smartlink

June 24, 2014

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

Re: **Notice of Exempt Modification – Antenna Swap**
Property Address: **At Birch Mountain Road, Glastonbury, CT 06033 (the "Property")**
Applicant: **New Cingular Wireless PCS, LLC ("AT&T")**

Dear Ms. Bachman:

On behalf of AT&T please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72(b)(2).

AT&T currently maintains nine (9) wireless telecommunication antennas at an antenna centerline of 128' on an existing 127' tower owned by Southern New England Telephone Company (AT&T Corp.) and located on the Property (the "Tower"). The Council approved AT&T's use of the Tower in the following prior decisions: Dockets No. EM-AT&T-054-021004, EM-CING-054-061122, EM-CING-054-090311 and EM-CING-054-121016.

AT&T now intends to replace six (6) of the existing panel antennas and add three (3) panel antennas, totaling twelve (12) panel antennas at the 128-foot level. Included in Attachment 1 are specifications for the replacement antennas.

In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to Richard J. Johnson, Town Manager, for the town of Glastonbury, CT. A copy of this letter is also being sent to Southern New England Telephone Company (AT&T Corp.), the owner of the property where the tower is located.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in height of the existing tower. AT&T's replacement antennas will be installed at the 128 foot level of the 127 foot tower.

33 Boston Post Road West, Marlborough, Massachusetts 01752
p: 508.954.7702 • adam.braillard@smartlinkllc.com
www.smartlinkllc.com

2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the General Power Density table included in Attachment 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Attachment 3).

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b)(2).

Sincerely,

Adam F. Braillard

Enclosures

Cc w/enclosures
Southern New England Telephone Company (AT&T Corp.)
575 Morosgo Dr. Suite 13-F West Tower, Atlanta, GA 30324
Richard J. Johnson, Town Manager
2155 Main Street, Glastonbury, CT 06033

33 Boston Post Road West, Marlborough, Massachusetts 01752
p: 508.954.7702 • adam.braillard@smartlinkllc.com
www.smartlinkllc.com

TAB 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING TOWER:
- NEW SECTOR FRAMES TO REPLACE EXISTING SECTOR FRAMES
- NEW AT&T ANTENNAS: (3) ANTENNAS PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) ANTENNAS
- NEW AT&T RRU'S: (5) RRU'S PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (15) RRU'S
- NEW AT&T SURGE SUPPRESSOR: (2) RAYCAP SURGE SUPPRESSORS
- NEW AT&T TMA'S: (3) TMA'S TO REPLACE ALL EXISTING TMA'S

ITEMS TO BE INSTALLED AT AT&T EQUIPMENT AREA:
- (2) 23" RACK WITH RXAIT
- (1) GE INFINITY DC POWER PLANT

ITEMS TO REMAIN:
(3) GSM/UMTS ANTENNAS, (3) RRU'S, & (1) SURGE SUPPRESSOR TO BE RELOCATED TO NEW SECTOR FRAMES

SITE ADDRESS:	BIRCH MOUNTAIN ROAD GLASTONBURY, CT 06033
LATITUDE:	41.7098 N 41° 42' 32.04" N
LONGITUDE:	−72.4744 W 72° 28' 27.84" W
USID:	59349
TOWER MANAGER:	AT&T MOBILITY 550 COCHITUATE ROAD FRAMINGHAM, MA 01701
PROPERTY OWNER:	SOUTHERN NEW ENGLAND TELEPHONE COMPANY c/o PROPERTY TAX ADMINISTRATION ONE SBC CENTER RM 36 M01 ST. LOUIS, MO 63101
TYPE OF SITE:	LATTICE TOWER/INDOOR EQUIPMENT
TOWER HEIGHT:	127'−0"±
RAD CENTER:	128'−0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

FA NUMBER: 10034994
SITE NUMBER: CT1038
SITE NAME: GLASTONBURY

PROJECT TEAM

CLIENT REPRESENTATIVE
COMPANY: SMARTLINK, LLC
ADDRESS: 1997 ANNAPOLIS EXCHANGE PARKWAY, SUITE 200
CITY, STATE, ZIP: ANNAPOLIS, MD 21401
CONTACT: TIM BOYCE
PHONE: (980) 333−3640
E−MAIL: tboyce@smartlinkllc.com

SITE ACQUISITION
COMPANY: SMARTLINK, LLC
ADDRESS: 33 BOSTON POST ROAD WEST, SUITE 210
CITY, STATE, ZIP: MARLBOROUGH, MA 01752
CONTACT: TODD OLIVER
PHONE: (774) 369−3618
E−MAIL: todd.oliver@smartlinkllc.com

ENGINEERING
COMPANY: HUDSON DESIGN GROUP, LLC.
ADDRESS: 1600 OSGOOD STREET BUILDING 20 NORTH, SUITE 3090
CITY, STATE, ZIP: NORTH ANDOVER, MA 01845
CONTACT: DANIEL P. HAMM, PE
PHONE: (978) 557−5553 X222
E−MAIL: daniel.hamm@hudsondesigngroupllc.com

RF ENGINEER
COMPANY: AT&T MOBILITY −NEW ENGLAND
ADDRESS: 550 COCHITUATE ROAD SUITE 550 13 AND 14
CITY, STATE, ZIP: FRAMINGHAM, MA 01701
CONTACT: CAMERON SYME
PHONE: (508) 596−7146
E−MAIL: cs6970@att.com

CONSTRUCTION MANAGER
COMPANY: SMARTLINK, LLC.
ADDRESS: 33 BOSTON POST ROAD WEST SUITE 210
CITY, STATE, ZIP: MARLBOROUGH, MA 01752
CONTACT: JERRY BRUNO
PHONE: (508) 920−7349
E−MAIL: jerry.bruno@smartlinkllc.com

DRAWING INDEX

VICINITY MAP

DIRECTIONS TO SITE:
FROM FRAMINGHAM, MA:
DEPART RT−30 W / COCHITUATE RD TOWARD BURR ST. 0.3 MI. TURN BACK ON RT−30 E / COCHITUATE RD. 0.3 MI. TAKE RAMP RIGHT FOR I−90 WEST TOWARD WORCESTER / SPRINGFIELD. TOLL ROAD. 38.9 MI. AT EXIT 9, TAKE RAMP RIGHT FOR I−84 TOWARD NEW YORK CITY / HARTFORD. STOP FOR TOLL BOOTH. ENTERING CONNECTICUT. 37.8 MI. AT EXIT 59, TAKE RAMP RIGHT FOR I−384 EAST TOWARD SILVER LANE. 4.7 MI. AT EXIT 3, TAKE RAMP RIGHT FOR CT−83 TOWARD GLASTONBURY / DOWNTOWN MANCHESTER. 0.3 MI. TURN LEFT ONTO CT−83 / S MAIN ST. 2.7 MI. TURN LEFT TO STAY ON CT−83 / MANCHESTER RD. 1.0 MI. TURN LEFT ONTO CT−94 / HEBRON AVE. 2.8 MI. TURN LEFT ONTO BIRCH MOUNTAIN RD. 0.2 MI. ARRIVE AT SITE ON THE LEFT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

DISCIPLINE:	SIGNATURE:	DATE:
SMARTLINK SITE ACQUISITION:		
SMARTLINK CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

72 HOURS
BEFORE YOU DIG
CALL TOLL FREE 800−922−4455
UNDERGROUND SERVICE ALERT

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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550 COCHITUATE ROAD
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SCALE: AS SHOWN DESIGNED BY: TH DRAWN BY: SB

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

TITLE SHEET
(LTE−2C)

JOB NUMBER	DRAWING NUMBER	REV
1038.01	T−1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR 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 SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. 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 IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. 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 BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – SMARTLINK
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR 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.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR 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.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. 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.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S 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: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
   ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
   LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'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; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL

Hudson Design Group LLC
1600 OSGOOD STREET
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TEL: (978) 557-5553
FAX: (978) 336-5586

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SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: SB

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE-2C)

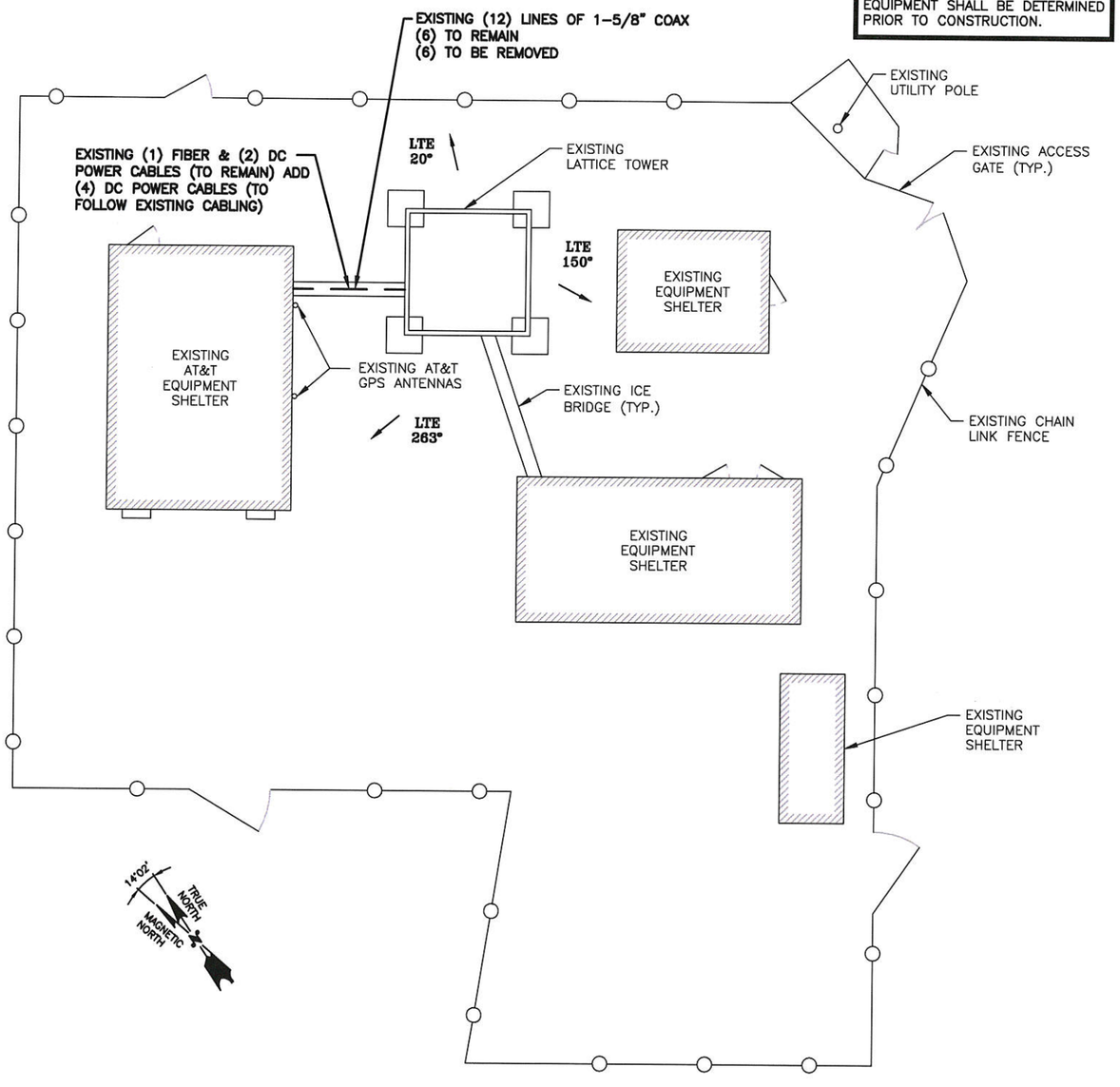
JOB NUMBER	DRAWING NUMBER	REV
1038.01	GN-1	1

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

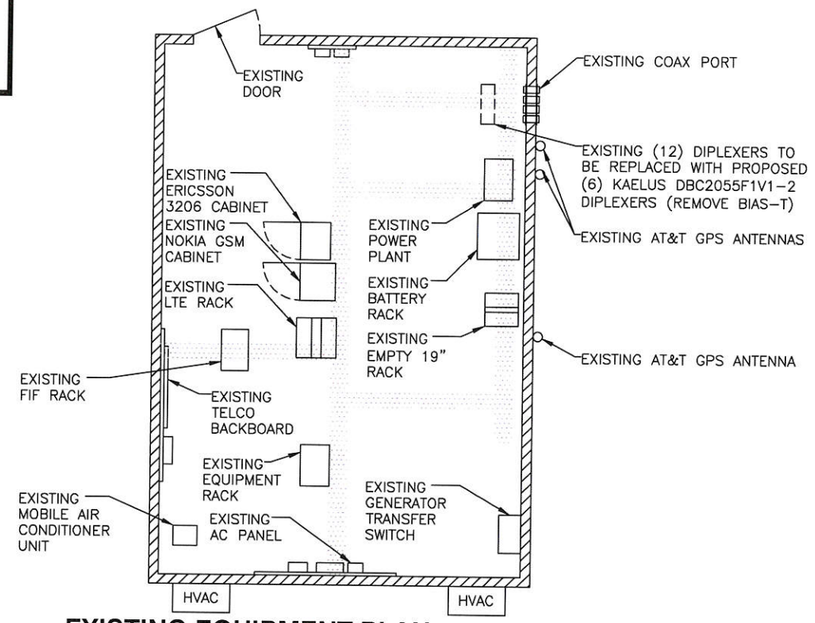
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



COMPOUND PLAN

SCALE: 1/8"=1'-0"

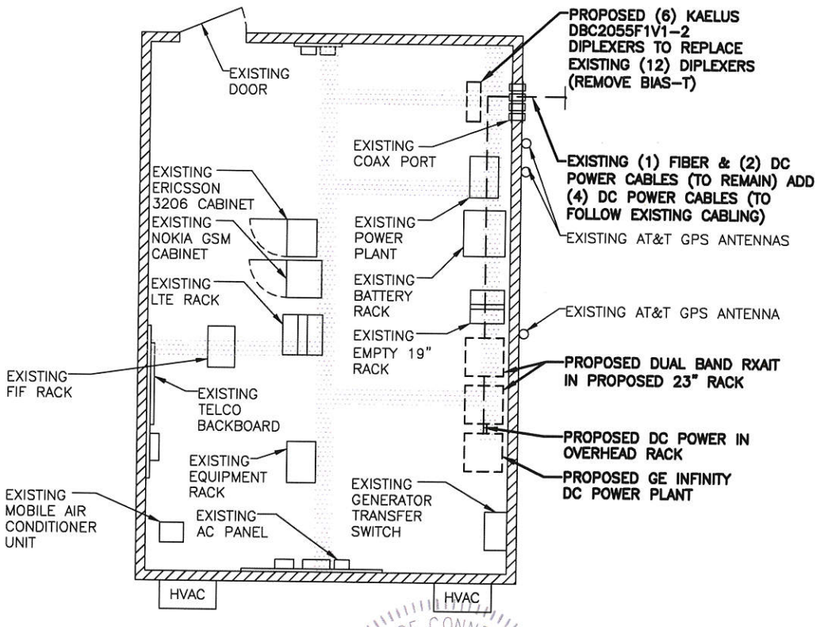
0 4'-0" 8'-0" 16'-0" 24'-0"



EXISTING EQUIPMENT PLAN

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

0 2'-0" 4'-0" 8'-0" 12'-0"



PROPOSED EQUIPMENT PLAN

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

0 2'-0" 4'-0" 8'-0" 12'-0"

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AT&T

COMPOUND & EQUIPMENT PLAN
(LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
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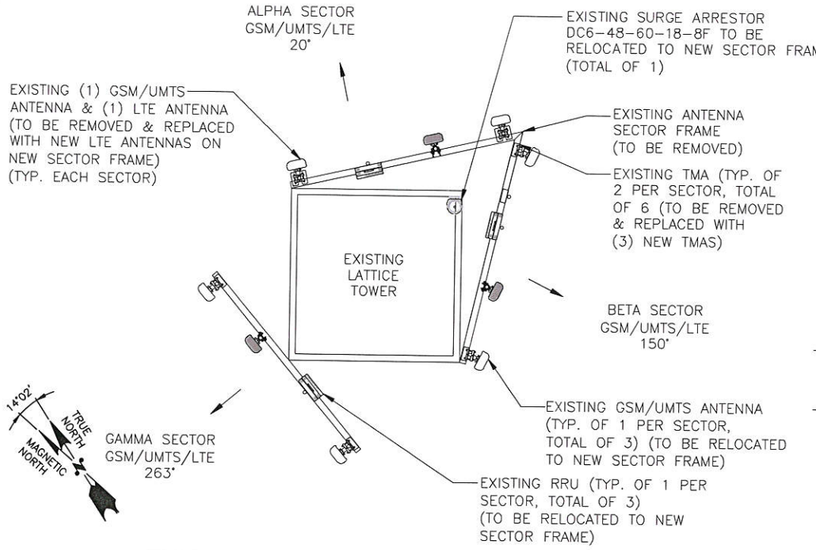
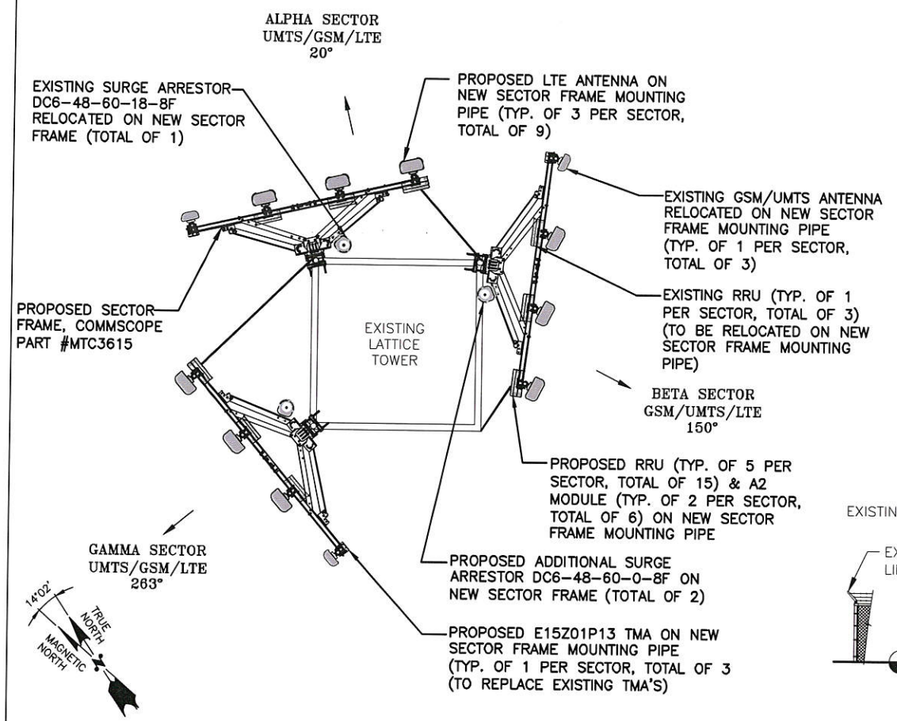


EXISTING ANTENNA LAYOUT

SCALE: N.T.S.



