

Pinnacle
Wireless

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OCT 23 2014

CONNECTICUT
SITING COUNCIL

800 Marshall Phelps Rd
Building 2A
Windsor, CT 06095

ORIGINAL

October 23, 2014

Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **EM-AT&T-025-130312** – New Cingular Wireless PCS, LLC notification of completion of construction at 751 Higgins Rd, Cheshire, Connecticut.

Dear Ms. Bachman:

This letter is submitted on behalf of New Cingular Wireless PCS, LLC ("AT&T"), whose notice of intent to modify an existing telecommunications facility was acknowledged by the Connecticut Siting Council ("Council").

Please accept this letter as notification of completion of construction by AT&T as required as a condition of the Council's acknowledgement. In addition, please refer to the attached documentation from AT&T's Engineer confirming that the installation was completed as designed.

Respectfully Yours,



Megan Boylan
Project Coordinator

Cc: Kevin Mason, AT&T

April 24, 2013

Mr. Douglas Roberts
Pinnacle Wireless
800 Phelps Road
Windsor, Connecticut 06095

Re: Post Modification Report
Project: AT&T - CT2036 Cheshire
751 Higgins Road
Cheshire, CT
Owner: AT&T Mobility
500 Enterprise Drive, Rocky Hill, CT 06067
Engineer: GPD Group
520 South Main Street Suite 2531, Akron, OH 44311
Contractor: Northeast Towers, Inc.
199 Brickyard Road, Farmington, CT 06032
Centek Project No.: 12033.CO40

Dear Mr. Roberts,

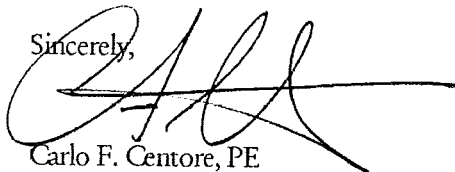
We are providing this "Post Modification Report" with regard to the structural modifications performed at the above referenced project.

The following are the basis for substantiating compliance with the tower modification documents prepared by GPD Group, Job No. 2012856.05, drawings T-1, N-1, S-1, S-2 & MI-1 dated 07/25/2012:

□ Field observations of completed site [refer to FVR dated 04/23/13].

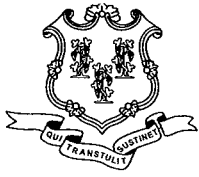
The work under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be completed in general compliance with the above referenced documents prepared by the this office.

Sincerely,


Carlo F. Centore, PE
Principal - Structural Engineer



Cc: File
Mike Foley - Northeast Towers (via email)



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

April 5, 2013

Stephanie Wenderoth
Nexlink Global Services
Suite A, Building 2
800 Marshall Phelps Road
Windsor, CT 06095

RE: **AT&T-025-130312** - AT&T Mobility notice of intent to modify an existing telecommunications facility located at 751 Higgins Road, Cheshire, Connecticut.

Dear Ms. Wenderoth:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 5, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding



the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable Timothy Slocum, Council Chairman, Town of Cheshire
William S. Voelker, AICP, Town Planner, Town of Cheshire



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

March 13, 2013

The Honorable Timothy Slocum
Council Chairman
Cheshire Town Hall
84 South Main Street
Cheshire, CT 06410

RE: **EM-AT&T-025-130312** - AT&T Mobility notice of intent to modify an existing telecommunications facility located at 751 Higgins Road, Cheshire, Connecticut.

Dear Chairman Slocum:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by March 27, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/CDM/laf

c: Michael A. Milone, Town Manager, Town of Cheshire
William S. Voelker, AICP, Town Planner, Town of Cheshire

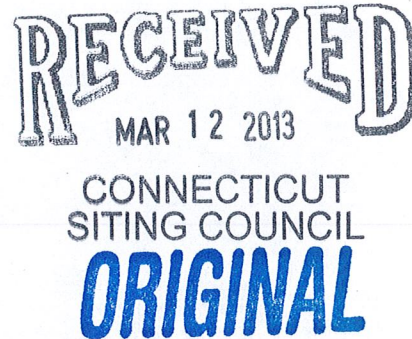
March 5, 2013

VIA UPS Delivery

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

RE: AT&T Mobility - Notice of Exempt Modification
751 Higgins Road, Cheshire CT

Dear Ms. Roberts:



This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing 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 attachments is being sent to Timothy P. Slocum; Cheshire Mayor.

AT&T plans to modify the existing facility at 751 Higgins Road, Cheshire CT, owned by the Brenda & Ernie Trumpold (coordinates 41° 29' 14.78" N, 72° 55' 45.55" W.). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C. S.A. Section | 6-50j-1 2(b)(2).

1. The height of the overall structure will be unaffected. The existing antennas will remain and AT&T will add three (3) new antennas, six (6) RRU's and one (1) surge arrestor. Additionally, AT&T will install one (1) fiber cable and two (2) DC control cables within the existing monopole.
2. The proposed changes will not extend the site boundaries. AT&T will install additional equipment in the existing equipment shelter. Thus, there will be no effect on the site compound.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed change will be negligible.
4. The changes to the facility 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 environment as calculated for a mixed frequency site. As indicated in the attached

power density calculations, AT&T's operations at the site will result in a power density of .79%; the combined site operations will result in a total power density of 8.93%

Please feel free to call me with any questions or concerns regarding this matter.
Thank you for your consideration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Stephanie Wenderoth', written in a cursive style.

AT&T Mobility
Stephanie Wenderoth, Consultant
wenderoths@pinnaclewireless.com
401.477.2938

Cc: Timothy P. Slocum, Mayor, Town Hall, 84 South Main Street, Cheshire, Ct 06410

**CONNECTICUT SITING COUNCIL
NOTICE OF INTENT TO MODIFY AN EXISTING TOWER FACILITY
EXEMPT MODIFICATION FILING FORM**

Public Utility Environmental Standards Act, Connecticut General Statutes §§ 16-50g - 16-50aa
Regulations of Connecticut State Agencies §§ 16-50j-72(b)(2) and 16-50j-73

TO BE COMPLETED BY FILER

Date: 3/5/13

Filer Name and Contact Information

Name: Stephanie Wenderoth

Address: Nexlink Global Services; Suite A Building 2
800 Marshall Phelps Road, Windsor, CT 06095

Phone Number: 401.477.2938

Wireless Carrier: AT&T

Tower Owner: AT&T

Tower Site Address: 751 Higgins Road, Cheshire CT

Municipality and Name of Chief Elected Official Provided A Copy Of This Notice:
Timothy P. Slocum; Cheshire Mayor

Description of Exempt Modification (including antenna and equipment changes):
Add 3 LTE Antennas, new conduit, RRUs and surge arrestor.

Attachments

- Plans
- Power density calculations if applicable
- Tower structural report if applicable
- \$625.00 Filing Fee

If required:

Municipality w/i 2,500' & Name of Chief Elected Official Provided A Copy Of This Notice:

Underlying Property Owner Provided A Copy Of This Notice:

FOR STAFF USE ONLY

-
- Modification will not result in an increase in tower height
 - Modification is within existing site boundaries
 - Modification will not increase noise levels at the site boundary by 6 dbA or more, or to levels that exceed State & local criteria

- Modification will meet FCC and DEEP MPE limits
- Modification will not result in significant adverse change in physical or environmental characteristics of the site
- Modification will not impair the structural integrity of the facility as determined by PE
- If yes to all of the above, approval of acknowledgement letter



C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions



at&t

CT2036

(Cheshire SW)

751 Higgins Road, Cheshire, CT 06410

March 4, 2013

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the lattice tower located on 751 Higgins Road in Cheshire, CT. The coordinates of the tower are 41° 29' 14.78" N, 72° 55' 45.55" W.

AT&T is proposing the following modifications:

- 1) Remove all existing dual-band (850/1900 MHz) antennas;
- 2) Install seven multi-band (700/850/1900/2100 MHz) antennas for their LTE/GSM/UMTS network.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times \text{EIRP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
Cingular TDMA	259	880	16	100	0.0086	0.5867	1.46%
Cingular GSM	259	880	2	296	0.0032	0.5867	0.54%
Cingular GSM	259	1930	2	427	0.0046	1.0000	0.46%
Cingular TDMA	244	880	16	100	0.0097	0.5867	1.65%
Cingular GSM	244	880	2	296	0.0036	0.5867	0.61%
Cingular GSM	244	1930	2	427	0.0052	1.0000	0.52%
T-Mobile GSM	212	1945	8	107	0.0068	1.0000	0.68%
T-Mobile UMTS	212	2100	2	605	0.0097	1.0000	0.97%
Nextel	215	851	9	100	0.0070	0.5673	1.23%
Verizon Cellular	252	869	9	214	0.0109	0.5793	1.88%
Verizon PCS	252	1970	7	188	0.0075	1.0000	0.75%
Verizon AWS	252	2145	1	455	0.0026	1.0000	0.26%
Verizon LTE	252	698	1	719	0.0041	0.4653	0.87%
Voicestream	217	2400	1	100	0.0008	1.0000	0.08%
Sprint	225	1930	4	500	0.0142	1.0000	1.42%
AT&T UMTS	255	880	2	1077	0.0012	0.5867	0.20%
AT&T UMTS	255	1900	2	1556	0.0017	1.0000	0.17%
AT&T LTE	255	734	1	1375	0.0008	0.4893	0.16%
AT&T GSM	255	880	1	538	0.0003	0.5867	0.05%
AT&T GSM	255	1900	4	934	0.0021	1.0000	0.21%
						Total	8.93%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 1/14/2013. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the Dewberry Construction Drawings dated February 28, 2013.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **8.93% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

March 4, 2013

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁴

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁵

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

⁴ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁵ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

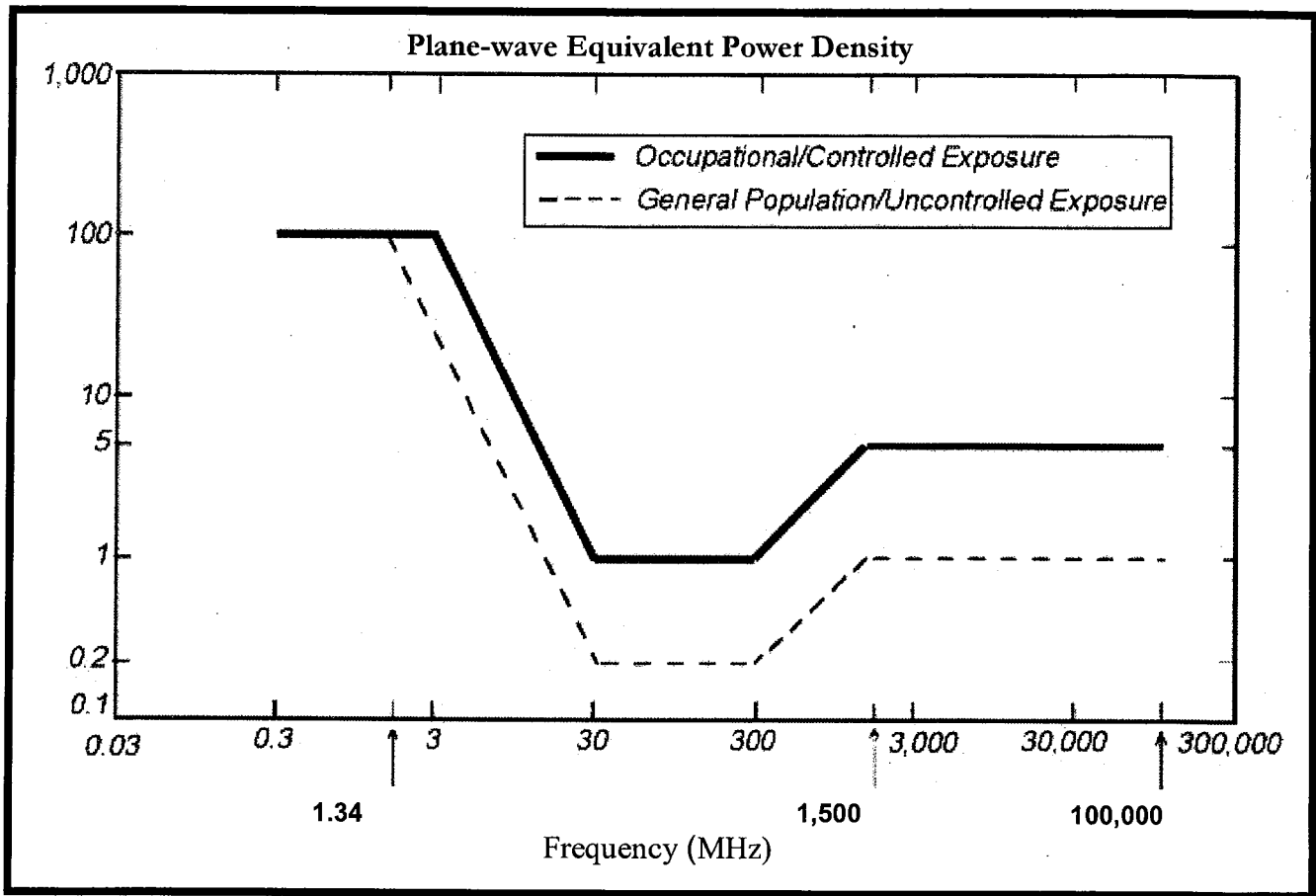
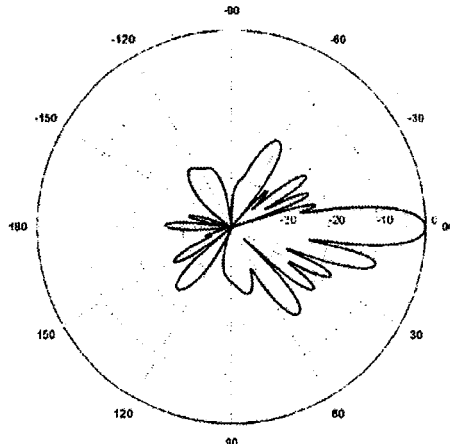
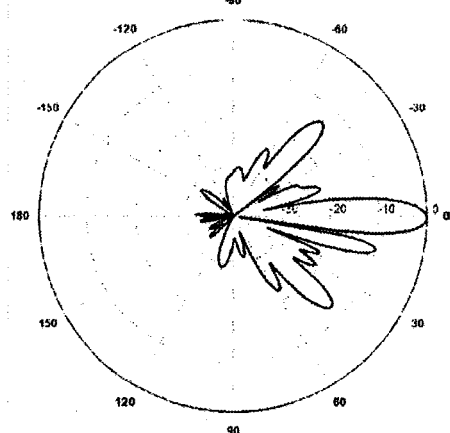
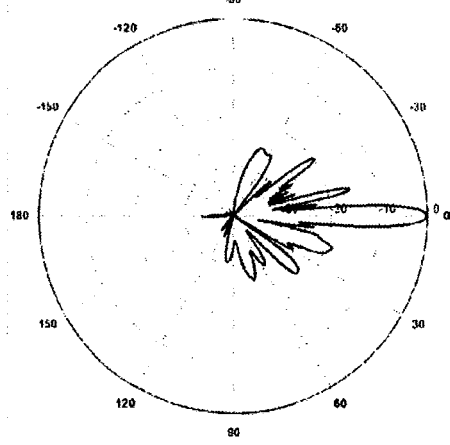


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

<p>700 MHz</p> <p>Manufacturer: Commscope Model #: SBNH-1D6565C Frequency Band: 698-806 MHz Gain: 13.6 dBd Vertical Beamwidth: 8.6° Horizontal Beamwidth: 71° Polarization: ± 45° Size L x W x D: 96.4" x 11.9" x 7.1"</p>	
<p>850 MHz</p> <p>Manufacturer: Commscope Model #: SBNH-1D6565C Frequency Band: 806-896 MHz Gain: 14.3 dBd Vertical Beamwidth: 7.8° Horizontal Beamwidth: 67° Polarization: ± 45° Size L x W x D: 96.4" x 11.9" x 7.1"</p>	
<p>1900 MHz</p> <p>Manufacturer: Commscope Model #: SBNH-1D6565C Frequency Band: 1850-1990 MHz Gain: 15.9 dBd Vertical Beamwidth: 5.1° Horizontal Beamwidth: 57° Polarization: ± 45° Size L x W x D: 96.4" x 11.9" x 7.1"</p>	

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing modified structure is capable of carrying the proposed loading configuration as specified by Cingular to AT&T Mobility. This report was commissioned by Ms. Charlotte Malone of AT&T Mobility.

This analysis is limited to the above grade tower structure and supporting building pedestals. A detailed analysis of the below grade building structure is beyond the scope of this report; however, based on a comparison of the existing base reactions and the base reactions from the existing, proposed, and reserved loading case the below grade building structure will see a loading increase less than 5% in capacity. Therefore the below grade building structure will be sufficient to support the proposed loading per section 3403.2 of the 2003 IBC.

Modifications designed by GPD (Project #: 2012856.05, dated 7/25/12) have been considered in this analysis.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	82.1%	Pass
Leg Bolts	34.2%	Pass
Diagonals	61.8%	Pass
Horizontals	63.0%	Pass
Redundant Members	81.5%	Pass
Member Bolts	45.5%	Pass
Anchor Rods	35.3%	Pass
Building Pedestals	16.3%	Pass

ANALYSIS METHOD

RISA 3D (Version 9.1.1) and TNX Tower (Version 6.0.4.0), commercially available software programs, were used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a detailed site visit by GPD.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Sprint Co-location document, uploaded 8/1/12	Siterra
Site Lease Application	Sprint Application, dated 7/5/12, uploaded 9/4/12	Siterra
Original Building Drawings	American Telephone & Telegraph Co. L-4 Junction Building, Cheshire, CT, dated 12/1/65	Siterra
Foundation Exploration	FDH Project #: 11-12049E-N1, dated 12/20/11	Siterra
Geotechnical Report	Not Provided	N/A
Previous Structural Analysis	GPD Project #: 2012856.72, dated 8/13/12	Siterra
Tower Mapping	Tower Engineering Professionals Project #: 111343, dated 4/8/11	Siterra
Modification Drawings	GPD Project #: 2012856.05, dated 7/25/12	Siterra

ASSUMPTIONS

This rigorous structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from the previous analysis by GPD Project #: 2012856.72, dated 8/13/12, site photos and the provided preliminary tower summary and is assumed to be accurate.
12. This analysis is limited to the above grade tower structure and supporting building pedestals. A detailed analysis of the below grade building structure is beyond the scope of this report; however, based on a comparison of the existing base reactions and the base reactions from the existing, proposed, and reserved loading case the below grade building structure will see a loading increase less than 5% in capacity. Therefore the below grade building structure will be sufficient to support the proposed loading per section 3403.2 of the 2003 IBC.
13. The future AT&T loading has been assumed based on the loading in the Wireline Verizon Modification 5-10-2012.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD GROUP in connection with this Rigorous Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD GROUP does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD GROUP provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD GROUP, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD GROUP makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

APPENDIX B

Software Output Files and Calculations

tnxTower GPD Group 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Job	TAG0053 CHESHIRE	Page	1 of 7
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Tower Input Data

The main tower is a 4x free standing tower with an overall height of 250.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 33.50 ft at the top and 37.00 ft at the base.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in New Haven County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.7500 in.

Ice density of 56 pcf.

A wind speed of 38 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.333.

Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	170.00 - 8.00	-4.0000	0.45	12	6	1.0000	1.9800		0.82
RET Cable	B	Yes	Ar (CfAe)	170.00 - 8.00	-4.0000	0.42	6	2	0.4400	0.4400		0.08
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	212.00 - 37.00	0.0000	0.45	4	4	1.0000	1.9800		0.82
1" Rigid Conduit	C	Yes	Ar (CfAe)	20.00 - 8.00	0.0000	-0.45	11	11	1.0000	1.0000		0.50
1" Rigid Conduit	C	Yes	Ar (CfAe)	30.00 - 20.00	0.0000	-0.45	7	7	1.0000	1.0000		0.50
1" Rigid Conduit	C	Yes	Ar (CfAe)	37.00 - 30.00	0.0000	-0.45	6	6	1.0000	1.0000		0.50
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	207.00 - 8.00	0.0000	-0.35	1	1	1.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	212.00 - 37.00	2.0000	-0.45	8	8	1.0000	1.9800		0.82
RET Cable	C	Yes	Ar (CfAe)	212.00 - 37.00	2.0000	-0.42	1	1	0.4400	0.4400		0.08
Power Cable (1/2")	C	Yes	Ar (CfAe)	250.00 - 8.00	0.0000	0.44	1	1	0.6300	0.6300		0.15
1-3/4" Rigid Conduit	C	Yes	Ar (CfAe)	250.00 - 8.00	0.0000	0.46	1	1	1.7500	1.7500		1.00
1/2" cable	D	Yes	Ar (CfAe)	36.50 - 8.00	0.0000	0.04	1	1	0.5000	0.5000		5.00
1/2" cable	D	Yes	Ar (CfAe)	44.50 - 8.00	0.0000	-0.04	1	1	0.5000	0.5000		5.00
LDF5-50A (7/8 FOAM)	D	Yes	Ar (CfAe)	169.00 - 8.00	8.0000	0.04	3	3	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	D	Yes	Ar (CfAe)	188.00 - 169.00	8.0000	0.04	2	2	1.0000	1.0900		0.33
LDF7-50A (1-5/8 FOAM)	D	Yes	Ar (CfAe)	200.00 - 8.00	0.0000	0.45	9	9	1.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	D	Yes	Ar (CfAe)	212.00 - 200.00	0.0000	0.45	6	6	1.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	D	Yes	Ar (CfAe)	225.00 - 8.00	0.0000	0.05	3	1	1.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	D	Yes	Ar (CfAe)	225.00 - 8.00	0.0000	-0.05	3	1	1.0000	1.9800		0.82

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	# Row	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(1-5/8 FOAM) LDF7-50A	D	Yes	Ar (CfAe)	240.00 - 8.00	0.0000	0	10	6	1.0000	1.9800		0.82
(1-5/8 FOAM) LDF7-50A	D	Yes	Ar (CfAe)	250.00 - 240.00	0.0000	0	2	2	1.0000	1.9800		0.82
(1-5/8 FOAM) LDF6-50A	D	Yes	Ar (CfAe)	250.00 - 8.00	0.0000	0.02	5	3	1.0000	1.5500		0.66
(1-1/4 FOAM) LDF7-50A	D	Yes	Ar (CfAe)	250.00 - 8.00	6.0000	0	13	6	1.0000	1.9800		0.82
(1-5/8 FOAM) 1" Line LDF4.5-50	D	Yes	Ar (CfAe)	250.00 - 8.00	6.0000	0	1	1	1.0000	1.0000		2.00
(5/8 FOAM) LDF4-50A	D	Yes	Ar (CfAe)	85.00 - 8.00	3.0000	0	7	7	0.8700	0.8700		0.15
(1/2 FOAM) Climbing Ladder	C	No	Af (Leg)	250.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000	0.5000	7.90
Feedline Ladder (Af)	B	Yes	Af (CfAe)	212.00 - 8.00	-4.0000	0.45	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	C	Yes	Af (CfAe)	212.00 - 8.00	2.0000	-0.42	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	D	Yes	Af (CfAe)	250.00 - 8.00	0.0000	0	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	D	Yes	Af (CfAe)	209.00 - 8.00	0.0000	0.43	1	1	3.0000	3.0000	12.0000	8.40

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
Tower Top Platform	C	None		0.0000	250.00	No Ice 85.00 1/2" Ice 97.00 1" Ice 110.00	85.00 97.00 110.00	4425.00 5752.50 7080.00
DUO1417-8686 w/Mount Pipe	B	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 7.25 1/2" Ice 7.96 1" Ice 8.57	5.86 6.96 7.78	45.85 103.71 172.26
DUO1417-8686 w/Mount Pipe	D	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 7.25 1/2" Ice 7.96 1" Ice 8.57	5.86 6.96 7.78	45.85 103.71 172.26
1284315 TMA	B	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 0.23 1/2" Ice 0.30 1" Ice 0.38	0.12 0.17 0.24	1.20 3.05 5.87
1284315 TMA	D	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 0.23 1/2" Ice 0.30 1" Ice 0.38	0.12 0.17 0.24	1.20 3.05 5.87
SBNH-1D6565C w/ Mount Pipe	B	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 11.45 1/2" Ice 12.06 1" Ice 12.69	9.12 10.21 11.18	82.70 162.03 254.15
SBNH-1D6565C w/ Mount Pipe	C	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 11.45 1/2" Ice 12.06 1" Ice 12.69	9.12 10.21 11.18	82.70 162.03 254.15
(2) SBNH-1D6565C w/ Mount Pipe	D	From Face	2.00 0.00 4.00	0.0000	250.00	No Ice 11.45 1/2" Ice 12.06 1" Ice 12.69	9.12 10.21 11.18	82.70 162.03 254.15
(2) RRUS-11	B	From Face	2.00	0.0000	250.00	No Ice 4.42	1.19	55.00

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
				0.00					80.77
				4.00			1/2" Ice	4.71	1.35
				2.00	0.0000	250.00	1" Ice	5.00	1.53
(2) RRUS-11	C	From Face		0.00			No Ice	4.42	1.19
				4.00			1/2" Ice	4.71	1.35
				4.00			1" Ice	5.00	1.53
(6) RRUS-11	D	From Face		2.00	0.0000	250.00	No Ice	4.42	1.19
				0.00			1/2" Ice	4.71	1.35
				4.00			1" Ice	5.00	1.53
GPS	A	From Face		2.00	0.0000	250.00	No Ice	0.17	0.17
				0.00			1/2" Ice	0.24	0.24
				2.00			1" Ice	0.32	0.32
LPA-80080-6CF-EDIN-X w/ Mount Pipe	A	From Face		2.00	0.0000	250.00	No Ice	4.35	10.82
				-15.00			1/2" Ice	4.79	11.74
				2.00			1" Ice	5.24	12.67
LPA-80080-6CF-EDIN-X w/ Mount Pipe	A	From Face		2.00	0.0000	250.00	No Ice	4.35	10.82
				15.00			1/2" Ice	4.79	11.74
				2.00			1" Ice	5.24	12.67
LPA-80063/6CFE-DIN w/ Mount Pipe	B	From Face		2.00	0.0000	250.00	No Ice	14.20	14.28
				-15.00			1/2" Ice	15.02	15.85
				2.00			1" Ice	15.85	17.48
LPA-80063/6CFE-DIN w/ Mount Pipe	B	From Face		2.00	0.0000	250.00	No Ice	14.20	14.28
				15.00			1/2" Ice	15.02	15.85
				2.00			1" Ice	15.85	17.48
LPA-80063/6CFE-DIN w/ Mount Pipe	C	From Face		4.00	0.0000	250.00	No Ice	14.20	14.28
				0.00			1/2" Ice	15.02	15.85
				2.00			1" Ice	15.85	17.48
4' Standoff	C	From Face		2.00	0.0000	250.00	No Ice	3.41	3.41
				0.00			1/2" Ice	4.47	4.47
				2.00			1" Ice	5.50	5.50
LPA-80063/6CFE-DIN w/ Mount Pipe	D	From Face		4.00	0.0000	250.00	No Ice	14.20	14.28
				10.00			1/2" Ice	15.02	15.85
				2.00			1" Ice	15.85	17.48
4' Standoff	D	From Face		2.00	0.0000	250.00	No Ice	3.41	3.41
				10.00			1/2" Ice	4.47	4.47
				2.00			1" Ice	5.50	5.50
BXA-70063-6CF	A	From Face		2.00	0.0000	250.00	No Ice	7.73	4.16
				-5.00			1/2" Ice	8.27	4.60
				2.00			1" Ice	8.81	5.04
BXA-171063/12BF w/ Mount Pipe	A	From Face		2.00	0.0000	250.00	No Ice	5.02	5.28
				0.00			1/2" Ice	5.57	6.45
				2.00			1" Ice	6.09	7.33
BXA-70063-6CF	B	From Face		2.00	0.0000	250.00	No Ice	7.73	4.16
				-5.00			1/2" Ice	8.27	4.60
				2.00			1" Ice	8.81	5.04
BXA-171063/12BF w/ Mount Pipe	B	From Face		2.00	0.0000	250.00	No Ice	5.02	5.28
				5.00			1/2" Ice	5.57	6.45
				2.00			1" Ice	6.09	7.33
BXA-70063-6CF	C	From Face		4.00	0.0000	250.00	No Ice	7.73	4.16
				15.00			1/2" Ice	8.27	4.60
				2.00			1" Ice	8.81	5.04
4' Standoff	C	From Face		2.00	0.0000	250.00	No Ice	3.41	3.41
				15.00			1/2" Ice	4.47	4.47
				2.00			1" Ice	5.50	5.50
BXA-171063/12BF w/ Mount Pipe	D	From Face		4.00	0.0000	250.00	No Ice	5.02	5.28
				-15.00			1/2" Ice	5.57	6.45
				2.00			1" Ice	6.09	7.33
4' Standoff	D	From Face		2.00	0.0000	250.00	No Ice	3.41	3.41

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	lb	
RRH 9442	A	From Face	-15.00		0.0000	250.00	1/2" Ice	4.47	4.47	104.00
			2.00				1" Ice	5.50	5.50	128.00
			2.00				No Ice	2.97	2.63	50.00
RRH 9442	B	From Face	-15.00		0.0000	250.00	1/2" Ice	3.21	2.86	74.49
			2.00				1" Ice	3.46	3.11	102.29
			2.00				No Ice	2.97	2.63	50.00
RRH 9442	C	From Face	-15.00		0.0000	250.00	1/2" Ice	3.21	2.86	74.49
			2.00				1" Ice	3.46	3.11	102.29
			4.00				No Ice	2.97	2.63	50.00
7770.00 w/ Mount Pipe	B	From Face	0.00		0.0000	240.00	1/2" Ice	3.21	2.86	74.49
			2.00				1" Ice	3.46	3.11	102.29
			5.00				No Ice	6.46	4.59	60.55
AM-X-CD-16-65-00T-RET w/ mountpipe	B	From Face	10.00		0.0000	240.00	1/2" Ice	7.14	5.66	108.85
			1.00				1" Ice	7.73	6.45	167.84
			5.00				No Ice	7.33	6.14	73.53
5' Side Arm	B	From Face	10.00		0.0000	240.00	1/2" Ice	7.98	7.13	134.57
			1.00				1" Ice	8.57	7.97	204.89
			2.50				No Ice	2.52	2.52	200.00
7770.00 w/ Mount Pipe	C	From Face	10.00		0.0000	240.00	1/2" Ice	3.15	3.15	250.00
			0.00				1" Ice	3.78	3.78	300.00
			5.00				No Ice	6.46	4.59	60.55
AM-X-CD-16-65-00T-RET w/ mountpipe	C	From Face	-10.00		0.0000	240.00	1/2" Ice	7.14	5.66	108.85
			1.00				1" Ice	7.73	6.45	167.84
			5.00				No Ice	7.33	6.14	73.53
5' Side Arm	C	From Face	-10.00		0.0000	240.00	1/2" Ice	7.98	7.13	134.57
			1.00				1" Ice	8.57	7.97	204.89
			2.50				No Ice	2.52	2.52	200.00
7770.00 w/ Mount Pipe	C	From Face	0.00		0.0000	240.00	1/2" Ice	3.15	3.15	250.00
			0.00				1" Ice	3.78	3.78	300.00
			5.00				No Ice	6.46	4.59	60.55
SBNH-1D6565C w/ Mount Pipe	C	From Face	10.00		0.0000	240.00	1/2" Ice	7.14	5.66	108.85
			1.00				1" Ice	7.73	6.45	167.84
			5.00				No Ice	11.45	9.12	82.70
5' Side Arm	C	From Face	10.00		0.0000	240.00	1/2" Ice	12.06	10.21	162.03
			1.00				1" Ice	12.69	11.18	254.15
			2.50				No Ice	2.52	2.52	200.00
7770.00 w/ Mount Pipe	D	From Face	10.00		0.0000	240.00	1/2" Ice	3.15	3.15	250.00
			0.00				1" Ice	3.78	3.78	300.00
			5.00				No Ice	6.46	4.59	60.55
5' Side Arm	D	From Face	10.00		0.0000	240.00	1/2" Ice	7.14	5.66	108.85
			1.00				1" Ice	7.73	6.45	167.84
			2.50				No Ice	2.52	2.52	200.00
DB980H65E-M w/ 20' Mount Pipe	B	From Face	10.00		0.0000	225.60	1/2" Ice	3.15	3.15	250.00
			0.00				1" Ice	3.78	3.78	300.00
			1.00				No Ice	8.11	7.94	124.30
DB980H65E-M w/ 20' Mount Pipe	B	From Face	-15.00		0.0000	225.60	1/2" Ice	10.01	10.34	199.77
			0.00				1" Ice	11.94	12.76	291.06
			1.00				No Ice	8.11	7.94	124.30
DB980H65E-M w/ 20' Mount Pipe	C	From Face	15.00		0.0000	225.60	1/2" Ice	10.01	10.34	199.77
			0.00				1" Ice	11.94	12.76	291.06
			1.00				No Ice	8.11	7.94	124.30
DB980H65E-M w/ 20' Mount Pipe	C	From Face	-15.00		0.0000	225.60	1/2" Ice	10.01	10.34	199.77
			0.00				1" Ice	11.94	12.76	291.06
			1.00				No Ice	8.11	7.94	124.30
DB980H65E-M w/ 20' Mount Pipe	C	From Face	15.00		0.0000	225.60	1/2" Ice	10.01	10.34	199.77
			0.00				1" Ice	11.94	12.76	291.06
			1.00				No Ice	8.11	7.94	124.30
DB980H65E-M w/ 10' Mount	D	From Face	0.00		0.0000	225.60	1/2" Ice	10.01	10.34	199.77
			0.00				1" Ice	11.94	12.76	291.06
			1.00				No Ice	5.24	5.07	66.40

