



Centek Engineering, Inc.
3-2 North Branford Road
Branford, Connecticut 06405
Phone: (203) 488-0580
Fax: (203) 488-8587

Steven L. Levine
Real Estate Consultant

HAND DELIVERED

March 9, 2016

Attorney Melanie Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 366 Old Long Ridge Road, Stamford

Dear Ms. Bachman:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, copies of this letter are being sent to the chief elected official of the municipality in which the affected cell site is located, the property owner of record, and the tower owner or operator.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile ("GSM") communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

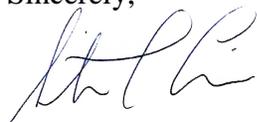
The changes to the facility do not constitute modifications as defined in Connecticut General Statutes (“C.G.S.”) Section 16-50i(d) because the general physical and environmental characteristics of the site will not be significantly changed or altered. Rather, the planned changes to the facility fall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

1. The height of the overall structure will not increase.
2. The proposed changes will not extend the site boundaries.
3. The proposed changes will not increase the noise level at the site boundary by six decibels or more, or to levels that exceed state and local criteria.
4. The changes will not add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996, as amended, and the State Department of Energy and Environmental Protection, pursuant to Section 22a-162 of the Connecticut General Statutes.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The proposed changes will not impair the structural integrity of the facility, as determined in a certification provided by a professional engineer licensed in Connecticut.

For the foregoing reasons, AT&T respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 830-0380 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine
Real Estate Consultant

cc: TownCEO – Mayor David R. Martin, City of Stamford
Property Owner of Record – Long Ridge Fire Company Inc.
Tower Owner / Operator – Long Ridge Fire Company Inc. (by email)

Attachments

**NEW CINGULAR WIRELESS PCS, LLC
Equipment Modification**

366 Old Long Ridge Road, Stamford, CT
Geographic Coordinates: N 41-09-11 W 73-35-33.7
Site Number 5047
Prior Decisions: Exempt Mods 6/02, 8/07, 7/08, and 9/13 (expired)

Tower Owner/Manager: Long Ridge Fire Company Inc.

Land Owner of Record: Long Ridge Fire Company Inc.

Original Permitting: The 366 Old Long Ridge Road structure was approved on November 16, 1988 by the Stamford Zoning Appeals Board under application #119-88. (See the attached Zoning Appeals Board Certificate.) No approval conditions in this document will be violated by the proposed equipment modifications.

Lease Area: The attached site plan exhibit from EM-AT&T-135-020507 shows site boundaries at the time the Council initially approved co-location by AT&T. Comparison of this prior drawing with the proposed Construction Drawings, attached, confirms that all proposed equipment modifications will occur either on the existing tower structure or within AT&T's existing equipment area. Accordingly, the proposed modifications will not extend either AT&T's lease area or the overall site boundaries.

Equipment configuration: 152-ft. Self-Supporting Lattice Tower

Current and/or approved: Note: The approval for EM-CING-135-130910 expired without installation of the equipment modifications.

Three PowerWave 7770 antennas @ 148 ft c.l.
Six PowerWave LGP 21401 TMA's @ 148 ft
Six runs 1 5/8 inch coax
Outdoor equipment cabinets on concrete pad

Planned Modifications: Remove all PowerWave 7770 antennas.
Remove all Powerwave TMA's.
Remove existing antenna mounts.
Install three Valmont/Site-Pro USF-2U stand-off tower frames @ 143 ft.
Install three Andrew SBNHH-1D65A antennas @ 143 ft c.l.
Install three Kaelus 2117F00V1-1 TMA's @ 143 ft.
Install a new exterior equipment frame at grade.
Install six Ericsson RRUS-11 remote radio heads and one Ericsson DC12-48-60-RM surge arrestor on the new equipment frame.
Install six CCI TPX-070821 Triplexers at grade.

Power Density:

Worst-case calculations with 10 dB reduction for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at six feet above ground level beside the tower, of approximately 22.5 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 23 % of the standard.

Existing

Company	Frequency (MHz)	Centerline Ht (feet)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users *							22.16
AT&T UMTS *	880	148	1	500	0.0089	0.5867	0.15
AT&T GSM *	1900	148	2	427	0.0152	1.0000	0.15
Total							22.46%

* Per CSC Records for EM-CING-135-080530. (The approval for EM-CING-135-130910 expired without implementation.)

Proposed

Company	Frequency (MHz)	Antenna (Total for all sectors)	Centerline Ht (feet)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users *								22.16
AT&T LTE	740	Andrew 3 antennas	143	1	828	0.0159	0.4933	0.32
AT&T LTE	1900	Andrew 3 antennas	143	1	1734	0.0332	1.0000	0.33
AT&T UMTS	880	Andrew 3 antennas	143	1	255	0.0049	0.5867	0.08
AT&T UMTS	1900	Andrew 3 antennas	143	1	368	0.0071	1.0000	0.07
AT&T GSM	880	Andrew 3 antennas	143	1	152	0.0029	0.5867	0.05
Total								23.02%

* Per CSC records

Structural information:

The attached structural analysis (AECOM, 3/3/16) demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed equipment modifications.

Original Zoning Approval, 1988

400

ZONING APPEALS BOARD CERTIFICATE

VOL 3356 PAGE 1

20110

I, LEONARD DIPRETA,

zoning enforcement officer for the City of Stamford,

in compliance with Special Act No. 379 of the 1951 General Assembly, hereby certify that on

November 9, 1988 a hearing was held by the Zoning Appeals Board on the application of:

LONG RIDGE FIRE CO., INC.

Appl. #119-88

for a Special Exception as authorized by Section 19-3.2.a. for a replacement radio antenna tower, 150 feet in height, to be constructed on the Long Ridge Fire Company property located on the west side of Old Long Ridge Road, in an RA-2 zone, and is known as 366 Old Long Ridge Road.

and that the land affected is owned by and located on the following streets:

NAME	LOCATION
Long Ridge Fire Co., Inc.	366 Old Long Ridge Road

and that the following is a statement of its findings and approval or rejection.

November 16, 1988

The Board approves this Special Exception as authorized by Section 19-3.2.a. for a replacement radio antenna tower, 150 feet in height, to be constructed on the Long Ridge Fire Company property, subject to the following restriction:

The applicant must adhere to the approved plan which has been signed by Raymond D. Sanborne, Chairman of the Zoning Board of Appeals, and Michael D. Macri, Deputy Zoning Enforcement Officer. Said plan is on file in the office of the Zoning Board of Appeals and is referred to as Proposed Replacement of Radio Antenna Tower, dated 9/12/88.

