10 Industrial Ave, Suite 3
Mahwah, NJ 07430
Phone: (908)447-4716
Kyle Richers
Real Estate Consultant

August 27, 2015

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

CC to Property Owner
Southern New England Telephone Co (Frontier)
21 West Avenue
Spencerport, New York 14559

RE: Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at 26 Washington Street, New London, Connecticut 06320. Known to Sprint Spectrum L.P. as site CT03XC103.

Dear Ms. Bachman:

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.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site. Also included is 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 16-50j-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 (908)-447-4716 or email krichers@transcendwireless.com with questions concerning this matter.
Thank you for your consideration.

Sincerely,

Kyle Richers
Real Estate Consultant

EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY FCC REGULATORY COMPLIANCE MAXIMUM PERMISSIBLE EXPOSURE (MPE) ASSESSMENT

Sprint Existing Facility

Site ID: CT03XC103

SNET Tower

26 Washington Street
New London, CT 06320

August 27, 2015

EBI Project Number: 6215004554

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

August 27, 2015

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

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT03XC103 - SNET Tower

Site Total: 17.88% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at **26 Washington Street, New London, CT**, for the purpose of determining whether the radio frequency (RF) exposure levels 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/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 ($\mu W/cm^2$). The general population exposure limit for the cellular band (850 MHz Band) is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz and 2500 MHz bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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 **26 Washington Street, New London, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. 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) 10 channels in the 1900 MHz Band were considered for each sector of the proposed installation. Each channel has a transmit power of 20 Watts.

2) 1 channel in the 800 MHz Band was considered for each sector of the proposed installation. Each channel has a transmit power of 20 Watts.

3) 2 channels in the 2500 MHz Band were considered for each sector of the proposed installation. Each channel has a transmit power of 20 Watts.

4) 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.

5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the RFS APXV9ERR18-C-A20 and the RFS APXVTM14-C-I20. This is based on feedback from the carrier with regards to anticipated antenna selection. The RFS APXV9ERR18-C-A20 has a 14.9 dBd gain value at its main lobe at 1900 MHz and 11.9 dBd at its main lobe for 850 MHz. The RFS APXVTM14-C-I20 has a 15.9 dBd gain value at its main lobe at 2500 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline for the proposed antennas is **200.5 feet** above ground level (AGL).

8) 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. The following table gives the anticipated breakdown of Sprint allocated channels and anticipated power density values per sector:

Sprint _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 1900 MHz (PCS)	10	550.85	200.5	5.23	2100	1000	0.52 %
Sprint 850 MHz	1	276.08	200.5	0.262	850	567	0.05 %
Sprint 1900 MHz (PCS)	2	693.47	200.5	1.32	1900	1000	0.13 %
						Total:	0.70%

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

Site ID	CT03XC103 - SNET Tower
Site Addresss	26 Washington Street, New London, CT, 06320
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Antenna Height Meters	Cable Size	Cable Loss (dB)	Additional Loss (dB)	Gain Factor	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	10	200	4.9	200.5	194.5	59.28432	1/2 "	0.5	0	2.7542287	550.85	5.23476	0.52%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.9	200.5	194.5	59.28432	1/2 "	0.5	0	1.3803843	27.61	0.262359	0.05%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	LTE	20	2	40	5.9	200.5	194.5	59.28432	1/2 "	0.5	0	3.4673685	138.69	1.318034	0.13%
																Sector total Power Density Value:			0.70%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Antenna Height Meters	Cable Size	Cable Loss (dB)	Additional Loss (dB)	Gain Factor	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	10	200	4.9	200.5	194.5	59.28432	1/2 "	0.5	0	2.7542287	550.85	5.23476	0.52%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.9	200.5	194.5	59.28432	1/2 "	0.5	0	1.3803843	27.61	0.262359	0.05%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	LTE	20	2	40	5.9	200.5	194.5	59.28432	1/2 "	0.5	0	3.4673685	138.69	1.318034	0.13%
																Sector total Power Density Value:			0.70%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Antenna Height Meters	Cable Size	Cable Loss (dB)	Additional Loss (dB)	Gain Factor	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	10	200	4.9	200.5	194.5	59.28432	1/2 "	0.5	0	2.7542287	550.85	5.23476	0.52%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.9	200.5	194.5	59.28432	1/2 "	0.5	0	1.3803843	27.61	0.262359	0.05%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	LTE	20	2	40	5.9	200.5	194.5	59.28432	1/2 "	0.5	0	3.4673685	138.69	1.318034	0.13%
																Sector total Power Density Value:			0.70%

Site Composite MPE %	
Carrier	MPE %
Sprint (Per Sector Maximum)	0.70%
AT&T	17.18%
Microwave	0.00%
Total Site MPE %	**17.88%**

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Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public Maximum Permissible Exposure (MPE) to radio frequency energy.

The anticipated maximum per sector contribution from the Sprint facility is **0.70% (0.70% from sector 1, 0.70% from sector 2 and 0.70% from sector 3)** 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 **17.88%** of the allowable FCC established general public limit sampled at 6 feet above ground level. This total composite site value is based upon MPE 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

RAMAKER
& ASSOCIATES, INC.

August 25, 2015

Mike Kithcart
Transcend Wireless
48 Spruce Street
Oakland, NJ 07436

Ramaker & Associates, Inc.
1120 Dallas Street
Sauk City, WI 53583

SUBJECT: **STRUCTURAL ASSESSMENT**
126-FOOT ROOFTOP SELF-SUPPORT TOWER

CARRIER: **SPRINT**

SITE: **SNET TOWER (CT03XC103-C)**
26 WASHINGTON STREET
NEW LONDON, NEW LONDON COUNTY, CONNECTICUT 06320
RAMAKER & ASSOCIATES PROJECT NUMBER: 30511

RESULTS:	**TOWER:**	**94.2%**	**PASS**
	MOUNT:	**94.8%**	**PASS**
	BUILDING STRUCTURE:	**ADEQUATE**	**PASS**

Dear Mike Kithcart:

Ramaker & Associates, Inc. (RAMAKER) respectfully submits this structural assessment for the above mentioned site. The purpose of this report is to determine the structural integrity of the existing structure with the existing and proposed loading. Engineering recommendations regarding the analysis results are provided in the following pages.

RAMAKER developed a finite element model of the tower using tnxTower and RISA analysis software. RAMAKER also developed a finite element model of the mount using RISA analysis software. All information contained herein is valid only for the described structure configuration and loading conditions. RAMAKER reserves the right to modify our recommendations should alterations to the tower loading occur.

If you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

RAMAKER & ASSOCIATES, INC.

Josh Opseth
Structural Designer

James R. Skowronski, P.E.
Supervising Engineer

STATE OF CONNECTICUT
JAMES R. SKOWRONSKI
26266
LICENSED
PROFESSIONAL ENGINEER

ANALYSIS CRITERIA

Adopted Building Code	2005 CT State Building Code
Referenced Standard 1	2003 IBC
Referenced Standard 2	TIA/EIA-222-F
Basic Wind Speed w/o Ice	85 mph (fastest mile)
Basic Wind Speed w/ Ice	38 mph (fastest mile)
Ice Thickness	3/4 inch
Exposure Category	N/A

SUPPORTING DOCUMENTATION

- Previous structural analysis by Malouf Engineering Intl., Inc., job number CT02769S-11V0, dated June 21, 2011
- Tower mapping report by Hightower Solutions, site number CT03XC103, dated July 01, 2015
- Construction drawings by RAMAKER, project number 30511
- Site visit(s) conducted by RAMAKER
- Other pertinent data procured or assumed by RAMAKER during site due diligence activities

TOWER LOADING

RAMAKER understands that the loading to be used for this analysis will consist of the antenna equipment, mount, and cable configurations as shown in the following chart:

Elevation	Appurtenance	Mount	Coax	Owner	Status
234.8	(2) Beacons	(1) 13' Extension	(1) 1	Tower	Existing
	Lightning Rod		--		
	(2) 10' Dish Antennas	(2) Truss Frames	(2) EW52		
226	---	Pipe Mount	--	Unknown	Existing
223	(6) Powerwave 7770.00	Handrail	(12) 1-5/8	AT&T	Existing
	(12) TMAs				
222	---	Pipe Mount	--	Unknown	Existing
218.7	---	Pipe Mount	--	Unknown	Existing
200.5	(3) RFS APXV9ERR18-C	(3) 16' Face Mounts	(1) 1-1/4 Hybrid	Sprint	Existing
	(6) ALU 1900 MHz RRUs				
	(3) ALU 800 MHz RRUs				
	(6) Combiners				
	(3) RFS APXV9TM14-ALU-120		**(1) 1-1/4 Hybrid**		**Proposed**
	(3) ALU TD-RRH8x20				

TOWER RESULTS

The maximum tower member stress capacities under the loading conditions previously described are as follows:

Component Type	Percent Capacity
Leg	61.4
Diagonal	65.2
Horizontal	47.7
Secondary Horizontal	20.4
Redundant Horizontal	7.0
Redundant Diagonal	70.8
Redundant Sub Horizontal	17.8
Redundant Vertical	94.2
Inner Bracing	3.7
RATING	**94.2**

Results of the analysis show that the existing tower will be stressed to a maximum of 94.2 percent of capacity. Therefore, the existing tower will pass the TIA-222-F analysis requirements under proposed loading conditions.

BUILDING STRUCTURE

The tower connection to the building was determined to provide sufficient capacity under the proposed loading configuration. Therefore, the building supporting structure was assumed to provide adequate support.

MOUNT LOADING

RAMAKER understands that the loading to be used for this analysis will consist of the antennas and equipment configurations as shown in the following chart(s):

Tower Legs		
Elevation	**Appurtenance**	**Status**
200.5	(6) ALU 1900 MHz RRUs (3) ALU 800 MHz RRUs	Existing

Antenna Mount – Alpha Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
200.5	1	-	Face Mount	-
	2	**(1) RFS APXV9TM14-ALU-120** **(1) ALU TD-RRH8x20**		**Proposed**
	-	(2) Combiners		Existing
	3	(1) RFS APXV9ERR18-C		Existing

Antenna Mount – Beta Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
200.5	1	-	Face Mount	-
	2	(1) RFS APXV9ERR18-C		Existing
	-	(2) Combiners		Existing
	3	**(1) RFS APXV9TM14-ALU-120** **(1) ALU TD-RRH8x20**		**Proposed**

Antenna Mount – Gamma Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
200.5	1	**(1) RFS APXV9TM14-ALU-120** **(1) ALU TD-RRH8x20**	Face Mount	**Proposed**
	3	(1) RFS APXV9ERR18-C		Existing
	-	(2) Combiners		Existing

MOUNT RESULTS

Results of our mount assessment show that by engineering calculation and inspection, the existing antenna mounting structure(s) are capable of supporting the existing and proposed equipment configuration without causing an overstress condition in the mounting structure(s).

LIMITATIONS

The recommendations contained within this report were developed using the supporting documentation as previously described. All recommendations pertain only to the proposed antenna installation activities as described in this report. RAMAKER assumes no responsibility for failures caused by factors beyond our control. These include but are not limited to the following:

- Missing, corroding, and/or deteriorating members
- Improper manufacturing and/or construction
- Improper maintenance

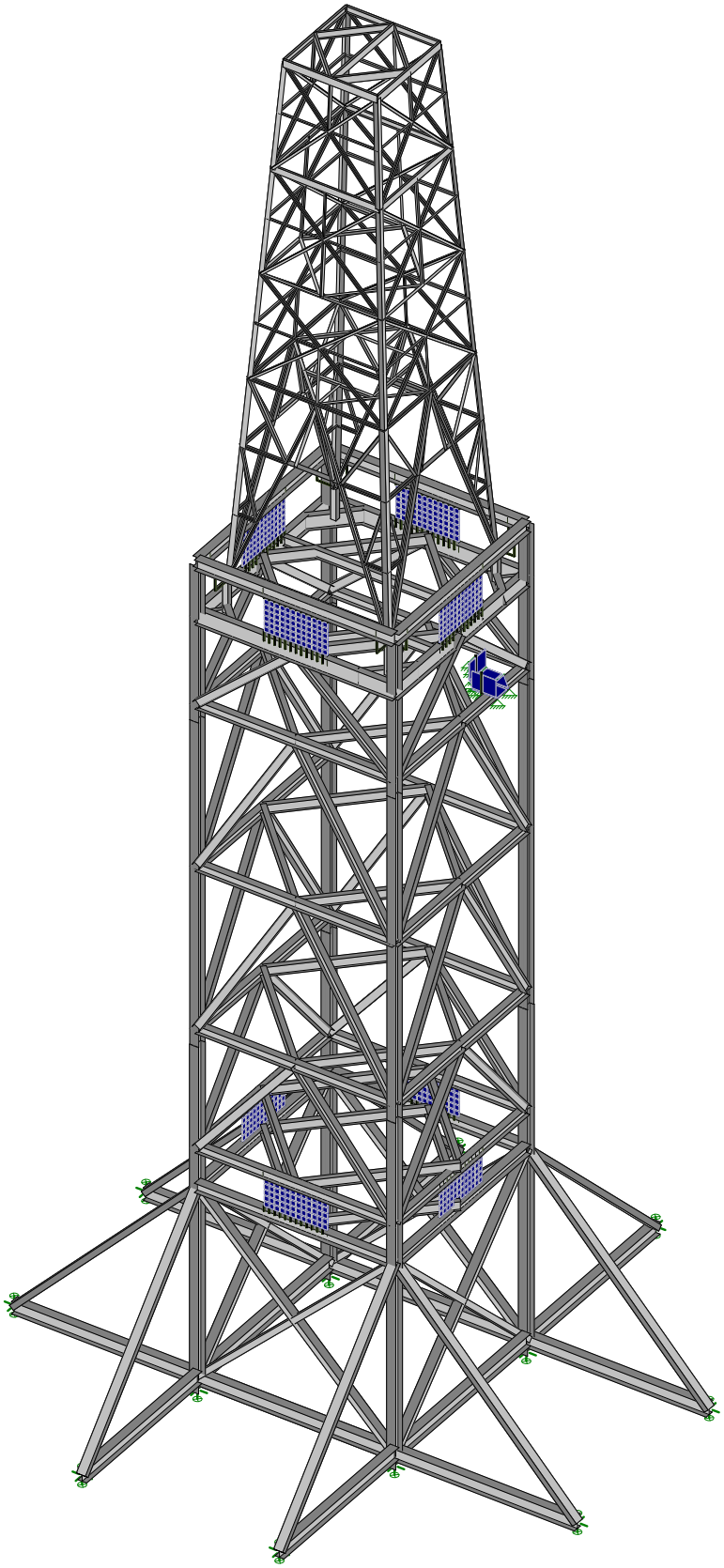
RAMAKER assumes no responsibility for modifications completed prior to or hereafter in which RAMAKER was not directly involved. These modifications include but are not limited to the following:

- Replacing or strengthening bracing members
- Reinforcing or extending vertical members
- Installing or removing antenna mounting gates or side arms
- Changing loading configurations

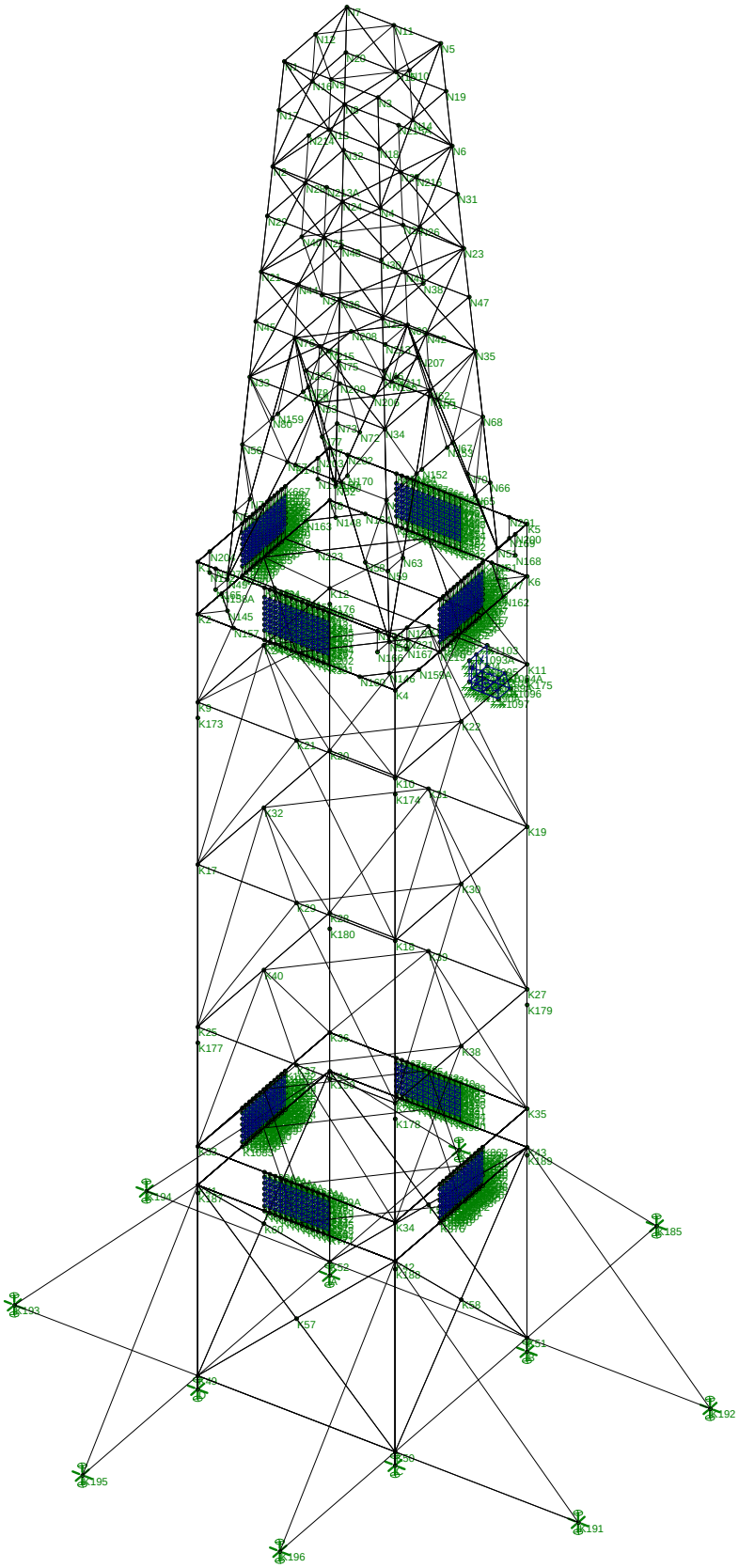
The tower owner is responsible for verifying that the existing loading on the structure is consistent with the loading applied to the structure within this report. If there is any information contrary to that contained herein, or if there are any defects arising from the original design, material, fabrication and erection deficiencies, this report should be disregarded and RAMAKER should be contacted immediately. RAMAKER is not liable for any representation, recommendation, or conclusion not expressly stated herein.

ATTACHMENTS

- Analysis Figures
- Analysis Calculations



Ramaker and Associates, ...	SNET Tower (CT03XC103-C)	SK - 1
JMO		Aug 19, 2015 at 3:20 PM
30511		30511 Tower.rt3



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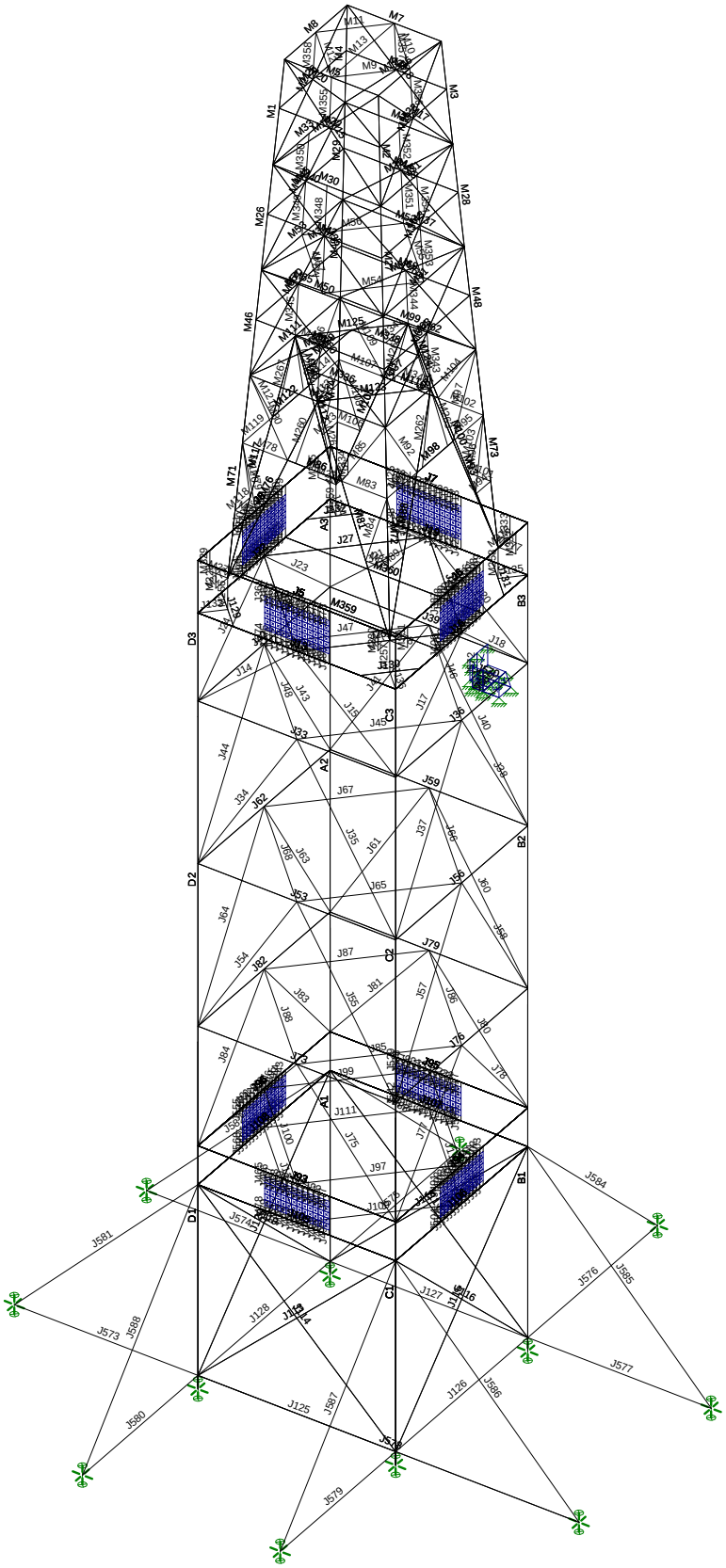

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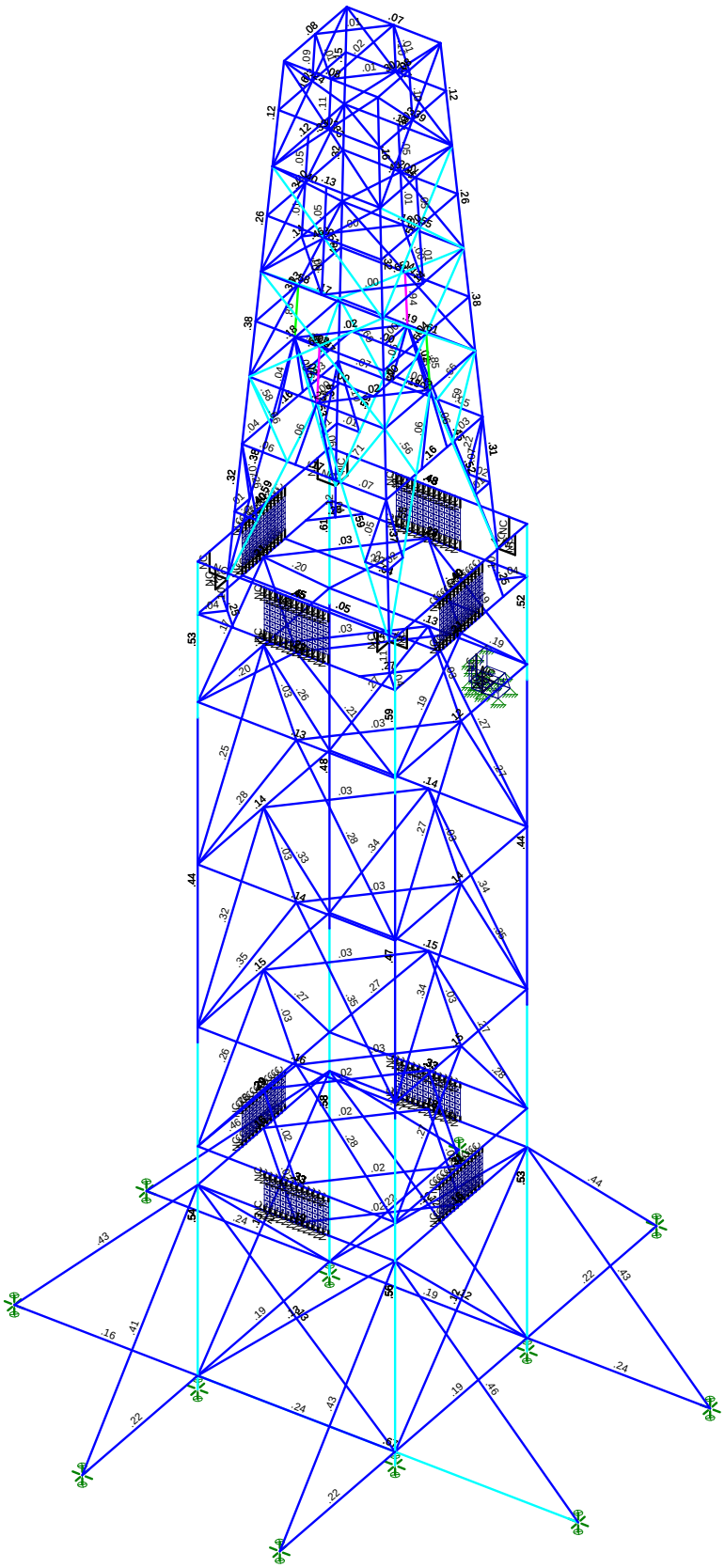


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Ramaker and Associates, ...		SK - 4
JMO	SNET Tower (CT03XC103-C)	Aug 19, 2015 at 3:22 PM
30511		30511 Tower.rt3

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36	29000	11200	.295	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	L5x5x1/2	Column	Single Angle	A36	Typical	4.75	11.3	11.3	.417
2	TWR_TOP_GIRT_T1	C8x11.5	Beam	Channel	A36	Typical	3.37	1.31	32.5	.13
3	TWR_INNER_SUPP_T1	C8x11.5	Beam	Channel	A36	Typical	3.37	1.31	32.5	.13
4	TWR_DIAG_T1	2L2 1/2x2x3/16x...	Column	Double Angle (3/8...	A36	Typical	1.62	1.378	1.02	.019
5	TWR_STEP_T1	L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.01
6	TWR_LEG_T2	L5x5x1/2	Column	Single Angle	A36	Typical	4.75	11.3	11.3	.417
7	TWR_HORZ_T2	C7x9.8	Beam	Channel	A36	Typical	2.87	.957	21.2	.1
8	TWR_DIAG_T2	2L2 1/2x2x3/16x...	Column	Double Angle (3/8...	A36	Typical	1.62	1.378	1.02	.019
9	TWR_STEP_T2	L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.01
10	TWR_LEG_T3	L5x5x1/2	Column	Single Angle	A36	Typical	4.75	11.3	11.3	.417
11	TWR_HORZ_T3	L3x3x1/4	Beam	Single Angle	A36	Typical	1.44	1.24	1.24	.032
12	TWR_INNER_SUPP_T3	L3x3x1/4	Beam	Single Angle	A36	Typical	1.44	1.24	1.24	.032
13	TWR_DIAG_T3	2L2 1/2x2x3/16x...	Column	Double Angle (3/8...	A36	Typical	1.62	1.378	1.02	.019
14	TWR_STEP_T3	L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.01
15	TWR_LEG_T4	L6x6x1/2	Column	Single Angle	A36	Typical	5.75	19.9	19.9	.501
16	TWR_HORZ_T4	2L2 1/2x2 1/2x1/...	Beam	Double Angle (3/8...	A36	Typical	2.38	3.347	1.41	.049
17	TWR_DIAG_T4	2L2 1/2x3 1/2x5/...	Column	Double Angle (3/8...	A36	Typical	3.55	10.623	1.88	.116
18	TWR_RED_HORZ_T4	2L2 1/2x2x3/16x...	Beam	Double Angle (3/8...	A36	Typical	1.62	1.378	1.02	.019
19	TWR_RED_HORZ_2_...	2L2 1/2x2 1/2x3/...	Beam	Double Angle (3/8...	A36	Typical	1.8	2.499	1.09	.021
20	TWR_RED_DIAG_T4	L2 1/2x2x3/16	Column	Single Angle	A36	Typical	.809	.291	.509	.01
21	TWR_RED_DIAG_2_T4	L3x3x3/16	Column	Single Angle	A36	Typical	1.09	.96	.96	.014
22	TWR_RED_SUBHOR_...	L5x3x1/4	Beam	Single Angle	A36	Typical	1.94	1.44	5.11	.044
23	TWR_INNER_SUPP_T4	L3x3x3/16	Beam	Single Angle	A36	Typical	1.09	.96	.96	.014
24	TWR_LEG_T1_1	W10x77	Column	Wide Flange	A36	Typical	22.7	154	455	5.11
25	TWR_TOP_GIRT_T1_1	W12x53	Beam	Wide Flange	A36	Typical	15.6	95.8	425	1.58
26	TWR_LEG_T2_1	W10x77	Column	Wide Flange	A36	Typical	22.7	154	455	5.11
27	TWR_HORZ_T2_1	W18x65	Beam	Wide Flange	A36	Typical	19.1	54.8	1070	2.73
28	TWR_DIAG_T2_1	W8x31	Column	Wide Flange	A36	Typical	9.13	37.1	110	.536
29	TWR_INNER_SUPP_T2	W12x26	Beam	Wide Flange	A36	Typical	7.65	17.3	204	.3
30	TWR_LEG_T3_1	W10x77	Column	Wide Flange	A36	Typical	22.7	154	455	5.11
31	TWR_HORZ_T3_1	W10x33	Beam	Wide Flange	A36	Typical	9.71	36.6	171	.583
32	TWR_DIAG_T3_1	W8x31	Column	Wide Flange	A36	Typical	9.13	37.1	110	.536
33	TWR_INNER_SUPP_T...	W10x26	Beam	Wide Flange	A36	Typical	7.61	14.1	144	.402
34	TWR_LEG_T4_1	W10x77	Column	Wide Flange	A36	Typical	22.7	154	455	5.11
35	TWR_HORZ_T4_1	W10x33	Beam	Wide Flange	A36	Typical	9.71	36.6	171	.583
36	TWR_DIAG_T4_1	W8x31	Column	Wide Flange	A36	Typical	9.13	37.1	110	.536
37	TWR_INNER_SUPP_T...	W10x26	Beam	Wide Flange	A36	Typical	7.61	14.1	144	.402
38	TWR_LEG_T5	W10x112	Column	Wide Flange	A36	Typical	32.9	236	716	15.1
39	TWR_HORZ_T5	W10x33	Beam	Wide Flange	A36	Typical	9.71	36.6	171	.583
40	TWR_DIAG_T5	W8x31	Column	Wide Flange	A36	Typical	9.13	37.1	110	.536
41	TWR_INNER_SUPP_T5	W10x26	Beam	Wide Flange	A36	Typical	7.61	14.1	144	.402
42	TWR_LEG_T6	W10x112	Column	Wide Flange	A36	Typical	32.9	236	716	15.1
43	TWR_TOP_GIRT_T6	W10x33	Beam	Wide Flange	A36	Typical	9.71	36.6	171	.583
44	TWR_INNER_SUPP_T6	W10x26	Beam	Wide Flange	A36	Typical	7.61	14.1	144	.402
45	TWR_LEG_T7	W10x112	Column	Wide Flange	A36	Typical	32.9	236	716	15.1

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
46	TWR_TOP_GIRT_T7	W10x77	Beam	Wide Flange	A36	Typical	22.7	154	455	5.11
47	TWR_INNER_SUPP_T7	W10x26	Beam	Wide Flange	A36	Typical	7.61	14.1	144	.402
48	TWR_DIAG_T7	TS6x10x.375	Column	Tube	A500 Gr.46	Typical	11.1	145	65.4	147
49	TWR_LEG_T8	W10x112	Column	Wide Flange	A36	Typical	32.9	236	716	15.1
50	TWR_TOP_GIRT_T8	W14x61	Beam	Wide Flange	A36	Typical	17.9	107	640	2.19
51	TWR_LEG_SUPPORT	HSS6x6x10	Column	Tube	A500 Gr.46	Typical	11.7	55.2	55.2	94.9
52	TWR_RED_DIAG_T5	L3x3x3	Beam	Single Angle	A36	Typical	1.09	.948	.948	.014
53	TWR_LEG_SUPPORT...	W16x50	Beam	Wide Flange	A36	Typical	14.7	37.2	659	1.52
54	W8x15	W8x15	Beam	Wide Flange	A36	Typical	4.44	3.41	48	.137
55	W14x61	W14x61	Beam	Wide Flange	A36	Typical	17.9	107	640	2.19
56	HSS10x6x6	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical	10.4	61.8	137	139
57	L2.5x2x3	L2.5x2x3	Beam	Single Angle	A36	Typical	.818	.292	.511	.01
58	W10x22	W10x22	Beam	Wide Flange	A36	Typical	6.49	11.4	118	.239