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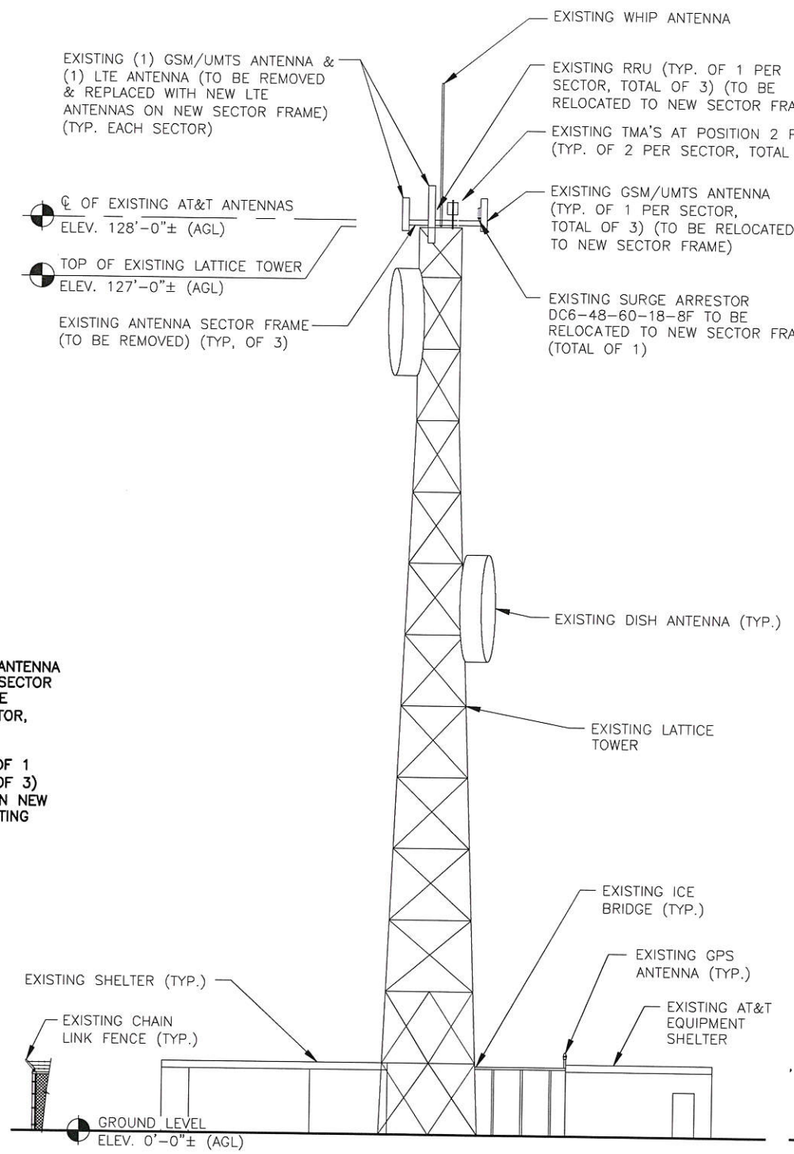


EXISTING NORTHEAST ELEVATION

SCALE: 3/32"=1'-0"

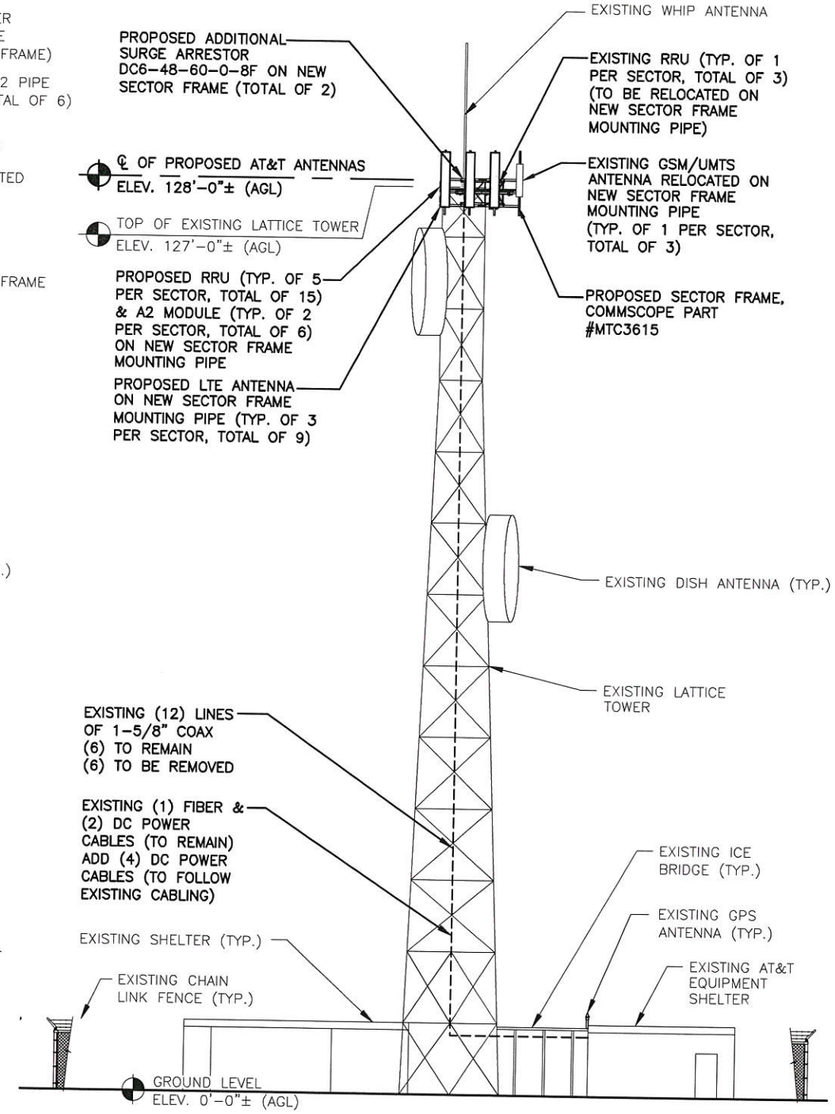
0 5'-4" 10'-8" 21'-4" 32'-0"

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



PROPOSED NORTHEAST ELEVATION

SCALE: 3/32"=1'-0"

0 5'-4" 10'-8" 21'-4" 32'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

smartlink
1997 ANNAPOLIS EXCHANGE PKWY
SUITE 200
ANNAPOLIS, MD 21401

SITE NUMBER: CT1038
SITE NAME: GLASTONBURY
BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/13/14	ISSUED FOR CONSTRUCTION	CV	RP	DPH
0	04/07/14	ISSUED FOR REVIEW	SG	TH	DPH
A	02/19/14	ISSUED FOR REVIEW	SB	TH	DPH

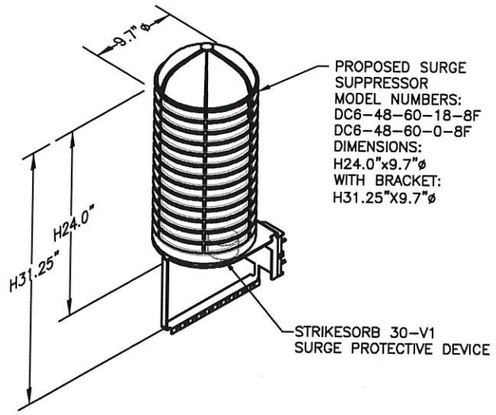
SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: SB

STATE OF CONNECTICUT
Daniel P. Hamm
No. 24175
LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUT AND ELEVATION
(LTE-2C)

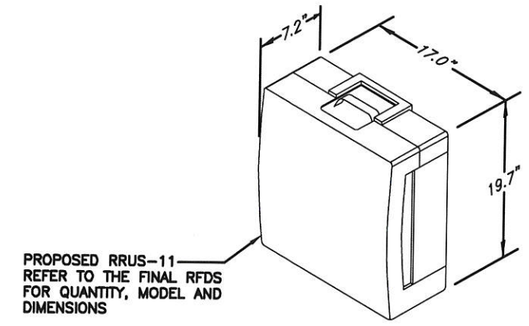
JOB NUMBER	DRAWING NUMBER	REV
1038.01	A-2	1



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRU DETAIL

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

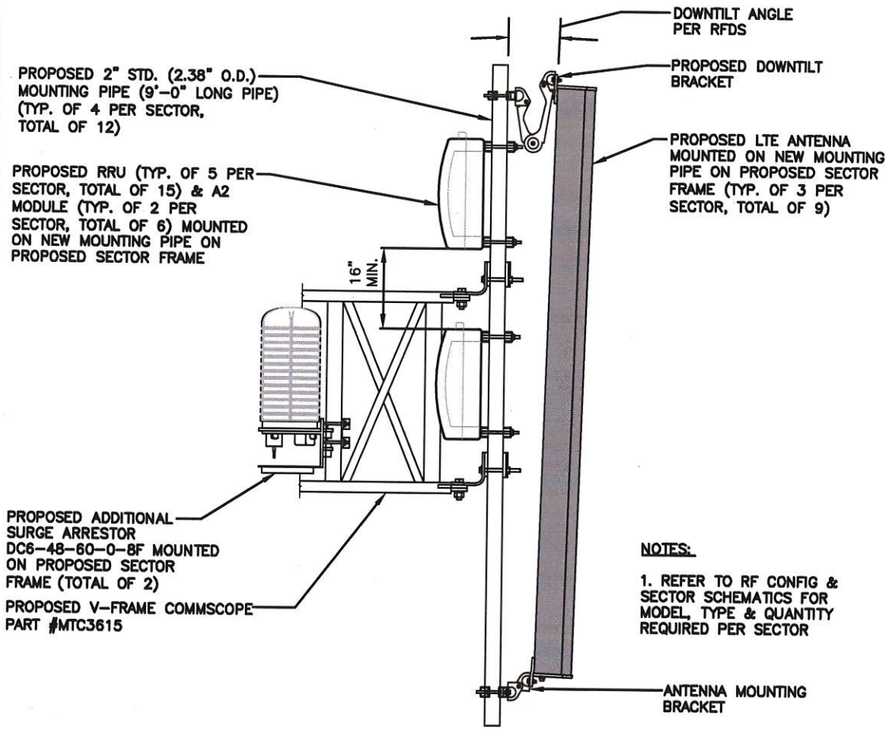
SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	POWERWAVE	7770	55X11X5
	POWERWAVE	P65-17-XLH-RR	96x12.3x6
	POWERWAVE	7770	55X11X5
BETA:	POWERWAVE	7770	55X11X5
	KMW	AM-X-CD-16-65-00	96.0x11.8x6.1
	POWERWAVE	7770	55X11X5
GAMMA:	POWERWAVE	7770	55X11X5
	ANDREW	SBNH-1D6565C	96.4x11.9x7.1
	POWERWAVE	7770	55X11X5

PROPOSED ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	POWERWAVE	7770	55X11X5
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4
BETA:	POWERWAVE	7770	55X11X5
	CCI	HPA-65R-BUU-H6-K	72.0x14.8X7.4
	CCI	HPA-65R-BUU-H6-K	72.0x14.8X7.4
	CCI	HPA-65R-BUU-H6-K	72.0x14.8X7.4
GAMMA:	POWERWAVE	7770	55X11X5
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4
	CCI	HPA-65R-BUU-H8-K	92.4x14.8X7.4

PROPOSED RRU SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-E2	20.0X20.4X9.5
	ERISSSON	RRUS-32	26.7X12.1X6.7
	ERICSSON	A2 MODULE	16.4X15.2X3.4
	ERICSSON	A2 MODULE	16.4X15.2X3.4
BETA:	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-E2	20.0X20.4X9.5
	ERISSSON	RRUS-32	26.7X12.1X6.7
	ERICSSON	A2 MODULE	16.4X15.2X3.4
	ERICSSON	A2 MODULE	16.4X15.2X3.4
GAMMA:	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-12	20.4X18.5X7.4
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-11	19.69X16.97X7.17
	ERICSSON	RRUS-E2	20.0X20.4X9.5
	ERISSSON	RRUS-32	26.7X12.1X6.7
	ERICSSON	A2 MODULE	16.4X15.2X3.4
	ERICSSON	A2 MODULE	16.4X15.2X3.4

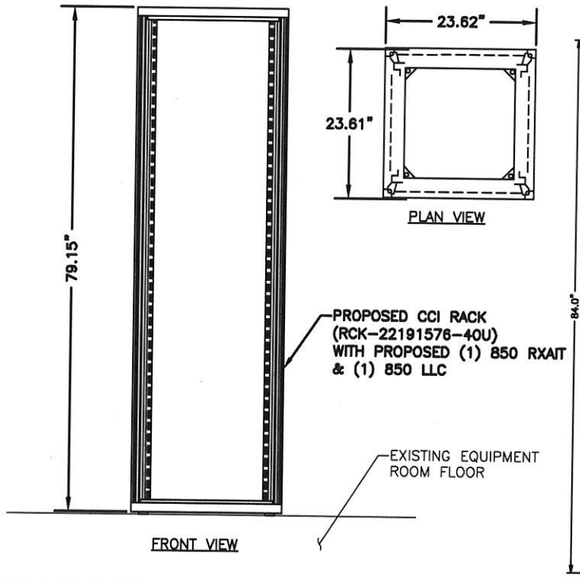


NOTES:

1. REFER TO RF CONFIG & SECTOR SCHEMATICS FOR MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

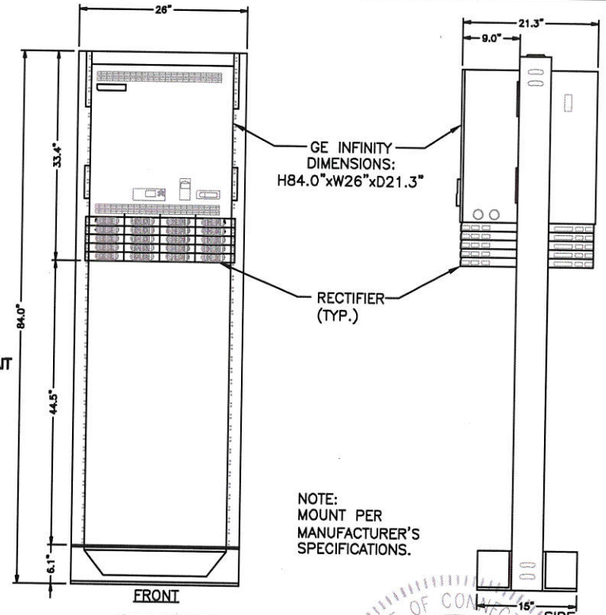
PROPOSED LTE ANTENNA, RRU, & SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED RXAIT RACK DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

