CUT SURFACES AND FIELD DRILLED HOLES SHALL BE REPAIRED WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- 6. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.

## WELDING

- ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- 3. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- 5. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE
- 6. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

### **BOLT TIGHTENING PROCEDURE**

- STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC-2004 (SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS.)
- TIGHTEN FLANGE BOLTS BY AISC "TURN-OF-THE-NUT" METHOD, USING THE CHART BELOW:

#### BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

DOL	ELITOTIO DI TO AND INCEDDING I CON DIAME	ILINO
1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

#### BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

3. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

### 8.2.1 TURN-OF-NUT PRETENSIONING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

4. ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

#### PAINT

 AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1K.

### APPLICABLE CODES AND STANDARDS

- ANSI/TIA/EIA: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-F EDITION.
- 2003 INTERNATIONAL BUILDING CODE WITH 2005 CONNECTICUT SUPPLEMENTS AND 2009 CONNECTICUT AMENDMENTS.
- ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-02.
- CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
- AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
- AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

### SPECIAL INSPECTION

- A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2003, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
  - a) STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)
  - b) HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
- THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2003, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.



AMERICAN TOWER®

ATC TOWER SERVICES, INC.

400 REGENCY FOREST DRIVE SUITE 300 CARY, NC 27518 PHONE: (919) 468-0112 FAX: (919) 466-5415 NYSE AMT

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REV.	DESCRIPTION	BY	DATE
<u></u>	FIRST ISSUE	DMB	07/05/12
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ATC SITE NUMBER:

88008

ATC SITE NAME: BETHANY CT

CONNECTICUT

SITE ADDRESS:



DRAWN BY:	DMB
APPROVED BY:	
DATE DRAWN:	07/05/12
ATC JOB NO:	49564732

SHEET TITLE:

**IBC GENERAL NOTES** 

SHEET NUMBER:

**IGN** 

REV.#

TOWER ELEVATION VIEW

FW: 51.2'

[BOTTOM OF STRUCTURE]



## **AMERICAN TOWER®** ATC TOWER SERVICES, INC.

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NYSÉ AMT

EL: 220.0'

LEASED

EL: 165.0'

888888

AT&T MOBILITY

(6) 1 5/8"Ø COAX

US TREASURY

(5) 7/8"Ø COAX

CLIMBING LADDER

W/ SAFETY CABLE

EL: 194.0' & 338.0'

**EXISTING** 

EL: 165.0'

EXISTING

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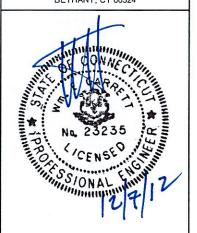
ATC SITE NUMBER: 88008

ATC SITE NAME:

**BETHANY CT** 

CONNECTICUT

SITE ADDRESS: 93 OLD AMITY ROAD BETHANY, CT 06524



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	APPROVED BY:	
	DATE DRAWN:	07/05/12
	ATC JOB NO:	49564732

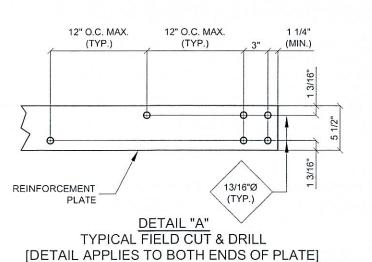
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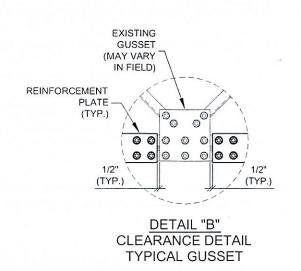
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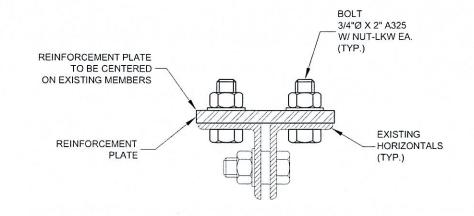
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REV.#







SECTION "A-A"
TYPICAL DETAIL



## AMERICAN TOWER®

ATC TOWER SERVICES, INC. 400 REGENCY FOREST DRIVE

00 REGENCY FOREST DRIV SUITE 300 CARY, NC 27518 PHONE: (919) 468-0112 FAX: (919) 466-5415 NYSE AMT

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ATC SITE NAME:

BETHANY CT CONNECTICUT

SITE ADDRESS:

93 OLD AMITY ROAD BETHANY, CT 06524



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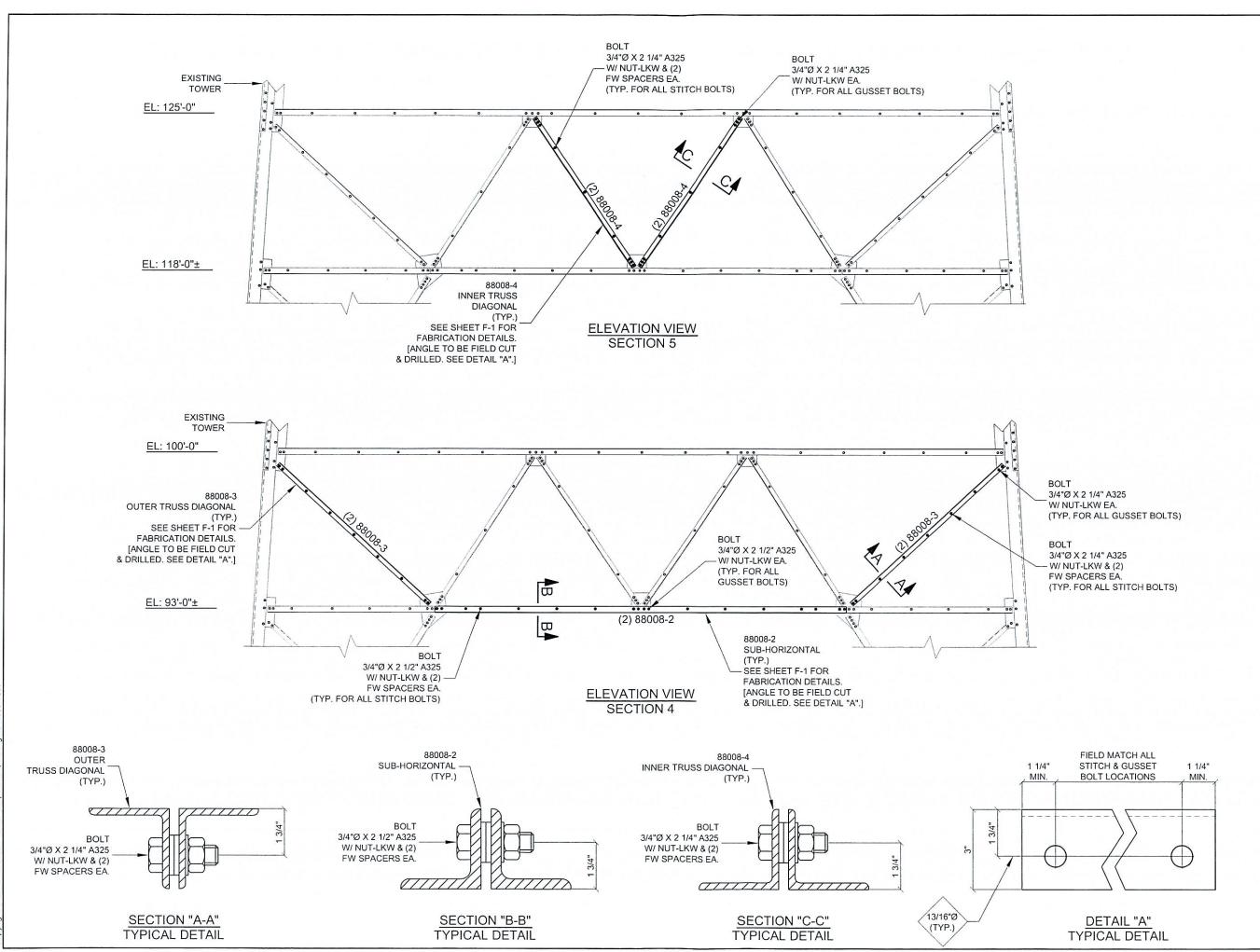
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REINFORCEMENT PLATE INSTALLATION DETAILS

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A-2

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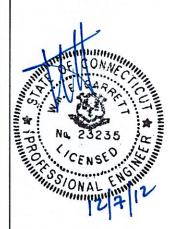
88008

ATC SITE NAME:

BETHANY CT CONNECTICUT

SITE ADDRESS:

93 OLD AMITY ROAD BETHANY, CT 06524



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APPROVED BY:	
DATE DRAWN:	07/05/12
ATC JOB NO:	49564732
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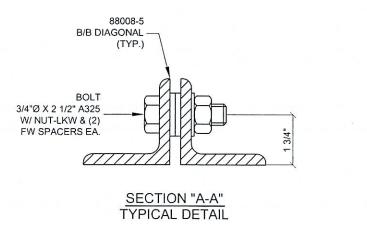
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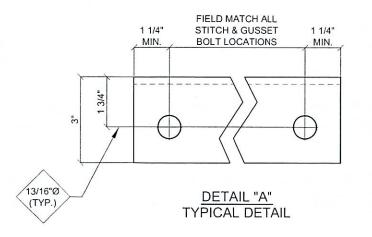
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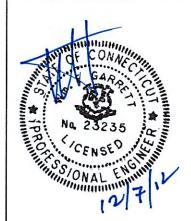
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88008