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	J573	K49	K193			W14x61	Beam	Wide Flange	A36	Typical
2	J574	K52	K194			W14x61	Beam	Wide Flange	A36	Typical
3	J575	K52	K186			W14x61	Beam	Wide Flange	A36	Typical
4	J576	K51	K185			W14x61	Beam	Wide Flange	A36	Typical
5	J577	K51	K192			W14x61	Beam	Wide Flange	A36	Typical
6	J578	K49	K191			W14x61	Beam	Wide Flange	A36	Typical
7	J579	K50	K196			W14x61	Beam	Wide Flange	A36	Typical
8	J580	K49	K195			W14x61	Beam	Wide Flange	A36	Typical
9	M359	N220	N219			W10x22	Beam	Wide Flange	A36	Typical
10	M360	N218	N217			W10x22	Beam	Wide Flange	A36	Typical
11	J133	N145	K2			W8x15	Beam	Wide Flange	A36	Typical
12	J134	N148	K8			W8x15	Beam	Wide Flange	A36	Typical
13	J135	N147	K6			W8x15	Beam	Wide Flange	A36	Typical
14	J136	N146	K4			W8x15	Beam	Wide Flange	A36	Typical
15	J125	K49	K50			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
16	J126	K50	K51			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
17	J127	K51	K52			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
18	J128	K52	K49			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
19	J105	K41	K42			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
20	J106	K42	K43			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
21	J107	K43	K44			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
22	J108	K44	K41			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
23	J93	K33	K34			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
24	J94	K34	K35			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
25	J95	K35	K36			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
26	J96	K36	K33			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
27	J5	K1	K3			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
28	J6	K3	K5			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
29	J7	K5	K7			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
30	J8	K7	K1			TWR_TOP_GI...	Beam	Wide Flange	A36	Typical
31	M5	N1	N3		176.265	TWR_TOP_GI...	Beam	Channel	A36	Typical
32	M6	N3	N5		176.265	TWR_TOP_GI...	Beam	Channel	A36	Typical
33	M7	N5	N7		176.265	TWR_TOP_GI...	Beam	Channel	A36	Typical
34	M8	N7	N1		176.265	TWR_TOP_GI...	Beam	Channel	A36	Typical
35	M67	N45	N46		86.265	TWR_STEP_T3	Beam	Single Angle	A36	Typical
36	M68	N46	N47		86.265	TWR_STEP_T3	Beam	Single Angle	A36	Typical
37	M69	N47	N48		86.265	TWR_STEP_T3	Beam	Single Angle	A36	Typical
38	M70	N48	N45		86.265	TWR_STEP_T3	Beam	Single Angle	A36	Typical
39	M42	N29	N30		86.265	TWR_STEP_T2	Beam	Single Angle	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
40	M43	N30	N31		86.265	TWR_STEP_T2	Beam	Single Angle	A36	Typical
41	M44	N31	N32		86.265	TWR_STEP_T2	Beam	Single Angle	A36	Typical
42	M45	N32	N29		86.265	TWR_STEP_T2	Beam	Single Angle	A36	Typical
43	M22	N17	N18		86.265	TWR_STEP_T1	Beam	Single Angle	A36	Typical
44	M23	N18	N19		86.265	TWR_STEP_T1	Beam	Single Angle	A36	Typical
45	M24	N19	N20		86.265	TWR_STEP_T1	Beam	Single Angle	A36	Typical
46	M25	N20	N17		86.265	TWR_STEP_T1	Beam	Single Angle	A36	Typical
47	M86	N57	N60		266.265	TWR_RED_S...	Beam	Single Angle	A36	Typical
48	M98	N64	N67		266.265	TWR_RED_S...	Beam	Single Angle	A36	Typical
49	M110	N71	N74		266.265	TWR_RED_S...	Beam	Single Angle	A36	Typical
50	M122	N78	N80		266.265	TWR_RED_S...	Beam	Single Angle	A36	Typical
51	M77	N54	N55		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
52	M82	N58	N59		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
53	M89	N59	N63		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
54	M94	N65	N66		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
55	M101	N66	N70		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
56	M106	N72	N73		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
57	M113	N73	N77		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
58	M118	N79	N54		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
59	M78	N56	N57		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
60	M83	N60	N61		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
61	M90	N61	N64		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
62	M95	N67	N68		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
63	M102	N68	N71		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
64	M107	N74	N75		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
65	M114	N75	N78		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
66	M119	N80	N56		356.265	TWR_RED_H...	Beam	Double Angle (...	A36	Typical
67	M260	N149	N53		180	TWR_RED_DI...	Beam	Single Angle	A36	Typical
68	M261	N150	N53		90	TWR_RED_DI...	Beam	Single Angle	A36	Typical
69	M262	N152	N62		180	TWR_RED_DI...	Beam	Single Angle	A36	Typical
70	M263	N153	N62		90	TWR_RED_DI...	Beam	Single Angle	A36	Typical
71	M264	N155	N69		180	TWR_RED_DI...	Beam	Single Angle	A36	Typical
72	M265	N156	N69		90	TWR_RED_DI...	Beam	Single Angle	A36	Typical
73	M266	N158	N76		180	TWR_RED_DI...	Beam	Single Angle	A36	Typical
74	M267	N159	N76		90	TWR_RED_DI...	Beam	Single Angle	A36	Typical
75	M79	N55	N56		104.235	TWR_RED_DI...	Column	Single Angle	A36	Typical
76	M84	N58	N61		75.765	TWR_RED_DI...	Column	Single Angle	A36	Typical
77	M91	N63	N61		104.235	TWR_RED_DI...	Column	Single Angle	A36	Typical
78	M96	N65	N68		75.765	TWR_RED_DI...	Column	Single Angle	A36	Typical
79	M103	N70	N68		104.235	TWR_RED_DI...	Column	Single Angle	A36	Typical
80	M108	N72	N75		75.765	TWR_RED_DI...	Column	Single Angle	A36	Typical
81	M115	N77	N75		104.235	TWR_RED_DI...	Column	Single Angle	A36	Typical
82	M120	N79	N56		75.765	TWR_RED_DI...	Column	Single Angle	A36	Typical
83	M320	N55	N79			TWR_RED_DI...	Column	Single Angle	A36	Typical
84	M321	N63	N58			TWR_RED_DI...	Column	Single Angle	A36	Typical
85	M322	N70	N65			TWR_RED_DI...	Column	Single Angle	A36	Typical
86	M323	N77	N72			TWR_RED_DI...	Column	Single Angle	A36	Typical
87	M324	N80	N57			TWR_RED_DI...	Column	Single Angle	A36	Typical
88	M325	N60	N64			TWR_RED_DI...	Column	Single Angle	A36	Typical
89	M326	N67	N71			TWR_RED_DI...	Column	Single Angle	A36	Typical
90	M327	N74	N78			TWR_RED_DI...	Column	Single Angle	A36	Typical
91	M80	N57	N33		97.251	TWR_RED_DI...	Column	Single Angle	A36	Typical
92	M85	N60	N34		82.749	TWR_RED_DI...	Column	Single Angle	A36	Typical
93	M92	N64	N34		97.251	TWR_RED_DI...	Column	Single Angle	A36	Typical
94	M97	N67	N35		82.749	TWR_RED_DI...	Column	Single Angle	A36	Typical
95	M104	N71	N35		97.251	TWR_RED_DI...	Column	Single Angle	A36	Typical
96	M109	N74	N36		82.749	TWR_RED_DI...	Column	Single Angle	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
97	M116	N78	N36		97.251	TWR_RED_DI...	Column	Single Angle	A36	Typical
98	M121	N80	N33		82.749	TWR_RED_DI...	Column	Single Angle	A36	Typical
99	J121	D	K49		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
100	J122	C	K50		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
101	J123	B	K51		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
102	J124	A	K52		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
103	D1	D	K177		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
104	C1	C	K178		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
105	B1	B	K179		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
106	A1	A	K180		90	TWR_LEG_T8	Column	Wide Flange	A36	Typical
107	J101	K49	K41		90	TWR_LEG_T7	Column	Wide Flange	A36	Typical
108	J102	K50	K42		90	TWR_LEG_T7	Column	Wide Flange	A36	Typical
109	J103	K51	K43		90	TWR_LEG_T7	Column	Wide Flange	A36	Typical
110	J104	K52	K44		90	TWR_LEG_T7	Column	Wide Flange	A36	Typical
111	J89	K41	K33		45	TWR_LEG_T6	Column	Wide Flange	A36	Typical
112	J90	K42	K34		90	TWR_LEG_T6	Column	Wide Flange	A36	Typical
113	J91	K43	K35		90	TWR_LEG_T6	Column	Wide Flange	A36	Typical
114	J92	K44	K36		90	TWR_LEG_T6	Column	Wide Flange	A36	Typical
115	J69	K33	K25		90	TWR_LEG_T5	Column	Wide Flange	A36	Typical
116	J70	K34	K26		90	TWR_LEG_T5	Column	Wide Flange	A36	Typical
117	J71	K35	K27		90	TWR_LEG_T5	Column	Wide Flange	A36	Typical
118	J72	K36	K28		90	TWR_LEG_T5	Column	Wide Flange	A36	Typical
119	J49	K25	K17		90	TWR_LEG_T4...	Column	Wide Flange	A36	Typical
120	J50	K26	K18		90	TWR_LEG_T4...	Column	Wide Flange	A36	Typical
121	J51	K27	K19		90	TWR_LEG_T4...	Column	Wide Flange	A36	Typical
122	J52	K28	K20		90	TWR_LEG_T4...	Column	Wide Flange	A36	Typical
123	M71	N49	N33		135	TWR_LEG_T4	Column	Single Angle	A36	Typical
124	M72	N50	N34		135	TWR_LEG_T4	Column	Single Angle	A36	Typical
125	M73	N51	N35		135	TWR_LEG_T4	Column	Single Angle	A36	Typical
126	M74	N52	N36		135	TWR_LEG_T4	Column	Single Angle	A36	Typical
127	J29	K17	K9		90	TWR_LEG_T3...	Column	Wide Flange	A36	Typical
128	J30	K18	K10		90	TWR_LEG_T3...	Column	Wide Flange	A36	Typical
129	J31	K19	K11		90	TWR_LEG_T3...	Column	Wide Flange	A36	Typical
130	J32	K20	K12		90	TWR_LEG_T3...	Column	Wide Flange	A36	Typical
131	M46	N33	N21		135	TWR_LEG_T3	Column	Single Angle	A36	Typical
132	M47	N34	N22		135	TWR_LEG_T3	Column	Single Angle	A36	Typical
133	M48	N35	N23		135	TWR_LEG_T3	Column	Single Angle	A36	Typical
134	M49	N36	N24		135	TWR_LEG_T3	Column	Single Angle	A36	Typical
135	J9	K9	K2		90	TWR_LEG_T2...	Column	Wide Flange	A36	Typical
136	J10	K10	K4		90	TWR_LEG_T2...	Column	Wide Flange	A36	Typical
137	J11	K11	K6		90	TWR_LEG_T2...	Column	Wide Flange	A36	Typical
138	J12	K12	K8		90	TWR_LEG_T2...	Column	Wide Flange	A36	Typical
139	M26	N21	N2		135	TWR_LEG_T2	Column	Single Angle	A36	Typical
140	M27	N22	N4		135	TWR_LEG_T2	Column	Single Angle	A36	Typical
141	M28	N23	N6		135	TWR_LEG_T2	Column	Single Angle	A36	Typical
142	M29	N24	N8		135	TWR_LEG_T2	Column	Single Angle	A36	Typical
143	J1	K2	K1		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
144	J2	K4	K3		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
145	J3	K6	K5		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
146	J4	K8	K7		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
147	D2	K177	K173		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
148	C2	K178	K174		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
149	B2	K179	K175		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
150	A2	K180	K176		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
151	D3	K173	K1		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
152	C3	K174	K3		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
153	B3	K175	K5		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
154	A3	K176	K7		90	TWR_LEG_T1...	Column	Wide Flange	A36	Typical
155	M1	N2	N1		135	TWR_LEG_T1	Column	Single Angle	A36	Typical
156	M2	N4	N3		135	TWR_LEG_T1	Column	Single Angle	A36	Typical
157	M3	N6	N5		135	TWR_LEG_T1	Column	Single Angle	A36	Typical
158	M4	N8	N7		135	TWR_LEG_T1	Column	Single Angle	A36	Typical
159	J129	N157	N158A			TWR_LEG_S...	Beam	Wide Flange	A36	Typical
160	J130	N159A	N160			TWR_LEG_S...	Beam	Wide Flange	A36	Typical
161	J131	N161	N162			TWR_LEG_S...	Beam	Wide Flange	A36	Typical
162	J132	N163	N164			TWR_LEG_S...	Beam	Wide Flange	A36	Typical
163	M256	N145	N49			TWR_LEG_S...	Column	Tube	A500 Gr.46	Typical
164	M257	N146	N50			TWR_LEG_S...	Column	Tube	A500 Gr.46	Typical
165	M258	N147	N51			TWR_LEG_S...	Column	Tube	A500 Gr.46	Typical
166	M259	N148	N52			TWR_LEG_S...	Column	Tube	A500 Gr.46	Typical
167	J109	K53	K54			TWR_INNER_...	Beam	Wide Flange	A36	Typical
168	J110	K54	K55			TWR_INNER_...	Beam	Wide Flange	A36	Typical
169	J111	K55	K56			TWR_INNER_...	Beam	Wide Flange	A36	Typical
170	J112	K56	K53			TWR_INNER_...	Beam	Wide Flange	A36	Typical
171	J97	K45	K46			TWR_INNER_...	Beam	Wide Flange	A36	Typical
172	J98	K46	K47			TWR_INNER_...	Beam	Wide Flange	A36	Typical
173	J99	K47	K48			TWR_INNER_...	Beam	Wide Flange	A36	Typical
174	J100	K48	K45			TWR_INNER_...	Beam	Wide Flange	A36	Typical
175	J85	K37	K38			TWR_INNER_...	Beam	Wide Flange	A36	Typical
176	J86	K38	K39			TWR_INNER_...	Beam	Wide Flange	A36	Typical
177	J87	K39	K40			TWR_INNER_...	Beam	Wide Flange	A36	Typical
178	J88	K40	K37			TWR_INNER_...	Beam	Wide Flange	A36	Typical
179	J65	K29	K30			TWR_INNER_...	Beam	Wide Flange	A36	Typical
180	J66	K30	K31			TWR_INNER_...	Beam	Wide Flange	A36	Typical
181	J67	K31	K32			TWR_INNER_...	Beam	Wide Flange	A36	Typical
182	J68	K32	K29			TWR_INNER_...	Beam	Wide Flange	A36	Typical
183	M123	N53	N62		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
184	M124	N62	N69		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
185	M125	N69	N76		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
186	M126	N76	N53		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
187	M127	N53	N209		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
188	M336	N205	N206			TWR_INNER_...	Beam	Single Angle	A36	Typical
189	M337	N206	N207			TWR_INNER_...	Beam	Single Angle	A36	Typical
190	M338	N207	N208			TWR_INNER_...	Beam	Single Angle	A36	Typical
191	M339	N208	N205			TWR_INNER_...	Beam	Single Angle	A36	Typical
192	M340	N62	N211		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
193	M341	N69	N213		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
194	M342	N76	N215		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
195	J45	K21	K22			TWR_INNER_...	Beam	Wide Flange	A36	Typical
196	J46	K22	K23			TWR_INNER_...	Beam	Wide Flange	A36	Typical
197	J47	K23	K24			TWR_INNER_...	Beam	Wide Flange	A36	Typical
198	J48	K24	K21			TWR_INNER_...	Beam	Wide Flange	A36	Typical
199	M54	N37	N38		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
200	M55	N38	N39		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
201	M56	N39	N40		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
202	M57	N40	N37		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
203	M58	N37	N39		90	TWR_INNER_...	Beam	Single Angle	A36	Typical
204	J25	K13	K14			TWR_INNER_...	Beam	Wide Flange	A36	Typical
205	J26	K14	K15			TWR_INNER_...	Beam	Wide Flange	A36	Typical
206	J27	K15	K16			TWR_INNER_...	Beam	Wide Flange	A36	Typical
207	J28	K16	K13			TWR_INNER_...	Beam	Wide Flange	A36	Typical
208	M9	N9	N10		180	TWR_INNER_...	Beam	Channel	A36	Typical
209	M10	N10	N11		180	TWR_INNER_...	Beam	Channel	A36	Typical
210	M11	N11	N12		180	TWR_INNER_...	Beam	Channel	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
211	M12	N12	N9		180	TWR_INNER_...	Beam	Channel	A36	Typical
212	M13	N9	N11		180	TWR_INNER_...	Beam	Channel	A36	Typical
213	J73	K25	K26			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
214	J76	K26	K27			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
215	J79	K27	K28			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
216	J82	K28	K25			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
217	J53	K17	K18			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
218	J56	K18	K19			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
219	J59	K19	K20			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
220	J62	K20	K17			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
221	M75	N33	N34		356.265	TWR_HORZ_...	Beam	Double Angle (...	A36	Typical
222	M87	N34	N35		356.265	TWR_HORZ_...	Beam	Double Angle (...	A36	Typical
223	M99	N35	N36		356.265	TWR_HORZ_...	Beam	Double Angle (...	A36	Typical
224	M111	N36	N33		356.265	TWR_HORZ_...	Beam	Double Angle (...	A36	Typical
225	J33	K9	K10			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
226	J36	K10	K11			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
227	J39	K11	K12			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
228	J42	K12	K9			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
229	M50	N21	N22		86.265	TWR_HORZ_...	Beam	Single Angle	A36	Typical
230	M51	N22	N23		86.265	TWR_HORZ_...	Beam	Single Angle	A36	Typical
231	M52	N23	N24		86.265	TWR_HORZ_...	Beam	Single Angle	A36	Typical
232	M53	N24	N21		86.265	TWR_HORZ_...	Beam	Single Angle	A36	Typical
233	J13	K2	K4			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
234	J16	K4	K6			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
235	J19	K6	K8			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
236	J22	K8	K2			TWR_HORZ_...	Beam	Wide Flange	A36	Typical
237	M30	N2	N4		176.265	TWR_HORZ_...	Beam	Channel	A36	Typical
238	M31	N4	N6		176.265	TWR_HORZ_...	Beam	Channel	A36	Typical
239	M32	N6	N8		176.265	TWR_HORZ_...	Beam	Channel	A36	Typical
240	M33	N8	N2		176.265	TWR_HORZ_...	Beam	Channel	A36	Typical
241	J113	K49	K42			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
242	J114	K50	K41			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
243	J115	K50	K43			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
244	J116	K51	K42			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
245	J117	K51	K44			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
246	J118	K52	K43			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
247	J119	K52	K41			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
248	J120	K49	K44			TWR_DIAG_T7	Column	Tube	A500 Gr.46	Typical
249	J74	K33	K37			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
250	J75	K34	K37			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
251	J77	K34	K38			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
252	J78	K35	K38			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
253	J80	K35	K39			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
254	J81	K36	K39			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
255	J83	K36	K40			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
256	J84	K33	K40			TWR_DIAG_T5	Column	Wide Flange	A36	Typical
257	J54	K25	K29			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
258	J55	K26	K29			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
259	J57	K26	K30			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
260	J58	K27	K30			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
261	J60	K27	K31			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
262	J61	K28	K31			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
263	J63	K28	K32			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
264	J64	K25	K32			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
265	M76	N49	N53		169.958	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
266	M81	N50	N53		190.042	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
267	M88	N50	N62		169.958	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
268	M93	N51	N62		190.042	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
269	M100	N51	N69		169.958	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
270	M105	N52	N69		190.042	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
271	M112	N52	N76		169.958	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
272	M117	N49	N76		190.042	TWR_DIAG_T4	Column	Double Angle (...	A36	Typical
273	J34	K17	K21			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
274	J35	K18	K21			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
275	J37	K18	K22			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
276	J38	K19	K22			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
277	J40	K19	K23			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
278	J41	K20	K23			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
279	J43	K20	K24			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
280	J44	K17	K24			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
281	M59	N33	N22		355.16	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
282	M60	N34	N21		4.84	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
283	M61	N34	N23		355.16	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
284	M62	N35	N22		4.84	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
285	M63	N35	N24		355.16	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
286	M64	N36	N23		4.84	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
287	M65	N36	N21		355.16	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
288	M66	N33	N24		4.84	TWR_DIAG_T3	Column	Double Angle (...	A36	Typical
289	J14	K9	K13			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
290	J15	K10	K13			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
291	J17	K10	K14			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
292	J18	K11	K14			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
293	J20	K11	K15			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
294	J21	K12	K15			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
295	J23	K12	K16			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
296	J24	K9	K16			TWR_DIAG_T...	Column	Wide Flange	A36	Typical
297	M34	N21	N4		354.917	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
298	M35	N22	N2		5.083	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
299	M36	N22	N6		354.917	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
300	M37	N23	N4		5.083	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
301	M38	N23	N8		354.917	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
302	M39	N24	N6		5.083	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
303	M40	N24	N2		354.917	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
304	M41	N21	N8		5.083	TWR_DIAG_T2	Column	Double Angle (...	A36	Typical
305	M14	N2	N3		354.586	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
306	M15	N4	N1		5.414	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
307	M16	N4	N5		354.586	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
308	M17	N6	N3		5.414	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
309	M18	N6	N7		354.586	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
310	M19	N8	N5		5.414	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
311	M20	N8	N1		354.586	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
312	M21	N2	N7		5.414	TWR_DIAG_T1	Column	Double Angle (...	A36	Typical
313	M272	N49	N165			RIGID	None	None	RIGID	DR1
314	M273	N49	N172			RIGID	None	None	RIGID	DR1
315	M274	N52	N171			RIGID	None	None	RIGID	DR1
316	M275	N52	N170			RIGID	None	None	RIGID	DR1
317	M276	N51	N169			RIGID	None	None	RIGID	DR1
318	M277	N51	N168			RIGID	None	None	RIGID	DR1
319	M278	N50	N167			RIGID	None	None	RIGID	DR1
320	M279	N50	N166			RIGID	None	None	RIGID	DR1
321	J296	K13	K181		90	RIGID	None	None	RIGID	DR1
322	J297	K14	K182		90	RIGID	None	None	RIGID	DR1
323	J298	K15	K183		90	RIGID	None	None	RIGID	DR1
324	J299	K16	K184		90	RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
325	J300	K53	K45		90	RIGID	None	None	RIGID	DR1
326	J301	K54	K46		90	RIGID	None	None	RIGID	DR1
327	J302	K55	K47		90	RIGID	None	None	RIGID	DR1
328	J303	K56	K48		90	RIGID	None	None	RIGID	DR1
329	M328	N165	N197			RIGID	None	None	RIGID	DR1
330	M329	N172	N204			RIGID	None	None	RIGID	DR1
331	M330	N166	N198			RIGID	None	None	RIGID	DR1
332	M331	N167	N199			RIGID	None	None	RIGID	DR1
333	M332	N168	N200			RIGID	None	None	RIGID	DR1
334	M333	N169	N201			RIGID	None	None	RIGID	DR1
335	M334	N170	N202			RIGID	None	None	RIGID	DR1
336	M335	N171	N203			RIGID	None	None	RIGID	DR1
337	J361	K199	K288			RIGID	None	None	RIGID	DR1
338	J362	K203	K290			RIGID	None	None	RIGID	DR1
339	J363	K204	K291			RIGID	None	None	RIGID	DR1
340	J364	K205	K292			RIGID	None	None	RIGID	DR1
341	J365	K206	K293			RIGID	None	None	RIGID	DR1
342	J366	K207	K294			RIGID	None	None	RIGID	DR1
343	J367	K197	K181			RIGID	None	None	RIGID	DR1
344	J368	K208	K295			RIGID	None	None	RIGID	DR1
345	J369	K209	K296			RIGID	None	None	RIGID	DR1
346	J370	K210	K297			RIGID	None	None	RIGID	DR1
347	J371	K211	K298			RIGID	None	None	RIGID	DR1
348	J372	K212	K299			RIGID	None	None	RIGID	DR1
349	J373	K201	K289			RIGID	None	None	RIGID	DR1
350	J374	K200	K300			RIGID	None	None	RIGID	DR1
351	J375	K278	K302			RIGID	None	None	RIGID	DR1
352	J376	K279	K303			RIGID	None	None	RIGID	DR1
353	J377	K280	K304			RIGID	None	None	RIGID	DR1
354	J378	K281	K305			RIGID	None	None	RIGID	DR1
355	J379	K282	K306			RIGID	None	None	RIGID	DR1
356	J380	K198	K13			RIGID	None	None	RIGID	DR1
357	J381	K283	K307			RIGID	None	None	RIGID	DR1
358	J382	K284	K308			RIGID	None	None	RIGID	DR1
359	J383	K285	K309			RIGID	None	None	RIGID	DR1
360	J384	K286	K310			RIGID	None	None	RIGID	DR1
361	J385	K287	K311			RIGID	None	None	RIGID	DR1
362	J386	K202	K301			RIGID	None	None	RIGID	DR1
363	J387	K344	K433			RIGID	None	None	RIGID	DR1
364	J388	K348	K435			RIGID	None	None	RIGID	DR1
365	J389	K349	K436			RIGID	None	None	RIGID	DR1
366	J390	K350	K437			RIGID	None	None	RIGID	DR1
367	J391	K351	K438			RIGID	None	None	RIGID	DR1
368	J392	K352	K439			RIGID	None	None	RIGID	DR1
369	J393	K342	K182			RIGID	None	None	RIGID	DR1
370	J394	K353	K440			RIGID	None	None	RIGID	DR1
371	J395	K354	K441			RIGID	None	None	RIGID	DR1
372	J396	K355	K442			RIGID	None	None	RIGID	DR1
373	J397	K356	K443			RIGID	None	None	RIGID	DR1
374	J398	K357	K444			RIGID	None	None	RIGID	DR1
375	J399	K346	K434			RIGID	None	None	RIGID	DR1
376	J400	K345	N219			RIGID	None	None	RIGID	DR1
377	J401	K423	K447			RIGID	None	None	RIGID	DR1
378	J402	K424	K448			RIGID	None	None	RIGID	DR1
379	J403	K425	K449			RIGID	None	None	RIGID	DR1
380	J404	K426	K450			RIGID	None	None	RIGID	DR1
381	J405	K427	K451			RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
382	J406	K343	K14			RIGID	None	None	RIGID	DR1
383	J407	K428	K452			RIGID	None	None	RIGID	DR1
384	J408	K429	K453			RIGID	None	None	RIGID	DR1
385	J409	K430	K454			RIGID	None	None	RIGID	DR1
386	J410	K431	K455			RIGID	None	None	RIGID	DR1
387	J411	K432	K456			RIGID	None	None	RIGID	DR1
388	J412	K347	N217			RIGID	None	None	RIGID	DR1
389	J413	K461	K550			RIGID	None	None	RIGID	DR1
390	J414	K465	K552			RIGID	None	None	RIGID	DR1
391	J415	K466	K553			RIGID	None	None	RIGID	DR1
392	J416	K467	K554			RIGID	None	None	RIGID	DR1
393	J417	K468	K555			RIGID	None	None	RIGID	DR1
394	J418	K469	K556			RIGID	None	None	RIGID	DR1
395	J419	K459	K183			RIGID	None	None	RIGID	DR1
396	J420	K470	K557			RIGID	None	None	RIGID	DR1
397	J421	K471	K558			RIGID	None	None	RIGID	DR1
398	J422	K472	K559			RIGID	None	None	RIGID	DR1
399	J423	K473	K560			RIGID	None	None	RIGID	DR1
400	J424	K474	K561			RIGID	None	None	RIGID	DR1
401	J425	K463	K551			RIGID	None	None	RIGID	DR1
402	J426	K462	K562			RIGID	None	None	RIGID	DR1
403	J427	K540	K564			RIGID	None	None	RIGID	DR1
404	J428	K541	K565			RIGID	None	None	RIGID	DR1
405	J429	K542	K566			RIGID	None	None	RIGID	DR1
406	J430	K543	K567			RIGID	None	None	RIGID	DR1
407	J431	K544	K568			RIGID	None	None	RIGID	DR1
408	J432	K460	K15			RIGID	None	None	RIGID	DR1
409	J433	K545	K569			RIGID	None	None	RIGID	DR1
410	J434	K546	K570			RIGID	None	None	RIGID	DR1
411	J435	K547	K571			RIGID	None	None	RIGID	DR1
412	J436	K548	K572			RIGID	None	None	RIGID	DR1
413	J437	K549	K573			RIGID	None	None	RIGID	DR1
414	J438	K464	K563			RIGID	None	None	RIGID	DR1
415	J439	K578	K667			RIGID	None	None	RIGID	DR1
416	J440	K582	K669			RIGID	None	None	RIGID	DR1
417	J441	K583	K670			RIGID	None	None	RIGID	DR1
418	J442	K584	K671			RIGID	None	None	RIGID	DR1
419	J443	K585	K672			RIGID	None	None	RIGID	DR1
420	J444	K586	K673			RIGID	None	None	RIGID	DR1
421	J445	K576	K184			RIGID	None	None	RIGID	DR1
422	J446	K587	K674			RIGID	None	None	RIGID	DR1
423	J447	K588	K675			RIGID	None	None	RIGID	DR1
424	J448	K589	K676			RIGID	None	None	RIGID	DR1
425	J449	K590	K677			RIGID	None	None	RIGID	DR1
426	J450	K591	K678			RIGID	None	None	RIGID	DR1
427	J451	K580	K668			RIGID	None	None	RIGID	DR1
428	J452	K579	N218			RIGID	None	None	RIGID	DR1
429	J453	K657	K681			RIGID	None	None	RIGID	DR1
430	J454	K658	K682			RIGID	None	None	RIGID	DR1
431	J455	K659	K683			RIGID	None	None	RIGID	DR1
432	J456	K660	K684			RIGID	None	None	RIGID	DR1
433	J457	K661	K685			RIGID	None	None	RIGID	DR1
434	J458	K577	K16			RIGID	None	None	RIGID	DR1
435	J459	K662	K686			RIGID	None	None	RIGID	DR1
436	J460	K663	K687			RIGID	None	None	RIGID	DR1
437	J461	K664	K688			RIGID	None	None	RIGID	DR1
438	J462	K665	K689			RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
439	J463	K666	K690			RIGID	None	None	RIGID	DR1
440	J464	K581	N220			RIGID	None	None	RIGID	DR1
441	J465	K695	K760A			RIGID	None	None	RIGID	DR1
442	J466	K697	K761A			RIGID	None	None	RIGID	DR1
443	J467	K698	K762A			RIGID	None	None	RIGID	DR1
444	J468	K699	K763A			RIGID	None	None	RIGID	DR1
445	J469	K700	K764A			RIGID	None	None	RIGID	DR1
446	J470	K701	K765A			RIGID	None	None	RIGID	DR1
447	J471	K691	K45			RIGID	None	None	RIGID	DR1
448	J472	K702	K766A			RIGID	None	None	RIGID	DR1
449	J473	K703	K767A			RIGID	None	None	RIGID	DR1
450	J474	K704	K768A			RIGID	None	None	RIGID	DR1
451	J475	K705	K769			RIGID	None	None	RIGID	DR1
452	J476	K706	K770			RIGID	None	None	RIGID	DR1
453	J477	K693	K759A			RIGID	None	None	RIGID	DR1
454	J478	K696	K772			RIGID	None	None	RIGID	DR1
455	J479	K759	K773			RIGID	None	None	RIGID	DR1
456	J480	K760	K774			RIGID	None	None	RIGID	DR1
457	J481	K761	K775			RIGID	None	None	RIGID	DR1
458	J482	K762	K776			RIGID	None	None	RIGID	DR1
459	J483	K763	K777			RIGID	None	None	RIGID	DR1
460	J484	K692	K53			RIGID	None	None	RIGID	DR1
461	J485	K764	K778			RIGID	None	None	RIGID	DR1
462	J486	K765	K779			RIGID	None	None	RIGID	DR1
463	J487	K766	K780			RIGID	None	None	RIGID	DR1
464	J488	K767	K781			RIGID	None	None	RIGID	DR1
465	J489	K768	K782			RIGID	None	None	RIGID	DR1
466	J490	K694	K771			RIGID	None	None	RIGID	DR1
467	J491	K789	K864			RIGID	None	None	RIGID	DR1
468	J492	K791	K865			RIGID	None	None	RIGID	DR1
469	J493	K792	K866			RIGID	None	None	RIGID	DR1
470	J494	K793	K867			RIGID	None	None	RIGID	DR1
471	J495	K794	K868			RIGID	None	None	RIGID	DR1
472	J496	K795	K869			RIGID	None	None	RIGID	DR1
473	J497	K785	K46			RIGID	None	None	RIGID	DR1
474	J498	K796	K870			RIGID	None	None	RIGID	DR1
475	J499	K797	K871			RIGID	None	None	RIGID	DR1
476	J500	K798	K872			RIGID	None	None	RIGID	DR1
477	J501	K799	K873			RIGID	None	None	RIGID	DR1
478	J502	K800	K874			RIGID	None	None	RIGID	DR1
479	J503	K787	K863			RIGID	None	None	RIGID	DR1
480	J504	K790	K876			RIGID	None	None	RIGID	DR1
481	J505	K853	K877			RIGID	None	None	RIGID	DR1
482	J506	K854	K878			RIGID	None	None	RIGID	DR1
483	J507	K855	K879			RIGID	None	None	RIGID	DR1
484	J508	K856	K880			RIGID	None	None	RIGID	DR1
485	J509	K857	K881			RIGID	None	None	RIGID	DR1
486	J510	K786	K54			RIGID	None	None	RIGID	DR1
487	J511	K858	K882			RIGID	None	None	RIGID	DR1
488	J512	K859	K883			RIGID	None	None	RIGID	DR1
489	J513	K860	K884			RIGID	None	None	RIGID	DR1
490	J514	K861	K885			RIGID	None	None	RIGID	DR1
491	J515	K862	K886			RIGID	None	None	RIGID	DR1
492	J516	K788	K875			RIGID	None	None	RIGID	DR1
493	J517	K893	K968			RIGID	None	None	RIGID	DR1
494	J518	K895	K969			RIGID	None	None	RIGID	DR1
495	J519	K896	K970			RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
496	J520	K897	K971			RIGID	None	None	RIGID	DR1
497	J521	K898	K972			RIGID	None	None	RIGID	DR1
498	J522	K899	K973			RIGID	None	None	RIGID	DR1
499	J523	K889	K47			RIGID	None	None	RIGID	DR1
500	J524	K900	K974			RIGID	None	None	RIGID	DR1
501	J525	K901	K975			RIGID	None	None	RIGID	DR1
502	J526	K902	K976			RIGID	None	None	RIGID	DR1
503	J527	K903	K977			RIGID	None	None	RIGID	DR1
504	J528	K904	K978			RIGID	None	None	RIGID	DR1
505	J529	K891	K967			RIGID	None	None	RIGID	DR1
506	J530	K894	K980			RIGID	None	None	RIGID	DR1
507	J531	K957	K981			RIGID	None	None	RIGID	DR1
508	J532	K958	K982			RIGID	None	None	RIGID	DR1
509	J533	K959	K983			RIGID	None	None	RIGID	DR1
510	J534	K960	K984			RIGID	None	None	RIGID	DR1
511	J535	K961	K985			RIGID	None	None	RIGID	DR1
512	J536	K890	K55			RIGID	None	None	RIGID	DR1
513	J537	K962	K986			RIGID	None	None	RIGID	DR1
514	J538	K963	K987			RIGID	None	None	RIGID	DR1
515	J539	K964	K988			RIGID	None	None	RIGID	DR1
516	J540	K965	K989			RIGID	None	None	RIGID	DR1
517	J541	K966	K990			RIGID	None	None	RIGID	DR1
518	J542	K892	K979			RIGID	None	None	RIGID	DR1
519	J543	K997	K1072			RIGID	None	None	RIGID	DR1
520	J544	K999	K1073			RIGID	None	None	RIGID	DR1
521	J545	K1000	K1074			RIGID	None	None	RIGID	DR1
522	J546	K1001	K1075			RIGID	None	None	RIGID	DR1
523	J547	K1002	K1076			RIGID	None	None	RIGID	DR1
524	J548	K1003	K1077			RIGID	None	None	RIGID	DR1
525	J549	K993	K48			RIGID	None	None	RIGID	DR1
526	J550	K1004	K1078			RIGID	None	None	RIGID	DR1
527	J551	K1005	K1079			RIGID	None	None	RIGID	DR1
528	J552	K1006	K1080			RIGID	None	None	RIGID	DR1
529	J553	K1007	K1081			RIGID	None	None	RIGID	DR1
530	J554	K1008	K1082			RIGID	None	None	RIGID	DR1
531	J555	K995	K1071			RIGID	None	None	RIGID	DR1
532	J556	K998	K1084			RIGID	None	None	RIGID	DR1
533	J557	K1061	K1085			RIGID	None	None	RIGID	DR1
534	J558	K1062	K1086			RIGID	None	None	RIGID	DR1
535	J559	K1063	K1087			RIGID	None	None	RIGID	DR1
536	J560	K1064	K1088			RIGID	None	None	RIGID	DR1
537	J561	K1065	K1089			RIGID	None	None	RIGID	DR1
538	J562	K994	K56			RIGID	None	None	RIGID	DR1
539	J563	K1066	K1090			RIGID	None	None	RIGID	DR1
540	J564	K1067	K1091			RIGID	None	None	RIGID	DR1
541	J565	K1068	K1092			RIGID	None	None	RIGID	DR1
542	J566	K1069	K1093			RIGID	None	None	RIGID	DR1
543	J567	K1070	K1094			RIGID	None	None	RIGID	DR1
544	J568	K996	K1083			RIGID	None	None	RIGID	DR1
545	J569	K1089A	K1090A			RIGID	None	None	RIGID	DR1
546	J570	K1089A	K1091A			RIGID	None	None	RIGID	DR1
547	J571	K1090A	K1092A			RIGID	None	None	RIGID	DR1
548	J572	K1091A	K1093A			RIGID	None	None	RIGID	DR1
549	M343	N42	N62		90	L2.5x2x3	Beam	Single Angle	A36	Typical
550	M344	N69	N43		90	L2.5x2x3	Beam	Single Angle	A36	Typical
551	M345	N76	N44		90	L2.5x2x3	Beam	Single Angle	A36	Typical
552	M346	N53	N41		90	L2.5x2x3	Beam	Single Angle	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
553	M347	N25	N37		270	L2.5x2x3	Beam	Single Angle	A36	Typical
554	M348	N25	N213A		270	L2.5x2x3	Beam	Single Angle	A36	Typical
555	M349	N40	N28		270	L2.5x2x3	Beam	Single Angle	A36	Typical
556	M350	N28	N214		270	L2.5x2x3	Beam	Single Angle	A36	Typical
557	M351	N39	N27		270	L2.5x2x3	Beam	Single Angle	A36	Typical
558	M352	N27	N215A		270	L2.5x2x3	Beam	Single Angle	A36	Typical
559	M353	N38	N26		270	L2.5x2x3	Beam	Single Angle	A36	Typical
560	M354	N26	N216		270	L2.5x2x3	Beam	Single Angle	A36	Typical
561	M355	N9	N13		270	L2.5x2x3	Beam	Single Angle	A36	Typical
562	M356	N14	N10		270	L2.5x2x3	Beam	Single Angle	A36	Typical
563	M357	N15	N11		270	L2.5x2x3	Beam	Single Angle	A36	Typical
564	M358	N16	N12		270	L2.5x2x3	Beam	Single Angle	A36	Typical
565	J581	K193	K41		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
566	J582	K194	K44		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
567	J583	K186	K44		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
568	J584	K185	K43		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
569	J585	K192	K43		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
570	J586	K191	K42		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
571	J587	K196	K42		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical
572	J588	K195	K41		90	HSS10x6x6	Beam	Tube	A500 Gr.46	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
1	N1	-4.395834	232.833334	4.395834	0	
2	N2	-5.043125	222.916667	5.043125	0	
3	N3	4.395834	232.833334	4.395834	0	
4	N4	5.043125	222.916667	5.043125	0	
5	N5	4.395834	232.833334	-4.395834	0	
6	N6	5.043125	222.916667	-5.043125	0	
7	N7	-4.395834	232.833334	-4.395834	0	
8	N8	-5.043125	222.916667	-5.043125	0	
9	N9	0	232.833334	4.395834	0	
10	N10	4.395834	232.833334	0	0	
11	N11	0	232.833334	-4.395834	0	
12	N12	-4.395834	232.833334	0	0	
13	N13	0	228.215026	4.697285	0	
14	N14	4.697285	228.215026	0	0	
15	N15	0	228.215026	-4.697285	0	
16	N16	-4.697285	228.215026	0	0	
17	N17	-4.697285	228.215026	4.697285	0	
18	N18	4.697285	228.215026	4.697285	0	
19	N19	4.697285	228.215026	-4.697285	0	
20	N20	-4.697285	228.215026	-4.697285	0	
21	N21	-5.690415	213	5.690415	0	
22	N22	5.690415	213	5.690415	0	
23	N23	5.690415	213	-5.690415	0	
24	N24	-5.690415	213	-5.690415	0	
25	N25	0	218.257348	5.347252	0	
26	N26	5.347252	218.257348	0	0	
27	N27	0	218.257348	-5.347252	0	
28	N28	-5.347252	218.257348	0	0	
29	N29	-5.347252	218.257348	5.347252	0	
30	N30	5.347252	218.257348	5.347252	0	
31	N31	5.347252	218.257348	-5.347252	0	
32	N32	-5.347252	218.257348	-5.347252	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
33	N33	-6.337706	203.083333	6.337706	0	
34	N34	6.337706	203.083333	6.337706	0	
35	N35	6.337706	203.083333	-6.337706	0	
36	N36	-6.337706	203.083333	-6.337706	0	
37	N37	0	213	5.690415	0	
38	N38	5.690415	213	0	0	
39	N39	0	213	-5.690415	0	
40	N40	-5.690415	213	0	0	
41	N41	0	208.308498	5.996644	0	
42	N42	5.996644	208.308498	0	0	
43	N43	0	208.308498	-5.996644	0	
44	N44	-5.996644	208.308498	0	0	
45	N45	-5.996644	208.308498	5.996644	0	
46	N46	5.996644	208.308498	5.996644	0	
47	N47	5.996644	208.308498	-5.996644	0	
48	N48	-5.996644	208.308498	-5.996644	0	
49	N49	-7.583334	184	7.583334	0	
50	N50	7.583334	184	7.583334	0	
51	N51	7.583334	184	-7.583334	0	
52	N52	-7.583334	184	-7.583334	0	
53	N53	0	203.083333	6.337706	0	
54	N54	-7.168124	190.361111	7.168124	0	
55	N55	-5.055556	190.361111	7.168124	0	
56	N56	-6.752915	196.722222	6.752915	0	
57	N57	-2.527778	196.722222	6.752915	0	
58	N58	5.055556	190.361111	7.168124	0	
59	N59	7.168124	190.361111	7.168124	0	
60	N60	2.527778	196.722222	6.752915	0	
61	N61	6.752915	196.722222	6.752915	0	
62	N62	6.337706	203.083333	0	0	
63	N63	7.168124	190.361111	5.055556	0	
64	N64	6.752915	196.722222	2.527778	0	
65	N65	7.168124	190.361111	-5.055556	0	
66	N66	7.168124	190.361111	-7.168124	0	
67	N67	6.752915	196.722222	-2.527778	0	
68	N68	6.752915	196.722222	-6.752915	0	
69	N69	0	203.083333	-6.337706	0	
70	N70	5.055556	190.361111	-7.168124	0	
71	N71	2.527778	196.722222	-6.752915	0	
72	N72	-5.055556	190.361111	-7.168124	0	
73	N73	-7.168124	190.361111	-7.168124	0	
74	N74	-2.527778	196.722222	-6.752915	0	
75	N75	-6.752915	196.722222	-6.752915	0	
76	N76	-6.337706	203.083333	0	0	
77	N77	-7.168124	190.361111	-5.055556	0	
78	N78	-6.752915	196.722222	-2.527778	0	
79	N79	-7.168124	190.361111	5.055556	0	
80	N80	-6.752915	196.722222	2.527778	0	
81	K1	-9.25	186	9.25	0	
82	K2	-9.25	181	9.25	0	
83	K3	9.25	186	9.25	0	
84	K4	9.25	181	9.25	0	
85	K5	9.25	186	-9.25	0	
86	K6	9.25	181	-9.25	0	
87	K7	-9.25	186	-9.25	0	
88	K8	-9.25	181	-9.25	0	
89	K9	-9.25	172.6	9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
90	K10	9.25	172.6	9.25	0	
91	K11	9.25	172.6	-9.25	0	
92	K12	-9.25	172.6	-9.25	0	
93	K13	0	181	9.25	0	
94	K14	9.25	181	0	0	
95	K15	0	181	-9.25	0	
96	K16	-9.25	181	0	0	
97	K17	-9.25	157.1	9.25	0	
98	K18	9.25	157.1	9.25	0	
99	K19	9.25	157.1	-9.25	0	
100	K20	-9.25	157.1	-9.25	0	
101	K21	0	172.6	9.25	0	
102	K22	9.25	172.6	0	0	
103	K23	0	172.6	-9.25	0	
104	K24	-9.25	172.6	0	0	
105	K25	-9.25	141.6	9.25	0	
106	K26	9.25	141.6	9.25	0	
107	K27	9.25	141.6	-9.25	0	
108	K28	-9.25	141.6	-9.25	0	
109	K29	0	157.1	9.25	0	
110	K30	9.25	157.1	0	0	
111	K31	0	157.1	-9.25	0	
112	K32	-9.25	157.1	0	0	
113	K33	-9.25	130.2	9.25	0	
114	K34	9.25	130.2	9.25	0	
115	K35	9.25	130.2	-9.25	0	
116	K36	-9.25	130.2	-9.25	0	
117	K37	0	141.6	9.25	0	
118	K38	9.25	141.6	0	0	
119	K39	0	141.6	-9.25	0	
120	K40	-9.25	141.6	0	0	
121	K41	-9.25	126.5	9.25	0	
122	K42	9.25	126.5	9.25	0	
123	K43	9.25	126.5	-9.25	0	
124	K44	-9.25	126.5	-9.25	0	
125	K45	0	130.2	9.25	0	
126	K46	9.25	130.2	0	0	
127	K47	0	130.2	-9.25	0	
128	K48	-9.25	130.2	0	0	
129	K49	-9.25	108.3	9.25	0	
130	K50	9.25	108.3	9.25	0	
131	K51	9.25	108.3	-9.25	0	
132	K52	-9.25	108.3	-9.25	0	
133	K53	0	126.5	9.25	0	
134	K54	9.25	126.5	0	0	
135	K55	0	126.5	-9.25	0	
136	K56	-9.25	126.5	0	0	
137	K57	0	117.4	9.25	0	
138	K58	9.25	117.4	0	0	
139	K59	0	117.4	-9.25	0	
140	K60	-9.25	117.4	0	0	
141	D	-9.25	107	9.25	0	
142	C	9.25	107	9.25	0	
143	B	9.25	107	-9.25	0	
144	A	-9.25	107	-9.25	0	
145	N145	-7.583334	181	7.583334	0	
146	N146	7.583334	181	7.583334	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
147	N147	7.583334	181	-7.583334	0	
148	N148	-7.583334	181	-7.583334	0	
149	N149	-1.777778	196.722222	6.752915	0	
150	N150	1.777778	196.722222	6.752915	0	
151	N152	6.752915	196.722222	1.777778	0	
152	N153	6.752915	196.722222	-1.777778	0	
153	N155	1.777778	196.722222	-6.752915	0	
154	N156	-1.777778	196.722222	-6.752915	0	
155	N158	-6.752915	196.722222	-1.777778	0	
156	N159	-6.752915	196.722222	1.777778	0	
157	N157	-5.916667	181	9.25	0	
158	N158A	-9.25	181	5.916667	0	
159	N159A	9.25	181	5.916667	0	
160	N160	5.916667	181	9.25	0	
161	N161	5.916667	181	-9.25	0	
162	N162	9.25	181	-5.916667	0	
163	N163	-9.25	181	-5.916667	0	
164	N164	-5.916667	181	-9.25	0	
165	N165	-7.583333	184	9.25	0	
166	N166	7.583333	184	9.25	0	
167	N167	9.25	184	7.583333	0	
168	N168	9.25	184	-7.583333	0	
169	N169	7.583333	184	-9.25	0	
170	N170	-7.583333	184	-9.25	0	
171	N171	-9.25	184	-7.583333	0	
172	N172	-9.25	184	7.583333	0	
173	K173	-9.25	171.1	9.25	0	
174	K174	9.25	171.1	9.25	0	
175	K175	9.25	171.1	-9.25	0	
176	K176	-9.25	171.1	-9.25	0	
177	K177	-9.25	140.1	9.25	0	
178	K178	9.25	140.1	9.25	0	
179	K179	9.25	140.1	-9.25	0	
180	K180	-9.25	140.1	-9.25	0	
181	K181	0	186	9.25	0	
182	K182	9.25	186	0	0	
183	K183	0	186	-9.25	0	
184	K184	-9.25	186	0	0	
185	K185	9.25	108.3	-27.417	0	
186	K186	-9.25	108.3	-27.417	0	
187	K187	-9.25	125.75	9.25	0	
188	K188	9.25	125.75	9.25	0	
189	K189	9.25	125.75	-9.25	0	
190	K190	-9.25	125.75	-9.25	0	
191	K191	26.417	108.3	9.25	0	
192	K192	26.417	108.3	-9.25	0	
193	K193	-26.417	108.3	9.25	0	
194	K194	-26.417	108.3	-9.25	0	
195	K195	-9.25	108.3	25.417	0	
196	K196	9.25	108.3	25.417	0	
197	N197	-7.583333	186	9.25	0	
198	N198	7.583333	186	9.25	0	
199	N199	9.25	186	7.583333	0	
200	N200	9.25	186	-7.583333	0	
201	N201	7.583333	186	-9.25	0	
202	N202	-7.583333	186	-9.25	0	
203	N203	-9.25	186	-7.583333	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
204	N204	-9.25	186	7.583333	0	
205	N205	-3.168853	203.083333	3.168853	0	
206	N206	3.168853	203.083333	3.168853	0	
207	N207	3.168853	203.083333	-3.168853	0	
208	N208	-3.168853	203.083333	-3.168853	0	
209	N209	0	203.083333	3.168853	0	
210	N211	3.168853	203.083333	-0.	0	
211	N213	-0.	203.083333	-3.168853	0	
212	N215	-3.168853	203.083333	0.	0	
213	N213A	0	222.916667	5.043125	0	
214	N214	-5.043125	222.916667	0	0	
215	N215A	0	222.916667	-5.043125	0	
216	N216	5.043125	222.916667	0	0	
217	N217	9.25	181	-3	0	
218	N218	-9.25	181	-3	0	
219	N219	9.25	181	3	0	
220	N220	-9.25	181	3	0	
221	N221	6.25	181	3	0	
222	N222	6.25	181	-3	0	
223	N223	-6.25	181	-3	0	
224	N224	-6.25	181	3	0	
225	K197	0	185.0835	9.25	0	
226	K198	0	181.9165	9.25	0	
227	K199	-3	185.0835	9.25	0	
228	K200	-3	181.9165	9.25	0	
229	K201	3	185.0835	9.25	0	
230	K202	3	181.9165	9.25	0	
231	K203	-2.5	185.0835	9.25	0	
232	K204	-2	185.0835	9.25	0	
233	K205	-1.5	185.0835	9.25	0	
234	K206	-1	185.0835	9.25	0	
235	K207	-.5	185.0835	9.25	0	
236	K208	.5	185.0835	9.25	0	
237	K209	1	185.0835	9.25	0	
238	K210	1.5	185.0835	9.25	0	
239	K211	2	185.0835	9.25	0	
240	K212	2.5	185.0835	9.25	0	
241	K213	-3	184.555667	9.25	0	
242	K214	-2.5	184.555667	9.25	0	
243	K215	-2	184.555667	9.25	0	
244	K216	-1.5	184.555667	9.25	0	
245	K217	-1	184.555667	9.25	0	
246	K218	-.5	184.555667	9.25	0	
247	K219	0	184.555667	9.25	0	
248	K220	.5	184.555667	9.25	0	
249	K221	1	184.555667	9.25	0	
250	K222	1.5	184.555667	9.25	0	
251	K223	2	184.555667	9.25	0	
252	K224	2.5	184.555667	9.25	0	
253	K225	3	184.555667	9.25	0	
254	K226	-3	184.027833	9.25	0	
255	K227	-2.5	184.027833	9.25	0	
256	K228	-2	184.027833	9.25	0	
257	K229	-1.5	184.027833	9.25	0	
258	K230	-1	184.027833	9.25	0	
259	K231	-.5	184.027833	9.25	0	
260	K232	0	184.027833	9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
261	K233	.5	184.027833	9.25	0	
262	K234	1	184.027833	9.25	0	
263	K235	1.5	184.027833	9.25	0	
264	K236	2	184.027833	9.25	0	
265	K237	2.5	184.027833	9.25	0	
266	K238	3	184.027833	9.25	0	
267	K239	-3	183.5	9.25	0	
268	K240	-2.5	183.5	9.25	0	
269	K241	-2	183.5	9.25	0	
270	K242	-1.5	183.5	9.25	0	
271	K243	-1	183.5	9.25	0	
272	K244	-.5	183.5	9.25	0	
273	K245	0	183.5	9.25	0	
274	K246	.5	183.5	9.25	0	
275	K247	1	183.5	9.25	0	
276	K248	1.5	183.5	9.25	0	
277	K249	2	183.5	9.25	0	
278	K250	2.5	183.5	9.25	0	
279	K251	3	183.5	9.25	0	
280	K252	-3	182.972167	9.25	0	
281	K253	-2.5	182.972167	9.25	0	
282	K254	-2	182.972167	9.25	0	
283	K255	-1.5	182.972167	9.25	0	
284	K256	-1	182.972167	9.25	0	
285	K257	-.5	182.972167	9.25	0	
286	K258	0	182.972167	9.25	0	
287	K259	.5	182.972167	9.25	0	
288	K260	1	182.972167	9.25	0	
289	K261	1.5	182.972167	9.25	0	
290	K262	2	182.972167	9.25	0	
291	K263	2.5	182.972167	9.25	0	
292	K264	3	182.972167	9.25	0	
293	K265	-3	182.444333	9.25	0	
294	K266	-2.5	182.444333	9.25	0	
295	K267	-2	182.444333	9.25	0	
296	K268	-1.5	182.444333	9.25	0	
297	K269	-1	182.444333	9.25	0	
298	K270	-.5	182.444333	9.25	0	
299	K271	0	182.444333	9.25	0	
300	K272	.5	182.444333	9.25	0	
301	K273	1	182.444333	9.25	0	
302	K274	1.5	182.444333	9.25	0	
303	K275	2	182.444333	9.25	0	
304	K276	2.5	182.444333	9.25	0	
305	K277	3	182.444333	9.25	0	
306	K278	-2.5	181.9165	9.25	0	
307	K279	-2	181.9165	9.25	0	
308	K280	-1.5	181.9165	9.25	0	
309	K281	-1	181.9165	9.25	0	
310	K282	-.5	181.9165	9.25	0	
311	K283	.5	181.9165	9.25	0	
312	K284	1	181.9165	9.25	0	
313	K285	1.5	181.9165	9.25	0	
314	K286	2	181.9165	9.25	0	
315	K287	2.5	181.9165	9.25	0	
316	K288	-3	186	9.25	0	
317	K289	3	186	9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
318	K290	-2.5	186	9.25	0	
319	K291	-2	186	9.25	0	
320	K292	-1.5	186	9.25	0	
321	K293	-1	186	9.25	0	
322	K294	-.5	186	9.25	0	
323	K295	.5	186	9.25	0	
324	K296	1	186	9.25	0	
325	K297	1.5	186	9.25	0	
326	K298	2	186	9.25	0	
327	K299	2.5	186	9.25	0	
328	K300	-3	181	9.25	0	
329	K301	3	181	9.25	0	
330	K302	-2.5	181	9.25	0	
331	K303	-2	181	9.25	0	
332	K304	-1.5	181	9.25	0	
333	K305	-1	181	9.25	0	
334	K306	-.5	181	9.25	0	
335	K307	.5	181	9.25	0	
336	K308	1	181	9.25	0	
337	K309	1.5	181	9.25	0	
338	K310	2	181	9.25	0	
339	K311	2.5	181	9.25	0	
340	K342	9.25	185.0835	-0.	0	
341	K343	9.25	181.9165	-0.	0	
342	K344	9.25	185.0835	3	0	
343	K345	9.25	181.9165	3	0	
344	K346	9.25	185.0835	-3	0	
345	K347	9.25	181.9165	-3	0	
346	K348	9.25	185.0835	2.5	0	
347	K349	9.25	185.0835	2	0	
348	K350	9.25	185.0835	1.5	0	
349	K351	9.25	185.0835	1	0	
350	K352	9.25	185.0835	.5	0	
351	K353	9.25	185.0835	-.5	0	
352	K354	9.25	185.0835	-1	0	
353	K355	9.25	185.0835	-1.5	0	
354	K356	9.25	185.0835	-2	0	
355	K357	9.25	185.0835	-2.5	0	
356	K358	9.25	184.555667	3	0	
357	K359	9.25	184.555667	2.5	0	
358	K360	9.25	184.555667	2	0	
359	K361	9.25	184.555667	1.5	0	
360	K362	9.25	184.555667	1	0	
361	K363	9.25	184.555667	.5	0	
362	K364	9.25	184.555667	-0.	0	
363	K365	9.25	184.555667	-.5	0	
364	K366	9.25	184.555667	-1	0	
365	K367	9.25	184.555667	-1.5	0	
366	K368	9.25	184.555667	-2	0	
367	K369	9.25	184.555667	-2.5	0	
368	K370	9.25	184.555667	-3	0	
369	K371	9.25	184.027833	3	0	
370	K372	9.25	184.027833	2.5	0	
371	K373	9.25	184.027833	2	0	
372	K374	9.25	184.027833	1.5	0	
373	K375	9.25	184.027833	1	0	
374	K376	9.25	184.027833	.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
375	K377	9.25	184.027833	-0.	0	
376	K378	9.25	184.027833	-.5	0	
377	K379	9.25	184.027833	-1	0	
378	K380	9.25	184.027833	-1.5	0	
379	K381	9.25	184.027833	-2	0	
380	K382	9.25	184.027833	-2.5	0	
381	K383	9.25	184.027833	-3	0	
382	K384	9.25	183.5	3	0	
383	K385	9.25	183.5	2.5	0	
384	K386	9.25	183.5	2	0	
385	K387	9.25	183.5	1.5	0	
386	K388	9.25	183.5	1	0	
387	K389	9.25	183.5	.5	0	
388	K390	9.25	183.5	-0.	0	
389	K391	9.25	183.5	-.5	0	
390	K392	9.25	183.5	-1	0	
391	K393	9.25	183.5	-1.5	0	
392	K394	9.25	183.5	-2	0	
393	K395	9.25	183.5	-2.5	0	
394	K396	9.25	183.5	-3	0	
395	K397	9.25	182.972167	3	0	
396	K398	9.25	182.972167	2.5	0	
397	K399	9.25	182.972167	2	0	
398	K400	9.25	182.972167	1.5	0	
399	K401	9.25	182.972167	1	0	
400	K402	9.25	182.972167	.5	0	
401	K403	9.25	182.972167	-0.	0	
402	K404	9.25	182.972167	-.5	0	
403	K405	9.25	182.972167	-1	0	
404	K406	9.25	182.972167	-1.5	0	
405	K407	9.25	182.972167	-2	0	
406	K408	9.25	182.972167	-2.5	0	
407	K409	9.25	182.972167	-3	0	
408	K410	9.25	182.444333	3	0	
409	K411	9.25	182.444333	2.5	0	
410	K412	9.25	182.444333	2	0	
411	K413	9.25	182.444333	1.5	0	
412	K414	9.25	182.444333	1	0	
413	K415	9.25	182.444333	.5	0	
414	K416	9.25	182.444333	-0.	0	
415	K417	9.25	182.444333	-.5	0	
416	K418	9.25	182.444333	-1	0	
417	K419	9.25	182.444333	-1.5	0	
418	K420	9.25	182.444333	-2	0	
419	K421	9.25	182.444333	-2.5	0	
420	K422	9.25	182.444333	-3	0	
421	K423	9.25	181.9165	2.5	0	
422	K424	9.25	181.9165	2	0	
423	K425	9.25	181.9165	1.5	0	
424	K426	9.25	181.9165	1	0	
425	K427	9.25	181.9165	.5	0	
426	K428	9.25	181.9165	-.5	0	
427	K429	9.25	181.9165	-1	0	
428	K430	9.25	181.9165	-1.5	0	
429	K431	9.25	181.9165	-2	0	
430	K432	9.25	181.9165	-2.5	0	
431	K433	9.25	186	3	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
432	K434	9.25	186	-3	0	
433	K435	9.25	186	2.5	0	
434	K436	9.25	186	2	0	
435	K437	9.25	186	1.5	0	
436	K438	9.25	186	1	0	
437	K439	9.25	186	.5	0	
438	K440	9.25	186	-.5	0	
439	K441	9.25	186	-1	0	
440	K442	9.25	186	-1.5	0	
441	K443	9.25	186	-2	0	
442	K444	9.25	186	-2.5	0	
443	K447	9.25	181	2.5	0	
444	K448	9.25	181	2	0	
445	K449	9.25	181	1.5	0	
446	K450	9.25	181	1	0	
447	K451	9.25	181	.5	0	
448	K452	9.25	181	-.5	0	
449	K453	9.25	181	-1	0	
450	K454	9.25	181	-1.5	0	
451	K455	9.25	181	-2	0	
452	K456	9.25	181	-2.5	0	
453	K459	-0.	185.0835	-9.25	0	
454	K460	-0.	181.9165	-9.25	0	
455	K461	3	185.0835	-9.25	0	
456	K462	3	181.9165	-9.25	0	
457	K463	-3	185.0835	-9.25	0	
458	K464	-3	181.9165	-9.25	0	
459	K465	2.5	185.0835	-9.25	0	
460	K466	2	185.0835	-9.25	0	
461	K467	1.5	185.0835	-9.25	0	
462	K468	1	185.0835	-9.25	0	
463	K469	.5	185.0835	-9.25	0	
464	K470	-.5	185.0835	-9.25	0	
465	K471	-1	185.0835	-9.25	0	
466	K472	-1.5	185.0835	-9.25	0	
467	K473	-2	185.0835	-9.25	0	
468	K474	-2.5	185.0835	-9.25	0	
469	K475	3	184.555667	-9.25	0	
470	K476	2.5	184.555667	-9.25	0	
471	K477	2	184.555667	-9.25	0	
472	K478	1.5	184.555667	-9.25	0	
473	K479	1	184.555667	-9.25	0	
474	K480	.5	184.555667	-9.25	0	
475	K481	-0.	184.555667	-9.25	0	
476	K482	-.5	184.555667	-9.25	0	
477	K483	-1	184.555667	-9.25	0	
478	K484	-1.5	184.555667	-9.25	0	
479	K485	-2	184.555667	-9.25	0	
480	K486	-2.5	184.555667	-9.25	0	
481	K487	-3	184.555667	-9.25	0	
482	K488	3	184.027833	-9.25	0	
483	K489	2.5	184.027833	-9.25	0	
484	K490	2	184.027833	-9.25	0	
485	K491	1.5	184.027833	-9.25	0	
486	K492	1	184.027833	-9.25	0	
487	K493	.5	184.027833	-9.25	0	
488	K494	-0.	184.027833	-9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
489	K495	-.5	184.027833	-9.25	0	
490	K496	-1	184.027833	-9.25	0	
491	K497	-1.5	184.027833	-9.25	0	
492	K498	-2	184.027833	-9.25	0	
493	K499	-2.5	184.027833	-9.25	0	
494	K500	-3	184.027833	-9.25	0	
495	K501	3	183.5	-9.25	0	
496	K502	2.5	183.5	-9.25	0	
497	K503	2	183.5	-9.25	0	
498	K504	1.5	183.5	-9.25	0	
499	K505	1	183.5	-9.25	0	
500	K506	.5	183.5	-9.25	0	
501	K507	-0.	183.5	-9.25	0	
502	K508	-.5	183.5	-9.25	0	
503	K509	-1	183.5	-9.25	0	
504	K510	-1.5	183.5	-9.25	0	
505	K511	-2	183.5	-9.25	0	
506	K512	-2.5	183.5	-9.25	0	
507	K513	-3	183.5	-9.25	0	
508	K514	3	182.972167	-9.25	0	
509	K515	2.5	182.972167	-9.25	0	
510	K516	2	182.972167	-9.25	0	
511	K517	1.5	182.972167	-9.25	0	
512	K518	1	182.972167	-9.25	0	
513	K519	.5	182.972167	-9.25	0	
514	K520	-0.	182.972167	-9.25	0	
515	K521	-.5	182.972167	-9.25	0	
516	K522	-1	182.972167	-9.25	0	
517	K523	-1.5	182.972167	-9.25	0	
518	K524	-2	182.972167	-9.25	0	
519	K525	-2.5	182.972167	-9.25	0	
520	K526	-3	182.972167	-9.25	0	
521	K527	3	182.444333	-9.25	0	
522	K528	2.5	182.444333	-9.25	0	
523	K529	2	182.444333	-9.25	0	
524	K530	1.5	182.444333	-9.25	0	
525	K531	1	182.444333	-9.25	0	
526	K532	.5	182.444333	-9.25	0	
527	K533	-0.	182.444333	-9.25	0	
528	K534	-.5	182.444333	-9.25	0	
529	K535	-1	182.444333	-9.25	0	
530	K536	-1.5	182.444333	-9.25	0	
531	K537	-2	182.444333	-9.25	0	
532	K538	-2.5	182.444333	-9.25	0	
533	K539	-3	182.444333	-9.25	0	
534	K540	2.5	181.9165	-9.25	0	
535	K541	2	181.9165	-9.25	0	
536	K542	1.5	181.9165	-9.25	0	
537	K543	1	181.9165	-9.25	0	
538	K544	.5	181.9165	-9.25	0	
539	K545	-.5	181.9165	-9.25	0	
540	K546	-1	181.9165	-9.25	0	
541	K547	-1.5	181.9165	-9.25	0	
542	K548	-2	181.9165	-9.25	0	
543	K549	-2.5	181.9165	-9.25	0	
544	K550	3	186	-9.25	0	
545	K551	-3	186	-9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
546	K552	2.5	186	-9.25	0	
547	K553	2	186	-9.25	0	
548	K554	1.5	186	-9.25	0	
549	K555	1	186	-9.25	0	
550	K556	.5	186	-9.25	0	
551	K557	-.5	186	-9.25	0	
552	K558	-1	186	-9.25	0	
553	K559	-1.5	186	-9.25	0	
554	K560	-2	186	-9.25	0	
555	K561	-2.5	186	-9.25	0	
556	K562	3	181	-9.25	0	
557	K563	-3	181	-9.25	0	
558	K564	2.5	181	-9.25	0	
559	K565	2	181	-9.25	0	
560	K566	1.5	181	-9.25	0	
561	K567	1	181	-9.25	0	
562	K568	.5	181	-9.25	0	
563	K569	-.5	181	-9.25	0	
564	K570	-1	181	-9.25	0	
565	K571	-1.5	181	-9.25	0	
566	K572	-2	181	-9.25	0	
567	K573	-2.5	181	-9.25	0	
568	K576	-9.25	185.0835	0.	0	
569	K577	-9.25	181.9165	0.	0	
570	K578	-9.25	185.0835	-3	0	
571	K579	-9.25	181.9165	-3	0	
572	K580	-9.25	185.0835	3	0	
573	K581	-9.25	181.9165	3	0	
574	K582	-9.25	185.0835	-2.5	0	
575	K583	-9.25	185.0835	-2	0	
576	K584	-9.25	185.0835	-1.5	0	
577	K585	-9.25	185.0835	-1	0	
578	K586	-9.25	185.0835	-.5	0	
579	K587	-9.25	185.0835	.5	0	
580	K588	-9.25	185.0835	1	0	
581	K589	-9.25	185.0835	1.5	0	
582	K590	-9.25	185.0835	2	0	
583	K591	-9.25	185.0835	2.5	0	
584	K592	-9.25	184.555667	-3	0	
585	K593	-9.25	184.555667	-2.5	0	
586	K594	-9.25	184.555667	-2	0	
587	K595	-9.25	184.555667	-1.5	0	
588	K596	-9.25	184.555667	-1	0	
589	K597	-9.25	184.555667	-.5	0	
590	K598	-9.25	184.555667	0.	0	
591	K599	-9.25	184.555667	.5	0	
592	K600	-9.25	184.555667	1	0	
593	K601	-9.25	184.555667	1.5	0	
594	K602	-9.25	184.555667	2	0	
595	K603	-9.25	184.555667	2.5	0	
596	K604	-9.25	184.555667	3	0	
597	K605	-9.25	184.027833	-3	0	
598	K606	-9.25	184.027833	-2.5	0	
599	K607	-9.25	184.027833	-2	0	
600	K608	-9.25	184.027833	-1.5	0	
601	K609	-9.25	184.027833	-1	0	
602	K610	-9.25	184.027833	-.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
603	K611	-9.25	184.027833	0.	0	
604	K612	-9.25	184.027833	.5	0	
605	K613	-9.25	184.027833	1	0	
606	K614	-9.25	184.027833	1.5	0	
607	K615	-9.25	184.027833	2	0	
608	K616	-9.25	184.027833	2.5	0	
609	K617	-9.25	184.027833	3	0	
610	K618	-9.25	183.5	-3	0	
611	K619	-9.25	183.5	-2.5	0	
612	K620	-9.25	183.5	-2	0	
613	K621	-9.25	183.5	-1.5	0	
614	K622	-9.25	183.5	-1	0	
615	K623	-9.25	183.5	-.5	0	
616	K624	-9.25	183.5	0.	0	
617	K625	-9.25	183.5	.5	0	
618	K626	-9.25	183.5	1	0	
619	K627	-9.25	183.5	1.5	0	
620	K628	-9.25	183.5	2	0	
621	K629	-9.25	183.5	2.5	0	
622	K630	-9.25	183.5	3	0	
623	K631	-9.25	182.972167	-3	0	
624	K632	-9.25	182.972167	-2.5	0	
625	K633	-9.25	182.972167	-2	0	
626	K634	-9.25	182.972167	-1.5	0	
627	K635	-9.25	182.972167	-1	0	
628	K636	-9.25	182.972167	-.5	0	
629	K637	-9.25	182.972167	0.	0	
630	K638	-9.25	182.972167	.5	0	
631	K639	-9.25	182.972167	1	0	
632	K640	-9.25	182.972167	1.5	0	
633	K641	-9.25	182.972167	2	0	
634	K642	-9.25	182.972167	2.5	0	
635	K643	-9.25	182.972167	3	0	
636	K644	-9.25	182.444333	-3	0	
637	K645	-9.25	182.444333	-2.5	0	
638	K646	-9.25	182.444333	-2	0	
639	K647	-9.25	182.444333	-1.5	0	
640	K648	-9.25	182.444333	-1	0	
641	K649	-9.25	182.444333	-.5	0	
642	K650	-9.25	182.444333	0.	0	
643	K651	-9.25	182.444333	.5	0	
644	K652	-9.25	182.444333	1	0	
645	K653	-9.25	182.444333	1.5	0	
646	K654	-9.25	182.444333	2	0	
647	K655	-9.25	182.444333	2.5	0	
648	K656	-9.25	182.444333	3	0	
649	K657	-9.25	181.9165	-2.5	0	
650	K658	-9.25	181.9165	-2	0	
651	K659	-9.25	181.9165	-1.5	0	
652	K660	-9.25	181.9165	-1	0	
653	K661	-9.25	181.9165	-.5	0	
654	K662	-9.25	181.9165	.5	0	
655	K663	-9.25	181.9165	1	0	
656	K664	-9.25	181.9165	1.5	0	
657	K665	-9.25	181.9165	2	0	
658	K666	-9.25	181.9165	2.5	0	
659	K667	-9.25	186	-3	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
660	K668	-9.25	186	3	0	
661	K669	-9.25	186	-2.5	0	
662	K670	-9.25	186	-2	0	
663	K671	-9.25	186	-1.5	0	
664	K672	-9.25	186	-1	0	
665	K673	-9.25	186	-.5	0	
666	K674	-9.25	186	.5	0	
667	K675	-9.25	186	1	0	
668	K676	-9.25	186	1.5	0	
669	K677	-9.25	186	2	0	
670	K678	-9.25	186	2.5	0	
671	K681	-9.25	181	-2.5	0	
672	K682	-9.25	181	-2	0	
673	K683	-9.25	181	-1.5	0	
674	K684	-9.25	181	-1	0	
675	K685	-9.25	181	-.5	0	
676	K686	-9.25	181	.5	0	
677	K687	-9.25	181	1	0	
678	K688	-9.25	181	1.5	0	
679	K689	-9.25	181	2	0	
680	K690	-9.25	181	2.5	0	
681	K691	0	129.725	9.25	0	
682	K692	0	126.975	9.25	0	
683	K693	3	129.725	9.25	0	
684	K694	3	126.975	9.25	0	
685	K695	-3	129.725	9.25	0	
686	K696	-3	126.975	9.25	0	
687	K697	-2.5	129.725	9.25	0	
688	K698	-2	129.725	9.25	0	
689	K699	-1.5	129.725	9.25	0	
690	K700	-1	129.725	9.25	0	
691	K701	-.5	129.725	9.25	0	
692	K702	.5	129.725	9.25	0	
693	K703	1	129.725	9.25	0	
694	K704	1.5	129.725	9.25	0	
695	K705	2	129.725	9.25	0	
696	K706	2.5	129.725	9.25	0	
697	K707	-3	129.175	9.25	0	
698	K708	-2.5	129.175	9.25	0	
699	K709	-2	129.175	9.25	0	
700	K710	-1.5	129.175	9.25	0	
701	K711	-1	129.175	9.25	0	
702	K712	-.5	129.175	9.25	0	
703	K713	0	129.175	9.25	0	
704	K714	.5	129.175	9.25	0	
705	K715	1	129.175	9.25	0	
706	K716	1.5	129.175	9.25	0	
707	K717	2	129.175	9.25	0	
708	K718	2.5	129.175	9.25	0	
709	K719	3	129.175	9.25	0	
710	K720	-3	128.625	9.25	0	
711	K721	-2.5	128.625	9.25	0	
712	K722	-2	128.625	9.25	0	
713	K723	-1.5	128.625	9.25	0	
714	K724	-1	128.625	9.25	0	
715	K725	-.5	128.625	9.25	0	
716	K726	0	128.625	9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
717	K727	.5	128.625	9.25	0	
718	K728	1	128.625	9.25	0	
719	K729	1.5	128.625	9.25	0	
720	K730	2	128.625	9.25	0	
721	K731	2.5	128.625	9.25	0	
722	K732	3	128.625	9.25	0	
723	K733	-3	128.075	9.25	0	
724	K734	-2.5	128.075	9.25	0	
725	K735	-2	128.075	9.25	0	
726	K736	-1.5	128.075	9.25	0	
727	K737	-1	128.075	9.25	0	
728	K738	-.5	128.075	9.25	0	
729	K739	0	128.075	9.25	0	
730	K740	.5	128.075	9.25	0	
731	K741	1	128.075	9.25	0	
732	K742	1.5	128.075	9.25	0	
733	K743	2	128.075	9.25	0	
734	K744	2.5	128.075	9.25	0	
735	K745	3	128.075	9.25	0	
736	K746	-3	127.525	9.25	0	
737	K747	-2.5	127.525	9.25	0	
738	K748	-2	127.525	9.25	0	
739	K749	-1.5	127.525	9.25	0	
740	K750	-1	127.525	9.25	0	
741	K751	-.5	127.525	9.25	0	
742	K752	0	127.525	9.25	0	
743	K753	.5	127.525	9.25	0	
744	K754	1	127.525	9.25	0	
745	K755	1.5	127.525	9.25	0	
746	K756	2	127.525	9.25	0	
747	K757	2.5	127.525	9.25	0	
748	K758	3	127.525	9.25	0	
749	K759	-2.5	126.975	9.25	0	
750	K760	-2	126.975	9.25	0	
751	K761	-1.5	126.975	9.25	0	
752	K762	-1	126.975	9.25	0	
753	K763	-.5	126.975	9.25	0	
754	K764	.5	126.975	9.25	0	
755	K765	1	126.975	9.25	0	
756	K766	1.5	126.975	9.25	0	
757	K767	2	126.975	9.25	0	
758	K768	2.5	126.975	9.25	0	
759	K759A	3	130.2	9.25	0	
760	K760A	-3	130.2	9.25	0	
761	K761A	-2.5	130.2	9.25	0	
762	K762A	-2	130.2	9.25	0	
763	K763A	-1.5	130.2	9.25	0	
764	K764A	-1	130.2	9.25	0	
765	K765A	-.5	130.2	9.25	0	
766	K766A	.5	130.2	9.25	0	
767	K767A	1	130.2	9.25	0	
768	K768A	1.5	130.2	9.25	0	
769	K769	2	130.2	9.25	0	
770	K770	2.5	130.2	9.25	0	
771	K771	3	126.5	9.25	0	
772	K772	-3	126.5	9.25	0	
773	K773	-2.5	126.5	9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
774	K774	-2	126.5	9.25	0	
775	K775	-1.5	126.5	9.25	0	
776	K776	-1	126.5	9.25	0	
777	K777	-.5	126.5	9.25	0	
778	K778	.5	126.5	9.25	0	
779	K779	1	126.5	9.25	0	
780	K780	1.5	126.5	9.25	0	
781	K781	2	126.5	9.25	0	
782	K782	2.5	126.5	9.25	0	
783	K785	9.25	129.725	-0.	0	
784	K786	9.25	126.975	-0.	0	
785	K787	9.25	129.725	-3	0	
786	K788	9.25	126.975	-3	0	
787	K789	9.25	129.725	3	0	
788	K790	9.25	126.975	3	0	
789	K791	9.25	129.725	2.5	0	
790	K792	9.25	129.725	2	0	
791	K793	9.25	129.725	1.5	0	
792	K794	9.25	129.725	1	0	
793	K795	9.25	129.725	.5	0	
794	K796	9.25	129.725	-.5	0	
795	K797	9.25	129.725	-1	0	
796	K798	9.25	129.725	-1.5	0	
797	K799	9.25	129.725	-2	0	
798	K800	9.25	129.725	-2.5	0	
799	K801	9.25	129.175	3	0	
800	K802	9.25	129.175	2.5	0	
801	K803	9.25	129.175	2	0	
802	K804	9.25	129.175	1.5	0	
803	K805	9.25	129.175	1	0	
804	K806	9.25	129.175	.5	0	
805	K807	9.25	129.175	-0.	0	
806	K808	9.25	129.175	-.5	0	
807	K809	9.25	129.175	-1	0	
808	K810	9.25	129.175	-1.5	0	
809	K811	9.25	129.175	-2	0	
810	K812	9.25	129.175	-2.5	0	
811	K813	9.25	129.175	-3	0	
812	K814	9.25	128.625	3	0	
813	K815	9.25	128.625	2.5	0	
814	K816	9.25	128.625	2	0	
815	K817	9.25	128.625	1.5	0	
816	K818	9.25	128.625	1	0	
817	K819	9.25	128.625	.5	0	
818	K820	9.25	128.625	-0.	0	
819	K821	9.25	128.625	-.5	0	
820	K822	9.25	128.625	-1	0	
821	K823	9.25	128.625	-1.5	0	
822	K824	9.25	128.625	-2	0	
823	K825	9.25	128.625	-2.5	0	
824	K826	9.25	128.625	-3	0	
825	K827	9.25	128.075	3	0	
826	K828	9.25	128.075	2.5	0	
827	K829	9.25	128.075	2	0	
828	K830	9.25	128.075	1.5	0	
829	K831	9.25	128.075	1	0	
830	K832	9.25	128.075	.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
831	K833	9.25	128.075	-0.	0	
832	K834	9.25	128.075	-.5	0	
833	K835	9.25	128.075	-1	0	
834	K836	9.25	128.075	-1.5	0	
835	K837	9.25	128.075	-2	0	
836	K838	9.25	128.075	-2.5	0	
837	K839	9.25	128.075	-3	0	
838	K840	9.25	127.525	3	0	
839	K841	9.25	127.525	2.5	0	
840	K842	9.25	127.525	2	0	
841	K843	9.25	127.525	1.5	0	
842	K844	9.25	127.525	1	0	
843	K845	9.25	127.525	.5	0	
844	K846	9.25	127.525	-0.	0	
845	K847	9.25	127.525	-.5	0	
846	K848	9.25	127.525	-1	0	
847	K849	9.25	127.525	-1.5	0	
848	K850	9.25	127.525	-2	0	
849	K851	9.25	127.525	-2.5	0	
850	K852	9.25	127.525	-3	0	
851	K853	9.25	126.975	2.5	0	
852	K854	9.25	126.975	2	0	
853	K855	9.25	126.975	1.5	0	
854	K856	9.25	126.975	1	0	
855	K857	9.25	126.975	.5	0	
856	K858	9.25	126.975	-.5	0	
857	K859	9.25	126.975	-1	0	
858	K860	9.25	126.975	-1.5	0	
859	K861	9.25	126.975	-2	0	
860	K862	9.25	126.975	-2.5	0	
861	K863	9.25	130.2	-3	0	
862	K864	9.25	130.2	3	0	
863	K865	9.25	130.2	2.5	0	
864	K866	9.25	130.2	2	0	
865	K867	9.25	130.2	1.5	0	
866	K868	9.25	130.2	1	0	
867	K869	9.25	130.2	.5	0	
868	K870	9.25	130.2	-.5	0	
869	K871	9.25	130.2	-1	0	
870	K872	9.25	130.2	-1.5	0	
871	K873	9.25	130.2	-2	0	
872	K874	9.25	130.2	-2.5	0	
873	K875	9.25	126.5	-3	0	
874	K876	9.25	126.5	3	0	
875	K877	9.25	126.5	2.5	0	
876	K878	9.25	126.5	2	0	
877	K879	9.25	126.5	1.5	0	
878	K880	9.25	126.5	1	0	
879	K881	9.25	126.5	.5	0	
880	K882	9.25	126.5	-.5	0	
881	K883	9.25	126.5	-1	0	
882	K884	9.25	126.5	-1.5	0	
883	K885	9.25	126.5	-2	0	
884	K886	9.25	126.5	-2.5	0	
885	K889	-0.	129.725	-9.25	0	
886	K890	-0.	126.975	-9.25	0	
887	K891	-3	129.725	-9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
888	K892	-3	126.975	-9.25	0	
889	K893	3	129.725	-9.25	0	
890	K894	3	126.975	-9.25	0	
891	K895	2.5	129.725	-9.25	0	
892	K896	2	129.725	-9.25	0	
893	K897	1.5	129.725	-9.25	0	
894	K898	1	129.725	-9.25	0	
895	K899	.5	129.725	-9.25	0	
896	K900	-.5	129.725	-9.25	0	
897	K901	-1	129.725	-9.25	0	
898	K902	-1.5	129.725	-9.25	0	
899	K903	-2	129.725	-9.25	0	
900	K904	-2.5	129.725	-9.25	0	
901	K905	3	129.175	-9.25	0	
902	K906	2.5	129.175	-9.25	0	
903	K907	2	129.175	-9.25	0	
904	K908	1.5	129.175	-9.25	0	
905	K909	1	129.175	-9.25	0	
906	K910	.5	129.175	-9.25	0	
907	K911	-0.	129.175	-9.25	0	
908	K912	-.5	129.175	-9.25	0	
909	K913	-1	129.175	-9.25	0	
910	K914	-1.5	129.175	-9.25	0	
911	K915	-2	129.175	-9.25	0	
912	K916	-2.5	129.175	-9.25	0	
913	K917	-3	129.175	-9.25	0	
914	K918	3	128.625	-9.25	0	
915	K919	2.5	128.625	-9.25	0	
916	K920	2	128.625	-9.25	0	
917	K921	1.5	128.625	-9.25	0	
918	K922	1	128.625	-9.25	0	
919	K923	.5	128.625	-9.25	0	
920	K924	-0.	128.625	-9.25	0	
921	K925	-.5	128.625	-9.25	0	
922	K926	-1	128.625	-9.25	0	
923	K927	-1.5	128.625	-9.25	0	
924	K928	-2	128.625	-9.25	0	
925	K929	-2.5	128.625	-9.25	0	
926	K930	-3	128.625	-9.25	0	
927	K931	3	128.075	-9.25	0	
928	K932	2.5	128.075	-9.25	0	
929	K933	2	128.075	-9.25	0	
930	K934	1.5	128.075	-9.25	0	
931	K935	1	128.075	-9.25	0	
932	K936	.5	128.075	-9.25	0	
933	K937	-0.	128.075	-9.25	0	
934	K938	-.5	128.075	-9.25	0	
935	K939	-1	128.075	-9.25	0	
936	K940	-1.5	128.075	-9.25	0	
937	K941	-2	128.075	-9.25	0	
938	K942	-2.5	128.075	-9.25	0	
939	K943	-3	128.075	-9.25	0	
940	K944	3	127.525	-9.25	0	
941	K945	2.5	127.525	-9.25	0	
942	K946	2	127.525	-9.25	0	
943	K947	1.5	127.525	-9.25	0	
944	K948	1	127.525	-9.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
945	K949	.5	127.525	-9.25	0	
946	K950	-0.	127.525	-9.25	0	
947	K951	-.5	127.525	-9.25	0	
948	K952	-1	127.525	-9.25	0	
949	K953	-1.5	127.525	-9.25	0	
950	K954	-2	127.525	-9.25	0	
951	K955	-2.5	127.525	-9.25	0	
952	K956	-3	127.525	-9.25	0	
953	K957	2.5	126.975	-9.25	0	
954	K958	2	126.975	-9.25	0	
955	K959	1.5	126.975	-9.25	0	
956	K960	1	126.975	-9.25	0	
957	K961	.5	126.975	-9.25	0	
958	K962	-.5	126.975	-9.25	0	
959	K963	-1	126.975	-9.25	0	
960	K964	-1.5	126.975	-9.25	0	
961	K965	-2	126.975	-9.25	0	
962	K966	-2.5	126.975	-9.25	0	
963	K967	-3	130.2	-9.25	0	
964	K968	3	130.2	-9.25	0	
965	K969	2.5	130.2	-9.25	0	
966	K970	2	130.2	-9.25	0	
967	K971	1.5	130.2	-9.25	0	
968	K972	1	130.2	-9.25	0	
969	K973	.5	130.2	-9.25	0	
970	K974	-.5	130.2	-9.25	0	
971	K975	-1	130.2	-9.25	0	
972	K976	-1.5	130.2	-9.25	0	
973	K977	-2	130.2	-9.25	0	
974	K978	-2.5	130.2	-9.25	0	
975	K979	-3	126.5	-9.25	0	
976	K980	3	126.5	-9.25	0	
977	K981	2.5	126.5	-9.25	0	
978	K982	2	126.5	-9.25	0	
979	K983	1.5	126.5	-9.25	0	
980	K984	1	126.5	-9.25	0	
981	K985	.5	126.5	-9.25	0	
982	K986	-.5	126.5	-9.25	0	
983	K987	-1	126.5	-9.25	0	
984	K988	-1.5	126.5	-9.25	0	
985	K989	-2	126.5	-9.25	0	
986	K990	-2.5	126.5	-9.25	0	
987	K993	-9.25	129.725	0.	0	
988	K994	-9.25	126.975	0.	0	
989	K995	-9.25	129.725	3	0	
990	K996	-9.25	126.975	3	0	
991	K997	-9.25	129.725	-3	0	
992	K998	-9.25	126.975	-3	0	
993	K999	-9.25	129.725	-2.5	0	
994	K1000	-9.25	129.725	-2	0	
995	K1001	-9.25	129.725	-1.5	0	
996	K1002	-9.25	129.725	-1	0	
997	K1003	-9.25	129.725	-.5	0	
998	K1004	-9.25	129.725	.5	0	
999	K1005	-9.25	129.725	1	0	
1000	K1006	-9.25	129.725	1.5	0	
1001	K1007	-9.25	129.725	2	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
1002	K1008	-9.25	129.725	2.5	0	
1003	K1009	-9.25	129.175	-3	0	
1004	K1010	-9.25	129.175	-2.5	0	
1005	K1011	-9.25	129.175	-2	0	
1006	K1012	-9.25	129.175	-1.5	0	
1007	K1013	-9.25	129.175	-1	0	
1008	K1014	-9.25	129.175	-.5	0	
1009	K1015	-9.25	129.175	0.	0	
1010	K1016	-9.25	129.175	.5	0	
1011	K1017	-9.25	129.175	1	0	
1012	K1018	-9.25	129.175	1.5	0	
1013	K1019	-9.25	129.175	2	0	
1014	K1020	-9.25	129.175	2.5	0	
1015	K1021	-9.25	129.175	3	0	
1016	K1022	-9.25	128.625	-3	0	
1017	K1023	-9.25	128.625	-2.5	0	
1018	K1024	-9.25	128.625	-2	0	
1019	K1025	-9.25	128.625	-1.5	0	
1020	K1026	-9.25	128.625	-1	0	
1021	K1027	-9.25	128.625	-.5	0	
1022	K1028	-9.25	128.625	0.	0	
1023	K1029	-9.25	128.625	.5	0	
1024	K1030	-9.25	128.625	1	0	
1025	K1031	-9.25	128.625	1.5	0	
1026	K1032	-9.25	128.625	2	0	
1027	K1033	-9.25	128.625	2.5	0	
1028	K1034	-9.25	128.625	3	0	
1029	K1035	-9.25	128.075	-3	0	
1030	K1036	-9.25	128.075	-2.5	0	
1031	K1037	-9.25	128.075	-2	0	
1032	K1038	-9.25	128.075	-1.5	0	
1033	K1039	-9.25	128.075	-1	0	
1034	K1040	-9.25	128.075	-.5	0	
1035	K1041	-9.25	128.075	0.	0	
1036	K1042	-9.25	128.075	.5	0	
1037	K1043	-9.25	128.075	1	0	
1038	K1044	-9.25	128.075	1.5	0	
1039	K1045	-9.25	128.075	2	0	
1040	K1046	-9.25	128.075	2.5	0	
1041	K1047	-9.25	128.075	3	0	
1042	K1048	-9.25	127.525	-3	0	
1043	K1049	-9.25	127.525	-2.5	0	
1044	K1050	-9.25	127.525	-2	0	
1045	K1051	-9.25	127.525	-1.5	0	
1046	K1052	-9.25	127.525	-1	0	
1047	K1053	-9.25	127.525	-.5	0	
1048	K1054	-9.25	127.525	0.	0	
1049	K1055	-9.25	127.525	.5	0	
1050	K1056	-9.25	127.525	1	0	
1051	K1057	-9.25	127.525	1.5	0	
1052	K1058	-9.25	127.525	2	0	
1053	K1059	-9.25	127.525	2.5	0	
1054	K1060	-9.25	127.525	3	0	
1055	K1061	-9.25	126.975	-2.5	0	
1056	K1062	-9.25	126.975	-2	0	
1057	K1063	-9.25	126.975	-1.5	0	
1058	K1064	-9.25	126.975	-1	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
1059	K1065	-9.25	126.975	-.5	0	
1060	K1066	-9.25	126.975	.5	0	
1061	K1067	-9.25	126.975	1	0	
1062	K1068	-9.25	126.975	1.5	0	
1063	K1069	-9.25	126.975	2	0	
1064	K1070	-9.25	126.975	2.5	0	
1065	K1071	-9.25	130.2	3	0	
1066	K1072	-9.25	130.2	-3	0	
1067	K1073	-9.25	130.2	-2.5	0	
1068	K1074	-9.25	130.2	-2	0	
1069	K1075	-9.25	130.2	-1.5	0	
1070	K1076	-9.25	130.2	-1	0	
1071	K1077	-9.25	130.2	-.5	0	
1072	K1078	-9.25	130.2	.5	0	
1073	K1079	-9.25	130.2	1	0	
1074	K1080	-9.25	130.2	1.5	0	
1075	K1081	-9.25	130.2	2	0	
1076	K1082	-9.25	130.2	2.5	0	
1077	K1083	-9.25	126.5	3	0	
1078	K1084	-9.25	126.5	-3	0	
1079	K1085	-9.25	126.5	-2.5	0	
1080	K1086	-9.25	126.5	-2	0	
1081	K1087	-9.25	126.5	-1.5	0	
1082	K1088	-9.25	126.5	-1	0	
1083	K1089	-9.25	126.5	-.5	0	
1084	K1090	-9.25	126.5	.5	0	
1085	K1091	-9.25	126.5	1	0	
1086	K1092	-9.25	126.5	1.5	0	
1087	K1093	-9.25	126.5	2	0	
1088	K1094	-9.25	126.5	2.5	0	
1089	K1089A	17.416667	184	7.583334	0	
1090	K1090A	17.416667	184	9.25	0	
1091	K1091A	15.75	184	7.583333	0	
1092	K1092A	17.416667	186	9.25	0	
1093	K1093A	15.75	186	7.583333	0	
1094	K1094A	17.416667	184	6.083334	0	
1095	K1095	15.75	184	6.083333	0	
1096	K1096	18.916667	184	7.583334	0	
1097	K1097	18.916667	184	9.25	0	
1098	K1098	16.417	184	9.25	0	
1099	K1099	15.75	184	8.583333	0	
1100	K1100	16.417	184	8.583333	0	
1101	K1101	17.417	184	8.583333	0	
1102	K1102	16.417	184	7.583333	0	
1103	K1103	15.75	186	6.083333	0	
1104	K1104	15.75	186	8.583333	0	
1105	K1105	18.916667	186	9.25	0	
1106	K1106	16.417	186	9.25	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
1	N49							
2	N50							
3	N51							
4	N52							

Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
5	D	Reaction	Reaction	Reaction		Reaction		
6	C	Reaction	Reaction	Reaction		Reaction		
7	B	Reaction	Reaction	Reaction		Reaction		
8	A	Reaction	Reaction	Reaction		Reaction		
9	N145							
10	N146							
11	N147							
12	N148							
13	N157							
14	N158A							
15	N159A							
16	N160							
17	N161							
18	N162							
19	N163							
20	N164							
21	N165							
22	N166							
23	N167							
24	N168							
25	N169							
26	N170							
27	N171							
28	N172							
29	K185	Reaction	Reaction	Reaction		Reaction		
30	K186	Reaction	Reaction	Reaction		Reaction		
31	K187							
32	K188							
33	K189							
34	K190							
35	K191	Reaction	Reaction	Reaction		Reaction		
36	K192	Reaction	Reaction	Reaction		Reaction		
37	K193	Reaction	Reaction	Reaction		Reaction		
38	K194	Reaction	Reaction	Reaction		Reaction		
39	K195	Reaction	Reaction	Reaction		Reaction		
40	K196	Reaction	Reaction	Reaction		Reaction		
41	N197							
42	N198							
43	N199							
44	N200							
45	N201							
46	N202							
47	N203							
48	N204							
49	K1089A	Reaction	Reaction	Reaction				
50	K1090A	Reaction	Reaction	Reaction				
51	K1091A	Reaction	Reaction	Reaction				
52	K1092A	Reaction	Reaction	Reaction				
53	K1093A	Reaction	Reaction	Reaction				
54	K1094A	Reaction	Reaction	Reaction				
55	K1095	Reaction	Reaction	Reaction				
56	K1096	Reaction	Reaction	Reaction				
57	K1097	Reaction	Reaction	Reaction				
58	K1098	Reaction	Reaction	Reaction				
59	K1099	Reaction	Reaction	Reaction				
60	K1100	Reaction	Reaction	Reaction				
61	K1101	Reaction	Reaction	Reaction				

Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
62	K1102	Reaction	Reaction	Reaction				
63	K1103	Reaction	Reaction	Reaction				
64	K1104	Reaction	Reaction	Reaction				
65	K1105	Reaction	Reaction	Reaction				
66	K1106	Reaction	Reaction	Reaction				

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead	None		-1		28	222	26		
2	No Ice Wind 0 deg	None				40	548	66		
3	No Ice Wind 45 deg	None				80	518	111		
4	No Ice Wind 90 deg	None				40	532	74		
5	No Ice Wind 135 deg	None				80	526	110		
6	No Ice Wind 180 deg	None				40	548	66		
7	No Ice Wind 225 deg	None				80	518	110		
8	No Ice Wind 270 deg	None				40	532	74		
9	No Ice Wind 315 deg	None				80	526	110		
10	Ice	None				28	218	274		
11	Temperature Drop	None						258		
12	Ice Wind 0 deg	None				40	548	58		
13	Ice Wind 45 deg	None				80	518	110		
14	Ice Wind 90 deg	None				40	532	66		
15	Ice Wind 135 deg	None				80	526	110		
16	Ice Wind 180 deg	None				40	548	58		
17	Ice Wind 225 deg	None				80	518	110		
18	Ice Wind 270 deg	None				40	532	66		
19	Ice Wind 315 deg	None				80	526	110		
20	Service Wind 0 deg	None				40	548	48		
21	Service Wind 45 deg	None				80	518	80		
22	Service Wind 90 deg	None				40	532	56		
23	Service Wind 135 deg	None				80	526	80		
24	Service Wind 180 deg	None				40	548	48		
25	Service Wind 225 deg	None				80	518	80		
26	Service Wind 270 deg	None				40	532	56		
27	Service Wind 315 deg	None				80	526	80		

Load Combinations

	Description	S...	PDe...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	Dead Only	Yes	Y		1	1	28	1	29	1	0		0		0		0		0		0			
2	Dead+Wind 0 deg - No Ice	Yes	Y		1	1	2	1	28	1	29	1	0		0		0		0		0			
3	Dead+Wind 45 deg - No Ice	Yes	Y		1	1	3	1	28	1	29	1	0		0		0		0		0			
4	Dead+Wind 90 deg - No Ice	Yes	Y		1	1	4	1	28	1	29	1	0		0		0		0		0			
5	Dead+Wind 135 deg - No Ice	Yes	Y		1	1	5	1	28	1	29	1	0		0		0		0		0			
6	Dead+Wind 180 deg - No Ice	Yes	Y		1	1	6	1	28	1	29	1	0		0		0		0		0			
7	Dead+Wind 225 deg - No Ice	Yes	Y		1	1	7	1	28	1	29	1	0		0		0		0		0			
8	Dead+Wind 270 deg - No Ice	Yes	Y		1	1	8	1	28	1	29	1	0		0		0		0		0			
9	Dead+Wind 315 deg - No Ice	Yes	Y		1	1	9	1	28	1	29	1	0		0		0		0		0			
10	Dead+Ice+Temp	Yes	Y		1	1	10	1	11	1	28	1	29	1	0		0		0		0			
11	Dead+Wind 0 deg+Ice+Temp	Yes	Y		1	1	12	1	10	1	11	1	28	1	29	1	0		0		0			
12	Dead+Wind 45 deg+Ice+Te...	Yes	Y		1	1	13	1	10	1	11	1	28	1	29	1	0		0		0			
13	Dead+Wind 90 deg+Ice+Te...	Yes	Y		1	1	14	1	10	1	11	1	28	1	29	1	0		0		0			
14	Dead+Wind 135 deg+Ice+T...	Yes	Y		1	1	15	1	10	1	11	1	28	1	29	1	0		0		0			
15	Dead+Wind 180 deg+Ice+T...	Yes	Y		1	1	16	1	10	1	11	1	28	1	29	1	0		0		0			
16	Dead+Wind 225 deg+Ice+T...	Yes	Y		1	1	17	1	10	1	11	1	28	1	29	1	0		0		0			

Load Combinations (Continued)

	Description	S...	PDe...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
17	Dead+Wind 270 deg+Ice+T...	Yes	Y		1	1	18	1	10	1	11	1	28	1	29	1	0		0		0			
18	Dead+Wind 315 deg+Ice+T...	Yes	Y		1	1	19	1	10	1	11	1	28	1	29	1	0		0		0			
19	Dead+Wind 0 deg - Service		Y		1	1	20	1	28	1	29	1	0		0		0		0		0			
20	Dead+Wind 45 deg - Service		Y		1	1	21	1	28	1	29	1	0		0		0		0		0			
21	Dead+Wind 90 deg - Service		Y		1	1	22	1	28	1	29	1	0		0		0		0		0			
22	Dead+Wind 135 deg - Servi...		Y		1	1	23	1	28	1	29	1	0		0		0		0		0			
23	Dead+Wind 180 deg - Servi...		Y		1	1	24	1	28	1	29	1	0		0		0		0		0			
24	Dead+Wind 225 deg - Servi...		Y		1	1	25	1	28	1	29	1	0		0		0		0		0			
25	Dead+Wind 270 deg - Servi...		Y		1	1	26	1	28	1	29	1	0		0		0		0		0			
26	Dead+Wind 315 deg - Servi...		Y		1	1	27	1	28	1	29	1	0		0		0		0		0			

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	D	max	5.764	8	221.701	7	36.47	13	0	1	.006	4	0	1
2		min	-24.675	11	-155.846	3	-4.371	6	0	1	-.008	9	0	1
3	C	max	24.628	11	232.606	5	36.401	17	0	1	.007	3	0	1
4		min	-6.129	4	-173.099	9	-5.006	6	0	1	-.007	8	0	1
5	B	max	33.557	15	224.015	3	4.551	2	0	1	.005	9	0	1
6		min	-4.358	4	-158.471	7	-38.521	17	0	1	-.019	14	0	1
7	A	max	4.782	8	241.439	9	4.625	2	0	1	.019	16	0	1
8		min	-33.511	15	-169.452	5	-38.5	13	0	1	-.006	3	0	1
9	K185	max	.358	8	37.13	3	40.541	3	0	1	1.12	13	0	1
10		min	-.318	4	-31.081	7	-68.432	16	0	1	-.444	9	0	1
11	K186	max	.315	8	39.077	9	42.339	9	0	1	.389	3	0	1
12		min	-.358	4	-31.969	5	-68.65	14	0	1	-1.117	17	0	1
13	K191	max	51.059	18	40.244	5	.345	2	0	1	1.066	15	0	1
14		min	-41.253	4	-34.677	9	-.321	6	0	1	-.375	3	0	1
15	K192	max	71.098	16	38.33	3	.321	2	0	1	.377	5	0	1
16		min	-40.062	3	-31.718	7	-.348	6	0	1	-1.058	11	0	1
17	K193	max	39.884	7	38.949	7	.347	2	0	1	.394	9	0	1
18		min	-50.924	12	-32.288	3	-.324	6	0	1	-1.061	15	0	1
19	K194	max	43.241	9	41.647	9	.319	2	0	1	1.054	11	0	1
20		min	-71.446	14	-34.123	5	-.347	6	0	1	-.352	7	0	1
21	K195	max	.281	8	40.268	7	70.337	12	0	1	.917	17	0	1
22		min	-.327	4	-33.719	3	-38.953	7	0	1	-.425	5	0	1
23	K196	max	.326	8	42.502	5	70.578	18	0	1	.409	7	0	1
24		min	-.279	4	-36.967	9	-41.327	5	0	1	-.918	13	0	1
25	K1089A	max	0	1	.057	1	0	1	0	1	0	1	0	1
26		min	0	1	.057	1	0	1	0	1	0	1	0	1
27	K1090A	max	0	1	.063	1	0	1	0	1	0	1	0	1
28		min	0	1	.063	1	0	1	0	1	0	1	0	1
29	K1091A	max	0	1	.063	1	0	1	0	1	0	1	0	1
30		min	0	1	.063	1	0	1	0	1	0	1	0	1
31	K1092A	max	0	1	.038	1	0	1	0	1	0	1	0	1
32		min	0	1	.038	1	0	1	0	1	0	1	0	1
33	K1093A	max	0	1	.038	1	0	1	0	1	0	1	0	1
34		min	0	1	.038	1	0	1	0	1	0	1	0	1
35	K1094A	max	0	1	.031	1	0	1	0	1	0	1	0	1
36		min	0	1	.031	1	0	1	0	1	0	1	0	1
37	K1095	max	0	1	.042	1	0	1	0	1	0	1	0	1
38		min	0	1	.042	1	0	1	0	1	0	1	0	1
39	K1096	max	0	1	.031	1	0	1	0	1	0	1	0	1
40		min	0	1	.031	1	0	1	0	1	0	1	0	1
41	K1097	max	0	1	.042	1	0	1	0	1	0	1	0	1
42		min	0	1	.042	1	0	1	0	1	0	1	0	1

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
43	K1098	max	0	1	.02	1	0	1	0	1	0	1	0	1
44		min	0	1	.02	1	0	1	0	1	0	1	0	1
45	K1099	max	0	1	.02	1	0	1	0	1	0	1	0	1
46		min	0	1	.02	1	0	1	0	1	0	1	0	1
47	K1100	max	0	1	.018	1	0	1	0	1	0	1	0	1
48		min	0	1	.018	1	0	1	0	1	0	1	0	1
49	K1101	max	0	1	.013	1	0	1	0	1	0	1	0	1
50		min	0	1	.013	1	0	1	0	1	0	1	0	1
51	K1102	max	0	1	.013	1	0	1	0	1	0	1	0	1
52		min	0	1	.013	1	0	1	0	1	0	1	0	1
53	K1103	max	0	1	.023	1	0	1	0	1	0	1	0	1
54		min	0	1	.023	1	0	1	0	1	0	1	0	1
55	K1104	max	0	1	.015	1	0	1	0	1	0	1	0	1
56		min	0	1	.015	1	0	1	0	1	0	1	0	1
57	K1105	max	0	1	.023	1	0	1	0	1	0	1	0	1
58		min	0	1	.023	1	0	1	0	1	0	1	0	1
59	K1106	max	0	1	.015	1	0	1	0	1	0	1	0	1
60		min	0	1	.015	1	0	1	0	1	0	1	0	1
61	Totals:	max	161.41	8	227.424	12	158.584	2						
62		min	-160.656	4	162.485	7	-156.357	6						

Envelope AISC ASD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
1	J573	W14x61	.165	0	12	.016	0	y	12	19.828	28.793	35.991	28.793	1...	.203	.85	H2-1
2	J574	W14x61	.242	0	14	.021	0	y	14	19.828	28.793	35.991	28.793	1...	.223	.85	H2-1
3	J575	W14x61	.219	0	14	.018	0	y	14	19.067	28.793	35.991	28.793	1...	.221	.85	H2-1
4	J576	W14x61	.219	0	16	.018	0	y	16	19.067	28.793	35.991	28.793	1...	.221	.85	H2-1
5	J577	W14x61	.242	0	16	.021	0	y	16	19.828	28.793	35.991	28.793	1...	.223	.85	H2-1
6	J578	W14x61	.672	9.288	11	.017	18.5...	y	17	6.496	28.793	35.991	17.342	1	.601	.85	H1-1
7	J579	W14x61	.224	0	18	.020	0	y	18	20.565	28.793	35.991	28.793	1...	.204	.85	H2-1
8	J580	W14x61	.224	0	12	.020	0	y	12	20.565	28.793	35.991	28.793	1...	.204	.85	H2-1
9	M359	W10x22	.045	9.828	2	.008	18.5	y	2	7.095	28.793	35.991	14.623	1	.6	1	H1-3
10	M360	W10x22	.044	9.635	6	.007	18.5	y	6	7.095	28.793	35.991	14.623	1	.6	1	H1-3
11	J133	W8x15	.039	1.179	12	.005	2.357	y	8	26.365	28.793	35.991	31.672	1	.6	1	H1-3
12	J134	W8x15	.040	1.179	14	.005	2.357	y	8	26.365	28.793	35.991	31.672	1	.6	1	H1-3
13	J135	W8x15	.039	1.179	16	.005	2.357	y	5	26.365	28.793	35.991	31.672	1	.6	1	H1-3
14	J136	W8x15	.039	1.179	18	.005	2.357	y	4	26.365	28.793	35.991	31.672	1	.6	1	H1-3
15	J125	W14x61	.236	9.25	15	.009	18.5	y	3	18.808	28.793	35.991	28.793	1	.795	.85	H2-1
16	J126	W14x61	.185	11.177	13	.009	0	y	16	18.808	28.793	35.991	28.793	1	.285	.85	H2-1
17	J127	W14x61	.189	9.25	11	.010	18.5	y	7	18.808	28.793	35.991	28.793	1	.997	.85	H2-1
18	J128	W14x61	.185	7.13	17	.009	18.5	y	14	18.808	28.793	35.991	28.793	1	.286	.85	H2-1
19	J105	W10x77	.186	12.333	4	.097	11.37	y	4	25.298	28.793	35.991	31.672	1	.6	1	H1-3
20	J106	W10x77	.161	12.333	2	.083	11.37	y	2	25.298	28.793	35.991	31.672	1	.6	1	H1-3
21	J107	W10x77	.182	12.333	8	.095	11.37	y	8	25.298	28.793	35.991	31.672	1	.6	1	H1-3
22	J108	W10x77	.156	6.167	2	.081	7.13	y	2	25.298	28.793	35.991	31.672	1	.6	1	H1-3
23	J93	W10x33	.334	18.5	4	.132	7.13	y	17	23.592	28.793	35.991	28.793	2.3	.235	.85	H2-1
24	J94	W10x33	.306	18.5	2	.129	11.37	y	11	23.592	28.793	35.991	28.793	2.3	.223	.85	H2-1
25	J95	W10x33	.326	18.5	8	.131	11.37	y	17	23.592	28.793	35.991	28.793	2.3	.232	.85	H2-1
26	J96	W10x33	.291	0	2	.128	7.13	y	11	23.592	28.793	35.991	28.793	2.3	.212	.85	H2-1
27	J5	W12x53	.452	16.766	5	.161	16.9...	y	5	19.001	28.793	35.991	28.793	1	.664	.85	H2-1
28	J6	W12x53	.403	0	14	.203	1.542	y	5	19.001	28.793	35.991	28.793	1...	.994	.85	H2-1
29	J7	W12x53	.477	16.766	9	.168	16.9...	y	9	19.001	28.793	35.991	28.793	1	.664	.85	H2-1
30	J8	W12x53	.396	18.5	16	.211	1.542	y	9	19.001	28.793	35.991	28.793	1...	.994	.85	H2-1
31	M5	C8x11.5	.079	4.396	15	.011	4.396	y	15	19.775	28.793	35.991	28.793	1	1	1	H1-3
32	M6	C8x11.5	.080	4.396	13	.012	4.396	y	13	19.775	28.793	35.991	28.793	1	1	1	H1-3

