



445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
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cuddyfeder.com

October 14, 2016

VIA EMAIL AND OVERNIGHT DELIVERY

Hon. Robert Stein, Chairman
and Members of the Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: New Cingular Wireless PCS, LLC ("AT&T")
Petition for a Declaratory Ruling
1389 West Main Street, Waterbury, Connecticut

Dear Chairman Stein and Members of the Council:

On behalf of New Cingular Wireless PCS, LLC (AT&T), we respectfully enclose an original and fifteen (15) copies of a Petition for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required to modify and upgrade an existing rooftop tower facility in the City of Waterbury. Please also find enclosed check number 9336 representing the filing fee for this petition.

Should the Council or Staff have any questions about this matter please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Daniel M. Laub'. It is positioned over a curved line that starts from the 'yours' in the previous text and extends to the right.

cc: Mayor Neil M. O'Leary, Waterbury
City Planner James A. Sequin, AICP, Waterbury
AT&T



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CERTIFICATE OF SERVICE

I hereby certify that on October 14, 2016, an original and 15 copies of the Petition submission was sent by overnight delivery as well as by email to the Connecticut Siting Council with copy to:

Mayor Neil M. O'Leary
City Hall Building
235 Grand Street, 2nd floor
Waterbury, CT 06702

James A. Sequin, AICP
City Planning Department
185 South Main Street, 5th floor
(1 Jefferson Square)
Waterbury, CT 06706

Dated: October 14, 2016

A handwritten signature in black ink, appearing to read 'Daniel M. Laub, Esq.' followed by a long horizontal line.

Daniel M. Laub, Esq.

CONNECTICUT SITING COUNCIL

PETITION OF NEW CINGULAR WIRELESS)
PCS, LLC ("AT&T") TO THE CONNECTICUT)
SITING COUNCIL FOR A DECLARATORY) PETITION NO. _____
RULING THAT NO CERTIFICATE OF)
ENVIRONMENTAL COMPATIBILITY AND) OCTOBER 14, 2016
PUBLIC NEED IS REQUIRED TO REPLACE)
AN EXISTING STEALTH ROOFTOP)
WIRELESS TELECOMMUNICATIONS)
TOWER AND INSTALL A NEW STEALTH)
CHIMNEY ON THE EXISTING BUILDING)
LOCATED AT 1389 WEST MAIN STREET,)
WATERBURY, CONNECTICUT

PETITION FOR DECLARATORY RULING TO MODIFY AND UPGRADE A STEALTH ROOFTOP WIRELESS TELECOMMUNICATIONS FACILITY ON AN EXISTING BUILDING 1389 WEST MAIN STREET, WATERBURY, CONNECTICUT

I. Introduction

New Cingular Wireless PCS, LLC ("AT&T"), the "Petitioner", hereby petitions the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies ("R.C.S.A.") for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required pursuant to Section 16-50k of the Connecticut General Statutes ("C.G.S.") to replace a stealth flagpole tower on the rooftop of the existing building located at 1389 West Main Street, Waterbury, Connecticut (the "Site").

II. Existing Building

The Site is improved with an existing medical office building and associated parking areas. The surrounding area is characterized by I-84 to the south, some residential properties and the campus of Naugatuck Valley Community College to the west and an undeveloped parcel to the north. An aerial photo is provided in Attachment 1.

III. AT&T's Proposed Modification

AT&T is licensed by the Federal Communications Commission ("FCC") to provide wireless services in this area of the State of Connecticut. AT&T currently operates a 15.33' stealth flagpole tower on the southern corner of the existing rooftop and proposes to replace same with a 17.33' tall stealth tower and also add a stealth chimney approximately 8.5' in height on the northern corner of the rooftop.

Within the new stealth flagpole AT&T will mount a total of four (4) panel antennas at centerline heights of approximately 50' AGL and 42' AGL inside the stealth tower enclosure, along with four (4) Tower Mounted Amplifiers ("TMA") units concealed inside the replacement stealth tower. Associated remote radiohead units will remain on the roof and be augmented with two new remote radio head units. An associated equipment platform will remain. AT&T also proposes a new 4'x4'x8.5' stealth chimney which will enclose two additional antennas at a centerline height of 42' as well as two associated TMAs with remote radio head units installed external to the chimney nearby on the roof. AT&T will continue to maintain an existing equipment platform for facility operation.

AT&T's proposed facility is detailed in the drawings included as Attachment 2 prepared by Com Ex Consultants last revised on August 31, 2016. Also, annexed hereto as Attachment 3 is a structural analysis dated June 20, 2016, prepared by Com Ex Consultants concluding that the existing building can support AT&T's proposed modifications including the new tower.

IV. The Proposal Will Not Have A Substantial Adverse Environmental Effect

A comparison of the existing and proposed conditions reveals no substantial or significant environmental impacts associated with AT&T's proposed replacement of the existing tower or the installation of the new stealth chimney.

A. Minimal Physical Impact On Building Site

AT&T's proposed modifications will not result in any additional disturbance to the site as it will be located on the rooftop of the existing building. Existing access to the site will continue to be utilized and no tree removal or ground disturbance is necessary for these modifications. The facility is unmanned and requires no water or wastewater connections and generates no waste.

B. Compliance With MPE Limits

The operation of AT&T's antennas will not increase the total radio frequency electromagnetic power density at the site to a level at or above applicable standards. A power density report is included in Attachment 4. The total radio frequency power density will be 30.84% of the allowable FCC established general public limit at ground level and well within standards adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes.

C. Visibility

As demonstrated in the photo simulations included in Attachment 5, AT&T's replacement flag pole and new chimney/tower installation will not materially change the

overall character of existing views of the building or create a visual impact on the surrounding area. The proposed replacement flagpole provides only a de minimus difference with the from the existing flagpole and the stealth chimney enclosure will be designed and painted to match the existing building. No FAA lighting or marking AT&T's installation is required. As such, AT&T respectfully submits that the visibility of the proposed facility is neither significant nor adverse for purposes of the Council's regulatory considerations in ruling on this petition for a declaratory ruling.

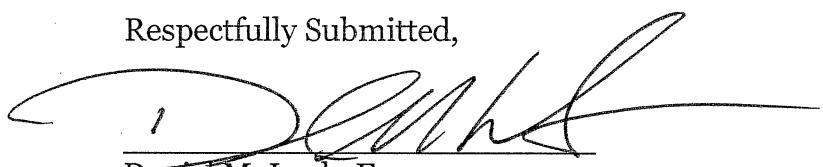
V. Notice of Petition Filing

Pursuant to R.C.S.A. Section 16-50j-40(a), notice of AT&T's intent to file this Petition was sent to each person appearing of record as an owner of property that abuts the site, as well as the appropriate municipal officials and government agencies as listed in Section 16-50e of the C.G.S. Certification of such notice, a copy of the notice and the list of property owners and municipal officials and government agencies to whom the notice was sent are included in Attachment 6. A map with a corresponding list of abutting property owners is also included in Attachment 6.

VII. Conclusion

As set forth herein, AT&T's proposed stealth rooftop tower facility and associated equipment are wholly consistent with legislative findings outlined in Section 16-50g and 16-50aa of the General Statutes of Connecticut that seek to avoid the unnecessary proliferation of towers in the State. It is respectfully submitted that AT&T's facility does not present any significant adverse environmental effects as listed in Section 16-50p of the General Statutes. Therefore and for all the foregoing reasons, AT&T petitions the Connecticut Siting Council for a determination that the proposed wireless telecommunications facility does not require a Certificate of Environmental Compatibility and Public Need and that the Council issue an order approving same.

Respectfully Submitted,



1
Daniel M. Laub, Esq.
On behalf of the Petitioner, AT&T
Cuddy & Feder, LLP
445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
(914) 761-1300

cc: Mayor Neil M. O'Leary, Waterbury
City Planner James A. Sequin, AICP, Waterbury
AT&T

ATTACHMENT 1



City of Waterbury
Public Works Department

MBL: 0315-0047-0001
ADDRESS: 1389 WEST MAIN ST

This map is for informational purposes only and has not been prepared for, or suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to verify the usability of the information. The City of Waterbury makes no warranties, express or implied, as to the use of the information obtained herein.



ATTACHMENT 2

PROJECT INFORMATION

SCOPE OF WORK: • AT&T ANTENNAS: (1) NEW ANTENNA PER SECTOR FOR 3 SECTORS, FOR A TOTAL OF (3) NEW ANTENNAS, (1) EXISTING ANTENNA PER SECTOR FOR 3 SECTORS, FOR A TOTAL OF (3) EXISTING ANTENNAS TO REMAIN. (1) EXISTING ANTENNA PER SECTOR TO BE REMOVED, FOR A TOTAL OF (3).
• AT&T RRUs: (1) NEW RRUs PER SECTOR FOR (3) SECTORS, FOR A TOTAL OF (3) NEW RRUs; (1) NEW A2 MODULE PER SECTOR, FOR A TOTAL OF (3); (1) EXISTING RRU PER SECTOR TO BE REUSED, FOR A TOTAL OF (3) EXISTING RRUs.

SITE ADDRESS: 1389 WEST MAIN STREET
WATERBURY, CT 06708

LATITUDE: 41.5491919 41° 32' 57.09084"N
LONGITUDE: -73.0652989 -73° 03' 55.07604"W

USID: 26013

TOWER OWNER: TBD

TYPE OF SITE: STEALTH POLE ON ROOF/OUTDOOR EQUIPMENT

POLL HEIGHT: 125'-0"±

RAD CENTER: 48'-0"± & 42'-0"±

CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

PROPOSED USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

DRAWING INDEX

REV.

T-1	TITLE SHEET	0
GN-1	GROUNDING & GENERAL NOTES	0
A-1	ROOFTOP LAYOUT	0
A-2	EQUIPMENT LAYOUTS	0
A-3	ANTENNA LAYOUTS	0
A-4	ELEVATIONS	0
A-5	DETAILS	0
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS	0
S-1	STRUCTURAL DETAILS	0
S-2	STRUCTURAL DETAILS	0
S-3	POLE DRAWINGS BY MANUFACTURER	0

APPROVALS

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

DISCIPLINE:	NAME:	
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

COM-EX
Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom

16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

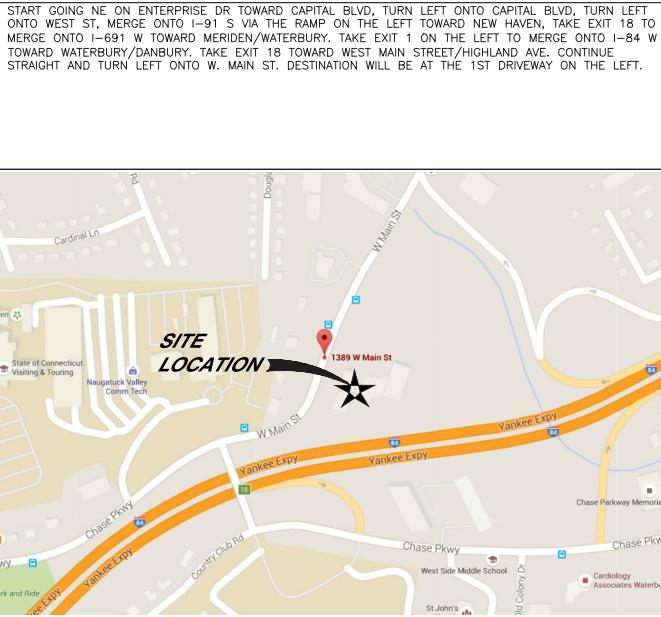
1389 WEST MAIN ST.
WATERBURY, CT 06708
NEW HAVEN COUNTY

at&t
MOBILITY

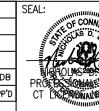


FA CODE: 10071305
SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

VICINITY MAP



CONNECTICUT LAW REQUIRES
TWO WORKING DAYS NOTICE PRIOR TO
ANY EARTH MOVING ACTIVITIES BY
CALLING 800-922-4455 OR DIAL 811



AT&T
TITLE SHEET
DRAWING TITLE:
JOB NUMBER: 15167-EMP
DRAWING NUMBER: T-1
REV: 0

0	08/31/16	ISSUED AS FINAL	JW	NDB	NDB
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN	DESIGNED BY: NJM	DRAWN BY: JW			



PROJECT MANAGER: C. BEEVER
CT DCP/08/16/2016/15167-EMP643

GROUNDING NOTES:

- 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, LP, 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.
- 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.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 811) 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. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25741-000-3PS-E000-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
- 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.
- 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.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- APPROVED ANTIODANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEM SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED, WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
- ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE $\frac{1}{2}$ " OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR	EMPIRE TELECOM
SUBCONTRACTOR	GENERAL CONTRACTOR (CONSTRUCTION)
OWNER	AT&T MOBILITY
OEM	ORIGINAL EQUIPMENT MANUFACTURER
- 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 (EMPIRE TELECOM).
- 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.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- 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. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR.
- 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.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF 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.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
- 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). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
- 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.
- 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 MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE MAY BE 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 REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

