



smartlink

EM-CING-080-140430

April 25, 2014

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

RECEIVED  
APR 30 2014

CONNECTICUT  
SITING COUNCIL

**Re:** Notice of Exempt Modification – Addition of Three (3) Remote Radio Units

**Property Address:** 450-478 West Main Street, Meriden, CT 06451 (the “Property”)

**Applicant:** New Cingular Wireless PCS, LLC (“AT&T”)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 100-foot tower owned by AT&T Towers and located on the Property (“Tower”). AT&T’s facility consists of nine (9) wireless telecommunication antennas at a height of 99-feet. The Connecticut Siting Council (the “Council”) approved AT&T’s use of the tower in the following prior decisions; EM-CING-008-049-080-132-151-070904; EM-AT&T-080-120926 and EM-AT&T-080-140210. In its 10/12/2012 decision (the “Decision”), the Council approved for AT&T to install six (6) Remote Radio Units (“RRU”s) but AT&T installed only three (3). AT&T now intends to install the remaining three (3) RRUs to complete the installation. This Exempt Modification Application is necessary because the 10/12/2012 decision is over one year old. Please refer to Tab 1 for further specifications of the new RRUs.

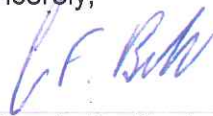
Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72(b) (2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to Manuel A. Santos, Mayor for the City of Meriden, CT. A copy of this letter is also being sent to Hunter Family Limited Partnership, 450 West Main Street, Meriden, CT 06451, owner of the property where the tower is located.

The planned modifications to AT&T’s 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 the height of the existing tower. AT&T's new RRUs will be installed at the 99-foot level of the 100-foot tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an 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 RF emissions calculation for AT&T's modified facility was provided in the application which led to the 10/12/2012 Decision. Further, attached as Tab 3 please find the Power Density calculations provided by the Council.
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 Tab 2).

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

cc:  
Manuel A. Santos, Mayor for the City of Meriden, CT.  
Hunter Family Limited Partnership, owner of the property

Enclosures

**TAB 1**

PROJECT INFORMATION	
SCOPE OF WORK:	<p><u>ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:</u></p> <ul style="list-style-type: none"> <li>NEW AT&amp;T RRU'S: (1) RRU'S PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) RRU'S</li> </ul> <p><u>ITEMS TO BE INSTALLED IN THE EXISTING AT&amp;T EQUIPMENT AREA:</u></p> <ul style="list-style-type: none"> <li>(1) RX/AT CABINET ON PROPOSED 3'-0" X 3'-0" CONCRETE PAD</li> <li>(6) NEW AT&amp;T DIPLEXERS TO REPLACE (12) EXISTING DIPLEXERS</li> </ul> <p><u>ITEMS TO REMAIN:</u></p> <ul style="list-style-type: none"> <li>(6) GSM/UMTS ANTENNAS, (3) LTE ANTENNAS, (3) RRU'S, &amp; (1) SURGE SUPPRESSOR &amp; (3) TMA'S TO REMAIN</li> </ul>
SITE ADDRESS:	450-478 WEST MAIN STREET MERIDEN, CT 06451
LATITUDE:	41.54003 N      41° 32' 24.12" N
LONGITUDE:	-72.8191 W      72° 49' 8.72" W
USID:	25975
PROPERTY OWNER:	HUNTER FAMILY LIMITED PARTNERSHIP 450 WEST MAIN STREET MERIDEN, CT 06451
TOWER MANAGER:	AT&T TOWERS NETWORK REAL ESTATE 575 MOROSGO DRIVE NE ATLANTA, GA 30324
TYPE OF SITE:	MONOPOLE/OUTDOOR EQUIPMENT
TOWER HEIGHT:	100'-0"±
RAD CENTER:	99'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY



**FA NUMBER: 10071118**  
**SITE NUMBER: CT5378**  
**SITE NAME:**  
**MERIDEN WEST CENTRAL**

PROJECT TEAM	
<u>CLIENT REPRESENTATIVE</u>	<u>RF ENGINEER</u>
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	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
<u>SITE ACQUISITION</u>	<u>CONSTRUCTION MANAGER</u>
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	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
<u>ENGINEERING</u>	
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	

DRAWING INDEX	REV
T-1 TITLE SHEET	1
GN-1 GENERAL NOTES	1
A-1 COMPOUND & EQUIPMENT PLANS	1
A-2 ANTENNA LAYOUTS & ELEVATIONS	1
A-3 DETAILS	1

**VICINITY MAP**

DIRECTIONS TO SITE:  
 FROM FRAMINGHAM, MA:  
 DEPART RT-30W/COCHITUATE RD TOWARD CALDOR RD 0.3 MI. KEEP RIGHT ONTO RT-30/COCHITUATE RD 0.5 MI. BEAR RIGHT ONTO RT-9W/RT-30W/WORCESTER RD 0.8 MI. KEEP LEFT ONTO RT-9 W/WORCESTER RD 2.4 MI. TAKE RAMP RIGHT FOR I-90 WEST TOWARD WORCESTER, SPRINGFIELD 33.5 MI. AT EXIT 9, TAKE RAMP RIGHT FOR I-84 TOWARD NY CITY/HARTFORD 41.7 MI. AT EXIT 57, TAKE RAMP LEFT FOR CT-15 SOUTH TOWARD CHARTER OAK BRIDGE/NY CITY 1.1 MI. KEEP STRAIGHT ONTO US-5 S/CT-15 S 0.8 MI. AT EXIT 86, TAKE RAMP RIGHT FOR I-91 SOUTH TOWARD NEW HAVEN/NY CITY 16.6 MI. AT EXIT 18, TAKE RAMP RIGHT FOR I-691 WEST TOWARD WATERBURY/MERIDEN 2.4 MI. AT EXIT 6, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR LEWIS AVE 0.2 MI. TURN RIGHT ONTO LEWIS AVE 0.8 MI. TURN RIGHT ONTO CT-71/WEST MAIN STREET 0.4 MI. KEEP STRAIGHT FOR WEST MAIN STREET 0.1 MI. ARRIVE AT 462 WEST MAIN STREET IN MERIDEN, THE SITE WILL BE ON YOUR LEFT BEHIND AN EXISTING BUILDING.

**GENERAL NOTES**

- 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.
- 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.
- 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.

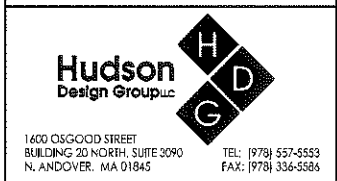


APPROVALS	
DISCIPLINE:	SIGNATURE:      DATE:
SMARTLINK SITE ACQUISITION:	
SMARTLINK CONSTRUCTION MANAGER:	
AT&T PROJECT MANAGER:	

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.

72 HOURS  
 BEFORE YOU DIG

CALL TOLL FREE 800-922-4455



**SITE NUMBER: CT5378**  
**SITE NAME: MERIDEN WEST CENTRAL**  
 450-478 WEST MAIN STREET  
 MERIDEN, CT 06451  
 NEW HAVEN COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/22/14	ISSUED FOR CONSTRUCTION	AP	TH	DPH
0	04/16/14	ISSUED FOR REVIEW	AP	TH	DPH
A	03/04/14	ISSUED FOR REVIEW	RR	TH	DPH

JOB NUMBER	DRAWING NUMBER	REV
5378.01	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 TRANSCIVER 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  
 1400 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: CT5378  
 SITE NAME: MERIDEN WEST CENTRAL  
 450-478 WEST MAIN STREET  
 MERIDEN, CT 06451  
 NEW HAVEN COUNTY



550 COCHITUATE RD.  
 FRAMINGHAM, MA, 01701

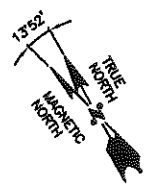
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/22/14	ISSUED FOR CONSTRUCTION	AP	TH	DPH
0	04/16/14	ISSUED FOR REVIEW	AP	TH	DPH
A	03/04/14	ISSUED FOR REVIEW	RR	TH	DPH

SCALE: AS SHOWN    DESIGNED BY: TH    DRAWN BY: RR

*Daniel P. Hamm*  
 No. 24178  
 LICENSED PROFESSIONAL ENGINEER

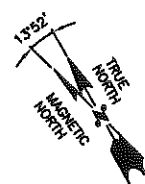
AT&T  
 GENERAL NOTES (LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
5378.01	GN-1	1

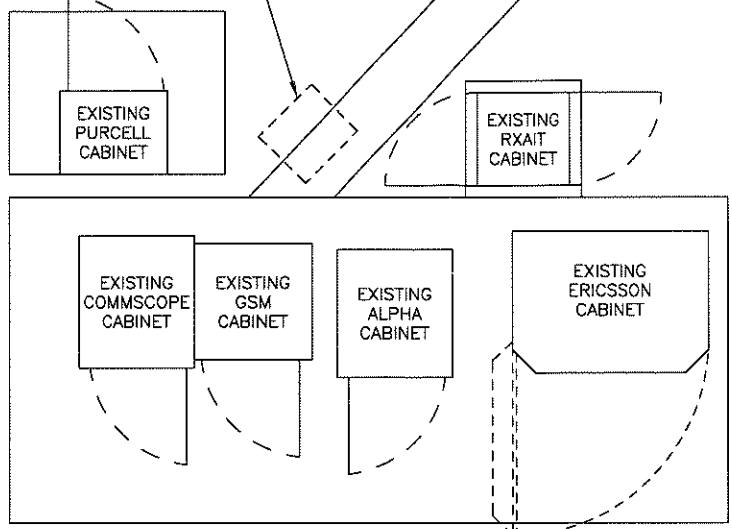


**NOTE:**  
\*RF DATA BASED ON PRELIMINARY INFORMATION. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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



EXISTING (12) DIPLEXERS TO BE REPLACED WITH PROPOSED (6) KAEIUS DBC2055F1V1-2 DIPLEXERS (REMOVE BIAS-T)