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
33	M7	C8x11.5	.074	4.396	11	.011	4.396	y	11	19.775	28.793	35.991	28.793	1	1	1	H1-3
34	M8	C8x11.5	.075	4.396	17	.011	4.396	y	17	19.775	28.793	35.991	28.793	1	1	1	H1-3
35	M67	L2 1/2x2...	.021	5.997	9	.004	5.997	z	17	7.009	28.793	- Code...					H1-1
36	M68	L2 1/2x2...	.040	0	9	.004	5.997	z	14	7.009	28.793	- Code...					H1-1
37	M69	L2 1/2x2...	.042	0	7	.004	5.997	z	13	7.009	28.793	- Code...					H1-1
38	M70	L2 1/2x2...	.035	0	5	.004	5.997	z	11	7.009	28.793	- Code...					H1-1
39	M42	L2 1/2x2...	.201	5.347	8	.004	5.347	z	11	8.815	28.793	- Code...					H1-1
40	M43	L2 1/2x2...	.197	5.347	6	.004	5.347	z	17	8.815	28.793	- Code...					H1-1
41	M44	L2 1/2x2...	.204	5.347	4	.004	5.347	z	15	8.815	28.793	- Code...					H1-1
42	M45	L2 1/2x2...	.203	0	6	.004	5.347	z	13	8.815	28.793	- Code...					H1-1
43	M22	L2 1/2x2...	.027	4.795	8	.003	4.697	z	11	11.423	28.793	- Code...					H1-1
44	M23	L2 1/2x2...	.028	0	2	.003	4.697	z	17	11.423	28.793	- Code...					H1-1
45	M24	L2 1/2x2...	.027	4.795	4	.003	4.697	z	14	11.423	28.793	- Code...					H1-1
46	M25	L2 1/2x2...	.031	0	6	.003	4.697	z	12	11.423	28.793	- Code...					H1-1
47	M86	L5x3x1/4	.174	0	6	.026	5.056	z	4	16.205	28.793	- Code...					H1-1
48	M98	L5x3x1/4	.161	4.318	4	.026	.737	z	2	16.205	28.793	- Code...					H1-1
49	M110	L5x3x1/4	.178	4.318	2	.023	5.056	z	17	16.205	28.793	- Code...					H1-1
50	M122	L5x3x1/4	.164	0	8	.023	0	z	11	16.205	28.793	- Code...					H1-1
51	M77	2L2 1/2x...	.020	1.056	4	.001	0	y	10	22.129	28.793	28.793	28.793	1	1	1	H2-1
52	M82	2L2 1/2x...	.007	1.056	9	.001	0	y	10	22.129	28.793	28.286	28.286	1	1	1	H1-3
53	M89	2L2 1/2x...	.020	1.056	3	.001	0	y	10	22.129	28.793	28.793	28.793	1	1	1	H2-1
54	M94	2L2 1/2x...	.008	1.056	2	.001	0	y	10	22.129	28.793	28.286	28.286	1	1	1	H1-3
55	M101	2L2 1/2x...	.017	1.056	9	.001	0	y	10	22.129	28.793	28.793	28.793	1	1	1	H2-1
56	M106	2L2 1/2x...	.012	1.056	4	.001	0	y	10	22.129	28.793	28.286	28.286	1	1	1	H1-3
57	M113	2L2 1/2x...	.012	1.056	6	.001	0	y	10	22.129	28.793	28.793	28.793	1	1	1	H2-1
58	M118	2L2 1/2x...	.007	1.056	9	.001	0	y	10	22.129	28.793	28.793	28.793	1	1	1	H2-1
59	M78	2L2 1/2x...	.058	2.113	4	.002	4.225	y	13	21.062	28.793	28.286	28.286	1	1	1	H1-3
60	M83	2L2 1/2x...	.070	2.113	8	.002	4.225	y	10	21.062	28.793	28.286	28.286	1	1	1	H1-3
61	M90	2L2 1/2x...	.021	2.113	10	.002	4.225	y	10	21.062	28.793	28.793	28.793	1	1	1	H2-1
62	M95	2L2 1/2x...	.029	2.113	6	.002	4.225	y	10	21.062	28.793	28.286	28.286	1	1	1	H1-3
63	M102	2L2 1/2x...	.055	2.113	8	.002	4.225	y	17	21.062	28.793	28.286	28.286	1	1	1	H1-3
64	M107	2L2 1/2x...	.066	2.113	4	.002	4.225	y	10	21.062	28.793	28.286	28.286	1	1	1	H1-3
65	M114	2L2 1/2x...	.029	2.113	6	.002	4.225	y	15	21.062	28.793	28.286	28.286	1	1	1	H1-3
66	M119	2L2 1/2x...	.037	2.113	2	.002	4.225	y	10	21.062	28.793	28.286	28.286	1	1	1	H1-3
67	M260	L3x3x3	.059	0	8	.001	0	y	5	10.839	28.793	- Code...					H1-1
68	M261	L3x3x3	.062	0	4	.001	0	z	6	10.839	28.793	- Code...					H1-1
69	M262	L3x3x3	.059	0	6	.001	6.618	y	7	10.839	28.793	- Code...					H1-1
70	M263	L3x3x3	.062	0	2	.001	0	z	7	10.839	28.793	- Code...					H1-1
71	M264	L3x3x3	.049	0	4	.001	6.618	y	3	10.839	28.793	- Code...					H1-1
72	M265	L3x3x3	.055	0	8	.001	6.618	z	3	10.839	28.793	- Code...					H1-1
73	M266	L3x3x3	.048	0	2	.001	6.618	y	7	10.839	28.793	- Code...					H1-1
74	M267	L3x3x3	.044	0	6	.001	6.618	z	7	10.839	28.793	- Code...					H1-1
75	M79	L2 1/2x2...	.262	0	4	.001	0	z	13	5.792	28.793	- Code...					H1-1
76	M84	L2 1/2x2...	.050	0	5	.001	0	z	17	5.792	28.793	- Code...					H1-1
77	M91	L2 1/2x2...	.266	0	3	.001	0	z	12	5.792	28.793	- Code...					H1-1
78	M96	L2 1/2x2...	.070	0	6	.001	0	z	16	5.792	28.793	- Code...					H1-1
79	M103	L2 1/2x2...	.217	0	9	.001	0	z	17	5.792	28.793	- Code...					H1-1
80	M108	L2 1/2x2...	.104	0	8	.001	6.597	z	17	5.792	28.793	- Code...					H1-1
81	M115	L2 1/2x2...	.136	0	6	.001	0	z	18	5.792	28.793	- Code...					H1-1
82	M120	L2 1/2x2...	.065	0	9	.001	6.597	z	15	5.792	28.793	- Code...					H1-1
83	M80	L3x3x3/...	.660	0	7	.002	0	z	17	8.903	28.793	- Code...					H1-1
84	M85	L3x3x3/...	.708	0	5	.002	7.426	z	15	8.903	28.793	- Code...					H1-1
85	M92	L3x3x3/...	.564	0	4	.002	0	z	14	8.903	28.793	- Code...					H1-1
86	M97	L3x3x3/...	.595	0	4	.002	7.426	z	15	8.903	28.793	- Code...					H1-1
87	M104	L3x3x3/...	.656	0	3	.002	7.426	z	18	8.903	28.793	- Code...					H1-1
88	M109	L3x3x3/...	.692	0	9	.002	7.426	z	18	8.903	28.793	- Code...					H1-1
89	M116	L3x3x3/...	.580	0	8	.002	7.426	z	18	8.903	28.793	- Code...					H1-1

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
90	M121	L3x3x3/...	.583	0	8	.002	0	z	17	8.903	28.793	- Code...					H1-1
91	D1	W10x112	.538	23.101	7	.221	1.034	y	13	20.372	28.793	35.991	28.793	1	.6	.6	H1-1
92	C1	W10x112	.565	23.101	5	.221	1.034	y	17	20.372	28.793	35.991	28.793	1	.6	.6	H1-1
93	B1	W10x112	.533	23.101	3	.234	1.034	y	17	20.372	28.793	35.991	28.793	1	.6	.6	H1-1
94	A1	W10x112	.580	23.101	9	.234	1.034	y	13	20.372	28.793	35.991	28.793	1	.6	.6	H1-1
95	M71	L6x6x1/2	.320	0	7	.028	12.7...	y	4	22.585	28.793	- Code...					H1-1
96	M72	L6x6x1/2	.367	0	5	.025	12.7...	z	8	22.585	28.793	- Code...					H1-1
97	M73	L6x6x1/2	.314	0	3	.028	12.7...	y	8	22.585	28.793	- Code...					H1-1
98	M74	L6x6x1/2	.380	0	9	.025	12.7...	z	4	22.585	28.793	- Code...					H1-1
99	M46	L5x5x1/2	.380	0	7	.004	5.291	y	7	22.706	28.793	- Code...					H1-1
100	M47	L5x5x1/2	.448	0	5	.005	5.291	y	5	22.706	28.793	- Code...					H1-1
101	M48	L5x5x1/2	.380	0	3	.005	5.291	y	3	22.706	28.793	- Code...					H1-1
102	M49	L5x5x1/2	.461	0	9	.005	5.291	y	9	22.706	28.793	- Code...					H1-1
103	M26	L5x5x1/2	.260	0	7	.037	9.959	y	4	22.653	28.793	- Code...					H1-1
104	M27	L5x5x1/2	.320	0	5	.036	9.959	z	8	22.653	28.793	- Code...					H1-1
105	M28	L5x5x1/2	.259	0	3	.035	9.959	z	6	22.653	28.793	- Code...					H1-1
106	M29	L5x5x1/2	.321	0	9	.035	9.959	y	6	22.653	28.793	- Code...					H1-1
107	D2	W10x77	.440	1.292	7	.049	17.1...	y	2	21.706	28.793	35.991	28.793	1	.534	.377	H1-1
108	C2	W10x77	.469	1.292	5	.049	17.1...	y	2	21.706	28.793	35.991	28.793	1	.533	.397	H1-1
109	B2	W10x77	.439	1.292	3	.049	17.1...	y	6	21.706	28.793	35.991	28.793	1	.532	.394	H1-1
110	A2	W10x77	.483	1.292	9	.049	17.1...	y	6	21.706	28.793	35.991	28.793	1	.534	.392	H1-1
111	D3	W10x77	.533	14.9	7	.089	9.933	y	7	25.717	28.793	35.991	31.672	1....	.625	.619	H1-2
112	C3	W10x77	.588	14.9	5	.100	9.933	y	5	25.717	28.793	35.991	31.672	1....	.624	.62	H1-2
113	B3	W10x77	.524	14.9	3	.094	9.933	y	3	25.717	28.793	35.991	31.672	1....	.624	.62	H1-2
114	A3	W10x77	.614	14.9	9	.103	9.933	y	9	25.717	28.793	35.991	31.672	1.7	.624	.619	H1-2
115	M1	L5x5x1/2	.119	0	7	.059	9.959	y	4	22.587	28.793	- Code...					H1-1
116	M2	L5x5x1/2	.162	0	5	.061	9.959	z	8	22.587	28.793	- Code...					H1-1
117	M3	L5x5x1/2	.118	0	3	.057	9.959	z	6	22.587	28.793	- Code...					H1-1
118	M4	L5x5x1/2	.147	0	9	.038	9.959	y	6	22.587	28.793	- Code...					H1-1
119	J129	W16x50	.254	2.357	16	.178	4.714	y	7	26.04	28.793	35.991	31.672	1	.6	1	H1-2
120	J130	W16x50	.271	2.357	5	.200	0	y	5	26.04	28.793	35.991	31.672	1	.6	1	H2-1
121	J131	W16x50	.255	2.357	12	.176	4.714	y	3	26.04	28.793	35.991	31.672	1	.6	1	H1-2
122	J132	W16x50	.283	2.357	9	.208	0	y	9	26.04	28.793	35.991	31.672	1	.6	1	H2-1
123	M256	HSS6x6...	.102	0	7	.030	0	z	9	35.216	36.791	40.47	40.47	1....	.6	.6	H1-1
124	M257	HSS6x6...	.114	0	5	.033	0	z	7	35.216	36.791	40.47	40.47	1....	.6	.6	H1-1
125	M258	HSS6x6...	.101	0	3	.031	0	z	9	35.216	36.791	40.47	40.47	1....	.6	.6	H1-1
126	M259	HSS6x6...	.119	0	9	.026	0	z	3	35.216	36.791	40.47	40.47	1....	.6	.6	H1-1
127	J109	W10x26	.023	6.541	7	.005	13.0...	y	12	14.587	28.793	35.991	25.117	1	.6	1	H1-3
128	J110	W10x26	.023	6.541	5	.005	13.0...	y	13	14.587	28.793	35.991	25.117	1	.6	1	H1-3
129	J111	W10x26	.023	6.541	7	.005	13.0...	y	16	14.587	28.793	35.991	25.117	1	.6	1	H1-3
130	J112	W10x26	.023	6.541	5	.005	13.0...	y	18	14.587	28.793	35.991	25.117	1	.6	1	H1-3
131	J97	W10x26	.017	6.541	3	.005	13.0...	y	12	14.587	28.793	35.991	25.117	1	.6	1	H1-3
132	J98	W10x26	.017	6.541	5	.005	13.0...	y	14	14.587	28.793	35.991	25.117	1	.6	1	H1-3
133	J99	W10x26	.017	6.541	3	.005	13.0...	y	16	14.587	28.793	35.991	25.117	1	.6	1	H1-3
134	J100	W10x26	.017	6.541	5	.005	13.0...	y	11	14.587	28.793	35.991	25.117	1	.6	1	H1-3
135	J85	W10x26	.026	6.541	7	.006	13.0...	y	16	14.587	28.793	35.991	25.117	1	.6	1	H1-3
136	J86	W10x26	.026	6.541	5	.006	13.0...	y	14	14.587	28.793	35.991	25.117	1	.6	1	H1-3
137	J87	W10x26	.026	6.541	7	.006	13.0...	y	12	14.587	28.793	35.991	25.117	1	.6	1	H1-3
138	J88	W10x26	.026	6.541	5	.006	13.0...	y	18	14.587	28.793	35.991	25.117	1	.6	1	H1-3
139	J65	W10x26	.031	6.541	7	.006	13.0...	y	12	14.587	28.793	35.991	25.117	1	.6	1	H1-3
140	J66	W10x26	.032	6.541	5	.006	0	y	14	14.587	28.793	35.991	25.117	1	.6	1	H1-3
141	J67	W10x26	.031	6.541	7	.006	13.0...	y	16	14.587	28.793	35.991	25.117	1	.6	1	H1-3
142	J68	W10x26	.032	6.541	5	.006	0	y	18	14.587	28.793	35.991	25.117	1	.6	1	H1-3
143	M123	L3x3x3/...	.016	0	3	.007	0	z	14	6.112	28.793	- Code...					H1-1
144	M124	L3x3x3/...	.015	4.481	5	.007	0	z	16	6.112	28.793	- Code...					H1-1
145	M125	L3x3x3/...	.015	0	3	.007	8.963	z	14	6.112	28.793	- Code...					H1-1
146	M126	L3x3x3/...	.016	4.481	5	.007	0	z	16	6.112	28.793	- Code...					H1-1

Envelope AISC ASD Steel Code Checks (Continued)

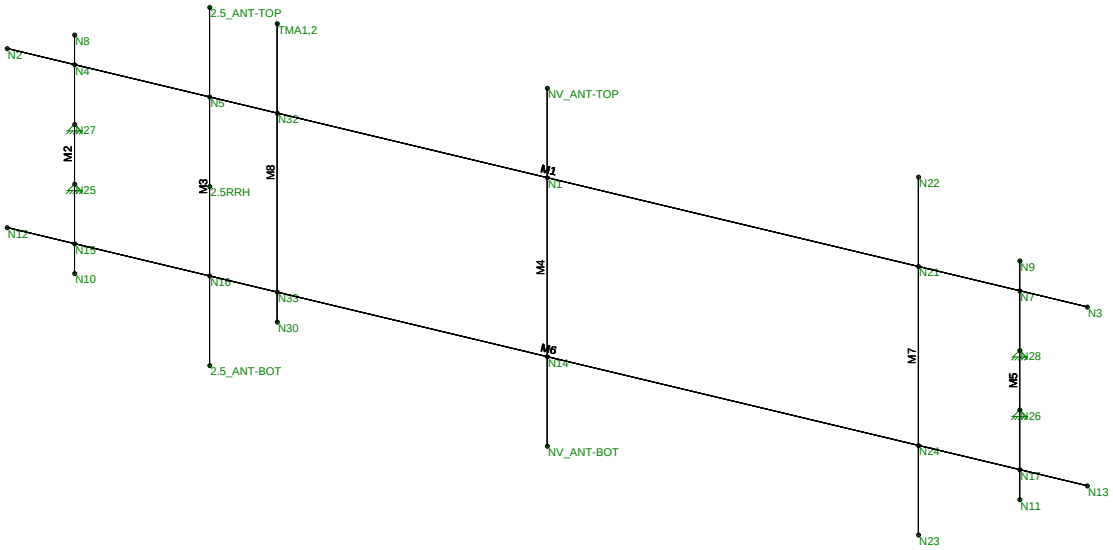
	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
147	M127	L3x3x3/...	.002	0	11	.002	0	z	13	3.056	28.793	- Code...					H1-1
148	M336	L3x3x3/...	.001	0	2	.002	6.338	y	13	21.021	28.793	- Code...					H2-1
149	M337	L3x3x3/...	.001	3.169	8	.002	0	y	15	21.021	28.793	- Code...					H2-1
150	M338	L3x3x3/...	.001	0	2	.002	0	y	13	21.021	28.793	- Code...					H2-1
151	M339	L3x3x3/...	.001	3.169	8	.002	6.338	y	15	21.021	28.793	- Code...					H2-1
152	M340	L3x3x3/...	.002	0	17	.002	0	z	15	3.056	28.793	- Code...					H1-1
153	M341	L3x3x3/...	.002	0	15	.002	0	z	13	3.056	28.793	- Code...					H1-1
154	M342	L3x3x3/...	.002	0	13	.002	0	z	15	3.056	28.793	- Code...					H1-1
155	J45	W10x26	.027	6.541	7	.006	13.0...	y	14	14.587	28.793	35.991	25.117	1	.6	1	H1-3
156	J46	W10x26	.027	6.541	5	.006	13.0...	y	11	14.587	28.793	35.991	25.117	1	.6	1	H1-3
157	J47	W10x26	.027	6.541	7	.006	13.0...	y	18	14.587	28.793	35.991	25.117	1	.6	1	H1-3
158	J48	W10x26	.027	6.541	5	.006	13.0...	y	15	14.587	28.793	35.991	25.117	1	.6	1	H1-3
159	M54	L3x3x1/4	.001	0	3	.004	8.047	z	16	7.481	28.793	- Code...					H1-1
160	M55	L3x3x1/4	.001	0	9	.004	8.047	z	18	7.481	28.793	- Code...					H1-1
161	M56	L3x3x1/4	.001	0	3	.004	8.047	z	12	7.481	28.793	- Code...					H1-1
162	M57	L3x3x1/4	.001	0	9	.004	8.047	z	18	7.481	28.793	- Code...					H1-1
163	J25	W12x26	.037	8.721	7	.011	13.0...	y	5	16.549	28.793	35.991	22.587	1	.6	1	H1-1
164	J26	W12x26	.035	4.36	9	.011	0	y	3	16.549	28.793	35.991	22.587	1	.6	1	H1-1
165	J27	W12x26	.033	8.721	3	.011	13.0...	y	9	16.549	28.793	35.991	22.587	1	.6	1	H1-1
166	J28	W12x26	.035	4.36	5	.011	0	y	7	16.549	28.793	35.991	22.587	1	.6	1	H1-1
167	M9	C8x11.5	.007	3.108	14	.002	6.217	y	13	13.773	28.793	35.991	23.624	1	.6	1	H1-3
168	M10	C8x11.5	.007	3.108	16	.002	6.217	y	17	13.773	28.793	35.991	23.624	1	.6	1	H1-3
169	M11	C8x11.5	.007	3.108	14	.002	6.217	y	17	13.773	28.793	35.991	23.624	1	.6	1	H1-3
170	M12	C8x11.5	.007	3.108	16	.002	0	y	13	13.773	28.793	35.991	23.624	1	.6	1	H1-3
171	M13	C8x11.5	.019	4.396	13	.003	0	y	12	6.952	28.793	35.991	16.705	1	.6	1	H1-3
172	J73	W10x33	.157	9.25	4	.012	18.5	y	11	23.592	28.793	35.991	28.793	1	.6	1	H1-3
173	J76	W10x33	.154	9.25	6	.013	18.5	y	17	23.592	28.793	35.991	28.793	1	.6	1	H1-3
174	J79	W10x33	.154	9.25	8	.013	18.5	y	15	23.592	28.793	35.991	28.793	1	.6	1	H1-3
175	J82	W10x33	.151	9.25	2	.013	18.5	y	13	23.592	28.793	35.991	28.793	1	.6	1	H1-3
176	J53	W10x33	.145	9.25	4	.015	18.5	y	11	23.592	28.793	35.991	28.793	1	.6	1	H1-3
177	J56	W10x33	.140	9.25	6	.015	18.5	y	17	23.592	28.793	35.991	28.793	1	.6	1	H1-3
178	J59	W10x33	.142	9.25	8	.015	18.5	y	15	23.592	28.793	35.991	28.793	1	.6	1	H1-3
179	J62	W10x33	.137	9.25	2	.015	18.5	y	13	23.592	28.793	35.991	28.793	1	.6	1	H1-3
180	M75	2L2 1/2x...	.225	6.47	8	.003	6.338	y	15	17.5	28.793	28.793	28.793	1	1	1	H1-1
181	M87	2L2 1/2x...	.233	6.206	2	.003	6.338	y	13	17.5	28.793	28.793	28.793	1	1	1	H1-1
182	M99	2L2 1/2x...	.193	6.206	8	.003	6.338	y	11	17.5	28.793	28.793	28.793	1	1	1	H1-1
183	M111	2L2 1/2x...	.178	6.338	5	.003	6.338	y	17	17.5	28.793	28.793	28.793	1	1	1	H1-1
184	J33	W10x33	.129	9.25	5	.014	18.5	y	11	23.592	28.793	35.991	28.793	1	.6	1	H2-1
185	J36	W10x33	.120	9.25	5	.014	18.5	y	17	23.592	28.793	35.991	28.793	1	.6	1	H2-1
186	J39	W10x33	.134	9.25	9	.014	18.5	y	15	23.592	28.793	35.991	28.793	1	.6	1	H2-1
187	J42	W10x33	.123	9.25	9	.014	18.5	y	13	23.592	28.793	35.991	28.793	1	.6	1	H2-1
188	M50	L3x3x1/4	.167	5.69	2	.003	11.3...	z	15	14.583	28.793	- Code...					H1-1
189	M51	L3x3x1/4	.136	0	8	.003	11.3...	z	13	14.583	28.793	- Code...					H1-1
190	M52	L3x3x1/4	.158	5.69	6	.003	11.3...	z	11	14.583	28.793	- Code...					H1-1
191	M53	L3x3x1/4	.140	5.69	4	.003	11.3...	z	17	14.583	28.793	- Code...					H1-1
192	J13	W18x65	.230	9.25	13	.111	18.5	y	5	22.51	28.793	35.991	28.793	1	.6	1	H2-1
193	J16	W18x65	.210	3.276	14	.098	0	y	5	22.51	28.793	35.991	28.793	1	.6	1	H2-1
194	J19	W18x65	.229	9.25	18	.116	18.5	y	9	22.51	28.793	35.991	28.793	1	.6	1	H2-1
195	J22	W18x65	.214	3.276	9	.102	0	y	9	22.51	28.793	35.991	28.793	1	.6	1	H2-1
196	M30	C7x9.8	.125	5.043	15	.008	5.043	y	15	4.531	28.793	35.991	14.442	1	1	1	H1-3
197	M31	C7x9.8	.124	5.043	13	.008	5.043	y	13	4.531	28.793	35.991	14.442	1	1	1	H1-3
198	M32	C7x9.8	.118	5.043	11	.008	5.043	y	11	4.531	28.793	35.991	14.442	1	1	1	H1-3
199	M33	C7x9.8	.117	5.043	17	.008	5.043	y	17	4.531	28.793	35.991	14.442	1	1	1	H1-3
200	J113	TS6x10...	.132	20.004	11	.002	12.9...	y	5	27.538	36.791	40.47	40.47	1	.6	1	H2-1
201	J114	TS6x10...	.132	20.004	11	.002	12.9...	y	7	27.538	36.791	40.47	40.47	1	.6	1	H2-1
202	J115	TS6x10...	.125	12.976	17	.002	12.9...	y	18	27.538	36.791	40.47	40.47	1	.6	1	H2-1
203	J116	TS6x10...	.120	12.976	17	.002	12.9...	y	16	27.538	36.791	40.47	40.47	1	.6	1	H2-1

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
204	J117	TS6x10...	.121	12.976	15	.002	12.9...	y	16	27.538	36.791	40.47	40.47	1	.6	1	H2-1
205	J118	TS6x10...	.121	12.976	15	.002	12.9...	y	14	27.538	36.791	40.47	40.47	1	.6	1	H2-1
206	J119	TS6x10...	.120	12.976	13	.002	12.9...	y	14	27.538	36.791	40.47	40.47	1	.6	1	H2-1
207	J120	TS6x10...	.125	12.976	13	.002	12.9...	y	12	27.538	36.791	40.47	40.47	1	.6	1	H2-1
208	J74	W8x31	.279	6.882	8	.005	0	y	17	19.344	28.793	35.991	28.793	1	.6	1	H1-1
209	J75	W8x31	.281	6.882	4	.005	14.6...	y	18	19.344	28.793	35.991	28.793	1	.6	1	H1-1
210	J77	W8x31	.274	6.882	6	.005	0	y	14	19.344	28.793	35.991	28.793	1	.6	1	H1-1
211	J78	W8x31	.279	6.882	2	.005	0	y	15	19.344	28.793	35.991	28.793	1	.6	1	H1-1
212	J80	W8x31	.269	6.882	4	.005	14.6...	y	16	19.344	28.793	35.991	28.793	1	.6	1	H1-1
213	J81	W8x31	.274	6.882	8	.005	0	y	11	19.344	28.793	35.991	28.793	1	.6	1	H1-1
214	J83	W8x31	.267	6.882	2	.005	14.6...	y	10	19.344	28.793	35.991	28.793	1	.6	1	H1-1
215	J84	W8x31	.261	6.882	6	.005	14.6...	y	17	19.344	28.793	35.991	28.793	1	.6	1	H1-1
216	J54	W8x31	.351	8.273	8	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
217	J55	W8x31	.353	8.273	4	.005	0	y	14	16.012	28.793	35.991	28.793	1	.6	1	H1-1
218	J57	W8x31	.338	8.273	6	.005	18.05	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
219	J58	W8x31	.345	8.273	2	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
220	J60	W8x31	.336	8.273	4	.005	18.05	y	13	16.012	28.793	35.991	28.793	1	.6	1	H1-1
221	J61	W8x31	.344	8.273	8	.005	0	y	12	16.012	28.793	35.991	28.793	1	.6	1	H1-1
222	J63	W8x31	.328	8.273	2	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
223	J64	W8x31	.320	8.273	6	.005	0	y	14	16.012	28.793	35.991	28.793	1	.6	1	H1-1
224	M76	2L2 1/2x...	.588	13.715	7	.001	13.7...	y	7	15	28.793	28.793	28.793	1	1	1	H1-1
225	M81	2L2 1/2x...	.594	13.715	4	.001	13.7...	y	15	15	28.793	28.793	28.793	1	1	1	H1-1
226	M88	2L2 1/2x...	.546	6.858	6	.002	13.7...	y	5	15	28.793	28.793	28.793	1	1	1	H1-1
227	M93	2L2 1/2x...	.518	6.858	3	.001	13.7...	y	12	15	28.793	28.793	28.793	1	1	1	H1-1
228	M100	2L2 1/2x...	.446	5.143	3	.001	13.7...	y	3	15	28.793	28.793	28.793	1	1	1	H1-1
229	M105	2L2 1/2x...	.594	5.143	9	.001	13.7...	y	2	15	28.793	28.793	28.793	1	1	1	H1-1
230	M112	2L2 1/2x...	.526	6.858	9	.002	13.7...	y	9	15	28.793	28.793	28.793	1	1	1	H1-1
231	M117	2L2 1/2x...	.384	5.357	7	.001	13.7...	y	16	15	28.793	28.793	28.793	1	1	1	H1-1
232	J34	W8x31	.280	8.273	8	.005	18.05	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
233	J35	W8x31	.282	8.273	4	.005	18.05	y	10	16.012	28.793	35.991	28.793	1	.6	1	H1-1
234	J37	W8x31	.268	8.273	6	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
235	J38	W8x31	.275	8.273	2	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
236	J40	W8x31	.266	8.273	4	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
237	J41	W8x31	.273	8.273	8	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
238	J43	W8x31	.258	8.273	2	.005	0	y	17	16.012	28.793	35.991	28.793	1	.6	1	H1-1
239	J44	W8x31	.250	8.273	6	.005	0	y	11	16.012	28.793	35.991	28.793	1	.6	1	H1-1
240	M59	2L2 1/2x...	.652	8.289	7	.003	8.126	y	13	12.853	28.793	28.286	28.286	1	1	1	H1-1
241	M60	2L2 1/2x...	.566	8.289	5	.003	8.126	y	17	12.853	28.793	28.286	28.286	1	1	1	H1-1
242	M61	2L2 1/2x...	.600	8.289	6	.003	8.126	y	11	12.853	28.793	28.286	28.286	1	1	1	H1-1
243	M62	2L2 1/2x...	.614	8.289	3	.003	8.126	y	15	12.853	28.793	28.286	28.286	1	1	1	H1-1
244	M63	2L2 1/2x...	.427	8.289	3	.003	8.126	y	17	12.853	28.793	28.286	28.286	1	1	1	H1-1
245	M64	2L2 1/2x...	.645	8.289	9	.003	8.126	y	13	12.853	28.793	28.286	28.286	1	1	1	H1-1
246	M65	2L2 1/2x...	.575	8.289	9	.003	8.126	y	15	12.853	28.793	28.286	28.286	1	1	1	H1-1
247	M66	2L2 1/2x...	.394	8.289	7	.003	8.126	y	11	12.853	28.793	28.286	28.286	1	1	1	H1-1
248	J14	W8x31	.203	5.987	7	.005	12.4...	y	13	21.286	28.793	35.991	28.793	1	.6	1	H1-1
249	J15	W8x31	.209	5.987	5	.005	12.4...	y	12	21.286	28.793	35.991	28.793	1	.6	1	H1-1
250	J17	W8x31	.194	5.987	5	.005	12.4...	y	15	21.286	28.793	35.991	28.793	1	.6	1	H1-1
251	J18	W8x31	.185	5.987	3	.005	12.4...	y	12	21.286	28.793	35.991	28.793	1	.6	1	H1-1
252	J20	W8x31	.188	5.987	3	.005	0	y	13	21.286	28.793	35.991	28.793	1	.6	1	H1-1
253	J21	W8x31	.218	5.987	9	.005	12.4...	y	14	21.286	28.793	35.991	28.793	1	.6	1	H1-1
254	J23	W8x31	.199	5.987	9	.005	12.4...	y	14	21.286	28.793	35.991	28.793	1	.6	1	H1-1
255	J24	W8x31	.172	5.987	7	.005	12.4...	y	11	21.286	28.793	35.991	28.793	1	.6	1	H1-1
256	M34	2L2 1/2x...	.462	4.571	7	.003	7.619	y	11	14.163	28.793	28.286	28.286	1	1	1	H1-1
257	M35	2L2 1/2x...	.505	4.419	4	.003	7.619	y	11	14.163	28.793	28.286	28.286	1	1	1	H1-1
258	M36	2L2 1/2x...	.552	4.571	6	.003	7.619	y	17	14.163	28.793	28.286	28.286	1	1	1	H1-1
259	M37	2L2 1/2x...	.551	7.619	2	.003	7.619	y	17	14.163	28.793	28.286	28.286	1	1	1	H1-1
260	M38	2L2 1/2x...	.348	7.619	4	.003	7.619	y	16	14.163	28.793	28.286	28.286	1	1	1	H1-1

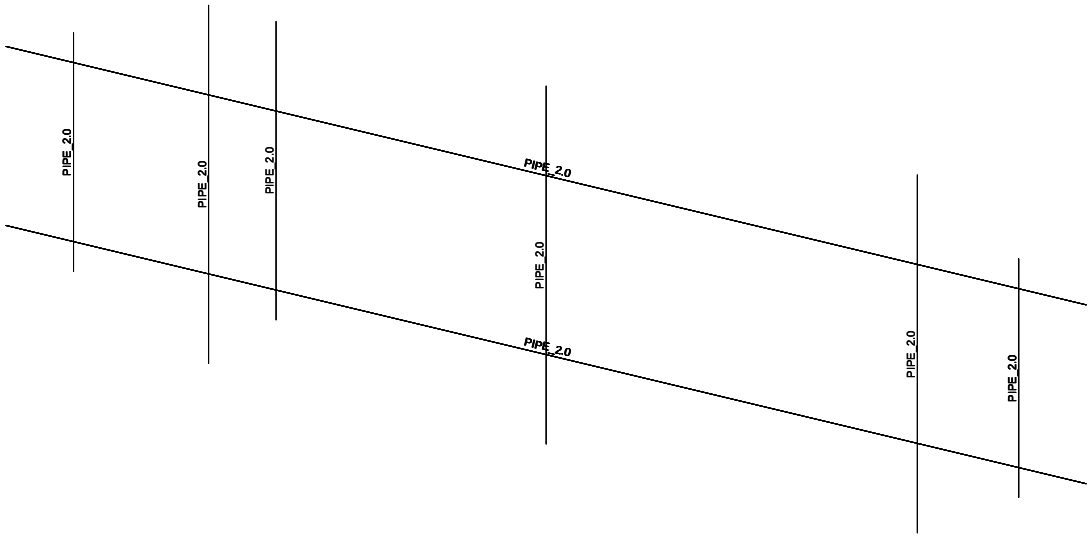
Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
261	M39	2L2 1/2x...	.425	4.266	9	.003	7.619	y	15	14.163	28.793	28.286	28.286	1	1	1	H1-1
262	M40	2L2 1/2x...	.398	3.809	2	.003	7.619	y	13	14.163	28.793	28.286	28.286	1	1	1	H1-1
263	M41	2L2 1/2x...	.339	7.619	6	.003	7.619	y	12	14.163	28.793	28.286	28.286	1	1	1	H1-1
264	M14	2L2 1/2x...	.333	7.281	7	.003	7.281	y	12	15.326	28.793	28.286	28.286	1	1	1	H1-1
265	M15	2L2 1/2x...	.327	7.281	4	.003	7.281	y	11	15.326	28.793	28.286	28.286	1	1	1	H1-1
266	M16	2L2 1/2x...	.379	7.281	6	.003	7.281	y	17	15.326	28.793	28.286	28.286	1	1	1	H1-1
267	M17	2L2 1/2x...	.386	7.281	2	.003	7.281	y	16	15.326	28.793	28.286	28.286	1	1	1	H1-1
268	M18	2L2 1/2x...	.171	7.281	5	.003	7.281	y	16	15.326	28.793	28.286	28.286	1	1	1	H1-1
269	M19	2L2 1/2x...	.298	7.281	9	.003	7.281	y	14	15.326	28.793	28.286	28.286	1	1	1	H1-1
270	M20	2L2 1/2x...	.244	7.281	9	.003	7.281	y	14	15.326	28.793	28.286	28.286	1	1	1	H1-1
271	M21	2L2 1/2x...	.157	7.281	5	.003	7.281	y	12	15.326	28.793	28.286	28.286	1	1	1	H1-3
272	M343	L2.5x2x3	.853	5.236	4	.000	5.236	z	7	11.119	28.793	- Code...					H1-1
273	M344	L2.5x2x3	.942	0	2	.000	0	z	7	11.119	28.793	- Code...					H1-1
274	M345	L2.5x2x3	.853	0	8	.000	5.236	z	7	11.119	28.793	- Code...					H1-1
275	M346	L2.5x2x3	.912	0	6	.000	5.236	z	7	11.119	28.793	- Code...					H1-1
276	M347	L2.5x2x3	.006	0	11	.000	0	z	7	9.038	28.793	- Code...					H2-1
277	M348	L2.5x2x3	.049	0	15	.000	0	z	7	11.507	28.793	- Code...					H1-1
278	M349	L2.5x2x3	.007	5.269	13	.000	5.269	z	4	9.038	28.793	- Code...					H2-1
279	M350	L2.5x2x3	.047	0	17	.000	0	z	7	11.507	28.793	- Code...					H1-1
280	M351	L2.5x2x3	.007	5.269	15	.000	0	z	6	9.038	28.793	- Code...					H2-1
281	M352	L2.5x2x3	.047	0	11	.000	4.669	z	7	11.507	28.793	- Code...					H1-1
282	M353	L2.5x2x3	.006	5.269	17	.000	5.269	z	7	9.038	28.793	- Code...					H2-1
283	M354	L2.5x2x3	.049	0	13	.000	0	z	7	11.507	28.793	- Code...					H1-1
284	M355	L2.5x2x3	.107	4.628	15	.000	0	z	7	11.712	28.793	- Code...					H1-1
285	M356	L2.5x2x3	.097	0	13	.000	4.628	z	7	11.712	28.793	- Code...					H1-1
286	M357	L2.5x2x3	.102	0	11	.000	0	z	7	11.712	28.793	- Code...					H1-1
287	M358	L2.5x2x3	.092	0	17	.000	0	z	7	11.712	28.793	- Code...					H1-1
288	J581	HSS10x...	.432	25.019	8	.009	25.0...	z	4	13.123	36.791	36.791	36.791	1....	.85	.63	H1-1
289	J582	HSS10x...	.462	25.019	8	.009	25.0...	z	4	13.123	36.791	36.791	36.791	1....	.85	.621	H1-1
290	J583	HSS10x...	.465	0	9	.009	25.7...	z	6	12.422	36.791	36.791	36.791	1....	.85	.522	H1-1
291	J584	HSS10x...	.441	0	3	.009	25.7...	z	6	12.422	36.791	36.791	36.791	1....	.85	.525	H1-1
292	J585	HSS10x...	.429	25.019	4	.009	25.0...	z	8	13.123	36.791	36.791	36.791	1....	.85	.627	H1-1
293	J586	HSS10x...	.459	25.019	4	.009	25.0...	z	8	13.123	36.791	36.791	36.791	1....	.85	.624	H1-1
294	J587	HSS10x...	.428	0	5	.009	24.3...	z	2	13.861	36.791	36.791	36.791	1....	.85	.535	H1-1
295	J588	HSS10x...	.405	0	7	.010	24.3...	z	2	13.861	36.791	36.791	36.791	1....	.85	.534	H1-1



Envelope Only Solution

Ramaker & Associates, Inc.	SNET Tower (CT03XC103-C)	SK - 1
JMO		Aug 19, 2015 at 3:12 PM
30511		30511 Mount.r3d



Envelope Only Solution

Ramaker & Associates, Inc.	SNET Tower (CT03XC103-C)	SK - 2
JMO		Aug 19, 2015 at 3:14 PM
30511		30511 Mount.r3d

RAMAKER & ASSOCIATES, INC.
1120 Dallas Street
Sauk City, WI 53583
Office: (608) 643-4100

Job:	SNET Tower (CT03XC103-C)
Project:	30511
By:	JMO
Date:	8/19/15

Wind Load on Antennas TIA/EIA-222-F

$q_z = 0.00256\ K_z\ V^2$

$F = q_z\ G_h\ C_A\ A_C$

V:	85	mph	Basic Wind Speed (fastest mile)
z:	200.5	ft	Height above ground level to the center of the antenna
K_z:	1.67		Velocity Pressure Coefficient (2.6.5.2)
q_z:	31.0	psf	Velocity Pressure at Height z