ATC SITE NAME:

# BETHANY CT CONNECTICUT

SITE ADDRESS: 93 OLD AMITY ROAD BETHANY, CT 06524



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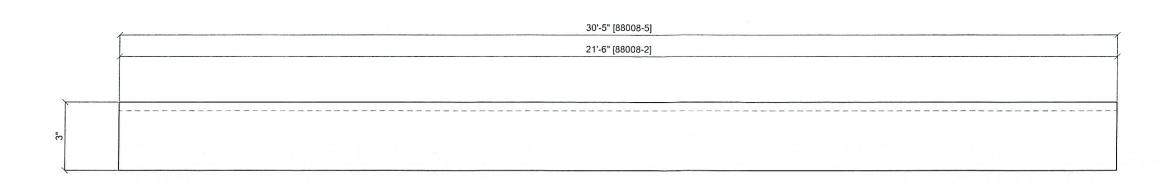
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DIAGONAL UPGRADE INSTALLATION DETAILS

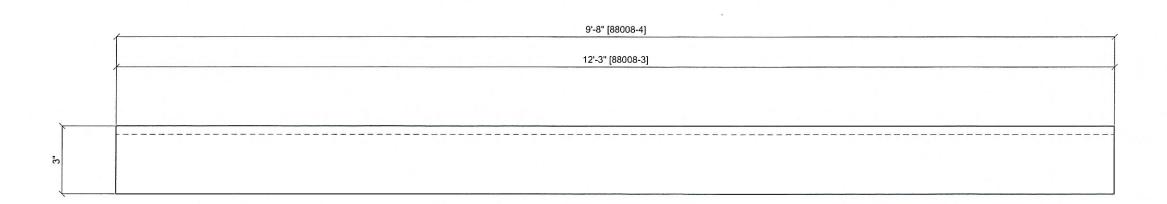
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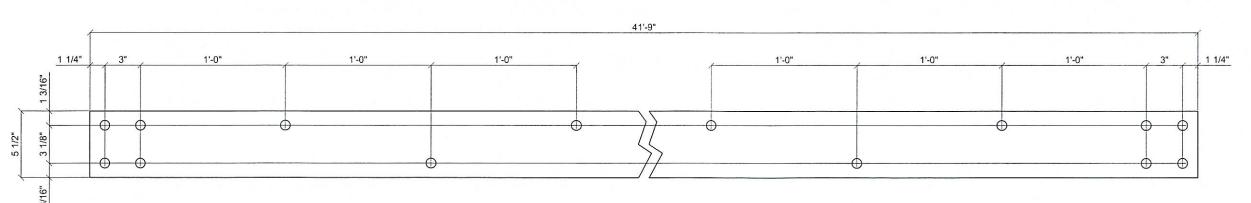
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## DIAGONALS & SUB-HORIZONTALS



## TRUSS DIAGONALS



88008-1 REINFORCEMENT PLATE

#### \*\*NOTE:

 $\frac{1}{6}$  REINFORCEMENT PLATES MAY BE CUT IN HALF FOR SHIPPING, SUPPLY OR FABRICATION REQUIREMENTS.

MATERIAL: A36		INISH: GALVANIZED		HOLES: 1	3/16"Ø	
PART NO.	DESCRIPTION	LENGTH	N	OTES	BLK WT	GALV WT
88008-1	PL 1/2" X 5 1/2"	41'-9"		**	426.2#	447.5#
88008-2	L 3" X 3" X 3/8"	21'-6"			154.8#	162.5#
88008-3	L 3" X 3" X 1/4"	12'-3"			60.0#	63.0#
88008-4	L 3" X 3" X 1/4"	9'-8"			47.4#	49.7#
88008-5	L 3" X 3" X 3/8"	30'-5"			219.0#	230.0#



AMERICAN TOWER ATC TOWER SERVICES, INC.

400 REGENCY FOREST DRIVE SUITE 300

SUITE 300 CARY, NC 27518 PHONE: (919) 468-0112 FAX: (919) 466-5415 NYSE AMT

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ATC SITE NUMBER: 88008

ATC SITE NAME:

BETHANY CT

CONNECTICUT

SITE ADDRESS: 93 OLD AMITY ROAD BETHANY, CT 06524



DRAWN BY:	DMB
APPROVED BY:	
DATE DRAWN:	07/05/12
ATC JOB NO:	49564732

SHEET TITLE:

ANGLE & REINFORCEMENT PLATE FABRICATION DETAILS

SHEET NUMBER:

F-1

REV.#



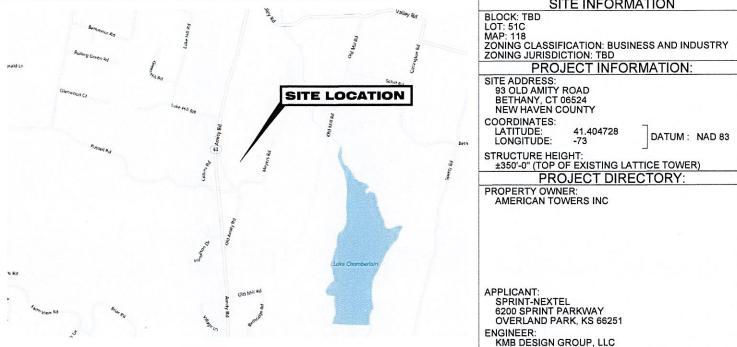
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SPRINT RF ENGINEER	DATE		
SITE OWNER	DATE		
	DATE		



SITE ID: CT03XC043 SITE NAME: BETHANY, CT (AMERICAN TOWERS, INC.)

# NETWORK VISION CONSTRUCTION DRAWINGS





# AERIAL VIEW

**LOCATION MAP** 

CODES	>	DRAWING INDEX	
These documents are in compliance & all construction to be in a	T	DRAWING TITLES	DWG#
Those described and in compliance a an estimated in the		COVER SHEET	A01
State Building Code: 2005 Connecticut Supplement	Sf	GENERAL NOTES 1 OF 2	C01
		GENERAL NOTES 2 OF 2	C01A
2003 International Building Code 2003 International Residential Code		COMPOUND PLAN	C02
2003 International Existing Building Code		ELEVATION	C02A
2003 International Mechanic Code		EQUIPMENT PLANS	C03
2003 International Plumbing Code		EQUIPMENT & ANTENNA SPECIFICATIONS	C03A
2003 International Energy Conservation Code (re-adopted with		ANTENNA PLANS (SECTOR 1)	C04
CC/ANSI A117.1-2003 Assessible and Usable Buildings and Fa	IC	ANTENNA PLANS (SECTOR 2)	C04A
2005 National Electrical Code (NFPA-70)	20	ANTENNA PLANS (SECTOR 3)	C04B
3000 National Electrical Code (NT 1 A-10)	20	RRH PLANS (ALL SECTORS)	C04C
DRIVING		RRH MOUNT DETAILS (ALL SECTORS)	C04D
DRIVING		SITE DETAILS	C05
DEPART 1 INTERNATIONAL BLVD, MAHWAH, NJ 07495	1.	RF SCHEDULE	C06
2. TAKE 3RD EXIT FROM ROUNDABOUT INTERNATIONAL	2.	RF DATA SHEET	C06A
BLVD ONTO LEISURE LN.		AAV DRAWINGS	C07
3. TAKE RAMP ONTO STATE HIGHWAY 17 (RT-17 N).	3.	AAV DRAWINGS	C07A
4. CONTINUE ON I-287 N. 5. TAKE THE I-87 S/I-287/NEW YORK STATE THRUWAY	4.	AAV DRAWINGS	C07B
SOUTH/TAPPAN ZEE BR/NEW YORK CITY EXIT ONTO	3.	ELECTRICAL NOTES	E01
YORK STATE THRUWAY SOUTH (I-287 E, I-87 S) (PART		ELECTRICAL & GROUNDING DETAILS	E02
TOLL ROAD).			
<ol> <li>KEEP LEFT ONTO CROSS WESTCHESTER EXPY (I-287</li> </ol>	6.		
AT EXIT #8 TOWARD WHITE PLAINS/RYE.	-		
7. TAKE EXIT #9S-N/HUTCHINSON PKWY/WHITESTONE	/.		