In rendering the above decision, the Board finds that the proposed use or structure or the proposed extension or alteration of an existing use or structure is in accord with the public convenience and welfare after taking into account, where appropriate:

- (1) the location and nature of the proposed site including its size and configuration, the proposed size, scale and arrangement of structures, drives and parking areas and the proximity of existing dwellings and other structures.
- (2) the nature and intensity of the proposed use in relation to its site and the surrounding area. Operations in connection with special exception uses shall not be injurious to the neighborhood, shall be in harmony with the general purpose and intent of the Zoning Regulations, and shall not be more objectionable to nearby properties by reason of noise, fumes, vibration, artificial lighting or other potential disturbances to the health, safety or peaceful enjoyment of property than the public necessity demands.
- (3) the resulting traffic patterns, the adequacy of existing streets to accommodate the traffic associated with the proposed use, the adequacy of proposed off-street parking and loading, and the extent to which proposed driveways may cause a safety hazard or traffic nuisance.
- (4) the nature of the surrounding area and the extent to which the proposed use or feature might impair its present and future development.
- (5) the Master Plan of the City of Stamford and all statements of the purpose and intent of these regulations.

The applicant(s) is/are allowed one year from the effective date of this decision in which to obtain a building permit.

Done at Stamford, Connecticut, this 1st day of December, 1988.

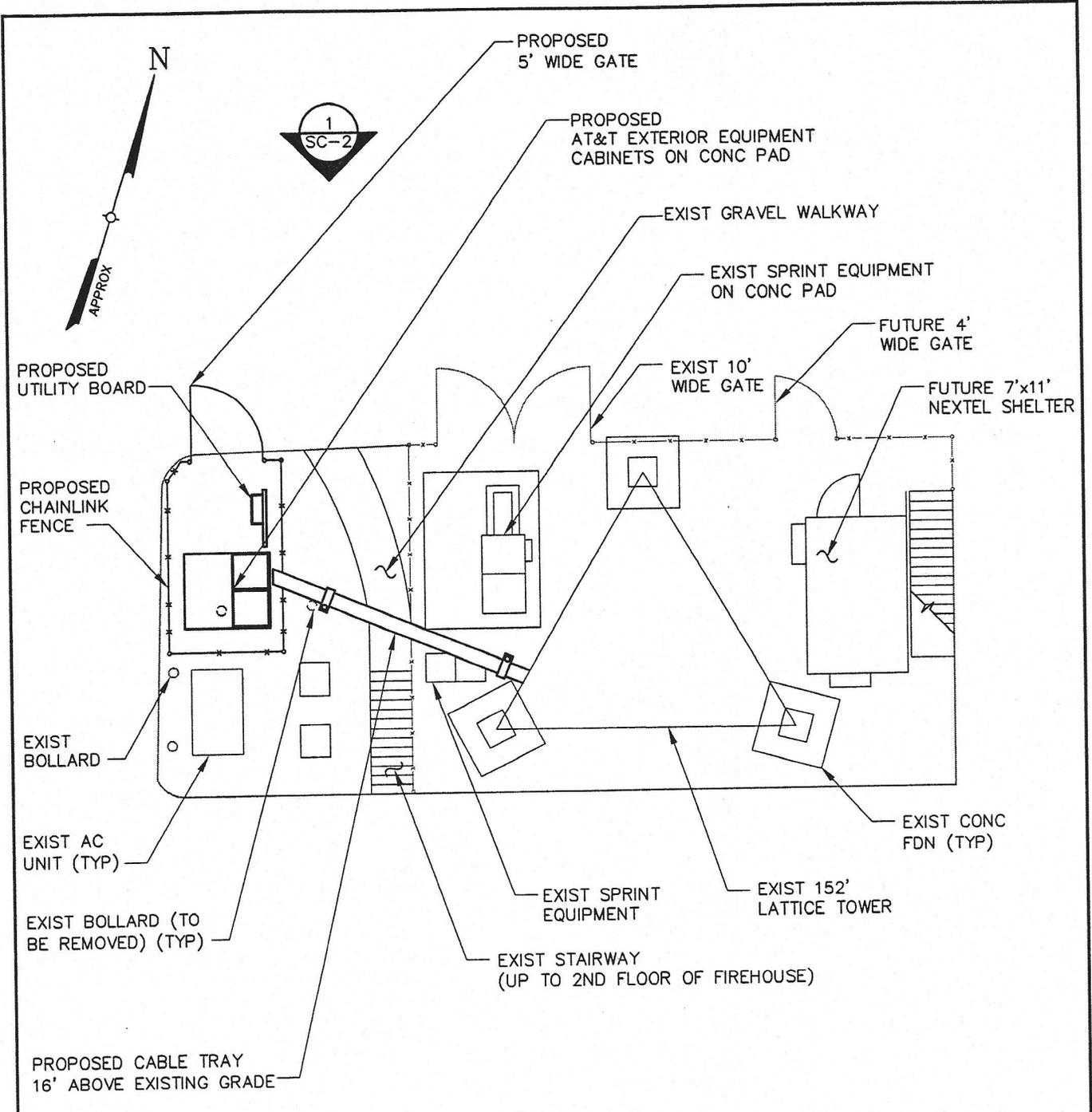
Raymond D. Sanborne
 Raymond D. Sanborne
 Chairman, Zoning Board of Appeals

Leonard DiPreca
 Leonard DiPreca
 Zoning Enforcing Officer of the City of Stamford

The land hereby affected lies in block 400

THE LAND AFFECTED HEREBY LIES IN BLOCK 400
 OF THE STAMFORD BLOCK MAP. RECEIVED FOR RECORD
 AT STAMFORD CN 12-1-88 AT 9:53 A.M.
 ATTEST: LOIS POTIBRIAN, TOWN AND CITY CLERK

Site Plan Exhibit - 2002 AT&T EM



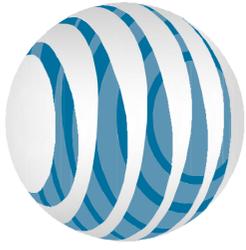
1
SC-1
SITE DETAIL PLAN
 SCALE: 1" = 10'

TECTONIC/KEYES ASSOCIATES
1244 BLAIR DENNE HIGHWAY, SUITE 900 OFFICE (860)663-2344
 ROCKY HILL, CT 08877-1348 FAX (860)287-6882



DRAWING TITLE:
 SITE DETAIL PLAN
PROJECT INFORMATION:
 LONG RIDGE
 CT-0047
 OLD LONG RIDGE RD
 STAMFORD, CT
PROPERTY OWNER:
 LONG RIDGE FIRE CO.
 OLD LONG RIDGE RD
 STAMFORD, CT

DRAWING NO.	
SC-1	
REVISION NO. 5	DRAWN BY: RPM
DATE: 5/2/02	CHECKED BY: MC
SCALE: AS NOTED	APPROVED BY: JDF
ISSUED FOR APPROVAL	SHEET NO. 1 of 2
WORK ORDER # 2650.CT047	



at&t

WIRELESS COMMUNICATIONS FACILITY CT5047 - LTE 1C STAMFORD NORTH 366 OLD LONG RIDGE ROAD STAMFORD, CT 06903

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2005 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT, THE 2009 INTERNATIONAL FIRE ALARMS AND SIGNALING STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE ANTENNA SHALL BE INSTALLED IN ACCORDANCE WITH THE FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE DETERMINED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF DRAWINGS TO ALL TRADE PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATION AND DIMENSIONS OF ALL STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS. COORDINATE WORK WITH BUILDING/PROPERTY OWNER.