Type:	Rooftop	Structure Type
h:	127.33 ft	Total height of structure
G_H:	1.14	Gust response factor for fastest-mile basic wind speed

Mount & Antenna Wind Loads

Appurtenance	Height	Width	h/D	Shape	C_a	A_f	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
Pipe2STD x 16 ft	192.0	2.4	80.7	Round	1.200	3.17	135.0	8.44
APXV9ERR18-C	72.0	11.9	6.1	Flat	1.400	5.95	295.1	
IBC1900BB-1	12.6	9.2	1.4	Flat	1.400	0.80	39.8	
APXVTM14-C-120	55.1	11.8	4.7	Flat	1.400	4.52	224.1	
TD-RRH8x20	25.4	17.5	1.5	Flat	1.400	3.09	153.2	

RAMAKER & ASSOCIATES, INC.
1120 Dallas Street
Sauk City, WI 53583
Office: (608) 643-4100

Job:	SNET Tower (CT03XC103-C)
Project:	30511
By:	JMO
Date:	8/19/15

Wind Load on Antennas TIA/EIA-222-F

$q_z = 0.00256\ K_z\ V^2$

$F = q_z\ G_h\ C_A\ A_C$

V:	85	mph	Basic Wind Speed (fastest mile)
z:	200.5	ft	Height above ground level to the center of the antenna
K_z:	1.67		Velocity Pressure Coefficient (2.6.5.2)
q_z:	31.0	psf	Velocity Pressure at Height z

Type:	Rooftop	Structure Type
h:	127.33 ft	Total height of structure
G_H:	1.14	Gust response factor for fastest-mile basic wind speed

Mount & Antenna Wind Loads

Appurtenance	Height	Depth	h/D	Shape	C_a	A_f	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
Pipe2STD x 16 ft	192.0	2.4	80.7	Round	1.200	3.17	135.0	8.44
APXV9ERR18-C	72.0	7.9	9.1	Flat	1.470	3.95	206.0	
IBC1900BB-1	12.6	4.4	2.9	Flat	1.400	0.38	18.9	
APXVTM14-C-120	55.1	5.9	9.3	Flat	1.478	2.26	118.3	
TD-RRH8x20	25.4	5.7	4.5	Flat	1.400	1.01	49.9	

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	horiz pipe	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	vert pipe	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N3			horiz pipe	Beam	Pipe	A53 Gr. B	Typical
2	M2	N10	N8			vert pipe	Beam	Pipe	A53 Gr. B	Typical
3	M3	2.5_ANT-...	2.5_ANT-...			vert pipe	Beam	Pipe	A53 Gr. B	Typical
4	M4	NV_ANT-...	NV_ANT-...			vert pipe	Beam	Pipe	A53 Gr. B	Typical
5	M5	N11	N9			vert pipe	Beam	Pipe	A53 Gr. B	Typical
6	M6	N12	N13			horiz pipe	Beam	Pipe	A53 Gr. B	Typical
7	M7	N23	N22			vert pipe	Beam	Pipe	A53 Gr. B	Typical
8	M8	N30	TMA1,2			vert pipe	Beam	Pipe	A53 Gr. B	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
1	2.5_ANT-BOT	-5	-3	0	0	
2	2.5_ANT-TOP	-5	3	0	0	
3	N1	0	1.5	0	0	
4	N2	-8	1.5	0	0	
5	N3	8	1.5	0	0	
6	N4	-7	1.5	0	0	
7	N5	-5	1.5	0	0	
8	N7	7	1.5	0	0	
9	N8	-7	2	0	0	
10	N9	7	2	0	0	
11	N10	-7	-2	0	0	
12	N11	7	-2	0	0	
13	N12	-8	-1.5	0	0	
14	N13	8	-1.5	0	0	
15	N14	0	-1.5	0	0	
16	N15	-7	-1.5	0	0	
17	N16	-5	-1.5	0	0	
18	N17	7	-1.5	0	0	
19	NV_ANT-BOT	0	-3	0	0	
20	NV_ANT-TOP	0	3	0	0	
21	N21	5.5	1.5	0	0	
22	N22	5.5	3	0	0	
23	N23	5.5	-3	0	0	
24	N24	5.5	-1.5	0	0	
25	N25	-7	-.5	0	0	
26	N26	7	-.5	0	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From ...
27	N27	-7	.5	0	0	
28	N28	7	.5	0	0	
29	2.5RRH	-5	0	0	0	
30	N30	-4	-2	0	0	
31	TMA1,2	-4	3	0	0	
32	N32	-4	1.5	0	0	
33	N33	-4	-1.5	0	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
1	N25	Reaction	Reaction	Reaction				
2	N26	Reaction	Reaction	Reaction				
3	N27	Reaction	Reaction	Reaction				
4	N28	Reaction	Reaction	Reaction				

Joint Loads and Enforced Displacements (BLC 1 : DL)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*...
1	2.5_ANT-TOP	L	Y	-55.1
2	NV_ANT-TOP	L	Y	-62
3	2.5RRH	L	Y	-66.1
4	TMA1,2	L	Y	-44

Joint Loads and Enforced Displacements (BLC 2 : WLz)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*...
1	2.5_ANT-TOP	L	Z	-112.1
2	2.5_ANT-BOT	L	Z	-112.1
3	NV_ANT-TOP	L	Z	-147.6
4	NV_ANT-BOT	L	Z	-147.6
5	2.5RRH	L	Z	-49.9
6	TMA1,2	L	Z	-37.8

Joint Loads and Enforced Displacements (BLC 3 : WLx)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*...
1	NV_ANT-TOP	L	X	-103
2	NV_ANT-BOT	L	X	-103
3	2.5_ANT-TOP	L	X	-59.2
4	2.5_ANT-BOT	L	X	-59.2
5	2.5RRH	L	X	-49.9
6	TMA1,2	L	X	-39.8

Member Distributed Loads (BLC 2 : WLz)

	Member Label	Direction	Start Magnitude[lb/ft,F]	End Magnitude[lb/ft,F]	Start Location[ft,%]	End Location[ft,%]
1	M2	Z	-8.4	-8.4	0	0
2	M5	Z	-8.4	-8.4	0	0
3	M1	Z	-8.4	-8.4	0	0
4	M6	Z	-8.4	-8.4	0	0
5	M7	Z	-8.4	-8.4	0	0
6	M8	PZ	-8.4	-8.4	0	0

Member Distributed Loads (BLC 3 : WLx)

Member Label	Direction	Start Magnitude[lb/ft,F]	End Magnitude[lb/ft,F]	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 3 : WLx) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F]	End Magnitude[lb/ft,F]	Start Location[ft,%]	End Location[ft,%]
1	M2	X	-8.4	-8.4	0	0
2	M3	X	-8.4	-8.4	0	0
3	M4	X	-8.4	-8.4	0	0
4	M5	X	-8.4	-8.4	0	0
5	M7	X	-8.4	-8.4	0	0
6	M8	X	-8.4	-8.4	0	0

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
No Data to Print ...						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	DL	DL		-1		4				
2	WLz	WLZ				6		6		
3	WLx	WLX				6		6		

Load Combinations

	Description	S...	PDe...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	DL	Yes	Y		DL	1																				
2	DL+WLz	Yes	Y		DL	1	W...	1																		
3	DL+WLx	Yes	Y		DL	1	W...	1																		
4	DL+(0.75WLz+0.75WLx)	Yes	Y		DL	1	W...	.75	W...	.75																
5	DL+(0.75WLz-0.75WLx)	Yes	Y		DL	1	W...	.75	W...	-.75																
6	DL-WLz	Yes	Y		DL	1	W...	-1																		
7	DL-WLx	Yes	Y		DL	1	W...	-1																		
8	DL+(-0.75WLz+0.75WLx)	Yes	Y		DL	1	W...	-.75	W...	.75																
9	DL+(-0.75WLz-0.75WLx)	Yes	Y		DL	1	W...	-.75	W...	-.75																
10	DL		Y		DL	1																				
11	WLz		Y		W...	1																				
12	WLx		Y		W...	1																				

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N25	max	111.558	3	214.582	7	197.331	2	0	1	0	1	0	1
2		min	-161.974	7	87.407	3	-197.331	6	0	1	0	1	0	1
3	N26	max	419.704	3	122.578	3	184.359	2	0	1	0	1	0	1
4		min	162.051	7	21.321	7	-184.359	6	0	1	0	1	0	1
5	N27	max	234.545	3	219.358	3	421.332	2	0	1	0	1	0	1
6		min	-183.878	7	82.603	7	-421.332	6	0	1	0	1	0	1
7	N28	max	-91.307	3	127.356	7	232.479	2	0	1	0	1	0	1
8		min	-490.699	7	16.52	3	-232.479	6	0	1	0	1	0	1
9	Totals:	max	674.5	3	445.862	3	1035.5	2						
10		min	-674.5	7	445.862	7	-1035.5	6						

Envelope AISC ASD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
1	M1	PIPE_2.0	.948	8	2	.062	3		2	3.252	21	23.1	23.1	1	.85	.85	H1-2
2	M2	PIPE_2.0	.326	2.5	2	.068	2.5		2	16.911	21	23.1	23.1	1	.85	.6	H1-2

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-y ...	Fb z-z ...	Cb	Cmy	Cmz	ASD E...
3	M3	PIPE_2.0	.218	1.5	2	.035	4.5		2	13.747	21	23.1	23.1	1	.6	.6	H1-2
4	M4	PIPE_2.0	.226	4.5	2	.027	4.5		2	13.747	21	23.1	23.1	1	.6	.6	H1-2
5	M5	PIPE_2.0	.195	2.5	5	.050	2.5		5	16.911	21	23.1	23.1	1	.85	.85	H1-2
6	M6	PIPE_2.0	.935	8	2	.092	3		2	3.252	21	23.1	23.1	1	.85	.85	H2-1
7	M7	PIPE_2.0	.131	4.5	5	.019	4.5		2	13.747	21	23.1	23.1	1	.85	.85	H2-1
8	M8	PIPE_2.0	.138	3.49	2	.020	3.49		2	15.413	21	23.1	23.1	1	.85	.6	H1-2

Sprint®

PROJECT: 2.5 EQUIPMENT DEPLOYMENT

SITE NAME: SNET TOWER
(26 WASHINGTON STREET)

SITE CASCADE: CT03XC103-C

SITE ADDRESS: 26 WASHINGTON STREET
NEW LONDON, CT 06320

SITE TYPE: 234'-4" ROOFTOP TOWER

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

RAMAKER & ASSOCIATES, INC.
855 Community Drive, Sauk City, WI 53583
Phone: 608-643-4100 Fax: 608-643-7999
www.Ramaker.com

Transcend Wireless
48 SPRUCE STREET
OAKLAND, NJ 07346

Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.

STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

Signature: 3/05/2015 Date:

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
TITLE SHEET

SCALE: NONE

PROJECT NUMBER: 30511
SHEET NUMBER: T-1

SITE INFORMATION

PROPERTY OWNER:
SOUTHERN NEW ENGLAND TEL CO (FRONTIER)
PH.: (800) 921-8102

SITE ADDRESS:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

GEOGRAPHIC COORDINATES:
LATITUDE: 41° 21' 14.0034" N, (41.35389°)
LONGITUDE: 75° 05' 52.332" W, (-72.0978697°)

ZONING JURISDICTION:
CITY OF NEW LONDON

ZONING DISTRICT:
CBD2

POWER COMPANY:
CONNECTICUT LIGHT & POWER
PH.: (800) 286-2000

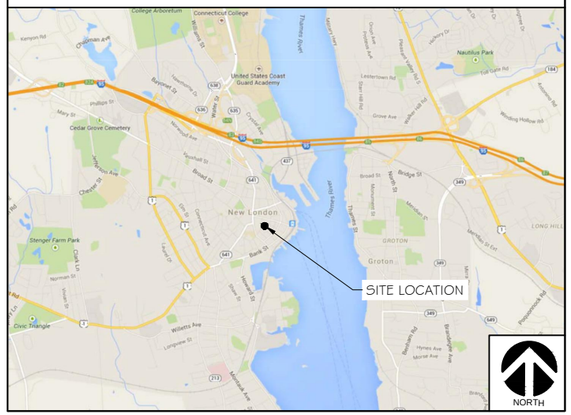
AAV PROVIDER:
AT&T
PH.: (800) 288-2020

SPRINT CONSTRUCTION MANAGER:
NAME: MIKE DELIA
PHONE: (781) 316-6348
E-MAIL: michael.delia@sprint.com

EQUIPMENT SUPPLIER:
ALCATEL-LUCENT
600-700 MOUNTAIN AVENUE
MURRAY HILL, NJ 07974
PH.: (908) 508-8080

PLANS PREPARED BY:
RAMAKER & ASSOCIATES, INC.
CONTACT: KEITH BOHNSACK, PROJECT MANAGER
PH.: (608) 643-4100
EMAIL: kbohnsack@ramaker.com

AREA MAP



LOCATION MAP

PROJECT DESCRIPTION

- INSTALL NEW 2.5 CABINET
- INSTALL (3) PANEL ANTENNAS
- INSTALL (3) RRH'S ON TOWER
- INSTALL (1) HYBRID CABLE AND (2) SECTOR JUMPERS
- INSTALL (27) ANTENNA / RRH JUMPERS

APPLICABLE CODES

* ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE
2. ANSI/TIA-222 STRUCTURAL STANDARD FOR ANTENNA STRUCTURES
3. NFPA 780 - LIGHTNING PROTECTION CODE
4. NATIONAL ELECTRIC CODE

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SHEET INDEX

SHT NO:	SHEET TITLE:	REV:	ENGINEER:
T-1	TITLE SHEET		JRS
SP-1	SPRINT SPECIFICATIONS		JRS
SP-2	SPRINT SPECIFICATIONS		JRS
SP-3	SPRINT SPECIFICATIONS		JRS
A-1	SITE PLAN		JRS
A-2	EQUIPMENT PLAN		JRS
A-3	BUILDING ELEVATION & ANTENNA DETAILS		JRS
A-4	RF DATA SHEET		JRS
A-5	FIBER PLUMBING DIAGRAM		JRS
A-6	CABLE COLOR CODING		JRS
A-7	ANTENNA & HYBRID CABLE DETAILS		JRS
A-8	EQUIPMENT DETAILS		JRS
A-9	EQUIPMENT DETAILS		JRS
E-1	EQUIPMENT UTILITY & GROUNDING PLAN		JRS
E-2	GROUNDING DETAILS		JRS
E-3	DC POWER DETAILS & PANEL SCHEDULES		JRS

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DRAWN BY: TDN CHECKED BY: KAB

SECTION 01 100 - SCOPE OF WORK

THE WORK:
THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE CONSTRUCTION DRAWINGS AND ASSOCIATED OUTLINE SPECIFICATIONS AND THE SITE SPECIFIC WORK ORDER, DESCRIBE THE WORK TO BE PERFORMED BY THIS CONSTRUCTION CONTRACTOR (SUPPLIER).

RELATED DOCUMENTS:
A. THE REQUIREMENTS OF EACH SECTION OF THIS SPECIFICATION APPLY TO ALL SECTIONS, INDIVIDUALLY AND COLLECTIVELY.
B. RELATED DOCUMENTS: THE CONTRACTOR SHALL COMPLY WITH THE MOST CURRENT VERSION OF THE FOLLOWING SUPPLEMENTAL REQUIREMENTS FOR INSTALLATION AND TESTING.
   1. EN-2012-001: (FIBER OPTIC, DC CABLE, AND DC CIRCUIT BREAKER TAGGING STANDARDS)
   2. TS-0200 - (TRANSMISSION ANTENNA LINE ACCEPTANCE STANDARDS)
   3. EL-0568: (FIBER TESTING POLICY)
   4. NP-312-201: (EXTERIOR GROUNDING SYSTEM TESTING)
   5. NP-760-500: ETHERNET, MICROWAVE, TESTING AND ACCEPTANCE

PRECEDENCE:
SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

NATIONALLY RECOGNIZED CODES AND STANDARDS:
THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
D. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
G. AMERICAN CONCRETE INSTITUTE (ACI)
H. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
I. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
J. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
K. PORTLAND CEMENT ASSOCIATION (PCA)
L. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
M. BRICK INDUSTRY ASSOCIATION (BIA)
N. AMERICAN WELDING SOCIETY (AWS)
O. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
P. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
Q. DOOR AND HARDWARE INSTITUTE (DHI)
R. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
S. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

DEFINITIONS:
A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: "SPRINT"; SPRINT NEXTEL CORPORATION AND IT'S OPERATING ENTITIES.
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D. CONTRACTOR: CONSTRUCTION CONTRACTOR, SUPPLIER, CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
F. CONSTRUCTION MANAGER - ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT.

SITE FAMILIARITY:
CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

POINT OF CONTACT:
COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

ON-SITE SUPERVISION:
THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

DRAWINGS REQUIRED AT JOBSITE:
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
B. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

USE OF JOB SITE:
THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

UTILITY SERVICES:
WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

PERMITS/FEES:
WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR:
CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:
CONTRACTOR WILL UTILIZE ITS BEST EFFORTS TO WORK WITH SPRINT ELECTRONIC PROJECT MANAGEMENT SYSTEMS. CONTRACTOR UNDERSTANDS THAT SUFFICIENT INTERNET ACCESS, EQUIVALENT TO "BROADBAND" OR BETTER, IS REQUIRED TO TIMELY AND EFFECTIVELY UTILIZE SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS AND AGREES TO MAINTAIN APPROPRIATE CONNECTIONS FOR CONTRACTOR'S STAFF AND OFFICES THAT ARE COMPATIBLE WITH SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS

TEMPORARY UTILITIES AND FACILITIES:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSOR'S OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

ACCESS TO WORK:
THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

DIMENSIONS:
VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

EXISTING CONDITIONS:
NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

FURNISHED MATERIALS:
COMPANY FURNISHED MATERIALS AND EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR (OFIC) IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

RECEIPT OF MATERIAL AND EQUIPMENT:
A. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
   1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
   2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
   3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
B. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
C. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
D. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

DELIVERABLES:
A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

SECTION 01 300 - CELL SITE CONSTRUCTION

NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S ISSUANCE OF THE WORK ORDER.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

GENERAL REQUIREMENTS FOR CONSTRUCTION:
A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
   1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
   2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

FUNCTIONAL REQUIREMENTS:
A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. CONTRACTOR SHALL TAKE ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
   2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
   3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND BACKHAUL (FIBER, COPPER, OR MICROWAVE).
   4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
   5. INSTALL ABOVE GROUND GROUNDING SYSTEMS, CONDUIT AND BOXES.
   6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
   7. INSTALL "H-FRAMES", CABINETS AND PADS AND PLATFORMS AS INDICATED.
   8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
   9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
   10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
   11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
   12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
   13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
   14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
   15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
   16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
   17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
   18. CONDUCT ALL REQUIRED TESTS AND INSPECTIONS
   19. PERFORM, DOCUMENT, AND CLOSE OUT ALL JURISDICTIONAL PERMITTING REQUIREMENTS AND ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
   20. PERFORM ALL ADDITIONAL WORK AS IDENTIFIED IN SCOPE OF SERVICES ATTACHED TO THE SUPPLIER AGREEMENT FOR THIS PROJECT. THIS WORK MAY INCLUDE COMMISSIONING, INTEGRATION, SPECIAL WAREHOUSING, REVERSE LOGISTICS ACTIVITIES, ETC. PERFORM COMMISSIONING AND INTEGRATION ACTIVITIES PER APPLICABLE MOPS.

DELIVERABLES:
A. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEST REPORTS AND DOCUMENTATION INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
   1. PRODUCT SPECIFICATIONS FOR MATERIALS OR SPECIAL CONSTRUCTION IF REQUESTED BY SPRINT
   2. ACTUALIZE ALL CONSTRUCTION RELATED MILESTONES IN SITERRA AND COMPLETE ALL ON-LINE FORMS AND COMPLETE DOCUMENT UP-LOADS. UPLOAD ALL REQUIRED CLOSEOUT DOCUMENTS AND FINAL SITE PHOTOS
   3. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT LEFT ON SITE INSIDE BASE OF MAIN RF CABINET IN A PROTECTIVE POUCH.
   4. ALL REQUIRED TEST REPORTS.
   5. REQUIRED CLOSEOUT DOCUMENTATION INCLUDING BUT NOT LIMITED TO:
      a. ALL JURISDICTIONAL PERMITTING AND OCCUPANCY INFORMATION
      b. PDF SCAN OF REDLINES PRODUCED IN THE FIELD
      c. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS
      d. LIEN WAIVERS
      e. FINAL PAYMENT APPLICATION
      f. REQUIRED FINAL CONSTRUCTION PHOTOS
      g. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
      h. LISTS OF SUBCONTRACTORS
B. PROVIDE ADDITIONAL DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
   1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
   2. PROJECT PROGRESS REPORTS.
   3. PRE-CONSTRUCTION MEETING NOTES.

SECTION 01 400 - TESTS, INSPECTIONS, SUBMITTALS, AND PROJECT CLOSEOUT

TESTS AND INSPECTIONS:
A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   1. COAX SWEEPS AND FIBER TESTS PER TS-0200 (CURRENT VERSION) ANTENNA LINE ACCEPTANCE STANDARDS
   2. POST CONSTRUCTION HEIGHT VERIFICATION, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
   3. CONCRETE BREAK TESTS
   4. SITE RESISTANCE TO EARTH TEST
   5. STRUCTURAL BACKFILL COMPACTION TESTS
   6. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
   7. ADDITIONAL TESTING AS REQUIRED ELSEWHERE IN THIS SPECIFICATION.

SUBMITTALS:
A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
B. UPLOAD THE FOLLOWING TO SITERRA AS APPLICABLE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
   2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
   3. CHEMICAL GROUNDING SYSTEM .
   4. REINFORCEMENT CERTIFICATIONS
   5. STRUCTURAL BACKFILL TEST RESULTS
   6. SWEEP AND FIBER TESTS
   7. ANTENNA AZIMUTH AND DOWN-TILT VERIFICATION
   8. POST CONSTRUCTION HEIGHT VERIFICATION
   9. ADDITIONAL SUBMITTALS MAY BE REQUIRED FOR SPECIAL CONSTRUCTION OR MINOR MATERIALS
C. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

TESTING BY THIRD PARTY AGENCY:
A. EMPLOY AN AGENCY OF ENGINEERS AND SCIENTISTS WHO IS REGULARLY ENGAGED IN FIELD AND LABORATORY TESTING AND ANALYSIS. AGENCY SHALL HAVE BEEN IN BUSINESS A MINIMUM OF FIVE YEARS, AND BE LICENSED AS PROFESSIONAL ENGINEERS IN THE STATE WHERE THE PROJECT IS LOCATED. AGENCY IS SUBJECT TO APPROVAL BY COMPANY.
   1. AGENCY MUST HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
   2. AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
   3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
B. REQUIRED THIRD PARTY TESTS:
   1. SITE RESISTANCE TO EARTH TEST PER NP-312-201
   2. CONCRETE CYLINDER BREAK TESTS FOR TOWER PIER AND ANCHORS PER NATIONALLY RECOGNIZED STANDARDS
   3. STRUCTURAL SOILS COMPACTION TESTS PER NATIONALLY RECOGNIZED STANDARDS
   4. REBAR PLACEMENT VERIFICATION WITH REPORT
   5. TESTING TENSION STUDY FOR ROCK ANCHORS
   6. ALL THIRD PARTY TESTS AS REQUIRED BY LOCAL JURISDICTION
C. REQUIRED TESTS BY CONTRACTOR
   1. COAX SWEEP TESTS PER SPRINT STANDARD TS-0200
   2. FIBER TESTS PER SPRINT STANDARD EL-0568
   3. MICROWAVE LINK TESTS PER NP-760-500
   4. ANTENNA AZIMUTHS AND DOWN TILT USING ELECTRONIC ALIGNMENT TOOL PER ANTENNA INSTALLATION SPECIFICATION HEREIN.

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Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.

STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

James R Skowronski 3/05/2015
Signature: Date:

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL
DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
SPRINT SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER: 30511
SHEET NUMBER: SP-1

DRAWN BY: TDN CHECKED BY: KAB

5. POST CONSTRUCTION HEIGHT VERIFICATION AS REQUIRED HEREWITH IN THE TOWER INSTALLATION SPECIFICATIONS.
6. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED HEREWITH IN THE ASPHALT PAVING SPECIFICATIONS.
7. FIELD QUALITY CONTROL TESTING AS SPECIFIED HEREWITH IN THE CONCRETE PAVING SPECIFICATIONS.
8. TESTING REQUIRED HEREWITH UNDER SPECIFICATIONS FOR AGGREGATE BASE FOR ROADWAYS
9. ALL OTHER TESTS REQUIRED BY LOCAL JURISDICTION

D. INSPECTIONS BY COMPANY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN INSPECTION ACTIVITIES, FINAL ACCEPTANCE / PUNCH WALK REVIEW, AND/OR AS A RESULT OF TESTING

E. SPRINT RESERVES THE RIGHT TO INSPECT THE CONSTRUCTION SITE AT ANY TIME VIA SITE WALKS AND/OR PHOTO REVIEWS. CONTRACTOR SHALL GIVE SPRINT 24 HOURS NOTICE PRIOR TO THE COMMENCEMENT OF THE FOLLOWING CONSTRUCTION ACTIVITIES AND PHOTOGRAPHS OF THE IN-PROGRESS WORK.
1. GROUNDING SYSTEM AND BURIED UTILITIES INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS, AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS, ASPHALT PAVING, AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE AND POST CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES. PRIOR TO CONSTRUCTION ACTIVITIES AND AFTER CONSTRUCTION IS COMPLETE, PROVIDE PHOTOGRAPHIC DOCUMENTATION OF ROOF, FLASHINGS, AND PARAPETS, BOTH BEFORE AND AFTER CONSTRUCTION IS COMPLETE.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. TOWER TOP AND INACCESSIBLE EQUIPMENT (RRUS, ANTENNAS, AND CABLING): PROVIDE PHOTOS OF THE BACKS OF ALL ANTENNAS, RRUS, COMBINERS, FILTERS, FIBER AND DC CABLING, CABLE COLOR CODING, EQUIPMENT GROUNDING AND CONNECTOR WATER PROOFING INCLUDING NAME PLATE AND SERIAL NUMBER FOR ALL SERIALIZED EQUIPMENT.

PROJECT CLOSEOUT:

A. FINAL ACCEPTANCE PUNCH WALK AND INSPECTION: AS IDENTIFIED IN THE SCOPE OF SERVICES, SPRINT WILL CONDUCT A FINAL PUNCH WALK OR FINAL DESK TOP PHOTO REVIEW (SITE MODIFICATIONS). PUNCH WALKS MUST BE SCHEDULED IN ADVANCE AS REQUIRED. AT THE PUNCH WALK / REVIEW, SPRINT MAY IDENTIFY CRITICAL DEFICIENCIES WHICH MUST BE CORRECTED PRIOR TO PUTTING SITE ON AIR. MINOR DEFICIENCIES MUST BE CORRECTED WITHIN 30 DAYS EXCEPT AS OTHERWISE REQUIRED. VERIFICATIONS OF CORRECTIONS MAY BE MADE BY COMPANY DURING A REPEAT SITE WALK OR DESK TOP PHOTO REVIEW AT COMPANY'S SOLE DISCRETION.

B. CLOSEOUT DOCUMENTATION: ALL CLOSEOUT DOCUMENTATION AND PHOTOGRAPHS SHALL BE UPLOADED PRIOR TO FINAL ACCEPTANCE. SPRINT WILL REVIEW CLOSEOUT DOCUMENTATION FOR PRESENCE AND CONTENT. CLOSEOUT DOCUMENTATION SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING AS APPLICABLE:
1. COAX SWEEP TESTS:
2. FIBER TESTS:
3. JURISDICTION FINAL INSPECTION DOCUMENTATION
4. REINFORCEMENT CERTIFICATION (MILL CERTIFICATION)
5. CONCRETE MIX DESIGN AND PRODUCT DATA (TOWER FOUNDATION)
6. LIEN WAIVERS AND RELEASES.
7. POST -CONSTRUCTION HEIGHT VERIFICATION
8. JURISDICTION CERTIFICATE OF OCCUPANCY
9. ELECTRONIC ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
10. STRUCTURAL BACKFILL TEST RESULTS (IF APPLICABLE)
11. CELL SITE UTILITY SETUP
12. AS-BUILT REDLINE CONSTRUCTION DRAWINGS (PDF SCAN OF FIELD MARKS)
13. AS-BUILT CONSTRUCTION DRAWINGS IN DWG AND PDF FORMATS
14. LIST OF SUB CONTRACTORS
15. APPROVED PERMITTING DOCUMENTS
16. FINAL SITE PHOTOS UP-LOADED TO SITERRA. INCLUDE THE FOLLOWING AS APPLICABLE:
    a. TOWER, ANTENNAS, RRUS, AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX/CABLE LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING - TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
    b. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
    c. SITE LAYOUT - PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
    d. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.

PROJECT PHOTOGRAPHS:

A. PROVIDE PROJECT CLOSEOUT GENERAL ARRANGEMENT PHOTOS OF ALL NEW WORK. THE FOLLOWING LIST REFRESENTS MINIMUM REQUIREMENTS AND MINIMUM QUANTITY. ADDITIONAL PHOTOS MAY BE REQUIRED TO ADEQUATELY DOCUMENT THE WORK.
1. ASR AND RF MPE SIGNAGE (IF NOT IN PLACE, SUPPLIER NOTIFIES EMS FIELD REPRESENTATIVE)
2. BACK OF ANTENNAS AND RRUS (1 EACH SECTOR)
3. BACK OF ANTENNAS AND RRUS (1 EACH SECTOR) CLOSE UP SHOWING WEATHERPROOFING AND GROUNDING (AS REQUIRED). CLOSE-UP OF BACK SIDE OF EACH PERMANENT RRU SHOWING SERIAL NUMBER/BAR CODE.
4. VIEW (1 EACH SECTOR) ALONG THE AZIMUTH AND TILT OF THE ANTENNAS
5. TOP OF TOWER FROM GROUND, 1 EACH SECTOR
6. MAINLINE HYBRID CABLE ROUTE DOWN TOWER SHOWING FASTENERS AND SUPPORT
7. MAINLINE/HYBRID CABLE ROUTE ALONG ICE BRIDGE OR IN CABLE TRAY SHOWING FASTENERS AND SUPPORT
8. GROUND MOUNTED RRU RACKS (FRONT AND BACK)
9. FRONT, SIDE AND BACK ELEVATIONS OF ALL GROUND CABINETS
10. VIEW OF COMPOUND FROM A DISTANCE
11. VIEW OF EACH GROUND CABINET (POWER, RF, FIBER SPOOL, PPC POWER, PPC TELCO WITH DOOR OPEN)
12. BACKHAUL FIBER MEET-ME-POINT AND CONDUIT ROUTE (MICROWAVE INSTALLATION IF NOT FIBER)
13. AAV NETWORK INTERFACE DEVICE OR MICROWAVE RADIO INSTALLATION

DEFICIENCY CORRECTIONS:

CONTRACTOR IS RESPONSIBLE FOR ALL CORRECTIONS TO DEFICIENCIES IDENTIFIED THROUGH TESTING, REVIEW OF SUBMITTALS, INSPECTIONS AND CLOSEOUT REVIEWS.

SECTION 01 500 - PROJECT REPORTING

WEEKLY REPORTS:

A. CONTRACTOR SHALL REPORT TO SPRINT AT MINIMUM ON A WEEKLY BASIS VIA SITERRA BY UPDATING ALL APPLICABLE POST END KEEPING MILESTONES WITH ACTUAL AND FORECASTED COMPLETION DATES.

B. ADDITIONAL REQUIREMENTS FOR REPORTING MAY BE IDENTIFIED ELSEWHERE OR REQUIRED BY THE SCOPE OF SERVICES OR SPRINTS LOCAL MARKET CONSTRUCTION MANAGER. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

PROJECT CONFERENCE CALLS:

SPRINT MAY HOLD PERIODIC PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

FINAL PROJECT ACCEPTANCE: PRIOR TO SPRINTS FINAL PROJECT ACCEPTANCE. ALL REQUIRED MILESTONE ACTUALS MUST BE UPDATED IN SITERRA AND ALL REQUIRED REPORTING TASKS MUST BE COMPLETE.

SECTION 11 700 - ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION

SUMMARY:

THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

ANTENNAS AND RRU'S:

THE NUMBER AND TYPE OF ANTENNAS AND RRU'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

HYBRID CABLE:

HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

JUMPERS AND CONNECTORS:

FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE, MIN. LENGTH FOR JUMPER SHALL BE 10'-0".

REMOTE ELECTRICAL TILT (RET) CABLES:

MISCELLANEOUS:

INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:

THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE A DESIGNATED ON THE CONSTRUCTION DRAWINGS.

A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.

B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLE INSTALLATION:

A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.

C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.

1. FASTENING MAIN HYBRID CABLES: ALL CABLES SHALL BE INSTALLED INSIDE MONOPOLE WITH CABLE SUPPORT GRIPS AS REQUIRED BY THE MANUFACTURER.
2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
    a. FIBER: SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH AT 18" O.C. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.
    b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.
3. FASTENING JUMPERS: SECURE JUMPERS TO THE SIDE ARMS OR HEAD FRAMES USING STAINLESS STEEL TIE WRAPS OR STAINLESS STEEL BUTTERFLY CLIPS.
4. CABLE INSTALLATION:
    a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.
    b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.
    c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM BEND RADIUS.
5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED IN TS 0200 (CURRENT VERSION).
7. HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE - EN 2012-001, REV 1

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

B. WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.
1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS SERIES OR EQUAL.
2. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION. APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
4. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE STATIONS (MMBS) AND RELATED EQUIPMENT

SUMMARY:

A. THIS SECTION SPECIFIES MMBS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).

B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRED BY THE APPLICABLE INSTALLATION MOPS.

C. COMPLY WITH MANUFACTURER'S INSTALLATION AND START-UP REQUIREMENTS.

DC CIRCUIT BREAKER LABELING

A. NEW DC CIRCUIT IS REQUIRED IN MMBS CABINET SHALL BE CLEARLY IDENTIFIED AS TO RRU BEING SERVICED.

SECTION 26 100 - BASIC ELECTRICAL REQUIREMENTS

SUMMARY:

THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS

QUALITY ASSURANCE:

A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.

B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.

C. MATERIALS AND EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

SUPPORTING DEVICES:

A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
1. ALLIED TUBE AND CONDUIT.
2. B-LINE SYSTEM.
3. UNISTRUT DIVERSIFIED PRODUCTS.
4. THOMAS & BETTS.

B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

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Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut.

STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

Signature: 3/05/2015 Date:

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
SPRINT SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER: 30511
SHEET NUMBER: SP-2

SUPPORTING DEVICES:

A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.

B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.

C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:

1. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.

2. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.

B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT

A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR UNDERGROUND RUNS. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED - SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.

B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.

C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.

D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.

E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6-FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRED BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.

F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

B. CABLE TERMINATION FITTINGS FOR CONDUIT

1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL BY ROXTEC.

2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO - CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.

C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.

D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKET COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.

E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM:

A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM TO THE EXTENT INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS EXCEPT AS OTHERWISE NOTED.

B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO-OX.