GE INFINITY POWER PLANT

SCALE: N.T.S.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
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1997 ANNAPOLIS EXCHANGE PKWY
SUITE 200
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SITE NUMBER: CT1038
SITE NAME: GLASTONBURY
BIRCH MOUNTAIN ROAD
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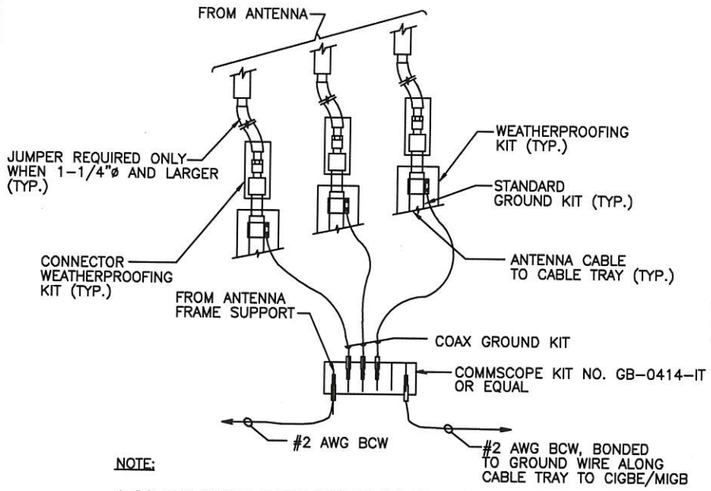
SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: SB

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS (LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
1038.01	A-3	1

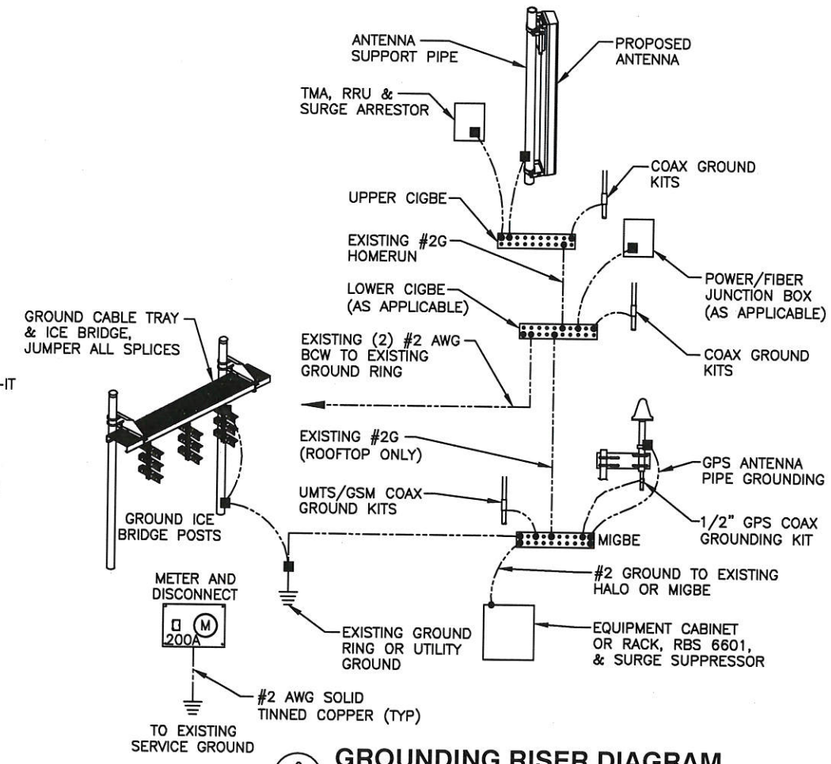


NOTE:

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

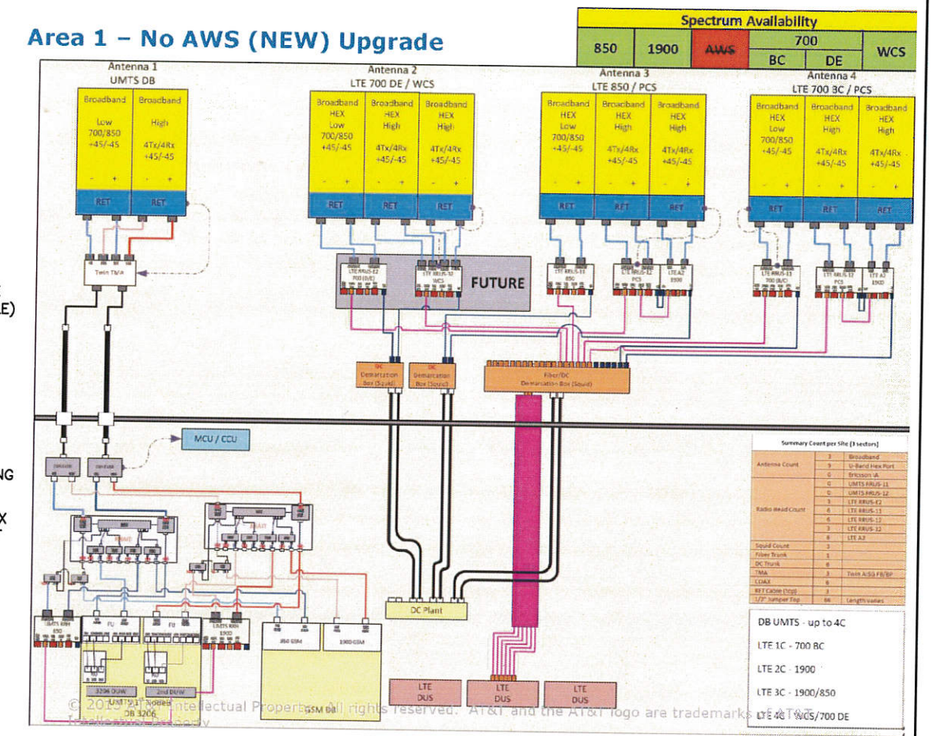
1 GROUND WIRE TO GROUND BAR CONNECTION DETAIL

N.T.S.



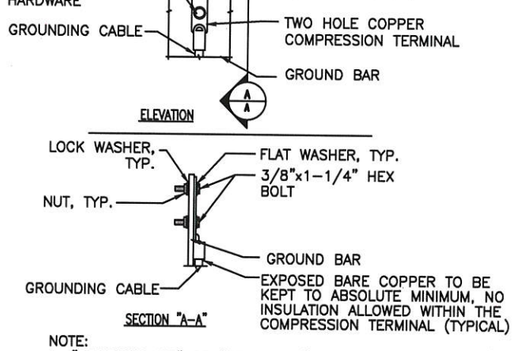
2 GROUNDING RISER DIAGRAM

N.T.S.



3 PLUMBING DIAGRAM

N.T.S.



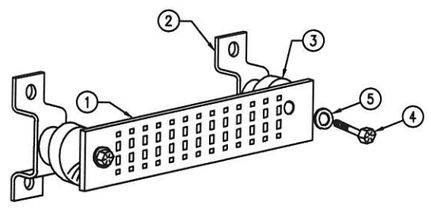
NOTE:

1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

4 TYPICAL GROUND BAR CONNECTION DETAIL

N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"-11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



5 GROUND BAR - DETAIL

N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

smartlink
1997 ANNAPOLIS EXCHANGE PKWY
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SITE NUMBER: CT1038
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SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: SB

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

PLUMBING DIAGRAM & DETAILS (LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
1038.01	G-1	1

TAB 2

sitesafe
rf compliance experts

200 North Glebe Road, Suite 1000
Arlington, VA 22203-3728

Todd Oliver
Smartlink, LLC
Market Manager, NE
33 Boston Post Road, Suite 210
Marlborough, MA 01752

Reference: Smartlink LLC Site, Glastonbury, 50 Birch Mountain Road, Glastonbury, CT

Date: 8 May 2014

1. This letter will address the additional RF impact that adding AT&T LTE antennas to the referenced site. Attached are two documents which cover the modeled RF emissions from the site.

2. The first report, "RF Emissions Compliance Report," for the site complied by Sitesafe, uses the antenna patterns for the antennas at the site to calculate the General Public Maximum Permissible Exposure (MPE) on the ground. The total MPE of all the carriers is 1.417% (based on the General Public MPE) based on this modeling, with AT&T antennas emitting a maximum of 1.177% of the General Public MPE on the ground.

3. The second attachment has the calculations, used by the Connecticut Siting Council, which assumes the maximum antenna gain transmits in a spherical pattern where the worst case results would be at the base of the tower. That calculation, based on the existing antennas, gives a result of 20.99% of the General Public MPE, with the AT&T antennas emitting 20.98% of the General Public MPE on the ground, using the modeling predictions used by Connecticut Siting Council.

4. In either case, the site is compliant with FCC guidelines. If you have any questions regarding this site, the compliance report, please contact me at 719-434-0700 or dcotton@sitesafe.com.

STATE OF CONNECTICUT
DAVID C. COTTON, JR.
NO. 27481
LICENSED
PROFESSIONAL ENGINEER

David C. Cotton, Jr.
Licensed Professional Engineer (Electrical)
State of Connecticut, PEN.0027481
Date: 2014-May-09

Director, RF Compliance

Attachment 1

RF EMISSIONS COMPLIANCE REPORT

Smartlink LLC on behalf of AT&T Mobility, LLC

AT&T Mobility, LLC Site FA: 10034994
AT&T Mobility, LLC USID: 140410
AT&T Mobility, LLC Site ID: CT1038
AT&T Mobility, LLC Site Name: Glastonbury
Birch Mountain Road
Glastonbury, CT
5/8/2014

Report Status:

AT&T Mobility, LLC Is Compliant

Prepared By:

Sitesafe, Inc.

200 North Glebe Road, Suite 1000 Arlington, VA 22203

Voice 703-276-1100
Fax 703-276-1169

Engineering Statement in Re:
Electromagnetic Energy Analysis
AT&T Mobility, LLC
Glastonbury, CT

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Sitesafe, Inc. in Arlington, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by AT&T Mobility, LLC (See attached Site Summary and Carrier documents), and that AT&T Mobility, LLC's installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "Glastonbury" ("the site"); and

That AT&T Mobility, LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T Mobility, LLC and shown on the worksheet, and that worst-case 100% duty cycle have been assumed; and

That in addition to the emitters specified in the worksheet, there are additional unknown collocated point-to-point microwave facilities on this structure and, the antennas used are highly directional oriented at angles at or just below the horizontal and, that the energy present at ground level is typically so low as to be considered insignificant; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio-frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio-frequency radiation must utilize the standards set by the FCC, which is the Federal Agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," defined as situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and (2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for

licensees of AT&T Mobility, LLC's operating frequency as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T Mobility, LLC operation is no more than 1.177% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 1.417% of the maximum in any accessible area up to two meters above the ground per OET-65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET-65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier and frequency range indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding Radio Frequency Safety.

In summary, it is stated here that the proposed operation at the site would not result in exposure of the Public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307 and that AT&T Mobility, LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals, and approved contractor personnel trained in radio-frequency safety; and that the instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower, or in the immediate proximity of the antennas.

Note: Sitesafe has used data obtained from the "Connecticut Siting Council" to create this report. The manufacturer antenna patterns for AT&T Mobility, LLC were used to determine the RF emissions from the AT&T Mobility, LLC antennas. Generic antennas were used for the other operators on the tower as this information was not available, or provided at the time the study was conducted. Sitesafe has also referenced the AT&T Mobility, LLC construction diagram for this site.

The following documents below were the primary sources of data used to create this report. The primary document was the "Connecticut Siting Council" document. The AT&T Mobility, LLC construction diagram was referenced when appropriate. Sitesafe has conducted additional FCC research on this site for the existing Omni antenna located on top of the existing self-support tower, as this information was not included on the "Connecticut Siting Council" data. Sitesafe has included additional representative modeling for the addition of the second carrier AT&T Mobility, LLC LTE operations at the site.

There are additional unknown microwave antennas that are that were shown on the AT&T Mobility, LLC construction drawing that were not included on the "Connecticut Siting Council" data. Please review the engineering statement above regarding RF emissions from the microwave antennas.

Connecticut Siting Council: AlphaExMPowDens 4-16-14

AT&T Mobility, LLC Construction Diagram: 10034994.AE201.140410 (CT1038) Hudson Rev0

[1] This Power Density information was taken from the Connecticut Siting Council database dated April 16, 2014.

[2] This Power Density information is based on worse case assumptions from AT&T's radio frequency engineers.

AT&T Mobility, LLC (Proposed)
Glastonbury
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.319 %
AT&T Mobility, LLC	0.281 %
AT&T Mobility, LLC (Proposed/Future)	0 %
AT&T Mobility, LLC (Proposed/Future)	0 %
AT&T Mobility, LLC (Proposed/Future)	0 %
AT&T Mobility, LLC (Proposed)	0.265 %
AT&T Mobility, LLC (Proposed)	0.312 %
Unknown (Microwaves)	0 %
WPHK438 - State of Connecticut	0.241 %
Composite Site MPE:	1.417 %

Attachment 2

Glastonbury

Power Density Calculations

Control Number	Site	Carrier	#Channels	ERP/Ch	Ant Ht	Power Density (mW/c	MHz	S	%MPE	Site Total
EM-CING-054-121016	Glastonbury - 50 Birch Mtn Rd	AT&T UMTS	2	565	128	0.0248	880	0.5867	4.23%	
EM-CING-054-121016	Glastonbury - 50 Birch Mtn Rd	AT&T UMTS	2	875	128	0.0384	1900	1.0000	3.84%	
EM-CING-054-121016	Glastonbury - 50 Birch Mtn Rd	AT&T GSM	1	283	128	0.0062	880	0.5867	1.06%	
EM-CING-054-121016	Glastonbury - 50 Birch Mtn Rd	AT&T GSM	4	525	128	0.0461	1900	1.0000	4.61%	
EM-CING-054-121016	Glastonbury - 50 Birch Mtn Rd	AT&T LTE	1	1615	128	0.0354	734	0.4893	7.24%	
Petition 49A	Glastonbury - Birch Mtn Rd(SNET)	SNET - 1985 Figure				0.0002		1.0000	0.02%	20.99%

TAB 3

AT&T Towers
2300 Northlake Center Dr Ste 405
Tucker, GA 30084-4032
(404) 532-5855

Kevin Clements
520 South Main Street
Akron, OH 44311
(330) 572-3546
kclements@gpdgroup.com

GPD# 2014723.01.SNET009.01
June 5, 2014

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**SNET009**
	Site FA:	**10137476**
	Site Name:	**GLASTONBURY**
	AT&T Project:	**Wireline Cingular Modification 6-1-2012**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2003 IBC, & ASCE 7-05** **80 mph fastest mile with 0" ice** **37 mph fastest mile with 1" ice**
SITE DATA:		**50 Birch Mountain Road, Glastonbury, CT 06033, Hartford County** **Latitude 41° 42' 34" N, Longitude 72° 28' 30" W** **Market: NEW ENGLAND** **127' Self Support Tower**

Ms. Julie Overman,

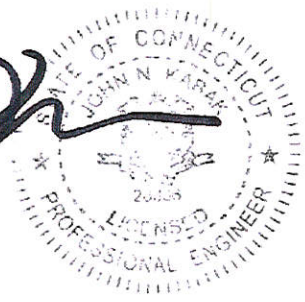
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	88.9%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T Towers. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,



John N. Kabak, P.E.
Connecticut #: 0028336

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 AT&T. This report was commissioned by Ms. Julie Overman of AT&T Towers.

No foundation or geotechnical information was available or provided for this report. Therefore, the in place capacity of the foundation could not be verified. A thorough and accurate assessment of foundation capacity will require a site specific geotechnical report and foundation information.

The empty dish mounts at 117', 107', 102', and 82', and the existing 12' dish at 120', (2) 12' dishes at 94', 6' dish at 83' and all corresponding mounts and coax shall be removed prior to the installation of the proposed loading and have not been considered in this analysis.

The proposed coax shall be stacked with the existing 1-5/8" coax supplying the 127' elevation on Tower Face C in a four on six on six configuration in order for the results of this analysis to be valid. See Appendix C for more details.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	52.2%	Pass
Leg Bolts	32.5%	Pass
Diagonals	43.1%	Pass
Horizontals	88.9%	Pass
Redundant Members	21.0%	Pass
Inner Bracing	40.1%	Pass
Member Bolts	28.9%	Pass
Anchor Rods	38.2%	Pass
Foundation	Not Verified	N/A

ANALYSIS METHOD

RISA 3D (version 11.0.0) and tnxTower (version 6.1.4.1), 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 provided without the benefit of a recent site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Notice of Co-location Form	Not Provided	N/A
Site Lease Application	AT&T Application, dated 5/6/2014	Siterra
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Geotechnical Report	Not Provided	N/A
Previous Structural Analysis	GPD Project #: 2012857.09, dated 9/11/12	Siterra
Tower Mapping	GPD Project #: 2012857.09, dated 8/13/12	Siterra

ASSUMPTIONS

This 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. If no data is available, the foundation system is not verified. In the case of absent foundation data, it is the tower owner's responsibility to insure that the foundation system is adequate to support the structure with its new reactions.
6. Foundations are properly designed and constructed to resist the original design loads.
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 tower mapping by GPD (Project #: 2012857.09, dated 8/13/12), site photos and the provided Site Lease Application (dated 5/6/2014), and is assumed to be accurate.