DRAWING INDEX

	These documents are in compliance & all construction to be in accordance with the following codes & standards as applicable:
	State Building Code: 2005 Connecticut Supplement
	2003 International Building Code 2003 International Residential Code 2003 International Existing Building Code 2003 International Mechanic Code 2003 International Plumbing Code 2003 International Plumbing Code 2003 International Energy Conservation Code (re-adopted with changes) ICC/ANSI A117.1-2003 Assessible and Usable Buildings and Facilities 2005 National Electrical Code (NFPA-70)
_	DRIVING DIRECTIONS
	DEPART 1 INTERNATIONAL BLVD, MAHWAH, NJ 07495     TAKE 3RD EXIT FROM ROUNDABOUT INTERNATIONAL BLVD ONTO LEISURE LN.     TAKE RAMP ONTO STATE HIGHWAY 17 (RT-17 N).     TAKE RAMP ONTO STATE HIGHWAY 17 (RT-17 N).     TAKE FXIT #50/CT 2012 CAN LEY AND

**CODES & STANDARDS** 

TAKE THE 1-87 S/1-287/NEW YORK STATE THRUWAY

11. THEN RIGHT ONTO WHALLEY AVE (CT-69).
SOUTH/TAPPAN ZEE BR/NEW YORK CITY EXIT ONTO NEW

12. TURN SHARP RIGHT ONTO AMITY RD (CT-63).

YORK STATE THRUWAY SOUTH (I-287 E, I-87 S) (PARTIAL TOLL ROAD).

13. TURN RIGHT ONTO RUSSELL RD. 14. TURN LEFT ONTO OLD AMITY RD.

Sprint



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	<u>\( \)</u>	06-20-12	REVISIONS PER CLIENT COMMENTS	AJL	кс
4	B	06-01-12	REVISED PER CLIENT COMMENTS	MCD	кс
1		04-12-12	INITIAL SUBMISSION NOT FOR CONSTRUCTION	JLS	кс
1	REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHK

SITE INFORMATION

STRUCTURE HEIGHT: ±350'-0" (TOP OF EXISTING LATTICE TOWER) PROJECT DIRECTORY:

DATUM: NAD 83

SITE ADDRESS: 93 OLD AMITY ROAD BETHANY, CT 06524 NEW HAVEN COUNTY

PROPERTY OWNER: AMERICAN TOWERS INC

APPLICANT: SPRINT-NEXTEL 6200 SPRINT PARKWAY OVERLAND PARK, KS 66251

POWER COMPANY: CONNECTICUT LIGHT & POWER P.O. BOX 270 HARTFORD, CT 06141-0270 (800) 286-2000

CONSTRUCTION MANAGER: TODD AMANN (914) 715-9363

KMB DESIGN GROUP, LLC 1800 ROUTE 34, SUITE 209 WALL, NJ 07719 KEITH DRENNAN - PROJECT MANAGER

ENGINEER:

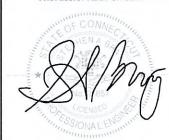
(732) 280-5623

COORDINATES:

LONGITUDE:



# Stephen A. Bray



CT LICENSE: 26657

332.1619

93 OLD AMITY ROAD BETHANY, CT 06524 NEW HAVEN COUNTY

CT03XC043

PROJECT TYPE:						
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DEAMAN BY	CHECKED BY	DA				

04-02-12 JLS

> COVER SHEET

A01

#### GENERAL CONSTRUCTION NOTES:

- 1. This set of plans has been prepared for the purposes of municipal and agency review and approval. This set of plans shall not be utilized as construction documents until all drawings have been revised to indicate "ISSUED FOR CONSTRUCTION." Contractor shall e-mail plans@kmbdg.com to ensure that they have the latest set of construction drawings prior to commencing any work whatsoever.
- 2. ADA compliance: The facility is a normally unoccupied mobile radio facility.
- 3. These plans are intended to be used to direct the proposed layout. Drawings should not be scaled unless otherwise noted. Plans, elevations and details are intended to show the end result of design. Minor modifications may be required to suit job dimensions or conditions.
- The contractor shall verify all dimensions and conditions and notify the Project Manager of any
  discrepancies before starting any work.
- i. These plans are designed to reflect observed field conditions. Certain conditions are assumed to comply with general standard construction design methods and principles, and the Contractor shall note that not all areas of structural attachment have been opened or specifically verified. The Contractor is therefore requested to notify the Engineer immediately should encountered field conditions vary from those depicted on the drawings. KMB Design Group, LLC will issue field change direction if required. The Project Manager is referenced on the cover sheet.
- All equipment and materials shall be installed in accordance with the manufacturer's recommendations unless otherwise noted by the Engineer of Record.
- 7. The Contractor shall be responsible for all work performed and materials installed to be in strict conformance, as a minimum standard, with all applicable codes, regulations and ordinances having jurisdiction. Electrical systems shall be installed in conformance with the National Electrical Code, and all other local and state jurisdictional codes, ordinances, and with local utility company specifications, whichever is more stringent.
- 8. The Contractor shall keep contract area clean, hazard free and dispose of all dirt, stumps, stones, rubbish or debris in accordance with all local and environmental laws. No materials or equipment shall be placed anywhere on or in the structure without making adequate provisions to protect existing property. Upon completion, repair any damage that may have occurred during construction. Repair all existing wall surfaces damaged during construction such that they match and blend with adjacent surfaces.
- The Contractor shall be solely responsible and have control over construction means, methods techniques, sequences, and procedures.

#### SPRINT SPECIFICATIONS:

- 1. Contractor shall ensure that they obtain the latest copy of the following documents from ALU:
  - A. Cell Site Installation & De-Installation Services Attachment G-1
     B. Sprint Integrated Construction Standards for Wireless Sites
  - C. Standard Construction Specifications for Wireless Sites
- Contractor shall notify the Engineer immediately if any of the Sprint standards contradict the standards provided by KMB Design Group, LLC so that the Engineer can provide direction.
- 3. State, Federal and Local codes prevail.

#### DIVISION 1 - GENERAL REQUIREMENTS SECTION 01010 SUMMARY OF WORKS

- The Contractor shall review and become familiar with specifications contained in the bid package prepared by KMB Design Group, LLC and the client. The Contractor shall e-mail plans@kmbdg.com to ensure that they have the latest set of construction drawings prior to commencing any work whatsoever.
- In the event of a conflict between the bid package specifications and these notes, the provisions of the clients specifications shall take precedence.
- 3. The Contractor shall visit the site of the proposed work and fully acquaint themselves with the conditions as they exist in order that any restrictions perfaining to the work are understood. All areas and dimensions are indicated on the drawings as accurately as possible, but all conditions shall be verified by each contractor and/or subcontractor at the site. The failure of the contractor to examine or receive any form, instrument or document, or to visit the site shall not relieve the Contractor from any obligation with respect to their quoted price. The submission of a quotation shall acknowledge that the Contractor and their Subcontractors have fully examined the site and know the existing conditions and have made provisions for operating under the conditions as they exist at the site and have included all necessary items.
- The General Contractor's responsibilities shall include, but not be limited to, construction of the
  equipment foundation, including electrical service, telephone conduits, grounding system and
  coordination with local utility companies.
- 5. The antenna installers responsibilities shall include, but not be limited to, cable tray installation, routing of cables from radio equipment to antennas, associated hardware for securing antenna cables, antenna mounts, determining supplier of antennas, grounding of antennas to grounding system, installing antennas and verifying with Radio Frequency Engineers, the alignment, location, and proper orientation of antennas.
- The Contractors shall coordinate construction activities with the building Landlord in order to avoid conflicts with current use of the site.
- The Owner may have work performed under separate contracts, concurrently, with the work of this contract.
- 3. The General Contractor shall permit access to the project to these contractors to perform their work.
- The Contractor shall conform to all applicable local, county, state, and federal codes, laws and requirements, including OSHA.
- The Contractor shall apply and pay for the construction permit, certificate of occupancy and all other required permits or licenses. The Contractor is responsible for obtaining all inspections.
- 11. Care shall be exercised in protecting the building occupants during the demolition and construction periods of this project. Every effort shall be made to maintain a clean operation. Debris shall not accumulate. All debris will be deposited in a suitable container on a daily basis and shall be emptied on a regular schedule. The location of the container shall be coordinated with the Building Manager.
- 12. Safety procedures: Attention is directed to federal, state, and local laws, rules and regulations concerning construction safety and health standards. The construction company awarded this project shall ensure all working surroundings and conditions are sanitary, and are not hazardous or dangous to the health or safety of the work crews or building occupants. Precaution shall be exercised at all times for the protection of persons and property. It is mandatory that the safety provisions of applicable local laws, OSHA regulations and building and construction codes, be observed for all contractors and antenna riggers.
- 13. The General Contractor must coordinate all roof related work with the Landlord's pre-approved roofer. The General Contractor must confirm the compatibility of all materials and ensure that all existing roof warranties, if any, remain in effect.

#### SECTION 01613 - DELIVERY, STORAGE AND HANDLING:

- The Contractor shall be responsible for all procedures and scheduling associated with hoisting, staging, and erecting of materials and equipment to and/or upon the site.
- All elements of the existing site, i.e. structures, site plantings, etc. shall be protected as necessary from said actions. This work must be done in a safe, secure nondestructive manner for protecting personnel and property.

### SECTION 01740 WARRANTIES AND BONDS:

- The Contractor shall guarantee all labor and materials used in this project for a minimum period of one

   (1) year commencing from the date of final acceptance by the client. The Contractor is not required to
   guarantee material supplied by the Owner.
- Final date of acceptance is deemed as the date that all required state and federal approval have been obtained including, but not limited to:
   A. Final inspection - D14
  - B. Certificate of Occupancy
- Any deficiencies that come evident during this one (1) year period shall be corrected by the Contractor at the Contractor's expense.