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	Client		AT&T Mobility		Designed by		awestrum	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
Pipe			10.00			1/2" Ice 6.13	6.46	114.34
			0.00			1" Ice 7.04	7.88	172.79
DB980H65E-M w/ 20' Mount Pipe	D	From Face	1.00	0.0000	225.60	No Ice 8.11	7.94	124.30
			15.00			1/2" Ice 10.01	10.34	199.77
			0.00			1" Ice 11.94	12.76	291.06
10' x 2.5" Pipe	B	From Face	1.00	0.0000	225.60	No Ice 2.50	2.50	50.00
			-10.00			1/2" Ice 3.53	3.53	68.64
			0.00			1" Ice 4.58	4.58	93.79
10' x 2.5" Pipe	D	From Face	1.00	0.0000	225.60	No Ice 2.50	2.50	50.00
			-15.00			1/2" Ice 3.53	3.53	68.64
			0.00			1" Ice 4.58	4.58	93.79
(3) DB844H90E-XY w/Mount Pipe	A	From Leg	1.00	0.0000	209.00	No Ice 3.58	5.40	35.55
			0.00			1/2" Ice 4.20	6.49	76.59
			3.00			1" Ice 4.73	7.30	127.74
(3) DB844H90E-XY w/Mount Pipe	D	From Leg	1.00	0.0000	209.00	No Ice 3.58	5.40	35.55
			0.00			1/2" Ice 4.20	6.49	76.59
			3.00			1" Ice 4.73	7.30	127.74
14' T-Frame	A	From Leg	0.50	0.0000	209.00	No Ice 18.21	0.00	492.00
			0.00			1/2" Ice 23.76	0.00	690.25
			0.00			1" Ice 29.31	0.00	888.50
14' T-Frame	D	From Leg	0.50	0.0000	209.00	No Ice 18.21	0.00	492.00
			0.00			1/2" Ice 23.76	0.00	690.25
			0.00			1" Ice 29.31	0.00	888.50
(2) RR90-17-02DP w/Mount Pipe	B	From Leg	1.00	0.0000	209.00	No Ice 4.91	3.64	43.55
			0.00			1/2" Ice 5.57	4.70	81.64
			3.00			1" Ice 6.14	5.48	130.14
(2) RR90-17-02DP w/Mount Pipe	C	From Leg	1.00	0.0000	209.00	No Ice 4.91	3.64	43.55
			0.00			1/2" Ice 5.57	4.70	81.64
			3.00			1" Ice 6.14	5.48	130.14
APX16DWV-16DWVS-C w/Mount Pipe	B	From Leg	1.00	0.0000	209.00	No Ice 7.78	3.81	66.25
			0.00			1/2" Ice 8.48	4.88	115.45
			3.00			1" Ice 9.09	5.66	175.43
APX16DWV-16DWVS-C w/Mount Pipe	C	From Leg	1.00	0.0000	209.00	No Ice 7.78	3.81	66.25
			0.00			1/2" Ice 8.48	4.88	115.45
			3.00			1" Ice 9.09	5.66	175.43
(2) Dual Duplex 1900 TMA	B	From Leg	1.00	0.0000	209.00	No Ice 0.69	0.41	14.00
			0.00			1/2" Ice 0.81	0.51	19.05
			3.00			1" Ice 0.94	0.63	25.68
(2) Dual Duplex 1900 TMA	C	From Leg	1.00	0.0000	209.00	No Ice 0.69	0.41	14.00
			0.00			1/2" Ice 0.81	0.51	19.05
			3.00			1" Ice 0.94	0.63	25.68
ATMAA1412D-1A20	B	From Leg	1.00	0.0000	209.00	No Ice 1.17	0.47	13.00
			0.00			1/2" Ice 1.31	0.57	20.62
			3.00			1" Ice 1.47	0.69	30.11
ATMAA1412D-1A20	C	From Leg	1.00	0.0000	209.00	No Ice 1.17	0.47	13.00
			0.00			1/2" Ice 1.31	0.57	20.62
			3.00			1" Ice 1.47	0.69	30.11
14' T-Frame	B	From Leg	0.50	0.0000	209.00	No Ice 18.21	0.00	492.00
			0.00			1/2" Ice 23.76	0.00	690.25
			0.00			1" Ice 29.31	0.00	888.50
14' T-Frame	C	From Leg	0.50	0.0000	209.00	No Ice 18.21	0.00	492.00
			0.00			1/2" Ice 23.76	0.00	690.25
			0.00			1" Ice 29.31	0.00	888.50
26"x 26" Flat Panel	C	From Leg	1.00	0.0000	209.00	No Ice 5.60	0.52	15.00
			0.00			1/2" Ice 5.92	0.67	38.43
			-2.00			1" Ice 6.24	0.83	65.30
(3) DB844H90E-XY	C	From Leg	1.00	0.0000	198.00	No Ice 3.58	5.40	35.55

tnxTower GPD Group 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Job		TAG0053 CHESHIRE		Page		6 of 7	
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	Client		AT&T Mobility		Designed by		awestrum	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A		Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	lb
w/Mount Pipe			0.00			1/2" Ice	4.20	6.49	76.59
			2.00			1" Ice	4.73	7.30	127.74
14' T-Frame	C	From Leg	0.50		0.0000	No Ice	18.21	0.00	492.00
			0.00			1/2" Ice	23.76	0.00	690.25
			0.00			1" Ice	29.31	0.00	888.50
PG1N0F-0091-011	A	From Leg	3.50		-45.0000	No Ice	1.40	1.40	7.50
			-3.50			1/2" Ice	2.23	2.23	18.71
			5.00			1" Ice	3.07	3.07	35.15
5' Standoff	A	From Leg	1.75		-45.0000	No Ice	2.72	12.93	145.70
			-1.75			1/2" Ice	4.11	17.82	223.26
			0.00			1" Ice	5.50	22.71	300.83
PG1N0F-0091-011	B	From Leg	3.50		45.0000	No Ice	1.40	1.40	7.50
			3.50			1/2" Ice	2.23	2.23	18.71
			5.00			1" Ice	3.07	3.07	35.15
5' Standoff	B	From Leg	1.75		45.0000	No Ice	2.72	12.93	145.70
			1.75			1/2" Ice	4.11	17.82	223.26
			0.00			1" Ice	5.50	22.71	300.83
PG1N0F-0091-011	B	From Leg	3.50		45.0000	No Ice	1.40	1.40	7.50
			3.50			1/2" Ice	2.23	2.23	18.71
			5.00			1" Ice	3.07	3.07	35.15
5' Standoff	B	From Leg	1.75		45.0000	No Ice	2.72	12.93	145.70
			1.75			1/2" Ice	4.11	17.82	223.26
			0.00			1" Ice	5.50	22.71	300.83
(2) HBX-6516DS-VTM w/ mount pipe	B	From Leg	1.00		0.0000	No Ice	3.53	3.17	28.15
			0.00			1/2" Ice	3.91	3.80	58.62
			0.00			1" Ice	4.33	4.43	97.61
(2) HBX-6516DS-VTM w/ mount pipe	C	From Leg	1.00		0.0000	No Ice	3.53	3.17	28.15
			0.00			1/2" Ice	3.91	3.80	58.62
			0.00			1" Ice	4.33	4.43	97.61
(2) HBX-6516DS-VTM w/ mount pipe	D	From Leg	1.00		0.0000	No Ice	3.53	3.17	28.15
			0.00			1/2" Ice	3.91	3.80	58.62
			0.00			1" Ice	4.33	4.43	97.61
(2) ATM200-A20	B	From Leg	1.00		0.0000	No Ice	0.12	0.12	0.53
			0.00			1/2" Ice	0.19	0.19	2.23
			-2.00			1" Ice	0.27	0.27	4.77
(2) ATM200-A20	C	From Leg	1.00		0.0000	No Ice	0.12	0.12	0.53
			0.00			1/2" Ice	0.19	0.19	2.23
			-2.00			1" Ice	0.27	0.27	4.77
(2) ATM200-A20	D	From Leg	1.00		0.0000	No Ice	0.12	0.12	0.53
			0.00			1/2" Ice	0.19	0.19	2.23
			-2.00			1" Ice	0.27	0.27	4.77
4' T-Arm - Round (GPD)	B	From Leg	0.50		0.0000	No Ice	2.39	1.44	83.50
			0.00			1/2" Ice	2.99	1.87	108.55
			0.00			1" Ice	3.59	2.30	133.60
4' T-Arm - Round (GPD)	C	From Leg	0.50		0.0000	No Ice	2.39	1.44	83.50
			0.00			1/2" Ice	2.99	1.87	108.55
			0.00			1" Ice	3.59	2.30	133.60
4' T-Arm - Round (GPD)	D	From Leg	0.50		0.0000	No Ice	2.39	1.44	83.50
			0.00			1/2" Ice	2.99	1.87	108.55
			0.00			1" Ice	3.59	2.30	133.60
407517689 GPS	A	From Leg	1.00		0.0000	No Ice	0.17	0.17	0.87
			0.00			1/2" Ice	0.24	0.24	3.85
			0.00			1" Ice	0.32	0.32	7.85
GPS-TMG-HR-26NCM	A	From Leg	1.00		0.0000	No Ice	0.17	0.17	0.87
			0.00			1/2" Ice	0.24	0.24	3.85
			0.00			1" Ice	0.32	0.32	7.85
WL14-69/S	A	From Leg	1.00		0.0000	No Ice	2.88	2.88	5.00

tnxTower GPD Group 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Job TAG0053 CHESHIRE	Page 7 of 7
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	Client AT&T Mobility	Designed by awestrum

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			Vert						
			ft	ft					lb
			ft						
			0.00			1/2" Ice	3.74	3.74	6.50
			0.00			1" Ice	4.61	4.61	8.45
WL14-69/S	B	From Leg	1.00	0.0000	85.00	No Ice	2.88	2.88	5.00
			0.00			1/2" Ice	3.74	3.74	6.50
			0.00			1" Ice	4.61	4.61	8.45
WL14-69/S	C	From Leg	1.00	0.0000	85.00	No Ice	2.88	2.88	5.00
			0.00			1/2" Ice	3.74	3.74	6.50
			0.00			1" Ice	4.61	4.61	8.45
WL14-69/S	D	From Leg	1.00	0.0000	85.00	No Ice	2.88	2.88	5.00
			0.00			1/2" Ice	3.74	3.74	6.50
			0.00			1" Ice	4.61	4.61	8.45
WL7-13	C	From Leg	1.00	0.0000	85.00	No Ice	2.88	2.88	25.00
			0.00			1/2" Ice	3.73	3.73	32.50
			0.00			1" Ice	4.59	4.59	40.00
2.25' Yagi	C	From Face	1.00	0.0000	44.50	No Ice	0.41	0.41	10.00
			0.00			1/2" Ice	0.56	0.56	14.05
			0.00			1" Ice	0.73	0.73	19.98
s8000	C	None		0.0000	40.00	No Ice	13.22	32.52	1800.00
						1/2" Ice	13.73	33.28	2009.36
						1" Ice	14.25	34.05	2228.09
RBS 3106	C	None		0.0000	40.00	No Ice	17.85	12.60	1875.00
						1/2" Ice	18.42	13.07	2040.02
						1" Ice	19.00	13.55	2213.20
Purcell RAC35	C	None		0.0000	40.00	No Ice	8.17	6.81	120.00
						1/2" Ice	8.55	7.17	188.06
						1" Ice	8.95	7.54	261.43
(4) RRU 22 20W	C	None		0.0000	40.00	No Ice	1.57	2.58	35.00
						1/2" Ice	1.74	2.80	57.07
						1" Ice	1.92	3.03	82.20
(2) PBC02 MU	C	None		0.0000	40.00	No Ice	1.45	3.76	45.00
						1/2" Ice	1.62	4.02	70.25
						1" Ice	1.80	4.29	98.83
14" Omni	C	None		0.0000	41.00	No Ice	0.13	0.13	5.00
						1/2" Ice	0.22	0.22	6.76
						1" Ice	0.31	0.31	9.48
GPS	C	None		0.0000	42.00	No Ice	0.17	0.17	0.87
						1/2" Ice	0.24	0.24	3.85
						1" Ice	0.32	0.32	7.85
Camera	B	From Leg	1.50	0.0000	37.00	No Ice	0.13	0.06	2.00
			0.00			1/2" Ice	0.18	0.09	3.30
			0.00			1" Ice	0.25	0.14	5.42
2.5' Box Mount	B	From Leg	1.50	0.0000	37.00	No Ice	1.36	1.36	20.00
			0.00			1/2" Ice	2.45	2.45	40.00
			0.00			1" Ice	3.50	3.50	64.00
GPS	D	From Face	3.00	0.0000	36.50	No Ice	0.17	0.17	0.87
			0.00			1/2" Ice	0.24	0.24	3.85
			0.00			1" Ice	0.32	0.32	7.85
3' Side Arm	D	From Face	1.50	0.0000	36.50	No Ice	0.93	0.93	44.94
			0.00			1/2" Ice	1.13	1.13	54.87
			0.00			1" Ice	1.37	1.37	67.25

TAG0053 CHESHIRE

Hot Rolled Steel Properties

Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	29000	11200	.295	.65	.49	36	1.5	58	1.2

Concrete Properties

Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]	f'c[ksi]	Lambda	Flex Steel[ksi]	Shear Steel[ksi]
1	3156	1372	.15	.6	.145	3	1	60	60
2	3409	1482	.15	.6	.145	3.5	1	60	60
3	3644	1584	.15	.6	.145	4	1	60	60
4	2085	907	.15	.6	.11	3	1	60	60
5	2252	979	.15	.6	.11	3.5	1	60	60
6	2408	1047	.15	.6	.11	4	1	60	60

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	L6x6x1/2	Column	Single Angle	A36	Typical	5.75	19.9	19.9	.501
2	W12X26	Beam	Wide Flange	A36	Typical	7.65	17.3	204	.3
3	LL2.5x2.5x3x3	Column	Single Angle	A36	Typical	1.8	2.464	1.07	.023
4	L2.5x2.5x3	Column	Single Angle	A36	Typical	.9	.535	.535	.011
5	LL2.5x2.5x3x3	Column	Single Angle	A36	Typical	1.8	2.464	1.07	.023
6	L2.5x2.5x3	Column	Single Angle	A36	Typical	.9	.535	.535	.011
7	W10X22	Column	Single Angle	A36	Typical	6.49	11.4	118	.239
8	LL4x3.5x6x3	Column	Single Angle	A36	Typical	5.35	12.853	8.3	.264
9	LL2.5x2.5x3x3	Column	Single Angle	A36	Typical	1.8	2.464	1.07	.023
10	L2.5x2.5x3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
11	L2 1/2x2 1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
12	W6X25	Column	Wide Flange	A36	Typical	7.34	17.1	53.4	.461
13	2L2 1/2x3x1/2x3/8	Column	Double Angle	A36	Typical	5	11.217	2.604	.417
14	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
15	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
16	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
17	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
18	2L2 1/2x2 1/2x3/16x3/8	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
19	2L2 1/2x2 1/2x1/4x3/8	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
20	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
21	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
22	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
23	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
24	W10X22	Beam	Wide Flange	A36	Typical	6.49	11.4	118	.239

Hot Rolled Steel Section Sets (Continued)

Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Ivy [in4]	Izz [in4]	J [in4]
25	TWR INNER SQUARE T2	W8X13	Wide Flange	A36	Typical	3.84	2.73	39.6	.087
26	TWR INNER CORNER T2	W10X22	Wide Flange	A36	Typical	6.49	11.4	118	.239
27	TWR LEG T3	W6X25	Wide Flange	A36	Typical	7.34	17.1	53.4	.461
28	TWR HORZ T3	2L3x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.99	2.513	1.81	.023
29	TWR DIAG T3	2L2 1/2x3/8x3/8	Double Angle	A36	Typical	3.84	8.341	2.08	.18
30	TWR RED HORZ T3	L3X3X3	Double Angle	A36	Typical	1.09	.948	.948	.014
31	TWR RED HORZ 2 T3	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
32	TWR RED DIAG T3	L3X3X3	Double Angle	A36	Typical	1.09	.948	.948	.014
33	TWR RED HORZ 3 T3	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
34	TWR RED DIAG 2 T3	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
35	TWR RED DIAG 3 T3	2L2 1/2x2 1/2x1/4x3/8	Double Angle	A36	Typical	2.38	3.347	1.41	.049
36	TWR RED HIP HORZ 1 T3	LL4x4x8x3	Double Angle	A36	Typical	7.49	25.083	11	.644
37	TWR RED HIP HORZ 2 T3	LL3x3x3x3	Double Angle	A36	Typical	2.18	4.092	1.9	.027
38	TWR RED HIP DIAG 1 T3	LL3x3x3x3	Double Angle	A36	Typical	2.18	4.092	1.9	.027
39	TWR RED HIP DIAG 2 T3	LL3x3x6x3	Double Angle	A36	Typical	4.22	8.39	3.5	.202
40	TWR INNER SUPP T3	2L3x2 1/2x3/8x3/8	Double Angle	A36	Typical	3.84	5.153	3.31	.18
41	TWR INNER SQUARE T3	LL2.5x2.5x3x3	Double Angle	A36	Typical	1.8	2.464	1.07	.023
42	TWR INNER GIRT T3	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
43	TWR INNER TRIANGLE T3	LL2.5x2.5x3x3	Double Angle	A36	Typical	1.8	2.464	1.07	.023
44	TWR INNER CORNER T3	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
45	TWR INNER LADDER T3	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
46	TWR LEG T4	W6X25	Wide Flange	A36	Typical	7.34	17.1	53.4	.461
47	TWR HORZ T4	2L3x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.99	2.513	1.81	.023
48	TWR DIAG T4	2L2 1/2x3x1/2x3/8	Double Angle	A36	Typical	5	11.217	2.604	.417
49	TWR RED HORZ T4	L3X3X3	Double Angle	A36	Typical	1.09	.948	.948	.014
50	TWR RED HORZ 2 T4	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
51	TWR RED DIAG T4	L3X3X3	Double Angle	A36	Typical	1.09	.948	.948	.014
52	TWR RED HORZ 3 T4	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
53	TWR RED DIAG 2 T4	2L2 1/2x2 1/2x3/16x3/8	Double Angle	A36	Typical	1.8	2.499	1.09	.021
54	TWR RED DIAG 3 T4	2L2 1/2x2 1/2x1/4x3/8	Double Angle	A36	Typical	2.38	3.347	1.41	.049
55	TWR RED HIP HORZ 1 T4	LL4x4x8x3	Double Angle	A36	Typical	7.49	25.083	11	.644
56	TWR RED HIP HORZ 2 T4	LL3x3x3x3	Double Angle	A36	Typical	2.18	4.092	1.9	.027
57	TWR RED HIP DIAG 1 T4	LL3x3x3x3	Double Angle	A36	Typical	2.18	4.092	1.9	.027
58	TWR RED HIP DIAG 2 T4	LL3x3x6x3	Double Angle	A36	Typical	4.22	8.39	3.5	.202
59	TWR INNER SUPP T4	2L3x2 1/2x3/8x3/8	Double Angle	A36	Typical	3.84	5.153	3.31	.18
60	TWR INNER SQUARE T4	LL2.5x2.5x3x3	Double Angle	A36	Typical	1.8	2.464	1.07	.023
61	TWR INNER GIRT T4	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
62	TWR INNER TRIANGLE T4	LL2.5x2.5x3x3	Double Angle	A36	Typical	1.8	2.464	1.07	.023
63	TWR INNER CORNER T4	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
64	TWR INNER LADDER T4	LL3x2.5x6x3	Double Angle	A36	Typical	3.86	5.105	3.3	.189
65	TWR LEG T5	W8X40	Wide Flange	A36	Typical	11.7	49.1	146	1.12

Hot Rolled Steel Section Sets (Continued)

Label	Shape	Type	Design List	Material	Design Rules	A [lin2]	Ivy [lin4]	Izz [lin4]	J [lin4]
66	TWR HORZ T5	Beam	Double Angle	A36	Typical	1.99	2.513	1.81	.023
67	TWR DIAG T5	Column	Double Angle	A36	Typical	5	11.217	2.604	.417
68	TWR RED HORZ T5	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
69	TWR RED HORZ 2 T5	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
70	TWR RED DIAG T5	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
71	TWR RED HORZ 3 T5	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
72	TWR RED DIAG 2 T5	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
73	TWR RED DIAG 3 T5	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
74	TWR RED HIP HORZ 1 T5	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
75	TWR RED HIP HORZ 2 T5	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
76	TWR RED HIP DIAG 1 T5	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
77	TWR RED HIP DIAG 2 T5	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
78	TWR INNER SUPP T5	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
79	TWR INNER SQUARE T5	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
80	TWR INNER GIRT T5	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
81	TWR INNER TRIANGLE T5	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
82	TWR INNER CORNER T5	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
83	TWR INNER LADDER T5	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
84	TWR LEG T6	Column	Wide Flange	A36	Typical	11.7	49.1	146	1.12
85	TWR HORZ T6	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
86	TWR DIAG T6	Column	Double Angle	A36	Typical	4.969	18.655	3.84	.233
87	TWR RED HORZ T6	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
88	TWR RED HORZ 2 T6	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
89	TWR RED DIAG T6	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
90	TWR RED HORZ 3 T6	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
91	TWR RED DIAG 2 T6	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
92	TWR RED DIAG 3 T6	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
93	TWR RED HIP HORZ 1 T6	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
94	TWR RED HIP HORZ 2 T6	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
95	TWR RED HIP DIAG 1 T6	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
96	TWR RED HIP DIAG 2 T6	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
97	TWR INNER SUPP T6	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
98	TWR INNER SQUARE T6	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
99	TWR INNER GIRT T6	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
100	TWR INNER TRIANGLE T6	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
101	TWR INNER CORNER T6	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
102	TWR INNER LADDER T6	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
103	TWR LEG T7	Column	Wide Flange	A36	Typical	15.8	103	303	1.82
104	TWR HORZ T7	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
105	TWR DIAG T7	Column	Double Angle	A36	Typical	4.969	18.655	3.84	.233
106	TWR RED HORZ T7	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014

Hot Rolled Steel Section Sets (Continued)

Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Ivy [in4]	Izz [in4]	J [in4]	
107	TWR RED HORZ 2 T7	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
108	TWR RED DIAG T7	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
109	TWR RED HORZ 3 T7	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
110	TWR RED DIAG 2 T7	2L2 1/2x2 1/2x3/16x3/8	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
111	TWR RED DIAG 3 T7	2L2 1/2x2 1/2x1/4x3/8	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
112	TWR RED HIP HORZ 1 T7	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
113	TWR RED HIP HORZ 2 T7	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
114	TWR RED HIP DIAG 1 T7	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
115	TWR RED HIP DIAG 2 T7	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
116	TWR INNER SUPP T7	2L3x2 1/2x3/8x3/8	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
117	TWR INNER SQUARE T7	LL2.5x2.5x3x3	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
118	TWR INNER GIRT T7	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
119	TWR INNER TRIANGLE T7	LL2.5x2.5x3x3	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
120	TWR INNER CORNER T7	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
121	TWR INNER LADDER T7	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
122	TWR LEG T8	W10X60	Column	Wide Flange	A36	Typical	17.6	116	341	2.48
123	TWR HORZ T8	2L3x2 1/2x3/8x3/8	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
124	TWR DIAG T8	2L3x4x1/2x3/8	Column	Double Angle	A36	Typical	6.5	25.005	4.85	.542
125	TWR RED HORZ T8	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
126	TWR RED HORZ 2 T8	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
127	TWR RED DIAG T8	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
128	TWR RED HORZ 3 T8	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
129	TWR RED DIAG 2 T8	2L2 1/2x2 1/2x3/16x3/8	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
130	TWR RED DIAG 3 T8	2L2 1/2x2 1/2x1/4x3/8	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
131	TWR RED HIP HORZ 1 T8	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
132	TWR RED HIP HORZ 2 T8	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
133	TWR RED HIP DIAG 1 T8	LL3x3x3x3	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
134	TWR RED HIP DIAG 2 T8	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
135	TWR INNER SUPP T8	2L3x2 1/2x3/8x3/8	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
136	TWR INNER SQUARE T8	LL2.5x2.5x3x3	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
137	TWR INNER GIRT T8	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
138	TWR INNER TRIANGLE T8	LL2.5x2.5x3x3	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
139	TWR INNER CORNER T8	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
140	TWR INNER LADDER T8	LL3x2.5x6x3	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
141	TWR LEG T9	W10X68	Column	Wide Flange	A36	Typical	20	134	394	3.56
142	TWR HORZ T9	2L3x2 1/2x3/8x3/8	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
143	TWR DIAG T9	2L3x4x1/2x3/8	Column	Double Angle	A36	Typical	6.5	25.005	4.85	.542
144	TWR RED HORZ T9	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
145	TWR RED HORZ 2 T9	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
146	TWR RED DIAG T9	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
147	TWR RED HORZ 3 T9	2L2 1/2x2 1/2x3/16x3/8	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021

Hot Rolled Steel Section Sets (Continued)

Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Ivw [in4]	Izz [in4]	J [in4]
148	TWR RED DIAG 2 T9	Column	Double Angle	A36	Typical	1.8	2.499	1.09	.021
149	TWR RED DIAG 3 T9	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
150	TWR RED HIP HORZ 1 T9	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
151	TWR RED HIP HORZ 2 T9	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
152	TWR RED HIP DIAG 1 T9	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
153	TWR RED HIP DIAG 2 T9	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
154	TWR INNER SUPP T9	Beam	Double Angle	A36	Typical	3.84	5.153	3.31	.18
155	TWR INNER SQUARE T9	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
156	TWR INNER GIRT T9	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
157	TWR INNER TRIANGLE T9	Beam	Double Angle	A36	Typical	1.8	2.464	1.07	.023
158	TWR INNER CORNER T9	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
159	TWR INNER LADDER T9	Beam	Double Angle	A36	Typical	3.86	5.105	3.3	.189
160	TWR LEG T10	Column	Wide Flange	A36	Typical	23.2	216	662	3.84
161	TWR HORZ T10	Beam	Double Angle	A36	Typical	5.5	11.324	4.43	.458
162	TWR DIAG T10	Column	Double Angle	A36	Typical	7.5	25.217	11.1	.625
163	TWR RED HORZ T10	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
164	TWR RED HORZ 2 T10	Beam	Double Angle	A36	Typical	1.8	2.499	1.09	.021
165	TWR RED DIAG T10	Column	Double Angle	A36	Typical	1.44	1.23	1.23	.031
166	TWR RED HORZ 3 T10	Beam	Double Angle	A36	Typical	2.38	3.347	1.41	.049
167	TWR RED DIAG 2 T10	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
168	TWR RED HORZ 4 T10	Beam	Double Angle	A36	Typical	2.88	5.535	2.49	.06
169	TWR RED DIAG 3 T10	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
170	TWR RED DIAG 4 T10	Column	Double Angle	A36	Typical	2.38	3.347	1.41	.049
171	TWR RED HORZ 1A T10	Column	Double Angle	A36	Typical	.9	.535	.535	.011
172	TWR RED DIAG 1A T10	Column	Double Angle	A36	Typical	2.25	1.22	1.22	.188
173	TWR RED HIP HORZ 1 T10	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
174	TWR RED HIP HORZ 2 T10	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
175	TWR RED HIP DIAG 1 T10	Column	Double Angle	A36	Typical	2.18	4.092	1.9	.027
176	TWR RED HIP DIAG 2 T10	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
177	TWR INNER PLATFORM T10	Column	Double Angle	A36	Typical	2.13	.433	4.59	.08
178	TWR INNER LADDER T10	Column	Double Angle	A36	Typical	3.86	5.105	3.3	.189

General Section Sets

Label	Shape	Type	Material	A [in2]	Ivy [in4]	Izz [in4]	J [in4]
1	TWR INNER SUPP T1	Beam	A36 Gen	12.18	17.311	258	.74
2	TWR HORZ T2	Beam	A36 Gen	11.76	13.025	157.8	.74
3	TWR INNER SUPP T2	Beam	A36 Gen	12.18	17.311	258	.74
4	TWR INNER SUPP T10	Beam	A36 Gen	4.26	2.647	9.18	.16

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Member)	Surface(Plate/
15	Ice Wind 135 deg	None				80	912	160		
16	Ice Wind 180 deg	None				40	934	120		
17	Ice Wind 225 deg	None				80	894	160		
18	Ice Wind 270 deg	None				40	934	120		
19	Ice Wind 315 deg	None				80	912	160		
20	Service Wind 0 deg	None				40	934	120		
21	Service Wind 45 deg	None				80	892	160		
22	Service Wind 90 deg	None				40	934	120		
23	Service Wind 135 deg	None				80	904	160		
24	Service Wind 180 deg	None				40	934	120		
25	Service Wind 225 deg	None				80	934	160		
26	Service Wind 270 deg	None				40	934	120		
27	Service Wind 315 deg	None				80	904	160		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Dead Only	Yes			1	1	28	1	29	1	0	0	0	0	0	0
2	Dead+Wind 0 deg - No Ice	Yes			1	1	2	1	28	1	29	1	29	1	0	0
3	Dead+Wind 45 deg - No Ice	Yes			1	1	3	1	28	1	29	1	29	1	0	0
4	Dead+Wind 90 deg - No Ice	Yes			1	1	4	1	28	1	29	1	29	1	0	0
5	Dead+Wind 135 deg - No Ice	Yes			1	1	5	1	28	1	29	1	29	1	0	0
6	Dead+Wind 180 deg - No Ice	Yes			1	1	6	1	28	1	29	1	29	1	0	0
7	Dead+Wind 225 deg - No Ice	Yes			1	1	7	1	28	1	29	1	29	1	0	0
8	Dead+Wind 270 deg - No Ice	Yes			1	1	8	1	28	1	29	1	29	1	0	0
9	Dead+Wind 315 deg - No Ice	Yes			1	1	9	1	28	1	29	1	29	1	0	0
10	Dead+Ice+Temp	Yes			1	1	10	1	11	1	28	1	29	1	0	0
11	Dead+Wind 0 deg+Ice+Temp	Yes			1	1	12	1	10	1	11	1	28	1	29	1
12	Dead+Wind 45 deg+Ice+Temp	Yes			1	1	13	1	10	1	11	1	28	1	29	1
13	Dead+Wind 90 deg+Ice+Temp	Yes			1	1	14	1	10	1	11	1	28	1	29	1
14	Dead+Wind 135 deg+Ice+Temp	Yes			1	1	15	1	10	1	11	1	28	1	29	1
15	Dead+Wind 180 deg+Ice+Temp	Yes			1	1	16	1	10	1	11	1	28	1	29	1
16	Dead+Wind 225 deg+Ice+Temp	Yes			1	1	17	1	10	1	11	1	28	1	29	1
17	Dead+Wind 270 deg+Ice+Temp	Yes			1	1	18	1	10	1	11	1	28	1	29	1
18	Dead+Wind 315 deg+Ice+Temp	Yes			1	1	19	1	10	1	11	1	28	1	29	1
19	Dead+Wind 0 deg - Service	Yes			1	1	20	1	28	1	29	1	0	0	0	0
20	Dead+Wind 45 deg - Service	Yes			1	1	21	1	28	1	29	1	0	0	0	0
21	Dead+Wind 90 deg - Service	Yes			1	1	22	1	28	1	29	1	0	0	0	0
22	Dead+Wind 135 deg - Service	Yes			1	1	23	1	28	1	29	1	0	0	0	0
23	Dead+Wind 180 deg - Service	Yes			1	1	24	1	28	1	29	1	0	0	0	0

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

Nov 5, 2012
 4:41 PM
 Checked By:

TAG0053 CHESHIRE

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Lociflt	LC Shear C...	Lociflt	Dir	LC	Pncz/om [k]	Pnt/om [k]	Mnvy/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn	
20	M1227	LL4x3.5x6x3	.050	9.217	6	.002	9.217	Y	4	76.149	115.329	10.019	5.325	1... H1-1b
21	M1228	LL4x3.5x6x3	.049	9.217	8	.002	9.217	Y	2	76.149	115.329	10.019	5.325	1... H1-1b
22	M1229	LL4x3.5x6x3	.038	6.201	4	.001	0	Y	8	84.065	115.329	10.019	8.52	1... H1-1b
23	M1230	LL4x3.5x6x3	.038	9.888	8	.001	8.044	Y	8	84.065	115.329	10.019	8.52	1... H1-1b
24	M1231	LL4x3.5x6x3	.049	9.217	4	.002	9.217	Y	2	76.149	115.329	10.019	5.325	1... H1-1b
25	M1232	LL4x3.5x6x3	.050	9.217	6	.002	9.217	Y	8	76.149	115.329	10.019	5.325	1... H1-1b
26	M1233	LL4x3.5x6x3	.039	6.201	2	.001	8.044	Y	2	84.065	115.329	10.019	8.52	1... H1-1b
27	M1234	LL4x3.5x6x3	.039	9.888	6	.001	0	Y	2	84.065	115.329	10.019	8.52	1... H1-1b
28	M1235	LL4x3.5x6x3	.050	9.217	2	.002	9.217	Y	8	76.149	115.329	10.019	5.325	1... H1-1b
29	M51	2L2 1/2x3x1/2x3/8	.338	15.046	8	.004	22.569	Y	12	47.292	107.784	10.115	2.673	1 H1-1a
30	M59	2L2 1/2x3x1/2x3/8	.339	15.046	4	.004	22.569	Y	17	47.292	107.784	10.115	2.673	1 H1-1a
31	M67	2L2 1/2x3x1/2x3/8	.347	15.046	6	.004	22.569	Y	18	47.292	107.784	10.115	2.673	1 H1-1a
32	M75	2L2 1/2x3x1/2x3/8	.346	15.046	2	.004	22.569	Y	16	47.292	107.784	10.115	2.673	1 H1-1a
33	M83	2L2 1/2x3x1/2x3/8	.311	15.046	4	.004	22.569	Y	16	47.292	107.784	10.115	2.673	1 H1-1a
34	M91	2L2 1/2x3x1/2x3/8	.312	15.046	8	.004	22.569	Y	14	47.292	107.784	10.115	2.673	1 H1-1a
35	M99	2L2 1/2x3x1/2x3/8	.327	15.046	2	.004	22.569	Y	14	47.292	107.784	10.115	2.673	1 H1-1a
36	M107	2L2 1/2x3x1/2x3/8	.327	15.046	6	.004	22.569	Y	11	47.292	107.784	10.115	2.673	1 H1-1a
37	M124	2L2 1/2x3x3/8x3/8	.607	7.523	8	.005	22.569	Y	17	37.49	82.778	7.521	2.083	1 H1-1a
38	M132	2L2 1/2x3x3/8x3/8	.608	7.523	4	.005	22.569	Y	13	37.49	82.778	7.521	2.083	1 H1-1a
39	M141	2L2 1/2x3x3/8x3/8	.612	7.523	6	.005	22.569	Y	15	37.49	82.778	7.521	2.083	1 H1-1a
40	M149	2L2 1/2x3x3/8x3/8	.611	7.523	2	.005	22.569	Y	11	37.49	82.778	7.521	2.083	1 H1-1a
41	M158	2L2 1/2x3x3/8x3/8	.544	7.523	4	.005	22.569	Y	13	37.49	82.778	7.521	2.083	1 H1-1a
42	M166	2L2 1/2x3x3/8x3/8	.545	7.523	8	.005	22.569	Y	17	37.49	82.778	7.521	2.083	1 H1-1a
43	M175	2L2 1/2x3x3/8x3/8	.573	7.523	2	.005	22.569	Y	11	37.49	82.778	7.521	2.083	1 H1-1a
44	M183	2L2 1/2x3x3/8x3/8	.573	7.523	6	.005	22.569	Y	15	37.49	82.778	7.521	2.083	1 H1-1a
45	M205	2L2 1/2x3x1/2x3/8	.640	7.523	8	.004	22.569	Y	8	47.292	107.784	10.115	2.673	1 H1-1a
46	M213	2L2 1/2x3x1/2x3/8	.641	7.523	4	.004	22.569	Y	13	47.292	107.784	10.115	2.673	1 H1-1a
47	M222	2L2 1/2x3x1/2x3/8	.655	7.523	6	.004	22.569	Y	6	47.292	107.784	10.115	2.673	1 H1-1a
48	M230	2L2 1/2x3x1/2x3/8	.654	7.523	2	.004	22.569	Y	2	47.292	107.784	10.115	2.673	1 H1-1a
49	M239	2L2 1/2x3x1/2x3/8	.576	7.523	4	.004	22.569	Y	13	47.292	107.784	10.115	2.673	1 H1-1a
50	M247	2L2 1/2x3x1/2x3/8	.576	7.523	8	.004	22.569	Y	8	47.292	107.784	10.115	2.673	1 H1-1a
51	M256	2L2 1/2x3x1/2x3/8	.606	7.523	2	.004	22.569	Y	2	47.292	107.784	10.115	2.673	1 H1-1a
52	M264	2L2 1/2x3x1/2x3/8	.606	7.523	6	.004	22.569	Y	6	47.292	107.784	10.115	2.673	1 H1-1a
53	M286	2L2 1/2x3x1/2x3/8	.776	22.569	8	.004	22.569	Y	8	47.292	107.784	10.115	2.673	1 H1-1a
54	M294	2L2 1/2x3x1/2x3/8	.777	22.569	4	.004	22.569	Y	4	47.292	107.784	10.115	2.673	1 H1-1a
55	M303	2L2 1/2x3x1/2x3/8	.792	22.569	6	.004	22.569	Y	6	47.292	107.784	10.115	2.673	1 H1-1a
56	M311	2L2 1/2x3x1/2x3/8	.790	22.569	2	.004	22.569	Y	2	47.292	107.784	10.115	2.673	1 H1-1a
57	M320	2L2 1/2x3x1/2x3/8	.703	22.569	4	.004	22.569	Y	4	47.292	107.784	10.115	2.673	1 H1-1a
58	M328	2L2 1/2x3x1/2x3/8	.704	22.569	8	.004	22.569	Y	8	47.292	107.784	10.115	2.673	1 H1-1a
59	M337	2L2 1/2x3x1/2x3/8	.734	22.569	2	.004	22.569	Y	2	47.292	107.784	10.115	2.673	1 H1-1a
60	M345	2L2 1/2x3x1/2x3/8	.733	22.569	6	.004	22.569	Y	6	47.292	107.784	10.115	2.673	1 H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pncz/om [k]	Pnt/om [k]	Mny/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
61	M367	2L3x4x3/8x3/8	.709	22.569	8	.005	22.569	Y	7	61.48	107.111	12.805	3.11	1 H1-1a
62	M375	2L3x4x3/8x3/8	.710	22.569	4	.005	22.569	Y	5	61.48	107.111	12.805	3.11	1 H1-1a
63	M384	2L3x4x3/8x3/8	.722	22.569	6	.005	22.569	Y	5	61.48	107.111	12.805	3.11	1 H1-1a
64	M392	2L3x4x3/8x3/8	.721	22.569	2	.005	22.569	Y	3	61.48	107.111	12.805	3.11	1 H1-1a
65	M401	2L3x4x3/8x3/8	.646	22.569	4	.005	22.569	Y	3	61.48	107.111	12.805	3.11	1 H1-1a
66	M409	2L3x4x3/8x3/8	.646	22.569	8	.005	22.569	Y	9	61.48	107.111	12.805	3.11	1 H1-1a
67	M418	2L3x4x3/8x3/8	.669	22.569	2	.005	22.569	Y	9	61.48	107.111	12.805	3.11	1 H1-1a
68	M426	2L3x4x3/8x3/8	.669	22.569	6	.005	22.569	Y	7	61.48	107.111	12.805	3.11	1 H1-1a
69	M448	2L3x4x3/8x3/8	.811	22.569	8	.005	22.569	Y	7	61.48	107.111	12.805	3.11	1 H1-1a
70	M456	2L3x4x3/8x3/8	.812	22.569	4	.005	22.569	Y	4	61.48	107.111	12.805	3.11	1 H1-1a
71	M465	2L3x4x3/8x3/8	.824	22.569	6	.005	22.569	Y	6	61.48	107.111	12.805	3.11	1 H1-1a
72	M473	2L3x4x3/8x3/8	.823	22.569	2	.005	22.569	Y	3	61.48	107.111	12.805	3.11	1 H1-1a
73	M482	2L3x4x3/8x3/8	.740	22.569	4	.005	22.569	Y	3	61.48	107.111	12.805	3.11	1 H1-1a
74	M490	2L3x4x3/8x3/8	.740	22.569	8	.005	22.569	Y	9	61.48	107.111	12.805	3.11	1 H1-1a
75	M499	2L3x4x3/8x3/8	.763	22.569	2	.005	22.569	Y	9	61.48	107.111	12.805	3.11	1 H1-1a
76	M507	2L3x4x3/8x3/8	.763	22.569	6	.005	22.569	Y	6	61.48	107.111	12.805	3.11	1 H1-1a
77	M529	2L3x4x1/2x3/8	.730	5.015	8	.005	22.569	Y	7	78.844	140.12	17.163	6.415	1 H1-1a
78	M537	2L3x4x1/2x3/8	.732	5.015	4	.005	22.569	Y	5	78.844	140.12	17.163	6.415	1 H1-1a
79	M546	2L3x4x1/2x3/8	.741	5.329	6	.005	22.569	Y	6	78.844	140.12	17.163	6.415	1 H1-1a
80	M554	2L3x4x1/2x3/8	.739	5.015	2	.005	22.569	Y	3	78.844	140.12	17.163	6.415	1 H1-1a
81	M563	2L3x4x1/2x3/8	.669	5.015	4	.005	22.569	Y	3	78.844	140.12	17.163	6.415	1 H1-1a
82	M571	2L3x4x1/2x3/8	.668	5.015	8	.005	22.569	Y	9	78.844	140.12	17.163	6.415	1 H1-1a
83	M580	2L3x4x1/2x3/8	.688	5.015	2	.005	22.569	Y	9	78.844	140.12	17.163	6.415	1 H1-1a
84	M588	2L3x4x1/2x3/8	.689	5.015	6	.005	22.569	Y	7	78.844	140.12	17.163	6.415	1 H1-1a
85	M610	2L3x4x1/2x3/8	.807	5.329	8	.005	22.569	Y	7	78.844	140.12	17.163	6.415	1 H1-1a
86	M618	2L3x4x1/2x3/8	.809	5.329	4	.005	22.569	Y	14	78.844	140.12	17.163	6.415	1 H1-1a
87	M627	2L3x4x1/2x3/8	.821	5.329	6	.005	22.569	Y	14	78.844	140.12	17.163	6.415	1 H1-1a
88	M635	2L3x4x1/2x3/8	.819	5.329	2	.005	22.569	Y	3	78.844	140.12	17.163	6.415	1 H1-1a
89	M644	2L3x4x1/2x3/8	.740	5.329	4	.005	22.569	Y	3	78.844	140.12	17.163	6.415	1 H1-1a
90	M652	2L3x4x1/2x3/8	.739	5.329	8	.005	22.569	Y	9	78.844	140.12	17.163	6.415	1 H1-1a
91	M661	2L3x4x1/2x3/8	.762	5.329	2	.005	22.569	Y	9	78.844	140.12	17.163	6.415	1 H1-1a
92	M669	2L3x4x1/2x3/8	.764	5.329	6	.005	22.569	Y	7	78.844	140.12	17.163	6.415	1 H1-1a
93	M691	2L4x4x1/2x3/8	.747	6.872	7	.002	6.872	Y	3	103.043	161.677	17.309	11.327	1 H1-1a
94	M701	2L4x4x1/2x3/8	.713	6.872	5	.002	6.872	Y	9	103.043	161.677	17.309	11.327	1 H1-1a
95	M712	2L4x4x1/2x3/8	.769	6.821	3	.002	0	Y	5	103.67	161.677	17.309	11.327	1 H1-1a
96	M722	2L4x4x1/2x3/8	.789	6.821	6	.002	13.642	Y	3	103.67	161.677	17.309	11.327	1 H1-1a
97	M733	2L4x4x1/2x3/8	.661	6.872	3	.002	6.872	Y	7	103.043	161.677	17.309	11.327	1 H1-1a
98	M743	2L4x4x1/2x3/8	.700	6.872	9	.002	6.872	Y	5	103.043	161.677	17.309	11.327	1 H1-1a
99	M754	2L4x4x1/2x3/8	.751	6.821	9	.002	0	Y	9	103.67	161.677	17.309	11.327	1 H1-1a
100	M764	2L4x4x1/2x3/8	.719	6.821	6	.002	0	Y	7	103.67	161.677	17.309	11.327	1 H1-1a
101	M5	W12X26	.068	12.667	16	.009	0	Y	11	96.306	164.91	14.677	61.766	1.... H1-1b

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

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Nov 5, 2012
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Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locfll	LC Shear C...	Locfll	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnw/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
102	M6	.068	12.667	13	.009	25.334	Y	17	164.91	14.677	61.782	1...	H1-1b
103	M7	.069	12.667	11	.009	0	Y	15	164.91	14.677	61.843	1...	H1-1b
104	M8	.069	12.667	17	.009	25.334	Y	13	164.91	14.677	61.859	1...	H1-1b
105	M1212	.154	41.334	7	.012	0	Y	9	139.904	10.958	46.707	2...	H1-1b
106	M1213	.152	0	3	.012	41.334	Y	9	139.904	10.958	46.707	2...	H1-1b
107	M1214	.154	0	9	.011	41.334	Y	7	139.904	10.958	46.707	2...	H1-1b
108	M1215	.152	41.334	9	.011	0	Y	3	139.904	10.958	46.707	2...	H1-1b
109	M123	.474	8.375	4	.015	25.125	Y	14	42.898	2.687	1.54	1	H1-1a
110	M140	.434	25.125	6	.015	25.125	Y	12	42.898	2.687	1.54	1	H1-1a
111	M157	.389	8.375	8	.015	25.125	Y	18	42.898	2.687	1.54	1	H1-1a
112	M174	.453	25.125	2	.019	25.125	Y	16	42.898	2.687	1.54	1	H1-1a
113	M204	.684	8.375	4	.015	25.125	Y	14	42.898	2.687	1.54	1	H1-1a
114	M221	.653	25.125	6	.015	25.125	Y	12	42.898	2.687	1.54	1	H1-1a
115	M238	.581	8.375	8	.015	25.125	Y	18	42.898	2.687	1.54	1	H1-1a
116	M255	.653	29.313	2	.019	25.125	Y	16	42.898	2.687	2.464	1	H1-1a
117	M285	.840	4.188	4	.015	25.125	Y	14	42.898	2.687	2.464	1	H1-1a
118	M302	.813	17.099	6	.015	25.125	Y	12	42.898	2.687	1.54	1	H1-1a
119	M319	.722	8.375	8	.015	25.125	Y	18	42.898	2.687	1.54	1	H1-1a
120	M336	.797	29.313	2	.019	25.125	Y	16	42.898	2.687	2.464	1	H1-1a
121	M366	.530	4.188	4	.017	25.125	Y	15	82.778	5.511	4.656	1	H1-1a
122	M383	.508	17.099	6	.016	25.125	Y	13	82.778	5.511	2.91	1	H1-1a
123	M400	.453	16.401	8	.016	25.125	Y	18	82.778	5.511	2.91	1	H1-1a
124	M417	.501	29.313	2	.019	25.125	Y	16	82.778	5.511	4.656	1	H1-1a
125	M447	.604	4.188	4	.017	25.125	Y	14	82.778	5.511	4.656	1	H1-1a
126	M464	.580	17.099	6	.017	25.125	Y	12	82.778	5.511	2.91	1	H1-1a
127	M481	.520	16.401	8	.017	25.125	Y	18	82.778	5.511	2.91	1	H1-1a
128	M498	.568	29.313	2	.019	25.125	Y	16	82.778	5.511	4.656	1	H1-1a
129	M528	.681	4.188	4	.017	25.125	Y	15	82.778	5.511	4.656	1	H1-1a
130	M545	.660	17.099	6	.017	25.125	Y	13	82.778	5.511	2.91	1	H1-1a
131	M562	.593	16.401	8	.017	25.125	Y	18	82.778	5.511	2.91	1	H1-1a
132	M579	.640	29.313	2	.019	25.125	Y	16	82.778	5.511	4.656	1	H1-1a
133	M609	.747	4.188	4	.017	25.125	Y	14	82.778	5.511	4.656	1	H1-1a
134	M626	.725	17.099	6	.017	25.125	Y	12	82.778	5.511	2.91	1	H1-1a
135	M643	.649	16.401	8	.017	25.125	Y	18	82.778	5.511	2.91	1	H1-1a
136	M660	.697	29.313	2	.019	25.125	Y	16	82.778	5.511	4.656	1	H1-1a
137	M690	.562	16.75	7	.005	8.375	Y	17	118.563	10.211	3.848	1	H1-1a
138	M711	.548	16.75	3	.004	25.125	Y	12	118.563	10.211	3.848	1	H1-1a
139	M732	.527	16.75	9	.004	25.125	Y	16	118.563	10.211	3.848	1	H1-1a
140	M753	.517	29.313	9	.005	25.125	Y	16	118.563	10.211	6.157	1	H1-1a
141	M1180	.025	4.188	3	.002	8.375	Y	2	83.21	5.46	4.625	1	H1-1b
142	M1181	.025	4.188	5	.002	8.375	Y	4	83.21	5.46	4.625	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mny/om [k-ft]	Mnz/om [k-ft]	Cb	Eqn		
143	M1183	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
144	M1184	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
145	M1186	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	6	44.675	83.21	5.46	4.625	1	H1-1b
146	M1187	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
147	M1150	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	6	44.675	83.21	5.46	4.625	1	H1-1b
148	M1151	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
149	M1153	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
150	M1154	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
151	M1156	LL3x2.5x6x3	.025	4.188	5	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
152	M1157	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
153	M1120A	LL3x2.5x6x3	.025	4.188	3	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
154	M1121A	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
155	M1123A	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
156	M1124A	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
157	M1126	LL3x2.5x6x3	.025	4.188	5	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
158	M1127	LL3x2.5x6x3	.025	4.188	3	.002	8.375	Y	8	44.675	83.21	5.46	4.625	1	H1-1b
159	M1104A	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	6	44.675	83.21	5.46	4.625	1	H1-1b
160	M1105	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
161	M1108	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
162	M1109	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
163	M1112A	LL3x2.5x6x3	.025	4.188	5	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
164	M1113A	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
165	M1102	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	6	44.675	83.21	5.46	4.625	1	H1-1b
166	M1103	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
167	M1106	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
168	M1107A	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
169	M1110A	LL3x2.5x6x3	.025	4.188	5	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
170	M1111A	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
171	M1046	LL3x2.5x6x3	.025	4.188	9	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
172	M1047	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
173	M1051	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
174	M1052	LL3x2.5x6x3	.025	4.188	5	.002	8.375	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
175	M1056	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	4	44.675	83.21	5.46	4.625	1	H1-1b
176	M1057	LL3x2.5x6x3	.025	4.188	7	.002	8.375	Y	7	44.675	83.21	5.46	4.625	1	H1-1b
177	M1061	LL3x2.5x6x3	.025	4.188	7	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
178	M1062	LL3x2.5x6x3	.025	4.188	3	.002	0	Y	2	44.675	83.21	5.46	4.625	1	H1-1b
179	M1176	LL3x2.5x6x3	.032	4.682	3	.002	0	Y	1	38.241	83.21	5.46	4.625	1	H1-1b
180	M1177	LL3x2.5x6x3	.013	2.961	7	.001	0	Y	5	60.97	83.21	5.46	4.625	1	H1-1b
181	M1178	LL3x2.5x6x3	.032	4.682	3	.002	0	Y	1	38.241	83.21	5.46	4.625	1	H1-1b
182	M1146	LL3x2.5x6x3	.032	4.682	3	.002	0	Y	1	38.241	83.21	5.46	4.625	1	H1-1b
183	M1147	LL3x2.5x6x3	.014	2.961	7	.001	0	Y	5	60.97	83.21	5.46	4.625	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mmvy/om [k-ft]	Mmzz/om [k-ft]	Ob	Egn
184	M1148	.032	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
185	M1116A	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
186	M1117A	.014	2.961	7	.001	0	Y	5	60.97	5.46	4.625	1	H1-1b
187	M1118A	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
188	M1098	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
189	M1099	.014	2.961	7	.001	0	Y	5	60.97	5.46	4.625	1	H1-1b
190	M1100	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
191	M1068	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
192	M1069	.014	2.961	7	.001	0	Y	9	60.97	5.46	4.625	1	H1-1b
193	M1070	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
194	M1036	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
195	M1037	.014	2.961	7	.001	0	Y	9	60.97	5.46	4.625	1	H1-1b
196	M1038	.033	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
197	M1008	.032	4.682	7	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
198	M1009	.014	2.961	7	.001	0	Y	9	60.97	5.46	4.625	1	H1-1b
199	M1010	.032	4.682	3	.002	0	Y	1	83.21	5.46	4.625	1	H1-1b
200	M971	.032	2.961	3	.001	0	Y	2	60.97	5.46	4.625	1	H1-1b
201	M972	.061	4.682	3	.002	0	Y	12	68.512	5.46	4.625	1...	H1-1b
202	M973	.061	4.682	3	.002	0	Y	6	68.512	5.46	4.625	1...	H1-1b
203	M974	.003	1.481	3	.001	0	Y	5	75.961	5.46	4.625	1	H1-1b
204	M1205	.072	8.375	15	.004	0	Y	4	10.157	3.862	8.855	1...	H1-1b
205	M1207	.072	8.375	13	.004	0	Y	2	10.157	3.862	8.855	1...	H1-1b
206	M1209	.072	8.375	11	.004	16.75	Y	4	10.157	3.862	8.855	1...	H1-1b
207	M1211	.071	8.375	17	.004	0	Y	2	10.157	3.862	8.855	1...	H1-1b
208	M1188	.224	8.375	15	.006	16.75	Y	8	15.832	2.635	1.696	1...	H1-1b
209	M1192	.224	8.375	17	.006	0	Y	6	15.832	2.635	1.696	1...	H1-1b
210	M1196	.225	8.375	3	.006	16.75	Y	7	15.832	2.635	1.696	1...	H1-1b
211	M1200	.225	8.375	3	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
212	M1158	.224	8.375	7	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
213	M1162	.224	8.375	7	.006	16.75	Y	7	15.832	2.635	1.696	1...	H1-1b
214	M1166	.227	8.375	3	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
215	M1170	.227	8.375	3	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
216	M1128	.225	8.375	7	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
217	M1132	.225	8.375	7	.006	16.75	Y	7	15.832	2.635	1.696	1...	H1-1b
218	M1136	.228	8.375	3	.006	16.75	Y	7	15.832	2.635	1.696	1...	H1-1b
219	M1140	.228	8.375	3	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
220	M1110	.220	8.375	15	.006	16.75	Y	9	15.832	2.635	1.696	1...	H1-1b
221	M1114	.220	8.375	17	.006	0	Y	5	15.832	2.635	1.696	1...	H1-1b
222	M1118	.223	8.375	3	.006	16.75	Y	7	15.832	2.635	1.696	1...	H1-1b
223	M1122	.223	8.375	3	.006	0	Y	7	15.832	2.635	1.696	1...	H1-1b
224	M1080	.220	8.375	15	.006	16.75	Y	9	15.832	2.635	1.696	1...	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pncz/om [k]	Pnt/om [k]	Mny/om [k-ft]	Mnzz/om [k-ft]	Ob	Eon
225	M1084	L12.5x2.5x3x3	.220	8.375	17.006	0	Y	5	15.832	38.802	2.635	1.696	1.... H1-1b
226	M1088	L12.5x2.5x3x3	.223	8.375	3.006	16.75	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
227	M1092	L12.5x2.5x3x3	.223	8.375	3.006	0	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
228	M1042	L12.5x2.5x3x3	.224	8.375	3.006	0	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
229	M1043	L12.5x2.5x3x3	.221	8.375	7.006	16.75	Y	5	15.832	38.802	2.635	1.696	1.... H1-1b
230	M1044	L12.5x2.5x3x3	.221	8.375	7.006	0	Y	9	15.832	38.802	2.635	1.696	1.... H1-1b
231	M1045	L12.5x2.5x3x3	.224	8.375	3.006	16.75	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
232	M1012	L12.5x2.5x3x3	.220	8.375	4.006	16.75	Y	9	15.832	38.802	2.635	1.696	1.... H1-1b
233	M1018	L12.5x2.5x3x3	.220	8.375	2.006	0	Y	5	15.832	38.802	2.635	1.696	1.... H1-1b
234	M1024	L12.5x2.5x3x3	.220	8.375	2.006	16.75	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
235	M1030	L12.5x2.5x3x3	.221	8.375	13.006	0	Y	7	15.832	38.802	2.635	1.696	1.... H1-1b
236	M191	2L3x2 1/2x3/8x3/8	.157	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
237	M192	2L3x2 1/2x3/8x3/8	.158	11.844	16.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
238	M193	2L3x2 1/2x3/8x3/8	.157	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
239	M194	2L3x2 1/2x3/8x3/8	.162	11.844	16.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
240	M272	2L3x2 1/2x3/8x3/8	.156	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
241	M273	2L3x2 1/2x3/8x3/8	.156	11.844	16.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.9 H1-1b
242	M274	2L3x2 1/2x3/8x3/8	.156	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
243	M275	2L3x2 1/2x3/8x3/8	.161	11.844	16.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
244	M353	2L3x2 1/2x3/8x3/8	.158	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
245	M354	2L3x2 1/2x3/8x3/8	.158	11.844	16.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
246	M355	2L3x2 1/2x3/8x3/8	.158	11.844	16.008	11.844	Y	12	60.809	82.778	5.511	2.91	2.... H1-1b
247	M356	2L3x2 1/2x3/8x3/8	.169	11.844	7.008	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
248	M434	2L3x2 1/2x3/8x3/8	.155	11.844	15.015	11.844	Y	14	60.809	82.778	5.511	2.91	2.... H1-1b
249	M435	2L3x2 1/2x3/8x3/8	.156	11.844	12.015	11.844	Y	11	60.809	82.778	5.511	2.91	2.... H1-1b
250	M436	2L3x2 1/2x3/8x3/8	.155	11.844	16.015	11.844	Y	18	60.809	82.778	5.511	2.91	2.... H1-1b
251	M437	2L3x2 1/2x3/8x3/8	.160	11.844	16.015	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
252	M515	2L3x2 1/2x3/8x3/8	.156	11.844	15.015	11.844	Y	14	60.809	82.778	5.511	2.91	2.... H1-1b
253	M516	2L3x2 1/2x3/8x3/8	.158	11.844	12.015	11.844	Y	11	60.809	82.778	5.511	2.91	2.... H1-1b
254	M517	2L3x2 1/2x3/8x3/8	.156	11.844	16.015	11.844	Y	18	60.809	82.778	5.511	2.91	2.... H1-1b
255	M518	2L3x2 1/2x3/8x3/8	.162	11.844	16.015	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
256	M596	2L3x2 1/2x3/8x3/8	.157	11.844	16.015	11.844	Y	14	60.809	82.778	5.511	2.91	2.... H1-1b
257	M597	2L3x2 1/2x3/8x3/8	.158	11.844	12.015	11.844	Y	11	60.809	82.778	5.511	2.91	2.... H1-1b
258	M598	2L3x2 1/2x3/8x3/8	.157	11.844	12.015	11.844	Y	18	60.809	82.778	5.511	2.91	1.... H1-1b
259	M599	2L3x2 1/2x3/8x3/8	.163	11.844	7.015	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
260	M677	2L3x2 1/2x3/8x3/8	.158	11.844	12.015	11.844	Y	14	60.809	82.778	5.511	2.91	1.... H1-1b
261	M678	2L3x2 1/2x3/8x3/8	.159	11.844	12.015	11.844	Y	11	60.809	82.778	5.511	2.91	2.... H1-1b
262	M679	2L3x2 1/2x3/8x3/8	.158	11.844	12.015	11.844	Y	18	60.809	82.778	5.511	2.91	1.... H1-1b
263	M680	2L3x2 1/2x3/8x3/8	.168	11.844	7.015	11.844	Y	16	60.809	82.778	5.511	2.91	1.... H1-1b
264	M1189	L12.5x2.5x3x3	.032	4.188	16.002	8.375	Y	6	15.832	38.802	2.635	1.696	1 H1-1b
265	M1190	L12.5x2.5x3x3	.017	2.961	7.001	5.922	Y	9	24.574	38.802	2.635	1.696	1 H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pncz/om [k]	Pnt/om [k]	Mnw/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
266	M1191	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
267	M1193	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	4	15.832	38.802	2.635	1.696	1 H1-1b
268	M1194	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
269	M1195	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
270	M1197	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	2	15.832	38.802	2.635	1.696	1 H1-1b
271	M1198	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
272	M1199	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
273	M1201	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	8	15.832	38.802	2.635	1.696	1 H1-1b
274	M1202	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
275	M1203	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
276	M1159	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	2	15.832	38.802	2.635	1.696	1 H1-1b
277	M1160	LL2.5x2.5x3x3	.017	2.961	3	.001	5.922	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
278	M1161	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	9	24.574	38.802	2.635	1.696	1 H1-1b
279	M1163	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	8	15.832	38.802	2.635	1.696	1 H1-1b
280	M1164	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
281	M1165	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	3	24.574	38.802	2.635	1.696	1 H1-1b
282	M1167	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	6	15.832	38.802	2.635	1.696	1 H1-1b
283	M1168	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
284	M1169	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
285	M1171	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	4	15.832	38.802	2.635	1.696	1 H1-1b
286	M1172	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
287	M1173	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
288	M1129	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	6	15.832	38.802	2.635	1.696	1 H1-1b
289	M1130	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	9	24.574	38.802	2.635	1.696	1 H1-1b
290	M1131	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
291	M1133	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	4	15.832	38.802	2.635	1.696	1 H1-1b
292	M1134	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
293	M1135	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
294	M1137	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	2	15.832	38.802	2.635	1.696	1 H1-1b
295	M1138	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
296	M1139	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
297	M1141	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	7	15.832	38.802	2.635	1.696	1 H1-1b
298	M1142	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
299	M1143	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	2.635	1.696	1 H1-1b
300	M1111	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	5	15.832	38.802	2.635	1.696	1 H1-1b
301	M1112	LL2.5x2.5x3x3	.016	2.961	7	.001	5.922	Y	9	24.574	38.802	2.635	1.696	1 H1-1b
302	M1113	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	7	24.574	38.802	2.635	1.696	1 H1-1b
303	M1115	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	3	15.832	38.802	2.635	1.696	1 H1-1b
304	M1116	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	6	24.574	38.802	2.635	1.696	1 H1-1b
305	M1117	LL2.5x2.5x3x3	.016	2.961	7	.001	5.922	Y	5	24.574	38.802	2.635	1.696	1 H1-1b
306	M1119	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	2	15.832	38.802	2.635	1.696	1 H1-1b

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

TAG0053 CHESHIRE

Nov 5, 2012
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Envelope AISI C 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mny/om [k-ft]	Minzz/om [k-ft]	Cb	Egn
307	M1120	LL2.5x2.5x3x3	.016	2.961	7	.001	5.922	Y	5	24.574	38.802	1.696	1 H1-1b
308	M1121	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
309	M1123	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	7	15.832	38.802	1.696	1 H1-1b
310	M1124	LL2.5x2.5x3x3	.016	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
311	M1125	LL2.5x2.5x3x3	.016	2.961	7	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
312	M1081	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	9	24.574	38.802	1.696	1 H1-1b
313	M1082	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	7	24.574	38.802	1.696	1 H1-1b
314	M1083	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	5	15.832	38.802	1.696	1 H1-1b
315	M1085	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	7	24.574	38.802	1.696	1 H1-1b
316	M1086	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	1.696	1 H1-1b
317	M1087	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	3	15.832	38.802	1.696	1 H1-1b
318	M1089	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	1.696	1 H1-1b
319	M1090	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
320	M1091	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	2	15.832	38.802	1.696	1 H1-1b
321	M1093	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
322	M1094	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
323	M1095	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	7	15.832	38.802	1.696	1 H1-1b
324	M1048	LL2.5x2.5x3x3	.032	4.188	7	.002	8.375	Y	2	15.832	38.802	1.696	1 H1-1b
325	M1049	LL2.5x2.5x3x3	.017	2.961	3	.001	5.922	Y	7	24.574	38.802	1.696	1 H1-1b
326	M1050	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	9	24.574	38.802	1.696	1 H1-1b
327	M1053	LL2.5x2.5x3x3	.032	4.188	7	.002	8.375	Y	7	15.832	38.802	1.696	1 H1-1b
328	M1054	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	5	24.574	38.802	1.696	1 H1-1b
329	M1055	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	3	24.574	38.802	1.696	1 H1-1b
330	M1058	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	5	15.832	38.802	1.696	1 H1-1b
331	M1059	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
332	M1060	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	5	24.574	38.802	1.696	1 H1-1b
333	M1063	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	3	15.832	38.802	1.696	1 H1-1b
334	M1064	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
335	M1065	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
336	M1015	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	6	15.832	38.802	1.696	1 H1-1b
337	M1016	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	2	24.574	38.802	1.696	1 H1-1b
338	M1017	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	7	24.574	38.802	1.696	1 H1-1b
339	M1021	LL2.5x2.5x3x3	.032	4.188	16	.002	8.375	Y	3	15.832	38.802	1.696	1 H1-1b
340	M1022	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	6	24.574	38.802	1.696	1 H1-1b
341	M1023	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	5	24.574	38.802	1.696	1 H1-1b
342	M1027	LL2.5x2.5x3x3	.032	4.188	3	.002	8.375	Y	1	15.832	38.802	1.696	1 H1-1b
343	M1028	LL2.5x2.5x3x3	.017	2.961	7	.001	5.922	Y	4	24.574	38.802	1.696	1 H1-1b
344	M1029	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
345	M1033	LL2.5x2.5x3x3	.032	4.188	12	.002	8.375	Y	1	15.832	38.802	1.696	1 H1-1b
346	M1034	LL2.5x2.5x3x3	.017	2.961	3	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b
347	M1035	LL2.5x2.5x3x3	.017	2.961	7	.001	0	Y	1	24.574	38.802	1.696	1 H1-1b

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

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Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Lociflt	LC Shear C...	Lociflt	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
348	M1	.095	2.546	7	.076	14.377	Y	3	93.555	123.952	3.534	20.183	1.... H2-1
349	M2	.090	1.198	6	.076	14.377	Z	9	93.555	123.952	3.534	20.193	1.... H2-1
350	M3	.084	1.198	2	.074	14.377	Y	7	93.555	123.952	3.534	20.193	1.... H2-1
351	M4	.091	2.546	9	.073	14.377	Z	5	93.555	123.952	3.534	20.174	1.... H2-1
352	M47	.094	0	5	.018	12.5	Y	7	139.341	158.228	15.377	33.952	1 H1-1b
353	M48	.096	0	7	.017	12.5	Y	5	139.341	158.228	15.377	33.952	1 H1-1b
354	M49	.086	0	9	.017	12.5	Y	3	139.341	158.228	15.377	33.952	1 H1-1b
355	M50	.082	0	3	.017	12.5	Y	9	139.341	158.228	15.377	33.952	1 H1-1b
356	M119	.270	0	7	.026	18.75	Y	7	139.341	158.228	15.377	33.952	1 H1-1a
357	M120	.280	0	5	.027	18.75	Y	5	139.341	158.228	15.377	33.952	1 H1-1a
358	M121	.273	0	3	.025	18.75	Y	3	139.341	158.228	15.377	33.952	1 H1-1a
359	M122	.261	22.135	9	.026	18.75	Y	9	139.341	158.228	15.377	33.952	1 H1-1a
360	M200	.534	0	7	.038	6.25	Y	7	139.341	158.228	15.377	33.952	1 H1-1a
361	M201	.546	0	5	.039	6.25	Y	5	139.341	158.228	15.377	33.952	1 H1-1a
362	M202	.533	0	3	.037	6.25	Y	3	139.341	158.228	15.377	33.952	1 H1-1a
363	M203	.515	0	9	.037	6.25	Y	9	139.341	158.228	15.377	33.952	1 H1-1a
364	M281	.466	25	7	.031	6.25	Y	7	235.032	252.216	33.234	71.497	1 H1-1a
365	M282	.475	25	5	.032	6.25	Y	5	235.032	252.216	33.234	71.497	1 H1-1a
366	M283	.466	0	3	.030	6.25	Y	3	235.032	252.216	33.234	71.497	1 H1-1a
367	M284	.457	25	9	.030	6.25	Y	9	235.032	252.216	33.234	71.497	1 H1-1a
368	M362	.705	0	7	.054	6.25	Y	7	235.032	252.216	33.234	71.497	1 H1-1a
369	M363	.714	0	5	.056	6.25	Y	5	235.032	252.216	33.234	71.497	1 H1-1a
370	M364	.705	0	3	.054	6.25	Y	3	235.032	252.216	33.234	71.497	1 H1-1a
371	M365	.689	0	9	.053	6.25	Y	9	235.032	252.216	33.234	71.497	1 H1-1a
372	M443	.673	25	7	.052	6.25	Y	7	325.473	340.599	56.228	119.641	1 H1-1a
373	M444	.681	25	5	.054	6.25	Y	5	325.473	340.599	56.228	119.641	1 H1-1a
374	M445	.673	25	3	.052	6.25	Y	3	325.473	340.599	56.228	119.641	1 H1-1a
375	M446	.662	25	9	.051	6.25	Y	9	325.473	340.599	56.228	119.641	1 H1-1a
376	M524	.818	0	7	.077	6.25	Y	7	362.732	379.401	62.874	134.012	1 H1-1a
377	M525	.829	0	5	.079	6.25	Y	5	362.732	379.401	62.874	134.012	1 H1-1a
378	M526	.820	0	3	.077	6.25	Y	3	362.732	379.401	62.874	134.012	1 H1-1a
379	M527	.808	0	9	.076	6.25	Y	9	362.732	379.401	62.874	134.012	1 H1-1a
380	M605	.910	25	7	.072	6.25	Y	7	412.497	431.138	72.036	153.234	1 H1-1a
381	M606	.920	25	5	.073	6.25	Y	5	412.497	431.138	72.036	153.234	1 H1-1a
382	M607	.911	25	3	.072	6.25	Y	3	412.497	431.138	72.036	153.234	1 H1-1a
383	M608	.901	25	9	.071	6.25	Y	9	412.497	431.138	72.036	153.234	1 H1-1a
384	M686	1.094	0	7	.166	6.148	Y	7	484.962	500.12	97.545	213.772	1 H1-1a
385	M687	1.086	0	5	.171	6.148	Y	5	484.962	500.12	97.545	213.772	1 H1-1a
386	M688	1.036	0	3	.169	6.148	Y	3	484.962	500.12	97.545	213.772	1 H1-1a
387	M689	1.053	0	9	.166	6.148	Y	9	484.962	500.12	97.545	213.772	1 H1-1a
388	M739A	1.086	3.108	3	.001	0	Y	3	14.939	48.503	1.235	2.904	1 H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pncz/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn		
389	M740A	L2.5X2.5X8	.869	3.55	4	.001	6.683	Y	13	14.213	48.503	1.235	2.893	1	H2-1
390	M743A	L2.5X2.5X8	.875	3.133	9	.001	6.683	Y	18	14.213	48.503	1.235	2.893	1	H2-1
391	M744A	L2.5X2.5X8	1.036	3.523	9	.001	6.631	Y	12	14.939	48.503	1.235	2.904	1	H2-1
392	M747A	L2.5X2.5X8	.999	3.108	7	.001	0	Y	16	14.939	48.503	1.235	2.904	1	H2-1
393	M748A	L2.5X2.5X8	.935	3.55	7	.001	6.683	Y	8	14.213	48.503	1.235	2.893	1	H2-1
394	M751A	L2.5X2.5X8	.948	3.133	4	.001	6.683	Y	3	14.213	48.503	1.235	2.893	1	H2-1
395	M752A	L2.5X2.5X8	1.060	3.523	5	.001	6.631	Y	5	14.939	48.503	1.235	2.904	1	H2-1
396	M56	2L2 1/2x2 1/2x3/16x3/8	.082	5.225	13	.004	0	Y	13	11.109	38.802	2.672	1.737	1	H1-1b
397	M64	2L2 1/2x2 1/2x3/16x3/8	.082	5.225	17	.004	10.45	Y	13	11.109	38.802	2.672	1.737	1	H1-1b
398	M72	2L2 1/2x2 1/2x3/16x3/8	.082	5.225	11	.004	10.45	Y	18	11.109	38.802	2.672	1.737	1	H1-1b
399	M80	2L2 1/2x2 1/2x3/16x3/8	.082	5.225	15	.004	10.45	Y	12	11.109	38.802	2.672	1.737	1	H1-1b
400	M88	2L2 1/2x2 1/2x3/16x3/8	.081	5.225	17	.004	10.45	Y	18	11.109	38.802	2.672	1.737	1	H1-1b
401	M96	2L2 1/2x2 1/2x3/16x3/8	.081	5.225	13	.004	10.45	Y	13	11.109	38.802	2.672	1.737	1	H1-1b
402	M104	2L2 1/2x2 1/2x3/16x3/8	.081	5.225	15	.004	10.45	Y	16	11.109	38.802	2.672	1.737	1	H1-1b
403	M112	2L2 1/2x2 1/2x3/16x3/8	.081	5.225	11	.004	10.45	Y	14	11.109	38.802	2.672	1.737	1	H1-1b
404	M129	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	13	.004	0	Y	15	11.109	38.802	2.672	1.737	1	H1-1b
405	M137	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	17	.004	0	Y	18	11.109	38.802	2.672	1.737	1	H1-1b
406	M146	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	12	.004	10.45	Y	12	11.109	38.802	2.672	1.737	1	H1-1b
407	M154	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	15	.004	10.45	Y	14	11.109	38.802	2.672	1.737	1	H1-1b
408	M163	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	18	.004	0	Y	18	11.109	38.802	2.672	1.737	1	H1-1b
409	M171	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	14	.004	0	Y	12	11.109	38.802	2.672	1.737	1	H1-1b
410	M180	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	14	.004	0	Y	15	11.109	38.802	2.672	1.737	1	H1-1b
411	M188	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	18	.004	10.45	Y	12	11.109	38.802	2.672	1.737	1	H1-1b
412	M210	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	12	.004	10.45	Y	14	11.109	38.802	2.672	1.737	1	H1-1b
413	M218	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	17	.004	0	Y	16	11.109	38.802	2.672	1.737	1	H1-1b
414	M227	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	11	.004	0	Y	14	11.109	38.802	2.672	1.737	1	H1-1b
415	M235	2L2 1/2x2 1/2x3/16x3/8	.081	5.225	15	.004	10.45	Y	10	11.109	38.802	2.672	1.737	1	H1-1b
416	M244	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	17	.004	10.45	Y	16	11.109	38.802	2.672	1.737	1	H1-1b
417	M252	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	14	.004	10.45	Y	12	11.109	38.802	2.672	1.737	1	H1-1b
418	M261	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	15	.004	10.45	Y	15	11.109	38.802	2.672	1.737	1	H1-1b
419	M269	2L2 1/2x2 1/2x3/16x3/8	.080	5.225	11	.004	10.45	Y	11	11.109	38.802	2.672	1.737	1	H1-1b
420	M291	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	18	.004	10.45	Y	13	11.332	38.802	2.672	1.737	1	H1-1b
421	M299	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	14	.004	10.45	Y	15	11.332	38.802	2.672	1.737	1	H1-1b
422	M308	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	14	.004	0	Y	11	11.332	38.802	2.672	1.737	1	H1-1b
423	M316	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	18	.004	0	Y	15	11.332	38.802	2.672	1.737	1	H1-1b
424	M325	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	13	.004	10.45	Y	18	11.332	38.802	2.672	1.737	1	H1-1b
425	M333	2L2 1/2x2 1/2x3/16x3/8	.079	5.225	16	.004	10.45	Y	14	11.332	38.802	2.672	1.737	1	H1-1b
426	M342	2L2 1/2x2 1/2x3/16x3/8	.079	5.225	12	.004	10.45	Y	14	11.332	38.802	2.672	1.737	1	H1-1b
427	M350	2L2 1/2x2 1/2x3/16x3/8	.078	5.225	15	.004	0	Y	12	11.332	38.802	2.672	1.737	1	H1-1b
428	M372	2L2 1/2x2 1/2x3/16x3/8	.078	5.116	16	.004	0	Y	10	11.332	38.802	2.672	1.737	1	H1-1b
429	M380	2L2 1/2x2 1/2x3/16x3/8	.079	5.116	14	.004	0	Y	18	11.332	38.802	2.672	1.737	1	H1-1b