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 recent 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 Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. 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.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

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 capability 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 code specified 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.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

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

Tower Analysis Summary Form

General Info

Site Name	GLASTONBURY
Site Number	SNET009
FA Number	10137476
Date of Analysis	6/5/2014
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	127'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	n/a	
Tower Mapping	GPD Project #: 2012857.09	8/13/2012
Previous Structural Analysis	GPD Project #: 2012857.09	9/11/2012
Foundation Mapping	n/a	

Design Parameters

Design Code Used	TIA/EIA-222-F 2003 IBC & ASCE 7-05
Location of Tower (County, State)	Hartford, CT
Basic Wind Speed (mph)	80 (fastest mile)
Ice Thickness (in)	1.0
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	88.9%
Anchor Rods (%)	38.2%
Foundation (%)	Not Verified
Foundation Adequate?	N/A

Steel Yield Strength (ksi)

Legs	36
Bracing Members	36
Member Bolts	A307
Anchor Rods	C1015

Material grades are assumed based on previous experience

The empty dish mounts at 117', 107', 102', and 82', and the existing 12' dish at 120', (2) 12' dishes at 94', 6' dish at 83' and all corresponding mounts and coax shall be removed prior to the installation of the proposed loading and have not been considered in this analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Arch Comm	127	137	1	Omni	unknown	20' Omni		3	unknown	12' Long W6 Mount	1	unknown	1/2"	Face B
Arch Comm	127	137	1	Dipole	unknown	20' Dipole				on the same mounts	1	unknown	1/2"	Leg BC
TMRS	127	133	1	Omni	unknown	12' Omni				on the same mounts	1	unknown	7/8"	Leg BC
AT&T Mobility	127	128	6	Panel	Powerwave	7770.00 (w/ RET)	20/150/263			on the same mounts	12	unknown	1-5/8"	Face C
AT&T Mobility	127	128	6	TMA	Powerwave	LGP 17201	20/150/263			on the same mounts				
AT&T Mobility	127	128	6	Diplexer	Powerwave	LGP 21901	20/150/263			on the same mounts				
AT&T Mobility	127	126	1	Yagi	unknown	5' Yagi				Leg Mounted	1	unknown	1/2"	Face B
AT&T	120	120	1	Dish	unknown	12' HP Dish	100	1	unknown	3' Standoff	2	EW90	Waveguide	Leg BC
AT&T	117	117						2	unknown	10' Dish Mount				
AT&T	107	107						1	unknown	10' Dish Mount				
AT&T	102	102						1	unknown	10' Dish Mount				
AT&T	94	94	2	Dish	unknown	12' HP Dish	263/330	2	unknown	3' Standoff	4	EW90	Waveguide	Leg BC
AT&T	83	83	1	Dish	unknown	6' Dish w/ Radome	45	1	unknown	2' Standoff	1	EW63	Waveguide	Leg BC
AT&T	82	82						2	unknown	10' Dish Mount				

Note: (3) of the existing 7770.00 antennas, the existing TMAs and the existing diplexers at 127' shall be removed prior to the installation of the proposed configuration and have not been considered in this analysis. All other existing/reserved equipment shall be reus

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
AT&T Mobility	127	128	6	Panel	CCI	HPA-65R-BUU-H8-K	20/263			on the existing mounts	4	LDF7-50A	1-5/8"	Face C
AT&T Mobility	127	128	3	Panel	CCI	HPA-65R-BUU-H6-K	150			on the existing mounts				
AT&T Mobility	127	128	6	A2-Module	Ericsson	KRC 161 286/1				on the existing mounts				
AT&T Mobility	127	128	3	RRU	Ericsson	RUS-E2				on the existing mounts				
AT&T Mobility	127	128	3	RRU	Ericsson	RRUS-32				on the existing mounts				
AT&T Mobility	127	128	6	RRU	Ericsson	RRUS-11				on the existing mounts				
AT&T Mobility	127	128	6	RRU	Ericsson	KRC 161 299 B2				on the existing mounts				
AT&T Mobility	127	128	3	TMA	Andrew	E15Z01P13				on the existing mounts				
AT&T Mobility	127	128	6	Diplexer	Kaelus	DBC2055F1V1-2				on the existing mounts				
AT&T Mobility	127	128	3	Injector	Andrew	ATBTK-MF				on the existing mounts				

Note: The proposed equipment shall be installed in addition to the remaining existing/reserved loading at the same elevation. The proposed coax shall be stacked with the existing 1-5/8" coax supplying the 127' elevation on Tower Face C in a four on six on six configuration in order for the results of this analysis to be valid.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face

APPENDIX B

Analysis Output Files and Calculations

tnxTower	Job	Page
	SNET009 GLASTONBURY	1 of 5
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	Project 2014723.01.SNET009.01	Date 17:34:12 06/05/14
	Client AT&T Towers	Designed by tclark

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 127.00 ft above the ground line.
The base of the tower is set at an elevation of 2.00 ft above the ground line.
The face width of the tower is 7.50 ft at the top and 13.58 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 37 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feed line 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
LDF4-50A (1/2 FOAM)	B	Yes	Ar (CfAe)	127.00 - 10.00	0.0000	-0.4	2	2	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	A	No	Ar (Leg)	127.00 - 10.00	0.0000	0.1	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM)	A	No	Ar (Leg)	127.00 - 10.00	0.0000	0.1	1	1	1.0000	1.0900		0.33
LDF7-50A (1-5/8 FOAM)	A	Yes	Ar (CfAe)	127.00 - 10.00	0.0000	0	16	6	1.0000	1.9800		0.82
Feedline Ladder (Af)	A	Yes	Af (CfAe)	127.00 - 10.00	0.0000	0	1	1	3.0000	3.0000	12.0000	8.40
Climbing Ladder (Af)	A	No	Af (Leg)	127.00 - 2.00	0.0000	0.1	1	1	3.8400	3.8400	15.3600	4.81
Safety Line (3/8")	A	No	Af (Leg)	127.00 - 2.00	0.0000	0.1	1	1	0.3750	0.3750	1.1800	0.22

Discrete Tower Loads

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
12' Long W6 Mount	A	From Face	0.93 -0.38 0.00	-22.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.40 9.38 10.36 12.36 16.45	0.35 0.43 0.52 0.73 1.25	0.10 0.16 0.24 0.41 0.90
12' Long W6 Mount	B	From Face	1.00 0.09 0.00	5.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.40 9.38 10.36 12.36 16.45	0.35 0.43 0.52 0.73 1.25	0.10 0.16 0.24 0.41 0.90
12' Long W6 Mount	C	From Leg	1.00 0.00	0.0000	127.00	No Ice 1/2" Ice	8.40 9.38	0.35 0.43	0.10 0.16

tnxTower	Job	Page
	SNET009 GLASTONBURY	2 of 5
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	**Project** 2014723.01.SNET009.01	**Date** 17:34:12 06/05/14
	Client AT&T Towers	**Designed by** tclark

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft* *ft* *ft*	*Azimuth Adjustment* °	*Placement* *ft*		*C_AA_A Front* *ft²*	*C_AA_A Side* *ft²*	*Weight* *K*
			0.00			1" Ice	10.36	0.52	0.24
						2" Ice	12.36	0.73	0.41
						4" Ice	16.45	1.25	0.90
7770.00 w/Mount Pipe	A	From Face	1.85	-22.0000	127.00	No Ice	5.88	4.10	0.06
			-0.75			1/2" Ice	6.31	4.73	0.11
			0.00			1" Ice	6.75	5.37	0.16
						2" Ice	7.66	6.70	0.29
						4" Ice	9.58	9.87	0.65
7770.00 w/Mount Pipe	B	From Face	1.99	5.0000	127.00	No Ice	5.88	4.10	0.06
			0.17			1/2" Ice	6.31	4.73	0.11
			0.00			1" Ice	6.75	5.37	0.16
						2" Ice	7.66	6.70	0.29
						4" Ice	9.58	9.87	0.65
7770.00 w/Mount Pipe	C	From Leg	2.00	0.0000	127.00	No Ice	5.88	4.10	0.06
			0.00			1/2" Ice	6.31	4.73	0.11
			0.00			1" Ice	6.75	5.37	0.16
						2" Ice	7.66	6.70	0.29
						4" Ice	9.58	9.87	0.65
(3) HPA-65R-BUU-H8-K w/ Mount Pipe	A	From Face	1.85	-22.0000	127.00	No Ice	13.37	9.42	0.10
			-0.75			1/2" Ice	14.10	10.82	0.19
			0.00			1" Ice	14.83	12.07	0.30
						2" Ice	16.31	14.24	0.54
						4" Ice	19.37	18.79	1.19
(3) HPA-65R-BUU-H6-K w/ Mount Pipe	C	From Leg	2.00	0.0000	127.00	No Ice	10.60	8.11	0.08
			0.00			1/2" Ice	11.27	9.30	0.16
			0.00			1" Ice	11.91	10.21	0.25
						2" Ice	13.21	12.17	0.46
						4" Ice	15.93	16.35	1.02
(3) HPA-65R-BUU-H8-K w/ Mount Pipe	B	From Face	1.99	5.0000	127.00	No Ice	13.37	9.42	0.10
			0.17			1/2" Ice	14.10	10.82	0.19
			0.00			1" Ice	14.83	12.07	0.30
						2" Ice	16.31	14.24	0.54
						4" Ice	19.37	18.79	1.19
(2) KRC 161 286/1	A	From Face	1.85	-22.0000	127.00	No Ice	2.42	0.54	0.02
			-0.75			1/2" Ice	2.63	0.67	0.03
			0.00			1" Ice	2.85	0.82	0.05
						2" Ice	3.31	1.12	0.09
						4" Ice	4.34	1.85	0.20
(2) KRC 161 286/1	B	From Face	1.99	5.0000	127.00	No Ice	2.42	0.54	0.02
			0.17			1/2" Ice	2.63	0.67	0.03
			0.00			1" Ice	2.85	0.82	0.05
						2" Ice	3.31	1.12	0.09
						4" Ice	4.34	1.85	0.20
(2) KRC 161 286/1	C	From Leg	2.00	0.0000	127.00	No Ice	2.42	0.54	0.02
			0.00			1/2" Ice	2.63	0.67	0.03
			0.00			1" Ice	2.85	0.82	0.05
						2" Ice	3.31	1.12	0.09
						4" Ice	4.34	1.85	0.20
RRUS E2	A	From Face	1.85	-22.0000	127.00	No Ice	3.67	1.49	0.06
			-0.75			1/2" Ice	3.93	1.67	0.08
			0.00			1" Ice	4.19	1.87	0.11
						2" Ice	4.75	2.28	0.17
						4" Ice	5.96	3.21	0.34
RRUS E2	B	From Face	1.99	5.0000	127.00	No Ice	3.67	1.49	0.06
			0.17			1/2" Ice	3.93	1.67	0.08
			0.00			1" Ice	4.19	1.87	0.11
						2" Ice	4.75	2.28	0.17

tnxTower	Job	Page
	SNET009 GLASTONBURY	3 of 5
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	**Project** 2014723.01.SNET009.01	**Date** 17:34:12 06/05/14
	Client AT&T Towers	**Designed by** tclark

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						4" Ice	5.96	3.21	0.34
RRUS E2	C	From Leg	2.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.67 3.93 4.19 4.75 5.96	1.49 1.67 1.87 2.28 3.21	0.06 0.08 0.11 0.17 0.34
RRUS-32	A	From Face	1.85 -0.75 0.00	-22.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.87 4.15 4.44 5.06 6.38	2.76 3.02 3.29 3.85 5.08	0.08 0.10 0.14 0.21 0.41
RRUS-32	B	From Face	1.99 0.17 0.00	5.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.87 4.15 4.44 5.06 6.38	2.76 3.02 3.29 3.85 5.08	0.08 0.10 0.14 0.21 0.41
RRUS-32	C	From Leg	2.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.87 4.15 4.44 5.06 6.38	2.76 3.02 3.29 3.85 5.08	0.08 0.10 0.14 0.21 0.41
(2) RRUS-11	A	From Face	1.85 -0.75 0.00	-22.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.94 3.17 3.41 3.91 5.02	1.19 1.35 1.52 1.89 2.72	0.06 0.07 0.10 0.15 0.30
(2) RRUS-11	B	From Face	1.99 0.17 0.00	5.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.94 3.17 3.41 3.91 5.02	1.19 1.35 1.52 1.89 2.72	0.06 0.07 0.10 0.15 0.30
(2) RRUS-11	C	From Leg	2.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.94 3.17 3.41 3.91 5.02	1.19 1.35 1.52 1.89 2.72	0.06 0.07 0.10 0.15 0.30
(2) KRC 161 299 B2	A	From Face	1.85 -0.75 0.00	-22.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.67 3.93 4.19 4.75 5.96	1.49 1.67 1.87 2.28 3.21	0.06 0.08 0.11 0.17 0.34
(2) KRC 161 299 B2	B	From Face	1.99 0.17 0.00	5.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.67 3.93 4.19 4.75 5.96	1.49 1.67 1.87 2.28 3.21	0.06 0.08 0.11 0.17 0.34
(2) KRC 161 299 B2	C	From Leg	2.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.67 3.93 4.19 4.75 5.96	1.49 1.67 1.87 2.28 3.21	0.06 0.08 0.11 0.17 0.34
E15Z01P13	A	From Face	1.85 -0.75 0.00	-22.0000	127.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.95 1.09 1.24 1.56 2.31	0.73 0.86 0.99 1.29 1.99	0.02 0.03 0.04 0.07 0.15
E15Z01P13	B	From Face	1.99	5.0000	127.00	No Ice	0.95	0.73	0.02

tnxTower	Job	Page
	SNET009 GLASTONBURY	4 of 5
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	**Project** 2014723.01.SNET009.01	**Date** 17:34:12 06/05/14
	Client AT&T Towers	**Designed by** tclark

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.17			1/2" Ice	1.09	0.86	0.03
			0.00			1" Ice	1.24	0.99	0.04
						2" Ice	1.56	1.29	0.07
						4" Ice	2.31	1.99	0.15
E15Z01P13	C	From Leg	2.00	0.0000	127.00	No Ice	0.95	0.73	0.02
			0.00			1/2" Ice	1.09	0.86	0.03
			0.00			1" Ice	1.24	0.99	0.04
						2" Ice	1.56	1.29	0.07
						4" Ice	2.31	1.99	0.15
(2) DBC2055F1V1-2	A	From Face	1.85	-22.0000	127.00	No Ice	0.38	0.25	0.01
			-0.75			1/2" Ice	0.47	0.32	0.01
			0.00			1" Ice	0.56	0.40	0.02
						2" Ice	0.78	0.58	0.03
						4" Ice	1.31	1.05	0.08
(2) DBC2055F1V1-2	B	From Face	1.99	5.0000	127.00	No Ice	0.38	0.25	0.01
			0.17			1/2" Ice	0.47	0.32	0.01
			0.00			1" Ice	0.56	0.40	0.02
						2" Ice	0.78	0.58	0.03
						4" Ice	1.31	1.05	0.08
(2) DBC2055F1V1-2	C	From Leg	2.00	0.0000	127.00	No Ice	0.38	0.25	0.01
			0.00			1/2" Ice	0.47	0.32	0.01
			0.00			1" Ice	0.56	0.40	0.02
						2" Ice	0.78	0.58	0.03
						4" Ice	1.31	1.05	0.08
ATBTK-MF	A	From Face	1.85	-22.0000	127.00	No Ice	0.50	0.22	0.00
			-0.75			1/2" Ice	0.60	0.30	0.01
			0.00			1" Ice	0.71	0.37	0.01
						2" Ice	0.95	0.56	0.03
						4" Ice	1.53	1.03	0.08
ATBTK-MF	B	From Face	1.99	5.0000	127.00	No Ice	0.50	0.22	0.00
			0.17			1/2" Ice	0.60	0.30	0.01
			0.00			1" Ice	0.71	0.37	0.01
						2" Ice	0.95	0.56	0.03
						4" Ice	1.53	1.03	0.08
ATBTK-MF	C	From Leg	2.00	0.0000	127.00	No Ice	0.50	0.22	0.00
			0.00			1/2" Ice	0.60	0.30	0.01
			0.00			1" Ice	0.71	0.37	0.01
						2" Ice	0.95	0.56	0.03
						4" Ice	1.53	1.03	0.08
20' Omni	A	From Leg	1.00	0.0000	127.00	No Ice	4.00	4.00	0.04
			0.00			1/2" Ice	6.03	6.03	0.07
			10.00			1" Ice	8.07	8.07	0.11
						2" Ice	12.20	12.20	0.24
						4" Ice	20.59	20.59	0.65
20' Dipole	B	From Leg	1.00	0.0000	127.00	No Ice	4.00	4.00	0.04
			0.00			1/2" Ice	6.03	6.03	0.07
			10.00			1" Ice	8.07	8.07	0.11
						2" Ice	12.20	12.20	0.24
						4" Ice	20.59	20.59	0.65
12' Omni	C	From Leg	1.00	0.0000	127.00	No Ice	3.00	3.00	0.02
			0.00			1/2" Ice	4.23	4.23	0.04
			6.00			1" Ice	5.47	5.47	0.07
						2" Ice	7.69	7.69	0.16
						4" Ice	10.71	10.71	0.42
5' Yagi	D	From Leg	2.50	0.0000	127.00	No Ice	1.00	1.00	0.03
			0.00			1/2" Ice	1.39	1.39	0.03
			0.00			1" Ice	1.70	1.70	0.04

tnxTower	Job	Page
	SNET009 GLASTONBURY	5 of 5
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	**Project** 2014723.01.SNET009.01	**Date** 17:34:12 06/05/14
	Client AT&T Towers	**Designed by** tclark