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NETWORK VISION

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GENERAL NOTES 1 OF 2

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#### DIVISION 2 - SITE WORK

- The Contractor shall call utilities prior to the start of construction.
- All existing active sewer, water, gas, electric, and other utilities where encountered in the work, shall be protected at all times, and where required for the proper execution of the work, shall be relocated as directed by Engineers. Extreme caution should be used by the Contractor when excavating or pier drilling around or near utilities. The Contractor shall provide safety training for the working crew. This will include
- A. Fall protection
- B. Confined space
- C. Electrical safety D. Trenching & excavation
- All site work shall be as indicated on the drawing and stipulated in the specification project summary
- . If necessary, rubbish, stumps, debris, sticks, stones, and other refuse shall be removed from the site and disposed of legally.
- The site shall be graded to cause surface water flow away from the equipment shelter and monopole
- No fill or embankment material shall be placed on frozen ground. Frozen materials, snow or ice shall not be placed in any fill or embankment
- The sub grade shall be compacted and brought to a smooth uniform grade prior to finished surface
- All existing inactive sewer, water, gas, electric and other utilities, which interfere with the execution of the work, shall be removed and/or capped, plugged or otherwise discontinued at points which will not interfere with the execution of the work, subject to the approval of engineering.
- The areas of the Owners property disturbed by the work and not covered by the building or driveway, shall be graded to a uniform slope, fertilized, seeded, and covered with mulch as specified in the specification of landscape work.
- 10. The Contractor shall minimize disturbance to existing site during construction. Erosion control measures. shall be in conformance with the local guidelines for erosion and sediment control.
- All back fill shall be compacted to 95% modified proctor density as determined by ASTM standard test

#### DIVISION 3 - CONCRETE

- Design and construction of all concrete elements shall conform to the latest editions of the following applicable codes: ACI 301 "Specifications for Structural Concrete for Buildings"; ACI 318 "Building Code Requirements for Reinforced Concrete".
- 2. Mix design shall be approved by Owner's representative prior to placing concrete.
- 3. Concrete shall be normal weight, 6% air entrained (±1.5%) with a maximum 4" slump, and have a minimum 28-day compressive strength of 3000 psi unless otherwise noted
- 4. Maximum aggregate size shall be 1".
- 5. The following materials shall be used:

ASTM C 150, TYPE I Portland cement: **ASTM A 185** Normal weight aggregate: ASTM C 33 Drinkable Admixtures Non-chloride containing

- 6. Reinforcing details shall be in accordance with the latest edition of ACI 315.
- Reinforcing steel shall conform to ASTM A 615, grade 60, deformed unless noted otherwise. Welded wire fabric shall conform to ASTM A 185 welded steel wire fabric unless noted otherwise. Splices shall be class "B" and all hooks shall be standard, unless otherwise noted.
- 8. The following minimum concrete cover shall be provided for reinforcing steel unless shown otherwise on drawings:
  - Concrete cast against earth ....... 3"

 Concrete exposed to earth or weather. #6 and larger

.. 1 1/2" #5 and smaller Concrete not exposed to earth or weather or not cast against the ground: Slab and wall 3/4

.... 1 1/2" Beams and columns .. 9. A 1" chamfer shall be provided at all exposed edges of concrete, unless otherwise noted, in accordance

- 10. Installation of concrete anchor, shall be per manufacturers written recommended procedure, the anchor bolt, dowel or rod shall conform to manufacturer's recommendation for embedment depth or as shown on the drawing. No rebar shall be cut without prior engineering approval when drilling holes in concrete.
- Curing compounds shall conform to ASTM C-309.
- 12. Admixtures shall conform to the appropriate ASTM standard as referenced in ACI-301.
- 13. Do not weld or tack weld reinforcing steel

with ACI 30 section 4.2.4.

- 14. All dowels, anchor bolts, embedded steel, electrical conduits, pipe sleeves, grounds and all other mbedded items and formed details shall be in place before start of concrete placement.
- 15. Locate additional construction joints required to facilitate construction as acceptable to Engineer. Place reinforcement continuously through joint.
- 16. Reinforcement shall be cold bent whenever bending is required.
- 17. Place concrete in a uniform manner to prevent the formation of cold joints and other planes of weakness. Vibrate the concrete to fully embed reinforcing. Do not use vibrators to transport concrete thorough
- 18. Do not place concrete in water, ice, or on frozen ground.
- 19. Do not allow concrete sub-base to freeze during concrete curing and setting period, or a minimum of 14 days after placement.
- 20. For cold -weather and hot-weather concrete placement, conform to applicable ACI codes and recommendations. In either case, materials containing chloride, calcium, salts, etc. shall not be used. Protect fresh concrete from weather for 7 days minimum

#### **DIVISION 5 - METALS**

#### SECTION 05120 - STRUCTURAL STEEL

- Codes and specifications:
  - A. The fabrication/erection shall conform to the requirements of the following codes and specifications, latest edition, unless otherwise noted:
  - The local building code.
  - AISC-specification for structural steel buildings, allowable stress design, 1989.
  - ASTM A992 structural steel (for all w sections only).
  - ASTM A36 structural steel (all other sections).
  - ASTM A53, type E, grade B, electric resistance welded steel pipe ASTM 123 zinc (hot-dip galvanized) coatings on iron and steel products.
  - ASTM 153 zinc coated (hot-dip) iron and steel hardware.
  - AWS D1.1 structural welding code.

  - EIA/TIA-222 structural standards for steel antenna towers and antenna supporting structures.
- Design parameters:
  - A. The structural steel antenna mounting frames are designed to provide support for antennas and all hardware and accessories associated with antennas
- 3. Fabrication and installation requirements:
  - A. The antenna supports, antennas and mounting hardware shall be constructed plumb, level and true.
  - B. All structural elements and fasteners shall be galvanized in accordance with ASTM A123 and A153. C. Welds should be shop made wherever possible, conforming to AISC specification and AWS requirements. All welds are to be of the size and type indicated. Contractor shall employ a licensed
  - welder and shall provide the engineer with their name and a copy of their license prior to commencing any field welding. D. Contractor shall provide fire watch during all welding operations, brazing and soldering and other work requiring the use of an open flame. Two (2) hand held 30 lb fire extinguishers and adequate
  - water supply shall be maintained on site. Fire watch plan shall be submitted to the client for approval prior to welding.

    E. All bolted connections shall be A325 high strength bolts 5/8" diameter minimum size unless otherwise
  - noted. Bolts shall be supplied with flat washers. Bolts shall be tightened in accordance with the AISC snug tight condition, unless otherwise noted. F. Protective galvanized coatings which were damaged or removed during erection or transportation shall be restored by painting with zinc-rich primer.
  - G. All threaded rods shall be 1/2" diameter A36 steel unless otherwise noted.
  - H. Temporary structures for staging and construction shall be capable of withstanding forces specified by the local building code current edition.

#### 4. Inspections

- A. All structural steel antenna frames, and connections shall be inspected prior to installation of
- B. All antenna cable trays, supports, channels and clamps shall be inspected prior to installation of
- C. Coordinate all inspections with the client's Construction Manager.
- D. Contractor to make notifications 72 hours prior to any required inspections.