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Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnvw/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
430	M389	2L2 1/2x2 1/2x3/16x3/8	.079	5.116 14 .004	0	Y	11	11.332	38.802	2.672	1.737	1	H1-1b
431	M397	2L2 1/2x2 1/2x3/16x3/8	.078	5.225 16 .004	10.45	Y	15	11.332	38.802	2.672	1.737	1	H1-1b
432	M406	2L2 1/2x2 1/2x3/16x3/8	.078	5.225 16 .004	10.45	Y	13	11.332	38.802	2.672	1.737	1	H1-1b
433	M414	2L2 1/2x2 1/2x3/16x3/8	.078	5.225 14 .004	10.45	Y	13	11.332	38.802	2.672	1.737	1	H1-1b
434	M423	2L2 1/2x2 1/2x3/16x3/8	.078	5.225 14 .004	10.45	Y	15	11.332	38.802	2.672	1.737	1	H1-1b
435	M431	2L2 1/2x2 1/2x3/16x3/8	.078	5.225 12 .004	10.45	Y	17	11.332	38.802	2.672	1.737	1	H1-1b
436	M453	2L2 1/2x2 1/2x3/16x3/8	.087	5.116 15 .004	0	Y	13	11.538	38.802	2.672	1.737	1	H1-1b
437	M461	2L2 1/2x2 1/2x3/16x3/8	.088	5.116 15 .004	0	Y	17	11.538	38.802	2.672	1.737	1	H1-1b
438	M470	2L2 1/2x2 1/2x3/16x3/8	.088	5.116 13 .004	0	Y	15	11.538	38.802	2.672	1.737	1	H1-1b
439	M478	2L2 1/2x2 1/2x3/16x3/8	.086	5.116 13 .004	10.45	Y	16	11.538	38.802	2.672	1.737	1	H1-1b
440	M487	2L2 1/2x2 1/2x3/16x3/8	.086	5.116 11 .004	0	Y	18	11.538	38.802	2.672	1.737	1	H1-1b
441	M495	2L2 1/2x2 1/2x3/16x3/8	.084	5.116 11 .004	10.45	Y	14	11.538	38.802	2.672	1.737	1	H1-1b
442	M504	2L2 1/2x2 1/2x3/16x3/8	.084	5.116 17 .004	0	Y	17	11.538	38.802	2.672	1.737	1	H1-1b
443	M512	2L2 1/2x2 1/2x3/16x3/8	.086	5.116 17 .004	0	Y	16	11.538	38.802	2.672	1.737	1	H1-1b
444	M534	2L2 1/2x2 1/2x3/16x3/8	.095	5.116 16 .004	0	Y	10	11.562	38.802	2.672	1.737	1	H1-1b
445	M542	2L2 1/2x2 1/2x3/16x3/8	.097	5.116 14 .004	0	Y	18	11.562	38.802	2.672	1.737	1	H1-1b
446	M551	2L2 1/2x2 1/2x3/16x3/8	.097	5.116 14 .004	10.45	Y	11	11.562	38.802	2.672	1.737	1	H1-1b
447	M559	2L2 1/2x2 1/2x3/16x3/8	.095	5.116 12 .004	10.45	Y	13	11.562	38.802	2.672	1.737	1	H1-1b
448	M568	2L2 1/2x2 1/2x3/16x3/8	.093	5.116 12 .004	10.45	Y	18	11.562	38.802	2.672	1.737	1	H1-1b
449	M576	2L2 1/2x2 1/2x3/16x3/8	.092	5.116 18 .004	0	Y	12	11.562	38.802	2.672	1.737	1	H1-1b
450	M585	2L2 1/2x2 1/2x3/16x3/8	.092	5.116 18 .004	0	Y	16	11.562	38.802	2.672	1.737	1	H1-1b
451	M593	2L2 1/2x2 1/2x3/16x3/8	.094	5.116 16 .004	0	Y	18	11.562	38.802	2.672	1.737	1	H1-1b
452	M615	2L2 1/2x2 1/2x3/16x3/8	.095	5.116 15 .004	10.45	Y	13	11.585	38.802	2.672	1.737	1	H1-1b
453	M623	2L2 1/2x2 1/2x3/16x3/8	.096	5.116 15 .004	0	Y	15	11.585	38.802	2.672	1.737	1	H1-1b
454	M632	2L2 1/2x2 1/2x3/16x3/8	.090	5.116 14 .004	0	Y	14	11.585	38.802	2.672	1.737	1	H1-1b
455	M640	2L2 1/2x2 1/2x3/16x3/8	.089	5.116 12 .004	0	Y	15	11.585	38.802	2.672	1.737	1	H1-1b
456	M649	2L2 1/2x2 1/2x3/16x3/8	.094	5.116 11 .004	10.45	Y	16	11.585	38.802	2.672	1.737	1	H1-1b
457	M657	2L2 1/2x2 1/2x3/16x3/8	.091	5.116 11 .004	0	Y	12	11.585	38.802	2.672	1.737	1	H1-1b
458	M666	2L2 1/2x2 1/2x3/16x3/8	.086	5.116 18 .004	10.45	Y	16	11.585	38.802	2.672	1.737	1	H1-1b
459	M674	2L2 1/2x2 1/2x3/16x3/8	.089	5.116 16 .004	10.45	Y	12	11.585	38.802	2.672	1.737	1	H1-1b
460	M696	2L2 1/2x2 1/2x1/4x3/8	.122	5.076 7 .004	10.152	Y	12	16.828	51.305	3.58	2.271	1	H1-1b
461	M706	2L2 1/2x2 1/2x1/4x3/8	.128	5.076 5 .004	0	Y	10	16.828	51.305	3.58	2.271	1	H1-1b
462	M717	2L2 1/2x2 1/2x1/4x3/8	.107	5.127 14 .004	10.254	Y	14	16.467	51.305	3.58	2.271	1	H1-1b
463	M727	2L2 1/2x2 1/2x1/4x3/8	.103	5.127 12 .004	10.254	Y	15	16.467	51.305	3.58	2.271	1	H1-1b
464	M738	2L2 1/2x2 1/2x1/4x3/8	.128	5.076 3 .004	10.152	Y	12	16.828	51.305	3.58	2.271	1	H1-1b
465	M748	2L2 1/2x2 1/2x1/4x3/8	.124	5.076 9 .004	0	Y	13	16.828	51.305	3.58	2.271	1	H1-1b
466	M759	2L2 1/2x2 1/2x1/4x3/8	.103	5.127 9 .004	10.254	Y	16	16.467	51.305	3.58	2.271	1	H1-1b
467	M769	2L2 1/2x2 1/2x1/4x3/8	.105	5.127 7 .004	10.254	Y	18	16.467	51.305	3.58	2.271	1	H1-1b
468	M57	2L2 1/2x2 1/2x1/4x3/8	.111	5.116 14 .004	0	Y	16	14.371	51.305	3.58	2.271	1	H1-1b
469	M58	2L2 1/2x2 1/2x1/4x3/8	.034	3.683 17 .002	0	Y	12	26.463	51.305	3.58	2.271	1	H1-1b
470	M65	2L2 1/2x2 1/2x1/4x3/8	.111	5.116 16 .004	0	Y	16	14.371	51.305	3.58	2.271	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn		
471	M66	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	13	.002	7.523	Y	14	26.463	51.305	3.58	2.271	1	H1-1b
472	M73	2L2 1/2x2 1/2x1/4x3/8	.110	5.116	12	.004	0	Y	16	14.371	51.305	3.58	2.271	1	H1-1b
473	M74	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	15	.002	7.523	Y	11	26.463	51.305	3.58	2.271	1	H1-1b
474	M81	2L2 1/2x2 1/2x1/4x3/8	.109	5.116	14	.004	10.45	Y	12	14.371	51.305	3.58	2.271	1	H1-1b
475	M82	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	12	.002	7.523	Y	16	26.463	51.305	3.58	2.271	1	H1-1b
476	M89	2L2 1/2x2 1/2x1/4x3/8	.109	5.116	18	.004	10.45	Y	12	14.371	51.305	3.58	2.271	1	H1-1b
477	M90	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	13	.002	0	Y	18	26.463	51.305	3.58	2.271	1	H1-1b
478	M97	2L2 1/2x2 1/2x1/4x3/8	.110	5.116	12	.004	10.45	Y	18	14.371	51.305	3.58	2.271	1	H1-1b
479	M98	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	17	.002	7.523	Y	13	26.463	51.305	3.58	2.271	1	H1-1b
480	M105	2L2 1/2x2 1/2x1/4x3/8	.110	5.116	16	.004	10.45	Y	15	14.371	51.305	3.58	2.271	1	H1-1b
481	M106	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	18	.002	0	Y	15	26.463	51.305	3.58	2.271	1	H1-1b
482	M113	2L2 1/2x2 1/2x1/4x3/8	.111	5.116	18	.004	0	Y	14	14.371	51.305	3.58	2.271	1	H1-1b
483	M114	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	15	.002	0	Y	15	26.463	51.305	3.58	2.271	1	H1-1b
484	M130	2L2 1/2x2 1/2x1/4x3/8	.089	5.116	13	.004	0	Y	16	14.371	51.305	3.58	2.271	1	H1-1b
485	M131	2L2 1/2x2 1/2x1/4x3/8	.028	3.683	17	.002	0	Y	14	26.463	51.305	3.58	2.271	1	H1-1b
486	M138	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	17	.004	0	Y	13	14.371	51.305	3.58	2.271	1	H1-1b
487	M139	2L2 1/2x2 1/2x1/4x3/8	.028	3.683	13	.002	7.523	Y	11	26.463	51.305	3.58	2.271	1	H1-1b
488	M147	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	11	.004	10.45	Y	14	14.371	51.305	3.58	2.271	1	H1-1b
489	M148	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	15	.002	7.523	Y	12	26.463	51.305	3.58	2.271	1	H1-1b
490	M155	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	15	.004	10.45	Y	15	14.371	51.305	3.58	2.271	1	H1-1b
491	M156	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	11	.002	7.523	Y	11	26.463	51.305	3.58	2.271	1	H1-1b
492	M164	2L2 1/2x2 1/2x1/4x3/8	.087	5.116	17	.004	0	Y	12	14.371	51.305	3.58	2.271	1	H1-1b
493	M165	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	13	.002	0	Y	17	26.463	51.305	3.58	2.271	1	H1-1b
494	M172	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	13	.004	10.45	Y	18	14.371	51.305	3.58	2.271	1	H1-1b
495	M173	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	17	.002	7.523	Y	16	26.463	51.305	3.58	2.271	1	H1-1b
496	M181	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	15	.004	10.45	Y	15	14.371	51.305	3.58	2.271	1	H1-1b
497	M182	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	11	.002	7.523	Y	15	26.463	51.305	3.58	2.271	1	H1-1b
498	M189	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	11	.004	0	Y	16	14.371	51.305	3.58	2.271	1	H1-1b
499	M190	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	15	.002	0	Y	11	26.463	51.305	3.58	2.271	1	H1-1b
500	M211	2L2 1/2x2 1/2x1/4x3/8	.085	5.116	12	.004	10.45	Y	17	14.371	51.305	3.58	2.271	1	H1-1b
501	M212	2L2 1/2x2 1/2x1/4x3/8	.028	3.683	16	.002	7.523	Y	12	26.463	51.305	3.58	2.271	1	H1-1b
502	M219	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	17	.004	0	Y	13	14.371	51.305	3.58	2.271	1	H1-1b
503	M220	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	13	.002	7.523	Y	17	26.463	51.305	3.58	2.271	1	H1-1b
504	M228	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	11	.004	10.45	Y	16	14.371	51.305	3.58	2.271	1	H1-1b
505	M229	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	15	.002	0	Y	11	26.463	51.305	3.58	2.271	1	H1-1b
506	M236	2L2 1/2x2 1/2x1/4x3/8	.085	5.116	16	.004	0	Y	12	14.371	51.305	3.58	2.271	1	H1-1b
507	M237	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	12	.002	0	Y	14	26.463	51.305	3.58	2.271	1	H1-1b
508	M245	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	17	.004	0	Y	13	14.371	51.305	3.58	2.271	1	H1-1b
509	M246	2L2 1/2x2 1/2x1/4x3/8	.026	3.683	13	.002	0	Y	10	26.463	51.305	3.58	2.271	1	H1-1b
510	M253	2L2 1/2x2 1/2x1/4x3/8	.085	5.116	14	.004	10.45	Y	18	14.371	51.305	3.58	2.271	1	H1-1b
511	M254	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	18	.002	7.523	Y	10	26.463	51.305	3.58	2.271	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir LC	Pnc/om [k]	Pnt/om [k]	Mrvy/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
M262	2L2 1/2x2 1/2x1/4x3/8	.085	5.116	14	.004	0	Y 11	14.371	51.305	3.58	2.271	1 H1-1b
M263	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	18	.002	0	Y 10	26.463	51.305	3.58	2.271	1 H1-1b
M270	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	11	.004	10.45	Y 15	14.371	51.305	3.58	2.271	1 H1-1b
M271	2L2 1/2x2 1/2x1/4x3/8	.027	3.683	15	.002	7.523	Y 12	26.463	51.305	3.58	2.271	1 H1-1b
M292	2L2 1/2x2 1/2x1/4x3/8	.083	5.116	12	.004	0	Y 16	14.659	51.305	3.58	2.271	1 H1-1b
M293	2L2 1/2x2 1/2x1/4x3/8	.030	3.683	16	.002	0	Y 11	26.951	51.305	3.58	2.271	1 H1-1b
M300	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	18	.004	0	Y 14	14.659	51.305	3.58	2.271	1 H1-1b
M301	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	14	.002	7.523	Y 16	26.951	51.305	3.58	2.271	1 H1-1b
M309	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	18	.004	10.45	Y 16	14.659	51.305	3.58	2.271	1 H1-1b
M310	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	14	.002	0	Y 11	26.951	51.305	3.58	2.271	1 H1-1b
M317	2L2 1/2x2 1/2x1/4x3/8	.083	5.116	16	.004	0	Y 12	14.659	51.305	3.58	2.271	1 H1-1b
M318	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	12	.002	7.523	Y 13	26.951	51.305	3.58	2.271	1 H1-1b
M326	2L2 1/2x2 1/2x1/4x3/8	.082	5.116	16	.004	0	Y 12	14.659	51.305	3.58	2.271	1 H1-1b
M327	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	12	.002	0	Y 11	26.951	51.305	3.58	2.271	1 H1-1b
M334	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	14	.004	0	Y 13	14.659	51.305	3.58	2.271	1 H1-1b
M335	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	18	.002	0	Y 12	26.951	51.305	3.58	2.271	1 H1-1b
M343	2L2 1/2x2 1/2x1/4x3/8	.084	5.116	14	.004	10.45	Y 11	14.659	51.305	3.58	2.271	1 H1-1b
M344	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	18	.002	7.523	Y 15	26.951	51.305	3.58	2.271	1 H1-1b
M351	2L2 1/2x2 1/2x1/4x3/8	.082	5.116	12	.004	10.45	Y 13	14.659	51.305	3.58	2.271	1 H1-1b
M352	2L2 1/2x2 1/2x1/4x3/8	.029	3.683	16	.002	0	Y 18	26.951	51.305	3.58	2.271	1 H1-1b
M373	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	12	.004	10.45	Y 18	14.659	51.305	3.58	2.271	1 H1-1b
M374	2L2 1/2x2 1/2x1/4x3/8	.031	3.683	16	.002	0	Y 13	26.951	51.305	3.58	2.271	1 H1-1b
M381	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	18	.004	0	Y 13	14.659	51.305	3.58	2.271	1 H1-1b
M382	2L2 1/2x2 1/2x1/4x3/8	.031	3.683	14	.002	0	Y 15	26.951	51.305	3.58	2.271	1 H1-1b
M390	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	18	.004	0	Y 15	14.659	51.305	3.58	2.271	1 H1-1b
M391	2L2 1/2x2 1/2x1/4x3/8	.031	3.683	14	.002	7.523	Y 11	26.951	51.305	3.58	2.271	1 H1-1b
M398	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	16	.004	0	Y 11	14.659	51.305	3.58	2.271	1 H1-1b
M399	2L2 1/2x2 1/2x1/4x3/8	.031	3.683	12	.002	0	Y 13	26.951	51.305	3.58	2.271	1 H1-1b
M407	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	15	.004	10.45	Y 10	14.659	51.305	3.58	2.271	1 H1-1b
M408	2L2 1/2x2 1/2x1/4x3/8	.030	3.683	11	.002	0	Y 14	26.951	51.305	3.58	2.271	1 H1-1b
M415	2L2 1/2x2 1/2x1/4x3/8	.082	5.116	15	.004	10.45	Y 17	14.659	51.305	3.58	2.271	1 H1-1b
M416	2L2 1/2x2 1/2x1/4x3/8	.030	3.683	11	.002	7.523	Y 10	26.951	51.305	3.58	2.271	1 H1-1b
M424	2L2 1/2x2 1/2x1/4x3/8	.082	5.116	13	.004	0	Y 12	14.659	51.305	3.58	2.271	1 H1-1b
M425	2L2 1/2x2 1/2x1/4x3/8	.030	3.683	18	.002	0	Y 16	26.951	51.305	3.58	2.271	1 H1-1b
M432	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	13	.004	0	Y 16	14.659	51.305	3.58	2.271	1 H1-1b
M433	2L2 1/2x2 1/2x1/4x3/8	.031	3.683	17	.002	0	Y 17	26.951	51.305	3.58	2.271	1 H1-1b
M454	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	11	.004	0	Y 18	14.926	51.305	3.58	2.271	1 H1-1b
M455	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	16	.002	7.523	Y 16	27.392	51.305	3.58	2.271	1 H1-1b
M462	2L2 1/2x2 1/2x1/4x3/8	.077	5.116	11	.004	0	Y 14	14.926	51.305	3.58	2.271	1 H1-1b
M463	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	14	.002	7.523	Y 18	27.392	51.305	3.58	2.271	1 H1-1b
M471	2L2 1/2x2 1/2x1/4x3/8	.076	5.116	17	.004	0	Y 11	14.926	51.305	3.58	2.271	1 H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
553	M472	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	14	.002	7.523	Y	18	27.392	2.271	1	H1-1b
554	M479	2L2 1/2x2 1/2x1/4x3/8	.078	5.116	17	.004	10.45	Y	18	14.926	2.271	1	H1-1b
555	M480	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	12	.002	7.523	Y	15	27.392	2.271	1	H1-1b
556	M488	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	15	.004	10.45	Y	18	14.926	2.271	1	H1-1b
557	M489	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	11	.002	7.523	Y	10	27.392	2.271	1	H1-1b
558	M496	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	15	.004	10.45	Y	17	14.926	2.271	1	H1-1b
559	M497	2L2 1/2x2 1/2x1/4x3/8	.032	3.683	18	.002	7.523	Y	12	27.392	2.271	1	H1-1b
560	M505	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	13	.004	10.45	Y	16	14.926	2.271	1	H1-1b
561	M506	2L2 1/2x2 1/2x1/4x3/8	.032	3.683	18	.002	0	Y	15	27.392	2.271	1	H1-1b
562	M513	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	13	.004	0	Y	14	14.926	2.271	1	H1-1b
563	M514	2L2 1/2x2 1/2x1/4x3/8	.033	3.683	17	.002	0	Y	12	27.392	2.271	1	H1-1b
564	M535	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	11	.004	0	Y	12	14.956	2.271	1	H1-1b
565	M536	2L2 1/2x2 1/2x1/4x3/8	.036	3.683	15	.002	0	Y	13	27.441	2.271	1	H1-1b
566	M543	2L2 1/2x2 1/2x1/4x3/8	.077	5.116	11	.004	10.45	Y	13	14.956	2.271	1	H1-1b
567	M544	2L2 1/2x2 1/2x1/4x3/8	.036	3.683	15	.002	0	Y	14	27.441	2.271	1	H1-1b
568	M552	2L2 1/2x2 1/2x1/4x3/8	.076	5.116	17	.004	0	Y	15	14.956	2.271	1	H1-1b
569	M553	2L2 1/2x2 1/2x1/4x3/8	.036	3.683	13	.002	0	Y	12	27.441	2.271	1	H1-1b
570	M560	2L2 1/2x2 1/2x1/4x3/8	.079	5.116	17	.004	0	Y	11	14.956	2.271	1	H1-1b
571	M561	2L2 1/2x2 1/2x1/4x3/8	.035	3.683	13	.002	7.523	Y	14	27.441	2.271	1	H1-1b
572	M569	2L2 1/2x2 1/2x1/4x3/8	.080	5.116	15	.004	0	Y	13	14.956	2.271	1	H1-1b
573	M570	2L2 1/2x2 1/2x1/4x3/8	.035	3.683	11	.002	7.523	Y	18	27.441	2.271	1	H1-1b
574	M577	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	15	.004	0	Y	13	14.956	2.271	1	H1-1b
575	M578	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	11	.002	7.523	Y	14	27.441	2.271	1	H1-1b
576	M586	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	13	.004	0	Y	11	14.956	2.271	1	H1-1b
577	M587	2L2 1/2x2 1/2x1/4x3/8	.034	3.683	17	.002	0	Y	15	27.441	2.271	1	H1-1b
578	M594	2L2 1/2x2 1/2x1/4x3/8	.081	5.116	13	.004	0	Y	16	14.956	2.271	1	H1-1b
579	M595	2L2 1/2x2 1/2x1/4x3/8	.036	3.683	17	.002	7.523	Y	18	27.441	2.271	1	H1-1b
580	M616	2L2 1/2x2 1/2x1/4x3/8	.089	5.116	3	.004	0	Y	10	14.986	2.271	1	H1-1b
581	M617	2L2 1/2x2 1/2x1/4x3/8	.040	3.683	7	.002	7.523	Y	11	27.49	2.271	1	H1-1b
582	M624	2L2 1/2x2 1/2x1/4x3/8	.086	5.116	9	.004	0	Y	14	14.986	2.271	1	H1-1b
583	M625	2L2 1/2x2 1/2x1/4x3/8	.040	3.683	5	.002	7.523	Y	17	27.49	2.271	1	H1-1b
584	M633	2L2 1/2x2 1/2x1/4x3/8	.085	5.116	9	.004	10.45	Y	16	14.986	2.271	1	H1-1b
585	M634	2L2 1/2x2 1/2x1/4x3/8	.038	3.683	5	.002	0	Y	15	27.49	2.271	1	H1-1b
586	M641	2L2 1/2x2 1/2x1/4x3/8	.086	5.116	7	.004	10.45	Y	13	14.986	2.271	1	H1-1b
587	M642	2L2 1/2x2 1/2x1/4x3/8	.038	3.683	3	.002	7.523	Y	15	27.49	2.271	1	H1-1b
588	M650	2L2 1/2x2 1/2x1/4x3/8	.086	5.116	7	.004	0	Y	13	14.986	2.271	1	H1-1b
589	M651	2L2 1/2x2 1/2x1/4x3/8	.039	3.683	3	.002	7.523	Y	13	27.49	2.271	1	H1-1b
590	M658	2L2 1/2x2 1/2x1/4x3/8	.088	5.116	5	.004	0	Y	16	14.986	2.271	1	H1-1b
591	M659	2L2 1/2x2 1/2x1/4x3/8	.039	3.683	9	.002	7.523	Y	14	27.49	2.271	1	H1-1b
592	M667	2L2 1/2x2 1/2x1/4x3/8	.087	5.116	5	.004	0	Y	12	14.986	2.271	1	H1-1b
593	M668	2L2 1/2x2 1/2x1/4x3/8	.037	3.683	9	.002	7.523	Y	14	27.49	2.271	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [kl]	Mnvw/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn			
594	M675	2L2 1/2x2 1/2x1/4x3/8	.087	5.116	3	.004	10.45	Y	16	14.986	51.305	3.58	2.271	1	H1-1b
595	M676	2L2 1/2x2 1/2x1/4x3/8	.038	3.683	7	.002	7.523	Y	17	27.49	51.305	3.58	2.271	1	H1-1b
596	M698	2L2 1/2x2 1/2x1/4x3/8	.253	4.813	7	.005	12.489	Y	11	10.5	51.305	3.58	2.271	1	H1-1a
597	M708	2L2 1/2x2 1/2x1/4x3/8	.272	6.114	5	.005	12.489	Y	17	10.5	51.305	3.58	2.271	1	H1-1a
598	M719	2L2 1/2x2 1/2x1/4x3/8	.144	6.3	14	.005	0	Y	12	10.306	51.305	3.58	2.271	1	H1-1b
599	M729	2L2 1/2x2 1/2x1/4x3/8	.140	6.3	12	.005	0	Y	10	10.306	51.305	3.58	2.271	1	H1-1b
600	M740	2L2 1/2x2 1/2x1/4x3/8	.271	6.114	3	.005	12.489	Y	16	10.5	51.305	3.58	2.271	1	H1-1a
601	M750	2L2 1/2x2 1/2x1/4x3/8	.260	6.114	9	.005	12.489	Y	12	10.5	51.305	3.58	2.271	1	H1-1a
602	M761	2L2 1/2x2 1/2x1/4x3/8	.138	6.3	18	.005	12.6	Y	15	10.306	51.305	3.58	2.271	1	H1-1a
603	M771	2L2 1/2x2 1/2x1/4x3/8	.142	6.3	16	.005	12.6	Y	11	10.306	51.305	3.58	2.271	1	H1-1b
604	M699	2L2 1/2x2 1/2x1/4x3/8	.109	5.2	3	.004	0	Y	11	12.726	51.305	3.58	2.271	1	H1-1b
605	M700	2L2 1/2x2 1/2x1/4x3/8	.059	3.969	7	.002	0	Y	14	22.334	51.305	3.58	2.271	1	H1-1b
606	M709	2L2 1/2x2 1/2x1/4x3/8	.108	5.2	2	.004	0	Y	13	12.726	51.305	3.58	2.271	1	H1-1b
607	M710	2L2 1/2x2 1/2x1/4x3/8	.059	3.969	6	.002	0	Y	11	22.334	51.305	3.58	2.271	1	H1-1b
608	M720	2L2 1/2x2 1/2x1/4x3/8	.094	5.152	9	.004	10.523	Y	12	22.334	51.305	3.58	2.271	1	H1-1b
609	M721	2L2 1/2x2 1/2x1/4x3/8	.053	4.011	14	.002	0	Y	18	22.334	51.305	3.58	2.271	1	H1-1b
610	M730	2L2 1/2x2 1/2x1/4x3/8	.097	5.152	7	.004	10.523	Y	11	12.726	51.305	3.58	2.271	1	H1-1b
611	M731	2L2 1/2x2 1/2x1/4x3/8	.052	4.011	12	.002	0	Y	15	22.334	51.305	3.58	2.271	1	H1-1b
612	M741	2L2 1/2x2 1/2x1/4x3/8	.109	5.2	6	.004	0	Y	12	12.726	51.305	3.58	2.271	1	H1-1b
613	M742	2L2 1/2x2 1/2x1/4x3/8	.058	3.969	2	.002	0	Y	12	22.334	51.305	3.58	2.271	1	H1-1b
614	M751	2L2 1/2x2 1/2x1/4x3/8	.107	5.2	5	.004	10.622	Y	18	12.726	51.305	3.58	2.271	1	H1-1b
615	M752	2L2 1/2x2 1/2x1/4x3/8	.057	3.969	9	.002	0	Y	14	22.334	51.305	3.58	2.271	1	H1-1b
616	M762	2L2 1/2x2 1/2x1/4x3/8	.099	5.152	5	.004	10.523	Y	14	12.726	51.305	3.58	2.271	1	H1-1b
617	M763	2L2 1/2x2 1/2x1/4x3/8	.051	4.011	18	.002	0	Y	11	22.334	51.305	3.58	2.271	1	H1-1b
618	M772	2L2 1/2x2 1/2x1/4x3/8	.098	5.152	3	.004	10.523	Y	13	12.726	51.305	3.58	2.271	1	H1-1b
619	M773	2L2 1/2x2 1/2x1/4x3/8	.052	4.011	16	.002	0	Y	17	22.334	51.305	3.58	2.271	1	H1-1b
620	M54	L3X3X3	.053	3.605	16	.003	7.523	Y	14	7.861	23.497	.878	1.389	1	H2-1
621	M62	L3X3X3	.055	3.605	14	.003	0	Y	18	7.861	23.497	.878	1.389	1	H2-1
622	M70	L3X3X3	.054	3.605	16	.003	0	Y	11	7.861	23.497	.878	1.389	1	H2-1
623	M78	L3X3X3	.052	3.605	13	.003	7.523	Y	16	7.861	23.497	.878	1.389	1	H2-1
624	M86	L3X3X3	.052	3.84	13	.003	7.523	Y	16	7.861	23.497	.878	1.389	1	H2-1
625	M94	L3X3X3	.052	3.84	17	.003	7.523	Y	13	7.861	23.497	.878	1.389	1	H2-1
626	M102	L3X3X3	.053	3.84	13	.003	0	Y	14	7.861	23.497	.878	1.389	1	H2-1
627	M110	L3X3X3	.051	3.605	12	.003	0	Y	11	7.861	23.497	.878	1.389	1	H2-1
628	M127	L3X3X3	.087	3.605	16	.003	0	Y	14	7.861	23.497	.878	1.389	1	H2-1
629	M135	L3X3X3	.090	3.605	14	.003	7.523	Y	17	7.861	23.497	.878	1.389	1	H2-1
630	M144	L3X3X3	.091	3.605	14	.003	0	Y	18	7.861	23.497	.878	1.389	1	H2-1
631	M152	L3X3X3	.085	3.605	12	.003	7.523	Y	16	7.861	23.497	.878	1.389	1	H2-1
632	M161	L3X3X3	.079	3.605	12	.003	0	Y	17	7.861	23.497	.878	1.389	1	H2-1
633	M169	L3X3X3	.077	3.605	18	.003	0	Y	11	7.861	23.497	.878	1.389	1	H2-1
634	M178	L3X3X3	.078	3.605	18	.003	7.523	Y	14	7.861	23.497	.878	1.389	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
635	M186	L3X3X3	.083	3.605	15	.003	0	Y	12	7.861	23.497	1.389	H2-1
636	M208	L3X3X3	.158	3.605	7	.003	7.523	Y	16	7.861	23.497	1.389	H2-1
637	M216	L3X3X3	.143	3.605	5	.003	7.523	Y	14	7.861	23.497	1.389	H2-1
638	M225	L3X3X3	.158	3.605	5	.003	7.523	Y	12	7.861	23.497	1.389	H2-1
639	M233	L3X3X3	.163	3.605	3	.003	7.523	Y	15	7.861	23.497	1.389	H2-1
640	M242	L3X3X3	.131	3.605	3	.003	7.523	Y	16	7.861	23.497	1.389	H2-1
641	M250	L3X3X3	.144	3.605	9	.003	0	Y	13	7.861	23.497	1.389	H2-1
642	M259	L3X3X3	.140	3.605	9	.003	0	Y	11	7.861	23.497	1.389	H2-1
643	M267	L3X3X3	.136	3.605	7	.003	0	Y	11	7.861	23.497	1.389	H2-1
644	M289	L3X3X3	.167	3.605	6	.003	0	Y	16	8.182	23.497	1.4	H2-1
645	M297	L3X3X3	.170	3.605	6	.003	0	Y	17	8.182	23.497	1.4	H2-1
646	M306	L3X3X3	.167	3.605	4	.003	0	Y	15	8.182	23.497	1.4	H2-1
647	M314	L3X3X3	.160	3.605	4	.003	7.523	Y	14	8.182	23.497	1.4	H2-1
648	M323	L3X3X3	.164	3.605	2	.003	7.523	Y	18	8.182	23.497	1.4	H2-1
649	M331	L3X3X3	.161	3.605	2	.003	7.523	Y	11	8.182	23.497	1.4	H2-1
650	M340	L3X3X3	.155	3.605	8	.003	7.523	Y	16	8.182	23.497	1.4	H2-1
651	M348	L3X3X3	.162	3.605	8	.003	0	Y	12	8.182	23.497	1.4	H2-1
652	M370	L3X3X3	.265	3.605	7	.003	7.523	Y	12	8.182	23.497	1.4	H2-1
653	M378	L3X3X3	.272	3.605	5	.003	7.523	Y	16	8.182	23.497	1.4	H2-1
654	M387	L3X3X3	.272	3.605	5	.003	7.523	Y	13	8.182	23.497	1.4	H2-1
655	M395	L3X3X3	.261	3.605	3	.003	0	Y	15	8.182	23.497	1.4	H2-1
656	M404	L3X3X3	.267	3.605	3	.003	7.523	Y	16	8.182	23.497	1.4	H2-1
657	M412	L3X3X3	.261	3.605	9	.003	0	Y	12	8.182	23.497	1.4	H2-1
658	M421	L3X3X3	.257	3.605	9	.003	0	Y	15	8.182	23.497	1.4	H2-1
659	M429	L3X3X3	.266	3.605	7	.003	7.523	Y	11	8.182	23.497	1.4	H2-1
660	M451	L3X3X3	.333	3.605	6	.003	7.523	Y	14	8.516	23.497	1.411	H2-1
661	M459	L3X3X3	.349	3.605	6	.003	7.523	Y	13	8.516	23.497	1.411	H2-1
662	M468	L3X3X3	.342	3.605	4	.003	7.523	Y	15	8.516	23.497	1.411	H2-1
663	M476	L3X3X3	.323	3.605	4	.003	7.523	Y	13	8.516	23.497	1.411	H2-1
664	M485	L3X3X3	.341	3.605	2	.003	0	Y	10	8.516	23.497	1.411	H2-1
665	M493	L3X3X3	.326	3.605	2	.003	7.523	Y	12	8.516	23.497	1.411	H2-1
666	M502	L3X3X3	.316	3.605	8	.003	0	Y	12	8.516	23.497	1.411	H2-1
667	M510	L3X3X3	.334	3.605	8	.003	7.523	Y	17	8.516	23.497	1.411	H2-1
668	M532	L3X3X3	.475	3.605	7	.003	7.523	Y	14	8.539	23.497	1.412	H2-1
669	M540	L3X3X3	.490	3.605	5	.003	0	Y	14	8.539	23.497	1.412	H2-1
670	M549	L3X3X3	.486	3.605	5	.003	7.523	Y	15	8.539	23.497	1.412	H2-1
671	M557	L3X3X3	.469	3.605	3	.003	7.523	Y	10	8.539	23.497	1.412	H2-1
672	M566	L3X3X3	.485	3.605	3	.003	7.523	Y	10	8.539	23.497	1.412	H2-1
673	M574	L3X3X3	.475	3.605	9	.003	7.523	Y	18	8.539	23.497	1.412	H2-1
674	M583	L3X3X3	.469	3.605	9	.003	0	Y	12	8.539	23.497	1.412	H2-1
675	M591	L3X3X3	.481	3.605	7	.003	7.523	Y	15	8.539	23.497	1.412	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnvy/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn	
676	M613	L3X3X3	.554	3.605	7	.003	0	Y	15	8.586	23.497	1.413	1	H2-1
677	M621	L3X3X3	.568	3.605	5	.003	0	Y	16	8.586	23.497	1.413	1	H2-1
678	M630	L3X3X3	.499	3.605	5	.003	0	Y	10	8.586	23.497	1.413	1	H2-1
679	M638	L3X3X3	.485	3.605	3	.003	7.523	Y	12	8.586	23.497	1.413	1	H2-1
680	M647	L3X3X3	.564	3.605	3	.003	0	Y	17	8.586	23.497	1.413	1	H2-1
681	M655	L3X3X3	.552	3.605	9	.003	0	Y	12	8.586	23.497	1.413	1	H2-1
682	M664	L3X3X3	.483	3.605	9	.003	0	Y	18	8.586	23.497	1.413	1	H2-1
683	M672	L3X3X3	.495	3.605	7	.003	7.523	Y	15	8.586	23.497	1.413	1	H2-1
684	M694	L3X3X4	.406	3.969	7	.003	8.107	Y	16	11.3	31.042	2.028	1	H2-1
685	M704	L3X3X4	.435	3.969	5	.003	8.107	Y	15	11.3	31.042	2.028	1	H2-1
686	M715	L3X3X4	.331	4.011	4	.003	0	Y	13	11.02	31.042	2.021	1	H2-1
687	M725	L3X3X4	.312	4.011	4	.003	8.192	Y	15	11.02	31.042	2.021	1	H2-1
688	M736	L3X3X4	.442	3.969	3	.003	0	Y	16	11.3	31.042	2.028	1	H2-1
689	M746	L3X3X4	.421	3.969	9	.003	0	Y	18	11.3	31.042	2.028	1	H2-1
690	M757	L3X3X4	.306	4.011	8	.003	0	Y	16	11.02	31.042	2.021	1	H2-1
691	M767	L3X3X4	.328	4.011	8	.003	0	Y	16	11.02	31.042	2.021	1	H2-1
692	M947	LL3x3x3x3	.023	4.911	6	.001	10.031	Y	6	19.291	46.994	2.496	1	H1-1b
693	M948	LL3x3x3x3	.023	5.12	3	.001	0	Y	4	19.291	46.994	2.496	1	H1-1b
694	M953	LL3x3x3x3	.023	4.911	5	.001	0	Y	7	19.291	46.994	2.496	1	H1-1b
695	M954	LL3x3x3x3	.023	5.12	9	.001	0	Y	5	19.291	46.994	2.496	1	H1-1b
696	M959	LL3x3x3x3	.023	4.911	3	.001	10.031	Y	11	19.291	46.994	2.496	1	H1-1b
697	M960	LL3x3x3x3	.023	5.12	7	.001	10.031	Y	9	19.291	46.994	2.496	1	H1-1b
698	M965	LL3x3x3x3	.023	4.911	9	.001	10.031	Y	7	19.291	46.994	2.496	1	H1-1b
699	M966	LL3x3x3x3	.023	5.12	5	.001	0	Y	6	19.291	46.994	2.496	1	H1-1b
700	M923	LL3x3x3x3	.023	4.911	7	.001	0	Y	9	19.291	46.994	2.496	1	H1-1b
701	M924	LL3x3x3x3	.023	5.12	3	.001	0	Y	14	19.291	46.994	2.496	1	H1-1b
702	M929	LL3x3x3x3	.023	4.911	5	.001	10.031	Y	4	19.291	46.994	2.496	1	H1-1b
703	M930	LL3x3x3x3	.023	5.12	9	.001	10.031	Y	7	19.291	46.994	2.496	1	H1-1b
704	M935	LL3x3x3x3	.023	4.911	3	.001	0	Y	2	19.291	46.994	2.496	1	H1-1b
705	M936	LL3x3x3x3	.023	5.12	7	.001	0	Y	4	19.291	46.994	2.496	1	H1-1b
706	M941	LL3x3x3x3	.023	4.911	9	.001	10.031	Y	7	19.291	46.994	2.496	1	H1-1b
707	M942	LL3x3x3x3	.023	5.12	5	.001	0	Y	6	19.291	46.994	2.496	1	H1-1b
708	M899	LL3x3x3x3	.024	4.911	7	.001	0	Y	6	19.291	46.994	2.496	1	H1-1b
709	M900	LL3x3x3x3	.024	5.12	3	.001	10.031	Y	9	19.291	46.994	2.496	1	H1-1b
710	M905	LL3x3x3x3	.024	4.911	5	.001	0	Y	4	19.291	46.994	2.496	1	H1-1b
711	M906	LL3x3x3x3	.024	5.12	9	.001	0	Y	18	19.291	46.994	2.496	1	H1-1b
712	M911	LL3x3x3x3	.024	4.911	3	.001	0	Y	2	19.291	46.994	2.496	1	H1-1b
713	M912	LL3x3x3x3	.024	5.12	7	.001	0	Y	9	19.291	46.994	2.496	1	H1-1b
714	M917	LL3x3x3x3	.024	4.911	9	.001	0	Y	7	19.291	46.994	2.496	1	H1-1b
715	M918	LL3x3x3x3	.024	5.12	5	.001	10.031	Y	14	19.291	46.994	2.496	1	H1-1b
716	M875	LL3x3x3x3	.024	4.911	7	.001	0	Y	6	19.291	46.994	2.496	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Minzz/om [k-ft]	Cb	Egn
717	M876	.024	5.12	3	.001	10.031	Y	7	19.291	46.994	3.69	2.496	1	H1-1b
718	M881	.024	4.911	5	.001	0	Y	3	19.291	46.994	3.69	2.496	1	H1-1b
719	M882	.024	5.12	9	.001	10.031	Y	3	19.291	46.994	3.69	2.496	1	H1-1b
720	M887	.024	4.911	3	.001	0	Y	11	19.291	46.994	3.69	2.496	1	H1-1b
721	M888	.024	5.12	7	.001	0	Y	4	19.291	46.994	3.69	2.496	1	H1-1b
722	M893	.024	4.911	9	.001	10.031	Y	8	19.291	46.994	3.69	2.496	1	H1-1b
723	M894	.024	5.12	5	.001	10.031	Y	6	19.291	46.994	3.69	2.496	1	H1-1b
724	M851	.025	4.911	7	.001	0	Y	15	19.291	46.994	3.69	2.496	1	H1-1b
725	M852	.025	5.12	3	.001	10.031	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
726	M857	.025	4.911	5	.001	10.031	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
727	M858	.025	5.12	9	.001	0	Y	2	19.291	46.994	3.69	2.496	1	H1-1b
728	M863	.024	4.911	3	.001	10.031	Y	6	19.291	46.994	3.69	2.496	1	H1-1b
729	M864	.024	5.12	7	.001	0	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
730	M869	.025	4.911	9	.001	0	Y	18	19.291	46.994	3.69	2.496	1	H1-1b
731	M870	.025	5.12	5	.001	0	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
732	M827	.025	4.911	7	.001	10.031	Y	2	19.291	46.994	3.69	2.496	1	H1-1b
733	M828	.025	5.12	3	.001	0	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
734	M833	.025	4.911	5	.001	10.031	Y	4	19.291	46.994	3.69	2.496	1	H1-1b
735	M834	.025	5.12	9	.001	0	Y	2	19.291	46.994	3.69	2.496	1	H1-1b
736	M839	.025	4.911	3	.001	0	Y	18	19.291	46.994	3.69	2.496	1	H1-1b
737	M840	.025	5.12	7	.001	0	Y	8	19.291	46.994	3.69	2.496	1	H1-1b
738	M845	.025	4.911	9	.001	10.031	Y	7	19.291	46.994	3.69	2.496	1	H1-1b
739	M846	.025	5.12	5	.001	10.031	Y	7	19.291	46.994	3.69	2.496	1	H1-1b
740	M803	.026	4.911	7	.001	10.031	Y	9	19.291	46.994	3.69	2.496	1	H1-1b
741	M804	.026	5.12	3	.001	0	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
742	M809	.026	4.911	5	.001	0	Y	4	19.291	46.994	3.69	2.496	1	H1-1b
743	M810	.026	5.12	9	.001	0	Y	11	19.291	46.994	3.69	2.496	1	H1-1b
744	M815	.025	4.911	3	.001	0	Y	18	19.291	46.994	3.69	2.496	1	H1-1b
745	M816	.025	5.12	7	.001	10.031	Y	8	19.291	46.994	3.69	2.496	1	H1-1b
746	M821	.026	4.911	9	.001	0	Y	8	19.291	46.994	3.69	2.496	1	H1-1b
747	M822	.026	5.12	5	.001	0	Y	9	19.291	46.994	3.69	2.496	1	H1-1b
748	M779	.042	4.911	16	.003	10.031	Y	16	19.291	46.994	3.69	2.496	1	H1-1b
749	M780	.042	5.12	12	.003	0	Y	12	19.291	46.994	3.69	2.496	1	H1-1b
750	M785	.026	4.911	5	.001	10.031	Y	12	19.291	46.994	3.69	2.496	1	H1-1b
751	M786	.026	5.12	9	.001	10.031	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
752	M791	.026	4.911	3	.001	0	Y	12	19.291	46.994	3.69	2.496	1	H1-1b
753	M792	.026	5.12	7	.001	10.031	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
754	M797	.026	4.911	9	.001	10.031	Y	11	19.291	46.994	3.69	2.496	1	H1-1b
755	M798	.026	5.12	5	.001	10.031	Y	5	19.291	46.994	3.69	2.496	1	H1-1b
756	M755A	.040	6.585	5	.002	0	Y	11	10.499	46.994	3.69	2.496	1	H1-1b
757	M756A	.038	7.105	9	.002	13.642	Y	12	10.657	46.994	3.69	2.496	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnw/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
758	M761A	.037	6.537	3	.002	0	Y 10	10.657	46.994	3.69	2.496	1	H1-1b
759	M762A	.040	7.158	7	.002	13.744	Y 15	10.499	46.994	3.69	2.496	1	H1-1b
760	M767A	.041	6.585	9	.002	0	Y 15	10.499	46.994	3.69	2.496	1	H1-1b
761	M768A	.038	7.105	5	.002	0	Y 9	10.657	46.994	3.69	2.496	1	H1-1b
762	M773A	.038	6.537	7	.002	0	Y 11	10.657	46.994	3.69	2.496	1	H1-1b
763	M774A	.041	7.158	3	.002	13.744	Y 13	10.499	46.994	3.69	2.496	1	H1-1b
764	M949	.058	5.944	14	.002	12.14	Y 7	24.789	90.97	7.565	4.754	1	H1-1b
765	M950	.058	6.196	14	.002	12.14	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
766	M955	.058	5.944	12	.002	12.14	Y 4	24.789	90.97	7.565	4.754	1	H1-1b
767	M956	.058	6.196	12	.002	0	Y 2	24.789	90.97	7.565	4.754	1	H1-1b
768	M961	.058	5.944	18	.002	0	Y 6	24.789	90.97	7.565	4.754	1	H1-1b
769	M962	.058	6.196	18	.002	12.14	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
770	M967	.058	5.944	16	.002	0	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
771	M968	.058	6.196	16	.002	12.14	Y 2	24.789	90.97	7.565	4.754	1	H1-1b
772	M925	.052	5.944	13	.002	0	Y 5	24.789	90.97	7.565	4.754	1	H1-1b
773	M926	.052	6.196	14	.002	0	Y 7	24.789	90.97	7.565	4.754	1	H1-1b
774	M931	.052	5.944	18	.002	0	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
775	M932	.052	6.196	14	.002	12.14	Y 5	24.789	90.97	7.565	4.754	1	H1-1b
776	M937	.052	5.944	18	.002	12.14	Y 6	24.789	90.97	7.565	4.754	1	H1-1b
777	M938	.052	6.196	11	.002	12.14	Y 4	24.789	90.97	7.565	4.754	1	H1-1b
778	M943	.052	5.944	16	.002	0	Y 9	24.789	90.97	7.565	4.754	1	H1-1b
779	M944	.052	6.196	16	.002	12.14	Y 9	24.789	90.97	7.565	4.754	1	H1-1b
780	M901	.052	5.944	12	.002	12.14	Y 6	24.789	90.97	7.565	4.754	1	H1-1b
781	M902	.052	6.196	15	.002	0	Y 3	24.789	90.97	7.565	4.754	1	H1-1b
782	M907	.052	5.944	18	.002	0	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
783	M908	.052	6.196	14	.002	12.14	Y 6	24.789	90.97	7.565	4.754	1	H1-1b
784	M913	.052	5.944	17	.002	12.14	Y 3	24.789	90.97	7.565	4.754	1	H1-1b
785	M914	.052	6.196	12	.002	0	Y 5	24.789	90.97	7.565	4.754	1	H1-1b
786	M919	.052	5.944	15	.002	0	Y 3	24.789	90.97	7.565	4.754	1	H1-1b
787	M920	.052	6.196	17	.002	0	Y 9	24.789	90.97	7.565	4.754	1	H1-1b
788	M877	.052	5.944	12	.002	0	Y 3	24.789	90.97	7.565	4.754	1	H1-1b
789	M878	.052	6.196	15	.002	12.14	Y 8	24.789	90.97	7.565	4.754	1	H1-1b
790	M883	.052	5.944	18	.002	12.14	Y 9	24.789	90.97	7.565	4.754	1	H1-1b
791	M884	.052	6.196	14	.002	12.14	Y 5	24.789	90.97	7.565	4.754	1	H1-1b
792	M889	.052	5.944	17	.002	12.14	Y 20	24.789	90.97	7.565	4.754	1	H1-1b
793	M890	.052	6.196	12	.002	12.14	Y 4	24.789	90.97	7.565	4.754	1	H1-1b
794	M895	.052	5.944	15	.002	0	Y 4	24.789	90.97	7.565	4.754	1	H1-1b
795	M896	.052	6.196	17	.002	12.14	Y 7	24.789	90.97	7.565	4.754	1	H1-1b
796	M853	.052	5.944	13	.002	0	Y 9	24.789	90.97	7.565	4.754	1	H1-1b
797	M854	.052	6.196	14	.002	12.14	Y 3	24.789	90.97	7.565	4.754	1	H1-1b
798	M859	.052	5.944	12	.002	12.14	Y 7	24.789	90.97	7.565	4.754	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn	
799	M860	LL3x3x6x3	.052	6.196	12	.002	0	Y	5	24.789	7.565	4.754	1	H1-1b
800	M865	LL3x3x6x3	.052	5.944	18	.002	12.14	Y	7	24.789	7.565	4.754	1	H1-1b
801	M866	LL3x3x6x3	.052	6.196	11	.002	0	Y	4	24.789	7.565	4.754	1	H1-1b
802	M871	LL3x3x6x3	.052	5.944	16	.002	12.14	Y	9	24.789	7.565	4.754	1	H1-1b
803	M872	LL3x3x6x3	.052	6.196	16	.002	0	Y	9	24.789	7.565	4.754	1	H1-1b
804	M829	LL3x3x6x3	.052	5.944	13	.002	0	Y	6	24.789	7.565	4.754	1	H1-1b
805	M830	LL3x3x6x3	.052	6.196	14	.002	0	Y	3	24.789	7.565	4.754	1	H1-1b
806	M835	LL3x3x6x3	.052	5.944	11	.002	0	Y	8	24.789	7.565	4.754	1	H1-1b
807	M836	LL3x3x6x3	.052	6.196	13	.002	12.14	Y	12	24.789	7.565	4.754	1	H1-1b
808	M841	LL3x3x6x3	.052	5.944	18	.002	0	Y	2	24.789	7.565	4.754	1	H1-1b
809	M842	LL3x3x6x3	.052	6.196	11	.002	12.14	Y	4	24.789	7.565	4.754	1	H1-1b
810	M847	LL3x3x6x3	.052	5.944	16	.002	12.14	Y	5	24.789	7.565	4.754	1	H1-1b
811	M848	LL3x3x6x3	.052	6.196	16	.002	0	Y	6	24.789	7.565	4.754	1	H1-1b
812	M805	LL3x3x6x3	.052	5.944	12	.002	12.14	Y	3	24.789	7.565	4.754	1	H1-1b
813	M806	LL3x3x6x3	.052	6.196	16	.002	0	Y	8	24.789	7.565	4.754	1	H1-1b
814	M811	LL3x3x6x3	.052	5.944	18	.002	12.14	Y	9	24.789	7.565	4.754	1	H1-1b
815	M812	LL3x3x6x3	.052	6.196	14	.002	0	Y	2	24.789	7.565	4.754	1	H1-1b
816	M817	LL3x3x6x3	.052	5.944	17	.002	0	Y	6	24.789	7.565	4.754	1	H1-1b
817	M818	LL3x3x6x3	.052	6.196	12	.002	12.14	Y	7	24.789	7.565	4.754	1	H1-1b
818	M823	LL3x3x6x3	.054	5.944	15	.002	0	Y	4	24.789	7.565	4.754	1	H1-1b
819	M824	LL3x3x6x3	.054	6.196	17	.002	0	Y	2	24.789	7.565	4.754	1	H1-1b
820	M781	LL3x3x6x3	.068	5.944	12	.003	12.14	Y	13	24.789	7.565	4.754	1	H1-1b
821	M782	LL3x3x6x3	.068	6.196	15	.003	0	Y	14	24.789	7.565	4.754	1	H1-1b
822	M787	LL3x3x6x3	.050	5.944	18	.002	12.14	Y	4	24.789	7.565	4.754	1	H1-1b
823	M788	LL3x3x6x3	.050	6.196	14	.002	0	Y	5	24.789	7.565	4.754	1	H1-1b
824	M793	LL3x3x6x3	.050	5.944	17	.002	12.14	Y	9	24.789	7.565	4.754	1	H1-1b
825	M794	LL3x3x6x3	.050	6.196	12	.002	0	Y	4	24.789	7.565	4.754	1	H1-1b
826	M799	LL3x3x6x3	.052	5.944	15	.002	0	Y	4	24.789	7.565	4.754	1	H1-1b
827	M800	LL3x3x6x3	.052	6.196	17	.002	12.14	Y	5	24.789	7.565	4.754	1	H1-1b
828	M757A	LL3x3x6x3	.080	7.537	12	.002	15.396	Y	4	15.413	7.565	4.754	1	H1-1b
829	M758A	LL3x3x6x3	.074	7.765	12	.002	15.213	Y	3	15.785	7.565	4.754	1	H1-1b
830	M763A	LL3x3x6x3	.074	7.448	18	.002	15.213	Y	14	15.785	7.565	4.754	1	H1-1b
831	M764A	LL3x3x6x3	.080	7.858	18	.002	15.396	Y	3	15.413	7.565	4.754	1	H1-1b
832	M769A	LL3x3x6x3	.078	7.537	16	.002	0	Y	5	15.413	7.565	4.754	1	H1-1b
833	M770A	LL3x3x6x3	.073	7.765	16	.002	0	Y	15	15.785	7.565	4.754	1	H1-1b
834	M775A	LL3x3x6x3	.074	7.448	14	.002	0	Y	23	15.785	7.565	4.754	1	H1-1b
835	M776A	LL3x3x6x3	.080	7.858	14	.002	15.396	Y	13	15.413	7.565	4.754	1	H1-1b
836	M945	LL4x4x8x3	.018	3.948	9	.002	7.896	Y	7	117.031	17.217	11.212	1	H1-1b
837	M951	LL4x4x8x3	.018	3.948	7	.002	7.896	Y	5	117.031	17.217	11.212	1	H1-1b
838	M957	LL4x4x8x3	.018	3.948	5	.002	7.896	Y	3	117.031	17.217	11.212	1	H1-1b
839	M963	LL4x4x8x3	.018	3.948	3	.002	7.896	Y	9	117.031	17.217	11.212	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
840	M921	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
841	M927	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
842	M933	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
843	M939	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
844	M897	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
845	M903	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
846	M909	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
847	M915	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
848	M873	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
849	M879	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
850	M885	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
851	M891	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
852	M849	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
853	M855	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
854	M861	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
855	M867	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
856	M825	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
857	M831	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
858	M837	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
859	M843	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
860	M801	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
861	M807	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
862	M813	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
863	M819	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
864	M777A	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
865	M783	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
866	M789	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
867	M795	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
868	M753A	.018	3.948	5	.002	7.896	Y	7	117.031	161.461	17.217	11.212	1 H1-1b
869	M759A	.018	3.948	3	.002	7.896	Y	5	117.031	161.461	17.217	11.212	1 H1-1b
870	M765A	.018	3.948	9	.002	7.896	Y	3	117.031	161.461	17.217	11.212	1 H1-1b
871	M771A	.018	3.948	7	.002	7.896	Y	9	117.031	161.461	17.217	11.212	1 H1-1b
872	M946	.090	7.896	5	.002	0	Z	5	26.13	46.994	3.69	1.56	1... H1-1b
873	M952	.090	7.896	3	.002	0	Z	3	26.13	46.994	3.69	1.56	1... H1-1b
874	M958	.090	7.896	9	.002	0	Z	9	26.13	46.994	3.69	1.56	1... H1-1b
875	M964	.090	7.896	7	.002	0	Z	7	26.13	46.994	3.69	1.56	1... H1-1b
876	M922	.096	7.896	5	.002	7.896	Z	5	26.13	46.994	3.69	1.56	1... H1-1b
877	M928	.095	7.896	3	.002	0	Z	3	26.13	46.994	3.69	1.56	1... H1-1b
878	M934	.096	7.896	9	.002	0	Z	9	26.13	46.994	3.69	1.56	1... H1-1b
879	M940	.096	7.896	7	.002	0	Z	7	26.13	46.994	3.69	1.56	1... H1-1b
880	M898	.096	7.896	5	.002	0	Z	5	26.13	46.994	3.69	1.56	1... H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mny/om [k-ft]	Minzz/om [k-ft]	Cb	Ean
881	M904	LL3x3x3x3	.096	7.896	3	.002	0	26.13	46.994	3.69	1.56	1....	H1-1b
882	M910	LL3x3x3x3	.096	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
883	M916	LL3x3x3x3	.096	7.896	7	.002	0	26.13	46.994	3.69	1.56	1....	H1-1b
884	M874	LL3x3x3x3	.102	7.896	5	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
885	M880	LL3x3x3x3	.102	7.896	3	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
886	M886	LL3x3x3x3	.102	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
887	M892	LL3x3x3x3	.102	7.896	7	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
888	M850	LL3x3x3x3	.107	7.896	5	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
889	M856	LL3x3x3x3	.107	7.896	3	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
890	M862	LL3x3x3x3	.107	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
891	M868	LL3x3x3x3	.107	7.896	7	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
892	M826	LL3x3x3x3	.113	7.896	5	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
893	M832	LL3x3x3x3	.113	7.896	3	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
894	M838	LL3x3x3x3	.113	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
895	M844	LL3x3x3x3	.113	7.896	7	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
896	M802	LL3x3x3x3	.108	7.896	5	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
897	M808	LL3x3x3x3	.107	7.896	3	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
898	M814	LL3x3x3x3	.108	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
899	M820	LL3x3x3x3	.109	7.896	7	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
900	M778	LL3x3x3x3	.143	7.896	14	.004	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
901	M784	LL3x3x3x3	.110	7.896	3	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
902	M790	LL3x3x3x3	.110	7.896	9	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
903	M796	LL3x3x3x3	.111	7.896	7	.002	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
904	M754A	LL3x3x3x3	.126	7.896	3	.003	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
905	M760A	LL3x3x3x3	.126	7.896	9	.003	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
906	M766A	LL3x3x3x3	.126	7.896	5	.003	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
907	M772A	LL3x3x3x3	.126	7.896	3	.003	7.896	26.13	46.994	3.69	1.56	1....	H1-1b
908	M737A	L2.5X2.5X3	.701	1.396	3	.001	0	16.161	19.401	.58	1.266	1	H2-1
909	M738A	L2.5X2.5X3	.529	1.396	4	.001	2.792	16.161	19.401	.58	1.266	1	H2-1
910	M741A	L2.5X2.5X3	.531	1.396	9	.001	0	16.161	19.401	.58	1.266	1	H2-1
911	M742A	L2.5X2.5X3	.668	1.396	9	.001	2.792	16.161	19.401	.58	1.266	1	H2-1
912	M745A	L2.5X2.5X3	.644	1.396	7	.001	0	16.161	19.401	.58	1.266	1	H2-1
913	M746A	L2.5X2.5X3	.569	1.396	8	.001	2.792	16.161	19.401	.58	1.266	1	H2-1
914	M749A	L2.5X2.5X3	.577	1.396	4	.001	0	16.161	19.401	.58	1.266	1	H2-1
915	M750A	L2.5X2.5X3	.683	1.396	5	.001	2.792	16.161	19.401	.58	1.266	1	H2-1
916	M53	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	13	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b
917	M61	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	17	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b
918	M69	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	11	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b
919	M77	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	15	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b
920	M85	2L2 1/2x2 1/2x3/16x3/8	.067	4.188	17	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b
921	M93	2L2 1/2x2 1/2x3/16x3/8	.067	4.188	13	.004	8.375	16.978	38.802	2.672	1.737	1	H1-1b