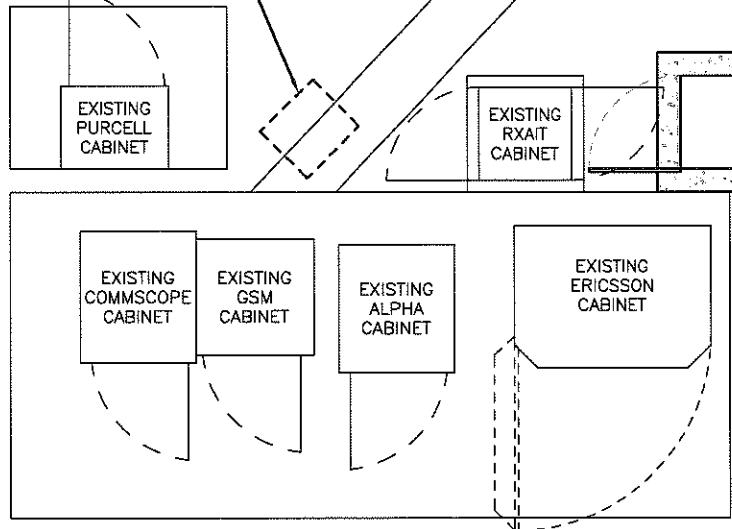


**EXISTING EQUIPMENT PLAN**

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

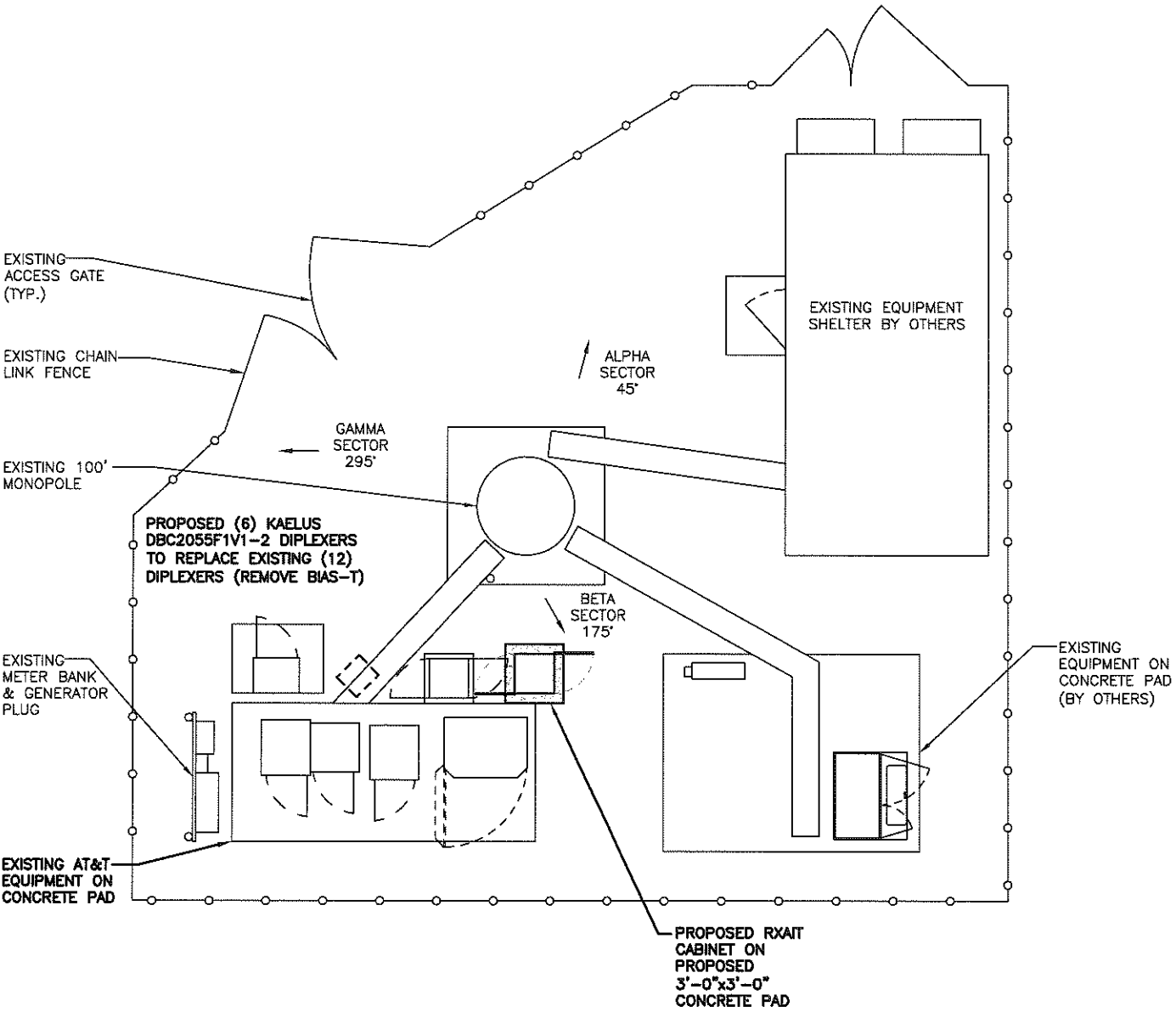
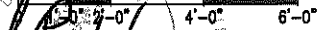


PROPOSED (6) KAEIUS DBC2055F1V1-2 DIPLEXERS TO REPLACE EXISTING (12) DIPLEXERS (REMOVE BIAS-T)



**PROPOSED EQUIPMENT PLAN**

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



**COMPOUND PLAN**

SCALE: 1/4"= 1'-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: CT5378**  
**SITE NAME: MERIDEN WEST CENTRAL**  
450-478 WEST MAIN STREET  
MERIDEN, CT 06451  
NEW HAVEN COUNTY

**at&t**  
550 COCHITUATE RD.  
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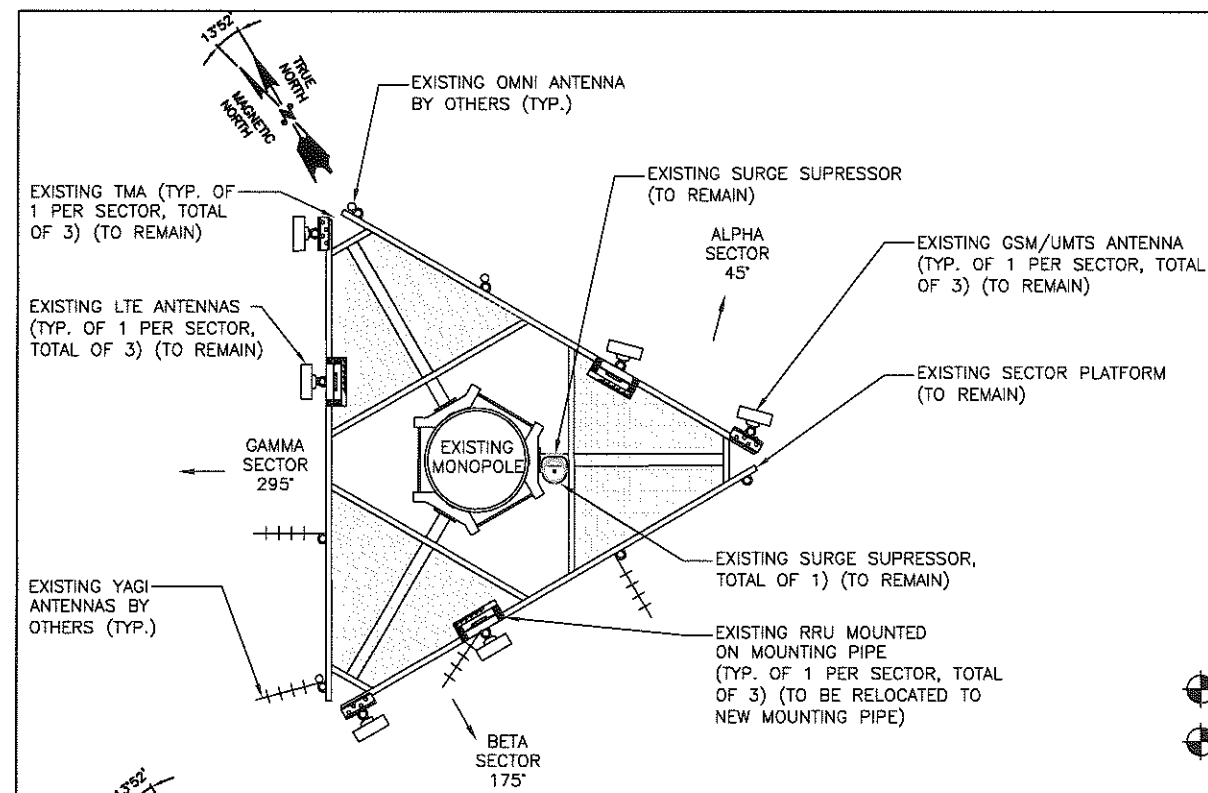
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**Daniel P. Hamm**  
STATE OF CONNECTICUT  
No. 24178  
LICENSED PROFESSIONAL ENGINEER

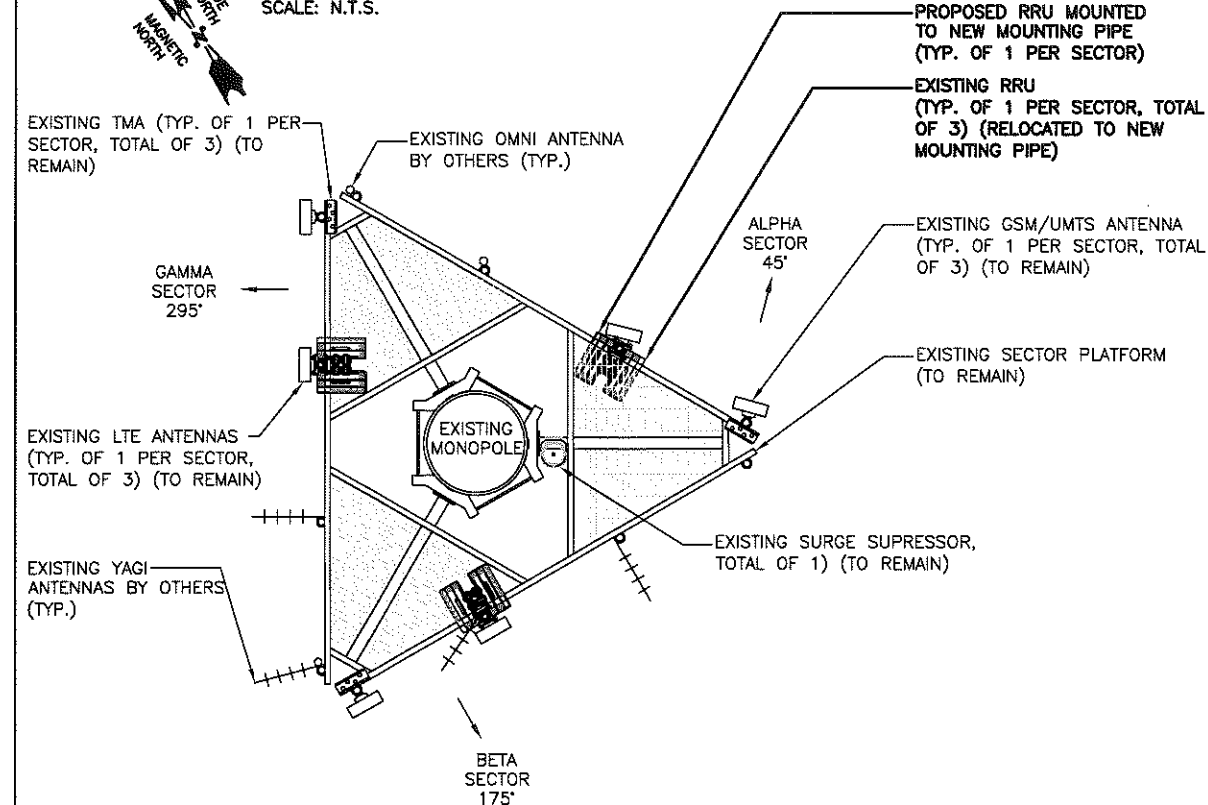
AT&T	
COMPOUND & EQUIPMENT PLANS (LTE-2C)	
JOB NUMBER	DRAWING NUMBER
5378.01	A-1
REV	
1	

**NOTE:**  
\*RF DATA BASED ON PRELIMINARY INFORMATION. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

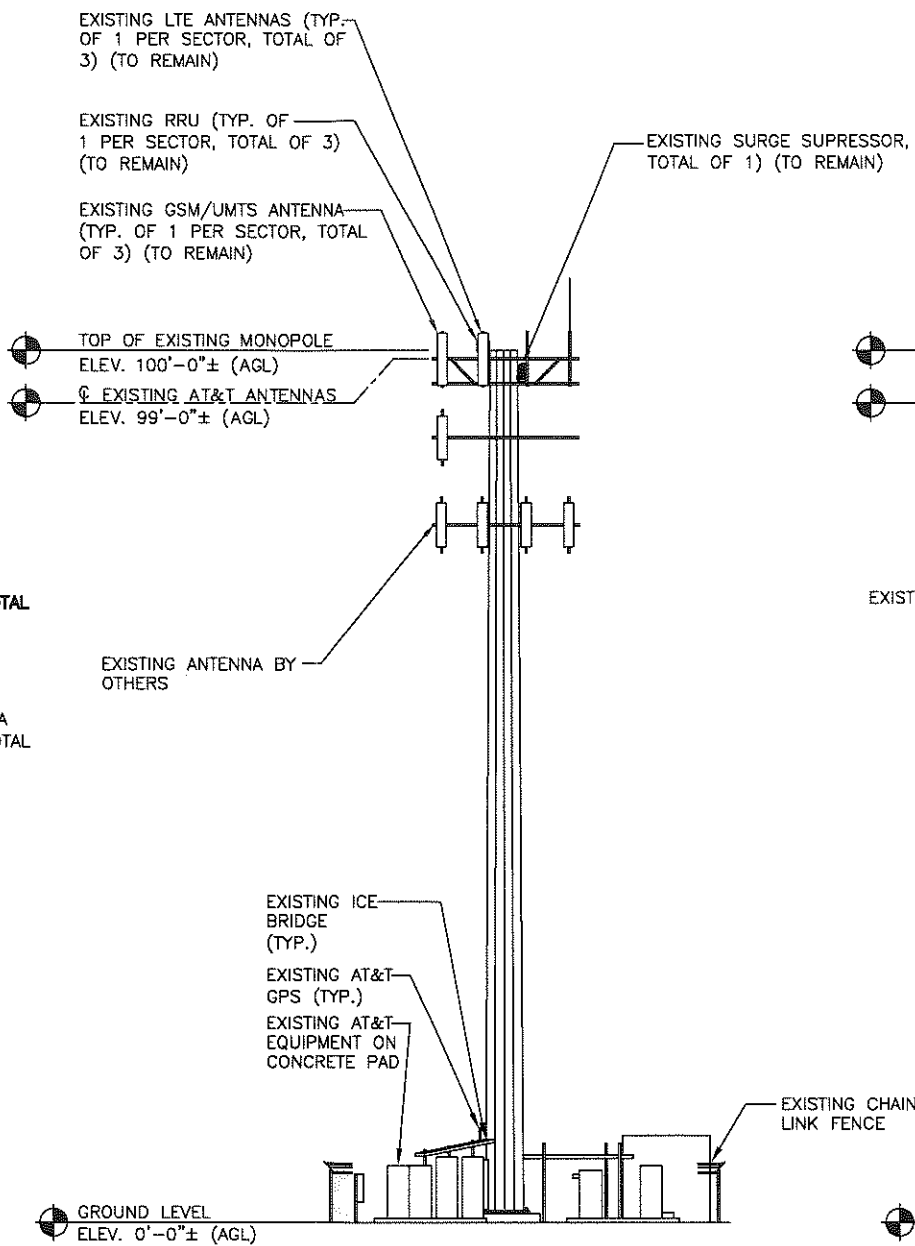
**NOTE:**  
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



