



December 15<sup>th</sup>, 2017

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

**Re: Notice of Exempt Modification – Antenna Swap and RRU Add**  
**Property Address: 53-73 Slater St. Manchester, CT 06040**  
**Applicant: AT&T Mobility, LLC**

Dear Ms. Bachman:

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

AT&T currently maintains a wireless telecommunications facility consisting of six (6) wireless telecommunication antennas at an antenna center line height of 145-feet on an existing 155-foot monopole, owned by Crown Castle at 12 Gill St. Suite 5800, Woburn, MA 01801. AT&T now intends to swap (3) 4' Kathrein 800-10121 for (3) 6' CCI OPA-65R-LCUU-H6Panel Antennas, each swap occurring in position [1] all sectors for a total of three (3) antennas being swapped. AT&T also wishes to add (1) RRUS-E2 on position [1] all sectors, for a total of (3) RRUs E2s. Lastly, AT&T also intends to swap (2) LGP21401 TMA's for (2) CCI TPX-070821 Triplexers on position [1] in all sectors, for a total of (6) triplexers to be mounted on the existing antenna mount.

Per the attached Certificate of Approval of Special Exception, issued by the Town of Manchester Planning and Zoning Commission, the construction of the above mentioned tower was approved by the Town of Manchester on August 17<sup>th</sup>, 1998.

In addition, 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.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to James Davis, Zoning Enforcement Officer – Town of Manchester, Building Department, 494 Main St., Manchester, CT 06045 and Jay Moran, Manchester Board of Directors, 41 Center St. P.O. Box 191, Manchester, CT 06045. A copy of this letter is also being sent to the property owner One Hundred Twenty One Connecticut Avenue Associates, LLC, 9 Lake Lane, Ellington, CT 06029 and to the tower company, Crown Castle, 3 Corporate Park Drive Suite 101, Clifton Park, NY 12065.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-AT&T-077-020321** - AT&T Wireless notice of intent to modify an existing telecommunications facility located at 53-73 Slater Avenue, Manchester, Connecticut.
- **EM-CING-048-077-132-151-151-070717** – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 101 Burbank Road, Ellington; 53 Slater Street, Manchester; 391 Niederwerfer Road, South Windsor; Farmdale Drive, Waterbury; and 229 Sheffield Street, Waterbury, Connecticut.
- **EM-CING-077-091116** - New Cingular Wireless PCS, LLC notice of intent to modify an existing



telecommunications facility located at 53 Slater Street, Manchester, Connecticut.

- **EM-CING-077-120713** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 53 Slater Street, Manchester, Connecticut.
- **EM-CING-077-140415** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 53 Slater Street, Manchester, Connecticut.
- **EM-AT&T-077-160223** - AT&T notice of intent to modify an existing telecommunications facility located at 53 Slater Street, Manchester, Connecticut.
- **EM-AT&T-077-160818** - AT&T notice of intent to modify an existing telecommunications facility located at 53 Slater Street, Manchester, Connecticut.
- **EM-AT&T-077-170418** – AT&T Wireless notice of intent to modify an existing telecommunications facility located at 53 Slater Street, Manchester, Connecticut

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 145-foot level of the 155-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in [Tab 2](#).
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in [Tab 3](#)).

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

Sincerely,

A handwritten signature in black ink that reads 'Romina Kirchmaier'.

Romina Kirchmaier

CC w/enclosures:  
James Davis, Zoning Officer, Town of Manchester  
Jay Moran, Mayor – Town of Manchester  
One Hundred Twenty One Connecticut Avenue Associates, LLC, Land Owner  
Crown Castle, Tower Company

# Town of Manchester

41 Center Street • P.O. Box 191

Manchester, Connecticut 06045-0191

STEPHEN T. CASSANO, MAYOR  
JOSH M. HOWROYD, DEPUTY MAYOR  
JOSEPH D. NEGRI, SECRETARY

DIRECTORS  
TIMOTHY H. BECKER  
THOMAS P. CROCKETT  
EDWARD HACHADOURIAN  
JOAN E. HUMPHREY-McMAHON  
JAMES E. MORANCEY  
CLIFTON E. THOMPSON