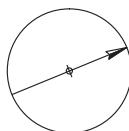
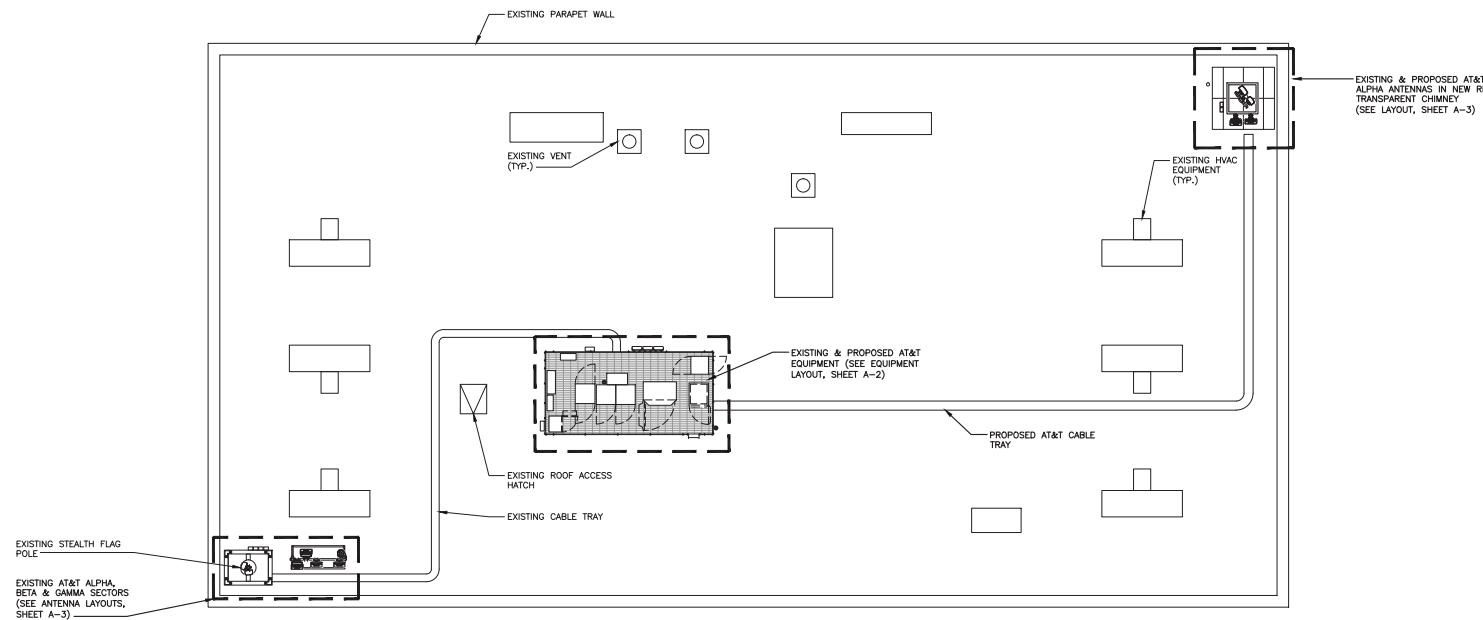
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FAX: 862.209.4301

EMPIRE
telecom
16 ESOURE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST
1389 WEST MAIN ST.
WATERBURY, CT 06708
NEW HAVEN COUNTY

at&T
MOBILITY
550 COCHITIUE ROAD
FRAMINGHAM, MA 01701

SEAL:				AT&T	
DRAWING TITLE: GROUNDING & GENERAL NOTES					
JOB NUMBER		DRAWING NUMBER		REV	
15167-EMP		GN-1		0	
0	08/31/16	ISSUED AS FINAL	JW	NDB	NDB
NO.	DATE	REVISIONS	BY	CHK	APPD
SCALE: AS SHOWN		DESIGNED BY: NJM	DRAWN BY: JW		
PROFESS. ENGINEER CT DEPARTMENT OF PLANNING & ZONING REGISTRATION NO. 28643					



NORTH

ROOFTOP LAYOUT

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

0 4 8 16
GRAPHIC SCALE: 1/8"=1'-0"

NOTE:
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

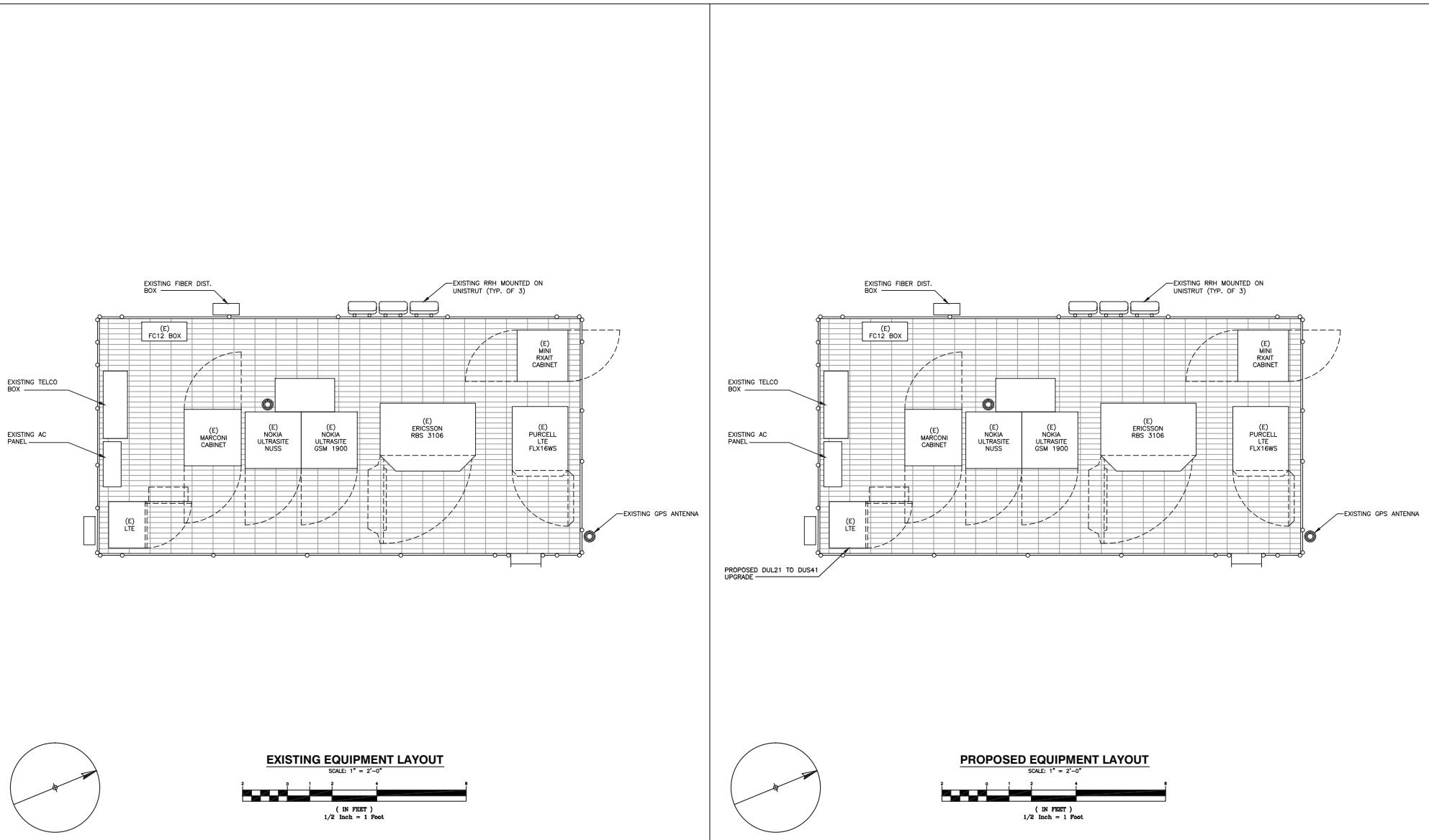
COM-EX
Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

1389 WEST MAIN ST.
WATERBURY, CT 06708
NEW HAVEN COUNTY

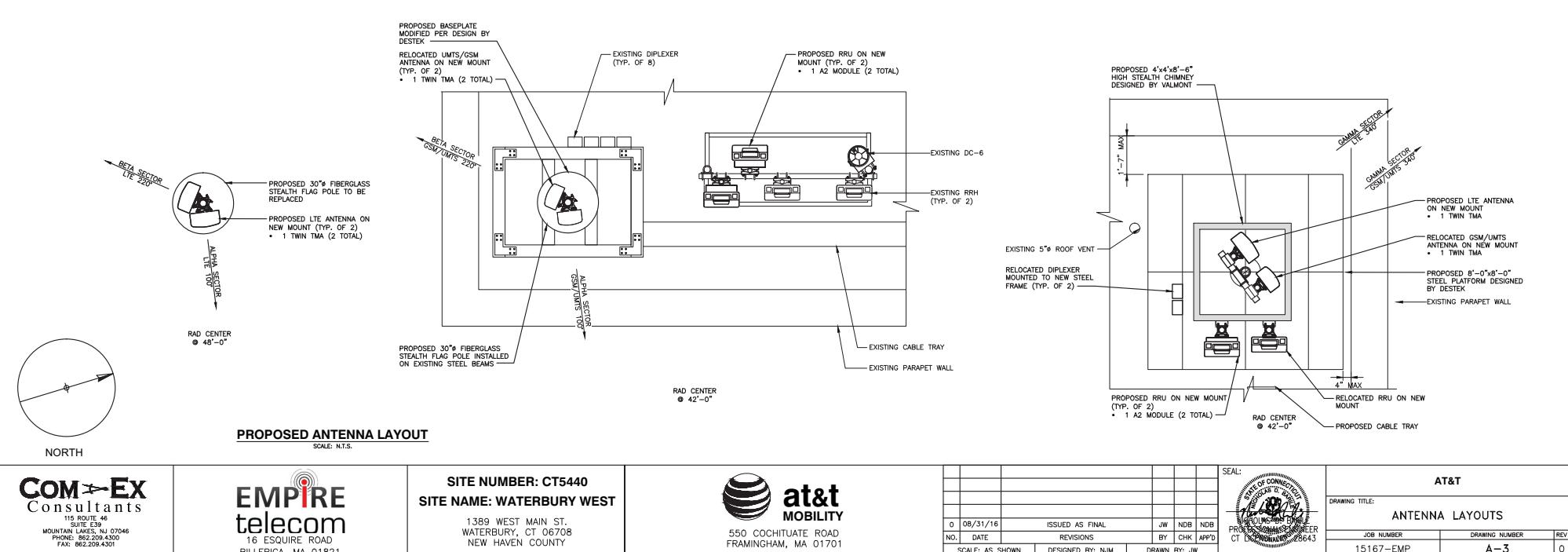
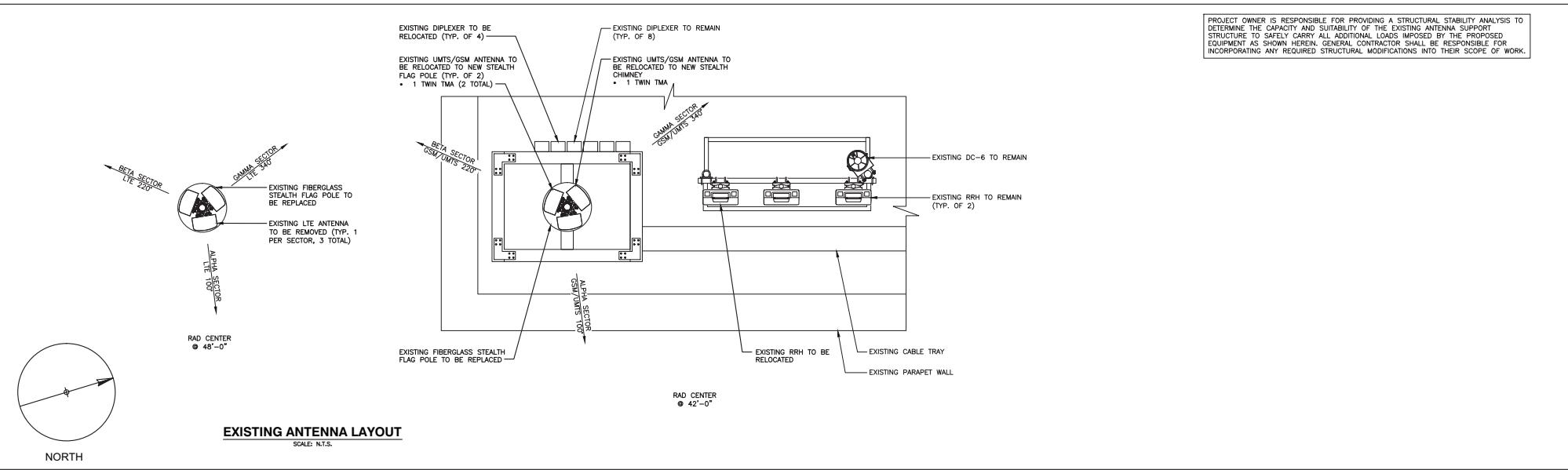