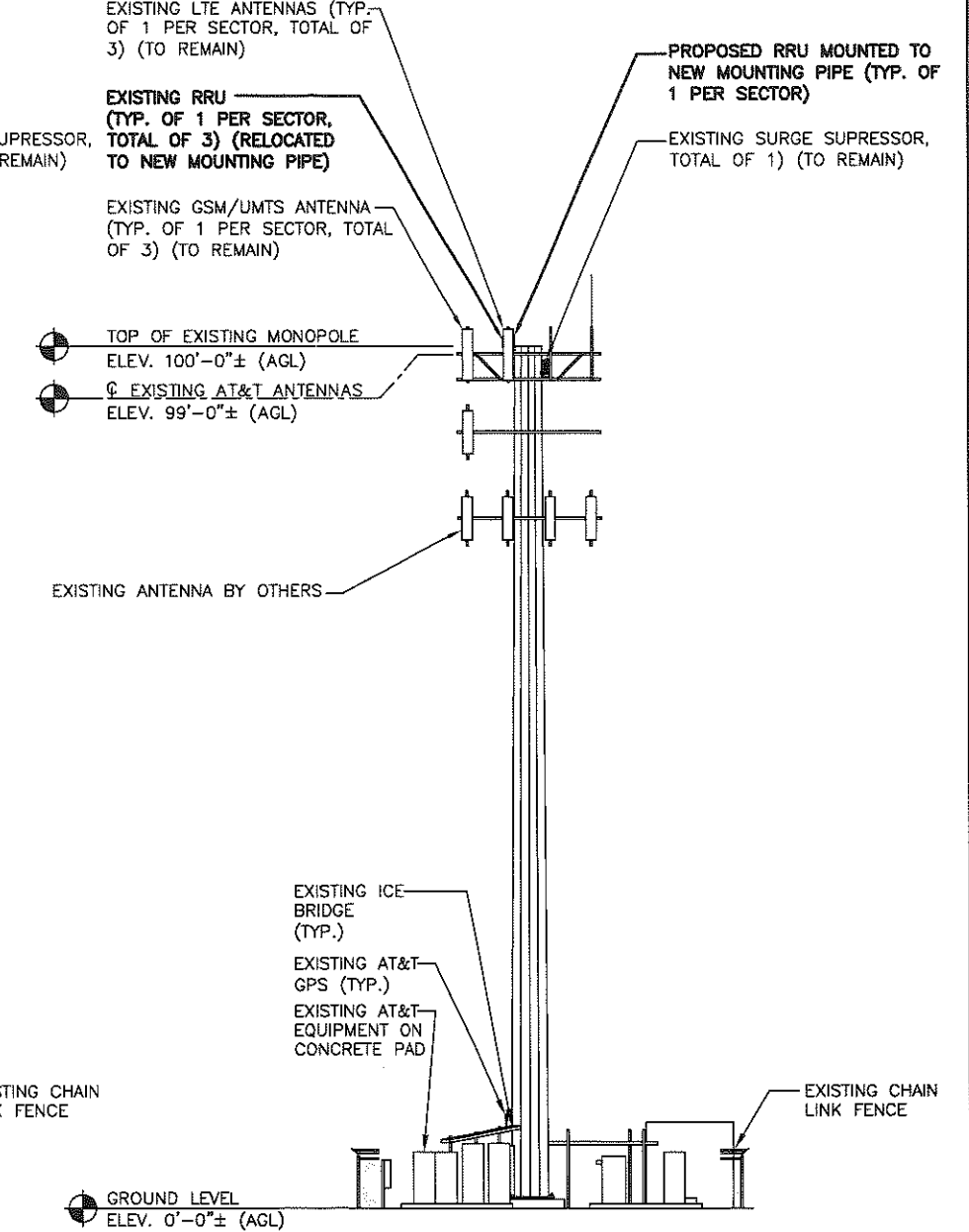
**EXISTING ANTENNA LAYOUT**  
SCALE: N.T.S.



**PROPOSED ANTENNA LAYOUT**  
SCALE: N.T.S.



**EXISTING WEST ELEVATION**  
SCALE: 3/32"=1'-0"



**PROPOSED WEST ELEVATION**  
SCALE: 3/32"=1'-0"

**Hudson Design Group**  
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: CT5378**  
**SITE NAME: MERIDEN WEST CENTRAL**  
450-478 WEST MAIN STREET  
MERIDEN, CT 06451  
NEW HAVEN COUNTY

**at&t**  
550 COCHITUATE RD.  
FRAMINGHAM, MA, 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/22/14	ISSUED FOR CONSTRUCTION	AP	TH	DPH
0	04/16/14	ISSUED FOR REVIEW	AP	TH	DPH
A	03/04/14	ISSUED FOR REVIEW	RR	TH	DPH

SCALE: AS SHOWN    DESIGNED BY: TH    DRAWN BY: RR

**Daniel P. Hamm**  
No. 24178  
LICENSED PROFESSIONAL ENGINEER  
STATE OF CONNECTICUT  
AT&T  
**ANTENNA LAYOUTS & ELEVATIONS (LTE-2C)**

JOB NUMBER	DRAWING NUMBER	REV
5378.01	A-2	1

**NOTE:**

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

**NOTE:**

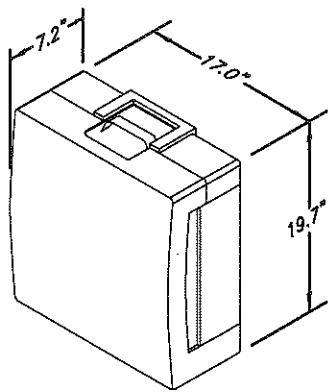
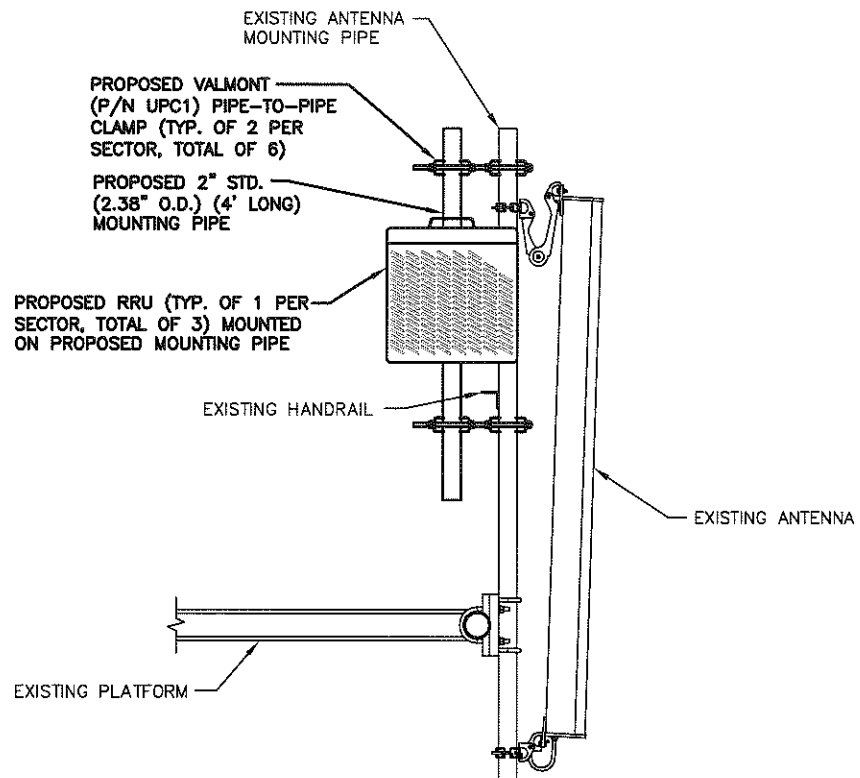
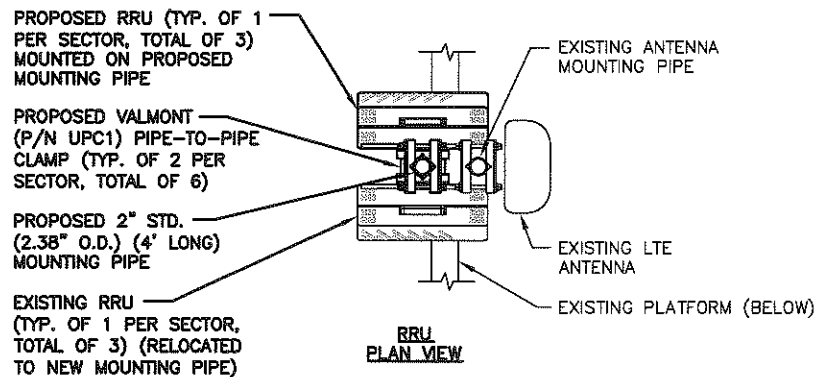
\*RF DATA BASED ON PRELIMINARY INFORMATION. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

**PROPOSED RRU SCHEDULE**

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-11	19.7X17.0X7.2
BETA:	ERICSSON	RRUS-11	19.7X17.0X7.2
GAMMA:	ERICSSON	RRUS-11	19.7X17.0X7.2

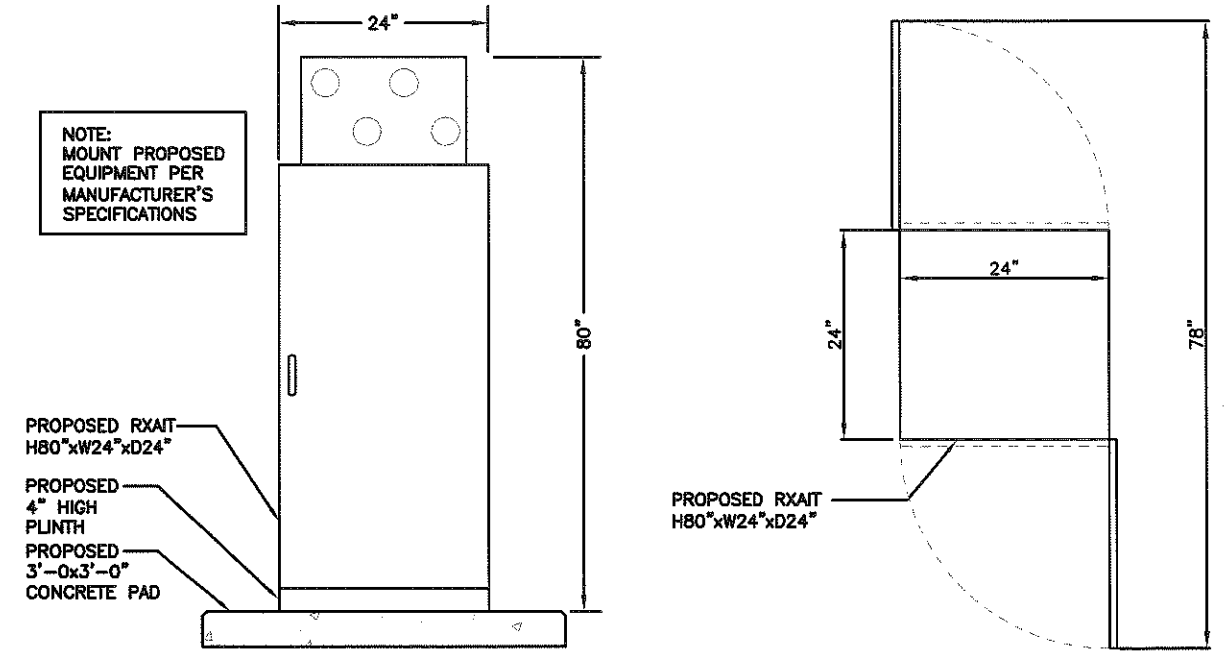
**EXISTING ANTENNA SCHEDULE**

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9
	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9
BETA:	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9
	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9
GAMMA:	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9
	KMW	AM-X-CD-16-65-00T-RET	72X11.8X5.9



NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS.