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral ft Vert ft ft*	*Azimuth Adjustment* °	*Placement* *ft*		*C_AA_A Front* *ft^2*	*C_AA_A Side* *ft^2*	*Weight* *K*
Inner Platform	C	None		0.0000	117.00	2" Ice	2.35	2.35	0.08
						4" Ice	3.78	3.78	0.19
						No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
						4" Ice	18.75	18.75	2.11
Inner Platform	C	None		0.0000	102.00	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
						4" Ice	18.75	18.75	2.11
Inner Platform	C	None		0.0000	87.00	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
						4" Ice	18.75	18.75	2.11
Inner Platform	C	None		0.0000	77.00	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
						4" Ice	18.75	18.75	2.11

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36	29000	11200	.295	.65	.49	36	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	L5x5x3/8	Column	Single Angle	A36	Typical	3.61	8.74	8.74	.183
2	TWR_HTOP_GIRT_T1	L2 1/2x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.19	.692	.692	.026
3	TWR_INNER_SUPP_T1	L3x3x3/16_HRA	Beam	Single Angle	A36	Typical	1.09	.96	.96	.014
4	TWR_DIAG_T1	L2 1/2x2x5/16	Column	Single Angle	A36	Typical	1.31	.446	.788	.043
5	TWR_HORZ_T1	L2 1/2x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.19	.692	.692	.026
6	TWR_LEG_T2	L6x6x1/2	Column	Single Angle	A36	Typical	5.75	19.9	19.9	.501
7	TWR_HORZ_T2	L2 1/2x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.19	.692	.692	.026
8	TWR_INNER_SUPP_T2	L3x3x1/4	Beam	Single Angle	A36	Typical	1.44	1.24	1.24	.032
9	TWR_DIAG_T2	L3 1/2x3x1/4	Column	Single Angle	A36	Typical	1.56	1.3	1.91	.036
10	TWR_RED_VERT_T2	L2 1/2x2x1/4	Column	Single Angle	A36	Typical	1.06	.372	.654	.023
11	TWR_HSTEP_T2	L2 1/2x2x1/4	Beam	Single Angle	A36	Typical	1.06	.372	.654	.023
12	TWR_LEG_T3	L6x6x3/4	Column	Single Angle	A36	Typical	8.44	28.2	28.2	1.61
13	TWR_HORZ_T3	L2 1/2x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.19	.692	.692	.026
14	TWR_INNER_SUPP_T3	L3x3x3/16_HRA	Beam	Single Angle	A36	Typical	1.09	.96	.96	.014
15	TWR_DIAG_T3	L3 1/2x3x1/4	Column	Single Angle	A36	Typical	1.56	1.3	1.91	.036
16	TWR_RED_VERT_T3	L2 1/2x2x1/4	Column	Single Angle	A36	Typical	1.06	.372	.654	.023
17	TWR_HSTEP_T3	L2 1/2x2x1/4	Beam	Single Angle	A36	Typical	1.06	.372	.654	.023
18	TWR_LEG_T4	L6x6x3/4	Column	Single Angle	A36	Typical	8.44	28.2	28.2	1.61
19	TWR_HORZ_T4	L2 1/2x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.19	.692	.692	.026
20	TWR_INNER_SUPP_T4	L3x3x3/16_HRA	Beam	Single Angle	A36	Typical	1.09	.96	.96	.014
21	TWR_DIAG_T4	L3 1/2x3x1/4	Column	Single Angle	A36	Typical	1.56	1.3	1.91	.036
22	TWR_RED_VERT_T4	L2 1/2x2x1/4	Column	Single Angle	A36	Typical	1.06	.372	.654	.023
23	TWR_HSTEP_T4	L2 1/2x2x1/4	Beam	Single Angle	A36	Typical	1.06	.372	.654	.023
24	TWR_LEG_T5	L6x6x7/8	Column	Single Angle	A36	Typical	9.73	31.9	31.9	2.51
25	TWR_HORZ_T5	2L2 1/2x2 1/2x1/4x3/4	Beam	None	A36	Typical	2.38	4.237	1.41	.049
26	TWR_DIAG_T5	2L2 1/2x2 1/2x1/4x3/4	Column	None	A36	Typical	2.38	4.237	1.41	.049
27	TWR_RED_HORZ_T5	L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.01
28	TWR_RED_DIAG_T5	L2 1/2x2x3/16	Column	Single Angle	A36	Typical	.809	.291	.509	.01
29	TWR_INNER_SUPP_T5	L3x3x3/16_HRA	Beam	Single Angle	A36	Typical	1.09	.96	.96	.014

General Section Sets

	Label	Shape	Type	Material	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	GEN1	RE4X4	Beam	gen_Conc3NW	16	21.333	21.333	31.573

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Mem...	Surface(Plate/Wall)
1	Dead	None		-1		80	164	20		
2	No Ice Wind 0 deg	None				80	322	60		
3	No Ice Wind 45 deg	None				160	334	80		
4	No Ice Wind 90 deg	None				80	324	60		
5	No Ice Wind 135 deg	None				160	326	80		
6	No Ice Wind 180 deg	None				80	322	60		
7	No Ice Wind 225 deg	None				160	334	80		
8	No Ice Wind 270 deg	None				80	324	60		
9	No Ice Wind 315 deg	None				160	326	80		
10	Ice	None				80	164	308		
11	Temperature Drop	None						288		
12	Ice Wind 0 deg	None				80	310	60		
13	Ice Wind 45 deg	None				160	334	80		
14	Ice Wind 90 deg	None				80	322	60		
15	Ice Wind 135 deg	None				160	324	80		
16	Ice Wind 180 deg	None				80	310	60		
17	Ice Wind 225 deg	None				160	334	80		
18	Ice Wind 270 deg	None				80	322	60		
19	Ice Wind 315 deg	None				160	324	80		
20	Service Wind 0 deg	None				80	262	60		
21	Service Wind 45 deg	None				160	286	80		
22	Service Wind 90 deg	None				80	274	60		
23	Service Wind 135 deg	None				160	276	80		
24	Service Wind 180 deg	None				80	262	60		
25	Service Wind 225 deg	None				160	286	80		
26	Service Wind 270 deg	None				80	274	60		
27	Service Wind 315 deg	None				160	276	80		
28	Superimposed Self Weight	None						288		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Dead Only	Yes	Y		1	1	28	1	29	1	0		0		0		0		0	
2	Dead+Wind 0 deg - No Ice	Yes	Y		1	1	2	1	28	1	29	1	0		0		0		0	
3	Dead+Wind 45 deg - No Ice	Yes	Y		1	1	3	1	28	1	29	1	0		0		0		0	
4	Dead+Wind 90 deg - No Ice	Yes	Y		1	1	4	1	28	1	29	1	0		0		0		0	
5	Dead+Wind 135 deg - No Ice	Yes	Y		1	1	5	1	28	1	29	1	0		0		0		0	
6	Dead+Wind 180 deg - No Ice	Yes	Y		1	1	6	1	28	1	29	1	0		0		0		0	
7	Dead+Wind 225 deg - No Ice	Yes	Y		1	1	7	1	28	1	29	1	0		0		0		0	
8	Dead+Wind 270 deg - No Ice	Yes	Y		1	1	8	1	28	1	29	1	0		0		0		0	
9	Dead+Wind 315 deg - No Ice	Yes	Y		1	1	9	1	28	1	29	1	0		0		0		0	
10	Dead+Ice+Temp	Yes	Y		1	1	10	1	11	1	28	1	29	1	0		0		0	
11	Dead+Wind 0 deg+Ice+Temp	Yes	Y		1	1	12	1	10	1	11	1	28	1	29	1	0		0	
12	Dead+Wind 45 deg+Ice+Temp	Yes	Y		1	1	13	1	10	1	11	1	28	1	29	1	0		0	
13	Dead+Wind 90 deg+Ice+Temp	Yes	Y		1	1	14	1	10	1	11	1	28	1	29	1	0		0	
14	Dead+Wind 135 deg+Ice+Temp	Yes	Y		1	1	15	1	10	1	11	1	28	1	29	1	0		0	
15	Dead+Wind 180 deg+Ice+Temp	Yes	Y		1	1	16	1	10	1	11	1	28	1	29	1	0		0	
16	Dead+Wind 225 deg+Ice+Temp	Yes	Y		1	1	17	1	10	1	11	1	28	1	29	1	0		0	
17	Dead+Wind 270 deg+Ice+Temp	Yes	Y		1	1	18	1	10	1	11	1	28	1	29	1	0		0	
18	Dead+Wind 315 deg+Ice+Temp	Yes	Y		1	1	19	1	10	1	11	1	28	1	29	1	0		0	
19	Dead+Wind 0 deg - Service	Yes	Y		1	1	20	1	28	1	29	1	0		0		0		0	
20	Dead+Wind 45 deg - Service	Yes	Y		1	1	21	1	28	1	29	1	0		0		0		0	
21	Dead+Wind 90 deg - Service	Yes	Y		1	1	22	1	28	1	29	1	0		0		0		0	
22	Dead+Wind 135 deg - Service	Yes	Y		1	1	23	1	28	1	29	1	0		0		0		0	
23	Dead+Wind 180 deg - Service	Yes	Y		1	1	24	1	28	1	29	1	0		0		0		0	
24	Dead+Wind 225 deg - Service	Yes	Y		1	1	25	1	28	1	29	1	0		0		0		0	
25	Dead+Wind 270 deg - Service	Yes	Y		1	1	26	1	28	1	29	1	0		0		0		0	
26	Dead+Wind 315 deg - Service	Yes	Y		1	1	27	1	28	1	29	1	0		0		0		0	

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N157	max	7.729	7	130.572	7	7.763	3	0	1	.003	9	0	1
2		min	-7.037	3	-112.003	3	-8.48	7	0	1	-.003	5	0	1
3	N158	max	7.554	9	129.564	5	7.3	9	0	1	.002	7	0	1
4		min	-8.24	5	-113.325	9	-7.942	5	0	1	-.002	3	0	1
5	N159	max	7.759	7	129.58	3	7.719	3	0	1	.003	5	0	1
6		min	-8.454	3	-112.995	7	-7.075	7	0	1	-.003	9	0	1
7	N160	max	7.959	9	130.944	9	8.273	9	0	1	.003	3	0	1
8		min	-7.255	5	-111.945	5	-7.552	5	0	1	-.003	7	0	1
9	Totals:	max	26.773	8	72.626	11	27.046	2						
10		min	-26.773	4	35.32	5	-27.046	6						