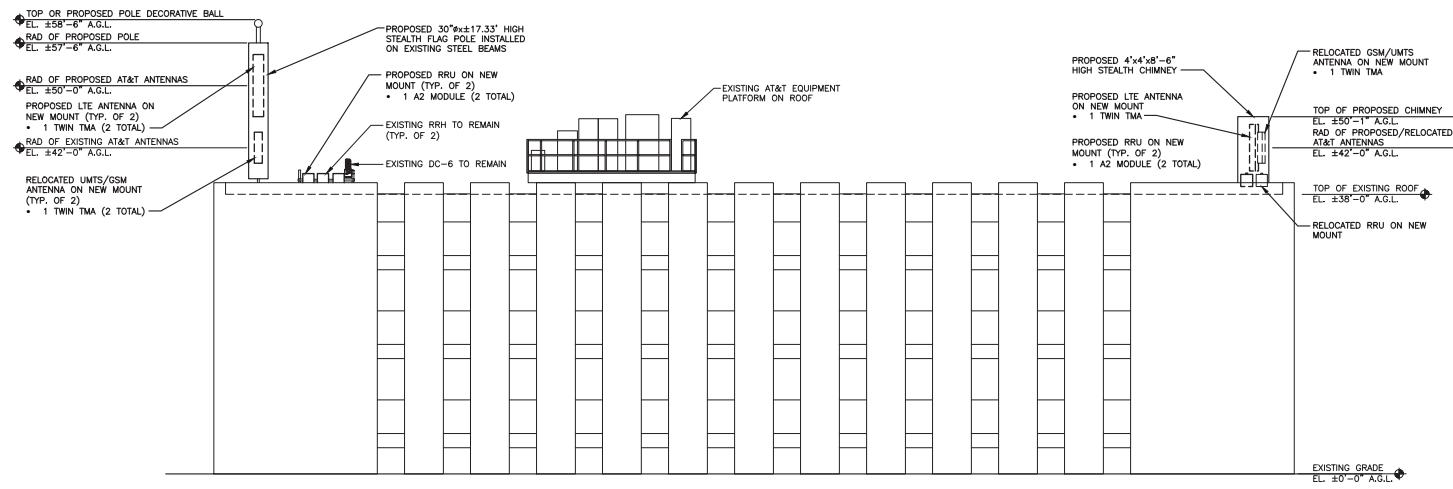
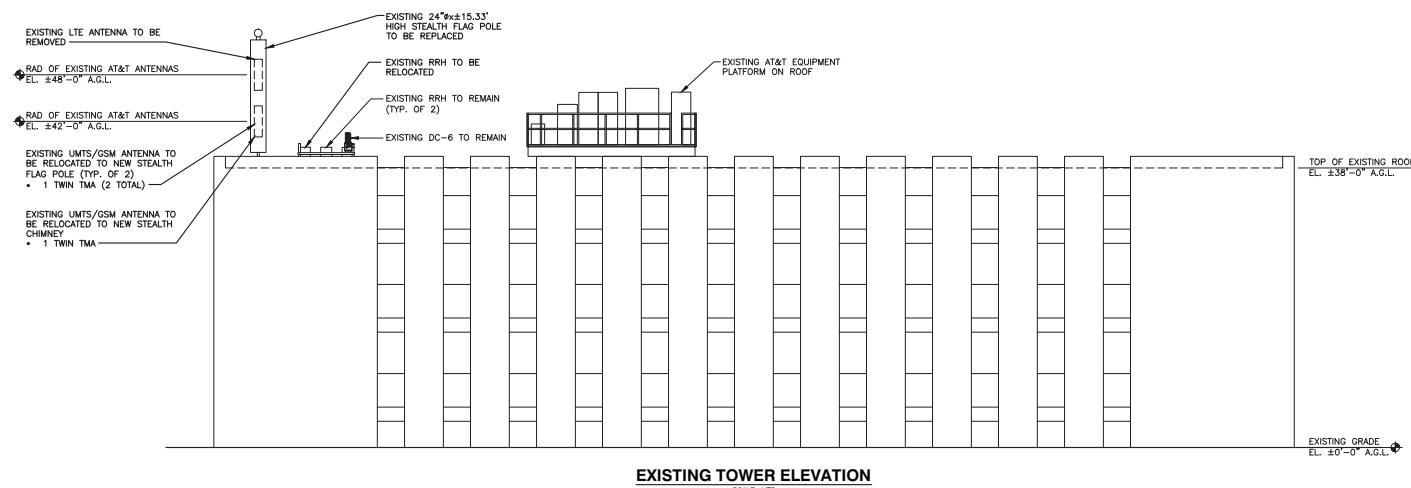
SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

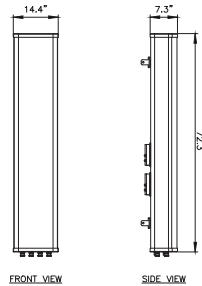


						SEAL:		
						AT&T		
						DRAWING TITLE:		
						EQUIPMENT LAYOUT		
O 08/31/16			ISSUED AS FINAL			JW	NDB	NDB
NO.	DATE	REVISIONS	BY	CHK	APFD			
SCALE: AS SHOWN								
DESIGNED BY: NUM: DRAWN BY: JN: REV: 0								
PROFESSIONAL ENGINEER CT STATE LICENSE #3643								
JOB NUMBER				DRAWING NUMBER			REV	
15167-EMP				A-2			0	



PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SCOPE OF WORK FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.





FRONT VIEW

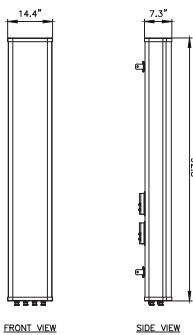
SIDE VIEW



MANUFACTURER	CCI
MODEL	HPA-65R-BUU-H6
WEIGHT	42.9 LBS

LTE ANTENNA DETAIL

SCALE: N.T.S.



FRONT VIEW

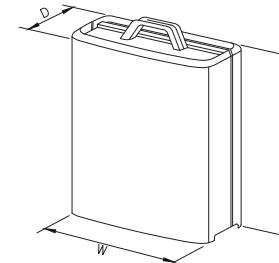
SIDE VIEW



MANUFACTURER	CCI
MODEL	HPA-65R-LCU-H8
WEIGHT	53 LBS

LTE ANTENNA DETAIL

SCALE: N.T.S.



MODEL	H x W x D	WEIGHT
*RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS
RRUS-12	20.4" x 18.5" x 7.5"	58 LBS

* DENOTES EXISTING

RRUS DETAIL

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	A2	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
BETA	B1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	B2	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
GAMMA	G1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	G2	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"

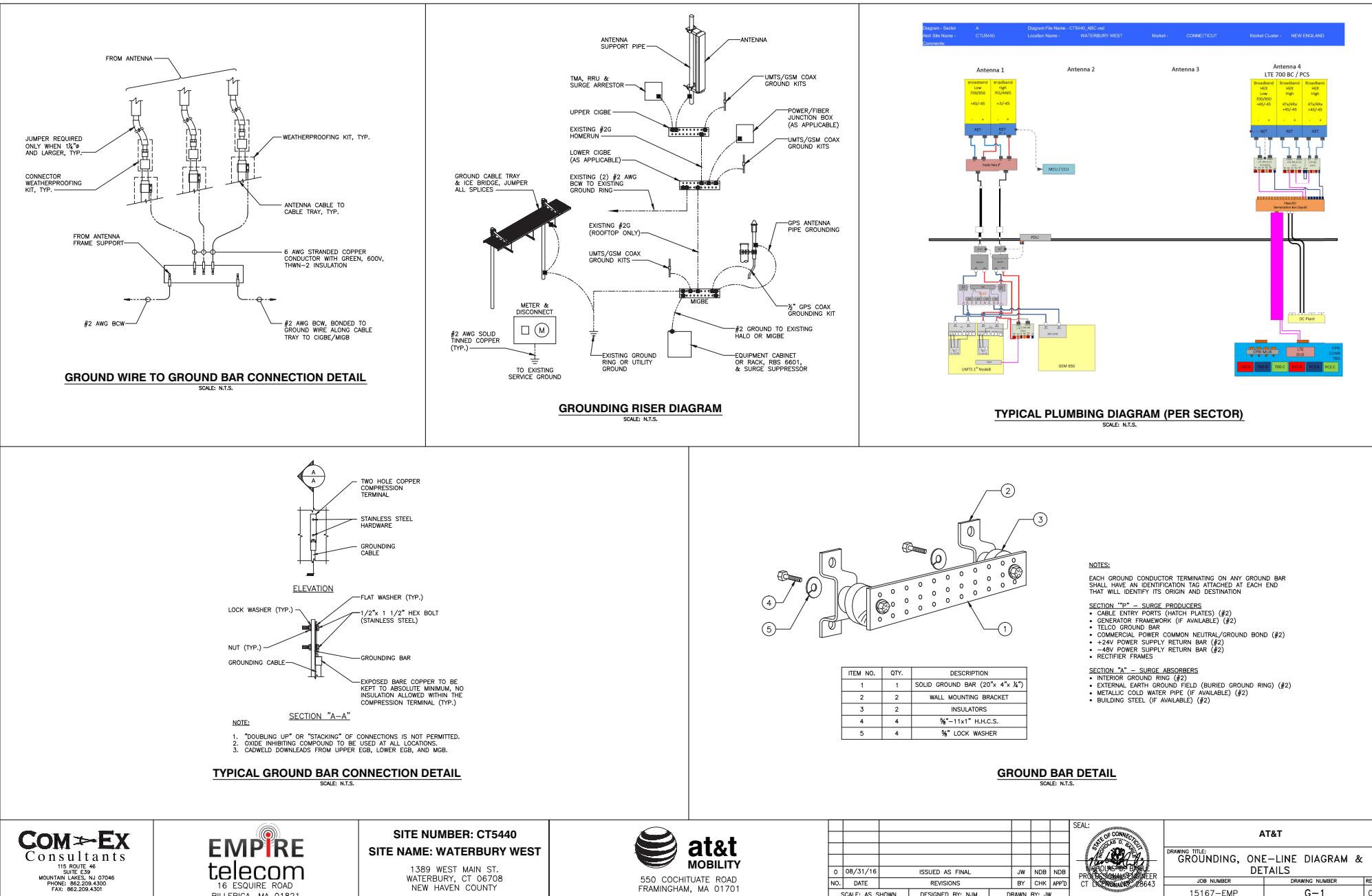
FINAL ANTENNA SCHEDULE

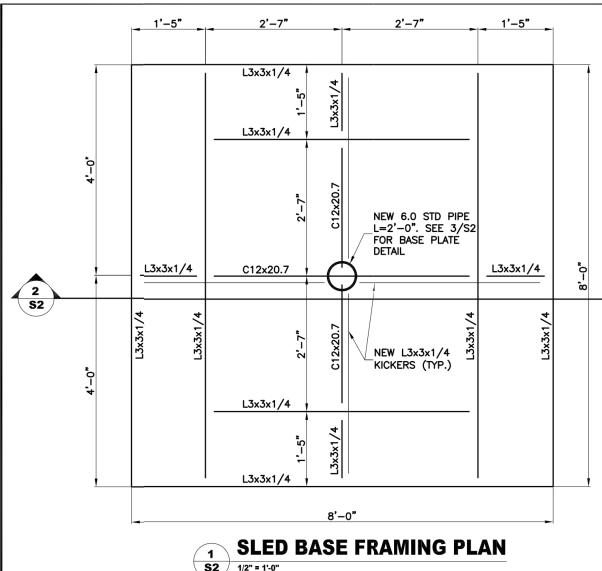
SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	A2	CCI	HPA-65R-BUU-H8	92.4"x14.8"x7.4"
BETA	B1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	B2	CCI	HPA-65R-BUU-H8	72"x14.8"x9"
GAMMA	G1	KMW	AM-X-CD-14-65-00T-RET	48"x11.8"x5.9"
	G2	CCI	HPA-65R-BUU-H6	72"x14.8"x9"

PROPOSED RRU SCHEDULE

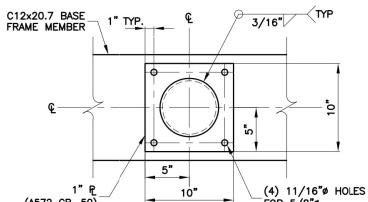
SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"	-	-
BETA	ERICSSON	RRUS-11	19.7"x16.9"x7.2"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	-	-
GAMMA	ERICSSON	RRUS-11	19.7"x16.9"x7.2"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	-	-

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY THE ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AND SHACKLES. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