NOTE: MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS



**Hudson Design Group LLC**

1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845

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SCALE: AS SHOWN    DESIGNED BY: TH    DRAWN BY: RR

*Daniel P. Hamm*

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

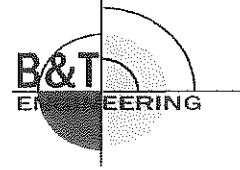
AT&T

DETAILS (LTE-2C)

JOB NUMBER: 5378.01    DRAWING NUMBER: A-3    REV: 1



**TAB 2**



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

**B&T Engineering, Inc.**  
 1717 S. Boulder, Suite 300  
 Tulsa, OK 74119

August 27, 2012

B&T No.: 84429.000.0002a

**STRUCTURAL ANALYSIS**  
**100' Monopole Tower**

AT&T DESIGNATION:	Site ID: 25975 (CT5378) Site FA: 10071118 Site Name: Meriden West Central AT&T Project: MOD LTE W3 021012
ANALYSIS CRITERIA:	Codes: TIA/EIA-222-F (85 mph fastest mile) IBC 2006 2005 CT State Building Code
SITE DATA:	450-478 West Main Street, Meriden , CT, New Haven County Latitude 41.53989°, Longitude -72.8189° Market MA/RI/VT/NH/ME/CT

Ms. Stephanie S. Wenderoth,

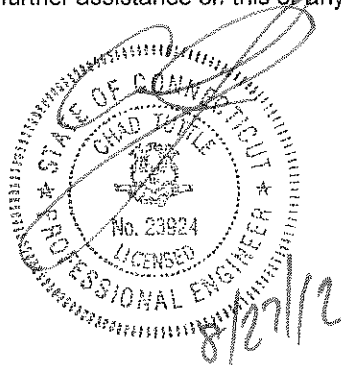
B&T Engineering, Inc. is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

**Analysis Results**

Tower Stress Level with Proposed Equipment:	<b>54.2%</b>	<b>Pass</b>
Foundation Ratio with Proposed Equipment:	<b>67.5%</b>	<b>Pass</b>

We at B&T Engineering, Inc. appreciate the opportunity of providing our continuing professional services to you and Nexlink Global Services. If you have any questions or need further assistance on this or any other project please give us a call.

Respectfully Submitted by: B&T Engineering, Inc.  
 Analysis Prepared by: Kristin Mears, E.I.  
 Analysis Reviewed by: Chad E. Tuttle, P.E.



**ANALYSIS RESULTS:**

**Table 1 - Section Capacity (Summary)**

Component (Tower Section) (ft)	% Capacity	Pass / Fail
101 - 48	38.1	Pass
48 - 1	54.2	Pass

**Table 2 - Tower Component Stresses vs. Capacity**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	50.4	Pass
1	Base Plate	Base	38.9	Pass
1	Base Foundation	Base	67.5	Pass

<b>Structure Rating (max from all components) =</b>	<b>67.5%</b>
---	--------------

Notes:

- 1.) See additional documentation in "Appendix B - Calculations" for calculation supporting the % capacity consumed.

**Recommendations:**

N/A

**ANALYSIS PROCEDURE:**

**Table 4 - Documents Provided**

Document	Description	Date	Source
Tower Data	Glen Martin	6/4/2003	Siterra
Foundation Information	Glen Martin	12/13/2003	Siterra
Geotech Report	Tectonic Engineering & Surveying Consultants	8/28/2002	Siterra
Loading	Equipment Mod Form	2/9/2012	Siterra
	E-mail from Stephanie Wenderoth	7/16/2012	On File
	Previous analysis by B&V	8/6/2012	Siterra
Previous Structural Analysis	Black & Veatch; Project No. 176850	8/6/2012	Siterra
	B&T Engineering, Inc.; Project No. 84503.001a	6/7/2012	On File
	B&T Engineering, Inc.; Project No. 84429.001	5/2/2012	On File

**ANALYSIS METHOD:**

tnxTower, a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix B.

**ASSUMPTIONS:**

1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with the manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Appendix A of this report.
4. Mount areas and weights are assumed based on photographs provided.
5. Refer to the base level drawing for transmission line distribution.
6. All existing loading and centerlines were taken from the previous analysis by Black & Veatch.
7. This is a rerun to revise the loading in the 5/2/2012 MOD LTE analysis. Two other projects (T-Mobile 4-4-2012 and Sprint Vision 6-22-2012) have been analyzed since the original MOD LTE structural, so both of those applications were included in this analysis per instruction from Charlotte Malone with AT&T Towers.

If any of these assumptions have been made in error, B&T Engineering should be notified to determine the effect on the structural integrity of the tower.

**APPENDIX A**  
**TOWER ANALYSIS LOADING**



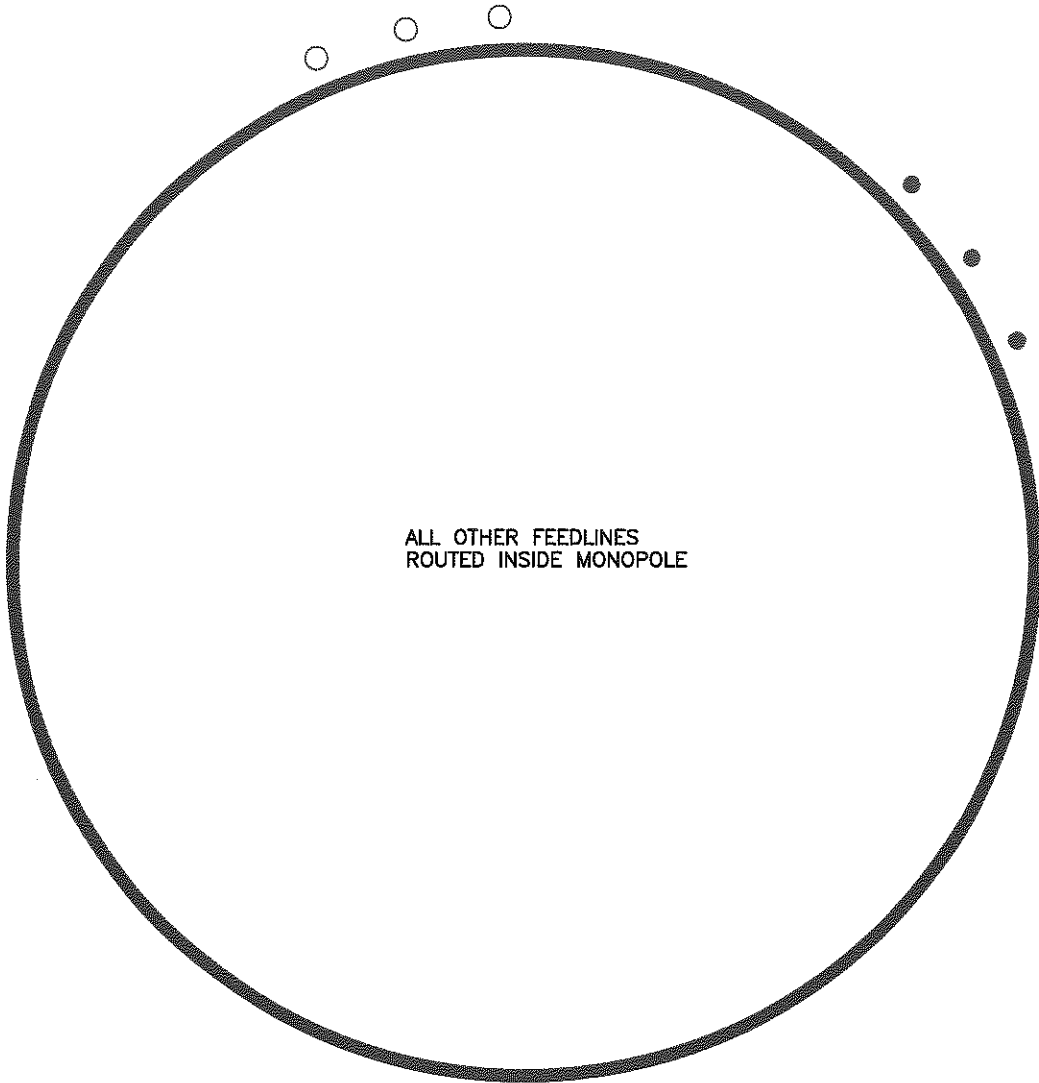
**APPENDIX B**  
**CALCULATIONS**





PROJECT#: 84429

(RESERVED)  
(3) 1-1/4" TO 76' LEVEL  
(NEXTEL)



(EXISTING)  
(3) 7/8" TO 76' LEVEL  
(NEXTEL)