SITE DIRECTIONS

- FROM:** 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT
- TO:** 366 OLD LONG RIDGE ROAD, STAMFORD, CONNECTICUT
- DEPART ENTERPRISE DR TOWARD CAPITOL BLVD
 - TURN LEFT ONTO CAPITOL BLVD
 - TURN LEFT ONTO WEST ST
 - TAKE RAMP LEFT FOR I-91 SOUTH
 - AT EXIT 17, TAKE RAMP RIGHT FOR WILBUR CROSS PKWY TOWARD E. MAIN ST
 - TURN RIGHT ONTO SR-104 / LONG RIDGE RD
 - TURN RIGHT ONTO ERSKINE RD AND THEN IMMEDIATELY TURN LEFT ONTO OLD LONG RIDGE RD
 - ARRIVE AT 366 OLD LONG RIDGE RD, STAMFORD, CT 06903-1114

VICINITY MAP



PROJECT SUMMARY

- THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
 - REMOVE AND REPLACE (3) EXISTING ANTENNAS WITH NEW HEX-PORT ANTENNAS, (1) PER SECTOR.
 - REMOVE AND REPLACE (6) EXISTING TMA'S FOR (3) NEW XEOLUS TMA217700V1-1 TMA, (1) PER SECTOR.
 - INSTALL (6) NEW ERICSSON RRUS-11 MOUNTED ON NEW EXTERIOR EQUIPMENT FRAME.
 - REMOVE AND REPLACE (6) EXISTING DIPLEXERS WITH (6) NEW CCI TRIPLEXER TPX-070821, (2) PER SECTOR.
 - INSTALL (1) NEW LTE GPS ANTENNA ON EXISTING ICE BRIDGE POST SUPPORT.
 - INSTALL (1) NEW PURCELL FLX16WS EQUIPMENT CABINET MOUNTED ON NEW EXTERIOR EQUIPMENT FRAME.
 - INSTALL (1) NEW ERICSSON RBS8601+DUS41 WITHIN PURCELL CABINET.
 - REMOVE (1) EXISTING NOKIA NUSS CABINET AND INSTALL (1) NEW EMERSON -48V DOPP.

PROJECT INFORMATION

AT&T SITE NUMBER: CT5047

AT&T SITE NAME: STAMFORD NORTH

SITE ADDRESS: 366 OLD LONG RIDGE ROAD, STAMFORD, CT 06903

LESSEE/APPLICANT: AT&T MOBILITY, 500 ENTERPRISE DRIVE, SUITE 3A, ROCKY HILL, CT 06867

ENGINEER: CENTEK ENGINEERING, INC., 63-2 NORTH BRANFORD RD., BRANFORD, CT. 06405

PROJECT COORDINATES: LATITUDE: 41°-09'-11.2" N, LONGITUDE: 73°-35'-33.7" W, GROUND ELEVATION: ±437' AMSL

(THE ABOVE COORDINATES AND GROUND ELEVATION ALONG WITH ELEVATIONS SHOWN HEREIN ARE REFERENCED FROM FAA 2-C SURVEY CERTIFICATION AS PREPARED BY TECTONIC ENGINEERING CONSULTANTS, P.C. DATED AUGUST 29, 2000.)

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
N-1	NOTES AND SPECIFICATIONS	0
C-1	PLANS AND ELEVATION	1
C-2	LTE SYSTEM EQUIPMENT PLANS & DETAILS	0
E-1	ELECTRICAL DETAILS AND NOTES	0
E-2	ELECTRICAL DETAILS	0



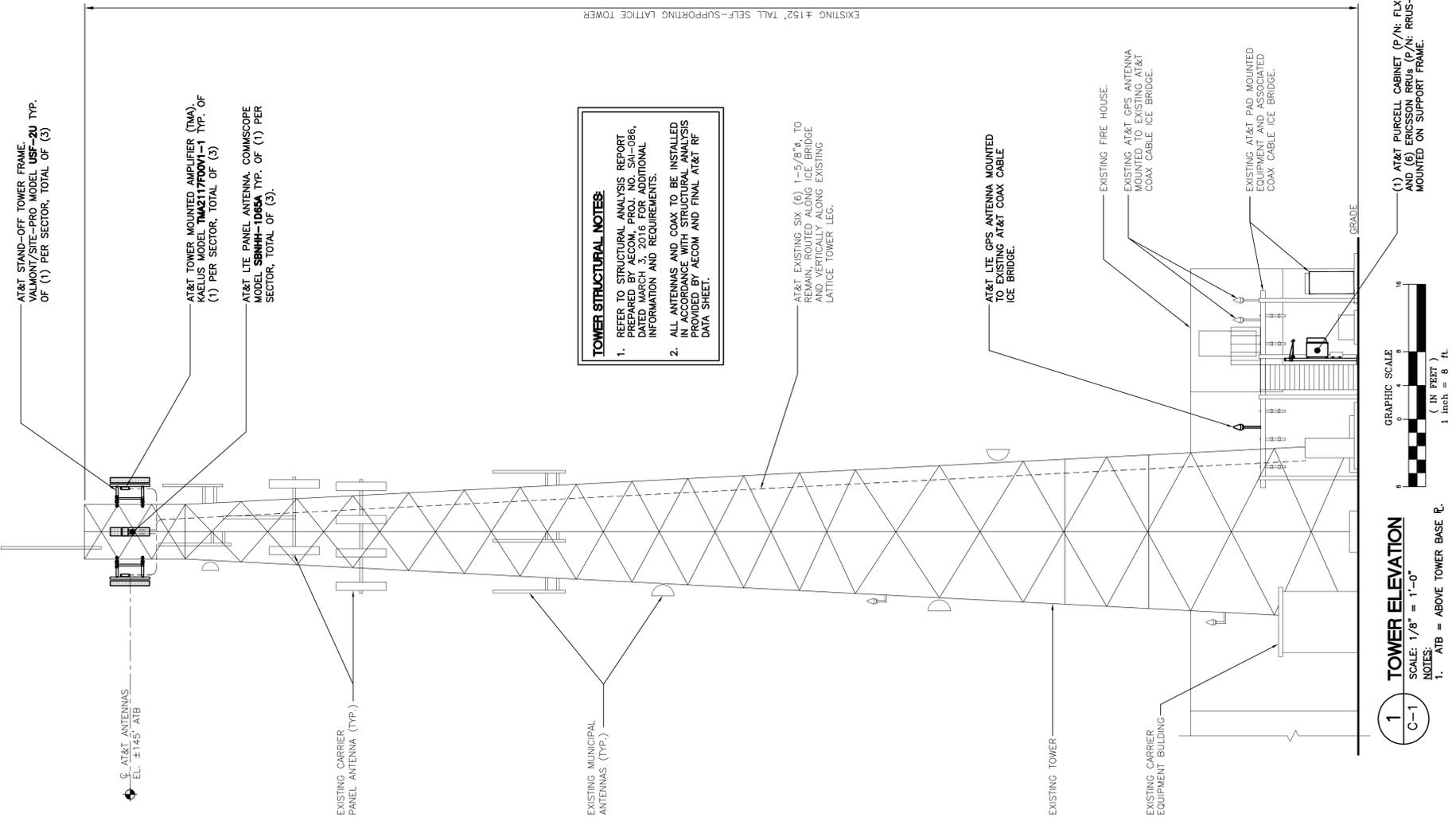
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
STAMFORD NORTH
CT5047 - LTE 1C
366 OLD LONG RIDGE ROAD
STAMFORD, CT 06903