C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

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STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

Signature: 3/05/2015 Date:

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

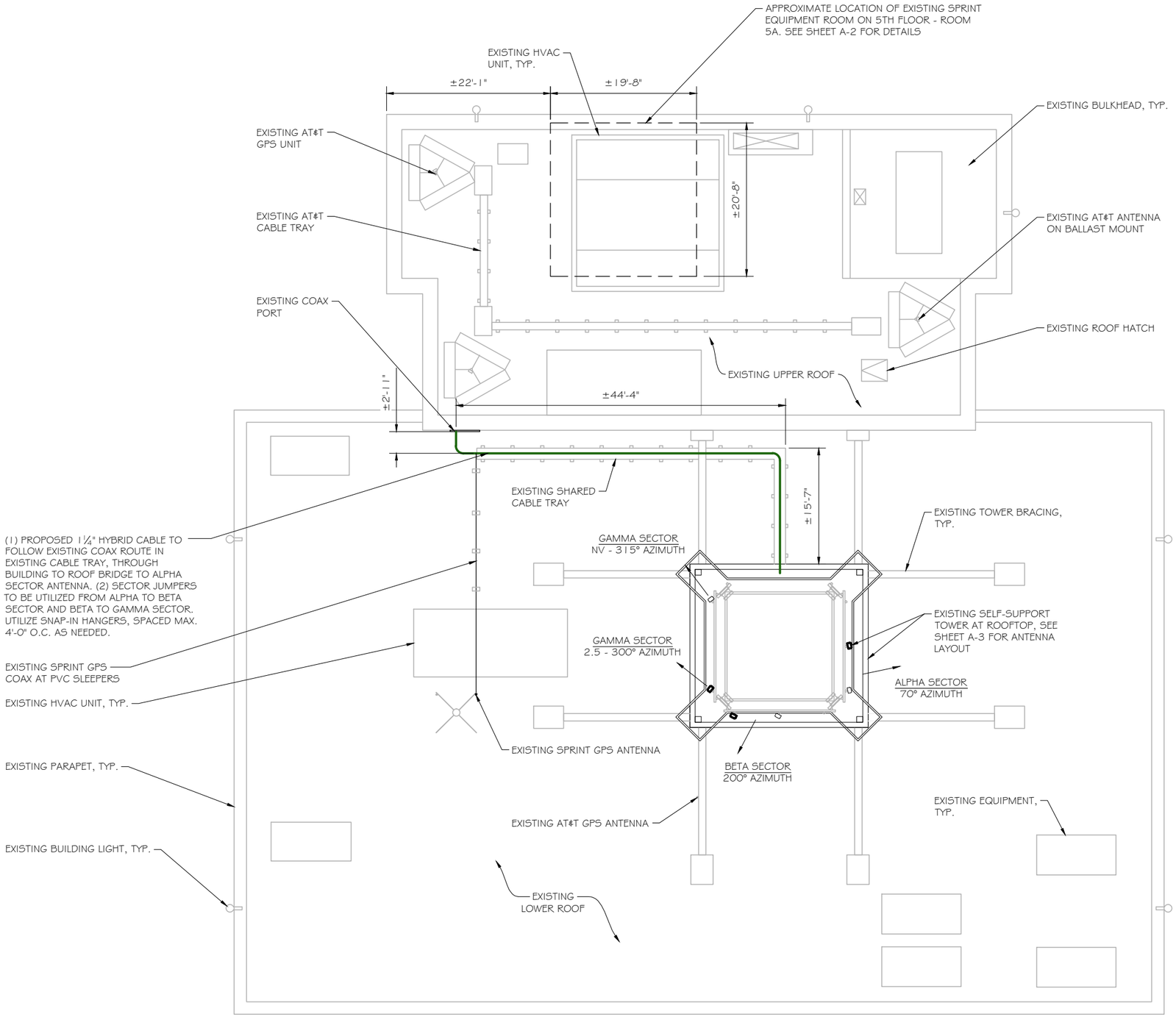
PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
SPRINT SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER: 30511

SHEET NUMBER: SP-3



SITE PLAN
SCALE: 1" = 15'
1

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MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL
DATE ISSUED: 08/25/2015

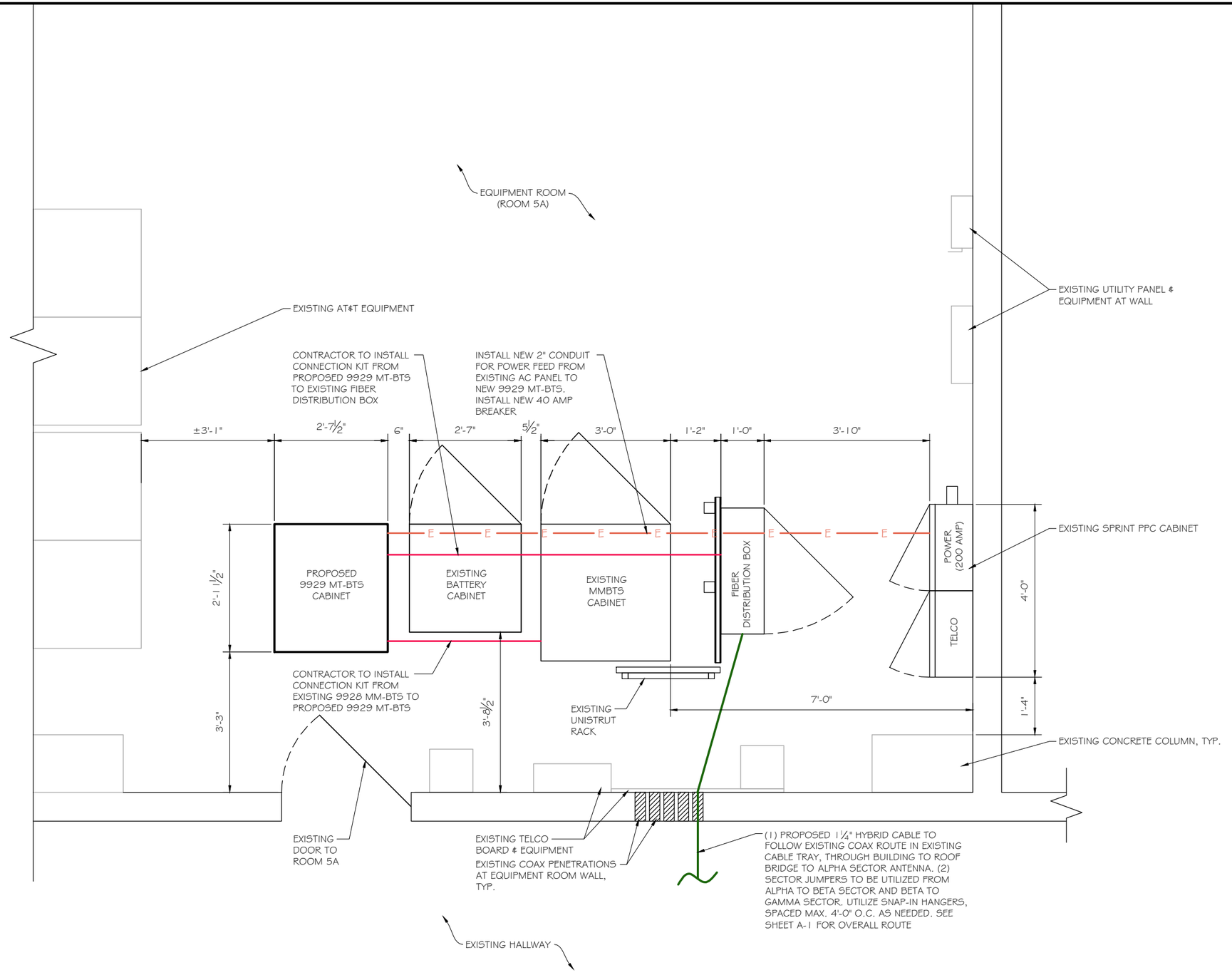
PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
SITE PLAN

0 7.5' 15' 30'
11" x 17" - 1" = 15'
22" x 34" - 1" = 7.5'

PROJECT NUMBER: 30511
SHEET NUMBER: A-1



EQUIPMENT PLAN
SCALE: 1" = 2.5'
1

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ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

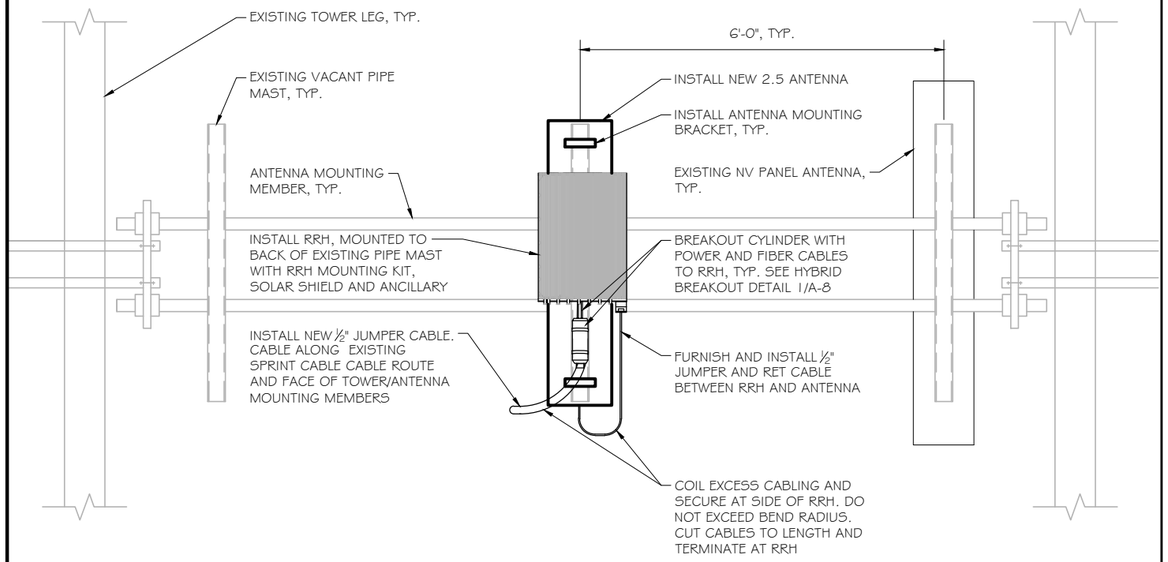
PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

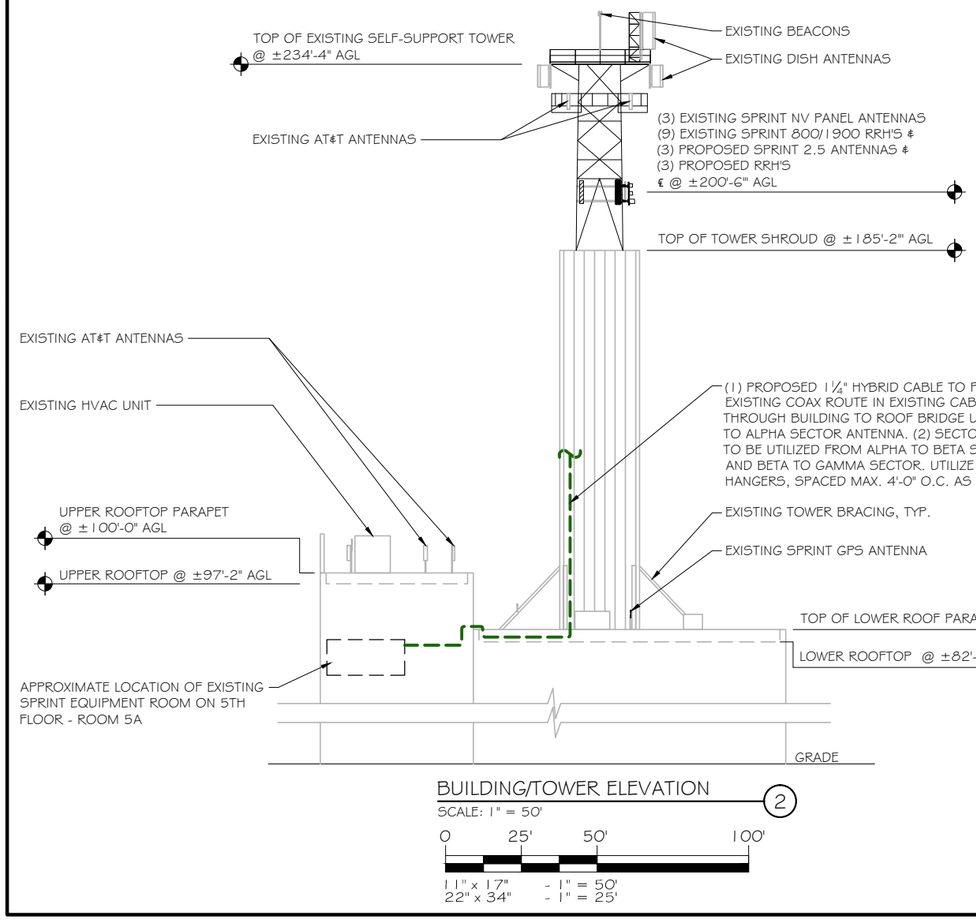
SHEET TITLE:
EQUIPMENT PLAN

0 1.25' 2.5' 5'
11" x 17" - 1" = 2.5'
22" x 34" - 1" = 1.25'

PROJECT NUMBER: 30511
SHEET NUMBER: A-2



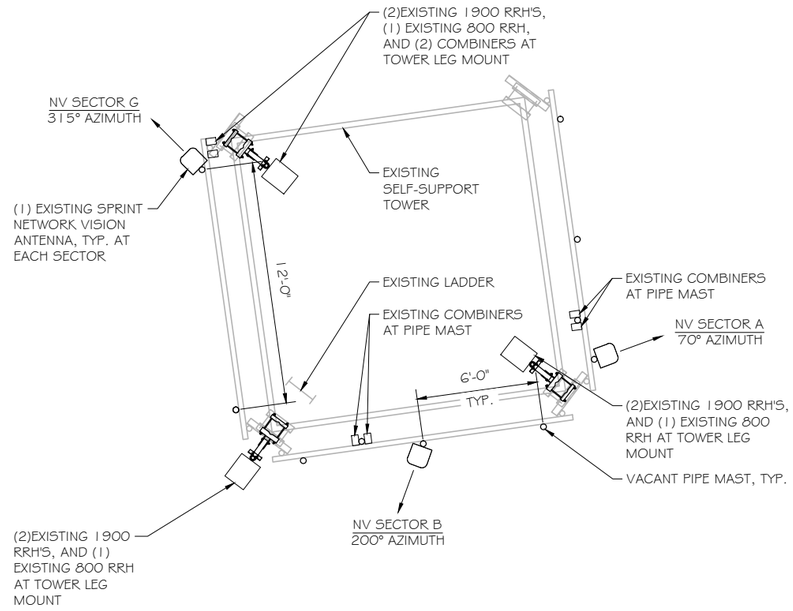
ANTENNA & RRH MOUNTING DETAILS (1)
SCALE: NTS



BUILDING/TOWER ELEVATION (2)
SCALE: 1" = 50'

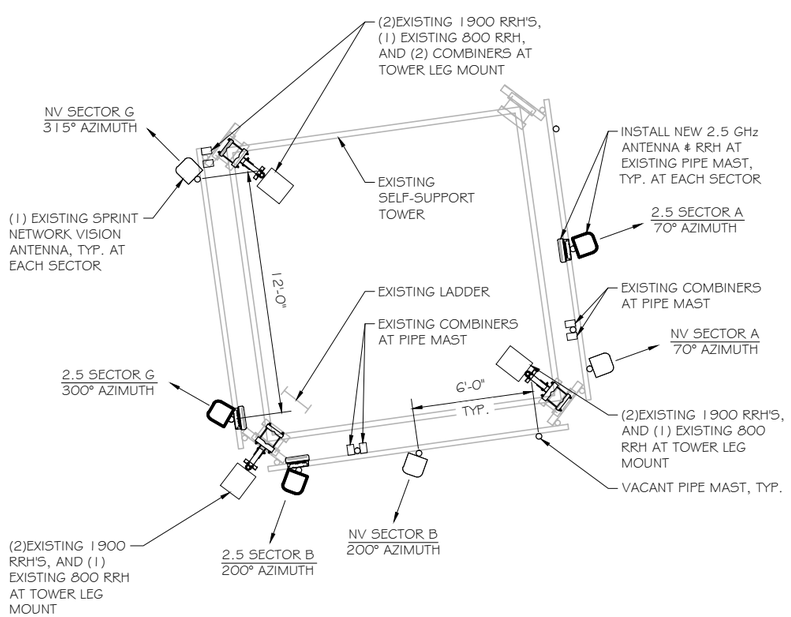
0 25' 50' 100'

11" x 17" - 1" = 50'
22" x 34" - 1" = 25'



NORTH

EXISTING ANTENNA ARRAY (3)
SCALE: NTS



NORTH

PROPOSED ANTENNA ARRAY (4)
SCALE: NTS

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Signature: James R. Skowronski Date: 3/05/2015

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
BUILDING ELEVATIONS & ANTENNA DETAILS

SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-3

RFDS Sheet

General Site Information

Site ID	CT03XC103	Equipment Vendor	Alcatel-Lucent
Market	Southern Connecticut	Lattitude	41.35389
Region	Northeast	Longitude	-72.0978697
MLA	N/A	LL SITE ID	N/A
Structure Type	Tower on rooftop		
BTS Type			

Solution ID		Siterra SR Equipment type	
		Equipment Vendor	Alcatel-Lucent

Incremental Power Draw needed by added Equipment: N/A

Base Equipment

BBU Kit	ALU BBU Kit	Top Hat	None
BBU Kit Qty	0	Top Hat Qty	N/A
		Top Hat Dimenstions	N/A
Growth Cabinet	ALU Growth Cabinet 9929	Top Hat Weight (lbs)	N/A
Growth Cabinet Qty	1		
Growth Cabinet Dimensions	63.65" X 31.5" X 35.5"		
Growth Cabinet Weight	1600		

RF Path Information

RRH	TD-RRH8x20-25	
RRH Qty	3	
RRH Dimensions	26.1"x18.6"x6.7"	
RRH Weight. lbs.	70	
RRH Mount Weight. Lbs.	10	
Power and Fiber Cable	ALU Hybrid Cable	
Cable Qty	1	
Weight per foot. Lbs.	0.992	
Diameter. Inches.	1.25	
Length Ft.	225	(calculated as coax run plus 20%)
Coax Jumper	TBD	
Coax Jumper Qty	27	
Coax Jumper Length. Feet.	15	
Coax Jumper Weight	1.7	
Coax Jumper Diameter. Inches	0.5	
AISG Cable	Commscope ATCB-B01-006	
AISG Cable Qty	3	
AISG Diameter. Inches.	0.315	
AISG Cable length.	8'	
Weight of entire AISG cable. Lbs.	1.3	

Antenna Sector Information

	Sector 1	Sector 2	Sector 3
Antenna make/model	RFS APXV9TM14-ALU-I20	RFS APXV9TM14-ALU-I20	RFS APXV9TM14-ALU-I20
Antenna qty	1	1	1
Antenna Dimensions. Inches	56.3"x12.6"x6.3"	56.3"x12.6"x6.3"	56.3"x12.6"x6.3"
Antenna Weight. Lbs	55.12	55.12	55.12
Antenna Mounting Kit Weight. Lbs.	11.5	11.5	11.5
CL Height	200.5'	200.5'	200.5'
Antenna Azimuth	70	200	300
Antenna Mechanical Downtilt	-2	-2	0
Antenna etilt	0	0	-1

*RFDS SHEET WAS GENERATED BY RAMAKER & ASSOCIATES FROM PLAN OF RECORD (POR) PROVIDED BY SPRINT. CONTRACTOR SHALL VERIFY AND OBTAIN FINAL RFDS FROM SPRINT CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.

NOTES:

1. GENERAL CONTRACTOR TO FIELD VERIFY AZIMUTH AND C/L HEIGHT AND MECHANICAL DOWNTILT. IF DIFFERENT THAN CALLED OUT BELOW, HALT ANTENNA WORK FOR ONE HOUR, CALL SPRINT RF ENGINEER (OR MANAGER IF RF ENGINEER DOES NOT ANSWER, BUT STILL LEAVE A MESSAGE TO RF ENGINEER) USING CONTACT INFORMATION ABOVE FOR FURTHER INSTRUCTIONS. IF SPRINT DOES NOT RESPOND WITHIN ONE HOUR, PLACE 2.5GHZ ANTENNA AT SAME C/L HEIGHT AS 1.9GHZ ANTENNA AND EMAIL CORRECT C/L HEIGHT AND AZIMUTH TO SPRINT RF ENGINEER. UPDATE AS-BUILD DRAWING WITH CORRECT C/L HEIGHT. ALSO EMAIL CORRECT 1.9GHZ AND 800MHZ ANTENNA C/L HEIGHT, AZIMUTH AND MECHANICAL DOWNTILT TO RF ENGINEER.
2. AISG TESTS TO VERIFY OPERATION IS TO BE PERFORMED AFTER FINAL INSTALLATION OF ANTENNAS AND AISG CABLES HAVE BEEN CONNECTED. VERIFY OPERATION OF ALL EXISTING SPRINT AISG EQUIPMENT INCLUDING 800MHZ, 1.9GHZ AND 2.5GHZ. TEST TO INCLUDE COMPLETE DOWNTILT, AZIMUTH (IF APPLICABLE) AND BEAMWIDTH SWINGS (IF APPLICABLE). DOCUMENT AISG TEST RESULTS IN COAX SWEEP TEST SPREADSHEET.
3. GENERAL CONTRACTOR MUST ENSURE THAT NO OBJECT IS LOCATED WITHIN 45 DEGREES OF LEFT AND RIGHT OF FRONT OF ANTENNA OR 7 DEGREES UP AND DOWN FROM CENTER OF ANTENNA. IF THIS IS NOT POSSIBLE, CONTACT RF ENGINEER FOR FURTHER INSTRUCTION. IN ADDITION, 2.5GHZ ANTENNA IS NOT TO BE PLACED IN FRONT OF ANY OTHER ANTENNA USING THE SAME 45 DEGREE RULE. THIS INCLUDES SPRINT AND NON-SPRINT ANTENNAS.
4. 2.5GHZ ANTENNA MUST BE AT LEAST 6" FROM 1.9GHZ ANTENNA, 30" FROM 800MHZ ANTENNA AND 30" FROM DUAL BAND 1.9GHZ AND 800MHZ ANTENNA.
5. GENERAL CONTRACTOR IS REQUIRED TO USE A DIGITAL ALIGNMENT TOOL TO SET AZIMUTH, ROLL AND DOWNTILT. AZIMUTH ACCURACY IS TO BE WITHIN 1 DEGREE. DOWNTILT AND ROLL (LEFT TO RIGHT TILT) IS TO BE WITHIN 0.1 DEGREES. IF FOR SOME REASON THIS ACCURACY CANNOT BE ACHIEVED, UPDATE AS-BUILT DRAWINGS AND EMAIL SPRINT RF ENGINEER WITH AS-BUILT SETTINGS. USE 3Z RF ALIGNMENT TOOL OR EQUIVALENT TOOL.

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Signature: 3/05/2015 Date:

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

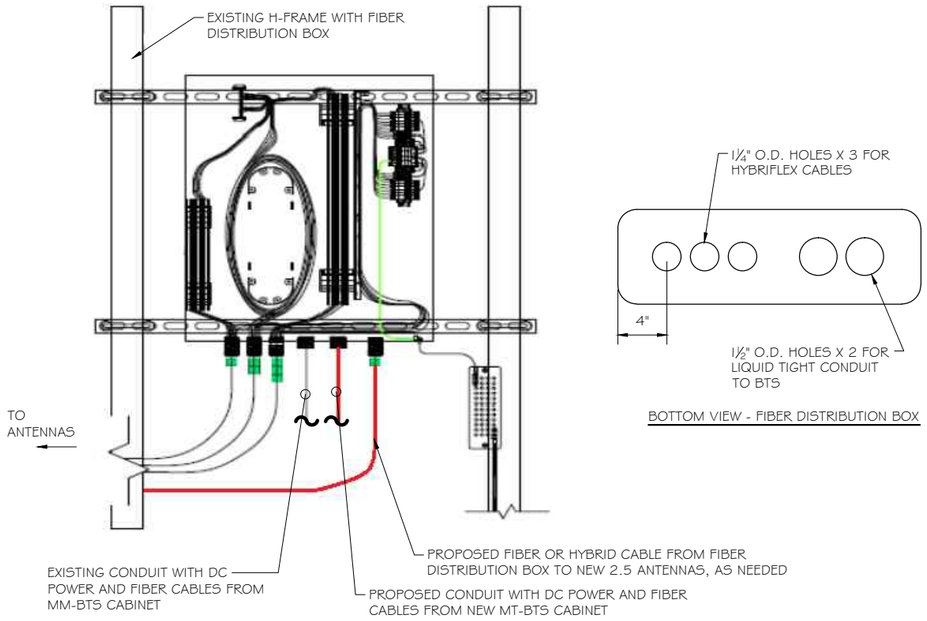
PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
RF DATA SHEET

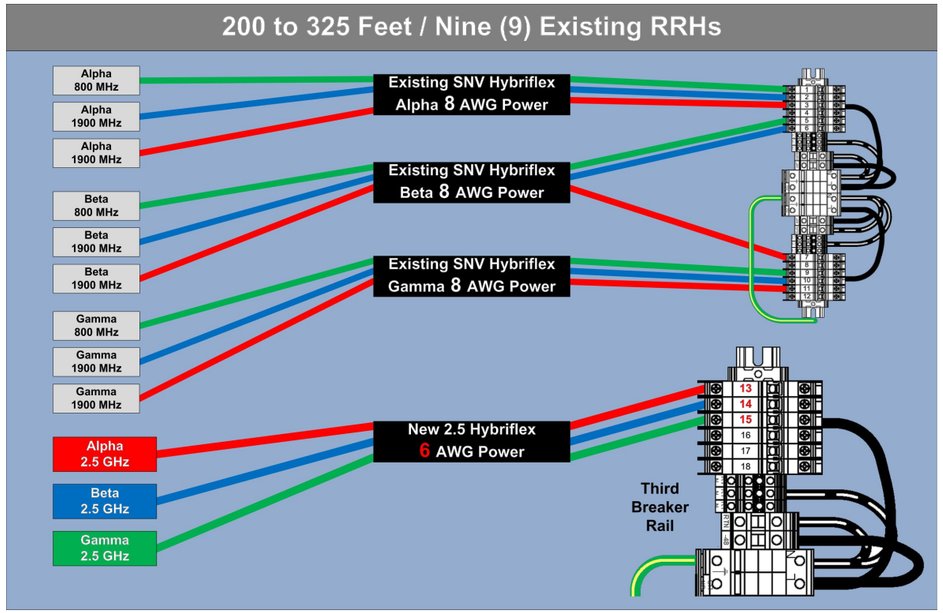
SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-4

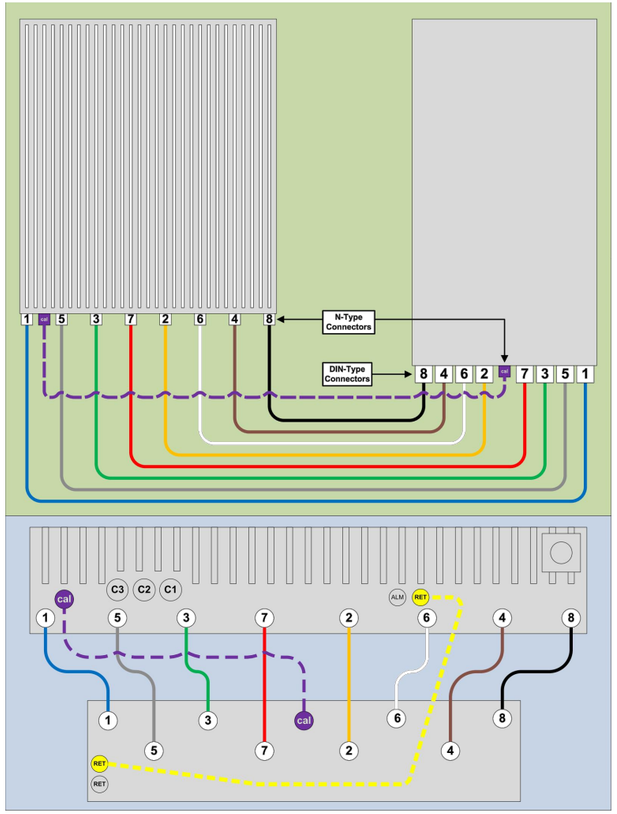


TYPICAL FIBER DISTRIBUTION BOX DETAIL (1)
SCALE: NTS

BOTTOM VIEW - FIBER DISTRIBUTION BOX

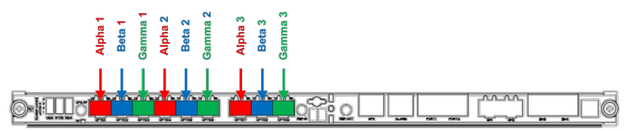


RRH TO DISTRIBUTION BOX POWER CONNECTIVITY DETAIL (2)
SCALE: NTS

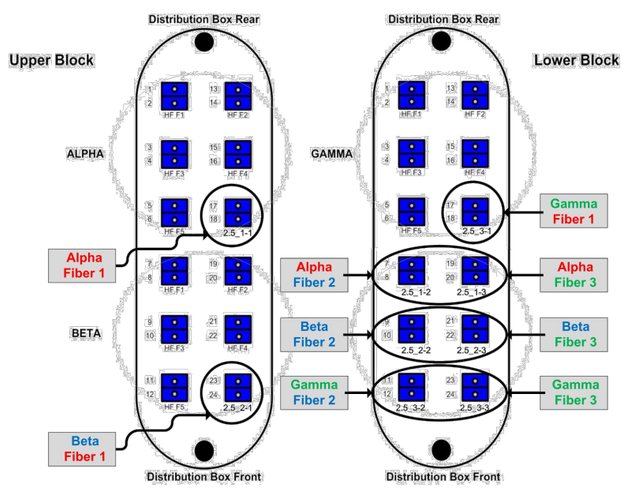


8T8R DETAIL (3)
SCALE: NTS

eCCM2-HR



Distribution Box Fiber Panel



BTS TO DISTRIBUTION BOX FIBER CONNECTIVITY DETAIL (4)
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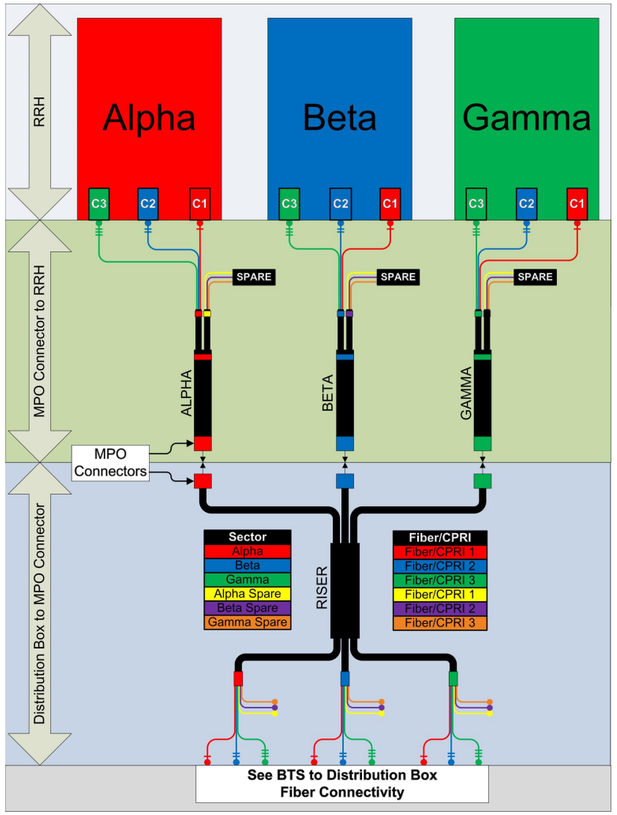

RRH TO DISTRIBUTION BOX FIBER CONNECTIVITY DETAIL (5)
SCALE: NTS

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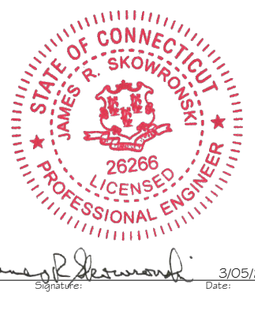


MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL
DATE ISSUED: 08/25/2015

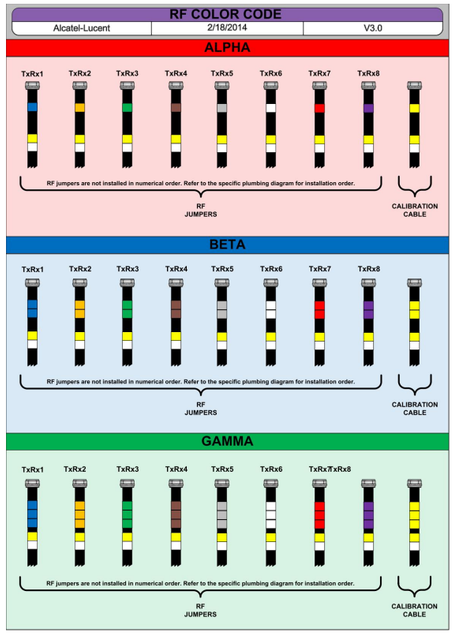
PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
FIBER PLUMBING DIAGRAM

SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-5



SECTOR COLOR CODING AND BANDING (1)
SCALE: NTS

2.5 Coaxial Cable Color Code (Radio#1)

Sector	Cable	Start at Connector Side	Wrap2	Wrap3	Wrap4	Wrap5
1 Alpha	1	Blue			Yellow	White
1	2	Orange			Yellow	White
1	3	Green			Yellow	White
1	4	Brown			Yellow	White
1	5	Slate			Yellow	White
1	6	White			Yellow	White
1	7	Red			Yellow	White
1	8	Violet			Yellow	White
1	Calibration Cable	Yellow			Yellow	White
2 Beta	1	Blue	Blue		Yellow	White
2	2	Orange	Orange		Yellow	White
2	3	Green	Green		Yellow	White
2	4	Brown	Brown		Yellow	White
2	5	Slate	Slate		Yellow	White
2	6	White	White		Yellow	White
2	7	Red	Red		Yellow	White
2	8	Violet	Violet		Yellow	White
2	Calibration Cable	Yellow	Yellow		Yellow	White
3 Gamma	1	Blue	Blue	Blue	Yellow	White
3	2	Orange	Orange	Orange	Yellow	White
3	3	Green	Green	Green	Yellow	White
3	4	Brown	Brown	Brown	Yellow	White
3	5	Slate	Slate	Slate	Yellow	White
3	6	White	White	White	Yellow	White
3	7	Red	Red	Red	Yellow	White
3	8	Violet	Violet	Violet	Yellow	White
3	Calibration Cable	Yellow	Yellow	Yellow	Yellow	White

2.5 Coaxial Cable Color Code (Radio#2)

Sector	Cable	Start at Connector Side	Wrap2	Wrap3	Wrap4	Wrap5
1 Alpha	1	Blue			Yellow	Violet
1	2	Orange			Yellow	Violet
1	3	Green			Yellow	Violet
1	4	Brown			Yellow	Violet
1	5	Slate			Yellow	Violet
1	6	White			Yellow	Violet
1	7	Red			Yellow	Violet
1	8	Violet			Yellow	Violet
1	Calibration Cable	Yellow			Yellow	Violet
2 Beta	1	Blue	Blue		Yellow	Violet
2	2	Orange	Orange		Yellow	Violet
2	3	Green	Green		Yellow	Violet
2	4	Brown	Brown		Yellow	Violet
2	5	Slate	Slate		Yellow	Violet
2	6	White	White		Yellow	Violet
2	7	Red	Red		Yellow	Violet
2	8	Violet	Violet		Yellow	Violet
2	Calibration Cable	Yellow	Yellow		Yellow	Violet
3 Gamma	1	Blue	Blue	Blue	Yellow	Violet
3	2	Orange	Orange	Orange	Yellow	Violet
3	3	Green	Green	Green	Yellow	Violet
3	4	Brown	Brown	Brown	Yellow	Violet
3	5	Slate	Slate	Slate	Yellow	Violet
3	6	White	White	White	Yellow	Violet
3	7	Red	Red	Red	Yellow	Violet
3	8	Violet	Violet	Violet	Yellow	Violet
3	Calibration Cable	Yellow	Yellow	Yellow	Yellow	Violet

2.5 COAXIAL CABLE COLOR CODE (2)
SCALE: NTS

CABLE MARKING NOTES

1. ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.
2. THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAKOUT UNIT. THERE SHALL BE 1" SPACE BETWEEN EACH RING.
3. A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
4. THE 2" COLORED TAPE(S) SHALL BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
5. SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE SECOND CABLE IDENTIFIED BY BLUE BANDS OF TAPE
6. HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.
7. HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.
8. INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

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STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

Signature: Date: 3/05/2015

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL
DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER
(26 WASHINGTON ST)
CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
CABLE COLOR CODING

SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-6

HYBRID CABLE DC CONDUCTOR SIZE GUIDELINE
MANUF:RFS

CABLE	LENGTH	DC CONDUCTOR	CABLE DIAMETER
Fiber Only	Varies	Use NV Hybriflex	5/8"
Hybriflex	<200'	8 AWG	1-1/4"
Hybriflex	225-300'	6 AWG	1-1/4"
Hybriflex	325-375'	4 AWG	1-1/4"

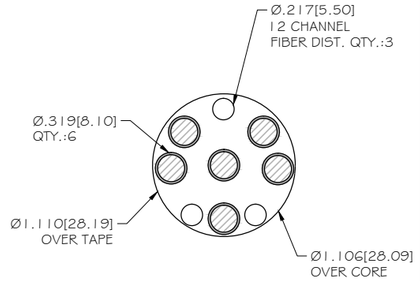
RFS HYBRIFLEX RISER CABLE SCHEDULE

FIBER ONLY (EXISTING DC POWER)	Hybrid cable MN:HB058-M12-050F 12x multi-mode fiber pairs, Top:Outdoor protected connectors, Bottom:LC Connectors, 5/8 cable, 50 ft	50 ft
	MN:HB058-M12-075F	75 ft
	MN:HB058-M12-100F	100 ft
	MN:HB058-M12-125F	125 ft
	MN:HB058-M12-150F	150 ft
	MN:HB058-M12-175F	175 ft
	MN:HB058-M12-200F	200 ft
8 AWG Power	Hybrid cable MN:HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC connectors. 1 1/4 cable, 50 ft	50 ft
	MN:HB114-08U3M12-075F	75 ft
	MN:HB114-08U3M12-100F	100 ft
	MN:HB114-08U3M12-125F	125 ft
	MN:HB114-08U3M12-150F	150 ft
	MN:HB114-08U3M12-175F	175 ft
	MN:HB114-08U3M12-200F	200 ft
6 AWG Power	Hybrid cable MN:HB114-13U3M12-225F 3x 6 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC connectors. 1 1/4 cable, 225 ft	225 ft
	MN:HB114-13U3M12-250F	250 ft
	MN:HB114-13U3M12-275F	275 ft
	MN:HB114-13U3M12-300F	300 ft
4 AWG Power	Hybrid cable MN:HB114-21U3M12-325F 3x 4 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC connectors. 1 1/4 cable, 325 ft	325 ft
	MN:HB114-21U3M12-350F	350 ft
	MN:HB114-21U3M12-375F	375 ft

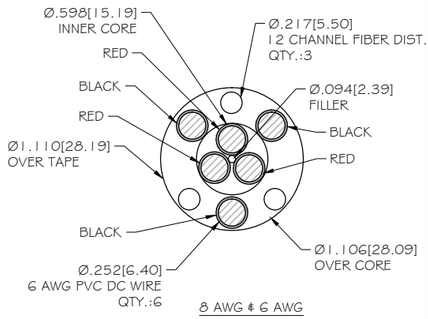
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

FIBER ONLY	Hybrid Jumper cable MN:HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN:HBF012-M3-10F1	10 ft
	MN:HBF012-M3-15F1	15 ft
	SPECIAL INSTALLATION NOTE: JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA SHALL NOT EXCEED 15' NOTIFY SPRINT CM OF ANY DISCREPANCY	
8 AWG POWER	Hybrid Jumper cable MN:HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC connectors, 5/8 cable	5 ft
	MN:HBF058-08U1M3-10F1	10 ft
	MN:HBF058-08U1M3-15F1	15 ft
	SPECIAL INSTALLATION NOTE: JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA SHALL NOT EXCEED 15' NOTIFY SPRINT CM OF ANY DISCREPANCY	
6 AWG POWER	Hybrid Jumper cable MN:HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC connectors, 5/8 cable	5 ft
	MN:HBF058-13U1M3-10F1	10 ft
	MN:HBF058-13U1M3-15F1	15 ft
	SPECIAL INSTALLATION NOTE: JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA SHALL NOT EXCEED 15' NOTIFY SPRINT CM OF ANY DISCREPANCY	
4 AWG POWER	Hybrid Jumper cable MN:HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC connectors, 7/8 cable	5 ft
	MN:HBF078-21U1M3-10F1	10 ft
	MN:HBF078-21U1M3-15F1	15 ft
	SPECIAL INSTALLATION NOTE: JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA SHALL NOT EXCEED 15' NOTIFY SPRINT CM OF ANY DISCREPANCY	

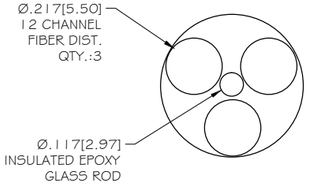
*NOTE: SPRINT CM TO CONFIRM HYBRID/FIBER RISER CABLE & HYBRID/FIBER JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.