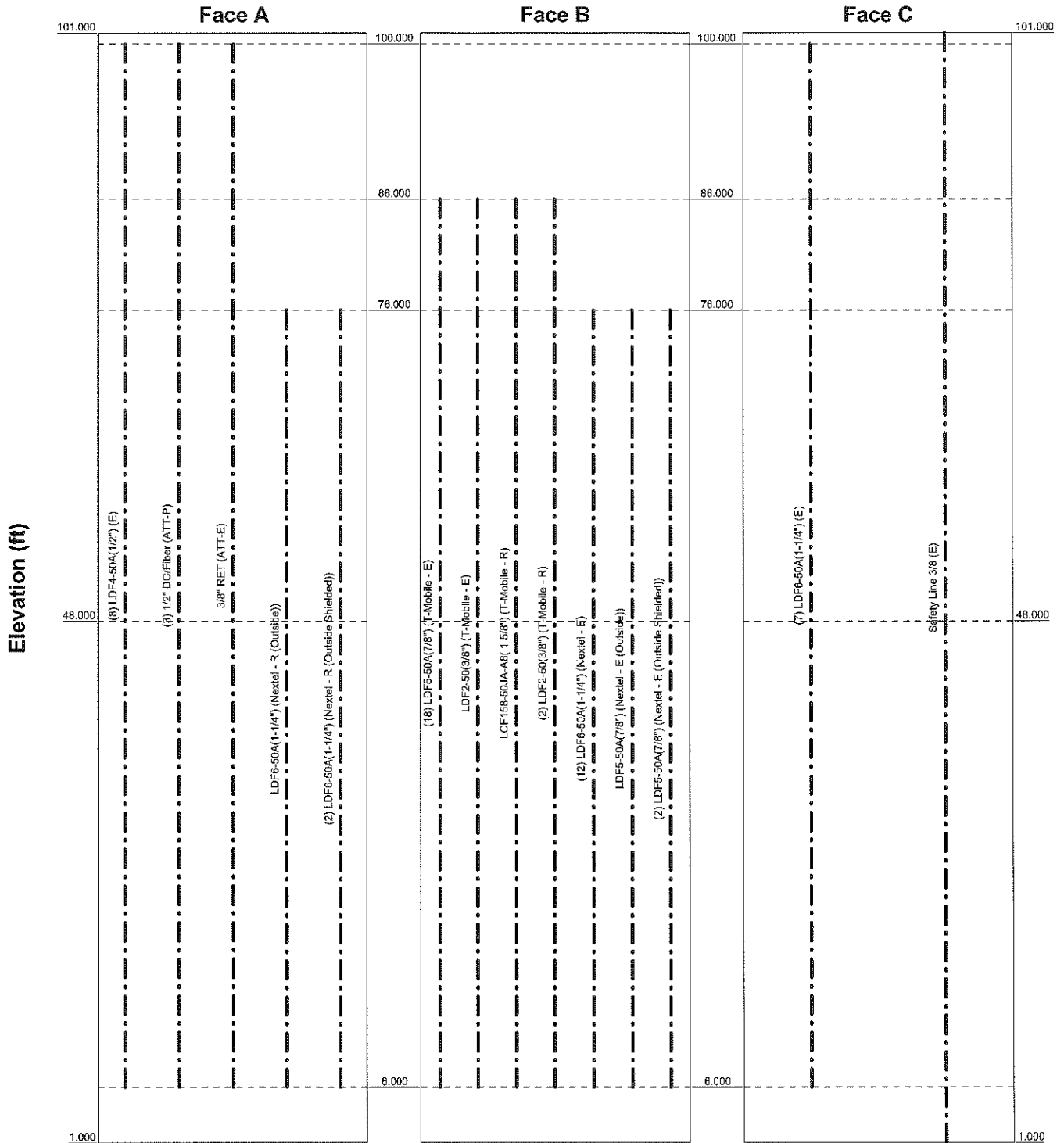
ALL OTHER FEEDLINES  
ROUTED INSIDE MONOPOLE

NOT TO SCALE

# Feedline Distribution Chart

## 1' - 101'

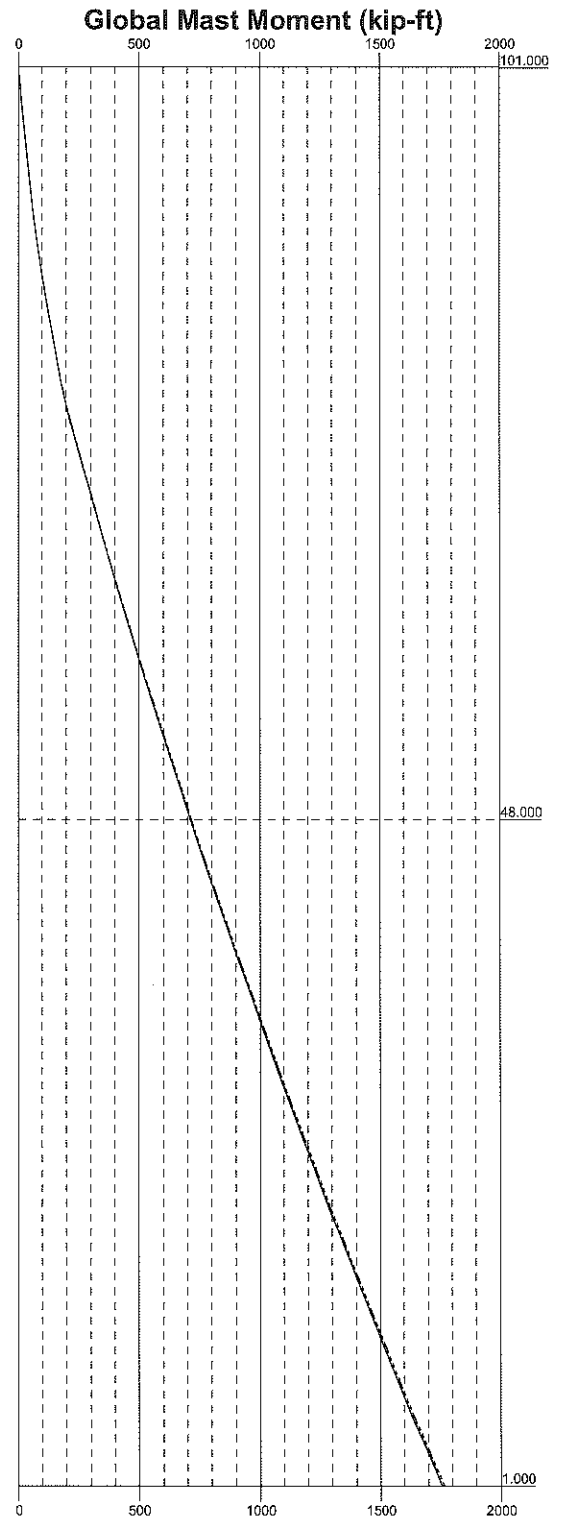
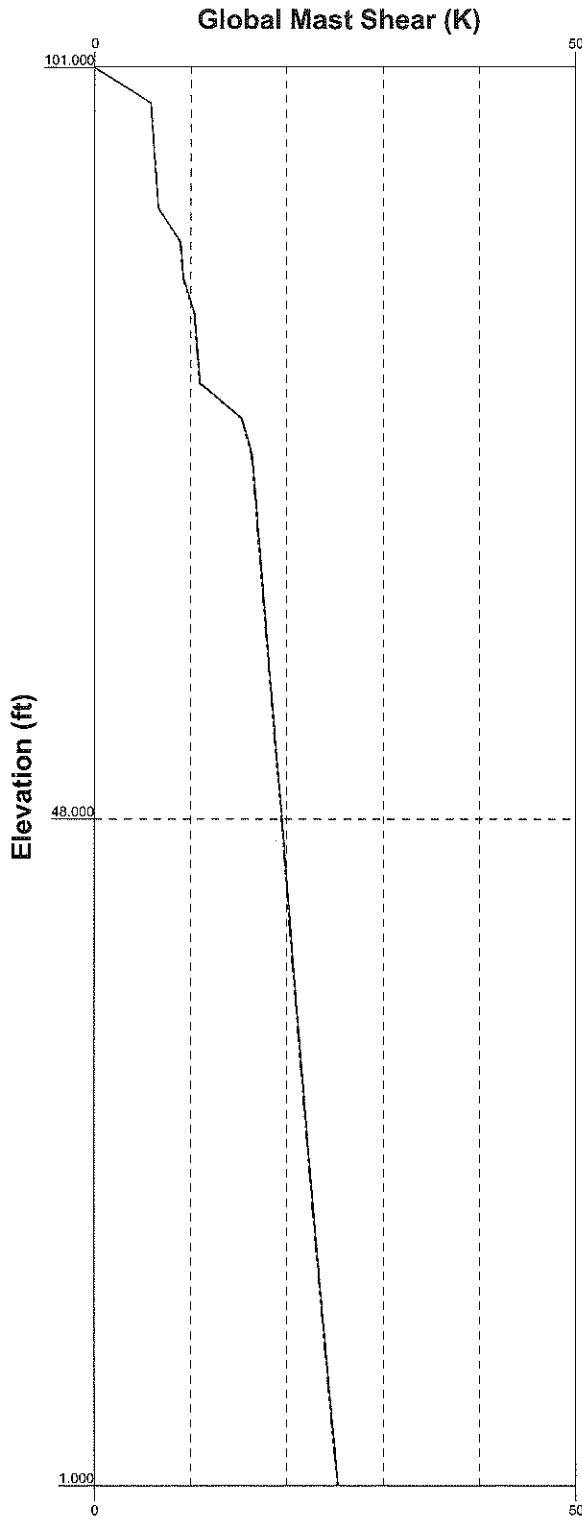
Round
Flat
App In Face
App Out Face
Truss Leg




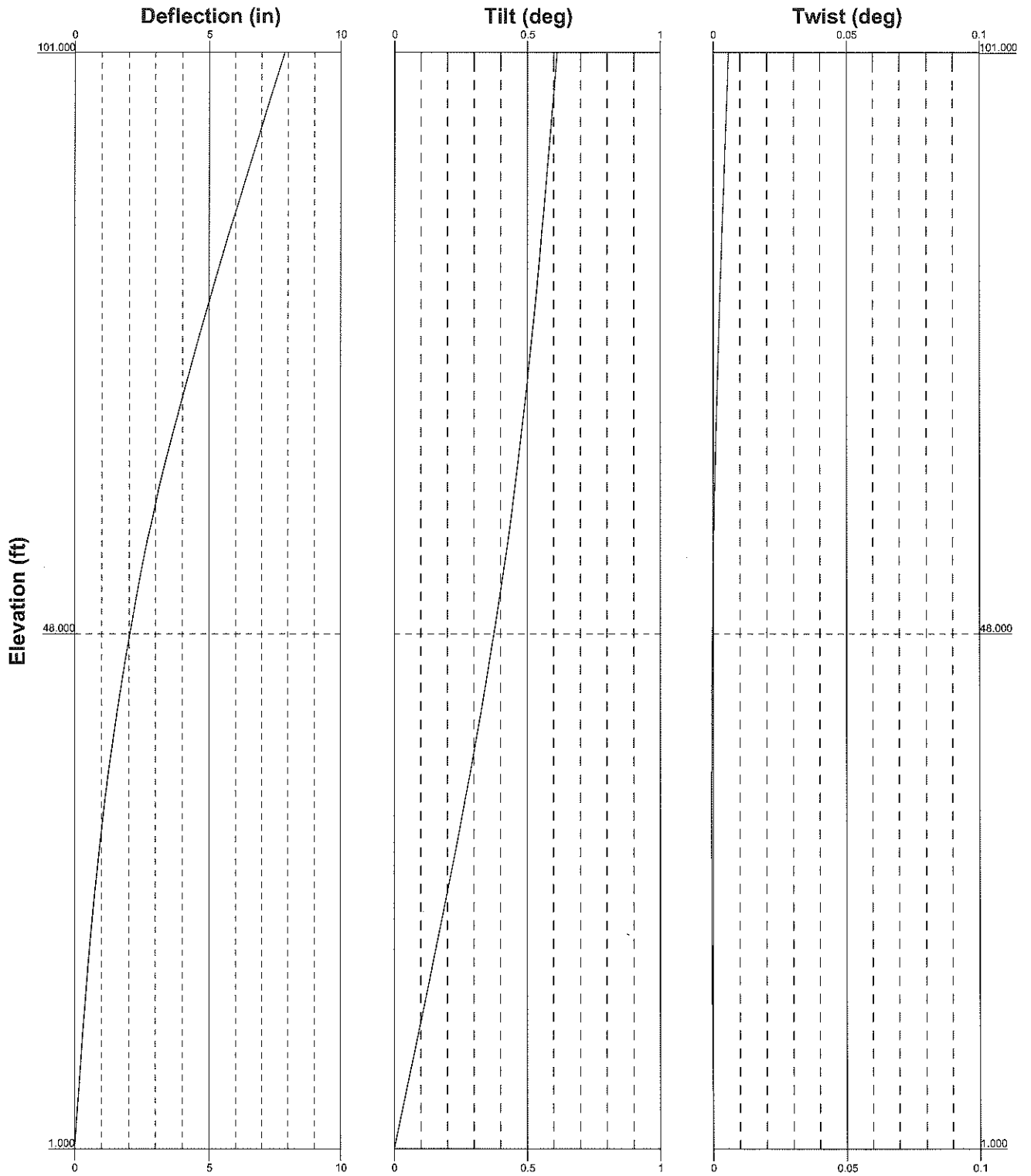
 <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job: 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 2597)</b>		
	<b>Project: 100' GlenMartin Monopole / AT&amp;T Co-Locate</b>		
	Client: Nexlink Global Services	Drawn by: K. Mears	App'd:
	Code: TIA/EIA-222-F	Date: 08/25/12	Scale: NTS
	Path:	Dwg No. E-7	


—— Vx    - - - - Vz

—— Mx    - - - - Mz



 <p><b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 687-4630 FAX: (918) 295-0265</p>	Job: <b>84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 2597)</b>
	Project: <b>100' GlenMartin Monopole / AT&amp;T Co-Locate</b>
	Client: <b>Nexlink Global Services</b> Drawn by: <b>K. Mears</b> App'd:
	Code: <b>TIA/EIA-222-F</b> Date: <b>08/25/12</b> Scale: <b>NTS</b>
	Path:    Dwg No. <b>E-4</b>



 <p><b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	Job: <b>84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 2597)</b>		
	Project: <b>100' GlenMartin Monopole / AT&amp;T Co-Locate</b>		
	Client: Nexlink Global Services	Drawn by: K. Mears	App'd:
	Code: TIA/EIA-222-F	Date: 08/25/12	Scale: NTS
Path:	Dwg No: E-5		

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 1 of 15
	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

## Tower Input Data

There is a pole section.