DATE: 02/12/2016
SCALE: AS NOTED
JOB NO. 15267.007

TITLE SHEET

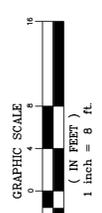
T-1
Sheet No. 1 of 6

REV.	DATE	BY	CHK'D BY	DESCRIPTION
1	03/08/16	MMW		CONSTRUCTION DRAWINGS - ISSUED FINAL
0	02/16/16	CAG		CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW

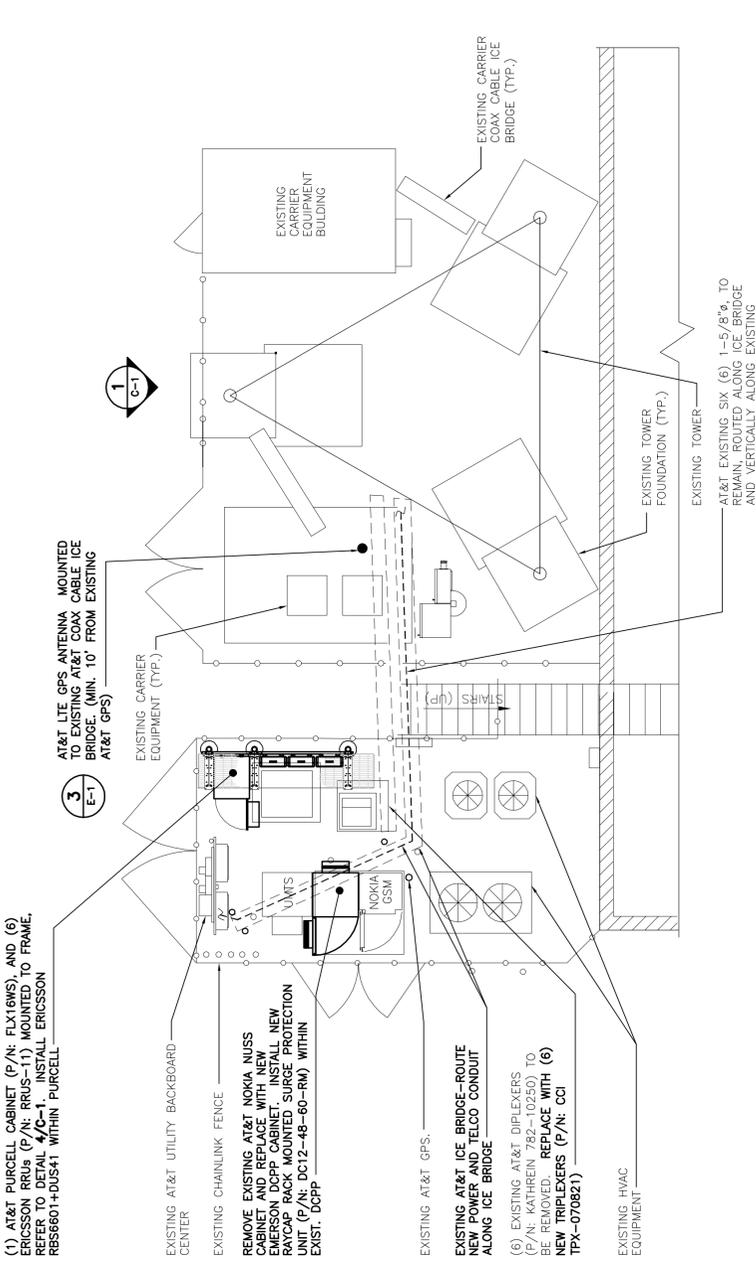


TOWER STRUCTURAL NOTES:

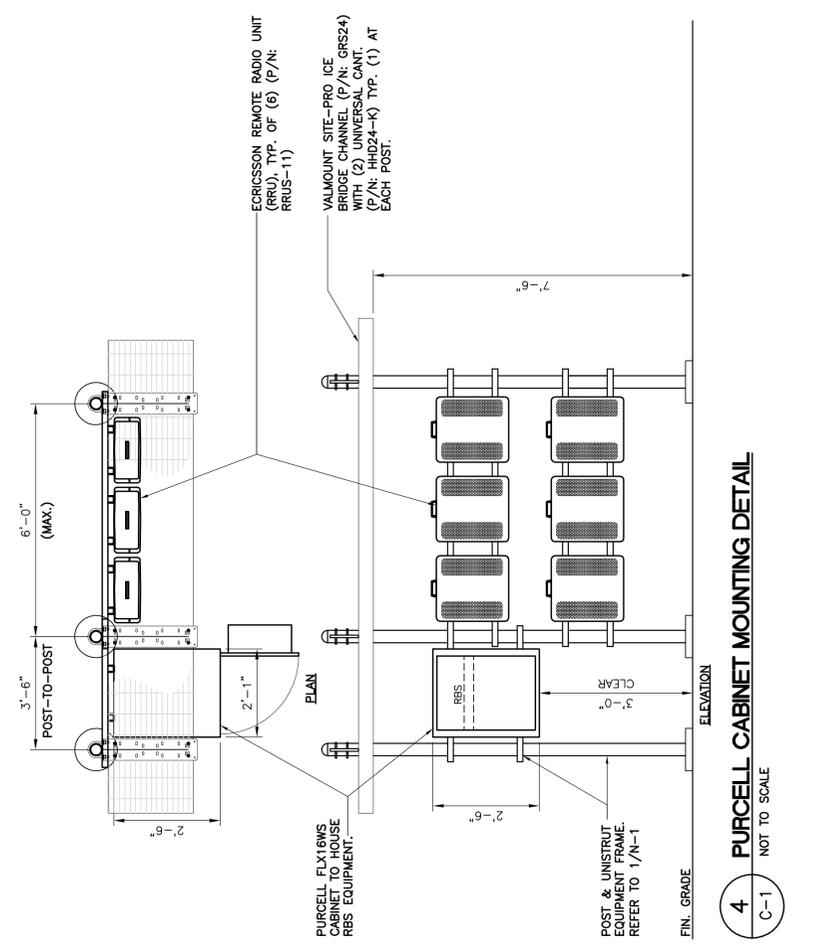
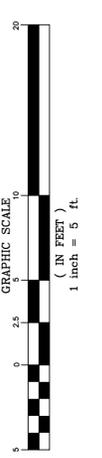
- REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY AECOM, PROJ. NO. SA1-086, DATED MARCH 3, 2016 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AECOM AND FINAL AT&T RF DATA SHEET.