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

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TAG0053 CHESHIRE

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir LC	Pnc/om [k]	Pnt/om [k]	Mnyv/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn	
922	M101	2L2 1/2x2 1/2x3/16x3/8	.067	4.188	15	.004	8.375	Y	10	16.978	38.802	1	H1-1b
923	M109	2L2 1/2x2 1/2x3/16x3/8	.067	4.188	11	.004	8.375	Y	10	16.978	38.802	1	H1-1b
924	M126	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	13	.004	8.375	Y	10	16.978	38.802	1	H1-1b
925	M134	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	17	.004	8.375	Y	10	16.978	38.802	1	H1-1b
926	M143	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	12	.004	8.375	Y	10	16.978	38.802	1	H1-1b
927	M151	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	15	.004	8.375	Y	10	16.978	38.802	1	H1-1b
928	M160	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	18	.004	8.375	Y	10	16.978	38.802	1	H1-1b
929	M168	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	14	.004	8.375	Y	10	16.978	38.802	1	H1-1b
930	M177	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	14	.004	8.375	Y	10	16.978	38.802	1	H1-1b
931	M185	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	18	.004	8.375	Y	10	16.978	38.802	1	H1-1b
932	M207	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	12	.004	8.375	Y	10	16.978	38.802	1	H1-1b
933	M215	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	17	.004	8.375	Y	10	16.978	38.802	1	H1-1b
934	M224	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	11	.004	8.375	Y	10	16.978	38.802	1	H1-1b
935	M232	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	15	.004	8.375	Y	10	16.978	38.802	1	H1-1b
936	M241	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	17	.004	8.375	Y	10	16.978	38.802	1	H1-1b
937	M249	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	14	.004	8.375	Y	10	16.978	38.802	1	H1-1b
938	M258	2L2 1/2x2 1/2x3/16x3/8	.064	4.188	14	.004	8.375	Y	10	16.978	38.802	1	H1-1b
939	M266	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	11	.004	8.375	Y	10	16.978	38.802	1	H1-1b
940	M288	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	14	.004	8.375	Y	10	17.25	38.802	1	H1-1b
941	M296	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	18	.004	8.375	Y	10	17.25	38.802	1	H1-1b
942	M305	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	11	.004	8.375	Y	10	17.25	38.802	1	H1-1b
943	M313	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	14	.004	8.375	Y	10	17.25	38.802	1	H1-1b
944	M322	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	17	.004	8.375	Y	10	17.25	38.802	1	H1-1b
945	M330	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	12	.004	8.375	Y	10	17.25	38.802	1	H1-1b
946	M339	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	16	.004	8.375	Y	10	17.25	38.802	1	H1-1b
947	M347	2L2 1/2x2 1/2x3/16x3/8	.063	4.188	11	.004	8.375	Y	10	17.25	38.802	1	H1-1b
948	M369	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	16	.004	8.375	Y	10	17.25	38.802	1	H1-1b
949	M377	2L2 1/2x2 1/2x3/16x3/8	.066	4.188	14	.004	8.375	Y	10	17.25	38.802	1	H1-1b
950	M386	2L2 1/2x2 1/2x3/16x3/8	.066	4.188	14	.004	8.375	Y	10	17.25	38.802	1	H1-1b
951	M394	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	12	.004	8.375	Y	10	17.25	38.802	1	H1-1b
952	M403	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	12	.004	8.375	Y	10	17.25	38.802	1	H1-1b
953	M411	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	18	.004	8.375	Y	10	17.25	38.802	1	H1-1b
954	M420	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	18	.004	8.375	Y	10	17.25	38.802	1	H1-1b
955	M428	2L2 1/2x2 1/2x3/16x3/8	.065	4.188	16	.004	8.375	Y	10	17.25	38.802	1	H1-1b
956	M450	2L2 1/2x2 1/2x3/16x3/8	.069	4.188	15	.004	8.375	Y	10	17.524	38.802	1	H1-1b
957	M458	2L2 1/2x2 1/2x3/16x3/8	.069	4.188	15	.004	8.375	Y	10	17.524	38.802	1	H1-1b
958	M467	2L2 1/2x2 1/2x3/16x3/8	.069	4.188	13	.004	8.375	Y	10	17.524	38.802	1	H1-1b
959	M475	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	13	.004	8.375	Y	10	17.524	38.802	1	H1-1b
960	M484	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	11	.004	8.375	Y	10	17.524	38.802	1	H1-1b
961	M492	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	11	.004	8.375	Y	10	17.524	38.802	1	H1-1b
962	M501	2L2 1/2x2 1/2x3/16x3/8	.068	4.188	17	.004	8.375	Y	10	17.524	38.802	1	H1-1b