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M14	L2 1/2x2x5/16	.314	2.066	8	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
2	M15	L2 1/2x2x5/16	.339	4.507	5	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
3	M16	L2 1/2x2x5/16	.328	4.507	5	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
4	M17	L2 1/2x2x5/16	.312	2.066	2	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
5	M18	L2 1/2x2x5/16	.354	4.507	3	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
6	M19	L2 1/2x2x5/16	.335	2.066	8	.003	4.507	z	12	12.995	28.24	.286	1.519	1	H2-1
7	M20	L2 1/2x2x5/16	.351	2.066	2	.003	4.507	z	16	12.995	28.24	.286	1.519	1	H2-1
8	M21	L2 1/2x2x5/16	.357	4.507	7	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
9	M26	L2 1/2x2x5/16	.289	1.972	8	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
10	M27	L2 1/2x2x5/16	.305	4.507	5	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
11	M28	L2 1/2x2x5/16	.296	4.507	5	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
12	M29	L2 1/2x2x5/16	.288	1.972	2	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
13	M30	L2 1/2x2x5/16	.318	4.507	3	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
14	M31	L2 1/2x2x5/16	.309	1.972	8	.003	4.507	z	12	12.995	28.24	.286	1.519	1	H2-1
15	M32	L2 1/2x2x5/16	.324	1.972	2	.003	4.507	z	16	12.995	28.24	.286	1.519	1	H2-1
16	M33	L2 1/2x2x5/16	.323	1.972	6	.003	4.507	z	18	12.995	28.24	.286	1.519	1	H2-1
17	M38	L2 1/2x2x5/16	.268	1.878	8	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
18	M39	L2 1/2x2x5/16	.276	4.507	5	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
19	M40	L2 1/2x2x5/16	.270	4.507	5	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
20	M41	L2 1/2x2x5/16	.268	1.878	2	.003	4.507	z	14	12.995	28.24	.286	1.519	1	H2-1
21	M42	L2 1/2x2x5/16	.289	4.507	3	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
22	M43	L2 1/2x2x5/16	.287	1.878	8	.003	4.507	z	12	12.995	28.24	.286	1.519	1	H2-1
23	M44	L2 1/2x2x5/16	.300	1.878	2	.003	4.507	z	16	12.995	28.24	.286	1.519	1	H2-1
24	M45	L2 1/2x2x5/16	.299	1.878	6	.003	4.507	z	18	12.995	28.24	.286	1.519	1	H2-1
25	M50	L2 1/2x2x5/16	.242	4.507	8	.003	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
26	M51	L2 1/2x2x5/16	.244	4.507	5	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
27	M52	L2 1/2x2x5/16	.245	4.507	6	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
28	M53	L2 1/2x2x5/16	.243	4.507	2	.003	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
29	M54	L2 1/2x2x5/16	.260	4.507	4	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
30	M55	L2 1/2x2x5/16	.261	4.507	8	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
31	M56	L2 1/2x2x5/16	.272	4.507	2	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
32	M57	L2 1/2x2x5/16	.271	4.507	6	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
33	M62	L2 1/2x2x5/16	.224	4.507	8	.003	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
34	M63	L2 1/2x2x5/16	.225	4.507	4	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
35	M64	L2 1/2x2x5/16	.228	4.507	6	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
36	M65	L2 1/2x2x5/16	.227	4.507	2	.003	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
37	M66	L2 1/2x2x5/16	.241	4.507	4	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
38	M67	L2 1/2x2x5/16	.242	4.507	8	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
39	M68	L2 1/2x2x5/16	.251	4.507	2	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
40	M69	L2 1/2x2x5/16	.250	4.507	6	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
41	M74	L2 1/2x2x5/16	.205	4.507	8	.003	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
42	M75	L2 1/2x2x5/16	.207	4.507	4	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
43	M76	L2 1/2x2x5/16	.211	4.507	6	.003	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
44	M77	L2 1/2x2x5/16	.210	4.507	2	.002	4.507	z	15	12.995	28.24	.286	1.526	1	H2-1
45	M78	L2 1/2x2x5/16	.221	4.507	4	.003	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
46	M79	L2 1/2x2x5/16	.223	4.507	8	.002	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
47	M80	L2 1/2x2x5/16	.230	4.507	2	.003	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
48	M81	L2 1/2x2x5/16	.229	4.507	6	.002	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
49	M86	L2 1/2x2x5/16	.182	4.507	8	.002	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
50	M87	L2 1/2x2x5/16	.183	4.507	4	.002	4.507	z	17	12.995	28.24	.286	1.526	1	H2-1
51	M88	L2 1/2x2x5/16	.189	4.507	6	.002	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
52	M89	L2 1/2x2x5/16	.188	4.507	2	.002	4.507	z	15	12.995	28.24	.286	1.526	1	H2-1
53	M90	L2 1/2x2x5/16	.197	4.507	4	.002	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
54	M91	L2 1/2x2x5/16	.198	4.507	8	.002	4.507	z	13	12.995	28.24	.286	1.526	1	H2-1
55	M92	L2 1/2x2x5/16	.204	4.507	2	.002	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
56	M93	L2 1/2x2x5/16	.203	4.507	6	.002	4.507	z	11	12.995	28.24	.286	1.526	1	H2-1
57	M98	L2 1/2x2x5/16	.164	4.507	8	.002	4.507	z	14	12.995	28.24	.286	1.526	1	H2-1
58	M99	L2 1/2x2x5/16	.164	4.507	4	.002	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
59	M100	L2 1/2x2x5/16	.172	4.507	6	.002	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
60	M101	L2 1/2x2x5/16	.171	4.507	2	.002	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
61	M102	L2 1/2x2x5/16	.177	4.507	4	.002	4.507	z	18	12.995	28.24	.286	1.526	1	H2-1
62	M103	L2 1/2x2x5/16	.178	4.507	8	.002	4.507	z	15	12.995	28.24	.286	1.526	1	H2-1
63	M104	L2 1/2x2x5/16	.182	4.507	2	.002	4.507	z	16	12.995	28.24	.286	1.526	1	H2-1
64	M105	L2 1/2x2x5/16	.182	4.507	6	.002	4.507	z	12	12.995	28.24	.286	1.526	1	H2-1
65	M119	L3 1/2x3x1/4	.393	6.588	7	.003	6.863	y	15	14.741	33.629	.509	2.291	1	H2-1
66	M120	L3 1/2x3x1/4	.435	0	5	.004	6.863	y	16	14.741	33.629	.509	2.334	1	H2-1
67	M121	L3 1/2x3x1/4	.412	0	5	.003	6.863	z	18	14.741	33.629	.509	2.334	1	H2-1
68	M122	L3 1/2x3x1/4	.386	0	3	.003	6.863	y	14	14.741	33.629	.509	2.334	1	H2-1
69	M123	L3 1/2x3x1/4	.451	6.451	3	.003	6.863	y	11	14.741	33.629	.509	2.291	1	H2-1
70	M124	L3 1/2x3x1/4	.414	0	9	.004	6.863	y	12	14.741	33.629	.509	2.334	1	H2-1
71	M125	L3 1/2x3x1/4	.440	6.451	9	.003	6.863	y	16	14.741	33.629	.509	2.291	1	H2-1
72	M126	L3 1/2x3x1/4	.450	0	7	.003	6.863	y	18	14.741	33.629	.509	2.334	1	H2-1
73	M135	L3 1/2x3x1/4	.359	6.361	7	.003	6.627	z	12	15.254	33.629	.509	2.314	1	H2-1
74	M136	L3 1/2x3x1/4	.394	0	5	.003	6.627	z	18	15.254	33.629	.509	2.357	1	H2-1
75	M137	L3 1/2x3x1/4	.385	6.229	5	.003	6.627	z	18	15.254	33.629	.509	2.314	1	H2-1
76	M138	L3 1/2x3x1/4	.355	0	3	.003	6.627	z	16	15.254	33.629	.509	2.357	1	H2-1
77	M139	L3 1/2x3x1/4	.425	6.096	3	.003	6.627	z	16	15.254	33.629	.509	2.314	1	H2-1
78	M140	L3 1/2x3x1/4	.375	0	9	.003	6.627	z	14	15.254	33.629	.509	2.357	1	H2-1
79	M141	L3 1/2x3x1/4	.401	6.229	9	.003	6.627	z	14	15.254	33.629	.509	2.314	1	H2-1
80	M142	L3 1/2x3x1/4	.415	0	7	.003	6.627	z	12	15.254	33.629	.509	2.357	1	H2-1
81	M160	L3 1/2x3x1/4	.388	0	7	.003	7.222	z	12	13.61	33.629	.509	2.284	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
82	M161	L3 1/2x3x1/4	.437	0	5	.004	7.222	z	18	13.61	33.629	.509	2.284	1	H2-1
83	M162	L3 1/2x3x1/4	.416	6.485	5	.003	7.222	z	18	13.61	33.629	.509	2.243	1	H2-1
84	M163	L3 1/2x3x1/4	.388	0	3	.004	7.222	z	16	13.61	33.629	.509	2.284	1	H2-1
85	M164	L3 1/2x3x1/4	.458	0	3	.003	7.222	z	16	13.61	33.629	.509	2.284	1	H2-1
86	M165	L3 1/2x3x1/4	.410	0	9	.004	7.222	z	14	13.61	33.629	.509	2.284	1	H2-1
87	M166	L3 1/2x3x1/4	.441	6.485	9	.003	7.222	z	14	13.61	33.629	.509	2.243	1	H2-1
88	M167	L3 1/2x3x1/4	.460	6.78	7	.004	7.222	z	12	13.61	33.629	.509	2.284	1	H2-1
89	M176	L3 1/2x3x1/4	.351	0	7	.003	6.969	z	12	14.18	33.629	.509	2.31	1	H2-1
90	M177	L3 1/2x3x1/4	.396	0	5	.003	6.969	z	18	14.18	33.629	.509	2.31	1	H2-1
91	M178	L3 1/2x3x1/4	.372	0	5	.003	6.969	z	18	14.18	33.629	.509	2.31	1	H2-1
92	M179	L3 1/2x3x1/4	.351	0	3	.003	6.969	z	16	14.18	33.629	.509	2.31	1	H2-1
93	M180	L3 1/2x3x1/4	.416	0	3	.003	6.969	z	16	14.18	33.629	.509	2.31	1	H2-1
94	M181	L3 1/2x3x1/4	.372	0	9	.003	6.969	z	14	14.18	33.629	.509	2.31	1	H2-1
95	M182	L3 1/2x3x1/4	.401	6.258	9	.003	6.969	z	14	14.18	33.629	.509	2.267	1	H2-1
96	M183	L3 1/2x3x1/4	.416	0	7	.003	6.969	z	12	14.18	33.629	.509	2.31	1	H2-1
97	M201	L3 1/2x3x1/4	.497	0	7	.004	7.756	z	12	12.18	33.629	.509	2.232	1	H2-1
98	M202	L3 1/2x3x1/4	.553	0	5	.004	7.756	z	17	12.18	33.629	.509	2.232	1	H2-1
99	M203	L3 1/2x3x1/4	.519	0	5	.004	7.756	z	18	12.18	33.629	.509	2.232	1	H2-1
100	M204	L3 1/2x3x1/4	.496	0	3	.004	7.756	z	15	12.18	33.629	.509	2.232	1	H2-1
101	M205	L3 1/2x3x1/4	.574	6.648	3	.004	7.756	z	16	12.18	33.629	.509	2.192	1	H2-1
102	M206	L3 1/2x3x1/4	.520	0	9	.004	7.756	z	13	12.18	33.629	.509	2.232	1	H2-1
103	M207	L3 1/2x3x1/4	.552	0	9	.004	7.756	z	14	12.18	33.629	.509	2.232	1	H2-1
104	M208	L3 1/2x3x1/4	.574	0	7	.004	7.756	z	11	12.18	33.629	.509	2.232	1	H2-1
105	M217	L3 1/2x3x1/4	.418	6.721	7	.004	7.485	z	12	12.787	33.629	.509	2.217	1	H2-1
106	M218	L3 1/2x3x1/4	.470	0	5	.004	7.485	z	18	12.787	33.629	.509	2.258	1	H2-1
107	M219	L3 1/2x3x1/4	.445	6.721	5	.004	7.485	z	18	12.787	33.629	.509	2.217	1	H2-1
108	M220	L3 1/2x3x1/4	.416	0	3	.004	7.485	z	16	12.787	33.629	.509	2.258	1	H2-1
109	M221	L3 1/2x3x1/4	.491	0	3	.004	7.485	z	16	12.787	33.629	.509	2.258	1	H2-1
110	M222	L3 1/2x3x1/4	.440	0	9	.004	7.485	z	14	12.787	33.629	.509	2.258	1	H2-1
111	M223	L3 1/2x3x1/4	.471	6.721	9	.004	7.485	z	14	12.787	33.629	.509	2.217	1	H2-1
112	M224	L3 1/2x3x1/4	.490	0	7	.004	7.485	z	12	12.787	33.629	.509	2.258	1	H2-1
113	M234	2L2 1/2x2 1/2x1/4x3/4	.392	4.151	8	.002	7.116	y	12	21.263	51.305	4.236	2.271	1	H1-1a
114	M237	2L2 1/2x2 1/2x1/4x3/4	.396	4.151	4	.002	7.116	y	18	21.263	51.305	4.236	2.271	1	H1-1a
115	M241	2L2 1/2x2 1/2x1/4x3/4	.380	4.151	6	.002	7.116	y	18	21.263	51.305	4.236	2.271	1	H1-1a
116	M244	2L2 1/2x2 1/2x1/4x3/4	.379	4.151	2	.002	7.116	y	16	21.263	51.305	4.236	2.271	1	H1-1a
117	M248	2L2 1/2x2 1/2x1/4x3/4	.421	4.151	4	.002	7.116	y	16	21.263	51.305	4.236	2.271	1	H1-1a
118	M251	2L2 1/2x2 1/2x1/4x3/4	.417	4.151	8	.002	7.116	y	14	21.263	51.305	4.236	2.271	1	H1-1a
119	M255	2L2 1/2x2 1/2x1/4x3/4	.438	4.151	2	.002	7.116	y	14	21.263	51.305	4.236	2.271	1	H1-1a
120	M258	2L2 1/2x2 1/2x1/4x3/4	.438	4.151	6	.002	7.116	y	12	21.263	51.305	4.236	2.271	1	H1-1a
121	M267	2L2 1/2x2 1/2x1/4x3/4	.376	4.091	8	.002	7.012	y	12	21.778	51.305	4.236	2.271	1	H1-1a
122	M270	2L2 1/2x2 1/2x1/4x3/4	.381	5.259	5	.002	7.012	y	18	21.778	51.305	4.236	2.271	1	H1-1a