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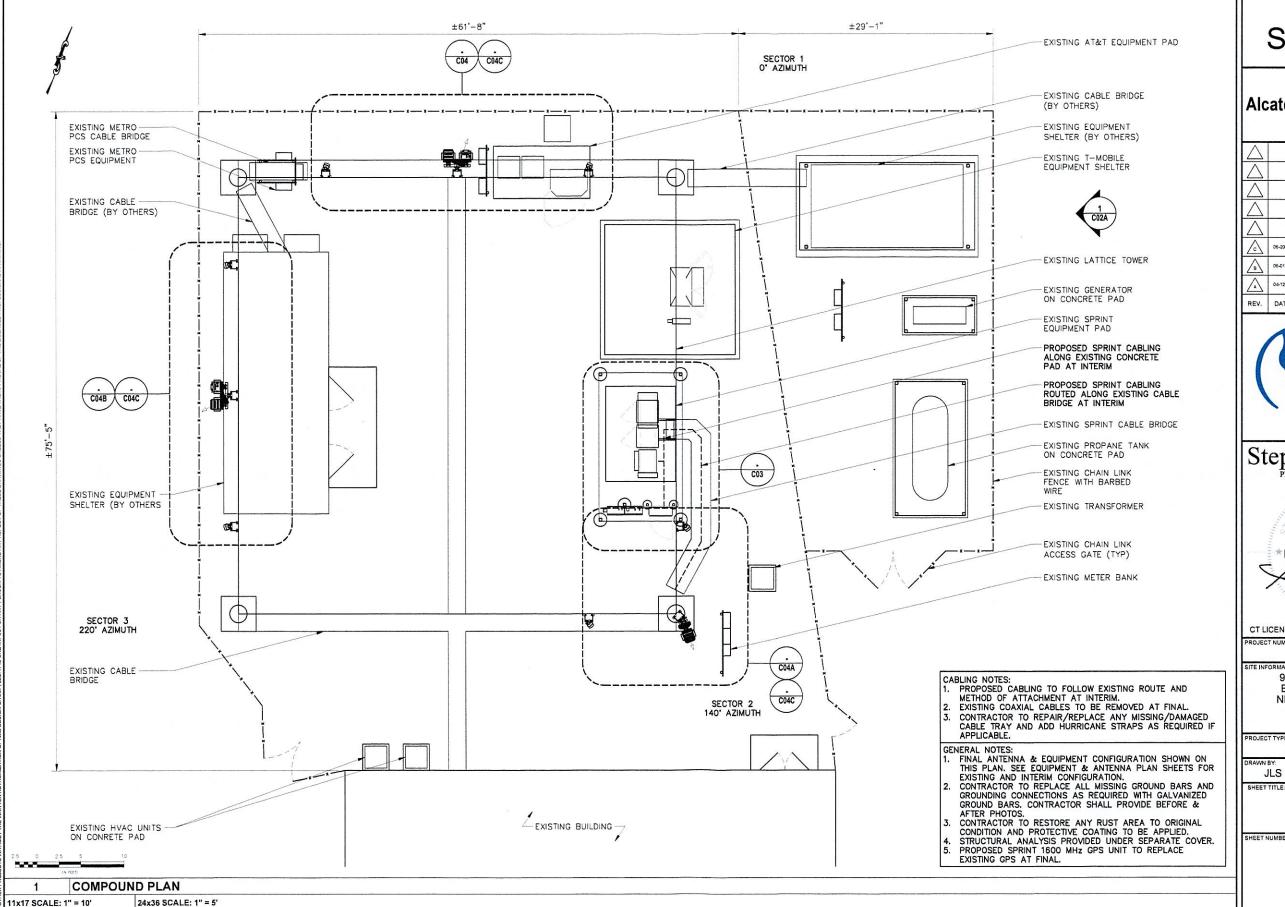
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**GENERAL NOTES** 2 OF 2

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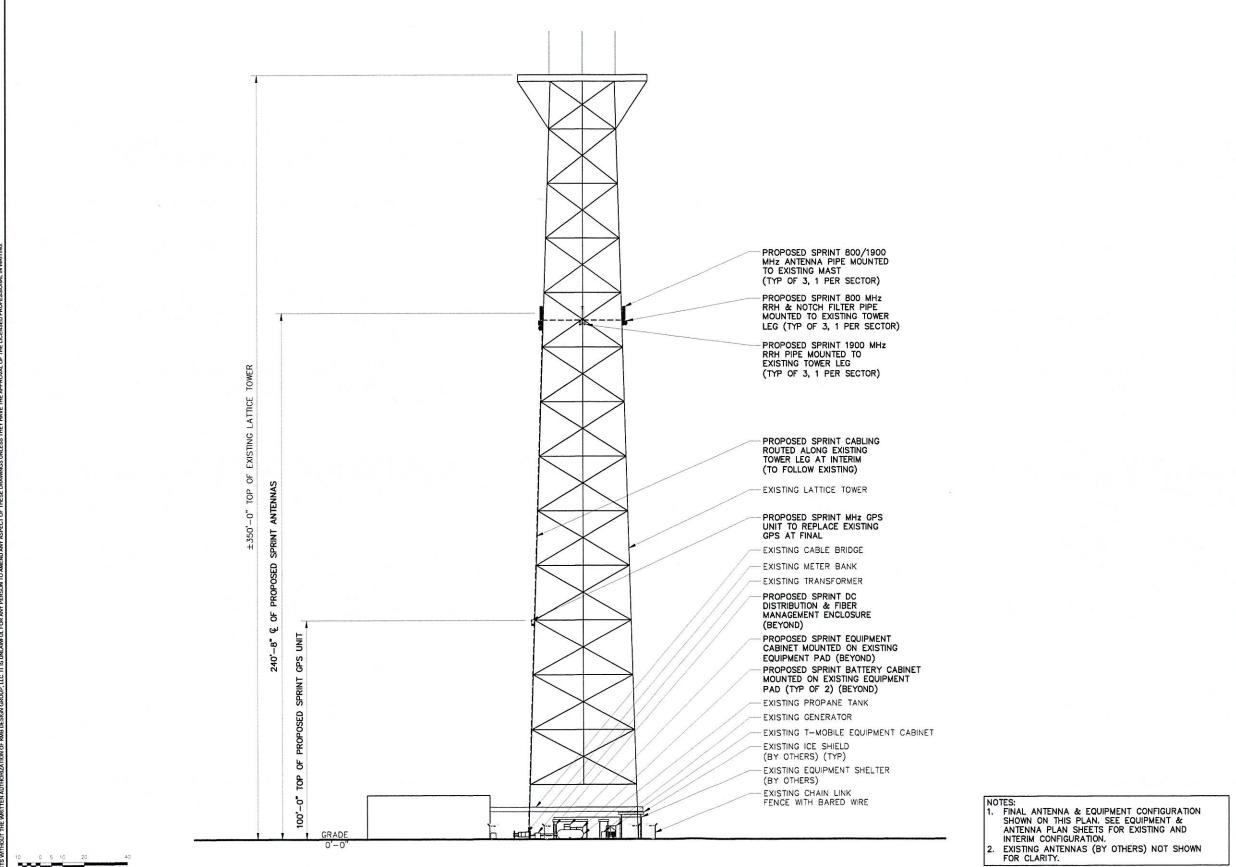
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NORTHEAST ELEVATION

11x17 SCALE: 1" = 40'

24x36 SCALE: 1" = 20'