1 TOWER ELEVATION
 SCALE: 1/8" = 1'-0"
 NOTES:
 1. ATB = ABOVE TOWER BASE P.



2 COMPOUND PLAN
 SCALE: 1" = 5'
 TRUE NORTH
 PROVIDE COAX CABLE ICE BRIDGE EXTENSION AS REQUIRED TO PROTECT PROPOSED LTE CABLES.



4 PURCELL CABINET MOUNTING DETAIL
 NOT TO SCALE

DETAILED STRUCTURAL ANALYSIS AND EVALUATION FOR AN EXISTING 152' SELF SUPPORTING LATTICE TOWER AND FOUNDATION FOR PROPOSED ANTENNA ARRANGEMENT



Site I.D. # : CT5047
Site Address: 366 Old Long Ridge Road,
Stamford, CT

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis and evaluation of the modified 152' self supporting lattice tower located at 366 Old Long Ridge Road, in Stamford, CT. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard for a basic wind velocity of 85 mph (fastest mile) and 74 mph (fastest mile) concurrent with ½" ice design wind load. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction section of this report.

The proposed AT&T antenna installation is as listed below:

Proposed Antennas	Carrier	Antenna Center Elevation
<u>Remove:</u> (3) 7770 Powerwave Panel Antennas (6) LGP21401 TMA units	AT&T (Removed)	@ 145'
<u>Install:</u> (3) SBNHH-1D65A Panel Antennas (3) Kaelus TMA2117F00V1-1 TMA units	AT&T (Proposed)	@ 145'

The results of the analysis indicate the tower structure, anchor bolts and foundation are in compliance with the proposed loading conditions without modification. **The modified tower, anchor bolts and foundation are considered structurally adequate for the proposed antenna loading with the wind load specified above.**

The analysis results presented herewith are based upon previous tower and foundation modifications proposed by AECOM tower modification analysis report, project 60404060, signed and sealed on February 26, 2016 for Verizon Wireless. **Due to the minimal increase of loading impact to the structure and foundation, installation of AT&T's antenna upgrade is not dependent on the completion of modifications noted in the February 26, 2016 report.**

1. EXECUTIVE SUMMARY - *continued*

This analysis is based on:

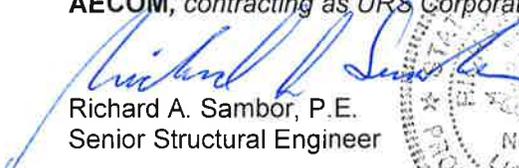
- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Original tower geometry, structural member sizes and foundation information including geotechnical information obtained from manufacturer's design documents prepared by ROHN Industries, Engineering File No. 24269DB, dated May 16, 1989. Geotechnical information utilized in ROHN design is based on report prepared by Goldberg, Zind and Associates, project number H-50276 dated 12/14/1988.
- 3) Completion of subsequent tower reinforcements:
 - Drawings SS-1 'Tower Foundation Reinforcement, Elevation, Sections and Details' and drawing SS-2 'Foundation Plan, Section and Notes' prepared by Tectonic Engineering Consultants P.C; on behalf of AT&T Wireless, PCS, LLC; dated April 23, 2002.
 - Drawing S-1 'Structural Details' prepared by Diversified Technology Consultants (dte), on behalf of Nextel Communications, dated June 11, 2002.
 - Tower reinforcement drawings sheets 1 thru 5, entitled '2007 Modifications Tower Rework For a 153' ROHN SSV Tower' Long Ridge, CT., prepared by Vertical Structures on behalf of Motorola, dated May 24, 2007.
 - Tower inventory and mapping report prepared by CSB Communications, Inc., on behalf of Verizon Wireless/URS Corporation, dated July 20, 2008.
- 4) Geotechnical report from Dr. Clarence Welti, P.E. Geotechnical Engineering, Dated December 12, 2012.
- 5) Detailed structural analysis and evaluation performed by AECOM on behalf of Verizon Wireless, project number 60404060, signed and sealed on December 15, 2015.
- 6) Previous structural analysis and modification performed by AECOM on behalf of Verizon Wireless, project number VZ5-199 Rev.2 / 60404060, signed and sealed on February 26, 2016.
- 7) Proposed AT&T inventory Radio Frequency Data Sheet (RFDS) obtained via e-mail dated February 9, 2016.
- 8) Antenna and mount configuration as specified within Section 2 and 6 of this report.
- 9) Coax cable orientation as specified in section 6 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the antenna, cabling, and mount configuration used, as well as the physical condition of the tower members, connections and foundation. Notify the engineering writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

AECOM, contracting as URS Corporation AES.


Richard A. Sambor, P.E.
Senior Structural Engineer

RAS/mcd
CC: IA, CF/Book – AECOM



2. INTRODUCTION

The subject tower is located at 366 Old Long Ridge Road, in Stamford, CT. The structure is an existing 152' self supporting three-legged steel tapered lattice tower designed and manufactured by ROHN Industries.

The inventory is summarized in the table below:

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(1) 20' 4-Bay Dipole	(existing)	12' Pipe Mount	162'	(1) 7/8"
(1) Decibel DB563K Directional Omni with 22"x22"x6" Filter Box	(existing)	3' Stand-off	156.70'	(2) 1-5/8"
(1) 4' HP Dish with Radome	(existing)	4" Dish Mount	152'	(1) 7/8" Elliptical
(1) 30"x3" Omni Whip with 20"x6"x8" Filter Box	(existing)	3' Stand-off	151.25'	(2) 1-1/4"
(1) 12'x3" Decibel Omni Whip	(existing)	4' Stand-off	144'	(1) 7/8"
(3) SBNHH-1D65A Panel Antennas (3) TMA2117F00V1-1 TMA units	AT&T (Proposed)	<i>See Below Mount</i>	143'	<i>See Below Cables</i>
<i>Combine with above proposed antennas</i>	AT&T (existing)	Pipe Leg Mount	143'	(6) 1 5/8"
(1) Decibel DB563K Directional Omni	(existing)	3' Stand-off	141.70'	(1) 1-1/4"
(1) 4' HP Dish with Radome	(existing)	4" Dish Mount	140'	(1) 7/8" Elliptical
(1) 6'x3" Decibel Omni Whip	(existing)	3' Stand-off	138'	(2) 1-5/8"
(1) 2' HP Dish with Radome	(existing)	4" Dish Mount	136.5'	(1) 7/8" Elliptical
(1) Decibel DB495 Corner Reflector	(existing)	Leg Mount	135'	(1) 1/2"
(1) 8'x2" Decibel Omni Whip	(existing)	off Boom Gate listed below	133'	(1) 7/8"
(6) Decibel DB980H90 panel antennas	Sprint (existing)	(3) 11' Boom Gates	128'	(6) 1 5/8"
(1) Decibel DB254 Corner Reflector	(existing)	Leg Mount	122'	(1) 1/2"
(3) RFS APX16DWV-S-E-ACU Panel Antennas (3) TMAs	T-Mobile (existing)	Leg Mount	108'	(12) 1-5/8" (2 rows of 6)
(1) 10'x2" Decibel Omni Whip	(existing)	3' Stand-off	101'	(1) 7/8"
(1) 8' 4-Bay Dipole	(existing)	3' Stand-off	101'	(1) 7/8"
(1) 8' 4-Bay Dipole	(existing)	3' Stand-off	101'	(1) 7/8"
(1) 20'x3" Omni Whip	(existing)	3' Stand-off	101'	(1) 7/8"