4 AWG



8 AWG & 6 AWG

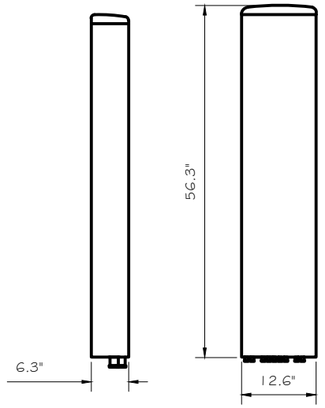


FIBER ONLY

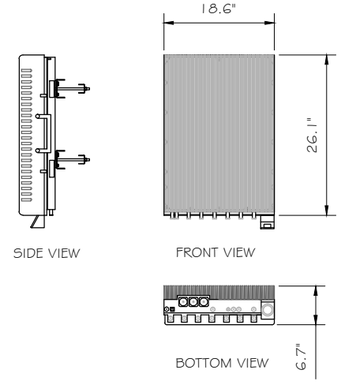
HYBRID CABLE CROSS SECTION & DATA (1)
SCALE: NTS

RFS: APXV9TM14-ALU-120

DIMENSIONS, HxWxD:	56.3" x 12.6" x 6.3"
WEIGHT, WITHOUT PRE-MOUNTED BRACKETS:	55.12 lbs.
CONNECTOR:	(9) XX" MINI-DIN FEMALE/BOTTOM



2.5 ANTENNA DETAIL (2)
SCALE: NTS



ALCATEL-LUCENT: TD-RRH8x20

HxWxD = (26.1" x 18.6" x 6.7")

WEIGHT = 70 lbs.

2.5 RRH DETAIL (3)
SCALE: NTS

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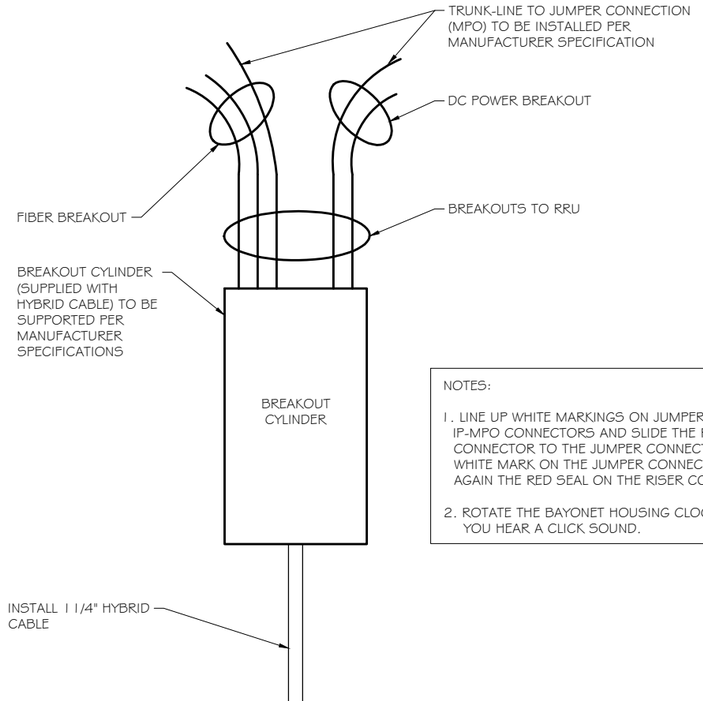
NEW LONDON COUNTY

SHEET TITLE:
ANTENNA & HYBRID CABLE DETAILS

SCALE:
AS NOTED

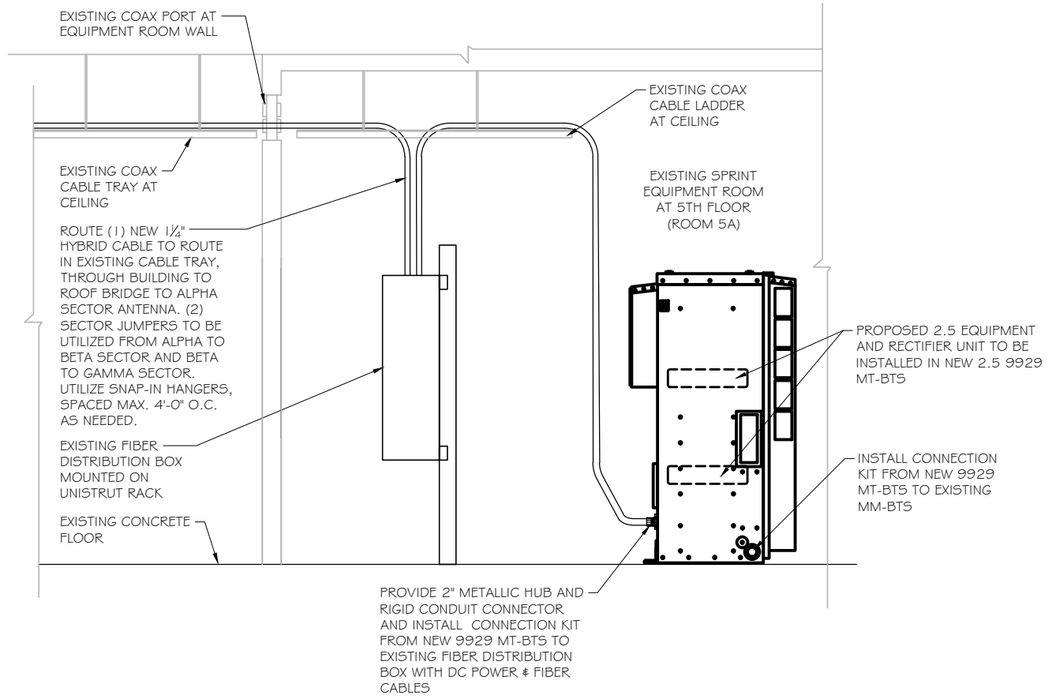
PROJECT NUMBER: 30511
SHEET NUMBER: A-7



NOTES:

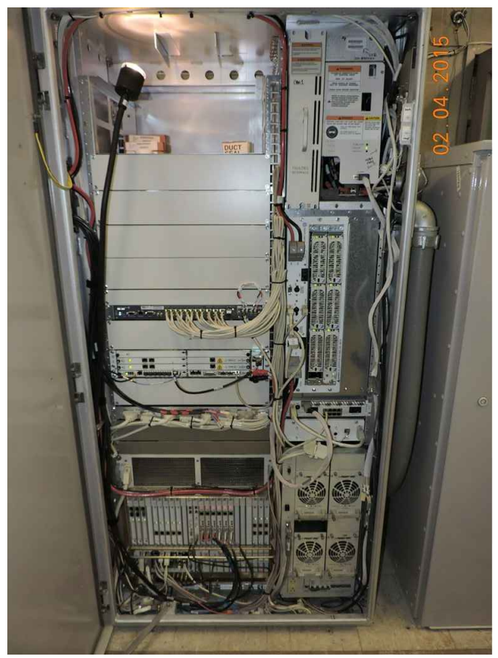
1. LINE UP WHITE MARKINGS ON JUMPER AND RISER IP-MPO CONNECTORS AND SLIDE THE RISER CONNECTOR TO THE JUMPER CONNECTOR. PUSH THE WHITE MARK ON THE JUMPER CONNECTOR FLUSH AGAIN THE RED SEAL ON THE RISER CONNECTOR.
2. ROTATE THE BAYONET HOUSING CLOCKWISE UNTIL YOU HEAR A CLICK SOUND.

HYBRID BREAKOUT DETAIL (1)
SCALE: NTS

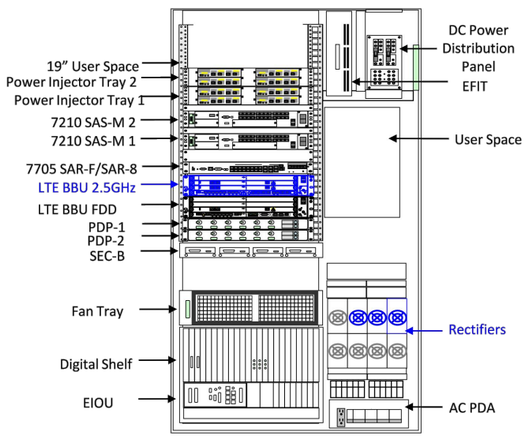


CABLE ROUTE FROM CABINET (2)
SCALE: NTS

EXISTING BBU CABINET (3)
SCALE: NTS



EXISTING MMBS CABINET (4)
SCALE: NTS



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NEW LONDON COUNTY

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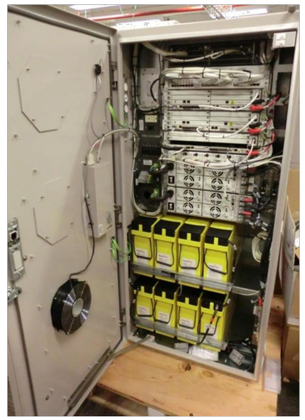
EQUIPMENT DETAILS

SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-8

ALCATEL-LUCENT
9929 MULTI TECHNOLOGY BTS
OUTDOOR CABINET

In order to help network operators to improve TCO for distributed radio based sites with extended battery backup requirements, Alcatel-Lucent proposes the 9929 Multi Technology Outdoor Cabinet for CDMA/LTE/WCDMA multi-standard configurations



9929 MT-BTS OUTDOOR CABINET

- The 9929 MT-BTS cabinet is designed to provide, in a single footprint, a full site support with a capability to host 3G and 4G Telecom equipment with internal power and battery support.
- The 9929 MT-BTS Outdoor Cabinet offers 17.5 U of user space capable of hosting 19" rack based telecom equipment and rectification. The 9929 MT-BTS supports distributed RF deployment scenarios with the hosting of Digital base band unit and transport equipment.
- The 9929 MT-BTS cabinet can host up of 2 strings of batteries.
- The 9929 MT-BTS is AC powered and can deliver up to 10.5kW of -48V DC power thanks to its internal N+1 redundant rectifier.
- The 19" modules could have either front-back or side-side cooling. The cabinet uses direct air-cooling (fresh air filter) technology on front door to provide 8000 W of cooling capacity. A wide temperature operating range (-40°C to +50°C full operation) allows the deployment of this cabinet in various locations.
- The 9929 MT-BTS cabinet is compliant with Zone 4 earthquake regulations.
- As an matter of example the following configuration is supported by the cabinet:
  - ✓ Distributed configuration: AC configuration with up to 10.5kW DC Power, up to 3 baseband units, 2U service aggregation router, 2U of microwave transport equipment, up to 2 battery of 190AH.

FEATURES

- Can host BBU(s) for CDMA/WCDMA/LTE
- Supports standard 19" Telecom equipment
- Uses Direct Air Cooling (no air conditioning) with fan speed control based upon temperature
- Support of up to two 190 Ah or up to two 145AH battery strings that can provide backup for 8 hours for up to 2375 W, or 4 hour backup for up to 4150
- Convenience AC outlet (2)

TECHNICAL SPECIFICATIONS

INTERFACE:
¬ CPRI (up to 9 RRH modules)
¬ Backhaul (Gigabit Ethernet or T1)
¬ External user alarms (up to 32 user alarms)
¬ AC Power input
¬ DC Power input for RRH (up to 9 RRH's)

PHYSICAL DIMENSIONS
¬ Height: 1617 mm (63.65 in)
¬ Width: 800 mm (31.5 in)
¬ Depth: 900 mm (35.5 in)

WEIGHT
¬ 197 kg (434 lbs) unloaded
¬ Up to 725 kg (1600 lbs) fully loaded

POWER
Power supply:
¬ -48 VDC
¬ 230V AC (single phase or 3 phases)
Rectifier:
¬ up to 10.5kW DC -48V output power
¬ Rectifier redundancy N+1

SUPPORTED TELECOM EQUIPMENT
¬ LTE 9926 BBU
¬ CDMA 9926 BBU
¬ WDMA 9926 BBU
¬ SAR Aggregation router
¬ Microwave Indoor Unit

OPERATING ENVIRONMENT
¬ Outdoor temperature range: -40°C to +50°C
¬ Direct Air Cooling
¬ Enclosure:
¬ IP55 (International Protection rating)
¬ Zone 4 Earthquake

STANDARDS COMPLIANCY
¬ UL 60950-1 / CAN/CSA C22.2 No. 60950-1-07
¬ UL 50/50E CSA C22.2 No. 94.1- 07/94.2-07
¬ EN50272-2
¬ EIA-310-D

EMC& ENVIRONNEMENTAL CONDITIONS
¬ FCC Part 15 class B
¬ GR-63-CORE,
¬ GR-487-CORE,
¬ GR-1089-CORE

AT THE SPEED OF IDEAS™ Alcatel·Lucent

Alcatel·Lucent

PROPOSED 9929 MT-BTS OUTDOOR CABINET
SCALE: NTS

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CT03XC103-C

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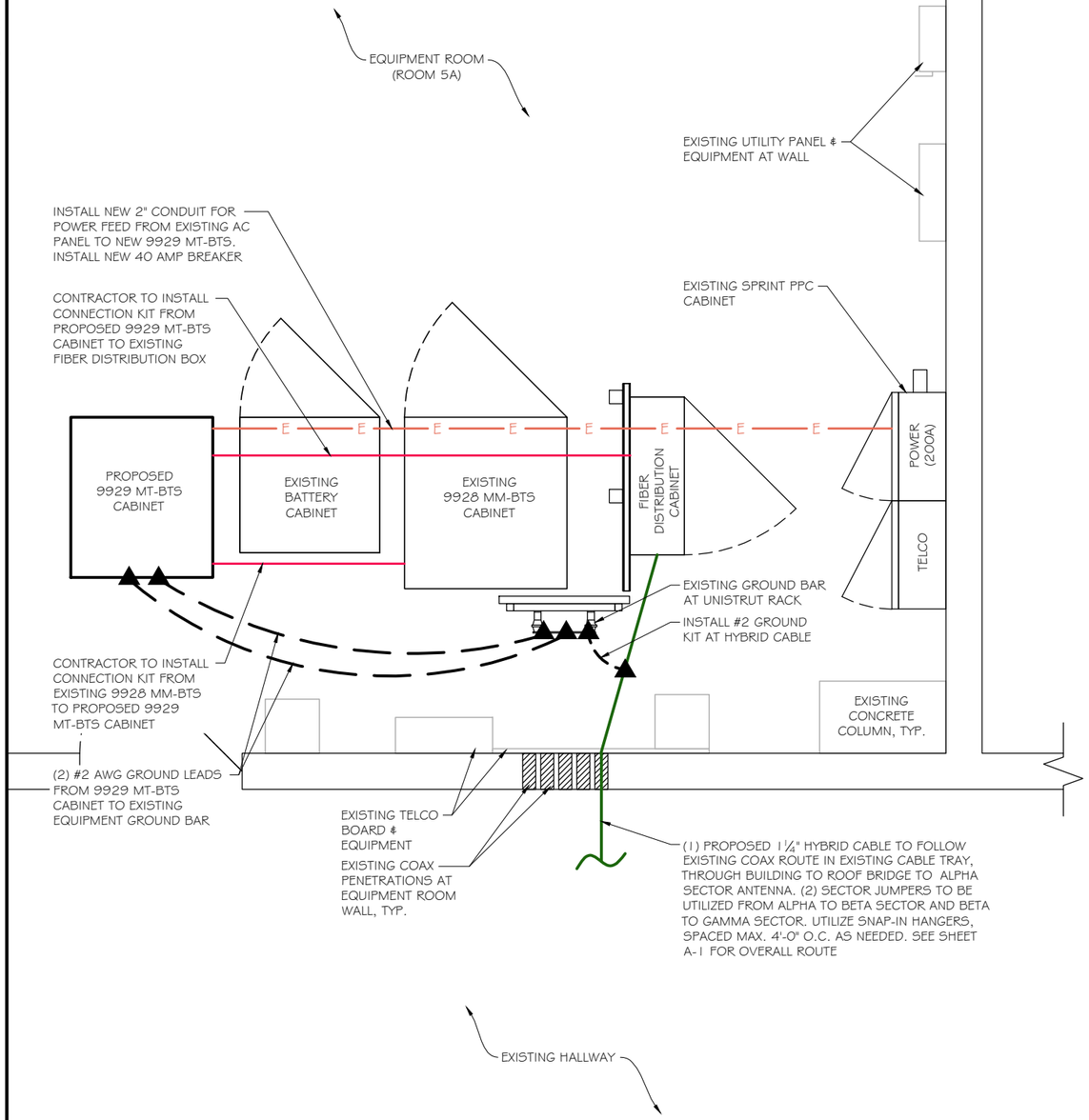
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
EQUIPMENT DETAILS

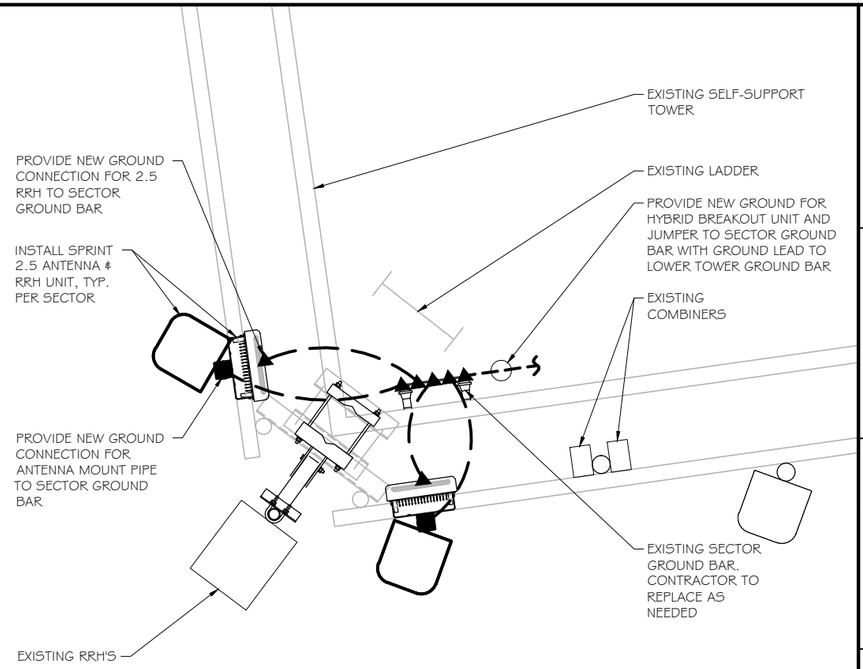
SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: A-9

DRAWN BY: TDN CHECKED BY: KAB



EQUIPMENT UTILITY & GROUNDING PLAN (1)
SCALE: NTS



ANTENNA GROUNDING DETAIL (2)
SCALE: NTS

GROUNDING NOTES:

1. CONTRACTOR TO ENSURE PROPER SEQUENCING OF GROUNDING AND UNDERGROUND CONDUIT INSTALLATION TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM AND/OR DAMAGE TO THE CONDUIT.
2. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS NOTED OTHERWISE.
3. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
4. ALL GROUND CONNECTIONS ABOVE GRADE AND/OR INTERIOR SHALL BE COMPRESSION TYPE, TWO-HOLE LUGS OR DOUBLE-CRIMP "C" TAPS.
5. CONTACT AREAS WHERE CONNECTIONS ARE MADE SHALL BE PREPARED TO A BARE BRIGHT FINISH AND COATED WITH AN ANTI-OXIDATION MATERIAL BEFORE CONNECTIONS ARE MADE.
6. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS.
7. WHERE GROUNDING CONNECTIONS ARE MADE TO PAINTED METAL SURFACES, PAINT SHALL BE REMOVED TO BEAR METAL TO ENSURE PROPER CONTACT AND RESTORED/PAINTED TO ORIGINAL FINISH.
8. GROUND DEPTH SHALL BE 30" MINIMUM BELOW FINISHED GRADE, OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.

LEGEND:	
– – – – – – – – – – – – –	EXISTING GROUND CABLE
▬▬▬▬▬▬▬▬▬▬▬▬▬	PROPOSED GROUND CABLE
▲	MECHANICAL CONNECTION
■	EXOTHERMIC CONNECTION
—E—E—E—E—	PROPOSED ELECTRIC

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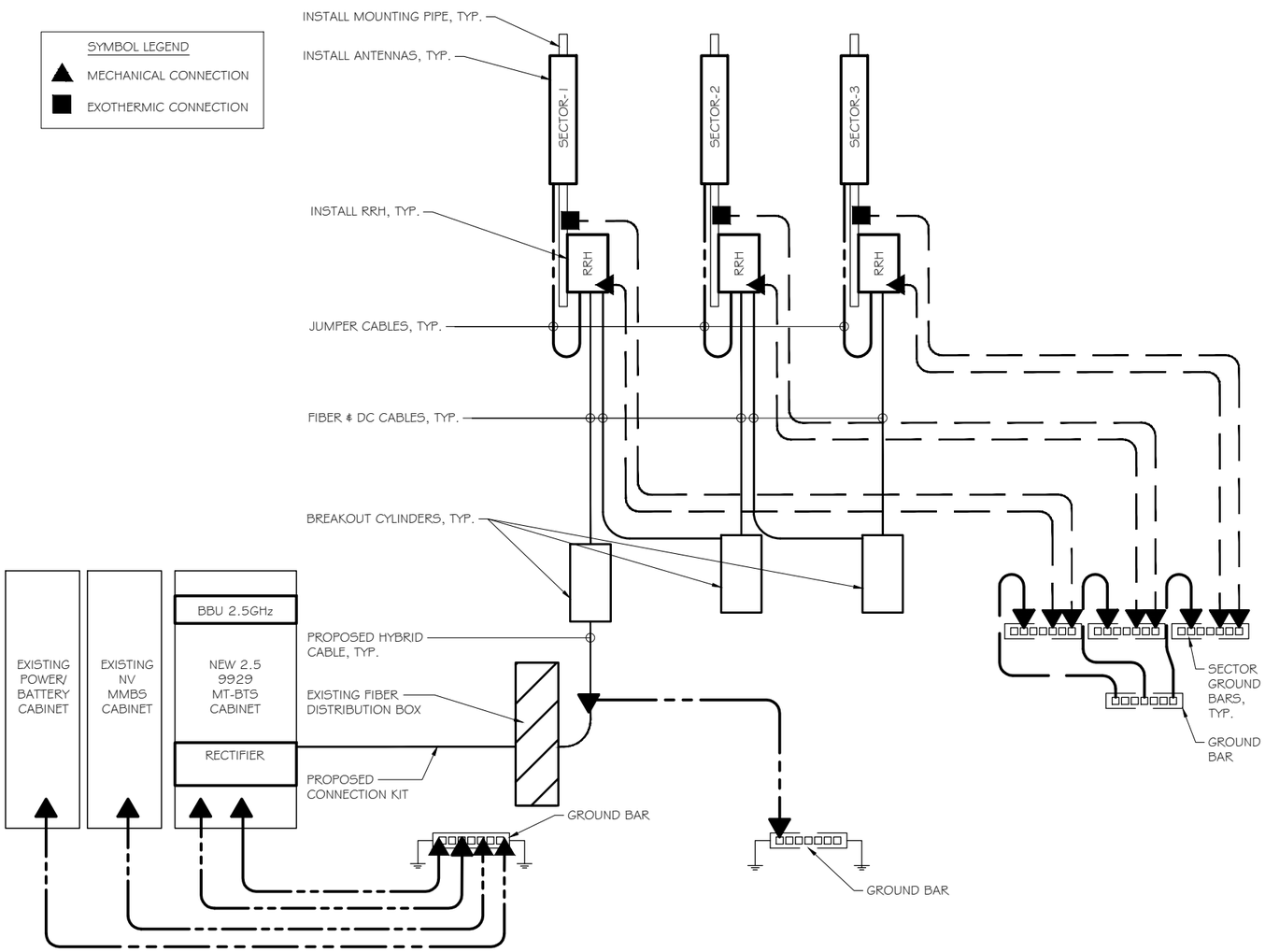
NEW LONDON COUNTY

SHEET TITLE:
EQUIPMENT UTILITY & GROUNDING PLAN

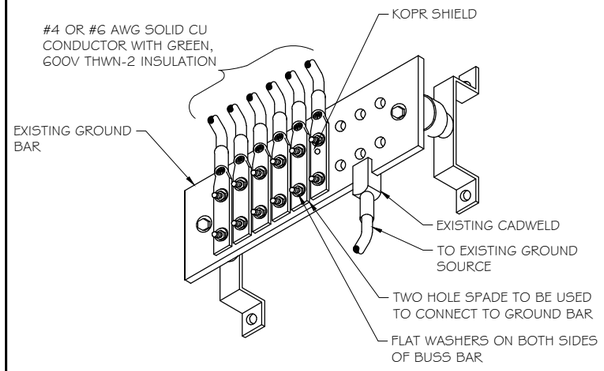
SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: E-1

SYMBOL LEGEND
- MECHANICAL CONNECTION
- EXOTHERMIC CONNECTION



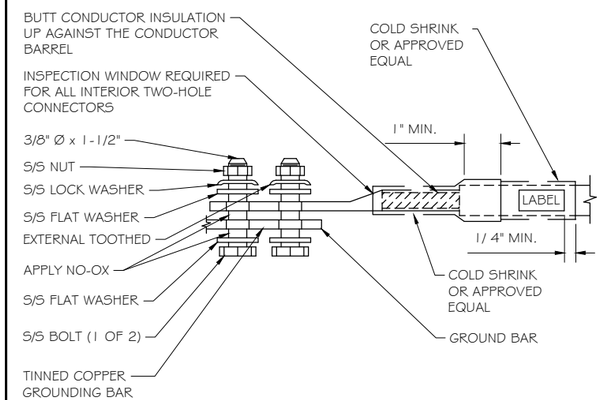
GROUNDING RISER DIAGRAM (1)
SCALE: NTS



NOTES:
1. APPLY NO-OX TO LUG AND GROUND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.

2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

GROUNDING CONDUCTOR INSTALLATION (2)
SCALE: NTS



TWO-HOLE LUG (3)
SCALE: NTS

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SHEET TITLE:
GROUNDING DETAILS

SCALE:
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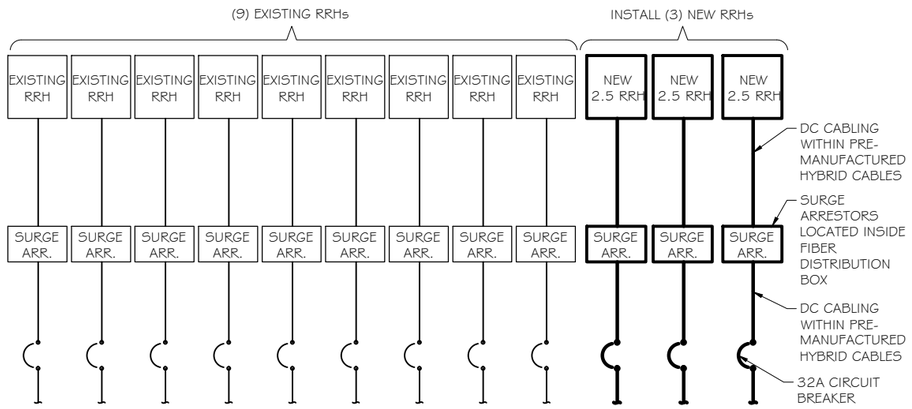
PROJECT NUMBER: 30511
SHEET NUMBER: E-2



DC ONE-LINE DIAGRAM (1)
SCALE: NTS

A/C PANEL SCHEDULE

VOLTAGE:	240V/120		PANEL STATUS:	EXISTING		N TO GROUND BOND:	YES
MAIN BREAKER:	200 AMP		MODEL NUMBER:	TBD		INTERNAL TVSS:	YES
MOUNT:	WALL		PHASE:	1		WIRE:	3
ENCLOSURE TYPE:	NEMA 3R		BUSS RATING:	200 AMP		GROUND BAR:	YES
			NEUTRAL BAR:	YES			

CKT	DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	PHASE A VA	PHASE B VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	DESCRIPTION	CKT
1	MBTS	80	2	ON			ON	2	60	SURGE ARRESTER	7
2											8
3	**NEW 2.5 CABINET***	**40**	**2**	**ON**			ON	1	10	FAN	9
4							ON	1	15	GFCI	10
5	SPARE	100	2	OFF			OFF	2	80	SPARE	11
6											12

*NOTE:
EXISTING SPARE, DUAL POLE 80A BREAKER TO BE REMOVED TO ACCOMMODATE NEW 2.5 CABINET.

AC PANEL SCHEDULE (2)
SCALE: NTS

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

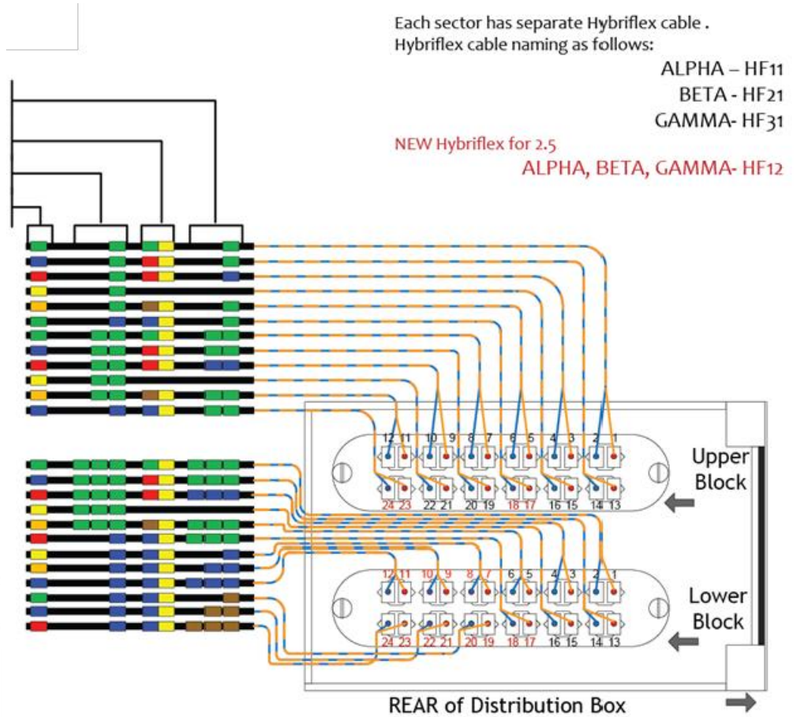
RAMAKER & ASSOCIATES, INC.
855 Community Drive, Sauk City, WI 53583
Phone: 608-643-4100 Fax: 608-643-7999
www.Ramaker.com

Transcend Wireless
48 SPRUCE STREET
OAKLAND, NJ 07346

Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.

STATE OF CONNECTICUT · JAMES R. SKOWRONSKI · 26266 · LICENSED PROFESSIONAL ENGINEER

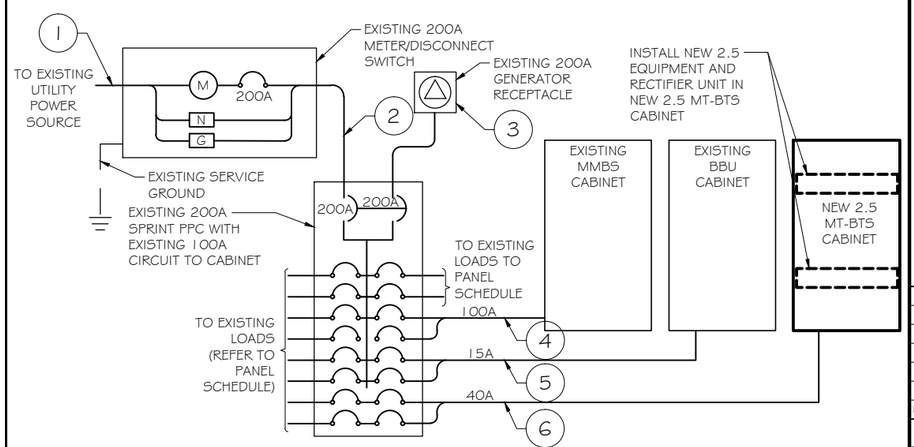
Signature: James R. Skowronski Date: 3/05/2015



NOTES:

1). CIRCUIT BREAKER NUMBERS 4, 8, AND 12 ARE TO BE USED UNLESS THIRD DC RAIL IS REQUIRED FOR MICROWAVE.
2). USE DC POWER LOOP.
3). ALL UNUSED DC FEEDERS TO BE TERMINATED WITH WIRE NUTS AND TAPED.
4). REMOVE ALL DEBRIS FROM INTERIOR OF FIBER DISTRIBUTION BOX WHEN COMPLETE.

TYPICAL FIBER DISTRIBUTION (3)
SCALE: NTS



CIRCUIT SCHEDULE

NO.	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/ DISCONNECT	EXISTING
2	METER/ DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	EX. MMBS CABINET	(3) #2 AWG, (1) #8 GND IN 1½" CONDUIT
5	TRANSFER & LOAD CENTER	EX. BBU CABINET	(2) #12 AWG, (1) #12 GND IN ¾" CONDUIT
6	**TRANSFER & LOAD CENTER**	**NEW 2.5 MT-BTS CABINET**	**(3) #2 AWG, (1) #8 GND IN 1½" CONDUIT**

ELECTRICAL ONE-LINE DIAGRAM (4)
SCALE: NTS

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 08/25/2015

PROJECT TITLE:
SNET TOWER (26 WASHINGTON ST) CT03XC103-C

PROJECT INFORMATION:
26 WASHINGTON STREET
NEW LONDON, CT 06320
NEW LONDON COUNTY

SHEET TITLE:
DC POWER DETAILS & PANEL SCHEDULES

SCALE:
AS NOTED

PROJECT NUMBER: 30511
SHEET NUMBER: E-3