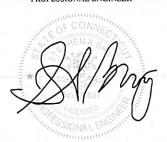
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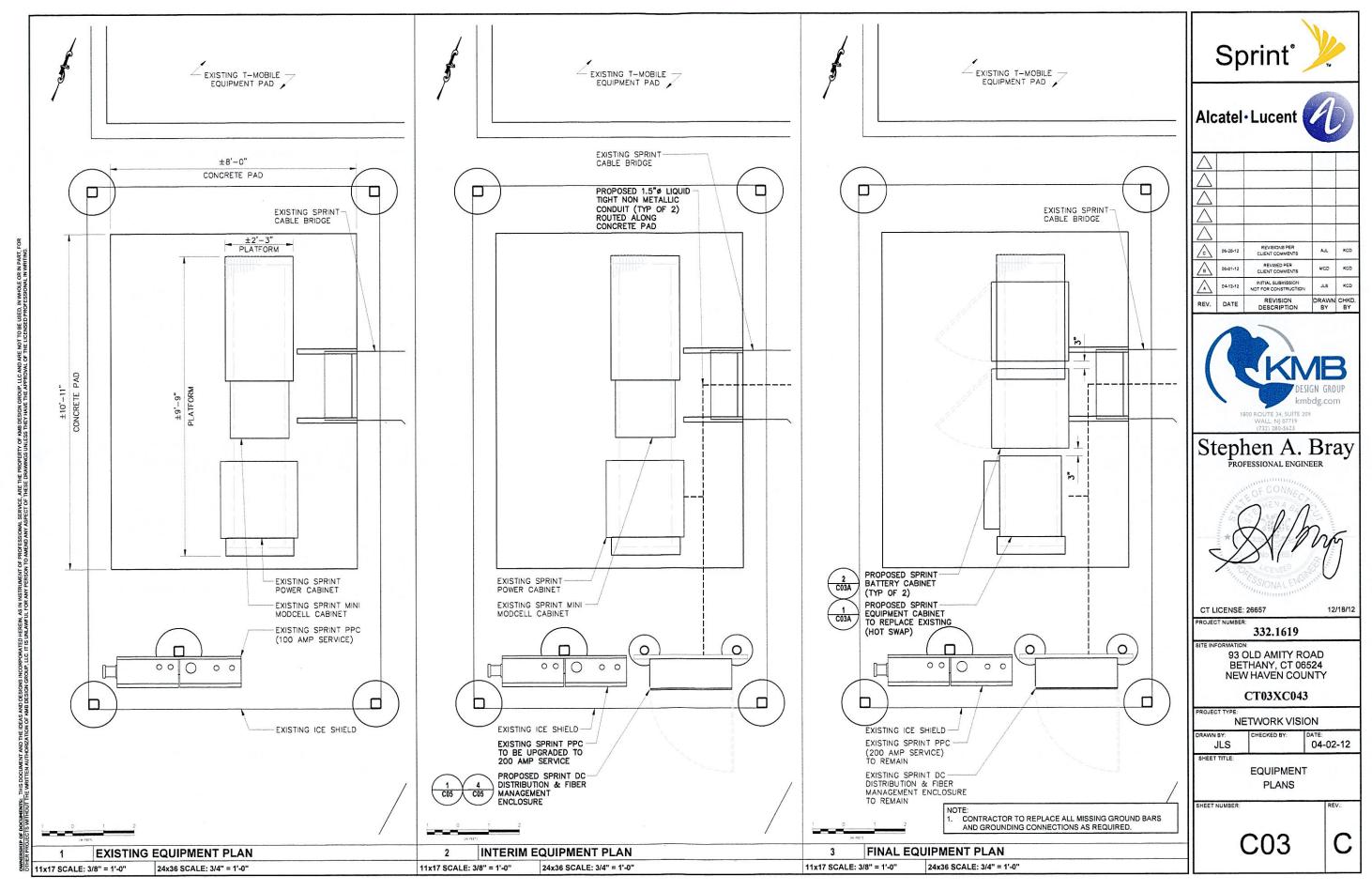
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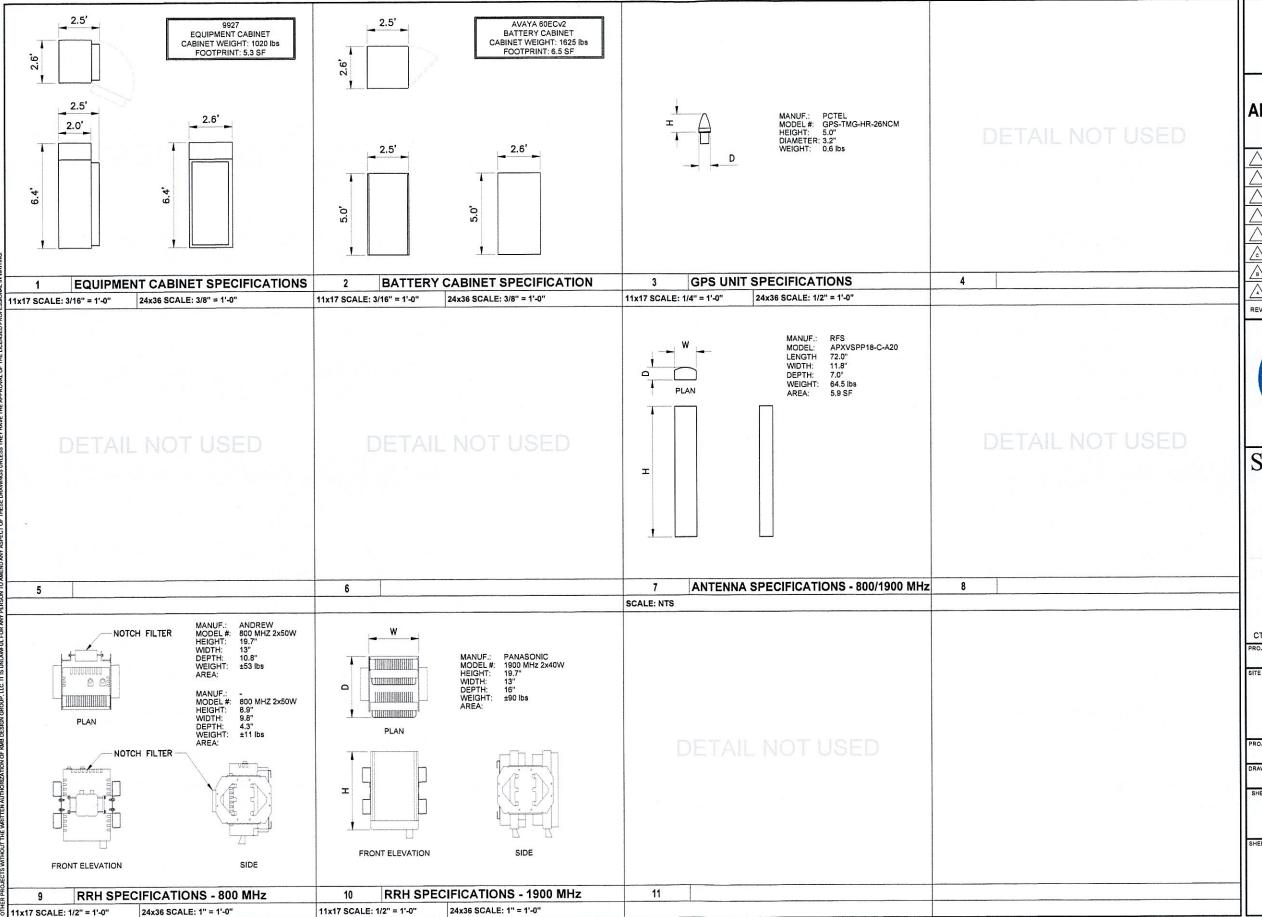
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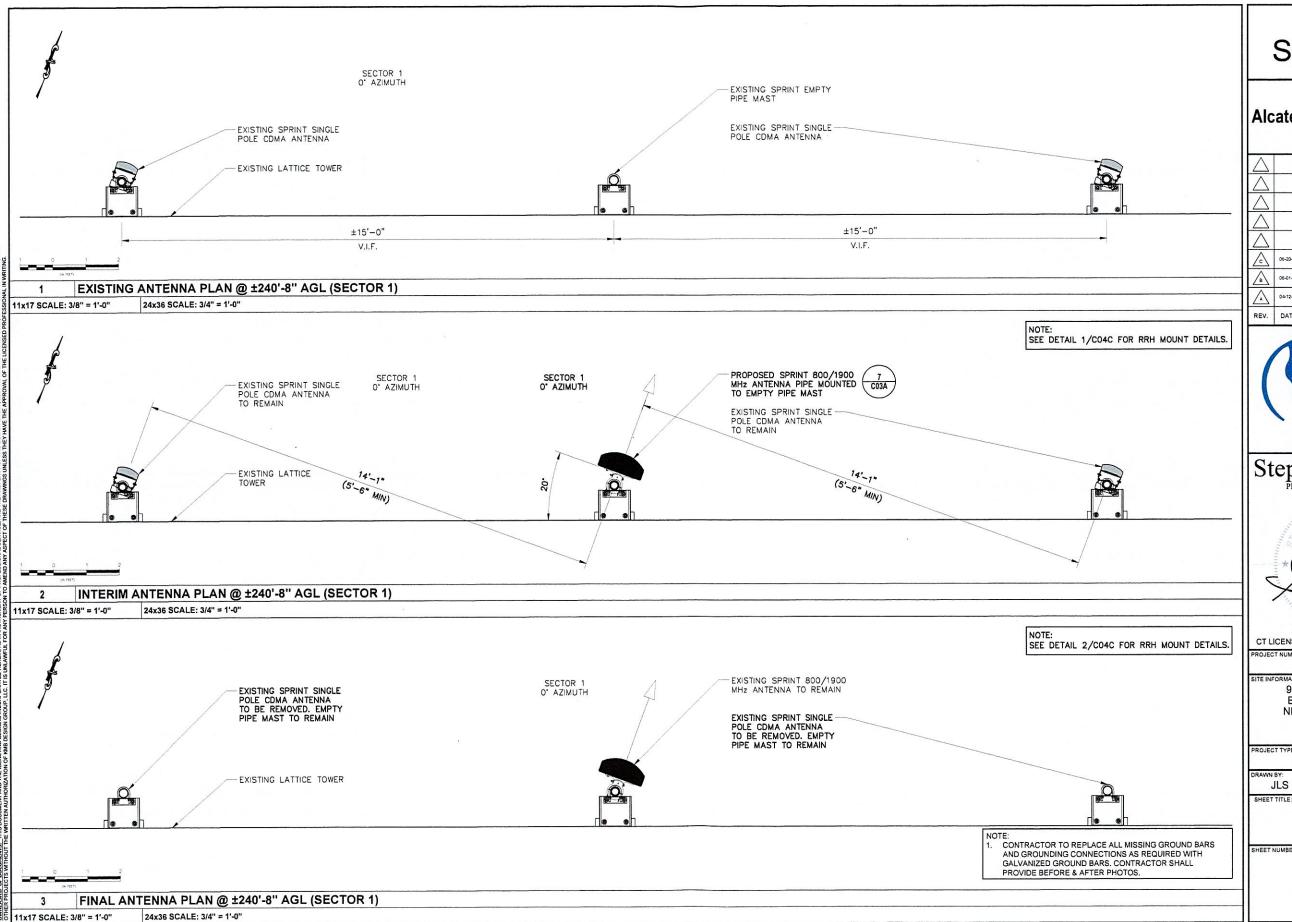
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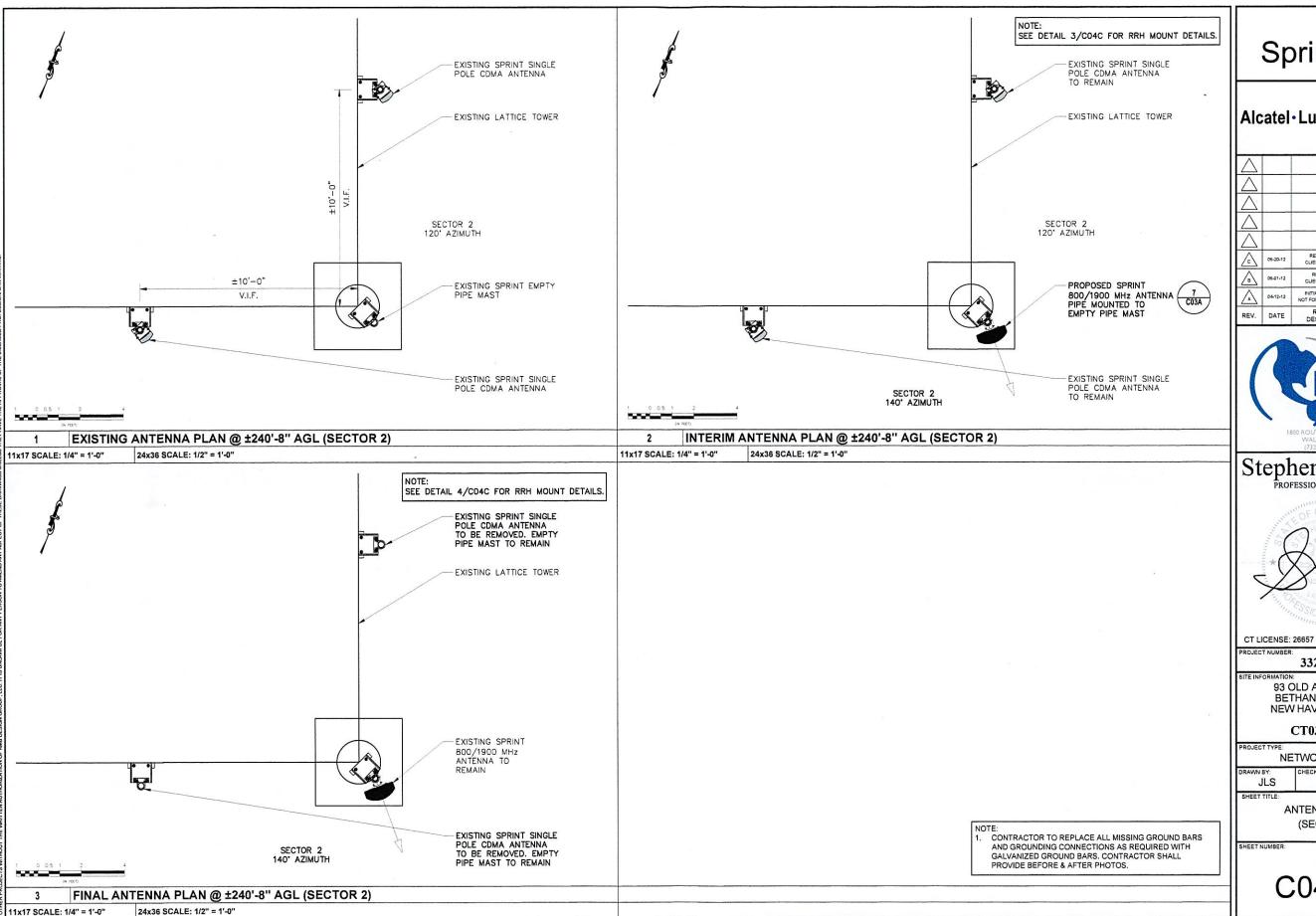
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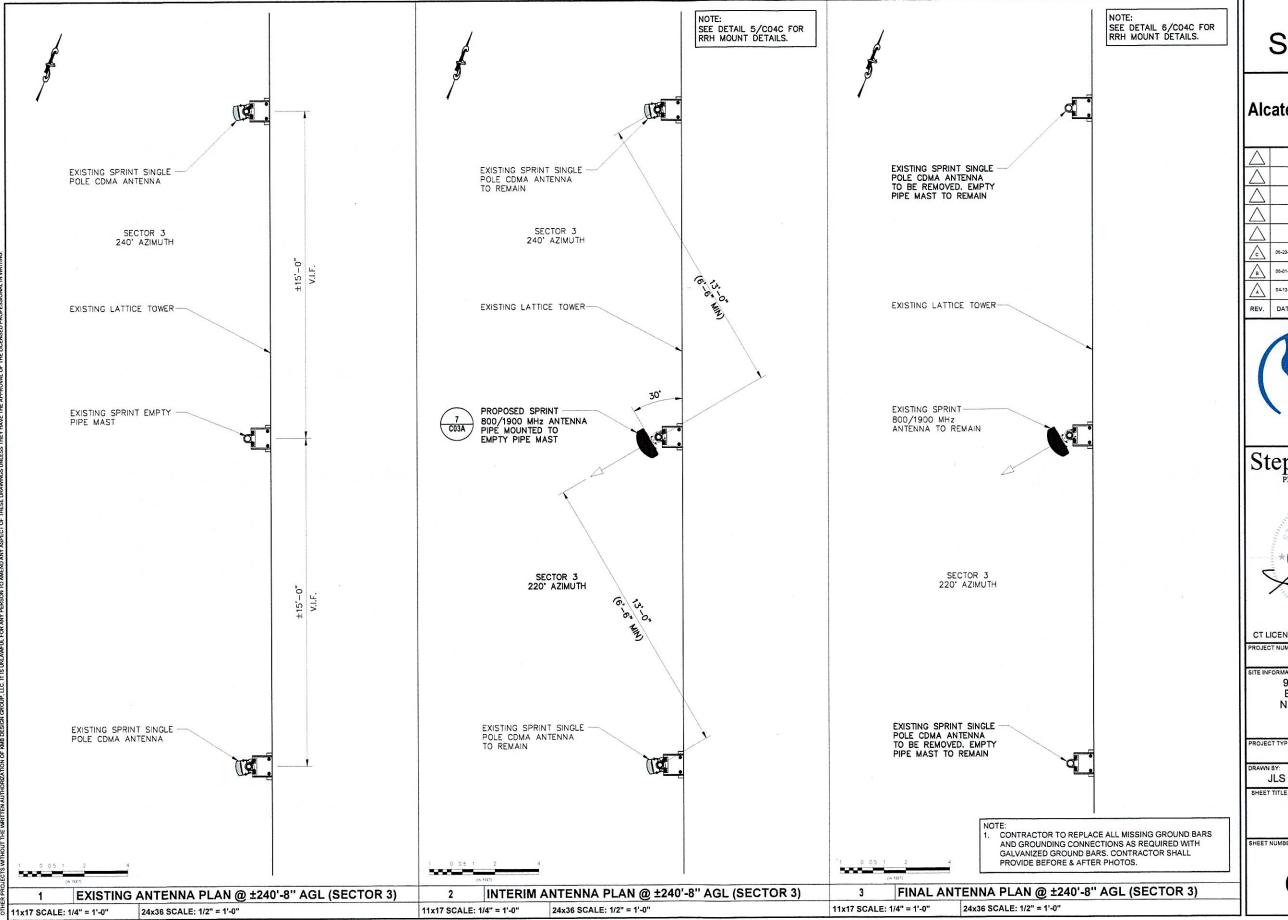
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ANTENNA PLANS (SECTOR 2)