Company : GPD Group
 Designer : awestrum
 Job Number : 2012867.11

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Nov 5, 2012
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Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir LC	Pnc/om [k]	Mny/om [k-ft]	Mnz/om [k-ft]	Cb	Egn
963	M509	2L2 1/2x2 1/2x3/16x3/8	.068	4.188 17 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
964	M531	2L2 1/2x2 1/2x3/16x3/8	.072	4.188 16 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
965	M539	2L2 1/2x2 1/2x3/16x3/8	.072	4.188 14 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
966	M548	2L2 1/2x2 1/2x3/16x3/8	.072	4.188 14 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
967	M556	2L2 1/2x2 1/2x3/16x3/8	.072	4.188 12 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
968	M565	2L2 1/2x2 1/2x3/16x3/8	.071	4.188 12 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
969	M573	2L2 1/2x2 1/2x3/16x3/8	.071	4.188 18 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
970	M582	2L2 1/2x2 1/2x3/16x3/8	.071	4.188 18 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
971	M590	2L2 1/2x2 1/2x3/16x3/8	.071	4.188 16 .004	8.375	Y 10	17.524	2.672	1.737	1	H1-1b
972	M612	2L2 1/2x2 1/2x3/16x3/8	.072	4.188 15 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
973	M620	2L2 1/2x2 1/2x3/16x3/8	.073	4.188 15 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
974	M629	2L2 1/2x2 1/2x3/16x3/8	.070	4.188 14 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
975	M637	2L2 1/2x2 1/2x3/16x3/8	.070	4.188 12 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
976	M646	2L2 1/2x2 1/2x3/16x3/8	.071	4.188 11 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
977	M654	2L2 1/2x2 1/2x3/16x3/8	.070	4.188 11 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
978	M663	2L2 1/2x2 1/2x3/16x3/8	.069	4.188 18 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
979	M671	2L2 1/2x2 1/2x3/16x3/8	.070	4.188 16 .004	8.375	Y 10	17.558	2.672	1.737	1	H1-1b
980	M693	2L2 1/2x2 1/2x3/16x3/8	.090	4.188 3 .004	8.375	Y 10	17.851	2.672	1.737	1	H1-1b
981	M703	2L2 1/2x2 1/2x3/16x3/8	.093	4.188 9 .004	8.375	Y 10	17.851	2.672	1.737	1	H1-1b
982	M714	2L2 1/2x2 1/2x3/16x3/8	.083	4.188 14 .004	0	Y 10	17.851	2.672	1.737	1	H1-1b
983	M724	2L2 1/2x2 1/2x3/16x3/8	.081	4.188 12 .004	0	Y 14	17.851	2.672	1.737	1	H1-1b
984	M735	2L2 1/2x2 1/2x3/16x3/8	.097	4.188 7 .004	8.375	Y 10	17.851	2.672	1.737	1	H1-1b
985	M745	2L2 1/2x2 1/2x3/16x3/8	.095	4.188 5 .004	8.375	Y 10	17.851	2.672	1.737	1	H1-1b
986	M756	2L2 1/2x2 1/2x3/16x3/8	.080	4.188 18 .004	0	Y 10	17.851	2.672	1.737	1	H1-1b
987	M766	2L2 1/2x2 1/2x3/16x3/8	.082	4.188 16 .004	0	Y 11	17.851	2.672	1.737	1	H1-1b
988	M55	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 17 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
989	M63	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 13 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
990	M71	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 15 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
991	M79	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 12 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
992	M87	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 13 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
993	M95	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 17 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
994	M103	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 18 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
995	M111	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 15 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
996	M128	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 17 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
997	M136	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 13 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
998	M145	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 15 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
999	M153	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 11 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
1000	M162	2L2 1/2x2 1/2x3/16x3/8	.143	6.281 13 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
1001	M170	2L2 1/2x2 1/2x3/16x3/8	.143	6.281 17 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
1002	M179	2L2 1/2x2 1/2x3/16x3/8	.143	6.281 11 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b
1003	M187	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 15 .006	0	Y 10	7.52	2.672	1.737	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locifl1	LC Shear C...	Locifl1	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyx/om [k-ft]	Mnzx/om [k-ft]	Cb	Eqn
1004	M209	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 16 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1005	M217	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 13 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1006	M226	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 15 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1007	M234	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 12 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1008	M243	2L2 1/2x2 1/2x3/16x3/8	.143	6.281 13 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1009	M251	2L2 1/2x2 1/2x3/16x3/8	.143	6.281 18 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1010	M260	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 18 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1011	M268	2L2 1/2x2 1/2x3/16x3/8	.144	6.281 15 .006	0	Y	10	7.52	38.802	2.672	1.737	1	H1-1b
1012	M290	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 16 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1013	M298	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 14 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1014	M307	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 14 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1015	M315	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 12 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1016	M324	2L2 1/2x2 1/2x3/16x3/8	.145	6.281 12 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1017	M332	2L2 1/2x2 1/2x3/16x3/8	.145	6.281 18 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1018	M341	2L2 1/2x2 1/2x3/16x3/8	.145	6.281 18 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1019	M349	2L2 1/2x2 1/2x3/16x3/8	.145	6.281 16 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1020	M371	2L2 1/2x2 1/2x3/16x3/8	.147	6.281 14 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1021	M379	2L2 1/2x2 1/2x3/16x3/8	.147	6.281 14 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1022	M388	2L2 1/2x2 1/2x3/16x3/8	.147	6.281 12 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1023	M396	2L2 1/2x2 1/2x3/16x3/8	.147	6.281 12 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1024	M405	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 12 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1025	M413	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 18 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1026	M422	2L2 1/2x2 1/2x3/16x3/8	.146	6.281 18 .006	0	Y	10	7.619	38.802	2.672	1.737	1	H1-1b
1027	M430	2L2 1/2x2 1/2x3/16x3/8	.147	6.281 16 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1028	M452	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 16 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1029	M460	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 14 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1030	M469	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 14 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1031	M477	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 12 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1032	M486	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 12 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1033	M494	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 18 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1034	M503	2L2 1/2x2 1/2x3/16x3/8	.148	6.281 18 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1035	M511	2L2 1/2x2 1/2x3/16x3/8	.149	6.281 16 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1036	M533	2L2 1/2x2 1/2x3/16x3/8	.152	6.281 16 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1037	M541	2L2 1/2x2 1/2x3/16x3/8	.152	6.281 14 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1038	M550	2L2 1/2x2 1/2x3/16x3/8	.152	6.281 14 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1039	M558	2L2 1/2x2 1/2x3/16x3/8	.151	6.281 12 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1040	M567	2L2 1/2x2 1/2x3/16x3/8	.151	6.281 12 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1041	M575	2L2 1/2x2 1/2x3/16x3/8	.150	6.281 18 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1042	M584	2L2 1/2x2 1/2x3/16x3/8	.150	6.281 18 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1043	M592	2L2 1/2x2 1/2x3/16x3/8	.151	6.281 16 .006	0	Y	10	7.72	38.802	2.672	1.737	1	H1-1b
1044	M614	2L2 1/2x2 1/2x3/16x3/8	.154	6.281 16 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locfct1	LC Shear C...	Locfct1	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
1045	M622	2L2 1/2x2 1/2x3/16x3/8	.154	6.281 14 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1046	M631	2L2 1/2x2 1/2x3/16x3/8	.153	6.281 14 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1047	M639	2L2 1/2x2 1/2x3/16x3/8	.152	6.281 12 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1048	M648	2L2 1/2x2 1/2x3/16x3/8	.153	6.281 12 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1049	M656	2L2 1/2x2 1/2x3/16x3/8	.152	6.281 18 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1050	M665	2L2 1/2x2 1/2x3/16x3/8	.151	6.281 18 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1051	M673	2L2 1/2x2 1/2x3/16x3/8	.153	6.281 16 .006	0	Y	10	7.733	38.802	2.672	1.737	1	H1-1b
1052	M695	2L2 1/2x2 1/2x1/4x3/8	.125	5.583 3 .005	11.167	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1053	M705	2L2 1/2x2 1/2x1/4x3/8	.131	5.583 9 .005	11.167	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1054	M716	2L2 1/2x2 1/2x1/4x3/8	.110	5.583 14 .005	0	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1055	M726	2L2 1/2x2 1/2x1/4x3/8	.109	5.583 12 .005	0	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1056	M737	2L2 1/2x2 1/2x1/4x3/8	.133	5.583 7 .005	11.167	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1057	M747	2L2 1/2x2 1/2x1/4x3/8	.132	5.583 5 .005	11.167	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1058	M758	2L2 1/2x2 1/2x1/4x3/8	.112	5.583 5 .005	0	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1059	M768	2L2 1/2x2 1/2x1/4x3/8	.110	5.583 16 .005	0	Y	10	12.983	51.305	3.58	2.271	1	H1-1b
1060	M697	2L3x3x1/4x3/8 HRA	.137	6.979 16 .006	13.958	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1061	M707	2L3x3x1/4x3/8 HRA	.137	6.979 14 .006	13.958	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1062	M718	2L3x3x1/4x3/8 HRA	.135	6.979 14 .006	0	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1063	M728	2L3x3x1/4x3/8 HRA	.135	6.979 12 .006	0	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1064	M739	2L3x3x1/4x3/8 HRA	.137	6.979 12 .006	13.958	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1065	M749	2L3x3x1/4x3/8 HRA	.136	6.979 18 .006	13.958	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1066	M760	2L3x3x1/4x3/8 HRA	.134	6.979 18 .006	0	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1067	M770	2L3x3x1/4x3/8 HRA	.135	6.979 16 .006	0	Y	10	14.393	62.084	4.991	3.315	1	H1-1b
1068	M1192A	L2.5X2.5X3	.356	4.188 2 .002	0	Y	1	3.112	19.401	.58	.935	1...	H2-1
1069	M1193A	L2.5X2.5X3	.344	4.188 6 .002	8.375	Y	1	3.112	19.401	.58	.935	1...	H2-1
1070	M1197A	L2.5X2.5X3	.425	4.188 9 .002	0	Y	4	3.112	19.401	.58	.935	1...	H2-1
1071	M1198A	L2.5X2.5X3	.345	4.188 3 .002	8.375	Y	8	3.112	19.401	.58	.935	1...	H2-1
1072	M1202A	L2.5X2.5X3	.256	4.188 6 .002	0	Y	2	3.112	19.401	.58	.935	1...	H2-1
1073	M1203A	L2.5X2.5X3	.272	4.188 9 .002	8.375	Y	6	3.112	19.401	.58	.935	1...	H2-1
1074	M1207A	L2.5X2.5X3	.397	4.188 5 .002	0	Y	1	3.112	19.401	.58	.935	1...	H2-1
1075	M1208A	L2.5X2.5X3	.478	4.188 7 .002	8.375	Y	1	3.112	19.401	.58	.935	1...	H2-1
1076	M1236	L2.5X2.5X3	.013	2.094 6 .001	4.188	Y	4	10.867	19.401	.58	1.153	1...	H2-1
1077	M1237	L2.5X2.5X3	.096	5.167 6 .003	0	Y	1	2.044	19.401	.58	.853	1...	H2-1
1078	M1238	L2.5X2.5X3	.058	4.188 6 .002	0	Y	1	3.112	19.401	.58	.935	1...	H2-1
1079	M1239	L2.5X2.5X3	.096	5.167 6 .003	0	Y	8	2.044	19.401	.58	.853	1...	H2-1
1080	M1240	L2.5X2.5X3	.013	2.094 6 .001	0	Y	8	10.867	19.401	.58	1.153	1...	H2-1
1081	M1241	L2.5X2.5X3	.013	2.094 4 .001	4.188	Y	2	10.867	19.401	.58	1.153	1...	H2-1
1082	M1242	L2.5X2.5X3	.096	5.167 4 .003	0	Y	1	2.044	19.401	.58	.853	1...	H2-1
1083	M1243	L2.5X2.5X3	.058	4.188 4 .002	0	Y	1	3.112	19.401	.58	.935	1...	H2-1
1084	M1244	L2.5X2.5X3	.096	5.167 4 .003	0	Y	5	2.044	19.401	.58	.853	1...	H2-1
1085	M1245	L2.5X2.5X3	.013	2.094 4 .001	0	Y	6	10.867	19.401	.58	1.153	1...	H2-1

Company : GPD Group
 Designer : awestrump
 Job Number : 2012867.11

Nov 5, 2012
 4:41 PM
 Checked By:

TAG0053 CHESHIRE

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pncz/om [k]	Mnv/om [k-ft]	Mnzz/om [k-ft]	Cb	Eon	
1086	M1246	L2.5X2.5X3	.013	2.094	2	.001	4.188	Y	8	10.867	19.401	1.153	H2-1
1087	M1247	L2.5X2.5X3	.096	5.167	2	.003	0	Y	1	2.044	19.401	.853	H2-1
1088	M1248	L2.5X2.5X3	.058	4.188	2	.002	0	Y	1	3.112	19.401	.935	H2-1
1089	M1249	L2.5X2.5X3	.096	5.167	2	.003	0	Y	3	2.044	19.401	.853	H2-1
1090	M1250	L2.5X2.5X3	.013	2.094	2	.001	0	Y	4	10.867	19.401	1.153	H2-1
1091	M1251	L2.5X2.5X3	.013	2.094	8	.001	4.188	Y	6	10.867	19.401	1.153	H2-1
1092	M1252	L2.5X2.5X3	.096	5.167	8	.003	0	Y	1	2.044	19.401	.853	H2-1
1093	M1253	L2.5X2.5X3	.058	4.188	8	.002	0	Y	1	3.112	19.401	.935	H2-1
1094	M1254	L2.5X2.5X3	.096	5.167	8	.003	0	Y	2	2.044	19.401	.853	H2-1
1095	M1255	L2.5X2.5X3	.013	2.094	8	.001	0	Y	2	10.867	19.401	1.153	H2-1
1096	M52	L3X3X3	.037	2.094	16	.003	0	Y	13	15.722	23.497	1.665	H2-1
1097	M60	L3X3X3	.038	2.094	14	.003	4.188	Y	17	15.722	23.497	1.665	H2-1
1098	M68	L3X3X3	.037	2.094	16	.003	0	Y	11	15.722	23.497	1.665	H2-1
1099	M76	L3X3X3	.037	2.094	13	.003	4.188	Y	15	15.722	23.497	1.665	H2-1
1100	M84	L3X3X3	.036	2.094	17	.003	4.188	Y	13	15.722	23.497	1.665	H2-1
1101	M92	L3X3X3	.035	2.094	12	.003	4.188	Y	13	15.722	23.497	1.665	H2-1
1102	M100	L3X3X3	.036	2.094	17	.003	0	Y	15	15.722	23.497	1.665	H2-1
1103	M108	L3X3X3	.036	2.094	14	.003	4.188	Y	11	15.722	23.497	1.665	H2-1
1104	M125	L3X3X3	.048	2.094	16	.003	0	Y	12	15.722	23.497	1.665	H2-1
1105	M133	L3X3X3	.049	2.094	14	.003	4.188	Y	17	15.722	23.497	1.665	H2-1
1106	M142	L3X3X3	.049	2.094	14	.003	0	Y	11	15.722	23.497	1.665	H2-1
1107	M150	L3X3X3	.047	2.094	12	.003	0	Y	12	15.722	23.497	1.665	H2-1
1108	M159	L3X3X3	.045	2.094	12	.003	0	Y	17	15.722	23.497	1.665	H2-1
1109	M167	L3X3X3	.044	2.094	18	.003	4.188	Y	13	15.722	23.497	1.665	H2-1
1110	M176	L3X3X3	.045	2.094	18	.003	0	Y	15	15.722	23.497	1.665	H2-1
1111	M184	L3X3X3	.047	2.094	15	.003	0	Y	15	15.722	23.497	1.665	H2-1
1112	M206	L3X3X3	.067	2.094	7	.003	0	Y	12	15.722	23.497	1.665	H2-1
1113	M214	L3X3X3	.066	2.094	14	.003	4.188	Y	17	15.722	23.497	1.665	H2-1
1114	M223	L3X3X3	.068	2.094	14	.003	0	Y	11	15.722	23.497	1.665	H2-1
1115	M231	L3X3X3	.069	2.094	3	.003	4.188	Y	16	15.722	23.497	1.665	H2-1
1116	M240	L3X3X3	.061	2.094	12	.003	0	Y	17	15.722	23.497	1.665	H2-1
1117	M248	L3X3X3	.062	2.094	9	.003	4.188	Y	14	15.722	23.497	1.665	H2-1
1118	M257	L3X3X3	.060	2.094	9	.003	0	Y	15	15.722	23.497	1.665	H2-1
1119	M265	L3X3X3	.063	2.094	16	.003	0	Y	16	15.722	23.497	1.665	H2-1
1120	M287	L3X3X3	.075	2.094	15	.003	0	Y	13	15.919	23.497	1.673	H2-1
1121	M295	L3X3X3	.078	2.094	15	.003	4.188	Y	18	15.919	23.497	1.673	H2-1
1122	M304	L3X3X3	.078	2.094	13	.003	0	Y	11	15.919	23.497	1.673	H2-1
1123	M312	L3X3X3	.073	2.094	13	.003	0	Y	12	15.919	23.497	1.673	H2-1
1124	M321	L3X3X3	.072	2.094	11	.003	0	Y	17	15.919	23.497	1.673	H2-1
1125	M329	L3X3X3	.071	2.094	2	.003	4.188	Y	14	15.919	23.497	1.673	H2-1
1126	M338	L3X3X3	.069	2.094	8	.003	0	Y	15	15.919	23.497	1.673	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mny/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn		
1127	M346	L3X3X3	.074	2.094	17	.003	0	Y	16	15.919	23.497	.878	1.673	1	H2-1
1128	M368	L3X3X3	.109	2.094	6	.003	0	Y	13	15.919	23.497	.878	1.673	1	H2-1
1129	M376	L3X3X3	.112	2.094	6	.003	4.188	Y	11	15.919	23.497	.878	1.673	1	H2-1
1130	M385	L3X3X3	.112	2.094	5	.003	0	Y	11	15.919	23.497	.878	1.673	1	H2-1
1131	M393	L3X3X3	.107	2.094	3	.003	0	Y	12	15.919	23.497	.878	1.673	1	H2-1
1132	M402	L3X3X3	.110	2.094	3	.003	0	Y	17	15.919	23.497	.878	1.673	1	H2-1
1133	M410	L3X3X3	.108	2.094	9	.003	4.188	Y	14	15.919	23.497	.878	1.673	1	H2-1
1134	M419	L3X3X3	.106	2.094	9	.003	0	Y	15	15.919	23.497	.878	1.673	1	H2-1
1135	M427	L3X3X3	.109	2.094	7	.003	0	Y	16	15.919	23.497	.878	1.673	1	H2-1
1136	M449	L3X3X3	.142	2.094	6	.003	0	Y	12	16.091	23.497	.878	1.681	1	H2-1
1137	M457	L3X3X3	.149	2.094	6	.003	4.188	Y	11	16.091	23.497	.878	1.681	1	H2-1
1138	M466	L3X3X3	.146	2.094	4	.003	0	Y	11	16.091	23.497	.878	1.681	1	H2-1
1139	M474	L3X3X3	.138	2.094	4	.003	0	Y	12	16.091	23.497	.878	1.681	1	H2-1
1140	M483	L3X3X3	.145	2.094	2	.003	0	Y	17	16.091	23.497	.878	1.681	1	H2-1
1141	M491	L3X3X3	.139	2.094	2	.003	4.188	Y	14	16.091	23.497	.878	1.681	1	H2-1
1142	M500	L3X3X3	.135	2.094	8	.003	0	Y	15	16.091	23.497	.878	1.681	1	H2-1
1143	M508	L3X3X3	.143	2.094	8	.003	0	Y	16	16.091	23.497	.878	1.681	1	H2-1
1144	M530	L3X3X3	.198	2.094	7	.003	0	Y	13	16.115	23.497	.878	1.682	1	H2-1
1145	M538	L3X3X3	.204	2.094	5	.003	4.188	Y	12	16.115	23.497	.878	1.682	1	H2-1
1146	M547	L3X3X3	.202	2.094	5	.003	0	Y	11	16.115	23.497	.878	1.682	1	H2-1
1147	M555	L3X3X3	.195	2.094	3	.003	0	Y	12	16.115	23.497	.878	1.682	1	H2-1
1148	M564	L3X3X3	.202	2.094	3	.003	0	Y	16	16.115	23.497	.878	1.682	1	H2-1
1149	M572	L3X3X3	.198	2.094	9	.003	4.188	Y	15	16.115	23.497	.878	1.682	1	H2-1
1150	M581	L3X3X3	.196	2.094	9	.003	0	Y	15	16.115	23.497	.878	1.682	1	H2-1
1151	M589	L3X3X3	.200	2.094	7	.003	0	Y	16	16.115	23.497	.878	1.682	1	H2-1
1152	M611	L3X3X3	.230	2.094	7	.003	0	Y	12	16.14	23.497	.878	1.683	1	H2-1
1153	M619	L3X3X3	.236	2.094	5	.003	4.188	Y	12	16.14	23.497	.878	1.683	1	H2-1
1154	M628	L3X3X3	.207	2.094	5	.003	0	Y	11	16.14	23.497	.878	1.683	1	H2-1
1155	M636	L3X3X3	.202	2.094	3	.003	0	Y	13	16.14	23.497	.878	1.683	1	H2-1
1156	M645	L3X3X3	.234	2.094	3	.003	0	Y	16	16.14	23.497	.878	1.683	1	H2-1
1157	M653	L3X3X3	.229	2.094	9	.003	4.188	Y	16	16.14	23.497	.878	1.683	1	H2-1
1158	M662	L3X3X3	.201	2.094	9	.003	0	Y	15	16.14	23.497	.878	1.683	1	H2-1
1159	M670	L3X3X3	.206	2.094	7	.003	0	Y	17	16.14	23.497	.878	1.683	1	H2-1
1160	M692	L3X3X3	.224	2.792	3	.004	0	Y	10	12.787	23.497	.878	1.555	1	H2-1
1161	M702	L3X3X3	.236	2.792	9	.004	0	Y	10	12.787	23.497	.878	1.555	1	H2-1
1162	M713	L3X3X3	.173	2.792	4	.004	0	Y	11	12.787	23.497	.878	1.555	1	H2-1
1163	M723	L3X3X3	.166	2.792	8	.004	0	Y	11	12.787	23.497	.878	1.555	1	H2-1
1164	M734	L3X3X3	.258	2.792	7	.004	0	Y	17	12.787	23.497	.878	1.555	1	H2-1
1165	M744	L3X3X3	.250	2.792	5	.004	0	Y	10	12.787	23.497	.878	1.555	1	H2-1
1166	M755	L3X3X3	.171	2.792	4	.004	0	Y	15	12.787	23.497	.878	1.555	1	H2-1
1167	M765	L3X3X3	.176	2.792	4	.004	0	Y	15	12.787	23.497	.878	1.555	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

Member	Shape	Code Check	Locftl	LC Shear C...	Locftl	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnw/om [k-ft]	Mnzz/om [k-ft]	Cb	Egn
1168	M1195A	.343	4.485	2	.002	0	Y	2.491	19.401	.58	.893	1...	H2-1
1169	M1196A	.332	4.875	6	.002	0	Y	2.491	19.401	.58	.893	1...	H2-1
1170	M1200A	.356	4.485	8	.002	9.361	Y	2.491	19.401	.58	.893	1...	H2-1
1171	M1201A	.338	4.875	4	.002	0	Y	2.491	19.401	.58	.893	1...	H2-1
1172	M1205A	.270	4.485	6	.002	9.361	Y	2.491	19.401	.58	.893	1...	H2-1
1173	M1206A	.281	4.875	2	.002	9.361	Y	2.491	19.401	.58	.893	1...	H2-1
1174	M1210A	.385	4.485	4	.002	0	Y	2.491	19.401	.58	.893	1...	H2-1
1175	M1211A	.404	4.875	8	.002	9.361	Y	2.491	19.401	.58	.893	1...	H2-1
1176	M1194A	.076	6.333	8	.003	0	Y	6.961	38.802	2.635	1.696	1	H1-1b
1177	M1199A	.093	6.333	2	.003	0	Y	6.961	38.802	2.635	1.696	1	H1-1b
1178	M1204A	.077	6.333	4	.003	0	Y	6.961	38.802	2.635	1.696	1	H1-1b
1179	M1209A	.095	6.333	6	.003	0	Y	6.961	38.802	2.635	1.696	1	H1-1b

Concrete Column Design Results

Column	Shape	UC Max	Locftl	UC LC	Shear UC	Locftl	Dir	Phi Used	Pn[k]	Mny[k-ft]	Mnz[k-ft]	Vny[k]	Vnz[k]
1	M1252A	RECT42X42	.163	6.2	.179	.194	Y	.65	4905.848	4420.142	4734.626	338.243	338.243
2	M1253A	RECT42X42	.163	6.2	.172	.194	Y	.65	4935.506	4427.952	4745.339	338.243	338.243
3	M1254A	RECT42X42	.162	6.2	.16	.194	Y	.65	4912.842	4422.313	4737.606	338.243	338.243
4	M1255A	RECT42X42	.162	6.2	.169	.194	Y	.65	4894.147	4421.644	4736.687	338.243	338.243

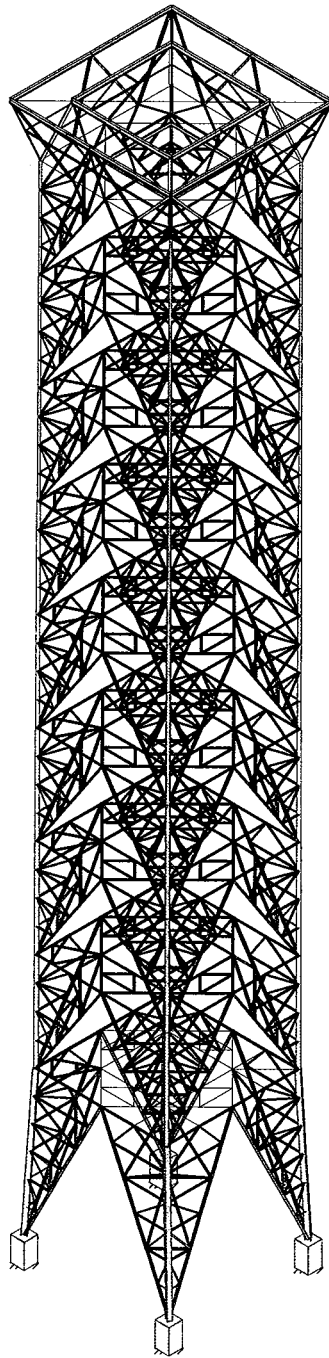
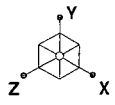
Bolt Checks

Section #	Elevation	Component Type	Bolt Grade	Bolt Size (in)	# of Bolts	Maximum Load (k)	Maximum Load per Bolt (k)	Allowable Load per Bolt (k)	Ratio	Allowable Ratio	% Capacity
T2	236.833	Leg	A490N	0.75	28	13.1	0.936	16.70	0.056	1.333	4.2%
		Diagonal	A490N	0.75	4	14.9	3.725	24.74	0.151	1.333	11.3%
		Horizontal	A490N	0.75	4	4.1	1.025	24.74	0.041	1.333	3.1%
T3	211.833	Leg	A490N	0.75	28	34.5	2.464	16.70	0.148	1.333	11.1%
		Diagonal	A490N	0.75	4	21.6	5.400	19.44	0.278	1.333	20.8%
		Horizontal	A490N	0.75	3	12.0	4.000	10.42	0.384	1.333	28.8%
T4	186.833	Leg	A490N	0.875 & 0.75	46	62.8	2.730	17.85	0.153	1.333	11.5%
		Diagonal	A490N	0.75	5	29.7	5.940	24.74	0.240	1.333	18.0%
		Horizontal	A490N	0.75	3	15.1	5.033	10.42	0.483	1.333	36.2%
T5	161.833	Leg	A490N	1	32	101.0	6.313	25.06	0.252	1.333	18.9%
		Diagonal	A490N	0.75	5	35.9	7.180	24.74	0.290	1.333	21.8%
		Horizontal	A490N	0.75	3	18.8	6.267	10.42	0.601	1.333	45.1%
T6	136.833	Leg	A490N	1	40	147.5	7.375	25.06	0.294	1.333	22.1%
		Diagonal	A490N	0.75	4	42.9	10.725	20.12	0.533	1.333	40.0%
		Horizontal	A490N	0.75	3	22.4	7.467	20.84	0.358	1.333	26.9%
T7	111.833	Leg	A490N	1	40	203.1	10.155	25.75	0.394	1.333	29.6%
		Diagonal	A490N	0.75	4	48.8	12.200	20.12	0.606	1.333	45.5%
		Horizontal	A490N	0.75	4	25.7	6.425	20.12	0.319	1.333	24.0%

T8	86.8333	Leg	A490N	1	40	266.8	13.340	29.23	0.456	1.333	34.2%
		Diagonal	A490N	0.75	5	56.6	11.320	24.74	0.458	1.333	34.3%
		Horizontal	A490N	0.75	4	29.1	7.275	20.12	0.362	1.333	27.1%
T9	61.8333	Leg	A490N	1	60	339.4	11.313	32.71	0.346	1.333	25.9%
		Diagonal	A490N	0.75	5	62.8	12.560	24.74	0.508	1.333	38.1%
		Horizontal	A490N	0.75	4	32.2	8.050	20.12	0.400	1.333	30.0%
T10	36.8333	Leg	A490N	1	68	420.4	12.365	32.71	0.378	1.333	28.3%
		Diagonal	A490N	0.75	8	76.9	9.613	24.74	0.389	1.333	29.1%
		Horizontal	A490N	0.75	4	32.1	8.025	24.74	0.324	1.333	24.3%
		Anchor Rod	CI015	2.25	12	420.4	35.033	76.10	0.460	1.333	34.5%
										Maximum % Capacity	45.5%

APPENDIX C

Tower Elevation Drawing



Solution: Envelope

GPD Group

awestrum

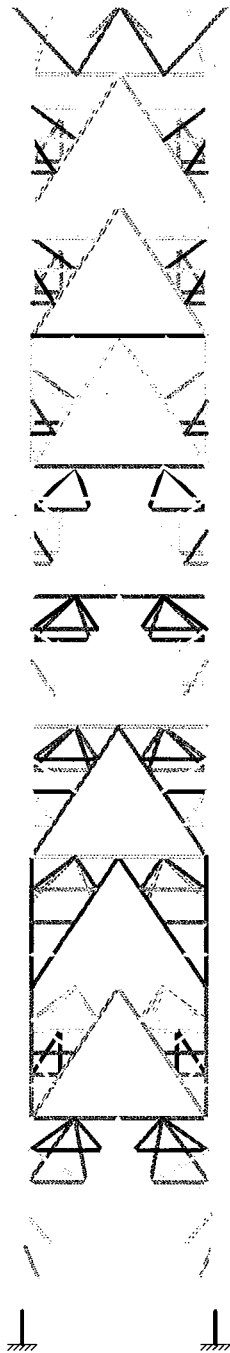
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Section Sets

- na
- TWR_LEG_T1
- TWR_HORZ_IN_T1
- TWR_DIAG_IN_T1
- TWR_RED_HORZ_IN_T1
- TWR_RED_SUB_H_IN_T1
- TWR_RED_SUB_D_IN_T1
- TWR_HORZ_OUT_T1
- TWR_DIAG_OUT_T1
- TWR_DIAG_OUT_KICK_T1
- TWR_RED_HORZ_OUT_T1
- TWR_LEG_T2
- TWR_DIAG_T2
- TWR_RED_HORZ_T2
- TWR_RED_HORZ_2_T2
- TWR_RED_DIAG_T2
- TWR_RED_HORZ_3_T2
- TWR_RED_DIAG_2_T2
- TWR_RED_DIAG_3_T2
- TWR_RED_HIP_HORZ_1_T2
- TWR_RED_HIP_HORZ_2_T2
- TWR_RED_HIP_DIAG_1_T2
- TWR_RED_HIP_DIAG_2_T2
- TWR_INNER_SQUARE_T2
- TWR_INNER_CORNER_T2
- TWR_LEG_T3
- TWR_HORZ_T3
- TWR_DIAG_T3
- TWR_RED_HORZ_T3
- TWR_RED_HORZ_2_T3
- TWR_RED_DIAG_T3
- TWR_RED_HORZ_3_T3
- TWR_RED_DIAG_2_T3
- TWR_RED_DIAG_3_T3
- TWR_RED_HIP_HORZ_1_T3
- TWR_RED_HIP_HORZ_2_T3
- TWR_RED_HIP_DIAG_1_T3
- TWR_RED_HIP_DIAG_2_T3
- TWR_INNER_SUPP_T3
- TWR_INNER_SQUARE_T3
- TWR_INNER_GIRT_T3
- TWR_INNER_TRIANGLE_T3
- TWR_INNER_CORNER_T3
- TWR_INNER_LADDER_T3
- TWR_LEG_T4
- TWR_HORZ_T4
- TWR_DIAG_T4
- TWR_RED_HORZ_T4
- TWR_RED_HORZ_2_T4
- TWR_RED_DIAG_T4
- TWR_RED_HORZ_3_T4
- TWR_RED_DIAG_2_T4
- TWR_RED_DIAG_3_T4
- TWR_RED_HIP_HORZ_1_T4
- TWR_RED_HIP_HORZ_2_T4
- TWR_RED_HIP_DIAG_1_T4
- TWR_RED_HIP_DIAG_2_T4
- TWR_INNER_SUPP_T4
- TWR_INNER_SQUARE_T4
- TWR_INNER_GIRT_T4
- TWR_INNER_TRIANGLE_T4
- TWR_INNER_CORNER_T4
- TWR_INNER_LADDER_T4
- TWR_LEG_T5
- TWR_HORZ_T5
- TWR_DIAG_T5
- TWR_RED_HORZ_T5
- TWR_RED_HORZ_2_T5
- TWR_RED_DIAG_T5
- TWR_RED_HORZ_3_T5
- TWR_RED_DIAG_2_T5
- TWR_RED_DIAG_3_T5
- TWR_RED_HIP_HORZ_1_T5
- TWR_RED_HIP_HORZ_2_T5
- TWR_RED_HIP_DIAG_1_T5
- TWR_RED_HIP_DIAG_2_T5
- TWR_INNER_SUPP_T5
- TWR_INNER_SQUARE_T5
- TWR_INNER_GIRT_T5
- TWR_INNER_TRIANGLE_T5
- TWR_INNER_CORNER_T5
- TWR_INNER_LADDER_T5
- TWR_LEG_T6
- TWR_HORZ_T6
- TWR_DIAG_T6
- TWR_RED_HORZ_T6
- TWR_RED_HORZ_2_T6
- TWR_RED_DIAG_T6
- TWR_RED_HORZ_3_T6
- TWR_RED_DIAG_2_T6
- TWR_RED_DIAG_3_T6
- TWR_RED_HIP_HORZ_1_T6
- TWR_RED_HIP_HORZ_2_T6
- TWR_RED_HIP_DIAG_1_T6
- TWR_RED_HIP_DIAG_2_T6
- TWR_INNER_SUPP_T6
- TWR_INNER_SQUARE_T6
- TWR_INNER_GIRT_T6
- TWR_INNER_TRIANGLE_T6

More...