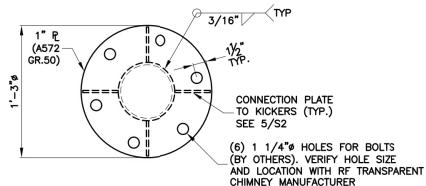




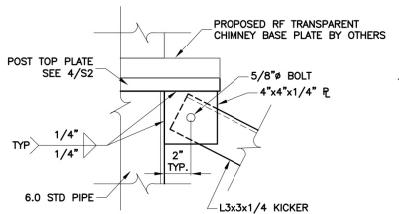
1 SLED BASE FRAMING PLAN



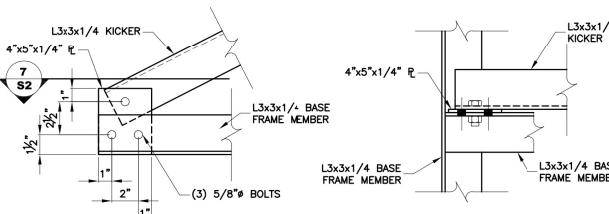
POST BASE PLATE DETAIL



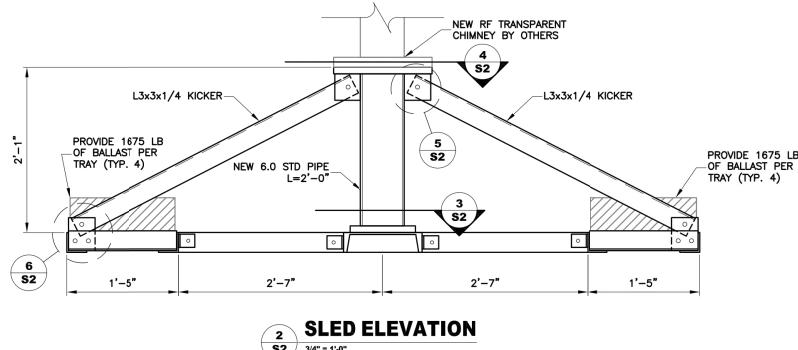
POST TOP PLATE DETAIL



5 POST-KICKER CONNECTION



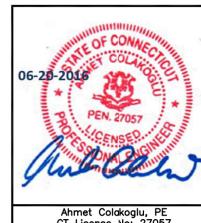
POST-KICKER CONNECTION



2 SLED ELEVATION

DRAWINGS PLOTTED TO SCALE ON 11x17 SHEETS

58		59	
<p>CT5440 - WATERBURY WEST</p> <p>ADDRESS: 1389 WEST MAIN STREET, WATERBURY, CT 06708 FA CODE: 10071305</p> <p>DESIGNED: SA DRAWN: SA CHECKED: AC</p> <p>JOB #: 1629072</p> <p>S2 GAMMA MOUNT DETAILS</p>			
<p>PREPARED FOR: COM 115 RO Mounta</p>			



Ahmet Colakoglu, PE
CT License No: 27057

AT&T

TITLE:

O	08/31/16	ISSUED AS FINAL	JW	NDB	ND
NO.	DATE	REVISIONS	BY	CHK	APR
SCALE: AS SHOWN		DESIGNED BY: NJM	DRAWN BY: JW		



SEA

AT&T

TITLE:

B B D D		STRUCTURAL DETAILS		
BOSTON HARBOUR PROFESSIONAL ENGINEERS CT LICENSE #28643		JOB NUMBER	DRAWING NUMBER	REV
		15167-EMP	S-2	0

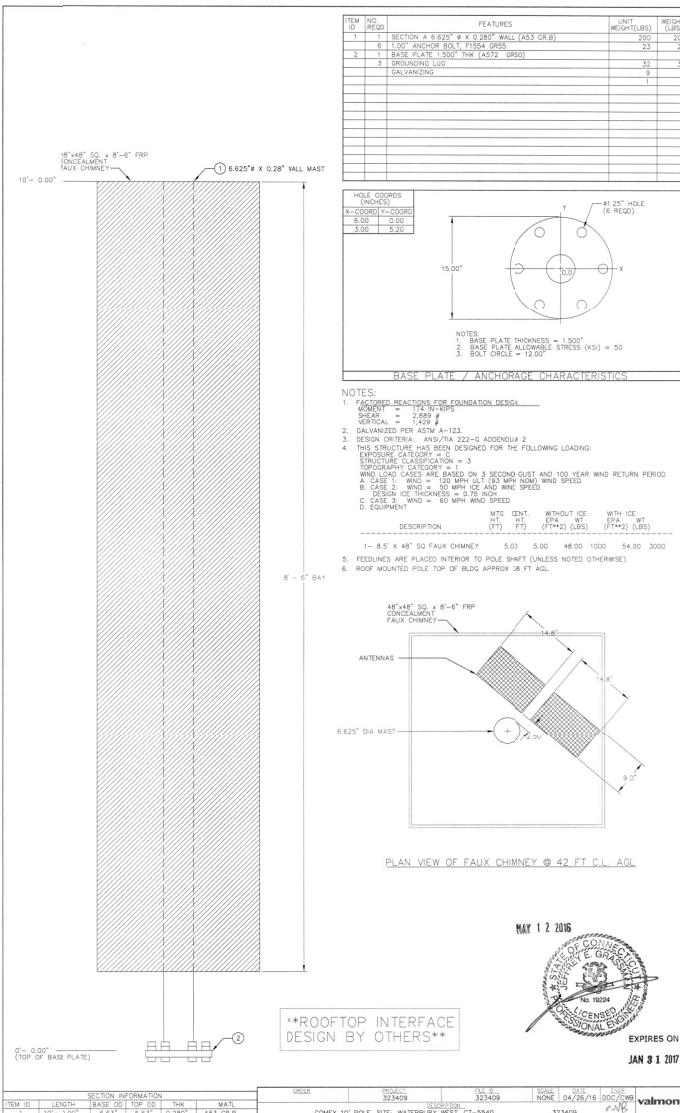
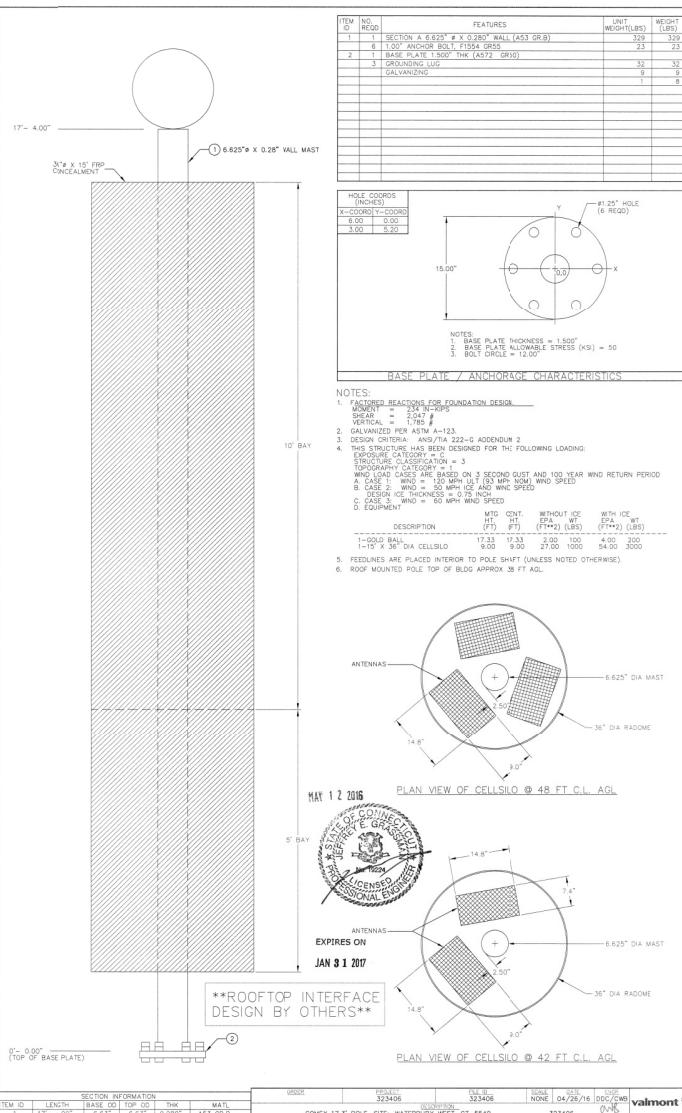
COMEX
Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom

SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

The logo for AT&T Mobility, featuring a stylized globe icon and the text "at&t MOBILITY".



COM-EX
Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

The logo for Empire Telecom. It features the word "EMPIRE" in large, bold, black capital letters. The letter "I" is stylized with a red vertical bar and a black circular target graphic with concentric rings above it. Below "EMPIRE" is the word "telecom" in a smaller, lowercase, black sans-serif font. At the bottom, the address "16 ESQUIRE ROAD" and the city "BILLERICA, MA 01821" are printed in a smaller, black, sans-serif font.

SITE NUMBER: CT5440
SITE NAME: WATERBURY WEST

1389 WEST MAIN ST.
WATERBURY, CT 06708
NEW HAVEN COUNTY

The logo for AT&T Mobility. It features a circular icon with horizontal stripes of varying shades of gray, resembling a globe or a signal. To the right of the icon, the word "at&t" is written in a bold, lowercase, sans-serif font. Below that, the word "MOBILITY" is written in a smaller, uppercase, sans-serif font.

ATTACHMENT 3

STRUCTURAL ANALYSIS REPORT

ROOFTOP



Prepared For:
Com-Ex Consultants, LLC
115 Route 46 – Suite E39
Mountain Lakes, NJ 07046



Structure Rating:

Support Platform:	Pass
Custom Sled:	Pass
Building Roof:	Pass

Sincerely,
Destek Engineering, LLC

06-20-2016



Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

Site ID: CT5440
FA Location Code: 10071305
Site Name: WATERBURY WEST
1389 West Main Street
Waterbury, CT 06708

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1.1 – STRUCTURE AND EXISTING EQUIPMENT

2.0 – APPURTENANCES

3.0 – CODES AND LOADING

4.0 – STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

5.0 – ANALYSIS AND ASSUMPTIONS

6.0 – RESULTS AND CONCLUSION

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A – PICTURES AND CALCULATIONS

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the existing telecommunication installation on the building located at 1389 West Main Street, Waterbury, CT 06708, for the additions and alterations proposed by AT&T Mobility (AT&T).

The structural analysis is based on a site visit performed by Destek Engineering, LLC (Destek), personnel on May 19, 2016, and on the following information provided to Destek:

- Construction Drawings prepared by Com-Ex Consultants and Empire Telecom, Job Number 15167-EMP dated 02/12/2016.
- Communication Pole Design Calculations and Permit Drawings prepared by Valmont Microflect, Valmont order number 323406, dated 04/26/2016.
- Communication Pole Design Calculations and Permit Drawings prepared by Valmont Microflect, Valmont order number 323409, dated 04/26/2016.
- As-Built Construction Drawings prepared by Dewberry Engineers, Inc., and Nexlink Global Services, Dewberry number 50048347/50048409, dated 09/20/2012.
- Structural Analysis Report prepared by Hudson Design Group, LLC, dated 07/16/2010.
- RFDS provided by AT&T, dated 12/10/2015.

1.1 STRUCTURE AND EXISTING EQUIPMENT

The structure is a three-story medical center building where the structural system is comprised of standard steel framing. The elevation of the main roof is approximately 38 feet above ground level (AGL). AT&T currently has equipment cabinets located at the rooftop level and supported on a steel platform anchored to the roof structure. AT&T also currently has (6) panel antennas on the roof of the building at RAD centers of 48' and 42' AGL (per CDs), (2) per sector. The panel antennas for all sectors are mounted to a pipe mast and covered with a 2' diameter RF transparent canister. The pipe mast and canister are supported on structural steel platform anchored to the building roof structure. Please refer to the calculations in Appendix A for details.

2.0 APPURTEANCES

This analysis is based on the following existing and proposed appurtenances:

Existing Configuration of AT&T Appurtenances:

Rad. Center (ft)	Antenna & TMA	Mount
48' & 42'	(6) KMW AM-X-CD-14-65-00T-RET (3) TT19-08BP111-001 TMA's* (3) DTMABP7819VG12A TMA's* (3) RRUS-11**	(1) RF transparent canister

* Equipment installed at steel platform level

** Equipment installed in a non-penetrating sled

Proposed and Final Configuration of AT&T Appurtenances:

Rad. Center (ft)	Antenna & TMA	Mount
50' and 42' Alpha and Beta	(2) KMW AM-X-CD-14-65-00T-RET (2) CCI HPA-65R-BUU-H8 (2) TT19-08BP111-001 TMA's* (4) TMA2093F00V1-1 TMA's* (2) RRUS-11** (2) RRUS-12+RRUS-A2**	(1) RF transparent canister
42' Gamma	(1) KMW AM-X-CD-14-65-00T-RET (1) CCI HPA-65R-BUU-H6 (1) TT19-08BP111-001 TMA's* (2) TMA2093F00V1-1 TMA's* (1) RRUS-11* (1) RRUS-12+RRUS-A2*	(1) RF transparent chimney

* Equipment installed at steel platform level

** Equipment installed in a non-penetrating sled

3.0 CODES AND LOADING

The analysis is in accordance with the following codes and loading as adopted in Connecticut:

- 2005 State Building Code with all of the adopted Supplements and Amendments.
- Minimum Design Loads for Buildings and Other Structures SEI/ASCE 7-02, American Society of Civil Engineers
- Specifications for Structural Steel Buildings – Allowable Stress ANSI/AISC 335-89s1, American National Standards Institute/American Institute for Steel Construction
- Basic Wind Speed: 95 mph
- Exposure: B

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects, and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc., or lack of maintenance.

The analysis does not include a qualification of the mounts attached on the structure or their connections. The analysis is performed to verify the capacity of the main structural members, which is the current practice in the tower industry.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Destek to generate an additional structural analysis. Additionally, the proposed linear appurtenances should be placed per any recommendations specified in this report.

5.0 ANALYSIS and ASSUMPTIONS

The structure is considered to have adequate strength for the proposed loading if the existing structural members that will be used to support the proposed equipment are structurally adequate per the applicable code criteria, or that the additions or alterations to the existing structure do not increase the force in any structural element by more than 5%.

The analysis was performed by utilizing Risa 3-D, a commercially available structural engineering software package developed by Risa Technologies, as applicable.

6.0 RESULTS AND CONCLUSION

Mount Steel Platform: The existing steel platform supporting the existing RF transparent canister is found to have **adequate** structural capacity for the proposed installation by AT&T. For the code specified load combinations and the proposed loading configuration, the existing platform W8x24 beams are stressed to **31%** of their structural capacity as a maximum. See attached drawings for additional connection details.