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

The following design criteria apply:

Tower is located in New Haven County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.750 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

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

Temperature drop of 50.000 °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 pole design is 1.333.

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

## Options

<ul style="list-style-type: none"> <li>Consider Moments - Legs</li> <li>Consider Moments - Horizontals</li> <li>Consider Moments - Diagonals</li> <li>Use Moment Magnification</li> <li>√ Use Code Stress Ratios</li> <li>√ Use Code Safety Factors - Guys</li> <li>√ Escalate Ice</li> <li>Always Use Max Kz</li> <li>Use Special Wind Profile</li> <li>Include Bolts In Member Capacity</li> <li>Leg Bolts Are At Top Of Section</li> <li>Secondary Horizontal Braces Leg</li> <li>Use Diamond Inner Bracing (4 Sided)</li> <li>Add IBC .6D+W Combination</li> </ul>	<ul style="list-style-type: none"> <li>Distribute Leg Loads As Uniform</li> <li>Assume Legs Pinned</li> <li>√ Assume Rigid Index Plate</li> <li>√ Use Clear Spans For Wind Area</li> <li>Use Clear Spans For KL/r</li> <li>Retension Guys To Initial Tension</li> <li>√ Bypass Mast Stability Checks</li> <li>√ Use Azimuth Dish Coefficients</li> <li>√ Project Wind Area of Appurt.</li> <li>Autocalc Torque Arm Areas</li> <li>SR Members Have Cut Ends</li> <li>Sort Capacity Reports By Component</li> <li>Triangulate Diamond Inner Bracing</li> </ul>	<ul style="list-style-type: none"> <li>Treat Feedline Bundles As Cylinder</li> <li>Use ASCE 10 X-Brace Ly Rules</li> <li>Calculate Redundant Bracing Forces</li> <li>Ignore Redundant Members in FEA</li> <li>SR Leg Bolts Resist Compression</li> <li>All Leg Panels Have Same Allowable</li> <li>Offset Girt At Foundation</li> <li>√ Consider Feedline Torque</li> <li>Include Angle Block Shear Check</li> <li>.....Poles</li> <li>√ Include Shear-Torsion Interaction</li> <li>Always Use Sub-Critical Flow</li> <li>Use Top Mounted Sockets</li> </ul>
--	--	--

## Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	101.000-48.000	53.000	6.000	16	28.000	40.720	0.313	1.250	A572-65 (65 ksi)
L2	48.000-1.000	53.000		16	38.655	51.370	0.375	1.500	A572-65 (65 ksi)

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 2 of 15
	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

### Tapered Pole Properties

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	I/Q in <sup>2</sup>	w in	w/t
L1	28.549	27.601	2673.045	9.857	14.280	187.188	5386.564	13.647	4.950	15.84
	41.518	40.281	8308.852	14.385	20.767	400.095	16743.510	19.917	7.481	23.94
L2	40.880	45.792	8477.194	13.628	19.714	430.008	17082.742	22.642	6.946	18.523
	52.376	61.003	20040.987	18.154	26.199	764.961	40385.419	30.163	9.476	25.27

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A <sub>f</sub>	Adjust. Factor A <sub>r</sub>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft <sup>2</sup>	in					in	in
L1 101.000-48.00 0				1	1	1		
L2 48.000-1.000				1	1	1		

### Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
*****										

### Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C <sub>AA</sub> ft <sup>2</sup> /ft	Weight klf
LDF4-50A(1/2") (E)	A	No	Inside Pole	100.000 - 6.000	8	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
1/2" DC/Fiber (ATT-P)	A	No	Inside Pole	100.000 - 6.000	3	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
LDF6-50A(1-1/4") (E)	C	No	Inside Pole	100.000 - 6.000	7	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
3/8" RET (ATT-E)	A	No	Inside Pole	100.000 - 6.000	1	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
*****							
LDF5-50A(7/8") (T-Mobile - E)	B	No	Inside Pole	86.000 - 6.000	18	No Ice 1/2" Ice	0.000 0.000

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 3 of 15
	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C <sub>A</sub> A <sub>A</sub> ft <sup>2</sup> /ft	Weight klf
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
LDF2-50(3/8") (T-Mobile - E)	B	No	Inside Pole	86.000 - 6.000	1	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
LCF158-50JA-A8(1 5/8") (T-Mobile - R)	B	No	Inside Pole	86.000 - 6.000	1	No Ice	0.001
						1/2" Ice	0.001
						1" Ice	0.001
						2" Ice	0.001
						4" Ice	0.001
LDF2-50(3/8") (T-Mobile - R)	B	No	Inside Pole	86.000 - 6.000	2	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
*****							
LDF6-50A(1-1/4") (Nextel - E)	B	No	Inside Pole	76.000 - 6.000	12	No Ice	0.001
						1/2" Ice	0.001
						1" Ice	0.001
						2" Ice	0.001
						4" Ice	0.001
LDF6-50A(1-1/4") (Nextel - R (Outside))	A	No	CaAa (Out Of Face)	76.000 - 6.000	1	No Ice	0.155
						1/2" Ice	0.255
						1" Ice	0.355
						2" Ice	0.555
						4" Ice	0.955
LDF6-50A(1-1/4") (Nextel - R (Outside Shielded))	A	No	Inside Pole	76.000 - 6.000	2	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
LDF5-50A(7/8") (Nextel - E (Outside))	B	No	CaAa (Out Of Face)	76.000 - 6.000	1	No Ice	0.109
						1/2" Ice	0.209
						1" Ice	0.309
						2" Ice	0.509
						4" Ice	0.909
LDF5-50A(7/8") (Nextel - E (Outside Shielded))	B	No	Inside Pole	76.000 - 6.000	2	No Ice	0.000
						1/2" Ice	0.000
						1" Ice	0.000
						2" Ice	0.000
						4" Ice	0.000
*****							
Safety Line 3/8 (E)	C	No	CaAa (Out Of Face)	101.000 - 1.000	1	No Ice	0.037
						1/2" Ice	0.137
						1" Ice	0.238
						2" Ice	0.437
						4" Ice	0.838
*****							

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 4 of 15
	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

### Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight K
L1	101.000-48.000	A	0.000	0.000	0.000	4.340	0.149
		B	0.000	0.000	0.000	3.052	0.515
		C	0.000	0.000	0.000	1.987	0.252
L2	48.000-1.000	A	0.000	0.000	0.000	6.510	0.159
		B	0.000	0.000	0.000	4.578	0.667
		C	0.000	0.000	0.000	1.763	0.204

### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight K
L1	101.000-48.000	A	0.826	0.000	0.000	0.000	8.964	0.218
		B		0.000	0.000	0.000	7.676	0.571
		C		0.000	0.000	0.000	10.740	0.298
L2	48.000-1.000	A	0.750	0.000	0.000	0.000	13.446	0.262
		B		0.000	0.000	0.000	11.514	0.751
		C		0.000	0.000	0.000	9.524	0.246

### Feed Line Center of Pressure

Section	Elevation ft	CP <sub>X</sub> in	CP <sub>Z</sub> in	CP <sub>X</sub> Ice in	CP <sub>Z</sub> Ice in
L1	101.000-48.000	0.031	-0.055	-0.048	-0.005
L2	48.000-1.000	0.071	-0.098	0.041	-0.073

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>A</sub> Front ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Side ft <sup>2</sup>	Weight K	
Lighting Rod 3/4" x 7' (E)	C	None		0.000	103.500	No Ice	0.525	0.525	0.030
						1/2" Ice	1.240	1.240	0.035
						1" Ice	1.971	1.971	0.045
						2" Ice	3.066	3.066	0.079
						4" Ice	4.909	4.909	0.208
***** 6' Omni (E-AT&T)	A	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice	1.200	1.200	0.023
						1/2" Ice	1.802	1.802	0.030
						1" Ice	2.404	2.404	0.041
						2" Ice	3.608	3.608	0.077



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	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K
			Horz	Lateral	Vert					
			ft	ft	ft					
DB201-L (E-AT&T)	C	From Leg	4.000	0.000	0.000	106.000	4" Ice	6.016	6.016	0.207
			0.000				No Ice	0.813	0.813	0.023
			0.000				1/2" Ice	1.481	1.481	0.030
							1" Ice	2.151	2.151	0.041
							2" Ice	2.964	2.964	0.077
DB201-L (E-AT&T)	B	From Leg	4.000	0.000	0.000	106.000	4" Ice	4.701	4.701	0.207
			0.000				No Ice	0.813	0.813	0.023
			0.000				1/2" Ice	1.481	1.481	0.030
							1" Ice	2.151	2.151	0.041
							2" Ice	2.964	2.964	0.077
DB201-L (E-AT&T)	A	From Leg	4.000	0.000	0.000	106.000	4" Ice	4.701	4.701	0.207
			0.000				No Ice	0.813	0.813	0.023
			0.000				1/2" Ice	1.481	1.481	0.030
							1" Ice	2.151	2.151	0.041
							2" Ice	2.964	2.964	0.077
3' Yagi (E-AT&T)	C	From Leg	4.000	0.000	0.000	103.000	4" Ice	4.701	4.701	0.207
			0.000				No Ice	2.083	2.083	0.031
			0.000				1/2" Ice	3.787	3.787	0.052
							1" Ice	5.517	5.517	0.085
							2" Ice	9.083	9.083	0.184
(2) 3' Yagi (E-AT&T)	B	From Leg	4.000	0.000	0.000	103.000	4" Ice	15.563	15.563	0.533
			0.000				No Ice	2.083	2.083	0.031
			0.000				1/2" Ice	3.787	3.787	0.052
							1" Ice	5.517	5.517	0.085
							2" Ice	9.083	9.083	0.184
3' Yagi (E-AT&T)	A	From Leg	4.000	0.000	0.000	103.000	4" Ice	15.563	15.563	0.533
			0.000				No Ice	2.083	2.083	0.031
			0.000				1/2" Ice	3.787	3.787	0.052
							1" Ice	5.517	5.517	0.085
							2" Ice	9.083	9.083	0.184
25' Omni (E-AT&T)	C	From Leg	4.000	0.000	0.000	115.000	4" Ice	15.563	15.563	0.533
			0.000				No Ice	7.500	7.500	0.024
			0.000				1/2" Ice	10.033	10.033	0.078
							1" Ice	12.583	12.583	0.147
							2" Ice	17.733	17.733	0.334
(2) LGP21401 (E-AT&T)	C	From Leg	4.000	30.000	0.000	103.000	4" Ice	28.233	28.233	0.904
			0.000				No Ice	1.288	0.233	0.014
			0.000				1/2" Ice	1.445	0.313	0.021
							1" Ice	1.611	0.403	0.030
							2" Ice	1.969	0.608	0.055
(2) LGP21401 (E-AT&T)	B	From Leg	4.000	30.000	0.000	103.000	4" Ice	2.788	1.121	0.135
			0.000				No Ice	1.288	0.233	0.014
			0.000				1/2" Ice	1.445	0.313	0.021
							1" Ice	1.611	0.403	0.030
							2" Ice	1.969	0.608	0.055
(2) LGP21401 (E-AT&T)	A	From Leg	4.000	30.000	0.000	103.000	4" Ice	2.788	1.121	0.135
			0.000				No Ice	1.288	0.233	0.014
			0.000				1/2" Ice	1.445	0.313	0.021
							1" Ice	1.611	0.403	0.030
							2" Ice	1.969	0.608	0.055
(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe (P-AT&T)	C	From Leg	4.000	0.000	0.000	99.000	4" Ice	2.788	1.121	0.135
			0.000				No Ice	8.498	6.304	0.074
			0.000				1/2" Ice	9.149	7.479	0.136
							1" Ice	9.767	8.368	0.210
							2" Ice	11.031	10.179	0.385
(2)	B	From Leg	4.000	0.000	0.000	99.000	4" Ice	13.679	14.024	0.874
							No Ice	8.498	6.304	0.074