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
123	M274	2L2 1/2x2 1/2x1/4x3/4	.365	4.237	6	.002	7.012	y	18	21.778	51.305	4.236	2.271	1	H1-1a
124	M277	2L2 1/2x2 1/2x1/4x3/4	.364	4.237	2	.002	7.012	y	16	21.778	51.305	4.236	2.271	1	H1-1a
125	M281	2L2 1/2x2 1/2x1/4x3/4	.404	4.091	4	.002	7.012	y	16	21.778	51.305	4.236	2.271	1	H1-1a
126	M284	2L2 1/2x2 1/2x1/4x3/4	.400	4.091	8	.002	7.012	y	14	21.778	51.305	4.236	2.271	1	H1-1a
127	M288	2L2 1/2x2 1/2x1/4x3/4	.421	9.496	2	.002	7.012	y	14	21.778	51.305	4.236	2.271	1	H1-1a
128	M291	2L2 1/2x2 1/2x1/4x3/4	.421	9.496	6	.002	7.012	y	12	21.778	51.305	4.236	2.271	1	H1-1a
129	M22	L2 1/2x2 1/2x1/4	.251	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
130	M23	L2 1/2x2 1/2x1/4	.245	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
131	M24	L2 1/2x2 1/2x1/4	.249	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
132	M25	L2 1/2x2 1/2x1/4	.237	7.5	4	.008	7.5	z	13	5.856	25.653	.295	1.366	1	H2-1
133	M34	L2 1/2x2 1/2x1/4	.201	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
134	M35	L2 1/2x2 1/2x1/4	.197	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
135	M36	L2 1/2x2 1/2x1/4	.199	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
136	M37	L2 1/2x2 1/2x1/4	.189	7.5	4	.008	7.5	z	13	5.856	25.653	.295	1.366	1	H2-1
137	M46	L2 1/2x2 1/2x1/4	.157	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
138	M47	L2 1/2x2 1/2x1/4	.153	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
139	M48	L2 1/2x2 1/2x1/4	.155	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
140	M49	L2 1/2x2 1/2x1/4	.146	7.5	4	.008	7.5	z	13	5.856	25.653	.295	1.366	1	H2-1
141	M58	L2 1/2x2 1/2x1/4	.117	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
142	M59	L2 1/2x2 1/2x1/4	.114	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
143	M60	L2 1/2x2 1/2x1/4	.115	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
144	M61	L2 1/2x2 1/2x1/4	.108	7.5	4	.008	7.5	z	13	5.856	25.653	.295	1.366	1	H2-1
145	M70	L2 1/2x2 1/2x1/4	.080	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
146	M71	L2 1/2x2 1/2x1/4	.078	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
147	M72	L2 1/2x2 1/2x1/4	.078	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
148	M73	L2 1/2x2 1/2x1/4	.073	7.5	4	.008	7.5	z	12	5.856	25.653	.295	1.366	1	H2-1
149	M82	L2 1/2x2 1/2x1/4	.049	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
150	M83	L2 1/2x2 1/2x1/4	.047	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
151	M84	L2 1/2x2 1/2x1/4	.047	0	6	.009	7.5	z	15	5.856	25.653	.295	1.366	1	H2-1
152	M85	L2 1/2x2 1/2x1/4	.043	7.5	4	.008	7.5	z	18	5.856	25.653	.295	1.366	1	H2-1
153	M94	L2 1/2x2 1/2x1/4	.020	0	2	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
154	M95	L2 1/2x2 1/2x1/4	.019	0	8	.005	7.5	z	10	5.856	25.653	.295	1.366	1	H2-1
155	M96	L2 1/2x2 1/2x1/4	.018	0	6	.009	7.5	z	11	5.856	25.653	.295	1.366	1	H2-1
156	M97	L2 1/2x2 1/2x1/4	.016	7.5	4	.008	7.5	z	17	5.856	25.653	.295	1.366	1	H2-1
157	M110	L2 1/2x2 1/2x1/4	.295	0	2	.004	3.75	y	15	5.856	25.653	.295	1.599	1	H2-1
158	M111	L2 1/2x2 1/2x1/4	.289	7.5	8	.004	3.75	z	13	5.856	25.653	.295	1.599	1	H2-1
159	M112	L2 1/2x2 1/2x1/4	.300	3.906	6	.018	5	z	11	5.856	25.653	.295	1.599	1	H2-1
160	M113	L2 1/2x2 1/2x1/4	.286	3.516	4	.017	2.5	z	17	5.856	25.653	.295	1.599	1	H2-1
161	M127	L2 1/2x2 1/2x1/4	.698	0	2	.004	4.108	z	15	4.817	25.653	.295	1.571	1	H2-1
162	M128	L2 1/2x2 1/2x1/4	.685	8.216	8	.004	4.108	z	13	4.817	25.653	.295	1.571	1	H2-1
163	M129	L2 1/2x2 1/2x1/4	.705	4.365	6	.012	4.108	y	18	4.817	25.653	.295	1.571	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
164	M130	L2 1/2x2 1/2x1/4	.675	3.766	4	.014	4.108	y	18	4.817	25.653	.295	1.571	1	H2-1
165	M151	L2 1/2x2 1/2x1/4	.262	4.094	2	.018	4.466	z	16	11.42	25.653	.295	1.544	1	H2-1
166	M152	L2 1/2x2 1/2x1/4	.253	3.163	8	.012	4.466	z	13	11.42	25.653	.295	1.544	1	H2-1
167	M153	L2 1/2x2 1/2x1/4	.261	4.094	6	.018	4.466	z	12	11.42	25.653	.295	1.544	1	H2-1
168	M154	L2 1/2x2 1/2x1/4	.248	3.163	4	.012	4.466	z	17	11.42	25.653	.295	1.544	1	H2-1
169	M168	L2 1/2x2 1/2x1/4	.740	0	2	.004	4.823	z	15	3.432	25.653	.295	1.519	1	H2-1
170	M169	L2 1/2x2 1/2x1/4	.729	9.647	8	.004	4.823	z	13	3.432	25.653	.295	1.519	1	H2-1
171	M170	L2 1/2x2 1/2x1/4	.737	9.647	6	.004	4.823	z	11	3.432	25.653	.295	1.519	1	H2-1
172	M171	L2 1/2x2 1/2x1/4	.713	0	4	.004	4.823	z	17	3.432	25.653	.295	1.519	1	H2-1
173	M192	L2 1/2x2 1/2x1/4	.364	4.75	2	.019	5.181	z	18	7.577	25.653	.295	1.494	1	H2-1
174	M193	L2 1/2x2 1/2x1/4	.353	3.562	8	.013	5.181	z	13	7.577	25.653	.295	1.494	1	H2-1
175	M194	L2 1/2x2 1/2x1/4	.363	4.75	6	.019	5.181	z	14	7.577	25.653	.295	1.494	1	H2-1
176	M195	L2 1/2x2 1/2x1/4	.346	3.454	4	.013	5.181	z	17	7.577	25.653	.295	1.494	1	H2-1
177	M209	L2 1/2x2 1/2x1/4	1.185	0	2	.005	5.539	z	15	2.674	25.653	.295	1.47	1	H2-1
178	M210	L2 1/2x2 1/2x1/4	1.170	11.078	8	.005	5.539	z	13	2.674	25.653	.295	1.47	1	H2-1
179	M211	L2 1/2x2 1/2x1/4	1.181	11.078	6	.005	5.539	z	11	2.674	25.653	.295	1.47	1	H2-1
180	M212	L2 1/2x2 1/2x1/4	1.146	0	4	.005	5.539	z	17	2.674	25.653	.295	1.47	1	H2-1
181	M233	2L2 1/2x2 1/2x1/4x3/4	.128	6.344	5	.004	6.344	y	15	31.87	51.305	4.236	1.419	1	H1-1b
182	M240	2L2 1/2x2 1/2x1/4x3/4	.123	6.344	5	.004	6.344	y	13	31.87	51.305	4.236	1.419	1	H1-1b
183	M247	2L2 1/2x2 1/2x1/4x3/4	.132	6.344	3	.004	6.344	y	11	31.87	51.305	4.236	1.419	1	H1-1b
184	M254	2L2 1/2x2 1/2x1/4x3/4	.132	6.344	7	.004	6.344	y	17	31.87	51.305	4.236	1.419	1	H1-1b
185	M266	2L2 1/2x2 1/2x1/4x3/4	.117	5.897	5	.004	5.897	y	15	34.051	51.305	4.236	1.419	1	H1-1b
186	M273	2L2 1/2x2 1/2x1/4x3/4	.113	5.897	5	.004	5.897	y	13	34.051	51.305	4.236	1.419	1	H1-1b
187	M280	2L2 1/2x2 1/2x1/4x3/4	.119	5.897	3	.004	5.897	y	11	34.051	51.305	4.236	1.419	1	H1-1b
188	M287	2L2 1/2x2 1/2x1/4x3/4	.119	5.897	7	.004	5.897	y	17	34.051	51.305	4.236	1.419	1	H1-1b
189	M131	L2 1/2x2x1/4	.028	2.318	3	.004	4.279	y	16	11.481	22.85	.23	1.212	1	H2-1
190	M132	L2 1/2x2x1/4	.024	5.706	7	.004	4.279	y	14	11.481	22.85	.23	1.212	1	H2-1
191	M133	L2 1/2x2x1/4	.038	2.229	7	.004	4.279	y	12	11.481	22.85	.23	1.212	1	H2-1
192	M134	L2 1/2x2x1/4	.025	8.559	3	.004	4.279	y	18	11.481	22.85	.23	1.224	1	H2-1
193	M143	L2 1/2x2x1/4	.016	7.842	9	.003	3.921	y	15	12.909	22.85	.23	1.248	1	H2-1
194	M144	L2 1/2x2x1/4	.015	7.842	6	.004	3.921	y	14	12.909	22.85	.23	1.248	1	H2-1
195	M145	L2 1/2x2x1/4	.020	1.797	7	.003	3.921	y	11	12.909	22.85	.23	1.236	1	H2-1
196	M146	L2 1/2x2x1/4	.017	7.842	2	.004	3.921	y	18	12.909	22.85	.23	1.248	1	H2-1
197	M172	L2 1/2x2x1/4	.039	9.992	9	.004	4.996	y	16	8.797	22.85	.23	1.179	1	H2-1
198	M173	L2 1/2x2x1/4	.047	3.122	9	.004	4.996	y	14	8.797	22.85	.23	1.168	1	H2-1
199	M174	L2 1/2x2x1/4	.039	0	7	.004	4.996	y	12	8.797	22.85	.23	1.179	1	H2-1
200	M175	L2 1/2x2x1/4	.040	9.992	3	.004	4.996	y	18	8.797	22.85	.23	1.179	1	H2-1
201	M184	L2 1/2x2x1/4	.031	9.275	9	.004	4.638	y	16	10.101	22.85	.23	1.201	1	H2-1
202	M185	L2 1/2x2x1/4	.033	2.802	9	.004	4.638	y	14	10.101	22.85	.23	1.19	1	H2-1
203	M186	L2 1/2x2x1/4	.031	0	7	.004	4.638	y	12	10.101	22.85	.23	1.201	1	H2-1
204	M187	L2 1/2x2x1/4	.031	9.275	3	.004	4.638	y	18	10.101	22.85	.23	1.201	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
205	M213	L2 1/2x2x1/4	.067	11.425	9	.004	5.712	y	16	6.636	22.85	.23	1.137	1	H2-1
206	M214	L2 1/2x2x1/4	.065	11.425	7	.004	5.712	y	14	6.636	22.85	.23	1.137	1	H2-1
207	M215	L2 1/2x2x1/4	.066	0	7	.004	5.712	y	12	6.636	22.85	.23	1.137	1	H2-1
208	M216	L2 1/2x2x1/4	.066	11.425	3	.004	5.712	y	18	6.636	22.85	.23	1.137	1	H2-1
209	M225	L2 1/2x2x1/4	.050	10.708	9	.004	5.354	y	16	7.603	22.85	.23	1.158	1	H2-1
210	M226	L2 1/2x2x1/4	.049	6.916	7	.004	5.354	y	14	7.603	22.85	.23	1.148	1	H2-1
211	M227	L2 1/2x2x1/4	.050	0	7	.004	5.354	y	12	7.603	22.85	.23	1.158	1	H2-1
212	M228	L2 1/2x2x1/4	.050	10.708	3	.004	5.354	y	18	7.603	22.85	.23	1.158	1	H2-1
213	M5	L2 1/2x2 1/2x1/4	.009	0	2	.005	7.5	z	10	5.13	25.653	.295	1.339	1	H2-1
214	M6	L2 1/2x2 1/2x1/4	.010	0	8	.005	7.5	z	10	5.13	25.653	.295	1.339	1	H2-1
215	M7	L2 1/2x2 1/2x1/4	.007	0	6	.009	7.5	z	11	5.13	25.653	.295	1.339	1	H2-1
216	M8	L2 1/2x2 1/2x1/4	.006	7.5	4	.008	7.5	z	17	5.13	25.653	.295	1.339	1	H2-1
217	M297A	L3x3x3/16_HRA	.087	5.303	5	.008	5.303	z	18	12.322	23.497	.339	1.541	1	H2-1
218	M298A	L3x3x3/16_HRA	.010	0	18	.002	0	y	3	12.394	23.497	.339	1.541	1	H2-1
219	M299	L3x3x3/16_HRA	.005	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
220	M300	L3x3x3/16_HRA	.005	0	17	.006	3.536	y	18	16.794	23.497	.339	1.716	1	H2-1
221	M301	L3x3x3/16_HRA	.073	5.303	5	.008	5.303	z	18	12.322	23.497	.339	1.541	1	H2-1
222	M302	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
223	M303	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
224	M304	L3x3x3/16_HRA	.004	0	17	.006	3.536	y	18	16.794	23.497	.339	1.716	1	H2-1
225	M305	L3x3x3/16_HRA	.060	5.303	5	.008	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1
226	M306	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
227	M307	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
228	M308	L3x3x3/16_HRA	.004	0	17	.006	3.536	y	18	16.794	23.497	.339	1.716	1	H2-1
229	M309	L3x3x3/16_HRA	.048	5.303	5	.008	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1
230	M310	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
231	M311	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
232	M312	L3x3x3/16_HRA	.004	0	17	.006	3.536	y	17	16.794	23.497	.339	1.716	1	H2-1
233	M313	L3x3x3/16_HRA	.038	5.303	5	.008	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1
234	M314	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
235	M315	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
236	M316	L3x3x3/16_HRA	.004	0	17	.007	3.536	y	17	16.794	23.497	.339	1.716	1	H2-1
237	M317	L3x3x3/16_HRA	.028	5.303	5	.008	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1
238	M318	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
239	M319	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
240	M320	L3x3x3/16_HRA	.004	0	17	.007	3.536	y	17	16.794	23.497	.339	1.716	1	H2-1
241	M321	L3x3x3/16_HRA	.019	5.303	5	.007	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1
242	M322	L3x3x3/16_HRA	.009	0	18	.002	0	y	7	12.394	23.497	.339	1.541	1	H2-1
243	M323	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
244	M324	L3x3x3/16_HRA	.004	0	17	.007	3.536	y	17	16.794	23.497	.339	1.716	1	H2-1
245	M325	L3x3x3/16_HRA	.009	5.303	9	.007	3.536	z	17	12.322	23.497	.339	1.541	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
246	M326	L3x3x3/16_HRA	.009	0	18	.002	0	y	3	12.394	23.497	.339	1.541	1	H2-1
247	M327	L3x3x3/16_HRA	.004	0	11	.007	3.536	y	11	16.794	23.497	.339	1.716	1	H2-1
248	M328	L3x3x3/16_HRA	.004	0	17	.007	3.536	y	17	16.794	23.497	.339	1.716	1	H2-1
249	M289A	L3x3x1/4	.149	0	18	.011	3.873	z	18	14.721	31.042	.447	2.12	1	H2-1
250	M290A	L3x3x1/4	.087	7.182	15	.016	5.303	z	18	16.669	31.042	.447	2.168	1	H2-1
251	M291A	L3x3x1/4	.014	0	18	.002	5.809	y	7	14.961	31.042	.447	2.12	1	H2-1
252	M292A	L3x3x1/4	.018	0	18	.002	0	y	7	16.895	31.042	.447	2.168	1	H2-1
253	M293A	L3x3x1/4	.007	0	18	.004	3.873	y	18	22.441	31.042	.447	2.32	1	H2-1
254	M294A	L3x3x1/4	.007	0	11	.005	3.873	y	11	22.441	31.042	.447	2.32	1	H2-1
255	M295A	L3x3x1/4	.008	0	11	.004	3.536	y	11	23.686	31.042	.447	2.36	1	H2-1
256	M296A	L3x3x1/4	.008	0	17	.003	3.536	y	17	23.686	31.042	.447	2.36	1	H2-1
257	M155	L3x3x3/16_HRA	.226	3.688	14	.006	7.376	z	12	7.428	23.497	-1.232	1.371	1	H2-1
258	M156	L3x3x3/16_HRA	.171	2.627	14	.004	0	z	18	12.517	23.497	-1.232	1.545	1	H2-1
259	M157	L3x3x3/16_HRA	.226	3.688	14	.006	7.376	z	16	7.428	23.497	-1.232	1.371	1	H2-1
260	M158	L3x3x3/16_HRA	.171	2.627	14	.004	0	z	14	12.517	23.497	-1.232	1.545	1	H2-1
261	M159	L3x3x3/16_HRA	.285	4.528	14	.009	0	z	16	4.928	23.497	-1.232	1.249	1	H2-1
262	M196	L3x3x3/16_HRA	.227	4.194	16	.006	8.388	z	12	5.744	23.497	-1.232	1.296	1	H2-1
263	M197	L3x3x3/16_HRA	.121	3.133	16	.005	0	z	18	9.976	23.497	-1.232	1.458	1	H2-1
264	M198	L3x3x3/16_HRA	.227	4.194	16	.006	8.388	z	16	5.744	23.497	-1.232	1.296	1	H2-1
265	M199	L3x3x3/16_HRA	.121	3.133	12	.005	0	z	14	9.976	23.497	-1.232	1.458	1	H2-1
266	M200	L3x3x3/16_HRA	.352	5.235	12	.009	0	z	16	3.686	23.497	-1.232	1.156	1	H2-1
267	M261	L3x3x3/16_HRA	.261	4.486	16	.006	0	z	12	5.021	23.497	-1.232	1.255	1	H2-1
268	M262	L3x3x3/16_HRA	.254	4.486	12	.006	0	z	14	5.021	23.497	-1.232	1.255	1	H2-1
269	M263	L3x3x3/16_HRA	.261	4.486	16	.006	0	z	12	5.021	23.497	-1.232	1.255	1	H2-1
270	M264	L3x3x3/16_HRA	.254	4.486	16	.006	0	z	14	5.021	23.497	-1.232	1.255	1	H2-1
271	M265	L3x3x3/16_HRA	.534	6.344	11	.009	12.688	z	16	2.51	23.497	-1.232	1.021	1	H2-1
272	M294	L3x3x3/16_HRA	.235	4.17	16	.006	0	z	11	5.81	23.497	-1.232	1.3	1	H2-1
273	M295	L3x3x3/16_HRA	.221	4.17	12	.006	0	z	17	5.81	23.497	-1.232	1.3	1	H2-1
274	M296	L3x3x3/16_HRA	.235	4.17	16	.006	0	z	11	5.81	23.497	-1.232	1.3	1	H2-1
275	M297	L3x3x3/16_HRA	.221	4.17	16	.006	0	z	17	5.81	23.497	-1.232	1.3	1	H2-1
276	M298	L3x3x3/16_HRA	.455	5.897	11	.008	0	z	16	2.905	23.497	-1.232	1.074	1	H2-1
277	M1	L5x5x3/8	.568	2.5	7	.002	5	z	6	63.254	77.82	1.867	10.069	1	H2-1
278	M2	L5x5x3/8	.560	2.5	5	.002	5	z	4	63.254	77.82	1.867	10.069	1	H2-1
279	M3	L5x5x3/8	.561	2.5	3	.002	5	y	4	63.254	77.82	1.867	10.069	1	H2-1
280	M4	L5x5x3/8	.570	2.5	9	.002	5	y	2	63.254	77.82	1.867	10.069	1	H2-1
281	M106	L6x6x1/2	.489	8.135	7	.005	5.215	y	6	106.775	123.952	3.534	19.93	1	H2-1
282	M107	L6x6x1/2	.485	8.135	5	.004	5.215	y	4	106.775	123.952	3.534	19.93	1	H2-1
283	M108	L6x6x1/2	.485	8.135	3	.004	5.215	z	4	106.775	123.952	3.534	19.93	1	H2-1
284	M109	L6x6x1/2	.491	8.135	9	.005	5.215	z	2	106.775	123.952	3.534	19.93	1	H2-1
285	M147	L6x6x3/4	.480	2.295	7	.003	5.215	z	7	156.644	181.94	5.199	28.483	1	H2-1
286	M148	L6x6x3/4	.476	2.295	5	.003	5.215	z	5	156.644	181.94	5.199	28.483	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
287	M149	L6x6x3/4	.476	2.295	3	.003	5.215	y	3	156.644	181.94	5.199	28.483	1	H2-1
288	M150	L6x6x3/4	.481	2.295	9	.003	5.215	y	9	156.644	181.94	5.199	28.483	1	H2-1
289	M188	L6x6x3/4	.608	2.92	7	.006	0	y	6	156.876	181.94	5.199	28.483	1	H2-1
290	M189	L6x6x3/4	.603	2.92	5	.005	5.006	z	6	156.876	181.94	5.199	28.483	1	H2-1
291	M190	L6x6x3/4	.603	2.92	3	.005	0	z	4	156.876	181.94	5.199	28.483	1	H2-1
292	M191	L6x6x3/4	.610	2.92	9	.006	0	z	2	156.876	181.94	5.199	28.483	1	H2-1
293	M229	L6x6x7/8	.697	0	7	.008	12.516	y	6	168.854	209.749	6.07	32.062	1	H2-1
294	M230	L6x6x7/8	.691	0	5	.008	12.516	y	4	168.854	209.749	6.07	32.062	1	H2-1
295	M231	L6x6x7/8	.691	0	3	.008	12.516	z	4	168.854	209.749	6.07	32.062	1	H2-1
296	M232	L6x6x7/8	.700	0	9	.009	12.516	z	2	168.854	209.749	6.07	32.062	1	H2-1
297	M236	L2 1/2x2x3/16	.183	0	6	.002	6.914	z	17	3.221	17.44	.176	.744	1	H2-1
298	M239	L2 1/2x2x3/16	.169	0	6	.002	6.914	z	15	3.221	17.44	.176	.744	1	H2-1
299	M243	L2 1/2x2x3/16	.171	0	4	.002	6.914	z	11	3.221	17.44	.176	.744	1	H2-1
300	M246	L2 1/2x2x3/16	.176	0	4	.002	0	z	13	3.221	17.44	.176	.744	1	H2-1
301	M250	L2 1/2x2x3/16	.169	0	2	.002	6.914	z	11	3.221	17.44	.176	.744	1	H2-1
302	M253	L2 1/2x2x3/16	.183	0	2	.002	0	z	10	3.221	17.44	.176	.744	1	H2-1
303	M257	L2 1/2x2x3/16	.177	0	8	.002	6.914	z	15	3.221	17.44	.176	.744	1	H2-1
304	M260	L2 1/2x2x3/16	.171	0	8	.002	0	z	17	3.221	17.44	.176	.744	1	H2-1
305	M269	L2 1/2x2x3/16	.280	0	6	.002	0	z	17	3.308	17.44	.176	.748	1	H2-1
306	M272	L2 1/2x2x3/16	.261	0	6	.002	6.822	z	17	3.308	17.44	.176	.748	1	H2-1
307	M276	L2 1/2x2x3/16	.262	0	4	.002	6.822	z	10	3.308	17.44	.176	.748	1	H2-1
308	M279	L2 1/2x2x3/16	.270	0	4	.002	6.822	z	11	3.308	17.44	.176	.748	1	H2-1
309	M283	L2 1/2x2x3/16	.261	0	2	.002	6.822	z	13	3.308	17.44	.176	.748	1	H2-1
310	M286	L2 1/2x2x3/16	.280	0	2	.002	0	z	17	3.308	17.44	.176	.748	1	H2-1
311	M290	L2 1/2x2x3/16	.272	0	8	.002	0	z	15	3.308	17.44	.176	.748	1	H2-1
312	M293	L2 1/2x2x3/16	.264	0	8	.002	0	z	17	3.308	17.44	.176	.748	1	H2-1
313	M235	L2 1/2x2x3/16	.059	0	3	.002	3.172	z	16	11.363	17.44	.176	.946	1	H2-1
314	M238	L2 1/2x2x3/16	.057	0	9	.002	3.172	z	18	11.363	17.44	.176	.946	1	H2-1
315	M242	L2 1/2x2x3/16	.058	0	9	.002	3.172	z	14	11.363	17.44	.176	.946	1	H2-1
316	M245	L2 1/2x2x3/16	.059	0	7	.002	3.172	z	15	11.363	17.44	.176	.946	1	H2-1
317	M249	L2 1/2x2x3/16	.056	0	7	.002	3.172	z	12	11.363	17.44	.176	.946	1	H2-1
318	M252	L2 1/2x2x3/16	.058	0	5	.002	3.172	z	10	11.363	17.44	.176	.946	1	H2-1
319	M256	L2 1/2x2x3/16	.056	0	5	.002	3.172	z	11	11.363	17.44	.176	.946	1	H2-1
320	M259	L2 1/2x2x3/16	.054	0	3	.002	3.172	z	11	11.363	17.44	.176	.946	1	H2-1
321	M268	L2 1/2x2x3/16	.070	0	2	.002	0	z	11	12.016	17.44	.176	.962	1	H2-1
322	M271	L2 1/2x2x3/16	.066	0	2	.002	0	z	13	12.016	17.44	.176	.962	1	H2-1
323	M275	L2 1/2x2x3/16	.066	0	8	.002	0	z	11	12.016	17.44	.176	.962	1	H2-1
324	M278	L2 1/2x2x3/16	.068	0	8	.002	0	z	11	12.016	17.44	.176	.962	1	H2-1
325	M282	L2 1/2x2x3/16	.066	0	6	.002	0	z	16	12.016	17.44	.176	.962	1	H2-1
326	M285	L2 1/2x2x3/16	.069	0	6	.002	0	z	18	12.016	17.44	.176	.962	1	H2-1
327	M289	L2 1/2x2x3/16	.067	0	4	.002	0	z	14	12.016	17.44	.176	.962	1	H2-1