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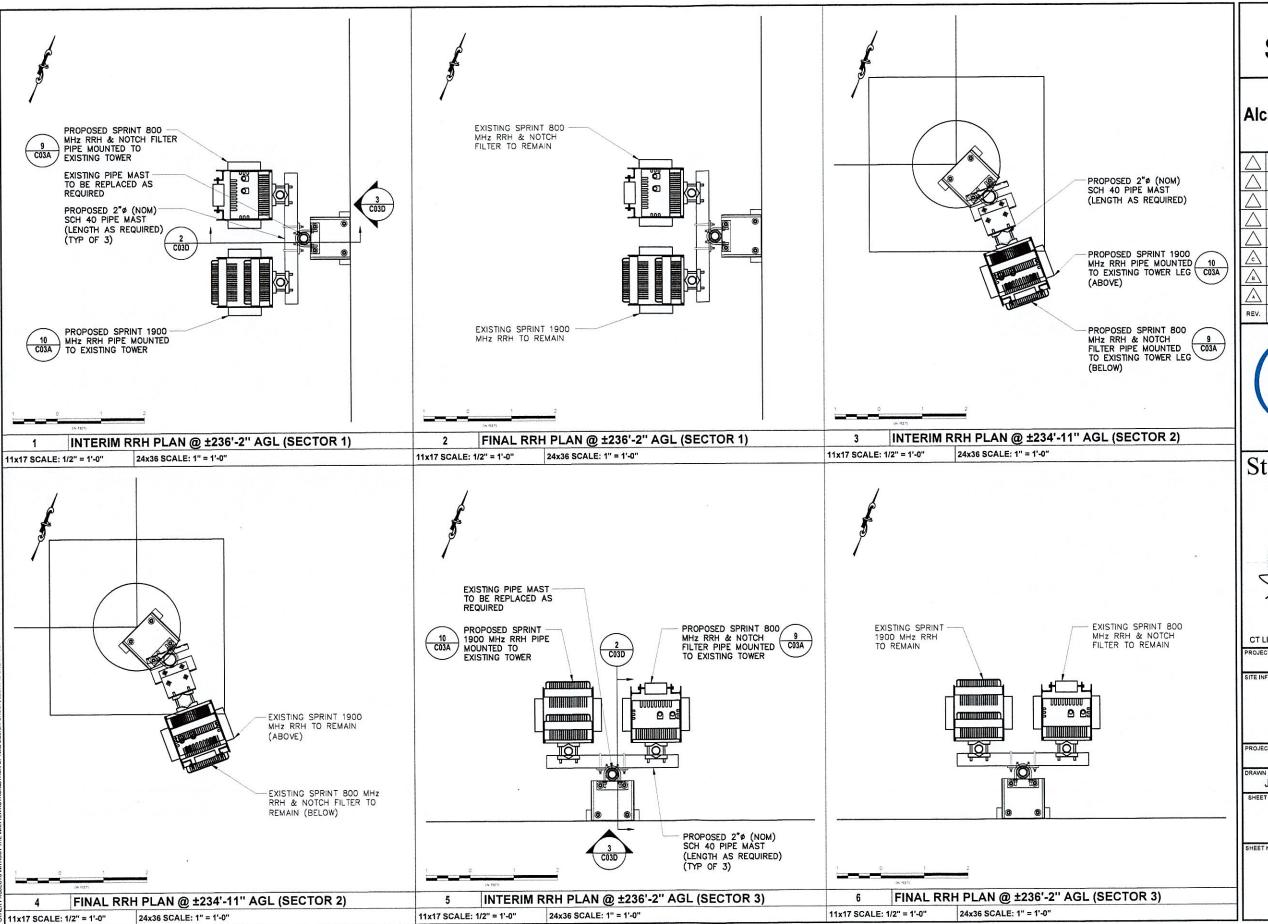
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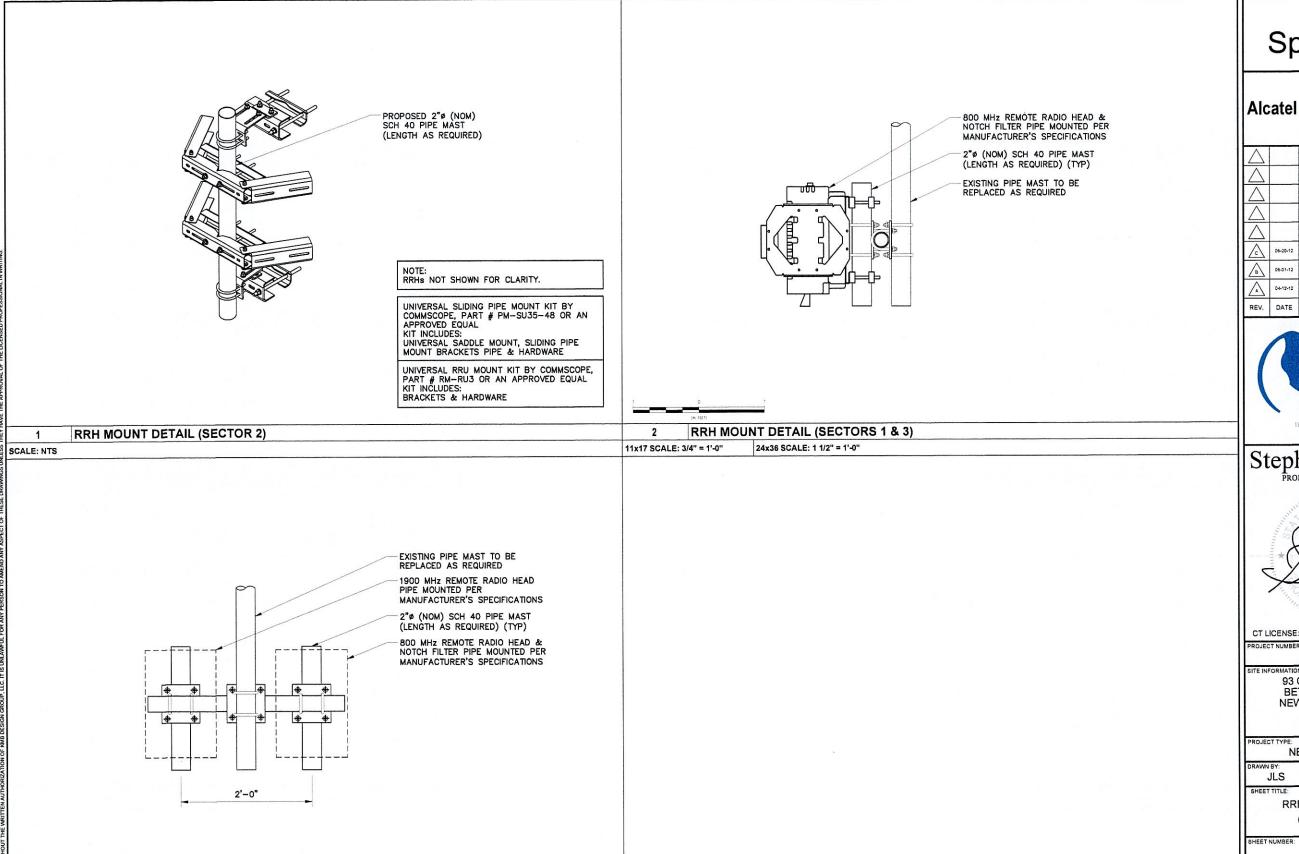
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RRH PLANS