# tnxTower

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<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 6 of 15
<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>Front</sub>	C <sub>A</sub> A <sub>Side</sub>	Weight
			Horz	Vert					
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K
AM-X-CD-16-65-00T-RET			0.000			1/2" Ice	9.149	7.479	0.136
w/ Mount Pipe			0.000			1" Ice	9.767	8.368	0.210
(P-AT&T)						2" Ice	11.031	10.179	0.385
						4" Ice	13.679	14.024	0.874
(2)	A	From Leg	4.000	0.000	99.000	No Ice	8.498	6.304	0.074
AM-X-CD-16-65-00T-RET			0.000			1/2" Ice	9.149	7.479	0.136
w/ Mount Pipe			0.000			1" Ice	9.767	8.368	0.210
(P-AT&T)						2" Ice	11.031	10.179	0.385
						4" Ice	13.679	14.024	0.874
DC6-48-60-18-8F	C	From Leg	4.000	0.000	99.000	No Ice	2.567	4.317	0.019
(P-AT&T)			0.000			1/2" Ice	2.798	4.596	0.050
			0.000			1" Ice	3.038	4.885	0.085
						2" Ice	3.543	5.488	0.167
						4" Ice	4.658	6.797	0.383
(2) RBS6601	C	From Leg	4.000	0.000	99.000	No Ice	4.424	1.186	0.055
(P-AT&T)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
(2) RBS6601	B	From Leg	4.000	0.000	99.000	No Ice	4.424	1.186	0.055
(P-AT&T)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
(2) RBS6601	A	From Leg	4.000	0.000	99.000	No Ice	4.424	1.186	0.055
(P-AT&T)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
6' x 2" Mount Pipe	C	From Leg	4.000	0.000	100.000	No Ice	1.425	1.425	0.022
(E-AT&T)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	B	From Leg	4.000	0.000	100.000	No Ice	1.425	1.425	0.022
(E-AT&T)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	A	From Leg	4.000	0.000	100.000	No Ice	1.425	1.425	0.022
(E-AT&T)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
Platform Mount [LP 602-1]	C	None		0.000	100.000	No Ice	32.030	32.030	1.343
(E-AT&T)						1/2" Ice	38.710	38.710	1.800
						1" Ice	45.390	45.390	2.257
						2" Ice	58.750	58.750	3.170
						4" Ice	85.470	85.470	4.998
*****									
(2) DTMA-1.9 GHz	C	From Leg	4.000	0.000	90.000	No Ice	0.410	0.410	0.030
(E-T-Mobile)			0.000			1/2" Ice	0.520	0.520	0.030
			0.000			1" Ice	0.630	0.630	0.030
						2" Ice	0.850	0.850	0.030
						4" Ice	1.290	1.290	0.030
(2) DTMA-1.9 GHz	B	From Leg	4.000	0.000	90.000	No Ice	0.410	0.410	0.030
(E-T-Mobile)			0.000			1/2" Ice	0.520	0.520	0.030

# tnxTower

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<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 7 of 15
<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>AA</sub> Front	C <sub>AA</sub> Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K
			0.000				1" Ice 0.630	0.630	0.030
							2" Ice 0.850	0.850	0.030
							4" Ice 1.290	1.290	0.030
(2) DTMA-1.9 GHz (E-T-Mobile)	A	From Leg	4.000		0.000	90.000	No Ice 0.410	0.410	0.030
			0.000				1/2" Ice 0.520	0.520	0.030
			0.000				1" Ice 0.630	0.630	0.030
							2" Ice 0.850	0.850	0.030
							4" Ice 1.290	1.290	0.030
ATMAA1412D-1A20 (E-T-Mobile)	C	From Leg	4.000		0.000	90.000	No Ice 1.167	0.467	0.013
			0.000				1/2" Ice 1.314	0.575	0.021
			0.000				1" Ice 1.469	0.691	0.030
							2" Ice 1.806	0.951	0.056
							4" Ice 2.584	1.573	0.137
ATMAA1412D-1A20 (E-T-Mobile)	B	From Leg	4.000		0.000	90.000	No Ice 1.167	0.467	0.013
			0.000				1/2" Ice 1.314	0.575	0.021
			0.000				1" Ice 1.469	0.691	0.030
							2" Ice 1.806	0.951	0.056
							4" Ice 2.584	1.573	0.137
ATMAA1412D-1A20 (E-T-Mobile)	A	From Leg	4.000		0.000	90.000	No Ice 1.167	0.467	0.013
			0.000				1/2" Ice 1.314	0.575	0.021
			0.000				1" Ice 1.469	0.691	0.030
							2" Ice 1.806	0.951	0.056
							4" Ice 2.584	1.573	0.137
MA0528-28AN w/ Mount Pipe (E-T-Mobile)	B	From Leg	4.000		-30.000	90.000	No Ice 5.608	0.971	0.022
			0.000				1/2" Ice 5.981	1.302	0.050
			0.000				1" Ice 6.366	1.650	0.085
							2" Ice 7.180	2.441	0.170
							4" Ice 8.986	4.407	0.419
MA0528-28AN w/ Mount Pipe (E-T-Mobile)	B	From Leg	4.000		30.000	90.000	No Ice 5.608	0.971	0.022
			0.000				1/2" Ice 5.981	1.302	0.050
			0.000				1" Ice 6.366	1.650	0.085
							2" Ice 7.180	2.441	0.170
							4" Ice 8.986	4.407	0.419
Platform Mount [LP 306-1] (E-T-Mobile)	C	None			0.000	86.000	No Ice 20.810	20.810	1.616
							1/2" Ice 26.900	26.900	1.892
							1" Ice 32.990	32.990	2.167
							2" Ice 45.170	45.170	2.719
							4" Ice 69.530	69.530	3.821
(2) AIR21 w/Mount Pipe (R-T-Mobile)	C	From Leg	4.000		50.000	90.000	No Ice 6.771	5.701	0.041
			0.000				1/2" Ice 7.292	6.552	0.095
			0.000				1" Ice 7.807	7.329	0.160
							2" Ice 8.869	8.938	0.312
							4" Ice 11.116	12.371	0.736
(2) AIR21 w/Mount Pipe (R-T-Mobile)	B	From Leg	4.000		70.000	90.000	No Ice 6.771	5.701	0.041
			0.000				1/2" Ice 7.292	6.552	0.095
			0.000				1" Ice 7.807	7.329	0.160
							2" Ice 8.869	8.938	0.312
							4" Ice 11.116	12.371	0.736
(2) AIR21 w/Mount Pipe (R-T-Mobile)	A	From Leg	4.000		60.000	90.000	No Ice 6.771	5.701	0.041
			0.000				1/2" Ice 7.292	6.552	0.095
			0.000				1" Ice 7.807	7.329	0.160
							2" Ice 8.869	8.938	0.312
							4" Ice 11.116	12.371	0.736
*****									
(3) 844G65VTZASX w/ Mount Pipe (E-Nextel)	C	From Leg	4.000		0.000	78.000	No Ice 6.132	5.205	0.034
			0.000				1/2" Ice 6.594	5.894	0.084
			0.000				1" Ice 7.064	6.591	0.144

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	<b>Project</b> 100' GlenMartin Monopole / AT&T Co-Locate	<b>Date</b> 11:13:11 08/25/12
	<b>Client</b> Nexlink Global Services	<b>Designed by</b> K. Mears

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight	
			Horz	Lateral Vert						
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K	
(3) 844G65VTZASX w/ Mount Pipe (E-Nextel)	B	From Leg	4.000	0.000	0.000	78.000	2" Ice	8.037	8.037	0.283
							4" Ice	10.117	11.188	0.672
							No Ice	6.132	5.205	0.034
							1/2" Ice	6.594	5.894	0.084
							1" Ice	7.064	6.591	0.144
(3) 844G65VTZASX w/ Mount Pipe (E-Nextel)	A	From Leg	4.000	0.000	0.000	78.000	2" Ice	8.037	8.037	0.283
							4" Ice	10.117	11.188	0.672
							No Ice	6.132	5.205	0.034
							1/2" Ice	6.594	5.894	0.084
							1" Ice	7.064	6.591	0.144
UMWD-09014B-XDH w/ Mount Pipe (E-Nextel)	A	From Leg	4.000	0.000	-40.000	78.000	2" Ice	8.037	8.037	0.283
							4" Ice	10.117	11.188	0.672
							No Ice	3.681	3.324	0.032
							1/2" Ice	4.085	3.998	0.064
							1" Ice	4.537	4.649	0.105
HBX-6516DS-VTM w/ Mount Pipe (E-Nextel)	B	From Leg	4.000	0.000	30.000	78.000	2" Ice	5.473	6.002	0.206
							4" Ice	7.471	8.988	0.514
							No Ice	3.598	3.241	0.029
							1/2" Ice	3.998	3.914	0.060
							1" Ice	4.435	4.564	0.100
HBX-6516DS-VTM w/ Mount Pipe (E-Nextel)	C	From Leg	4.000	0.000	-10.000	78.000	2" Ice	5.368	5.914	0.199
							4" Ice	7.361	8.877	0.504
							No Ice	3.598	3.241	0.029
							1/2" Ice	3.998	3.914	0.060
							1" Ice	4.435	4.564	0.100
APXVSPP18-C-A20 w/ Mount Pipe (R-Nextel)	B	From Leg	4.000	0.000	10.000	78.000	2" Ice	5.368	5.914	0.199
							4" Ice	7.361	8.877	0.504
							No Ice	8.498	6.946	0.083
							1/2" Ice	9.149	8.127	0.148
							1" Ice	9.767	9.021	0.225
APXVSPP18-C-A20 w/ Mount Pipe (R-Nextel)	B	From Leg	4.000	0.000	90.000	78.000	2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
							No Ice	8.498	6.946	0.083
							1/2" Ice	9.149	8.127	0.148
							1" Ice	9.767	9.021	0.225
APXVSPP18-C-A20 w/ Mount Pipe (R-Nextel)	C	From Leg	4.000	0.000	10.000	78.000	2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
							No Ice	8.498	6.946	0.083
							1/2" Ice	9.149	8.127	0.148
							1" Ice	9.767	9.021	0.225
RRU 800 MHz (R-Nextel)	A	From Leg	4.000	0.000	0.000	78.000	2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
							No Ice	2.490	2.068	0.053
							1/2" Ice	2.706	2.271	0.074
							1" Ice	2.931	2.481	0.098
RRU 800 MHz (R-Nextel)	B	From Leg	4.000	0.000	0.000	78.000	2" Ice	3.407	2.928	0.157
							4" Ice	4.462	3.927	0.318
							No Ice	2.490	2.068	0.053
							1/2" Ice	2.706	2.271	0.074
							1" Ice	2.931	2.481	0.098
RRU 800 MHz (R-Nextel)	C	From Leg	4.000	0.000	0.000	78.000	2" Ice	3.407	2.928	0.157
							4" Ice	4.462	3.927	0.318
							No Ice	2.490	2.068	0.053
							1/2" Ice	2.706	2.271	0.074
							1" Ice	2.931	2.481	0.098
RRU 800 MHz (R-Nextel)	C	From Leg	4.000	0.000	0.000	78.000	2" Ice	3.407	2.928	0.157
							4" Ice	4.462	3.927	0.318
							No Ice	2.490	2.068	0.053
							1/2" Ice	2.706	2.271	0.074
							1" Ice	2.931	2.481	0.098