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(2) LNX-8513DS-A1M Panel Antennas (Alpha Sector) (4) LNX-6514DS-A1M Panel Antennas (Beta & Gamma Sectors) (6) HBXX-6517DS-A2M Panel Antennas ((2) per Sector) (3) ALU RRH_2x40-700U (3) ALU RRH_2x60-PCS (3) ALU RRH_2x60-AWS (2) DB-T1-6Z-8AB-0Z Distribution Boxes	Verizon (existing)	(3) T-Frames	98'	(2) 1-5/8" Fiber Optic Cables
Vacant	(existing)	3' Stand-off	95.5'	n/a
(1) 4'x3" Omni Whip	(existing)	3' Stand-off	79'	(1) 1-1/4"
(1) 8' 2-Bay Dipole	(existing)	3' Stand-off	78'	(1) 7/8"
(1) 3' Kathrein Yagi with Radome	(existing)	same as listed above	72'	(1) 1/2"
(1) GPS antenna	Sprint (existing)	2' Stand-off	58'	(1) 1/2"
(1) 1.2M Dish	(existing)	4' Stand-off	45'	(1) 1/4"

Notes:

- 1) Omni-whip antenna centerline elevations based on antenna size and respective mount height.
- 2) Refer to Section 6 Tower Feed Line Plan for coaxial cable locations.

This structural analysis and evaluation of the communications tower was performed by AECOM for AT&T. The purpose of this analysis was to investigate the structural integrity of the modified tower with its existing and proposed antenna loads. The analysis was also conducted to evaluate stress on the tower and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with the 2005 Connecticut State Building Code, TIA/EIA-222-F - Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, and the American Institute of Steel Construction (AISC) Manual of Steel Construction – Allowable Stress Design (ASD).

The analysis was conducted using TNX Tower 7.0.5.1. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Basic Wind Speed:

- Fairfield County; $v = 85$ mph (fastest mile) [Section 16 of TIA/EIA-222-F-1996]
- Stamford; $v = 105$ mph (3 second gust) [Appendix K, 2005 Connecticut State Building Code Supplement]
equivalent to 85mph (fastest mile)

Loading Cases:

Load Condition 1 = 85 mph (fastest mile) Wind Load (without ice) + Tower Dead Load

Load Condition 2 = 74 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

Please note that wind pressure is a function of velocity squared. Under Load Condition 2, a 25 percent reduction in wind pressure is allowed by code to account for the unlikelihood of the full wind pressure and ice load occurring at the same time. The same results may be achieved by utilizing a lower wind pressure without taking the 25 percent reduction, as shown above.

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

The combined axial and bending stresses on the tower were evaluated to compare with the allowable stress in accordance with AISC. The results of the analysis indicate that the calculated stresses under the proposed loading are within the allowable stresses for the tower structure and foundation. Detailed analysis and calculations for the proposed load condition are provided in Section 6 of this report. See the below tables for tower and foundation capacity:

The analysis results presented herewith are based upon previous tower and foundation modifications proposed by AECOM tower modification analysis report, project 60404060, signed and sealed on February 26, 2016 for Verizon Wireless. **Due to the minimal increase of loading impact to the structure and foundation, installation of AT&T's antenna upgrade is not dependent on the completion of modifications noted in the February 26, 2016 report.**

TABLE 1: Tower Base Reactions:

For detailed proposed tower reactions, see drawing no. E-1 in section 6 of this report.

Base Reactions	Proposed Reactions
Axial Load (kips)	26.2
Shear per Leg (kips)	20.0
Total Shear (kips)	36.8
Uplift per Leg (kips)	162.3
Comp.per Leg (kips)	185.8
O.T. Moment (ft-kips)	3166

TABLE 2: Tower Component Stress vs. Capacity Summary:

Component/ (Section No.)	Existing Component Size	Controlling Component/Elevation	Stress (% capacity)	Pass/Fail
Tower Leg (T10)	ROHN 3 X-STR	Compression / 60'-66.667'	96.3 %	Pass
Diagonal (T12)	L3x3x5/16	Compression / 40 – 50'	92.4 %	Pass
Horizontal (T16)	L2.875x2.875x3/16	Compression / 10'-15'	84.0 %	Pass
Secondary Horizontal (T13)	L3x3x3/16	Compression / 30'-40'	34.6 %	Pass
Top Girt (T1)	L2x2x1/8	Compression / 140'-152'	7.8 %	Pass
Red Horz Bracing (T15)	L2x2x1/4	Compression / 15'-20'	29.2 %	Pass
Red Diag Bracing (T15)	L2x2x1/4	Compression / 15'-20'	22.5 %	Pass
Bolt Checks				
Diagonal (T12)	0.625" dia A325N	Bolt Shear / 40'-50'	92.4 %	Pass
Anchor Bolts	(4) 1" dia A193 GR-7, A320 GR L7	Min Area per ASCE 10-97	81.0%	Pass

TABLE 3: Foundation Summary

Foundation	Component	Stress (% capacity/FOS)	Pass/Fail	Comments:
Previously Reinf. Concrete Pad and Pier	OTM	95.6%/2.091	Pass	Min. F.O.S of 2.0 reqd per IBC 2003 Section 3108.4.2

5. CONCLUSIONS AND RECOMMENDATIONS

The results of the analysis indicate the tower structure, anchor bolts and foundation are in compliance with the proposed loading conditions without modification. **The modified tower, anchor bolts and foundation are considered structurally adequate for the proposed antenna loading with the wind load specified above.**

The analysis results presented herewith are based upon previous tower and foundation modifications proposed by AECOM tower modification analysis report, project 60404060, signed and sealed on February 26, 2016 for Verizon Wireless. **Due to the minimal increase of loading impact to the structure and foundation, installation of AT&T's antenna upgrade is not dependent on the completion of modifications noted in the February 26, 2016 report.**

Limitations/Assumptions:

This report is based on the following:

- 1) Tower inventory as listed in this report.
- 2) Tower is properly installed and maintained.
- 3) All members are as specified in the original design documents and are in good condition.
- 4) All required members are in place.
- 5) All bolts are in place and are properly tightened.
- 6) Tower is in plumb condition.
- 7) All member protective coatings are in good condition.
- 8) All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
- 9) Foundations are in good condition without defect and were properly constructed to support original design loads as specified in the original design documents.
- 10) All coaxial cable is installed as specified in Section 6 of this report