Solution: Envelope

GPD Group

awestrup

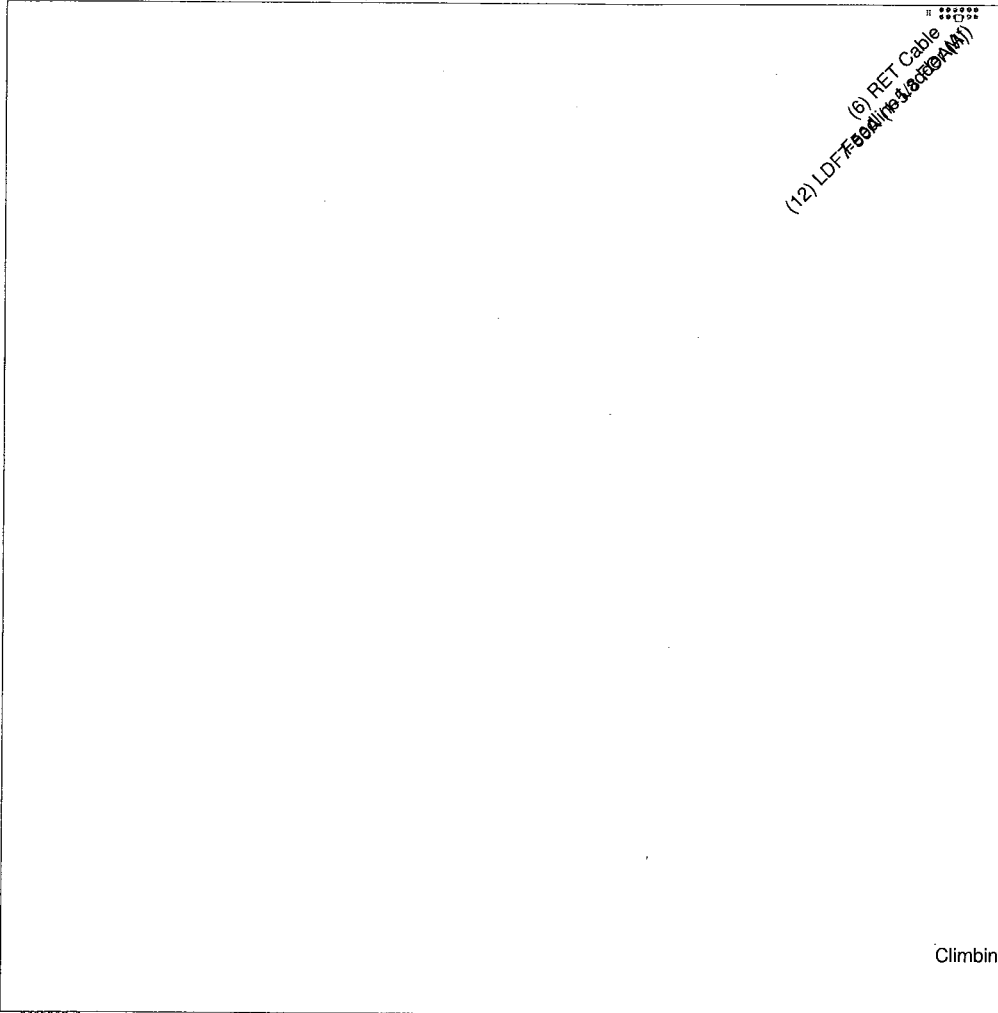
2012867.11

TAG0053 CHESHIRE

SK - 2

Nov 5, 2012 at 4:43 PM

TAG0053.r3d




(11) 1" Rigid Conduit
Feedline Ladder (Af)

LDF7-50A (1-5/8 FOAM)

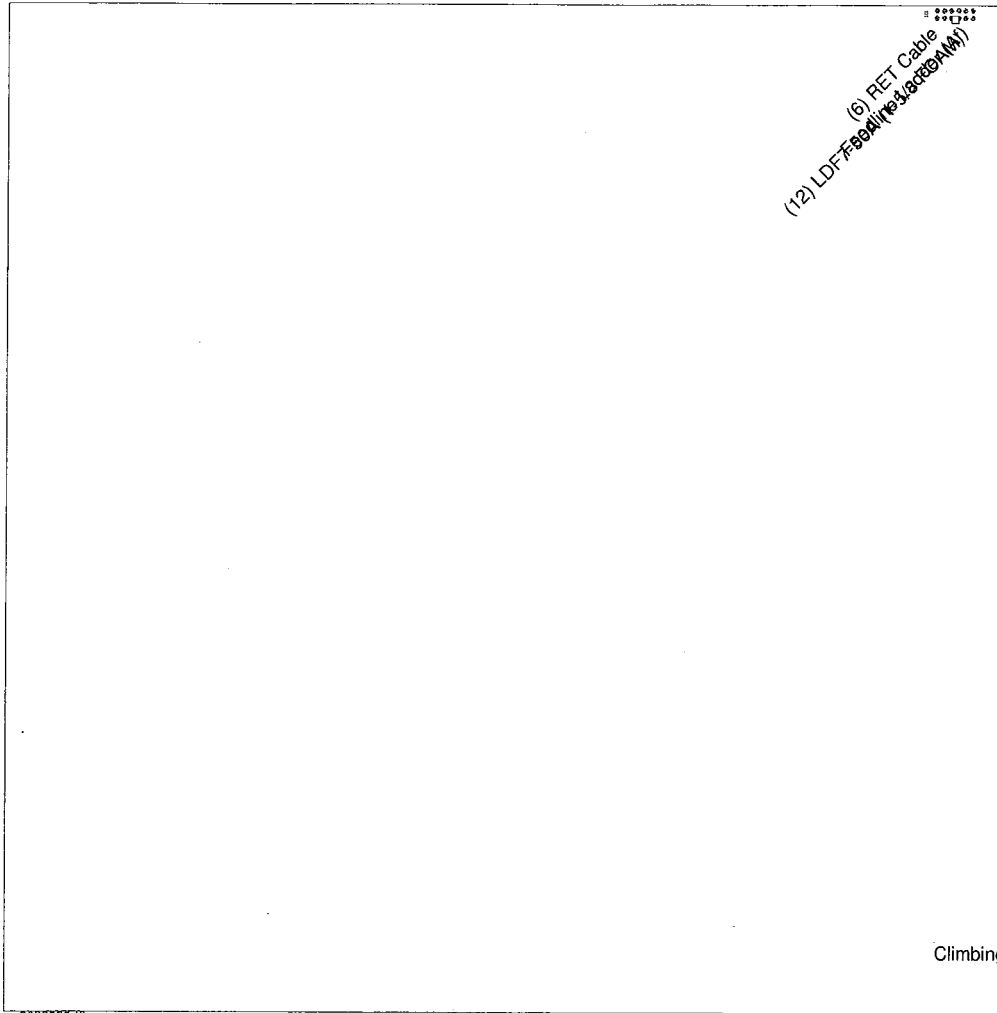
Climbing Ladder
Power Cable (1/2")
1-3/4" Rigid Conduit

(9) LDF7-50A (1-5/8 FOAM)
Feedline Ladder (Af)

(3) LDF4-50A (1/2 FOAM)
(3) LDF5-50A (1/2 FOAM)
(10) LDF7-50A (1-5/8 FOAM)
(13) LDF7-50A (1-5/8 FOAM)
(3) LDF7-50A (1-5/8 FOAM)

 GPD Group Consulting Engineers 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Job: TAG0053 CHESHIRE		
	Project: 2012867.11		
	Client: AT&T Mobility	Drawn by: awestrum	App'd:
	Code: TIA/EIA-222-F	Date: 11/05/12	Scale: N
	Path: C:\Users\awestrum\Desktop\AW_Work\TINX Project Towers\2012\2012867\1\TINX_FINAL\TAG0053.dwg		Dwg No.

Section @ 36'9-31/32"




(6) 1" Rigid Conduit
Feedline Ladder (Af)

LDF7-50A (1-5/8 FOAM)

Power Cable (1/2")
Climbing Ladder
1-3/4" Rigid Conduit

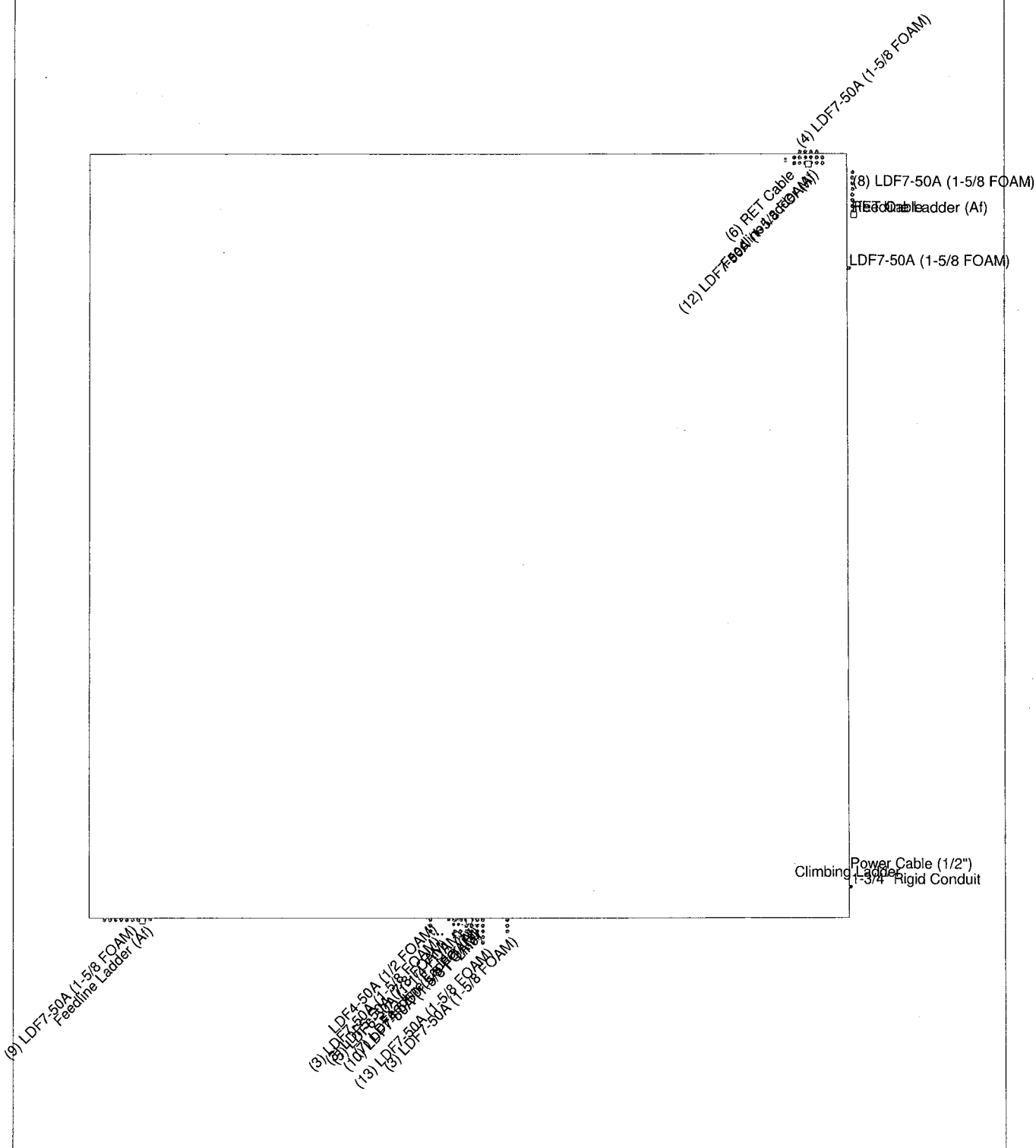
(9) LDF7-50A (1-5/8 FOAM)
Feedline Ladder (Af)

(3) LDF7-50A (1-5/8 FOAM)
(10) LDF7-50A (1-5/8 FOAM)
(13) LDF7-50A (1-5/8 FOAM)

 GPD Group 520 South Main St Akron, OH 44311 Consulting Engineers Phone: (330) 572-2100 FAX: (330) 572-2102	Job: TAG0053 CHESHIRE		
	Project: 2012867.11		
	Client: AT&T Mobility	Drawn by: awestrum	App'd:
	Code: TIA/EIA-222-F	Date: 11/05/12	Scale: N
	Path:	Dwg No.	

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Section @ 61'9-31/32"



GPD Group
 520 South Main St
 Akron, OH 44311
 Phone: (330) 572-2100
 FAX: (330) 572-2102

Job: TAG0053 CHESHIRE	Project: 2012867.11		App'd:
Client: AT&T Mobility	Drawn by: awestrum	Date: 11/05/12	Scale: N
Code: TIA/EIA-222-F	Path: C:\Users\awestrum\Desktop\AW-Work\TINX Project Towers\2012\2012867.11\TINX_FINAL\TAG0053.dwg		Dwg No.

PROJECT INFORMATION

SCOPE OF WORK: RELOCATE (4) EXISTING ANTENNAS TO NEW MOUNT & ADD (3) ANTENNAS ON AN EXISTING LATTICE TOWER. INSTALL FIBER AND POWER CONDUITS AND ANTENNA SUPPORT EQUIPMENT, AND INSTALL ADDITIONAL EQUIPMENT INSIDE AN EXISTING SHELTER.

SITE ADDRESS: 751 HIGGINS ROAD
CHESHIRE, CT 06410

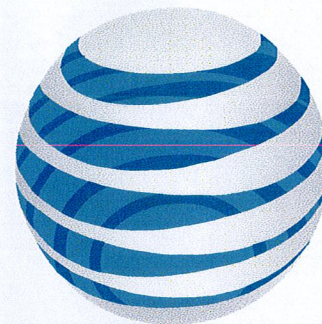
LATITUDE: 41° 29' 14.78" (NAD 83)*
LONGITUDE: 72° 55' 45.55" (NAD 83)*
* PER AT&T EXISTING PLANS

JURISDICTION: CONNECTICUT SITING COUNCIL

CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY

NAME OF APPLICANT: AT&T MOBILITY
500 ENTERPRISE DRIVE,
SUITE 3A
ROCKY HILL, CT 06067

TOWER OWNER: AMERICAN TOWER
TOWER NUMBER: N/A



at&t

SITE NAME: CHESHIRE SW
SITE NUMBER: CT2036

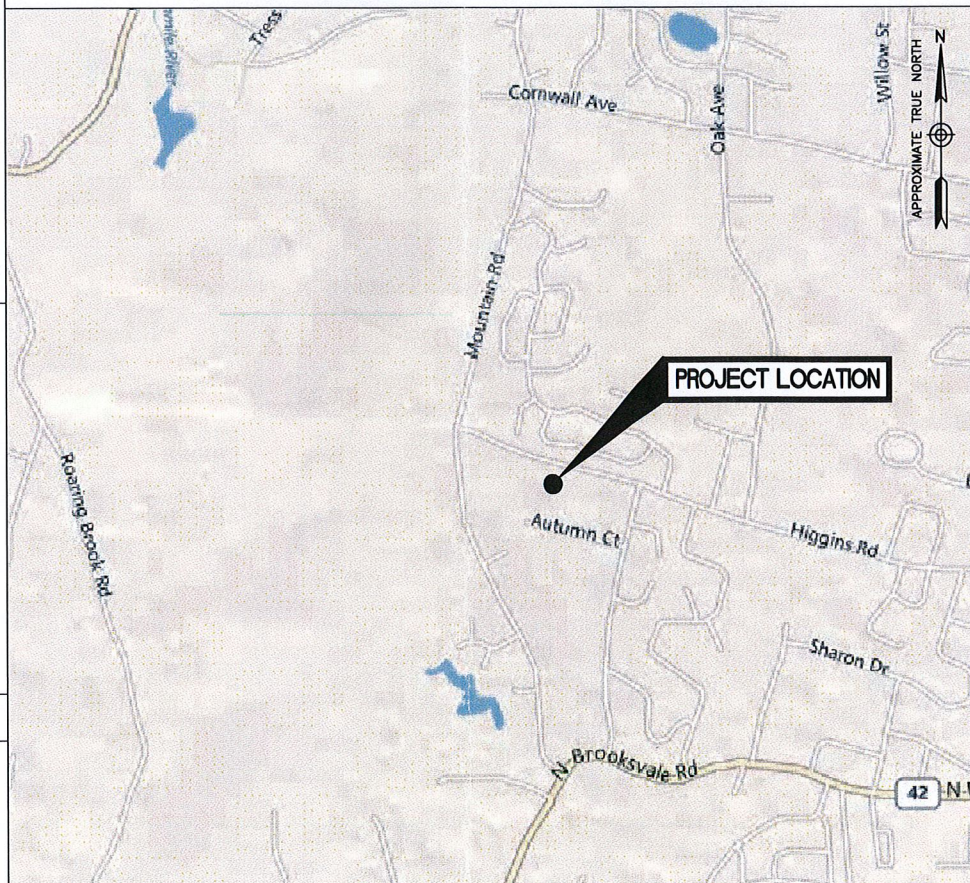
DRAWING INDEX

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VICINITY MAP

DIRECTIONS: (FROM ROCKY HILL, CT) HEAD NORTHEAST ON ENTERPRISE DRIVE TOWARD CAPITAL BOULEVARD. TURN LEFT ONTO CAPITAL BOULEVARD. TURN LEFT ONTO WEST STREET. TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN. TAKE EXIT 15 FOR CT-68 TOWARD DURHAM/YALESVILLE. TURN RIGHT ONTO CT-68WW/BARNES RD. CONTINUE TO FOLLOW CT-68 W. TURN LEFT ONTO CT-68 W/CT-70 W/S MERIDEN RD. CONTINUE TO FOLLOW CT-68 W/CT-70 W. TURN LEFT ONTO S MAIN ST. TURN RIGHT ONTO HIGGINS RD. SITE WILL BE ON THE RIGHT.



APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARD NOTES, SYMBOLS AND DETAILS (SEE DRAWING INDEX FOR STANDARD NOTES AND DETAILS INCLUDED WITH TYPICAL DRAWING PACKAGE). CONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
CONNECTICUT STATE BUILDING CODE (2005) & ALL SUBSEQUENT AMENDMENTS

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC 2005)

CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), *MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION*
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

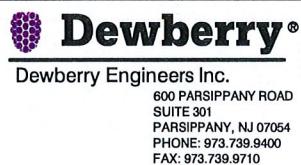
THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

STRUCTURAL NOTE:

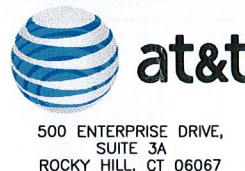
- AS REQUIRED BY THE TIA/EIA 222F - STANDARD, NEXLINK GLOBAL SERVICES SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED CONNECTICUT STRUCTURAL ENGINEER CERTIFYING THAT, THE EXISTING TOWER, ANTENNA MOUNTS AND ANY REQUIRED IMPROVEMENTS AND REINFORCEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, CABLES, SUPPORTS AND APPURTENANCES AND COMPLIES WITH THE CURRENT CONNECTICUT STATE BUILDING CODE AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, CABLES, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

CONTACT INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	GREG H. NAWROTZKI	DEWBERRY	(973) 576-9653
SAC:	DAVID COOPER	NEXLINK	(508) 802-5570
CONST.:	MARK ROBERTS	NEXLINK	(860) 420-8562



CHESHIRE SW
SITE NO. CT2036
751 HIGGINS ROAD
CHESHIRE, CT 06410



NO.	DATE	REVISIONS	BY	CHK	APP'D
2	02/28/13	ISSUED FOR CONSTRUCTION	JME	GMN	GHN
1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN

ROBERT J. FOLEY, P.E.
CT LICENSE No. PEN.0029056

TITLE SHEET

SCALE: AS SHOWN	DESIGNED BY: GHN	DRAWN BY: RSA	DEWBERRY NO. 50048347/50048350	DRAWING NUMBER T01	REV 2
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GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
PROJECT MANAGEMENT - NEXLINK GLOBAL SERVICES
CONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - AT&T MOBILITY
OEM - ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT MANAGEMENT.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY PROJECT MANAGEMENT.
- CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH PROJECT MANAGEMENT.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- CONTRACTOR SHALL NOTIFY DEWBERRY 48 HOURS IN ADVANCE OF POURING CONCRETE, OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEER REVIEW.
- CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY PROJECT MANAGEMENT OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH OWNER. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
A) FALL PROTECTION
B) CONFINED SPACE
C) ELECTRICAL SAFETY
D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE SOIL COMPACTION NOTES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE (UNO). SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF.....1 1/2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL3/4 IN.
BEAMS AND COLUMNS.....1 1/2 IN.
- A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
- CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION.
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.
- AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOFROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

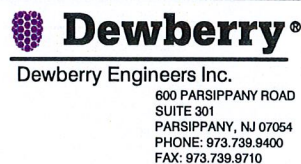
- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

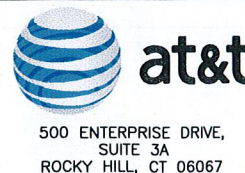
- FIELD VERIFICATION:
CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
- COORDINATION OF WORK:
CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH PROJECT MANAGEMENT.
- CABLE LADDER RACK:
CONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

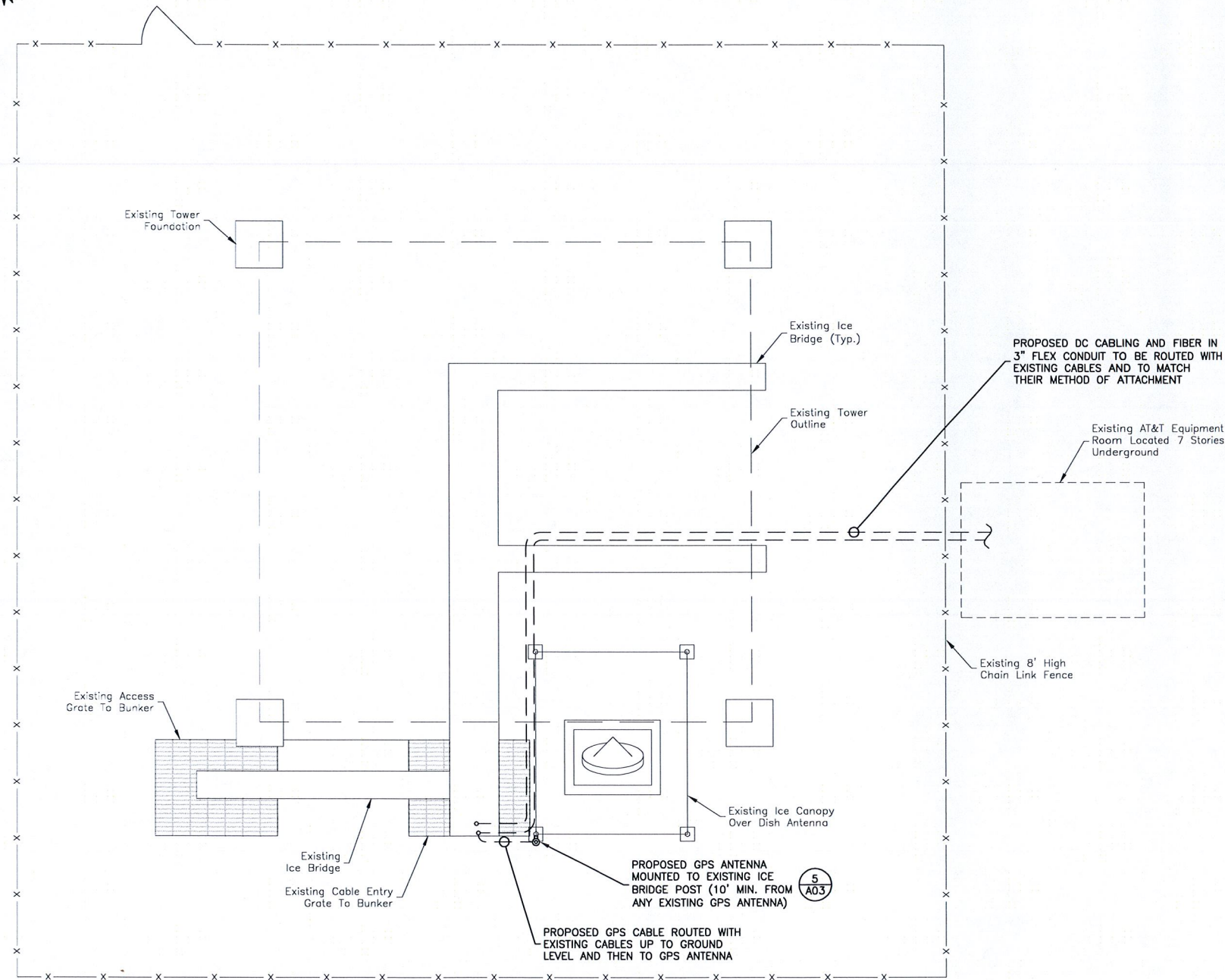
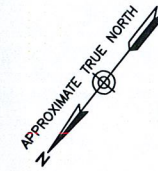
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. CONTRACTOR SHALL SUBMIT MODIFICATIONS TO PROJECT MANAGEMENT FOR APPROVAL.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM PROJECT MANAGEMENT BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



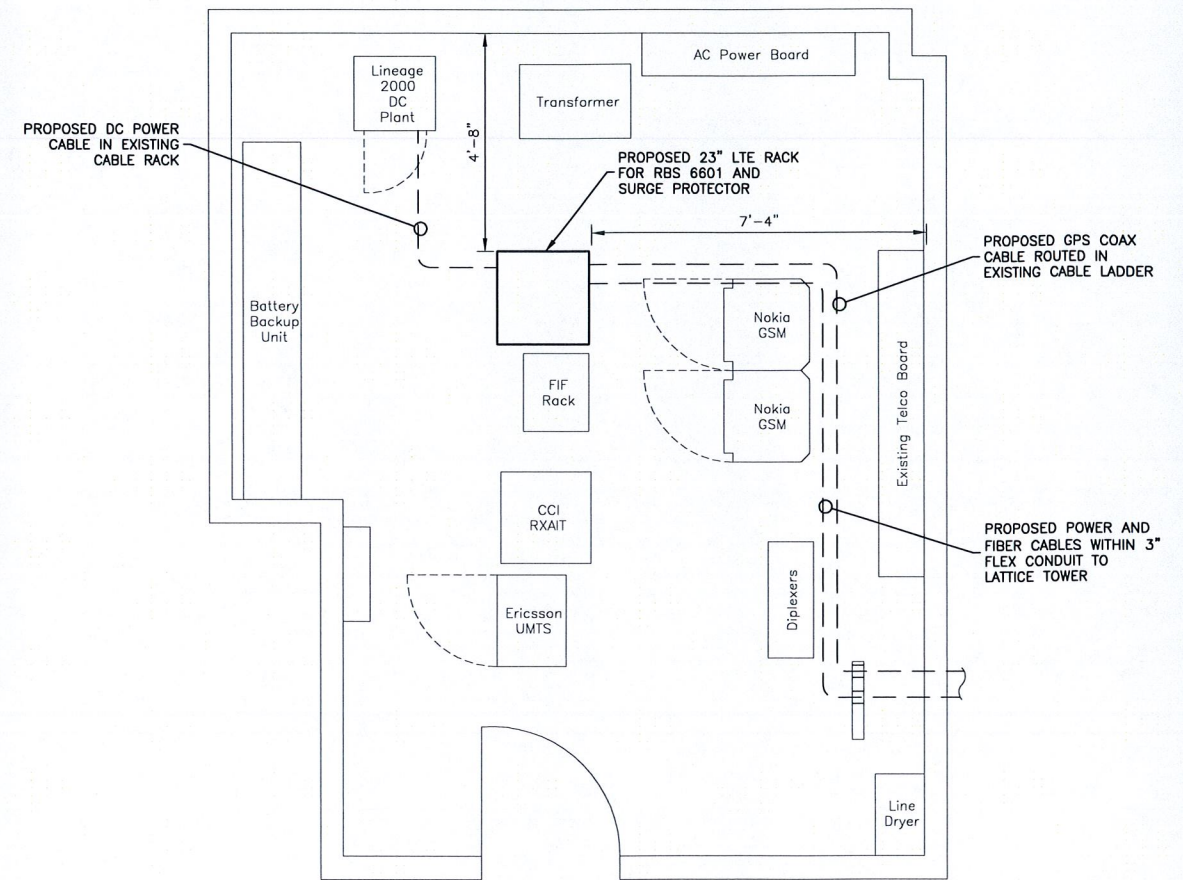
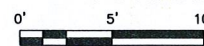
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751 HIGGINS ROAD
CHESHIRE, CT 06410



2	02/28/13	ISSUED FOR CONSTRUCTION	JME	GMN	GHN		GENERAL NOTES
1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN		
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN		
NO.	DATE	REVISIONS	BY	CHK	APP'D		
SCALE: AS SHOWN		DESIGNED BY: GHN		DRAWN BY: RSA		ROBERT J. FOLEY, P.E. CT LICENSE No. PEN.0029056	DEWBERRY NO. 50048347/50048350
							DRAWING NUMBER
							GO1
							REV
							2

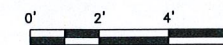


SITE PLAN
 SCALE: 1"=10' FOR 11"x17"
 1"=5' FOR 22"x34"



SHELTER LAYOUT DETAIL

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



NOTES:

1. NORTH SHOWN AS APPROXIMATE.
2. MOUNT ALL ANTENNAS, COAX, SURGE ARRESTORS, RRU's, ETC. IN ACCORDANCE WITH STRUCTURAL ANALYSIS BY OTHERS.
3. NOT ALL INFORMATION SHOWN FOR CLARITY.

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 SUITE 3A
 ROCKY HILL, CT 06067

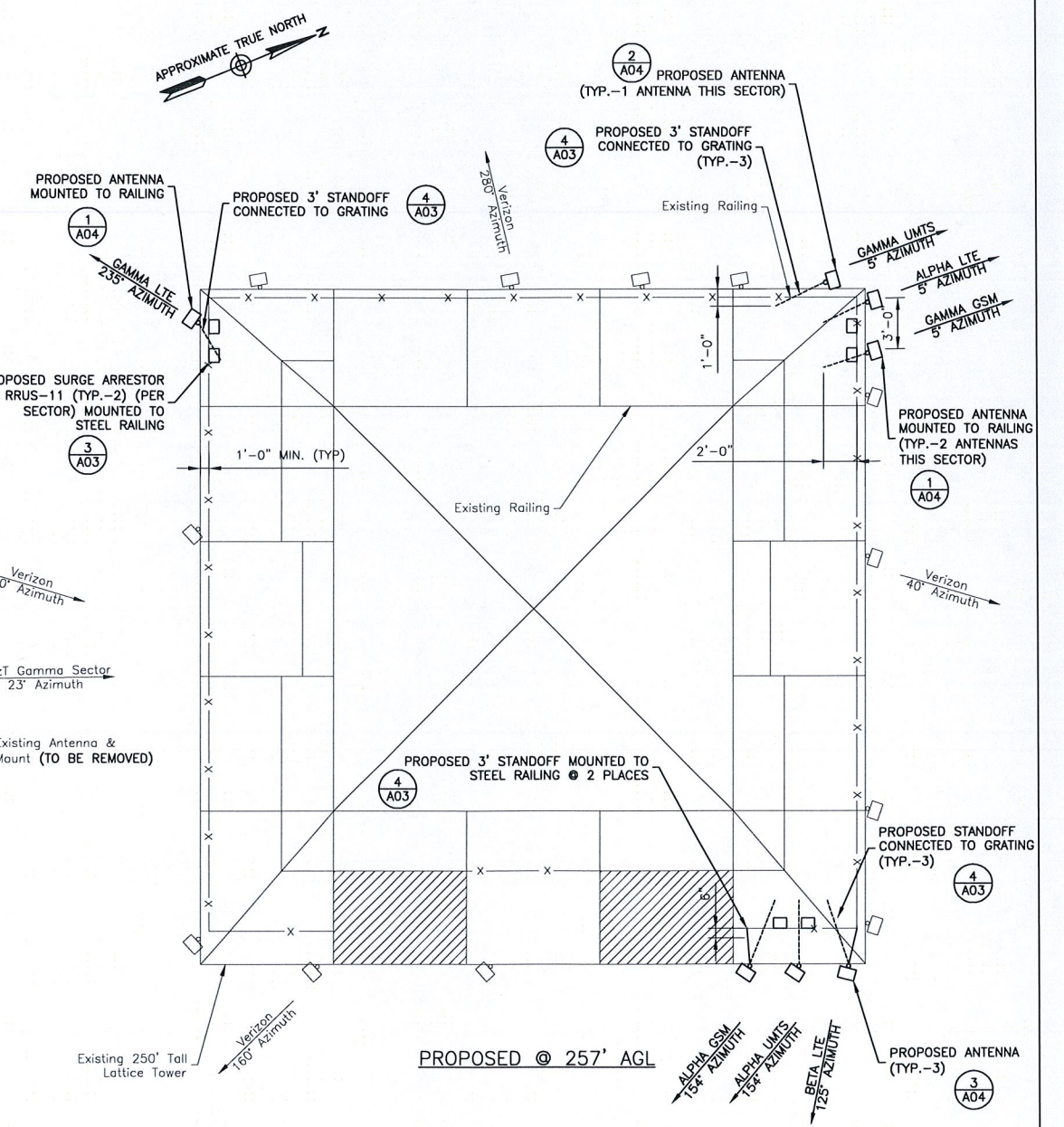
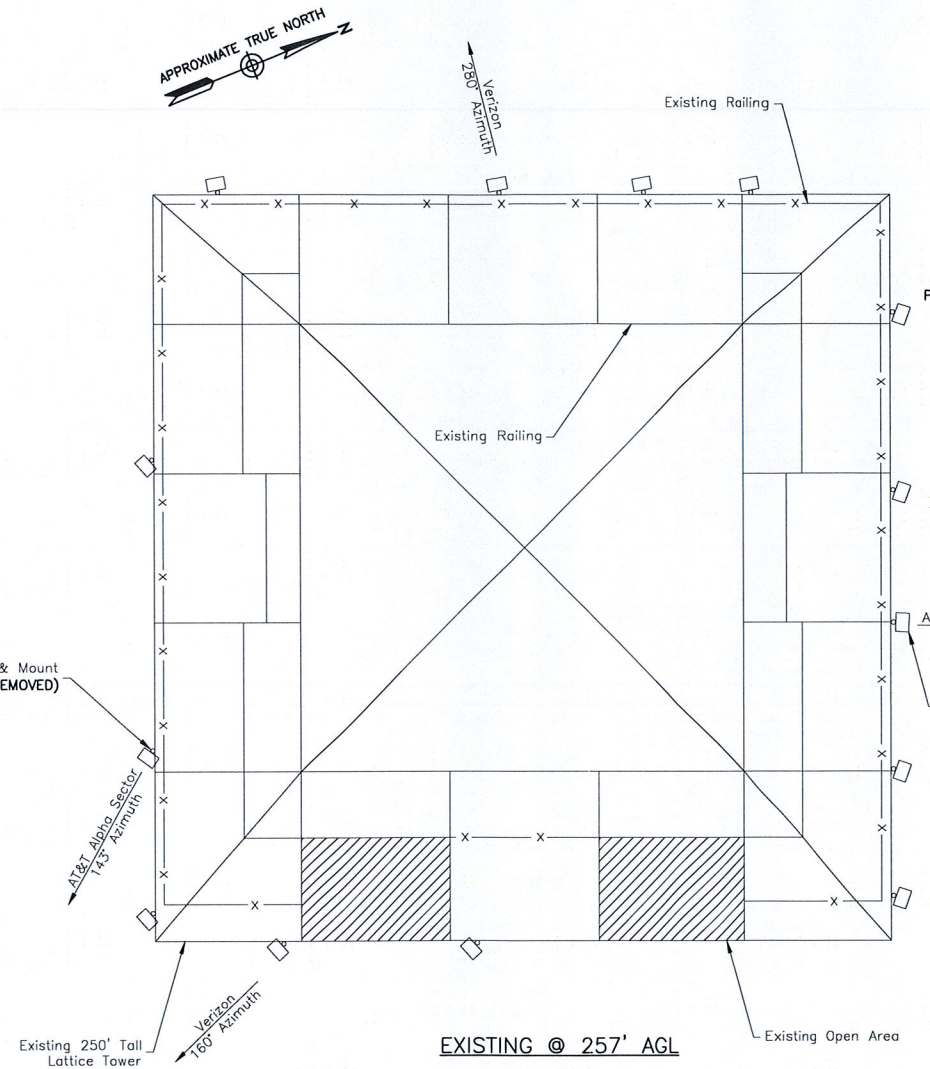
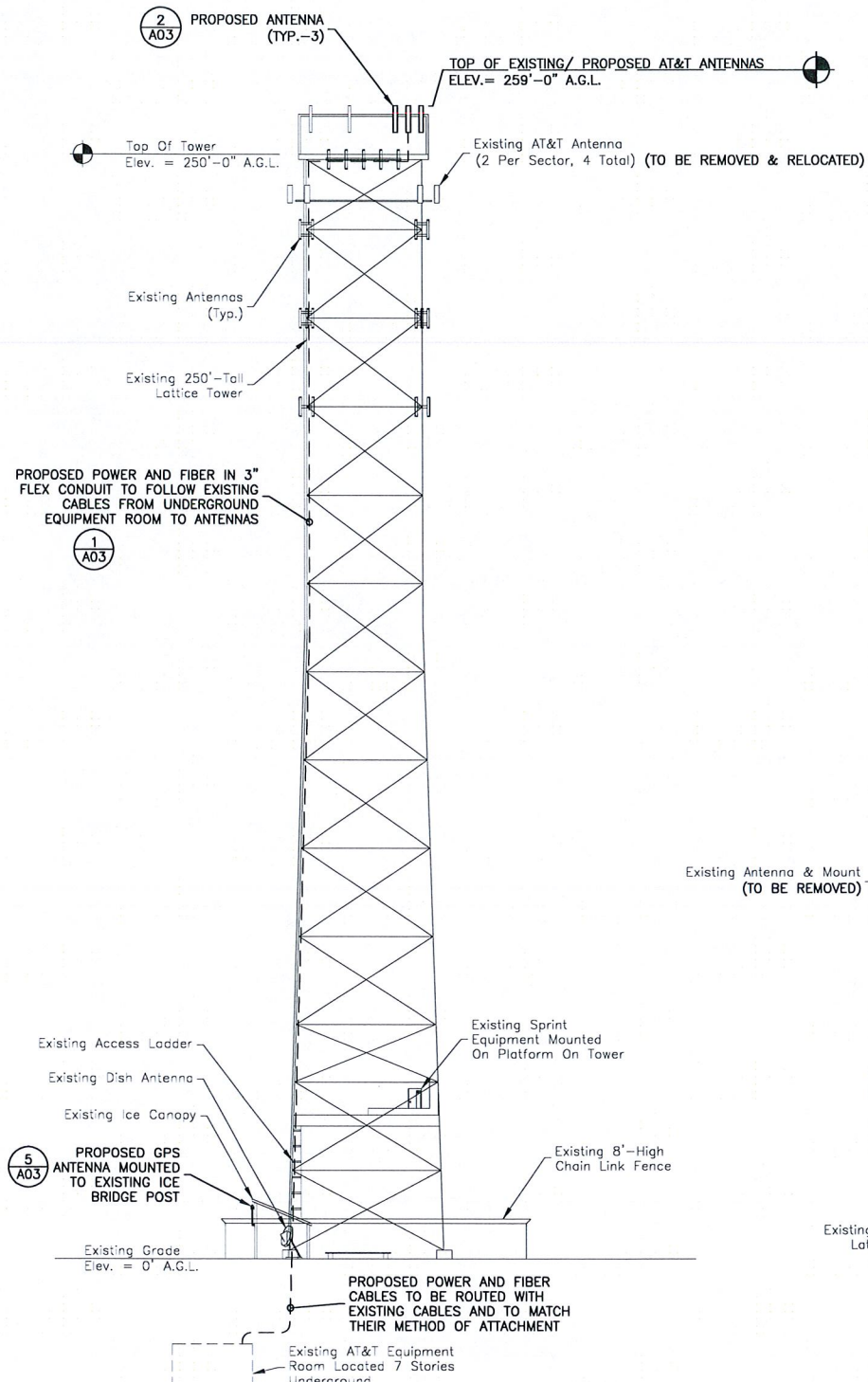
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1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN

SCALE: AS SHOWN DESIGNED BY: GHN DRAWN BY: RSA

ROBERT J. FOLEY, P.E.
 CT LICENSE No. PEN.0029056

DEWBERRY NO.	DRAWING NUMBER	REV
50048347/50048350	A01	2

SITE PLAN & SHELTER LAYOUT



NOTES:
 1. ALL ANTENNAS, MOUNTS, COAX, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS BY THE GPD GROUP.