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 84429.000.0002a - MERIDEN WEST CENTRAL, CT (USID# 25975)	<b>Page</b> 9 of 15
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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight	
			Horz Lateral ft	Vert ft						°
RRU 1900 MHz (R-Nextel)	A	From Leg	4.000	0.000	0.000	78.000	No Ice	2.710	2.610	0.060
			0.000	0.000			1/2" Ice	2.950	2.850	0.084
			0.000	0.000			1" Ice	3.190	3.090	0.111
							2" Ice	3.670	3.570	0.176
							4" Ice	4.630	4.530	0.354
RRU 1900 MHz (R-Nextel)	B	From Leg	4.000	0.000	0.000	78.000	No Ice	2.710	2.610	0.060
			0.000	0.000			1/2" Ice	2.950	2.850	0.084
			0.000	0.000			1" Ice	3.190	3.090	0.111
							2" Ice	3.670	3.570	0.176
							4" Ice	4.630	4.530	0.354
RRU 1900 MHz (R-Nextel)	C	From Leg	4.000	0.000	0.000	78.000	No Ice	2.710	2.610	0.060
			0.000	0.000			1/2" Ice	2.950	2.850	0.084
			0.000	0.000			1" Ice	3.190	3.090	0.111
							2" Ice	3.670	3.570	0.176
							4" Ice	4.630	4.530	0.354
Andrew Filter 800MHz (R-Nextel)	A	From Leg	4.000	0.000	0.000	78.000	No Ice	0.850	0.370	0.010
			0.000	0.000			1/2" Ice	0.970	0.460	0.020
			0.000	0.000			1" Ice	1.090	0.550	0.030
							2" Ice	1.330	0.730	0.050
							4" Ice	1.810	1.090	0.090
Andrew Filter 800MHz (R-Nextel)	B	From Leg	4.000	0.000	0.000	78.000	No Ice	0.850	0.370	0.010
			0.000	0.000			1/2" Ice	0.970	0.460	0.020
			0.000	0.000			1" Ice	1.090	0.550	0.030
							2" Ice	1.330	0.730	0.050
							4" Ice	1.810	1.090	0.090
Andrew Filter 800MHz (R-Nextel)	C	From Leg	4.000	0.000	0.000	78.000	No Ice	0.850	0.370	0.010
			0.000	0.000			1/2" Ice	0.970	0.460	0.020
			0.000	0.000			1" Ice	1.090	0.550	0.030
							2" Ice	1.330	0.730	0.050
							4" Ice	1.810	1.090	0.090
Platform Mount [LP 304-1] (E-Nextel)	C	None		0.000	0.000	76.000	No Ice	17.460	17.460	1.349
							1/2" Ice	22.440	22.440	1.625
							1" Ice	27.420	27.420	1.900
							2" Ice	37.380	37.380	2.451
							4" Ice	57.300	57.300	3.554

\*\*\*\*\*

## Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp

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Comb. No.	Description
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

### Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	101 - 48	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-20.606	-1.052	-2.487
			Max. Mx	5	-12.773	-600.948	-4.185
			Max. My	8	-12.777	-3.906	-597.880
			Max. Vy	5	18.758	-600.948	-4.185
			Max. Vx	8	18.648	-3.906	-597.880
			Max. Torque	11			4.163
			Max Tension	1	0.000	0.000	0.000
L2	48 - 1	Pole	Max. Compression	14	-34.935	-1.129	-2.376
			Max. Mx	5	-24.728	-1765.079	-8.516
			Max. My	8	-24.728	-8.249	-1756.183
			Max. Vy	5	25.264	-1765.079	-8.516
			Max. Vx	8	25.156	-8.249	-1756.183
			Max. Torque	11			4.146

### Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	19	34.935	-5.279	-3.050
	Max. H <sub>x</sub>	11	24.742	25.250	0.081
	Max. H <sub>z</sub>	2	24.742	0.081	25.142
	Max. M <sub>x</sub>	2	1754.548	0.081	25.142
	Max. M <sub>z</sub>	5	1765.079	-25.250	-0.081

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. Torsion	11	4.095	25.250	0.081
	Min. Vert	1	24.742	0.000	0.000
	Min. H <sub>x</sub>	5	24.742	-25.250	-0.081
	Min. H <sub>z</sub>	8	24.742	-0.081	-25.142
	Min. M <sub>x</sub>	8	-1756.183	-0.081	-25.142
	Min. M <sub>z</sub>	11	-1763.982	25.250	0.081
	Min. Torsion	5	-4.094	-25.250	-0.081

### Tower Mast Reaction Summary

Load Combination	Vertical K	Shear <sub>x</sub> K	Shear <sub>z</sub> K	Overturning Moment, M <sub>x</sub> kip-ft	Overturning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
Dead Only	24.742	0.000	0.000	0.802	-0.538	0.000
Dead+Wind 0 deg - No Ice	24.742	-0.081	-25.142	-1754.548	7.152	0.747
Dead+Wind 30 deg - No Ice	24.742	12.555	-21.733	-1515.526	-876.146	2.694
Dead+Wind 60 deg - No Ice	24.742	21.827	-12.501	-870.199	-1524.828	3.918
Dead+Wind 90 deg - No Ice	24.742	25.250	0.081	8.515	-1765.079	4.094
Dead+Wind 120 deg - No Ice	24.742	21.908	12.641	885.164	-1532.527	3.173
Dead+Wind 150 deg - No Ice	24.742	12.695	21.814	1524.855	-889.483	1.402
Dead+Wind 180 deg - No Ice	24.742	0.081	25.142	1756.183	-8.249	-0.746
Dead+Wind 210 deg - No Ice	24.742	-12.555	21.733	1517.159	875.052	-2.694
Dead+Wind 240 deg - No Ice	24.742	-21.827	12.501	871.830	1523.734	-3.920
Dead+Wind 270 deg - No Ice	24.742	-25.250	-0.081	-6.886	1763.982	-4.095
Dead+Wind 300 deg - No Ice	24.742	-21.908	-12.641	-883.534	1531.427	-3.172
Dead+Wind 330 deg - No Ice	24.742	-12.695	-21.814	-1523.222	888.384	-1.400
Dead+Ice+Temp	34.935	0.000	0.000	2.376	-1.129	0.000
Dead+Wind 0 deg+Ice+Temp	34.935	-0.019	-6.067	-434.763	0.637	0.104
Dead+Wind 30 deg+Ice+Temp	34.935	3.026	-5.245	-375.294	-218.942	0.623
Dead+Wind 60 deg+Ice+Temp	34.935	5.260	-3.017	-214.614	-380.166	0.975
Dead+Wind 90 deg+Ice+Temp	34.935	6.085	0.019	4.224	-439.833	1.066
Dead+Wind 120 deg+Ice+Temp	34.935	5.279	3.050	222.582	-381.957	0.872
Dead+Wind 150 deg+Ice+Temp	34.935	3.059	5.264	381.951	-222.045	0.443
Dead+Wind 180 deg+Ice+Temp	34.935	0.019	6.067	439.628	-2.945	-0.104
Dead+Wind 210 deg+Ice+Temp	34.935	-3.026	5.245	380.160	216.634	-0.623
Dead+Wind 240 deg+Ice+Temp	34.935	-5.260	3.017	219.479	377.857	-0.975
Dead+Wind 270 deg+Ice+Temp	34.935	-6.085	-0.019	0.641	437.525	-1.066
Dead+Wind 300 deg+Ice+Temp	34.935	-5.279	-3.050	-217.716	379.648	-0.871
Dead+Wind 330 deg+Ice+Temp	34.935	-3.059	-5.264	-377.085	219.736	-0.443
Dead+Wind 0 deg - Service	24.742	-0.028	-8.700	-606.665	2.116	0.259
Dead+Wind 30 deg - Service	24.742	4.344	-7.520	-523.945	-303.569	0.933
Dead+Wind 60 deg - Service	24.742	7.553	-4.326	-300.616	-528.060	1.357
Dead+Wind 90 deg - Service	24.742	8.737	0.028	3.483	-611.205	1.418
Dead+Wind 120 deg - Service	24.742	7.581	4.374	306.867	-530.725	1.099
Dead+Wind 150 deg - Service	24.742	4.393	7.548	528.246	-308.185	0.485
Dead+Wind 180 deg - Service	24.742	0.028	8.700	608.301	-3.214	-0.258
Dead+Wind 210 deg - Service	24.742	-4.344	7.520	525.581	302.471	-0.933
Dead+Wind 240 deg - Service	24.742	-7.553	4.326	302.252	526.962	-1.358
Dead+Wind 270 deg - Service	24.742	-8.737	-0.028	-1.847	610.107	-1.418
Dead+Wind 300 deg - Service	24.742	-7.581	-4.374	-305.231	529.627	-1.099
Dead+Wind 330 deg - Service	24.742	-4.393	-7.548	-526.610	307.087	-0.485

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### Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-24.742	0.000	0.000	24.742	0.000	0.000%
2	-0.081	-24.742	-25.142	0.081	24.742	25.142	0.000%
3	12.555	-24.742	-21.733	-12.555	24.742	21.733	0.000%
4	21.827	-24.742	-12.501	-21.827	24.742	12.501	0.000%
5	25.250	-24.742	0.081	-25.250	24.742	-0.081	0.000%
6	21.908	-24.742	12.641	-21.908	24.742	-12.641	0.000%
7	12.695	-24.742	21.814	-12.695	24.742	-21.814	0.000%
8	0.081	-24.742	25.142	-0.081	24.742	-25.142	0.000%
9	-12.555	-24.742	21.733	12.555	24.742	-21.733	0.000%
10	-21.827	-24.742	12.501	21.827	24.742	-12.501	0.000%
11	-25.250	-24.742	-0.081	25.250	24.742	0.081	0.000%
12	-21.908	-24.742	-12.641	21.908	24.742	12.641	0.000%
13	-12.695	-24.742	-21.814	12.695	24.742	21.814	0.000%
14	0.000	-34.935	0.000	0.000	34.935	0.000	0.000%
15	-0.019	-34.935	-6.067	0.019	34.935	6.067	0.000%
16	3.026	-34.935	-5.245	-3.026	34.935	5.245	0.000%
17	5.260	-34.935	-3.017	-5.260	34.935	3.017	0.000%
18	6.085	-34.935	0.019	-6.085	34.935	-0.019	0.000%
19	5.279	-34.935	3.050	-5.279	34.935	-3.050	0.000%
20	3.059	-34.935	5.264	-3.059	34.935	-5.264	0.000%
21	0.019	-34.935	6.067	-0.019	34.935	-6.067	0.000%
22	-3.026	-34.935	5.245	3.026	34.935	-5.245	0.000%
23	-5.260	-34.935	3.017	5.260	34.935	-3.017	0.000%
24	-6.085	-34.935	-0.019	6.085	34.935	0.019	0.000%
25	-5.279	-34.935	-3.050	5.279	34.935	3.050	0.000%
26	-3.059	-34.935	-5.264	3.059	34.935	5.264	0.000%
27	-0.028	-24.742	-8.700	0.028	24.742	8.700	0.000%
28	4.344	-24.742	-7.520	-4.344	24.742	7.520	0.000%
29	7.553	-24.742	-4.326	-7.553	24.742	4.326	0.000%
30	8.737	-24.742	0.028	-8.737	24.742	-0.028	0.000%
31	7.581	-24.742	4.374	-7.581	24.742	-4.374	0.000%
32	4.393	-24.742	7.548	-4.393	24.742	-7.548	0.000%
33	0.028	-24.742	8.700	-0.028	24.742	-8.700	0.000%
34	-4.344	-24.742	7.520	4.344	24.742	-7.520	0.000%
35	-7.553	-24.742	4.326	7.553	24.742	-4.326	0.000%
36	-8.737	-24.742	-0.028	8.737	24.742	0.028	0.000%
37	-7.581	-24.742	-4.374	7.581	24.742	4.374	0.000%
38	-4.393	-24.742	-7.548	4.393	24.742	7.548	0.000%

### Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000822
3	Yes	4	0.00000001	0.00012052
4	Yes	4	0.00000001	0.00008568
5	Yes	4	0.00000001	0.00006061
6	Yes	4	0.00000001	0.00013260
7	Yes	4	0.00000001	0.00009227
8	Yes	4	0.00000001	0.00000998
9	Yes	4	0.00000001	0.00008656
10	Yes	4	0.00000001	0.00013557
11	Yes	4	0.00000001	0.00005835
12	Yes	4	0.00000001	0.00008806



**TAB 3**