AECOM is not responsible for any modifications completed prior to or hereafter in which AECOM is not or was not directly involved. Modifications include but are not limited to:

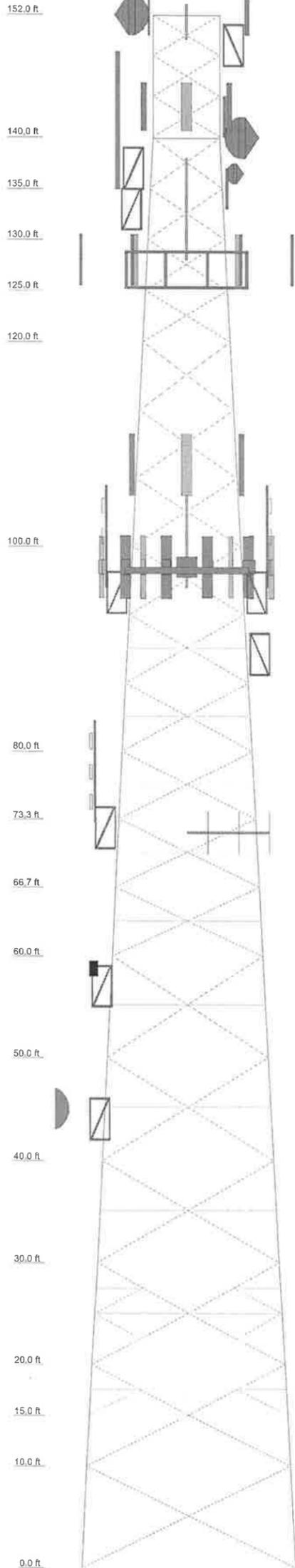
- A. Adding antennas
- B. Removing/replacing antennas
- C. Adding coaxial cables

AECOM hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact AECOM. AECOM disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance:

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1; it is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

Section	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	Rohn 5 STD w/ (3) 1.5"x0.5" Bars																
Leg Grade	L3 1/2x3 1/2x5/16																
Diagonals	L3 1/2x3 1/2x5/16																
Diagonal Grade	A36																
Top Girts	N.A.																
Horizontals	L3x3x3/16																
Sec. Horizontals	N.A.																
Red. Horizontals	L2x2x1/4																
Red. Diagonals	L2x2x1/4																
Face Width (ft)	20.7813	19.2804	18.7708	17.6979	14.6979	14	13.3021	12.6042	10.5625	8.5625	8.5625	7.0625	7.0625	5.5625	5.5625	4.0333	3.9444
# Panels @ (ft)	1 @ 10	4 @ 5	4 @ 5	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10	3 @ 10
Weight (lb)	15797.6	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5	14888.5



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' 4-Bay Dipole (Unknown)	162	TMA (T-Mobile)	108
DB563K-CR (Unknown)	156.701	8' 4-Bay Dipole (Unknown)	101
4'x4' Pipe Mount (Unknown)	152	20' x 3" Dia Omni (Unknown)	101
4' w/Radome (Unknown)	152	2" Dia 10" Omni (Unknown)	101
DB803KHE-YP (Unknown)	151.25	8' 4-Bay Dipole (Unknown)	101
Filter Box 22'x22'x6" (Unknown)	149	LNXX-6513DS-A1M (Verizon-700MHz)	98
3' Sidearm (Unknown)	149	LNXX-6514DS-A1M (Verizon-700MHz)	98
3' Sidearm (Unknown)	148.5	LNXX-6514DS-A1M (Verizon-700MHz)	98
Filter Box 20'x6'x8" (Unknown)	148.5	RRH_2x40-700U (Verizon-700MHz)	98
12'x2 1/2" STD Pipe Mount (Unknown)	146	RRH_2x40-700U (Verizon-700MHz)	98
12' x 3" Dia Omni (Unknown)	144	RRH_2x40-700U (Verizon-700MHz)	98
SBNHH-1D65A (ATI - Proposed)	143	LNXX-6513DS-A1M (Verizon-850MHz)	98
SBNHH-1D65A (ATI - Proposed)	143	LNXX-6514DS-A1M (Verizon-850MHz)	98
TMA2117F00V1-1 TMA (ATI - Proposed)	143	LNXX-6514DS-A1M (Verizon-850MHz)	98
TMA2117F00V1-1 TMA (ATI - Proposed)	143	HBXX-6517DS-A2M (Verizon-1900MHz)	98
TMA2117F00V1-1 TMA (ATI - Proposed)	143	HBXX-6517DS-A2M (Verizon-1900MHz)	98
4'x3" Pipe Mount (ATI)	143	RRH_2x60_PCS (Verizon-1900MHz)	98
4'x3" Pipe Mount (ATI)	143	RRH_2x60_PCS (Verizon-1900MHz)	98
SBNHH-1D65A (ATI - Proposed)	143	RRH_2x60_PCS (Verizon-1900MHz)	98
4'x3" Pipe Mount (ATI)	143	RRH_2x60_PCS (Verizon-1900MHz)	98
4'x4' Pipe Mount (Unknown)	142	DB-T1-6Z-8AB-0Z Dist. Box (Verizon-1900MHz)	98
DB563K-CR (Unknown)	141.701	PIROD 13' Lightweight T-Frame (Verizon)	98
4' w/Radome (Unknown)	140	PIROD 13' Lightweight T-Frame (Verizon)	98
6' x 3" Dia Omni (Unknown)	138	PIROD 13' Lightweight T-Frame (Verizon)	98
4' Side Mount Standoff (1) (Unknown)	137	HBXX-6517DS-A2M (Verizon-2100MHz)	98
2' w/Radome (Unknown)	136.5	HBXX-6517DS-A2M (Verizon-2100MHz)	98
4'x4' Pipe Mount (Unknown)	135	HBXX-6517DS-A2M (Verizon-2100MHz)	98
DB495-A (Unknown)	135	RRH_2x60_PCS (Verizon-2100MHz)	98
3' Sidearm (Unknown)	133.5	RRH_2x60_PCS (Verizon-2100MHz)	98
2" Dia 8" Omni (Unknown)	133	RRH_2x60_PCS (Verizon-2100MHz)	98
4' Side Mount Standoff (1) (Unknown)	133	DB-T1-6Z-8AB-0Z Dist. Box (Verizon-2100MHz)	98
(2) DB980H90E-M (Sprint)	128	3' Sidearm (Unknown)	95.5
(2) DB980H90E-M (Sprint)	128	3' Sidearm (Unknown)	95.5
(2) DB980H90E-M (Sprint)	128	3' Sidearm (Unknown)	95.5
11' Boom Gate w/ 2 3/8" Pipe (Sprint)	127	3' Sidearm (Unknown)	94.5
11' Boom Gate w/ 2 3/8" Pipe (Sprint)	127	3' Sidearm (Unknown)	89.5
11' Boom Gate w/ 2 3/8" Pipe (Sprint)	127	4' x 3" DIA Omni (Unknown)	79
DB254-A (Unknown)	122	8' 2-Bay Dipole (Unknown)	78
APX16DWV-16DWV-S-E-ACU w/ Mount (T-Mobile)	108	3' Sidearm (Unknown)	72.5
APX16DWV-16DWV-S-E-ACU w/ Mount (T-Mobile)	108	3' Sidearm (Unknown)	72.5
TMA (T-Mobile)	108	Scala Yagi w/ Radome (Unknown)	72
APX16DWV-16DWV-S-E-ACU w/ Mount (T-Mobile)	108	GPS (Sprint)	58
TMA (T-Mobile)	108	2' Sidearm (Sprint)	57
APX16DWV-16DWV-S-E-ACU w/ Mount (T-Mobile)	108	1.2M (Unknown)	45
		4'x4" Stand-off (Unknown)	44