New Sled Mount for RF Transparent Chimney: The proposed custom non-penetrating roof sled is found to have **adequate** structural capacity for the proposed installation by AT&T, once it is built per the Sled Mount Details prepared by Destek Engineering, LLC, dated 06/20/2016. For the code specified load combinations and the proposed loading configuration, the new sled members will be stressed to **78%** of their structural capacity as a maximum. To prevent overturning of the sled, a ballast weight of **1675 lbs** should be placed per tray, for a total of **6700 lbs per sled**. This amount of ballast is only valid if the top of the RF transparent chimney is not higher than 12'-0" above the roofline, which appears to be consistent with the proposed configuration.

RRH Sled: The existing RRH non-penetrating roof sled is found to have **adequate** structural capacity for the proposed installation by AT&T. To prevent overturning of the sled, a ballast weight of **235 lbs** should be placed per tray, for a total of **470 lbs for the sled**.

Building Roof: The existing building roof structure is found to have **adequate** strength for the proposed configuration and roof sled addition. For the code specified load combinations and the proposed loading configuration, the existing roof beams will be stressed to **90%** of their structural capacity as a maximum.

Therefore, the proposed additions and alterations by AT&T **can** be implemented as intended with the conditions outlined in this report.

Should you need any clarifications or have any questions about this report, please contact Destek at (770) 693-0835 or acolakoglu@destekengineering.com.

APPENDIX A

PICTURES AND CALCULATIONS



EXISTING RF TRANSPARENT CANISTER AND SUPPORTING STEEL PLATFORM ON ROOF



PROPOSED LOCATION OF RF TRANSPARENT CHIMNEY ON CUSTOM NON-PENETRATING SLED

PURPOSE

The purpose of this analysis is to evaluate the structural capacity of the existing installation located in the roof of the building at 1389 West Main Street, Waterbury, CT 06708, to support the existing monopole with the proposed additions and alterations proposed by AT&T Mobility.

All calculations in accordance with 2005 Connecticut Building Code with all adopted addendums and supplements.

Wind Load

(reference ASCE 7-02 section 6.5.15 & Appendix K in 2009 Amendment)

[ASCE 7 Reference](#)

Input:	Location:	Waterbury, CT - New Haven County	
	Classification:	II	Table 1-1 pg 4
	Antenna RAD Center (AGL):	$z := 50$ ft	
	Exposure category:	Exp := "B"	Section 6.5.6.2 pg 28
	$z_g := \begin{cases} 1200 & \text{if Exp = "B"} \\ 900 & \text{if Exp = "C"} \\ 700 & \text{if Exp = "D"} \end{cases} = 1200$	$\alpha := \begin{cases} 7.0 & \text{if Exp = "B"} \\ 9.5 & \text{if Exp = "C"} \\ 11.5 & \text{if Exp = "D"} \end{cases} = 7$	
Velocity pressure exposure coefficient:	$K_z := 2.01 \cdot \left(\frac{z}{z_g} \right)^{\frac{2}{\alpha}} = 0.811$		Table 6-3 pg 75
Topographic factor:	$K_{zt} := 1.0$		Section 6.5.7.2 pg 30
Wind directional factor:	$K_d := 0.85$		Table 6-4 pg 76
Basic wind speed:	$V := 95$ mph		Appendix K of 2009 Amendment
Importance factor:	$I := 1.00$		Table 6-1 pg 73
Gust response factor:	$G := 0.85$		Section 6.5.8 pg 30
Velocity Pressure:	$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 \cdot I \cdot \text{psf}$		Equation (6-15) pg 31
	$q_z = 15.92 \cdot \text{psf}$		
Force Coefficients:	$C_{F_flat} := \begin{pmatrix} 1 & 1.3 \\ 7 & 1.4 \\ 25 & 2 \end{pmatrix}$	$C_{F_round} := \begin{pmatrix} 1 & 0.7 \\ 7 & 0.8 \\ 25 & 1.2 \end{pmatrix}$	Figure (6-21), pg 69

Loads on Antenna RF Transparent Canister

Dimensions : H := 15ft Diam := 36in

Per Drawings: F_{Canister} := 2047lbf

P_{Canister} := 1785lbf

M_{Canister} := 234kip·in = 19.5·kip·ft

Loads on Antenna RF Transparent Chimney

Dimensions : H := 8.5ft W := 48in D := 48in

Per Drawings: F_{Chimney} := 2889lbf

P_{Chimney} := 1429lbf

M_{Chimney} := 174kip·in = 14.5·kip·ft

Loads on RRUS-11

Dimensions : H := 19.69in W := 16.97in D := 7.17in W_{rru1} := 50.7lbf r_{rru1_sled} := 24in r_{rru1_plat2} := 18in

Front: Area := H·W = 2.32 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.303$$

Figure (6-19), Pg 69

$$F_{rru1_front} := q_z \cdot G \cdot C_f \cdot \text{Area} = 40.905 \text{ lbf}$$

Equation (6-15) Pg 31

Side: Area := H·D = 0.98 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.329$$

Figure (6-19), Pg 69

$$F_{rru1_side} := q_z \cdot G \cdot C_f \cdot \text{Area} = 17.633 \text{ lbf}$$

Equation (6-15) Pg 31

Loads on RRUS-12 + RRUS-A2

Dimensions : H := 20.4in W := 18.5in D := 10.9in W_{rru2} := 80lbf r_{rru2_sled} := 24in r_{rru2_plat2} := 18in

Front: Area := H·W = 2.621 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.302$$

Figure (6-19), Pg 69

$$F_{rru2_front} := q_z \cdot G \cdot C_f \cdot \text{Area} = 46.167 \text{ lbf}$$

Equation (6-15) Pg 31

Side: Area := H·D = 1.544 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.315$$

Figure (6-19), Pg 69

$$F_{rru2_side} := q_z \cdot G \cdot C_f \cdot \text{Area} = 27.469 \text{ lbf}$$

Equation (6-15) Pg 31

Loads on TT19-08BP111-001 TMA

Dimensions : H := 9.9in W := 6.7in D := 5.4in W_{tma1} := 16lbf

r_{tma1_plat2} := 18in

Front: Area := H·W = 0.461 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.308$$

$$F_{tma1_front} := q_z \cdot G \cdot C_f \cdot \text{Area} = 8.153 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Side: Area := H·D = 0.371 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.314$$

$$F_{tma1_side} := q_z \cdot G \cdot C_f \cdot \text{Area} = 6.601 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Loads on TMA2093F00V1-1 TMA

Dimensions : H := 11.8in W := 9.8in D := 3.7in W_{tma2} := 23.1lbf

r_{tma2_plat2} := 18in

Front: Area := H·W = 0.803 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.303$$

$$F_{tma2_front} := q_z \cdot G \cdot C_f \cdot \text{Area} = 14.164 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Side: Area := H·D = 0.303 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.336$$

$$F_{tma2_side} := q_z \cdot G \cdot C_f \cdot \text{Area} = 5.484 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Loads on DC6

Dimensions : H := 24in W := 11in D := 11in W_{DC6} := 18.9lbf r_{DC6_sled} := 36in

Front: Area := H·W = 1.833 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.32$$

$$F_{DC6_front} := q_z \cdot G \cdot C_f \cdot \text{Area} = 32.741 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Side: Area := H·D = 1.833 ft²

$$C_f := \text{interp}\left(C_{F_flat}^{\langle 0 \rangle}, C_{F_flat}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.32$$

$$F_{DC6_side} := q_z \cdot G \cdot C_f \cdot \text{Area} = 32.741 \text{ lbf}$$

Figure (6-19), Pg 69

Equation (6-15) Pg 31

Loads on HSS4x4x1/4:

$$W := 4\text{in} \quad \text{Length} := 24\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_flat}^{(0)}, C_{F_flat}^{(1)}, \frac{\text{Length}}{W} \right) \right), 2.0 \right] = 1.383$$

$$F_{HSS4} := q_z \cdot G \cdot C_f \cdot W = 6.24 \cdot \text{plf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on W8x15:

$$H := 8\text{in} \quad \text{Length} := 69\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_flat}^{(0)}, C_{F_flat}^{(1)}, \frac{\text{Length}}{H} \right) \right), 2.0 \right] = 1.454$$

$$F_{W8} := q_z \cdot G \cdot C_f \cdot H = 13.119 \cdot \text{plf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on W8x24:

$$H := 8\text{in} \quad \text{Length} := 69\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_flat}^{(0)}, C_{F_flat}^{(1)}, \frac{\text{Length}}{H} \right) \right), 2.0 \right] = 1.454$$

$$F_{W8} := q_z \cdot G \cdot C_f \cdot H = 13.119 \cdot \text{plf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on RF Transparent Chimney Support Sled Kickers:

$$W := 3\text{in} \quad \text{Length} := 54\text{in}$$

$$r_{kicks_plat2} := 12\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_flat}^{(0)}, C_{F_flat}^{(1)}, \frac{\text{Length}}{W} \right) \right), 2.0 \right] = 1.767$$

$$F_{kicks} := q_z \cdot G \cdot C_f \cdot H = 15.938 \cdot \text{plf}$$

$$F_{kicks_plat2} := F_{kicks} \cdot \text{Length} = 71.722 \cdot \text{lbf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on RF Transparent Chimney Support Sled Post:

$$\text{Diam} := 6.625\text{in} \quad \text{Length} := 2\text{ft}$$

$$r_{post_plat2} := 12\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_round}^{(0)}, C_{F_round}^{(1)}, \frac{\text{Length}}{\text{Diam}} \right) \right), 1.2 \right] = 0.744$$

$$F_{post} := q_z \cdot G \cdot C_f \cdot H = 6.709 \cdot \text{plf}$$

$$F_{post_plat2} := F_{post} \cdot \text{Length} = 13.419 \cdot \text{lbf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on RRH Sled Post:

$$\text{Diam} := 2.375\text{in} \quad \text{Length} := 3\text{ft}$$

$$r_{posts_sled} := 18\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_round}^{(0)}, C_{F_round}^{(1)}, \frac{\text{Length}}{\text{Diam}} \right) \right), 1.2 \right] = 0.981$$

$$F_{posts} := q_z \cdot G \cdot C_f \cdot H = 8.853 \cdot \text{plf}$$

$$F_{posts_sled} := F_{posts} \cdot \text{Length} = 26.558 \cdot \text{lbf}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on RRH Sled Horizontal:

$$\text{Diam} := 2.375\text{in} \quad \text{Length} := 7.5\text{ft}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_round}^{\langle 0 \rangle}, C_{F_round}^{\langle 1 \rangle}, \frac{\text{Length}}{\text{Diam}} \right) \right), 1.2 \right] = 1.2$$

$$F_{\text{hor}} := q_z \cdot G \cdot C_f \cdot H = 10.826 \cdot \text{plf}$$

$$F_{\text{hor_sled}} := F_{\text{hor}} \cdot \text{Length} = 81.194 \cdot \text{lbf}$$

$$r_{\text{hor_sled}} := 21\text{in}$$

Figure (6-19), Pg 69

Equation (6-15)

Loads on RRH Sled Kickers:

$$W := 2.5\text{in} \quad \text{Length} := 34\text{in}$$

$$C_f := \min \left[\left(\text{linterp} \left(C_{F_round}^{\langle 0 \rangle}, C_{F_round}^{\langle 1 \rangle}, \frac{\text{Length}}{\text{Diam}} \right) \right), 1.2 \right] = 0.963$$

$$F_{\text{kicks}} := q_z \cdot G \cdot C_f \cdot H = 8.684 \cdot \text{plf}$$

$$F_{\text{kicks_sled}} := F_{\text{kicks}} \cdot \text{Length} = 24.605 \cdot \text{lbf}$$

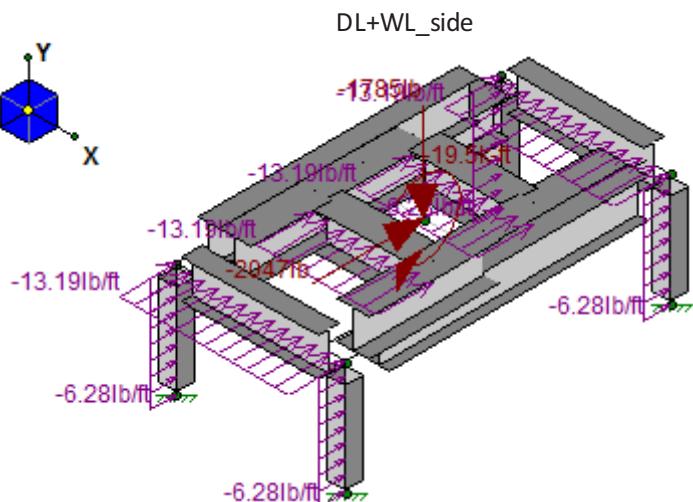
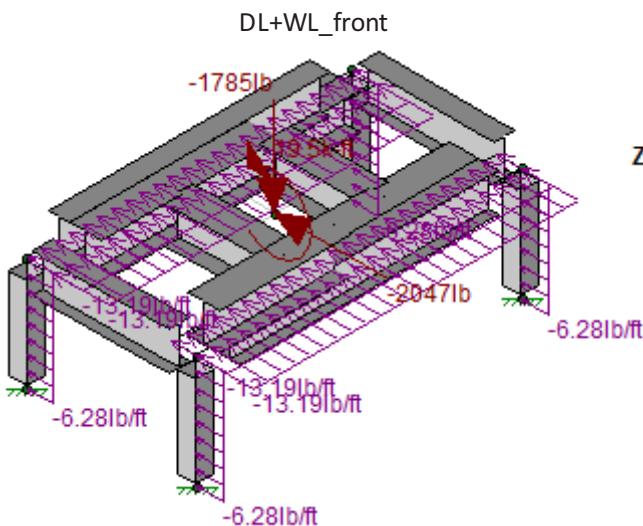
$$r_{\text{kicks_sled}} := 15\text{in}$$