(ALL SECTORS)

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RRH MOUNT REAR ELEVATION (SECTORS 1 & 3)

24x36 SCALE: 1 1/2" = 1'-0"

11x17 SCALE: 3/4" = 1'-0"





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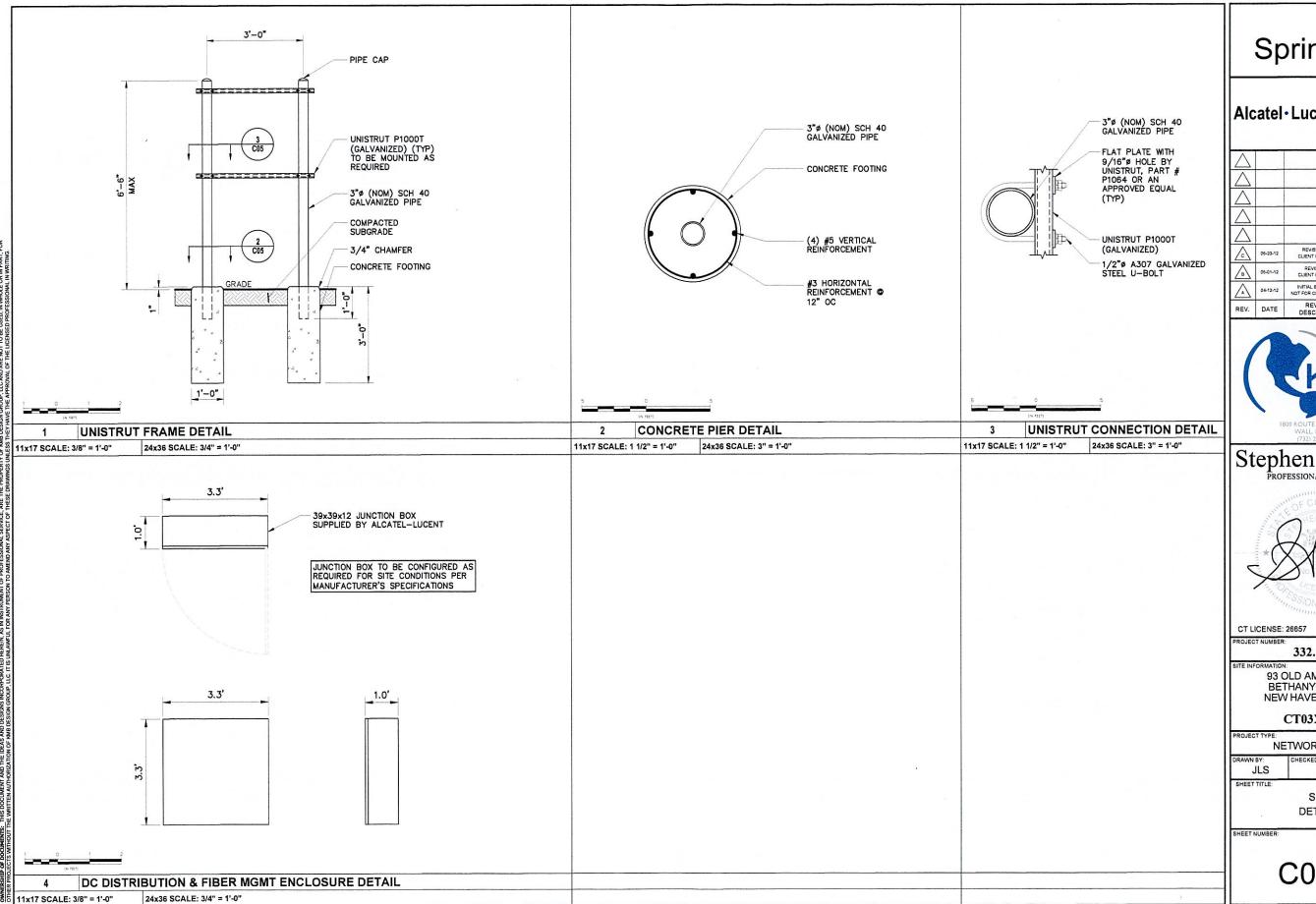
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RRH MOUNT DETAILS (ALL SECTORS)

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SITE **DETAILS** 

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