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2.875x2.875x0.1875		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

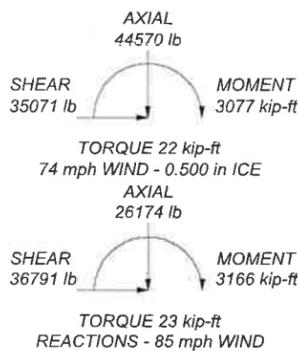
TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 96.3%

MAX. CORNER REACTIONS AT BASE:

DOWN: 185822 lb
SHEAR: 19857 lb

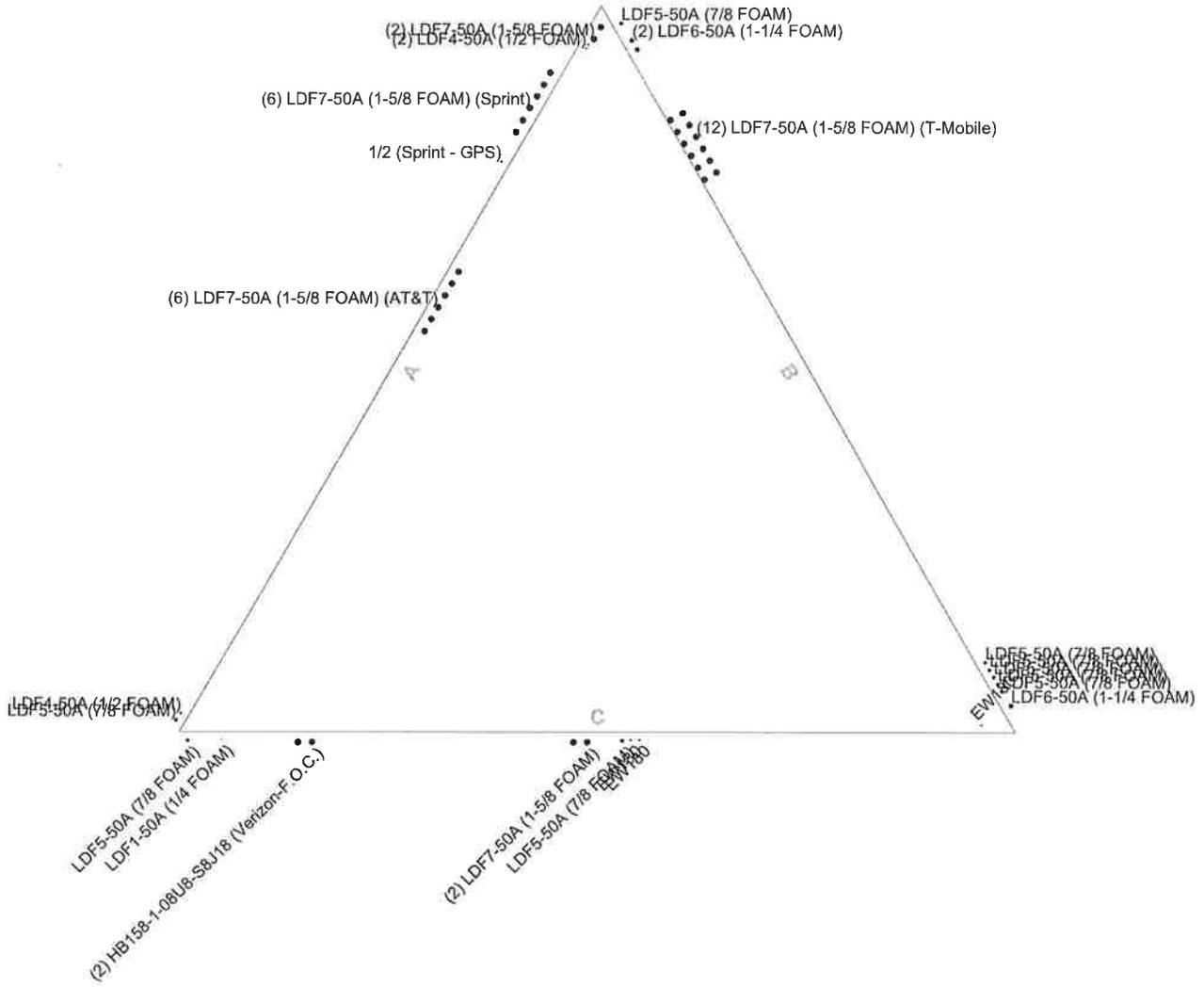
UPLIFT: -162279 lb
SHEAR: 20033 lb



AECOM 500 Enterprise Drive, Suite 3B Rocky Hill, CT Phone: 860-529-8882 FAX: 860-529-3991	Job: 152' ROHN SSV Tower - Structural Analysis
	Project: 366 Old Long Ridge Road, Stamford, CT
	Client: SAI Communications (AT&T) - 086 Drawn by: MCD App'd:
	Code: TIA/EIA-222-F Date: 03/03/16 Scale: NTS
	Path: Dwg No. E-1

Feed Line Plan

_____ Round _____ Flat _____ App In Face _____ App Out Face



AECOM 500 Enterprise Drive, Suite 3B Rocky Hill, CT Phone: 860-529-8882 FAX: 860-529-3991	Job: 152' ROHN SSV Tower - Structural Analysis		
	Project: 366 Old Long Ridge Road, Stamford, CT		
	Client: SAI Communications (AT&T) - 086	Drawn by: MCD	App'd:
	Code: TIA/EIA-222-F	Date: 03/03/18	Scale: NTS
	Path:		Dwg No. E-7



Centek Engineering, Inc.
3-2 North Branford Road
Branford, Connecticut 06405
Phone: (203) 488-0580
Fax: (203) 488-8587

Steven L. Levine
Real Estate Consultant

March 9, 2016

Mayor David R. Martin
Stamford Government Center
888 Washington Boulevard, 10th Floor
Stamford, CT 06901

Re: Existing Telecommunications Facility – 366 Old Long Ridge Road, Stamford

Dear Mayor Martin:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) and Long Term Evolution (“LTE”) capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The enclosed Notice fully sets forth the AT&T proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council’s procedures, please contact the undersigned at 860-830-0380 or Ms. Melanie Bachman, Acting Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Levine".

Steven L. Levine
Real Estate Consultant

Enclosure