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

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
328	M292	L2 1/2x2x3/16	.065	0	4	.002	0	z	16	12.016	17.44	.176	.962	1	H2-1
329	M329	L2 1/2x2x1/4	.011	0	15	.000	4.847	y	13	8.467	22.85	.23	1.174	1	H2-1
330	M330	L2 1/2x2x1/4	.011	0	13	.000	0	y	10	8.467	22.85	.23	1.174	1	H2-1
331	M331	L2 1/2x2x1/4	.011	0	11	.000	0	y	17	8.467	22.85	.23	1.174	1	H2-1
332	M332	L2 1/2x2x1/4	.012	0	17	.000	4.847	y	12	8.467	22.85	.23	1.174	1	H2-1
333	M333	L2 1/2x2x1/4	.025	0	11	.000	4.836	y	11	8.505	22.85	.23	1.174	1	H2-1
334	M334	L2 1/2x2x1/4	.020	0	17	.000	0	y	17	8.505	22.85	.23	1.174	1	H2-1
335	M335	L2 1/2x2x1/4	.025	0	15	.000	0	y	12	8.505	22.85	.23	1.174	1	H2-1
336	M336	L2 1/2x2x1/4	.020	0	13	.000	4.836	y	14	8.505	22.85	.23	1.174	1	H2-1
337	M337	L2 1/2x2x1/4	.011	0	15	.000	0	y	15	8.548	22.85	.23	1.175	1	H2-1
338	M338	L2 1/2x2x1/4	.010	0	13	.000	4.824	y	16	8.548	22.85	.23	1.175	1	H2-1
339	M339	L2 1/2x2x1/4	.011	0	11	.000	4.824	y	11	8.548	22.85	.23	1.175	1	H2-1
340	M340	L2 1/2x2x1/4	.011	0	17	.000	4.824	y	10	8.548	22.85	.23	1.175	1	H2-1
341	M341	L2 1/2x2x1/4	.024	0	15	.000	0	y	13	8.597	22.85	.23	1.176	1	H2-1
342	M342	L2 1/2x2x1/4	.019	0	13	.000	0	y	14	8.597	22.85	.23	1.176	1	H2-1
343	M343	L2 1/2x2x1/4	.024	0	11	.000	0	y	10	8.597	22.85	.23	1.176	1	H2-1
344	M344	L2 1/2x2x1/4	.019	0	17	.000	4.81	y	17	8.597	22.85	.23	1.176	1	H2-1
345	M345	L2 1/2x2x1/4	.010	0	15	.000	0	y	12	8.655	22.85	.23	1.177	1	H2-1
346	M346	L2 1/2x2x1/4	.010	0	13	.000	0	y	12	8.655	22.85	.23	1.177	1	H2-1
347	M347	L2 1/2x2x1/4	.017	0	11	.000	0	y	15	8.655	22.85	.23	1.177	1	H2-1
348	M348	L2 1/2x2x1/4	.017	0	17	.000	4.794	y	15	8.655	22.85	.23	1.177	1	H2-1
349	M349	L2 1/2x2x1/4	.010	0	15	.000	4.775	y	11	8.724	22.85	.23	1.178	1	H2-1
350	M350	L2 1/2x2x1/4	.010	0	13	.000	4.775	y	14	8.724	22.85	.23	1.178	1	H2-1
351	M351	L2 1/2x2x1/4	.018	0	11	.000	0	y	13	8.724	22.85	.23	1.178	1	H2-1
352	M352	L2 1/2x2x1/4	.018	0	17	.000	4.775	y	11	8.724	22.85	.23	1.178	1	H2-1

Project #: 2014723.01.SNET009.01

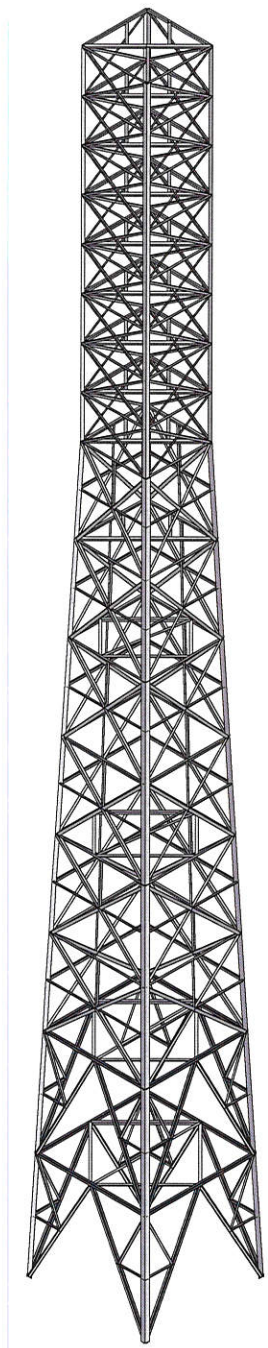
Bolt Checks

Date: 6/5/2014

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
T1	127	Leg	A325N	0.75	12	36.271	6.045	18.56	0.326	1.333	24.4%
		Diagonal	A325N	0.75	2	4.231	2.116	9.06	0.233	1.333	17.5%
		Horizontal	A325N	0.75	2	1.884	0.942	7.25	0.13	1.333	9.7%
T2	87	Leg	A325N	0.75	16	52.74	6.592	18.56	0.355	1.333	26.6%
		Horizontal	A325N	0.75	2	4.109	2.054	7.25	0.283	1.333	21.3%
		Diagonal	A325N	0.75	2	6.633	3.316	8.61	0.385	1.333	28.9%
		Secondary Horizontal	A325N	0.75	2	0.291	0.146	7.25	0.02	1.333	1.5%
T3	67	Leg	A325N	0.75	20	75.655	7.566	18.56	0.408	1.333	30.6%
		Horizontal	A325N	0.75	2	3.617	1.808	7.25	0.249	1.333	18.7%
		Diagonal	A325N	0.75	2	6.232	3.116	8.61	0.362	1.333	27.1%
		Secondary Horizontal	A325N	0.75	2	0.348	0.174	7.25	0.024	1.333	1.8%
T4	47	Leg	A325N	0.75	24	96.639	8.053	18.56	0.434	1.333	32.5%
		Horizontal	A325N	0.75	2	3.949	1.974	7.25	0.272	1.333	20.4%
		Diagonal	A325N	0.75	2	6.995	3.498	8.61	0.406	1.333	30.5%
		Secondary Horizontal	A325N	0.75	2	0.443	0.222	7.25	0.031	1.333	2.3%
T5	27	Horizontal	A325N	0.75	2	5.066	2.533	14.5	0.175	1.333	13.1%
		Diagonal	A325N	0.75	2	9.02	4.51	14.5	0.311	1.333	23.3%
		Anchor Rods	C1015	2	4	118.142	29.536	58.057	0.509	1.333	38.2%
										Maximum Capacity	38.2%

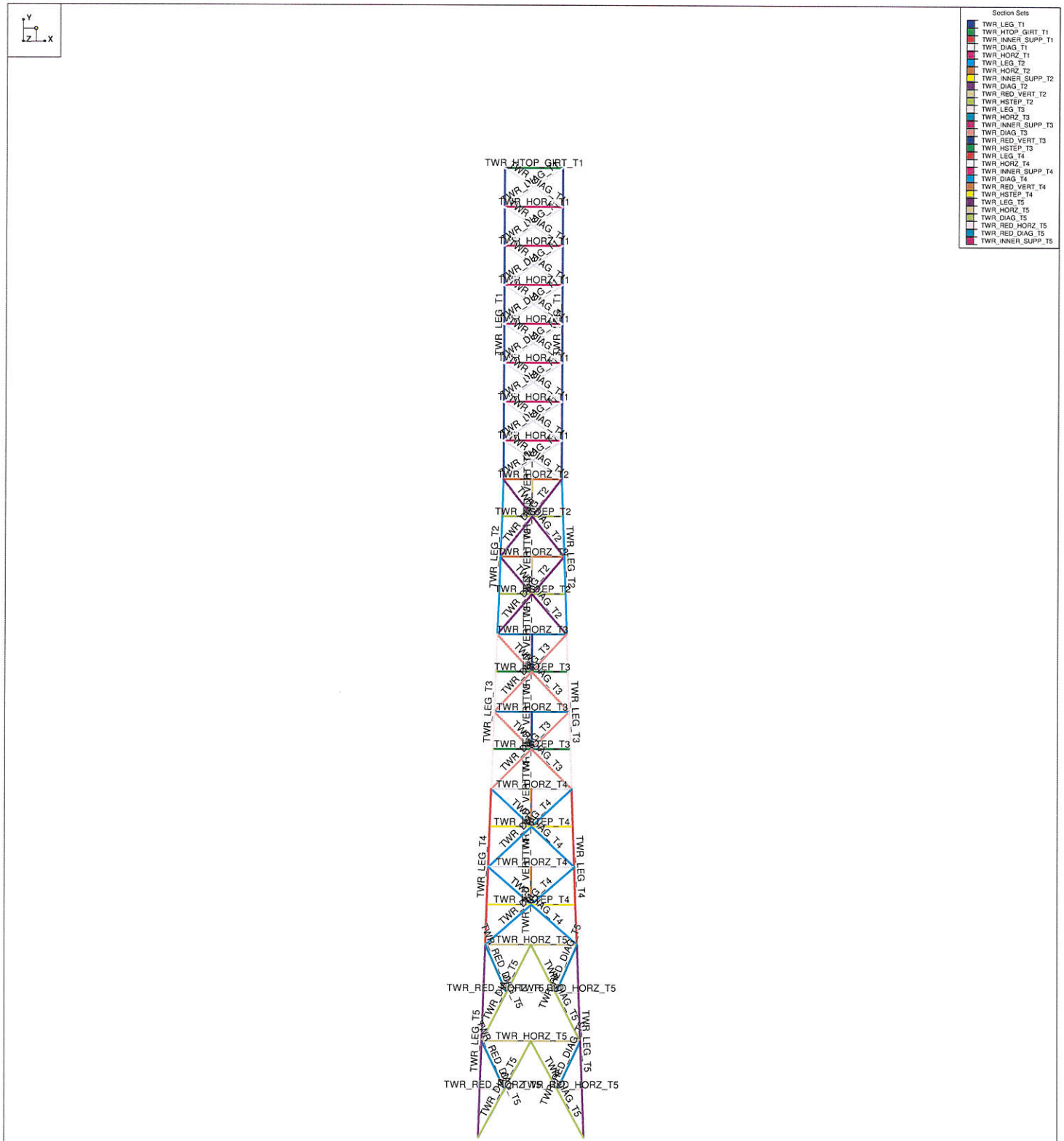
APPENDIX C

Tower Elevation Drawing



Solution: Envelope

GPD Group	SNET009 GLASTONBURY	SK - 1
tclark		June 5, 2014 at 5:39 PM
2014723.01.SNET009.01		SNET009 - Dishes Removed.rt3



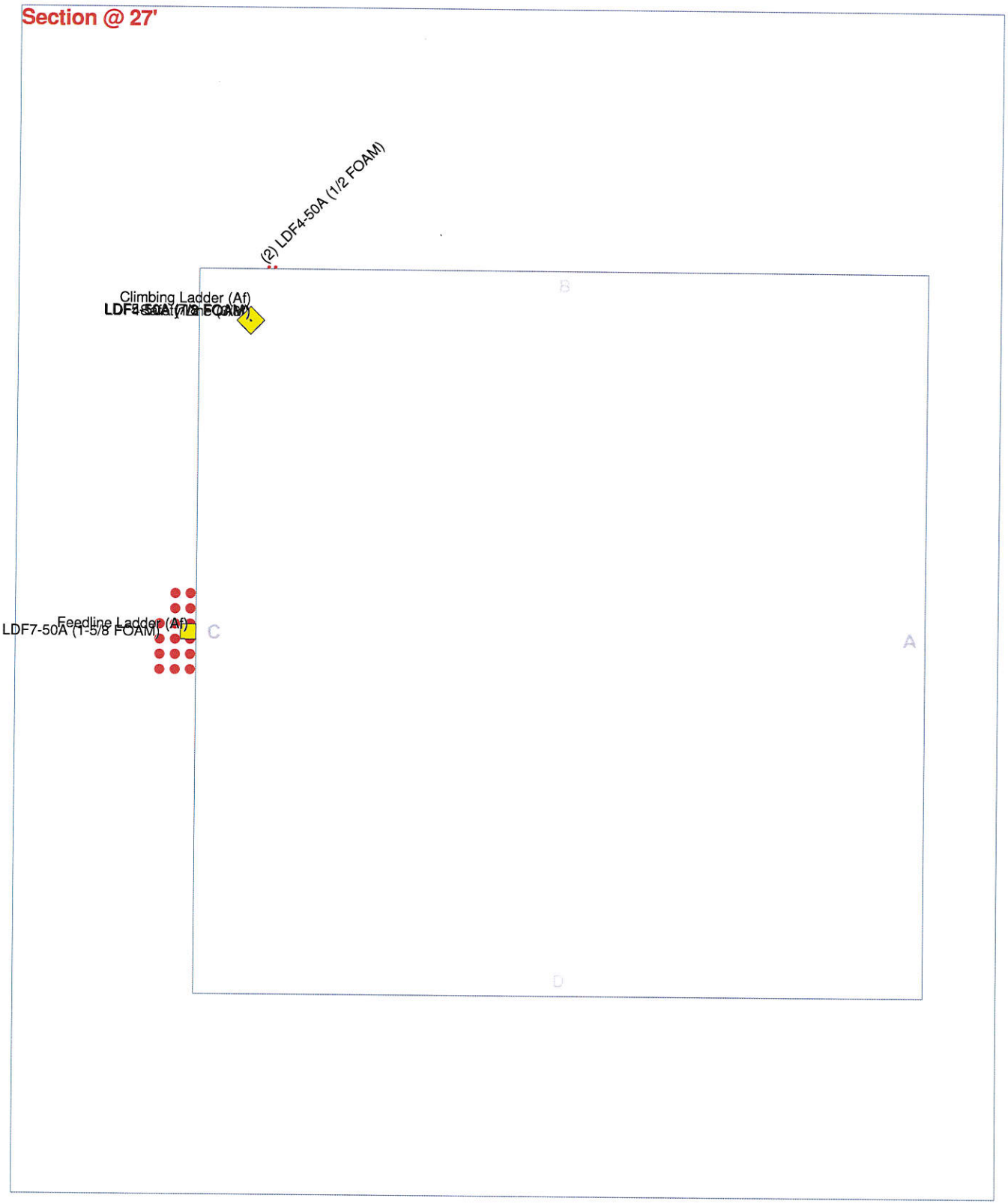
Solution: Envelope

GPD Group	SNET009 GLASTONBURY	SK - 2
tclark		June 5, 2014 at 5:40 PM
2014723.01.SNET009.01		SNET009 - Dishes Removed.rt3

27'

Round Flat App In Face App Out Face

Section @ 27'



GPD Group	**GPD Group** 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	Job: ***SNET009 GLASTONBURY***	
		Project: ***2014723.01.SNET009.01***	
		Client: AT&T Towers / Drawn by: tclark / App'd:	
		Code: TIA/EIA-222-F / Date: 06/03/14 / Scale: N	
		Path: N:\2011\ATandT\SNET009\01 2014723.01.SNET009.01 AT&T RAN\Software Models\sv\SNET009 - rg.dishes.arf	Dwg No.