A.G.L. = ABOVE GRADE LEVEL
 C.L. = CENTER LINE

ELEVATION (LOOKING WEST)

SCALE: 1"=40' FOR 11"x17"
 1"=20' FOR 22"x34"
 0' 20' 40'

PLATFORM ANTENNA ORIENTATION 1

SCALE: 1"=10' FOR 11"x17"
 1"=5' FOR 22"x34"



NOTES:
 1. AZIMUTHS BASED ON TRUE NORTH.
 2. FINAL ANTENNA MOUNT DESIGN TO BE DETERMINED UPON COMPLETION OF TOWER MAPPING.

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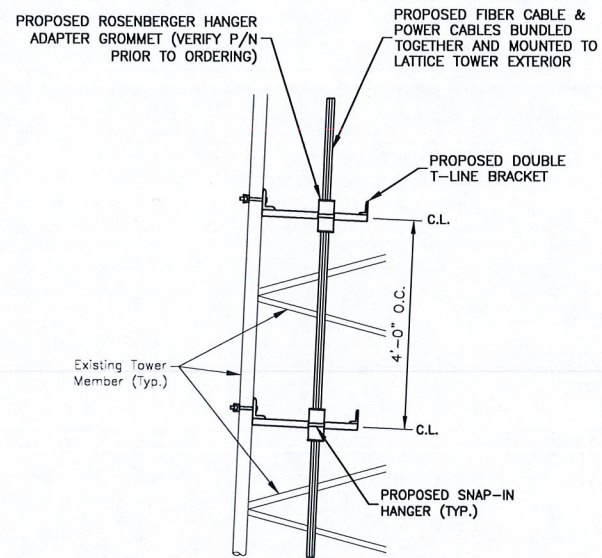
NO.	DATE	REVISIONS	BY	CHK	APP'D
2	02/28/13	ISSUED FOR CONSTRUCTION	JME	GMN	GHN
1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN

SCALE: AS SHOWN DESIGNED BY: GHN DRAWN BY: RSA

ELEVATION & CONSTRUCTION DETAILS

ROBERT J. FOLEY, P.E.
 CT LICENSE NO. PER.0029056

DEWBERRY NO.	DRAWING NUMBER	REV
50048347/50048350	A02	2



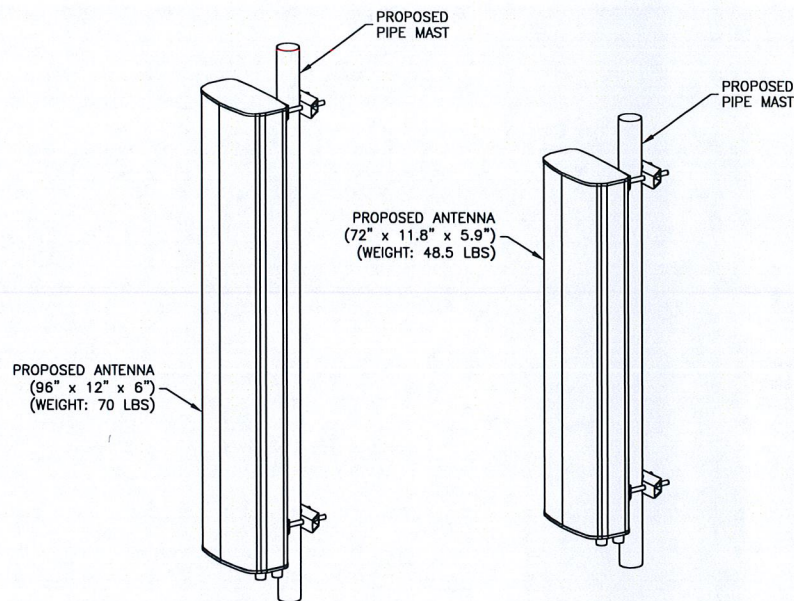
NOTES:

1. MODIFY OR IMPROVE EXISTING CABLE LADDER AS NEEDED.
2. INSTALL CONDUIT PER STRUCTURAL ANALYSIS.

VERTICAL CONDUIT DETAIL

SCALE: N.T.S.

1



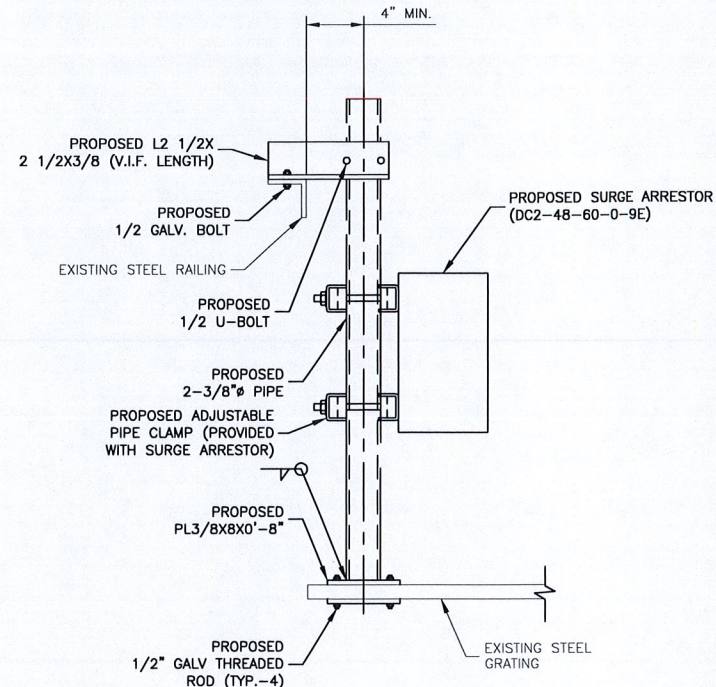
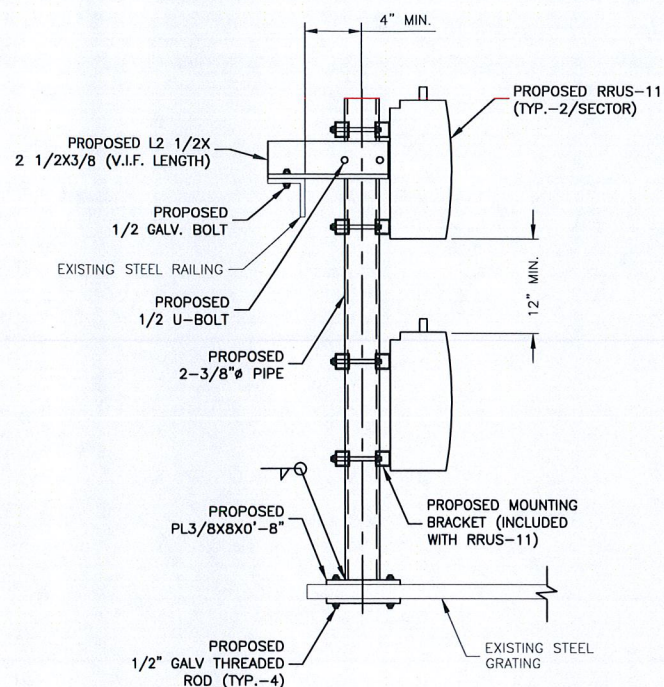
NOTE:

1. PLEASE SEE RFDS FOR SPECIFIC ANTENNA MODEL.

ISOMETRIC ANTENNA DETAILS

SCALE: N.T.S.

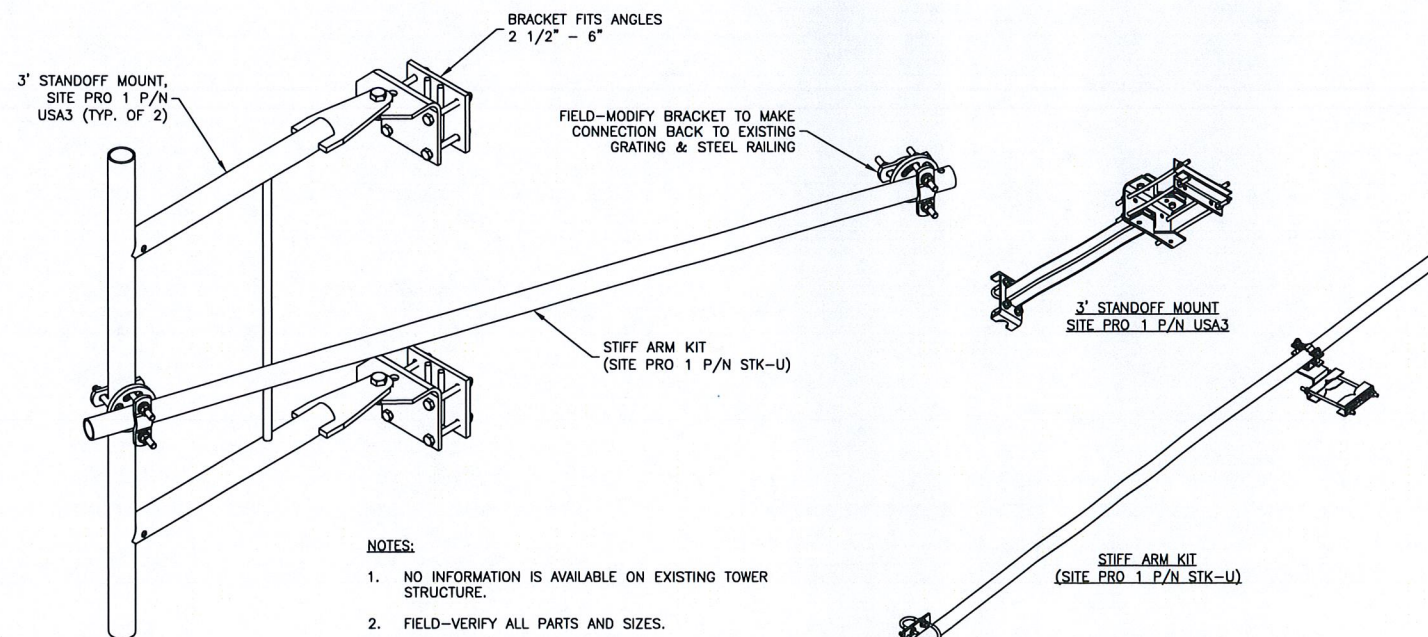
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RRUS-11 & SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.

3



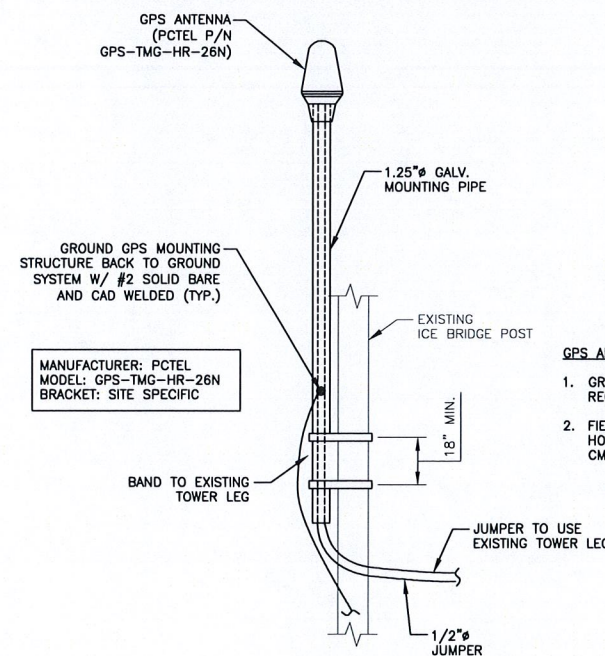
NOTES:

1. NO INFORMATION IS AVAILABLE ON EXISTING TOWER STRUCTURE.
2. FIELD-VERIFY ALL PARTS AND SIZES.
3. MOUNT SHOWN IS SITE PRO 1 P/N OR APPROVED EQUAL.
4. FIELD CUT STANDOFF TO MINIMIZE TRIP HAZARD.

3' STANDOFF MOUNT

SCALE: N.T.S.

4



GPS ANTENNA NOTES:

1. GROUND ANTENNAS AND MOUNTS PER MANUFACTURERS RECOMMENDATIONS AND AT&T STANDARDS.
2. FIELD LOCATE GPS ANTENNA A MINIMUM OF 10 FEET HORIZONTALLY FROM EXISTING GPS ANTENNA WITH AT&T CM APPROVAL.

GPS ANTENNA MOUNT

SCALE: N.T.S.

5

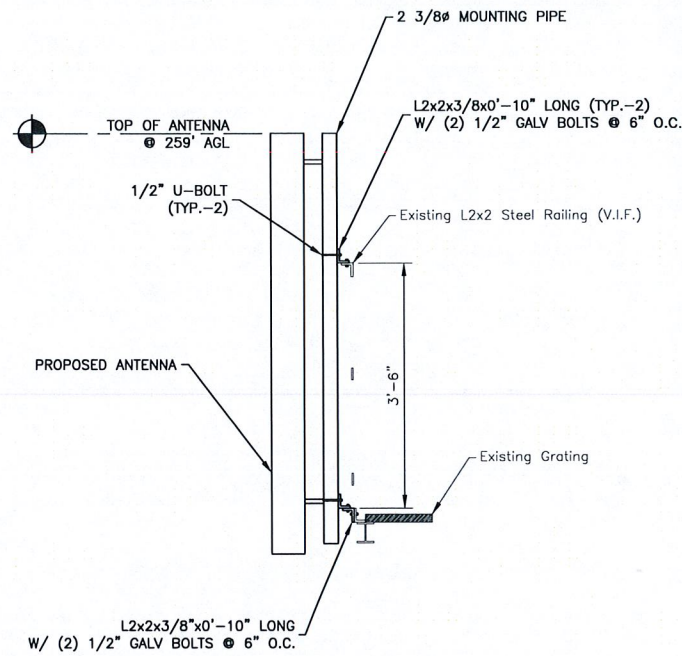
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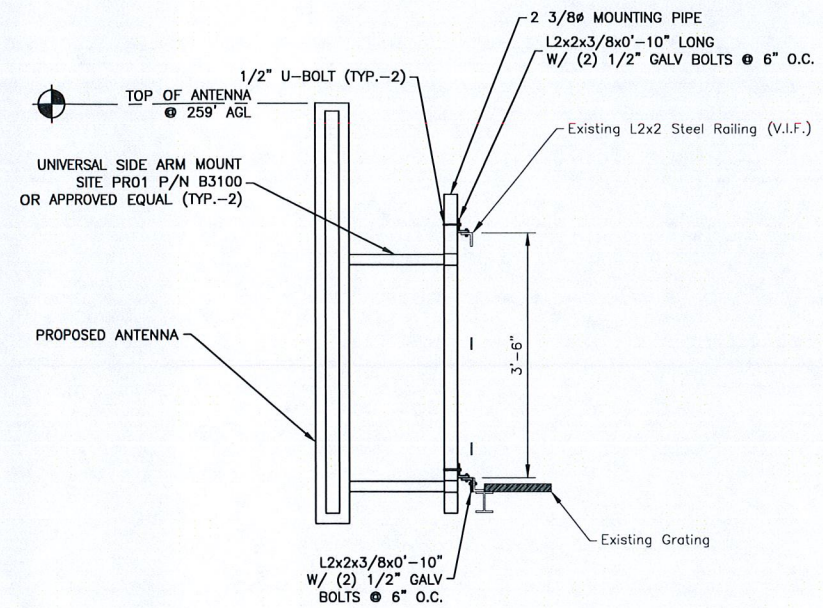
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2	02/28/13	ISSUED FOR CONSTRUCTION	JME	GMN	GHN		CONSTRUCTION DETAILS-1 DEWBERRY NO. 50048347/50048350 DRAWING NUMBER A03 REV 2
1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN		
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN		
NO.	DATE	REVISIONS	BY	CHK	APP'D	ROBERT J. FOLEY, P.E. CT LICENSE NO. PEN.0029056	
SCALE: AS SHOWN			DESIGNED BY: GHN		DRAWN BY: RSA		



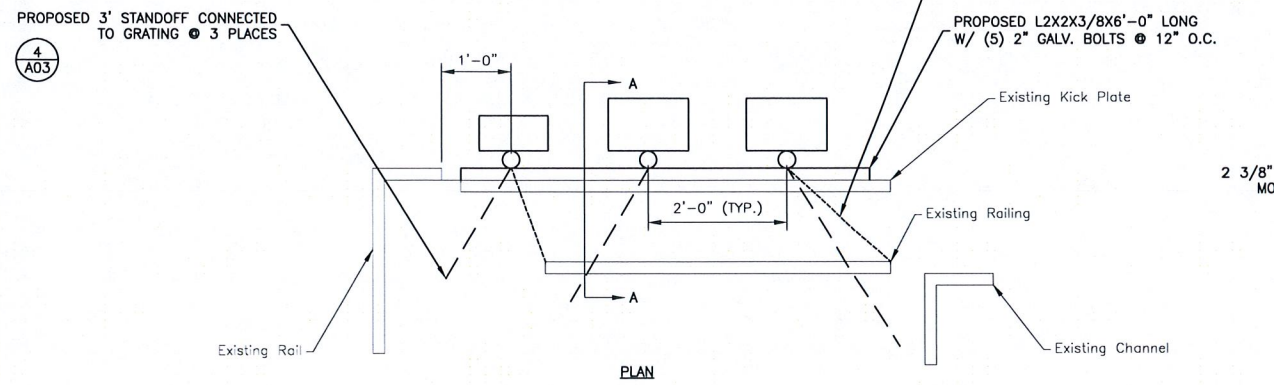
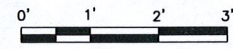
ANTENNA MOUNT DESIGN ①

SCALE: 3/8"=1' FOR 11"x17"
3/4"=1' FOR 22"x34"



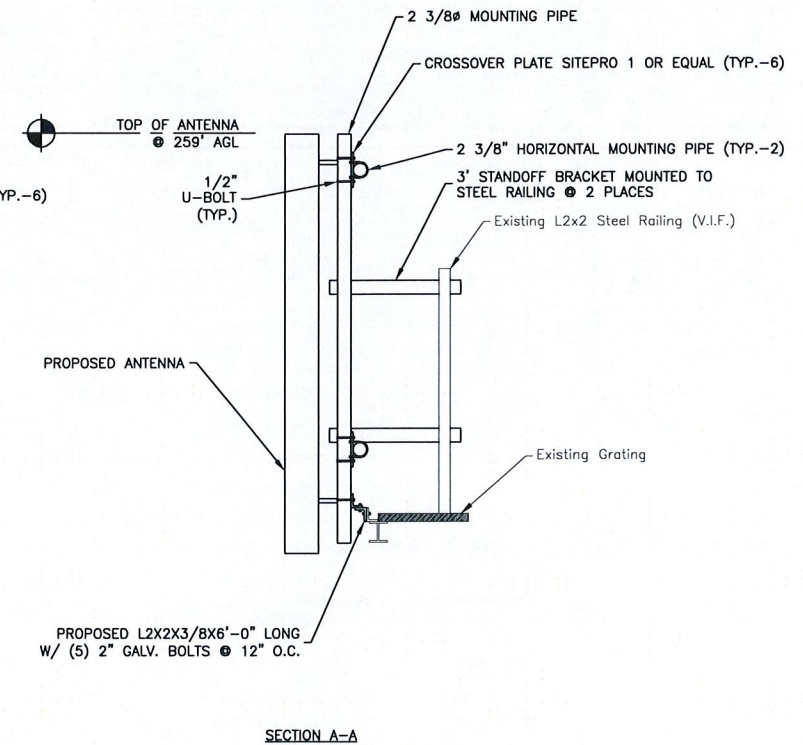
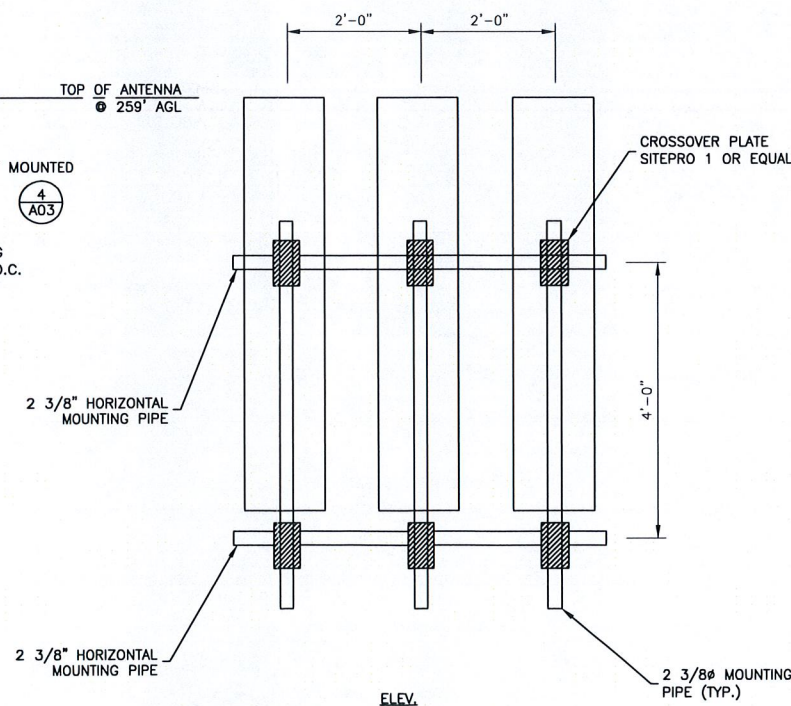
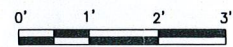
ANTENNA MOUNT DESIGN ②

SCALE: 3/8"=1' FOR 11"x17"
3/4"=1' FOR 22"x34"



ANTENNA MOUNT DESIGN ③

SCALE: 3/8"=1' FOR 11"x17"
3/4"=1' FOR 22"x34"



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NO.	DATE	REVISIONS	BY	CHK	APP'D
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1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN
SCALE: AS SHOWN DESIGNED BY: GHN DRAWN BY: RSA					

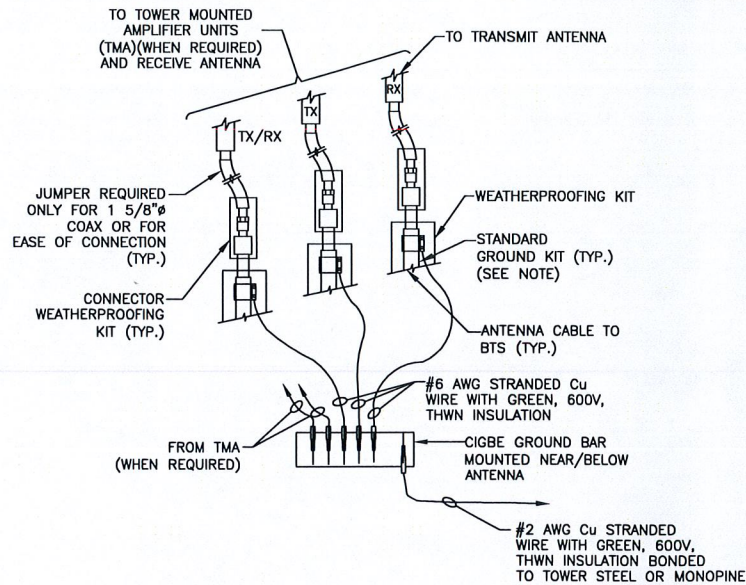
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CT LICENSE No. PEN.0029056

CONSTRUCTION DETAILS-2

DEWBERRY NO.	DRAWING NUMBER	REV
50048347/50048350	A04	2

GROUNDING NOTES:

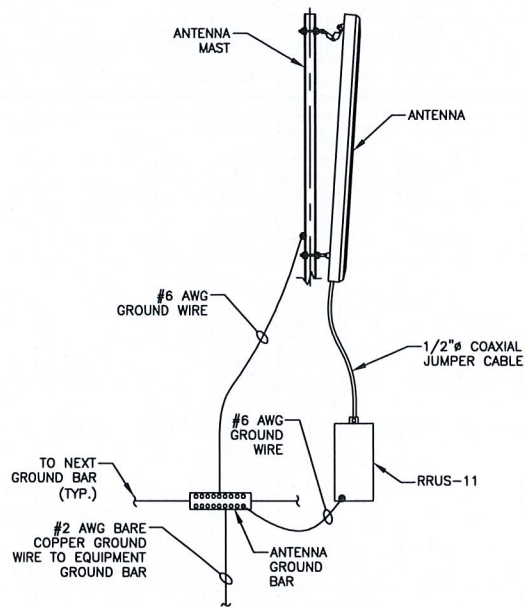
- THE CONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE CONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS. ALL AVAILABLE GROUNDING ELECTRODES SHALL BE CONNECTED TOGETHER IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
- THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO TRANSMISSION EQUIPMENT.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
- EACH INTERIOR TRANSMISSION CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM SAI COMMUNICATIONS MARKET REPRESENTATIVE.
- EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
- ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
- ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTURAL STEEL.
- COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO-HOLE MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
- APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER GROUND CONDUCTOR. DURING EXCAVATION FOR NEW GROUND CONDUCTORS, IF EXISTING GROUND CONDUCTORS ARE ENCOUNTERED, BOND EXISTING GROUND CONDUCTORS TO NEW CONDUCTORS.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



NOTE:

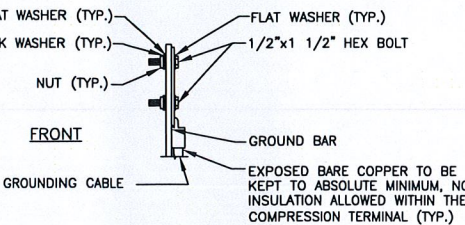
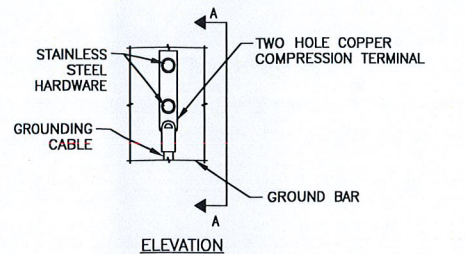
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE)



TYPICAL ANTENNA GROUNDING DETAIL

SCALE: N.T.S.



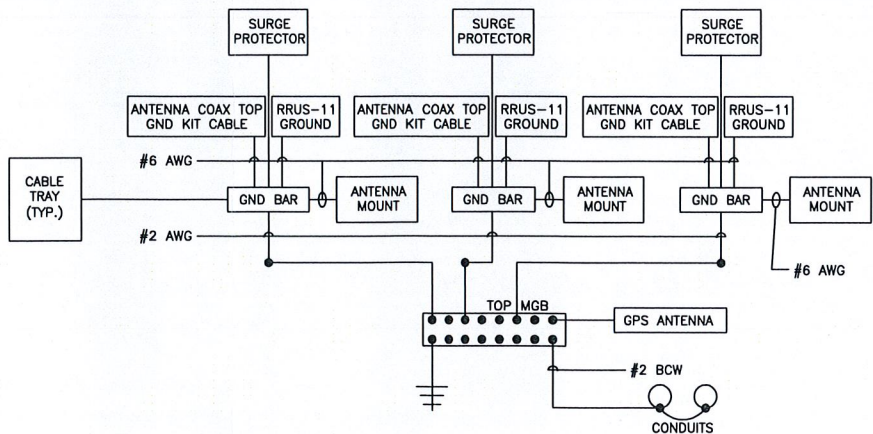
SECTION 'A-A'

NOTES:

- DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED.
- OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL

SCALE: N.T.S.

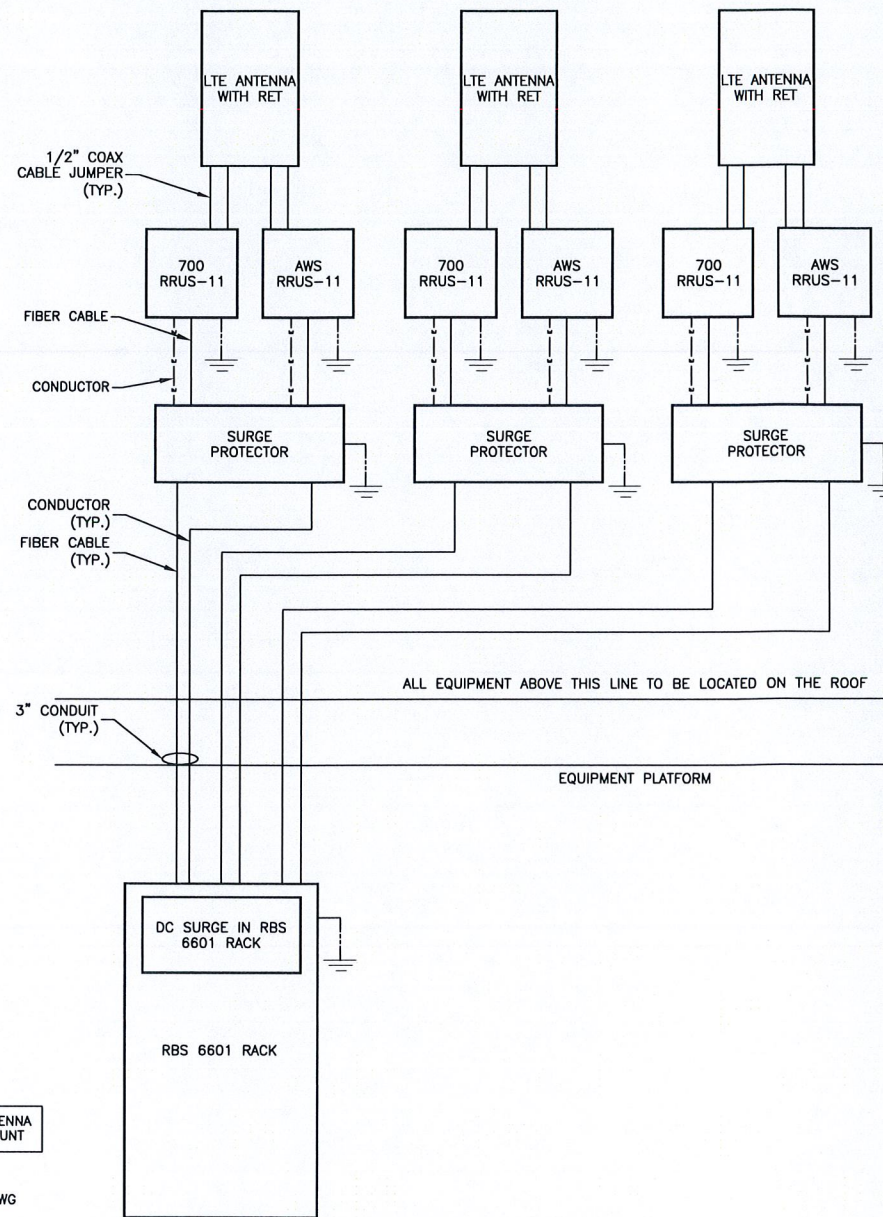


NOTES:

- BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
- BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE.

SCHEMATIC GROUNDING DIAGRAM

SCALE: N.T.S.



NOTES:

- CONTRACTOR TO CONFIRM ALL PARTS.
- INSTALL ALL EQUIPMENT TO MANUFACTURER RECOMMENDATION.

PLUMBING DIAGRAM

SCALE: N.T.S.

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2	02/28/13	ISSUED FOR CONSTRUCTION	JME	GMN	GHN
1	12/11/12	ISSUED FOR CONSTRUCTION	DHD	GMN	GHN
0	03/09/12	PRELIMINARY SUBMISSION	RSA	GMN	GHN
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: GHN	DRAWN BY: RSA		

[Signature]
ROBERT J. FOLEY, P.E.
CT LICENSE NO. PEN.0029056

GROUNDING DETAILS	
DEWBERRY NO.	DRAWING NUMBER
50048347/50048350	E01
	REV
	2