Figure (6-19), Pg 69

Equation (6-15)

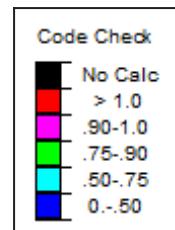
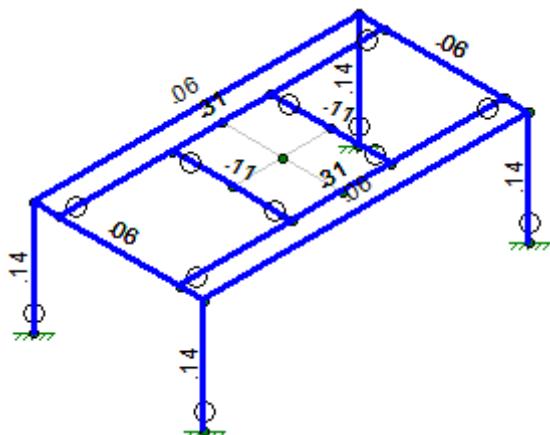
[Check RF Transparent Canister Support Platform:](#)

Load Configuration:

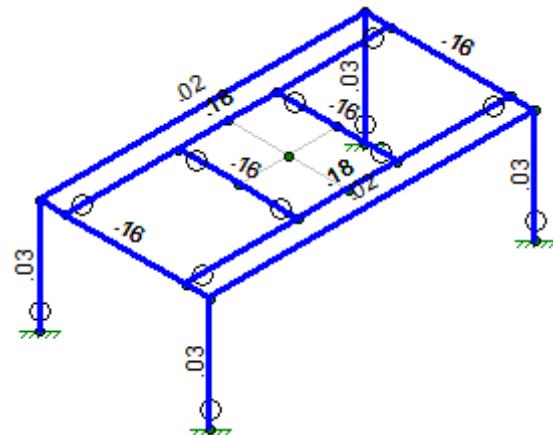


Capacity Checks:

Axial & Bending:



Shear:



CHECK ROOF STRUCTURE UNDER MOUNTS

Load Combinations (reference ASCE 7-02)

- 1) DL
- 2) DL + LL_r
- 3) DL+ SL

Roof Dead Load

For Roof:

3.5" Slab on 1 1/2" 22 Gauge Deck - 51 psf
Roofing - 2 psf
Insulation - 3 psf
Mech & Miscl - 5psf

Roof Dead Load:

$$DL_R := 61 \text{ psf}$$

Ceiling Dead Load

For Dropped Ceiling:

Ceiling Tile - 1.0 psf
Framing - 1.5 psf

Ceiling Dead Load:

$$DL_C := 2.5 \text{ psf}$$

Roof Live Load

Per ASCE7-05:

$$LL_r := 20 \text{ psf}$$

ASCE 7-02 Table 4-1

Snow Load

Ground Snow Loads:

$$p_g := 35 \text{ psf}$$

ASCE 7-02: Figure 7-1

Thermal factor

$$C_t := 1.0$$

ASCE 7-02: Table 7-3

Exposure Factor

$$C_e := 0.9$$

ASCE 7-02: Table 7-2
Upper Level, Fully exposed

Importance factor:

$$I := 1.0$$

ASCE 7-02: Table 1-1
Occupancy Category II
Table 7-4

Flat Roof Snow Loads:

$$P_f := 0.7 \cdot C_e \cdot C_t \cdot I \cdot p_g$$

ASCE 7-02: Eq 7-1

$$P_f = 22.05 \cdot \text{psf}$$

Rain on Snow Surcharge:

$$P_{fr} := P_f + 0 \text{ psf}$$

ASCE 7-02: 7.10

$$P_f = 22.05 \cdot \text{psf}$$

Minimum Roof Snow Load:

$$P_{f_min} := 20 \cdot I \text{ psf}$$

ASCE 7-02: Section 7.3

$$P_f := \max(P_f, P_{f_min})$$

$$P_f = 22.05 \cdot \text{psf}$$

Check Roof Beams W16x26 & W16x31

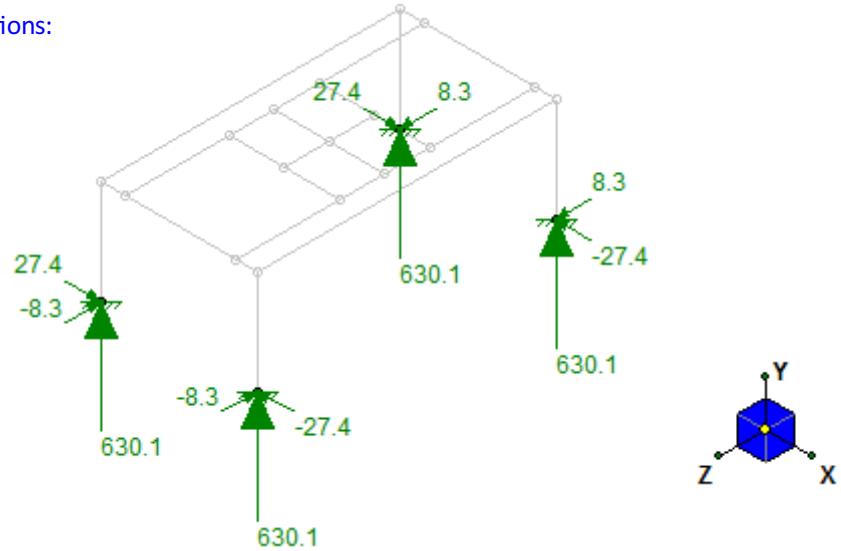
Beam Tributary Width: $W_{Trib} := 6\text{ft} + 9.5\text{in}$

Beam Dead Load: $w_{DLr} := (DL_R + DL_C) \cdot W_{Trib} = 431.271 \cdot \text{plf}$

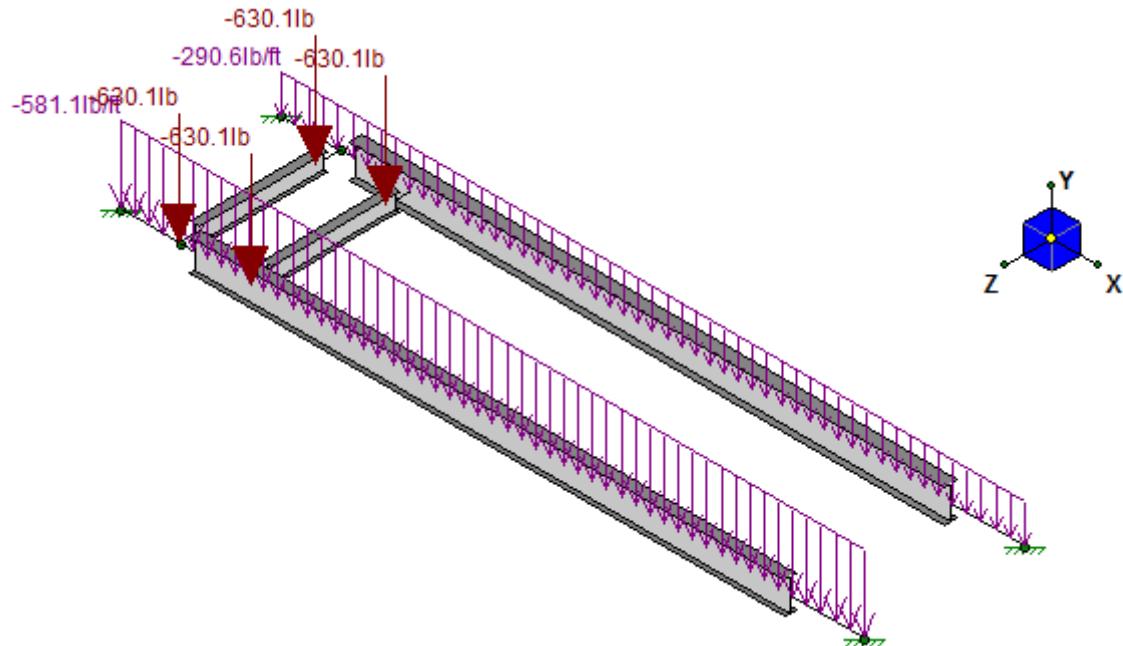
Beam Live Load: $w_{LL} := LL_r \cdot W_{Trib} = 135.833 \cdot \text{plf}$

Beam Snow Load: $w_{SL} := P_f \cdot W_{Trib} = 149.756 \cdot \text{plf}$

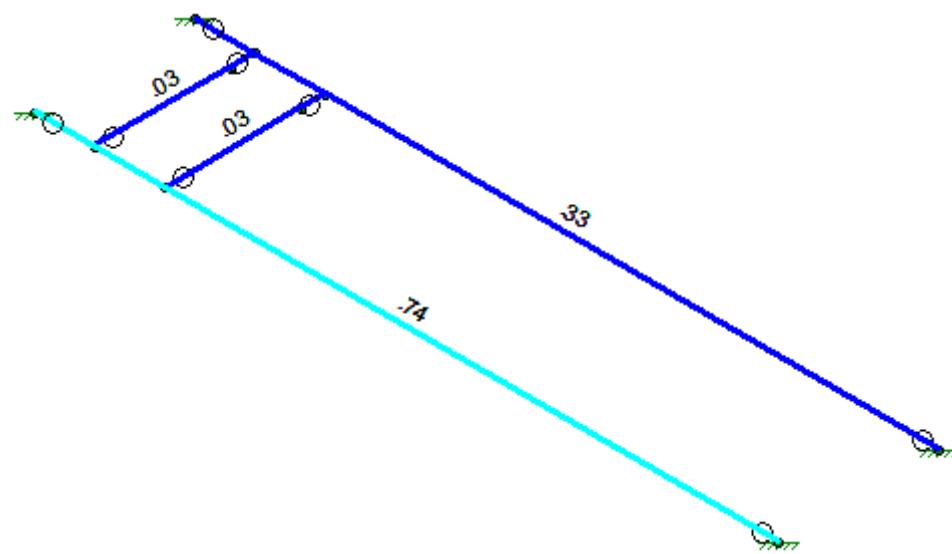
Beam Mount Support Reactions:



Load Configuration: (shown for DL+Mount+SL)

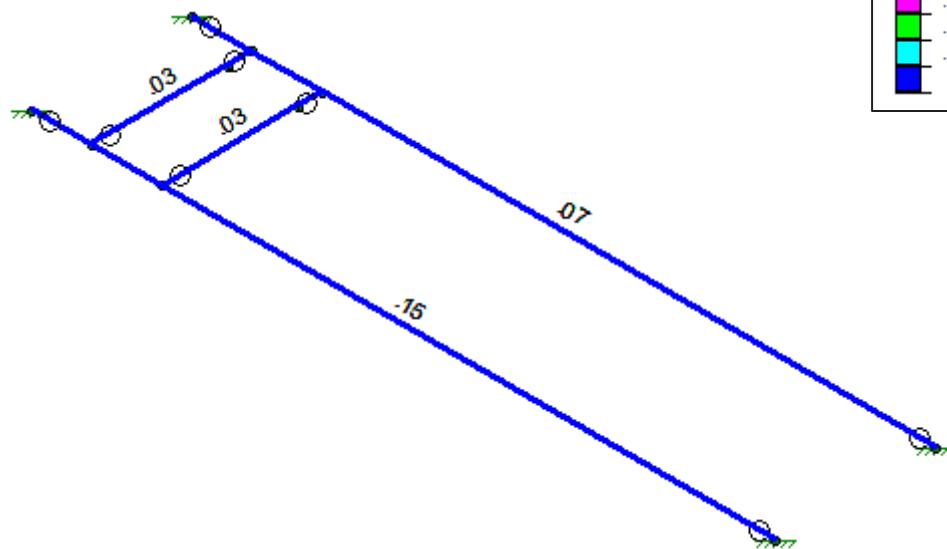


Bending Check:



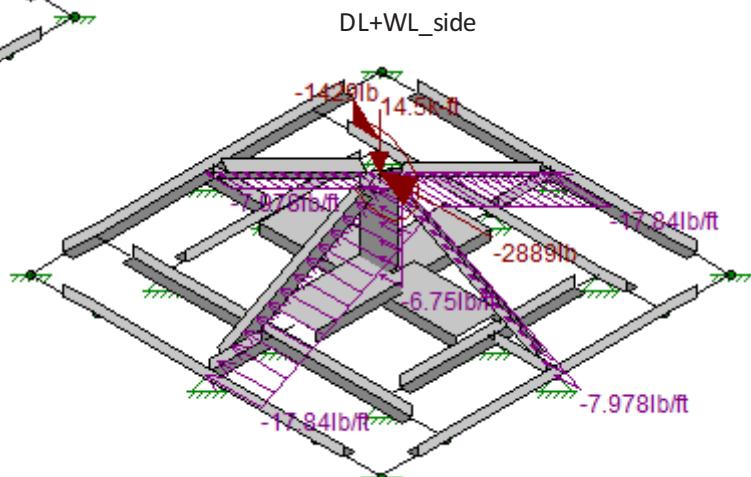
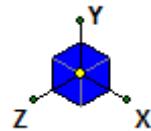
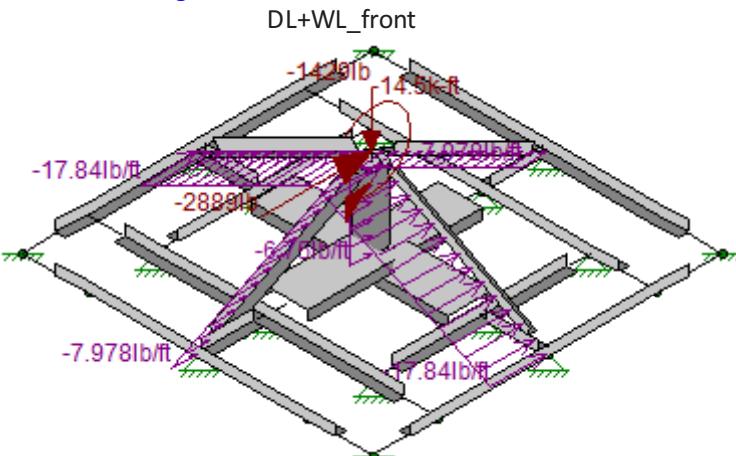
Code Check	
No Calc	
> 1.0	
.90-1.0	
.75-90	
.50-.75	
0.-.50	

Shear Check:



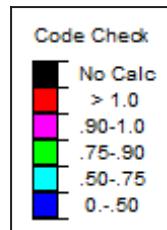
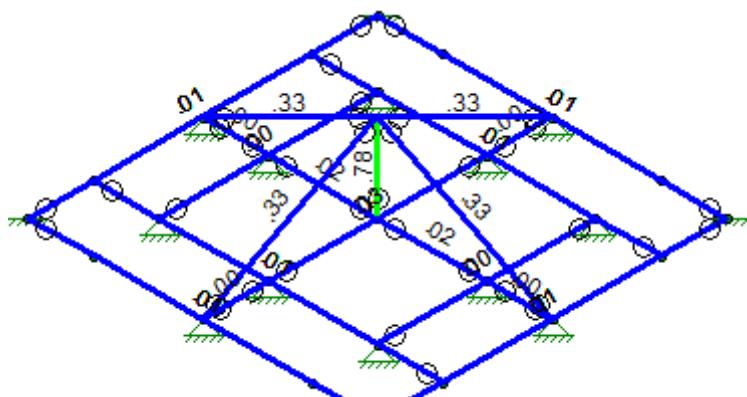
Check RF Transparent Chimney Support Sled:

Load Configuration:

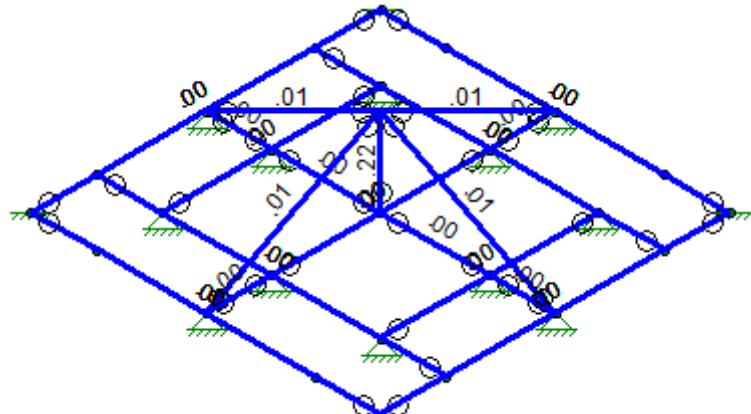


Capacity Checks:

Axial & Bending:



Shear:



DETERMINE REQUIRED COUNTER WEIGHT FOR RF TRANSPARENT CHIMNEY SUPPORT SLED

$$M_{equip_plat2} := (M_{Chimney} + F_{Chimney} \cdot 24\text{in}) + F_{rru1_front} \cdot r_{rru1_plat2} + F_{rru2_front} \cdot r_{rru2_plat2} \dots = 20.463 \cdot \text{kip} \cdot \text{ft}$$
$$+ F_{tma1_front} \cdot r_{tma1_plat2} + 2 \cdot F_{tma2_front} \cdot r_{tma2_plat2}$$

$$M_{kicks_plat2} := 4F_{kicks_plat2} \cdot r_{kicks_plat2} = 286.887 \cdot \text{ft} \cdot \text{lbf}$$

$$M_{post_plat2} := F_{post_plat2} \cdot r_{post_plat2} = 13.419 \cdot \text{ft} \cdot \text{lbf}$$

$$M_{over_plat2} := M_{equip_plat2} + M_{kicks_plat2} + M_{post_plat2}$$

$$M_{over_plat2} = 20764 \cdot \text{ft} \cdot \text{lbf}$$

$$FS := 1.666 \quad \text{Factor of safety for Overturning}$$

(Weight of the frame is approx. 645 lbs and the center of gravity is 4'-0" away from the rotation point. The moment arm for the ballast weights are (2) @ 4'-0" and (1) @ 7'-3")

$$W := P_{Chimney} + W_{rru1} + W_{rru2} + W_{tma1} + 2W_{tma2} + W_{plat2} = 2266.9 \text{ lbf}$$

$$W_{ballast_per_tray} := \frac{(M_{over_plat2} \cdot FS - W \cdot 4\text{ft})}{(2 \cdot 48\text{in}) + 87\text{in}}$$

$$W_{ballast_per_tray} = 1674 \text{ lbf}$$

To resist overturning, each tray should contain a ballast weight of 1675 lbs

$$W_{ballast_tray} := 1675 \text{ lbf}$$

$$W_{total_plat2} := W + 4 \cdot W_{ballast_tray} = 8966.9 \text{ lbf}$$

Check Roof Structure under Gamma RF Transparent Chimney

Check Loads on Slab & Deck

Slab Span: $L_{slab} := 6ft + 9.5in$

Allowable Maximum Load on Slab: $w_{allow_slab} := 311psf + 51psf$ Per Vulcraft Catalog

Slab Dead Load: $w_{DLr} := (DL_R + DL_C) = 63.5 \cdot psf$

Slab Live Load: $w_{LL} := LL_T = 20 \cdot psf$

Slab Snow Load: $w_{SL} := P_f = 22.05 \cdot psf$

Slab Mount Support Load: $w_{Plat2DL} := \frac{W_{total_plat2}}{[(8ft \cdot 8ft) - (5ft \cdot 5ft)]} = 229.92 \cdot psf$

Maximum Total Load on Slab: $w_{slab} := w_{DLr} + w_{Plat2DL} + w_{SL} = 315.47 \cdot psf$

Comparison: $\frac{w_{slab}}{w_{allow_slab}} = 87.15\% \quad ==> \text{OK, Slab \& deck are adequate}$

Check Roof Beams W16x31

Beam Tributary Width: $W_{Trib} := 6ft + 9.5in$

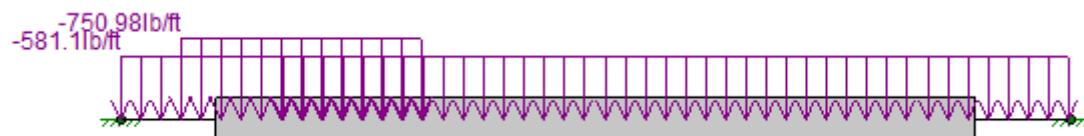
Beam Dead Load: $w_{DLr} := (DL_R + DL_C) \cdot W_{Trib} = 431.271 \cdot plf$

Beam Live Load: $w_{LL} := LL_T \cdot W_{Trib} = 135.833 \cdot plf$

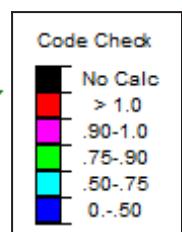
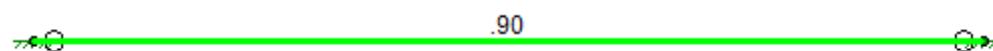
Beam Snow Load: $w_{SL} := P_f \cdot W_{Trib} = 149.756 \cdot plf$

Beam Mount Support Load: $w_{Plat2dl} := \left(\frac{0.67 W_{total_plat2}}{8ft} \right) = 750.98 \cdot plf$

Load Configuration: (shown for DL+Mount+SL)



Bending Check:



Shear Check:



DETERMINE REQUIRED COUNTER WEIGHT FOR RRU SUPPORT SLED

$$M_{rru_sled} := 2 \cdot F_{rru1_front} \cdot r_{rru1_sled} + 2 \cdot F_{rru2_front} \cdot r_{rru2_sled} + F_{DC6_front} \cdot r_{DC6_sled} = 0.447 \cdot \text{kip} \cdot \text{ft}$$

$$M_{kicks_rru_sled} := 2F_{kicks_sled} \cdot r_{kicks_sled} = 61.511 \cdot \text{ft} \cdot \text{lbf}$$

$$M_{posts_rru_sled} := 2F_{posts_sled} \cdot r_{posts_sled} = 79.675 \cdot \text{ft} \cdot \text{lbf}$$

$$M_{hor_rru_sled} := F_{hor_sled} \cdot r_{hor_sled} = 142.09 \cdot \text{ft} \cdot \text{lbf}$$

$$M_{over_rru_sled} := M_{rru_sled} + M_{kicks_rru_sled} + M_{posts_rru_sled} + M_{hor_rru_sled}$$

$$M_{over_rru_sled} = 730 \cdot \text{ft} \cdot \text{lbf}$$

$$FS := 1.666 \quad \text{Factor of safety for Overturning}$$

(Weight of the frame is approx. 140 lbs and the center of gravity is 1'-4.5" away from the rotation point. The moment arm for the ballast weights are 24" and 9")

$$W := 2W_{rru1} + 2W_{rru2} + W_{DC6} + W_{rru_sled} = 420.3 \text{ lbf}$$

$$W_{ballast_per_tray} := \frac{(M_{over_rru_sled} \cdot FS - W \cdot 16.5\text{in})}{24\text{in} + 9\text{in}} \quad W \cdot 16.5\text{in} = 577.9 \cdot \text{lbf} \cdot \text{ft}$$

$$W_{ballast_per_tray} = 232 \text{ lbf}$$

To resist overturning, each tray should contain a ballast weight of 235 lbs

ATTACHMENT 4



RADIO FREQUENCY EMISSIONS ANALYSIS REPORT EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CT5440

Waterbury West
1389 West Main Street
Waterbury, CT 06708

August 24, 2016

EBI Project Number: 6216003659

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	30.84 %



August 24, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5440 – Waterbury West**

EBI Consulting was directed to analyze the proposed AT&T facility located at **1389 West Main Street, Waterbury, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits at surrounding ground levels.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications facility that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier



will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **1389 West Main Street, Waterbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB, was focused at the base of the building. For this report the sample point is the top of a 6-foot person standing at ground level at the base of the building.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.



- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 6) For the following calculations the sample point was the top of a 6-foot person standing at ground level at the base of the building. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **KMW AM-X-CD-14-65-00T-RET, CCI HPA-65R-BUU-H8 and CCI HPA-65R-BUU-H6** for transmission in the 700 MHz, 850 MHz, and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerlines of the proposed antennas are **42 feet & 50 feet** above ground level (AGL) for **Sector A, 42 feet & 50 feet** above ground level (AGL) for **Sector B** and **42 feet** above ground level (AGL) for Sector C. The Sector A & B antennas are located in a faux flagpole on the southern end of the building with the antennas with azimuths of 100 & 220 degrees from true north. The Sector C antennas are located in a faux chimney at the northern end of the building with an azimuth of 340 degrees from true north.
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves. Per the Connecticut Siting Council active database there are no additional carriers on this building.

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



AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	KMW AM-X-CD-14-65-00T-RET	Make / Model:	KMW AM-X-CD-14-65-00T-RET	Make / Model:	KMW AM-X-CD-14-65-00T-RET
Gain:	12.65 / 14.15 dBd	Gain:	12.65 / 14.15 dBd	Gain:	12.65 / 14.15 dBd
Height (AGL):	42 feet	Height (AGL):	42 feet	Height (AGL):	42 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,664.56	ERP (W):	2,664.56	ERP (W):	2,664.56
Antenna A1 MPE%:	9.73 %	Antenna B1 MPE%:	9.73 %	Antenna C1 MPE%:	9.73 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	13.15 / 14.95 dBd	Gain:	13.15 / 14.95 dBd	Gain:	11.95 / 14.75 dBd
Height (AGL):	50 feet	Height (AGL):	50 feet	Height (AGL):	42 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,229.75	ERP (W):	6,229.75	ERP (W):	5,462.56
Antenna A2 MPE%:	16.82 %	Antenna B2 MPE%:	16.82 %	Antenna C2 MPE%:	21.11 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	30.84 %
No Additional Carriers On Site	NA
Site Total MPE %:	30.84 %

AT&T Sector A Total:	26.55 %
AT&T Sector B Total:	26.55 %
AT&T Sector C Total:	30.84 %
Site Total:	30.84 %

AT&T _ Max Values Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	552.23	42	30.64	850 MHz	567	5.40%
AT&T 1900 MHz (PCS) UMTS	2	780.05	42	43.28	1900 MHz (PCS)	1000	4.33%
AT&T 700 MHz LTE	2	940.05	42	52.15	700 MHz	467	11.17%
AT&T 1900 MHz (PCS) LTE	2	1,791.23	42	99.38	1900 MHz (PCS)	1000	9.94%
						Total:	30.84%



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	26.55 %
Sector B:	26.55 %
Sector C:	30.84 %
AT&T Maximum Total (per sector):	30.84 %
Site Total:	30.84 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **30.84 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

ATTACHMENT 5



115 ROUTE 46 SUITE E39, MOUNTAIN LAKES, NJ 07046
OFFICE: 862-209-4300 | FAX: 862-209-4301

Photo Simulations

For

**1389 West Main Street
Waterbury, CT 06708**

Site ID: **CT5440**

FA#: **10071305**

Site Name: **Waterbury West**
Com-Ex Number: **15167-EMP**

Prepared for:

AT&T Mobility
550 Cochituate Road,
Framingham, MA 01701

Prepared by:



1 – Photos

View 1 - Existing



View 1 - Proposed



View 2 – Existing



View 2 – Proposed



View 3 – Existing

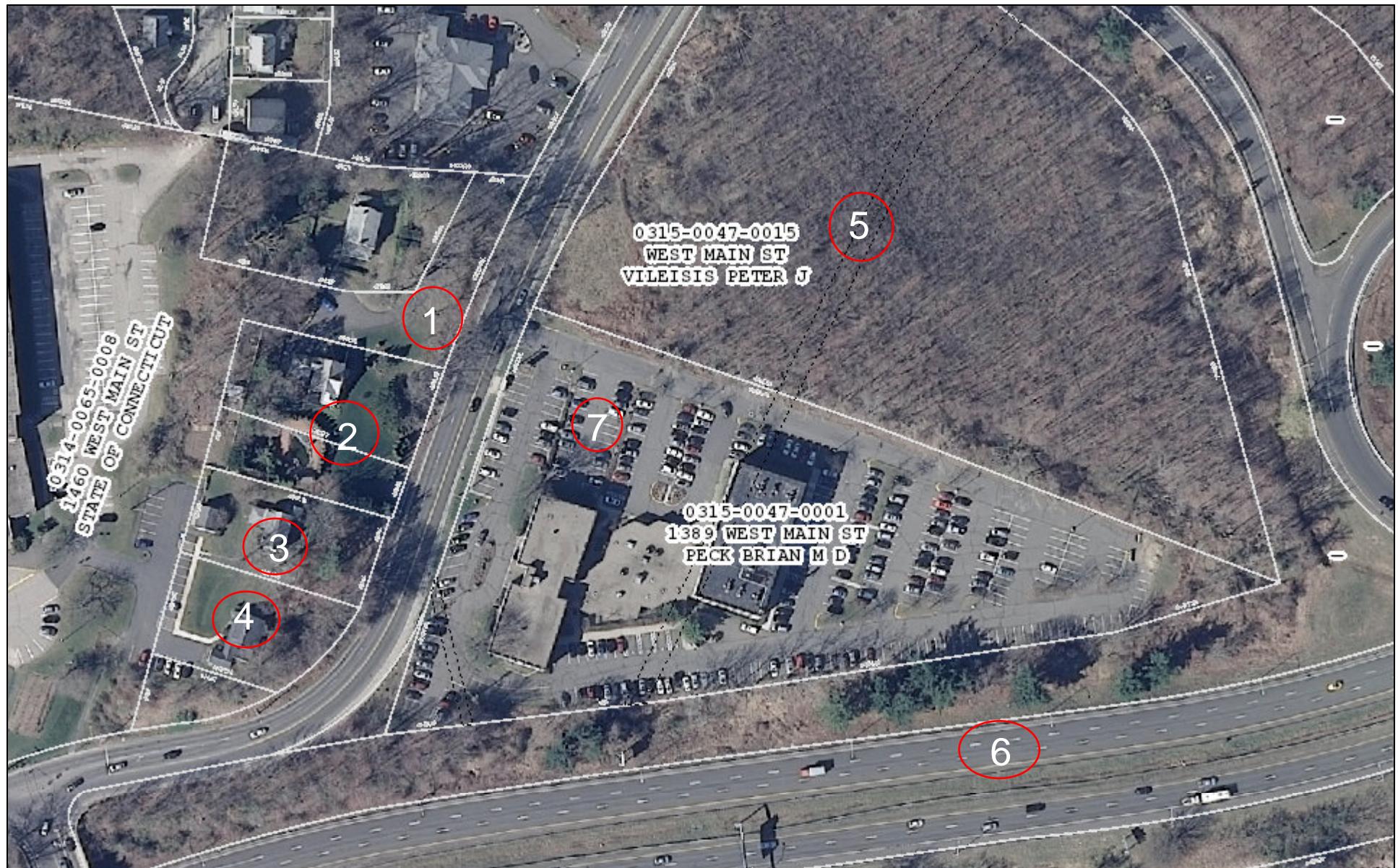


View 3 – Proposed



ATTACHMENT 6

Abutting Properties



October 13, 2016

1:2,257
0 0.0175 0.035 0.07 mi
0 0.02 0.04 0.08 km

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,

ABUTTING PROPERTY OWNERS

1. 1460 WEST MAIN STREET
STATE OF CONNECTICUT
NAUGATUCK VALLEY COMMUNITY COLLEGE
1460 WEST MAIN ST
WATERBURY CT 06708

2. 1376 WEST MAIN ST
THE RITA C FRANCISCO TRUST
CLARA F STEVENS TRUSTEE
PO BOX 906
MIDDLEBURY CT 06762

3. 1392 & 1404 WEST MAIN STREET
DIMI LLC
68 HIGHMEADOW RD
WATERTOWN, CT 06795

4. 1404 WEST MAIN STREET
DIMI LLC
68 HIGHMEADOW RD
WATERTOWN, CT 06795

5. PETER J VILEISIS
370 WATERTOWN RD
MIDDLEBURY, CT 06762

6. I-84
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

7. 1389 WEST MAIN STREET (OWNER)
M & P REALTY CO
1389 WEST MAIN ST
C/O ARTHRITIS CENTER
WATERBURY CT 06708-3104

October 13, 2016

VIA CERTIFIED MAIL/
RETURN RECEIPT REQUESTED

ADDRESSEE

ADDRESS

Re: New Cingular Wireless PCS, LLC (“AT&T”)
Proposed Modification of Existing Facility
1389 West Main Street, Waterbury, Connecticut

Dear Sir or Madam _____:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC (“AT&T”) with respect to the above referenced matter and our client’s intent to file a petition with the State of Connecticut Siting Council for approval of a modification of an existing wireless communications tower facility (the “Facility”) on the rooftop of the captioned property.

State law requires that record owners of property abutting a parcel on which a facility is proposed be sent notice of an applicant’s intent to file a petition with the Siting Council.

Included with this letter please find a Notice of this submission and details the proposal. Of note, the location, height and other features of the Facility are subject to review and potential change by the Connecticut Siting Council under the provisions of Connecticut General Statutes §16-50g et seq.

If you have any questions concerning this petition, please contact the Connecticut Siting Council or the undersigned after October 17, 2016, the date that the petition is expected to be on file.

Very truly yours,

Daniel M. Laub
Enclosure

NOTICE

Notice is hereby given, pursuant to Section 16-50j-40(a) of the Regulations of Connecticut State Agencies of a Petition being filed with the Connecticut Siting Council (“Siting Council”) on or after October 14, 2016 by New Cingular Wireless PCS, LLC (“AT&T”). AT&T seeks a declaratory ruling that modification of an existing rooftop wireless facility does not have significant adverse environmental effects that might otherwise require a certificate of environmental compatibility and public need (“Certificate”).

AT&T currently maintains an operational facility on the rooftop of a building at 1389 West Main Street in Waterbury. The facility includes antennas concealed in a 24” diameter, +/- 15.33’ tall flagpole style enclosure on the southern corner of the rooftop and associated equipment used to operate the antennas. In order to upgrade its existing facility AT&T proposes to replace this flagpole style enclosure with a new 30” diameter, +/-17.33’ stealth flagpole of similar design to accommodate new antennas. AT&T also proposes to add antennas to the north corner of the same rooftop inside a new 4’ x 4’ enclosure that will be approximately 8.5’ tall and designed to appear as a chimney matching the color of the existing building. This upgrade also includes additional existing equipment on the rooftop used to operate the antennas.

The Petition will provide additional details of the proposal and explain why AT&T submits that this modification presents no significant adverse environmental effects. The location, height and other features of the facility are subject to review and potential change under provisions Connecticut General Statutes Sections 16-50g et. seq.

Copies of the Petition will be available for review during normal business hours on or after October 17, 2016 at the following:

Connecticut Siting Council 10 Franklin Square New Britain, Connecticut 06051	City of Waterbury City Clerk – Michael J. Dalton 235 Grand Street Courtyard Level Waterbury, CT 06702
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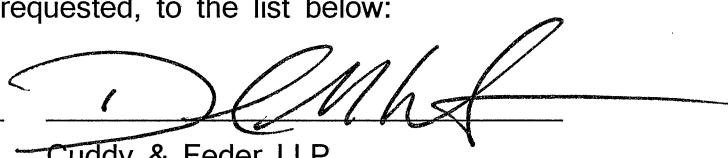
or the offices of the undersigned. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

Daniel M. Laub, Esq.
Cuddy & Feder LLP
445 Hamilton Ave, 14th Floor
White Plains, New York 10601
(914) 761-1300
Attorneys for the Petitioner

CERTIFICATION OF SERVICE

I hereby certify that on the 13th day of October 2016, a copy of the foregoing notice of the filing of a Petition with the Connecticut Siting Council for a declaratory ruling was sent by certified mail, return receipt requested, to the list below:

Dated: 10/13/16



Cuddy & Feder LLP

45 Hamilton Avenue, 14th Floor

White Plains, New York 10601

Attorneys for:

New Cingular Wireless PCS, LLC (AT&T)

State and Regional

The Honorable George Jepsen Attorney General Office of the Attorney General 55 Elm Street Hartford, CT 06106	Department of Economic and Community Development Catherine Smith, Commissioner 505 Hudson Street Hartford, CT 06106
Department of Public Health Dr. Raul Pino, Commissioner 410 Capitol Avenue P.O. Box 340308 Hartford, CT 06134	Department of Energy and Environmental Protection Public Utilities Regulatory Authority Chairman Arthur House Ten Franklin Square New Britain, CT 06051
Council on Environmental Quality Karl J. Wagener, Executive Director 79 Elm Street Hartford, CT 06106	Department of Transportation James P. Redeker, Commissioner 2800 Berlin Turnpike Newington, CT 06111

<p>Department of Energy & Environmental Protection Rob Klee, Commissioner 79 Elm Street Hartford, CT 06106</p>	<p>Department of Agriculture Steven K. Reviczky, Commissioner 165 Capitol Avenue Hartford, CT 06106</p>
<p>Office of Policy and Management Benjamin Barnes, Secretary 450 Capitol Avenue Hartford, CT 06106</p>	<p>State House Representative - 73rd Jeffrey J. Berger Gail Lavielle Legislative Office Building Room 3704 Hartford, CT 06106</p>
<p>Department of Emergency Services & Public Protection Division of Emergency Management and Homeland Security William Shea, Deputy Commissioner 25 Sigourney Street, 6th Floor Hartford, CT 06106-5042</p>	<p>State Senator - 15th District Joan V. Hartley Legislative Office Building Room 3100 Hartford, CT 06106</p>
<p>Department of Economic and Community Development-Offices of Culture and Tourism Todd Levine, State Historic Preservation Officer, Historian/Environmental Reviewer One Constitution Plaza, 2nd Floor Hartford, CT 06103</p>	<p>Naugatuck Valley Council of Governments Rick Dunne, Executive Director 49 Leavenworth Street, Suite 303 Waterbury, Connecticut 06702</p>

Federal

Federal Communications Commission 445 12 th Street SW Washington, D.C. 20554	Federal Aviation Administration 800 Independence Avenue, SW Washington, DC 20591
U.S. Congresswoman Elizabeth Esty 1 Grove St. Suite 600 New Britain, CT 06053	U.S. Senator Richard Blumenthal 90 State House Square, 10th Floor Hartford, CT 06103
U.S. Senator Christopher Murphy One Constitution Plaza, 7 th Floor Hartford, CT 06103	

City of Waterbury

Mayor Neil M. O'Leary Town Hall City Hall Building 235 Grand Street, 2nd floor Waterbury, CT 06702	City Plan Commission Raymond Work, Chair 185 South Main Street, 5th floor (1 Jefferson Square) Waterbury, CT 06706
Inland Wetlands Commission Samuel Leisring 185 South Main Street, 5th floor (1 Jefferson Square) Waterbury, CT 06706	Zoning Commission John Tedesco, Chair 185 South Main Street, 5th floor (1 Jefferson Square) Waterbury, CT 06706
James A. Sequin, AICP City Planning Department 185 South Main Street, 5th floor (1 Jefferson Square) Waterbury, CT 06706	