RICHARD J. SARTOR, GENERAL MANAGER

## CERTIFIED LETTER

August 24, 1998

Mr. Thomas F. Flynn, III  
Vanasse Hangen Brustlin, Inc.  
9 Barnes Industrial Road South  
Wallingford, CT 06492

Re: Sprint Spectrum LP - 53 Slater Street - Special Exception (S-147)

Dear Mr. Flynn:

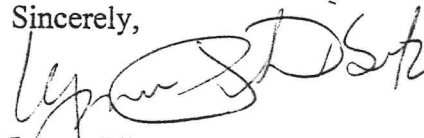
As agent for the applicant please be advised that at its meeting of August 17, 1998, the Planning and Zoning Commission approved a telecommunications tower under Article IV, Section 19.05 of the zoning regulations for 53 Slater Street with modifications and the condition that a caveat addressing co-location requirements be submitted for staff review and filed on the land records by the applicant prior to any construction. The approval is for activities as shown on plans entitled, "SPRINT PCS; SITE ID #CT03XC211; MANCHESTER, CT, 06040," dated February 2, 1998, revised April 27, 1998, sheets YHA211Z1, YHA211Z2, YHA211Z3, YHA211Z4, YHA211Z5 by Clough, Harbour & Associates, LLP, Job. No. 23224.

The required plan modifications are detailed in the attached staff memorandum from Nick Francione to Lynne Pike DiSanto, dated August 17, 1998.

Once all the required modifications have been incorporated into the plans, please submit one set of sealed and signed washoff mylar plans and four paper copies, sealed and signed, to this office for stamping and signature. If you would like a stamped set of plans for the applicant's records, please submit an additional set of paper copies. You may want to submit two paper copies for review before submitting the mylars. We will notify you of any necessary revisions.

Also enclosed is the Certificate of Approval of Special Exception for the above referenced application. As agent for the applicant please be advised that this certificate must be recorded in the land records in the office of the Town Clerk before the Special Exception is lawfully effective. If you should have any questions, please feel free to contact me at 647-3044.

Sincerely,



Lynne Pike DiSanto, AICP  
Senior Planner

LPD/s  
U:\CERTS\17AUG98\1S-147.WPD

cc: Engineering Department  
Water & Sewer Department  
Assessor-Town of Manchester  
Zoning Enforcement Officer

TOWN OF MANCHESTER  
PLANNING AND ZONING COMMISSION



CERTIFICATE OF APPROVAL OF SPECIAL EXCEPTION

Owner of record: Raglin Associates, c/o Sullivan Tile Dist.

Property Address: 53 Slater Street

Applicant: Sprint Spectrum LP

Regulation(s) cited: Article IV, Section 19.05

**SPECIAL EXCEPTION GRANTED:**

with modifications and the condition that a caveat addressing co-location requirements be submitted for staff review and filed on the land records by the applicant prior to any construction.

- \* ALL SITE WORK APPROVED BY THIS SPECIAL EXCEPTION MUST BE COMPLETED BY AUGUST 17, 2003 (5 yrs. From approval date). FAILURE TO COMPLETE ALL WORK WITHIN THE SPECIFIED TIME PERIOD WILL RESULT IN AUTOMATIC EXPIRATION OF THE APPROVAL.
- \* THIS CERTIFICATE MUST BE RECORDED IN THE LAND RECORDS IN THE OFFICE OF THE TOWN CLERK BEFORE THE SPECIAL EXCEPTION IS LAWFULLY EFFECTIVE.

CERTIFIED:

*Frank Davera*

Secretary  
Planning and Zoning Commission

\*DATE ADOPTED: August 17, 1998

Date: **September 25, 2017**

Charles McGuirt  
Crown Castle  
3530 Toringdon Way Suite 300  
Charlotte, NC 28277  
704.405.6607

Paul J. Ford and Company  
250 E Broad St, Suite 600  
Columbus, OH 43215  
(614) 221-6679  
mherbert@pjfweb.com

**Subject: Structural Analysis Report**

**Carrier Designation:** *AT&T Mobility Co-Locate*  
**Carrier Site Number:** CTL05307  
**Carrier Site Name:** Manchester - Slater St.

**Crown Castle Designation:**  
**Crown Castle BU Number:** 876347  
**Crown Castle Site Name:** BUCKLAND MALL  
**Crown Castle JDE Job Number:** 461791  
**Crown Castle Work Order Number:** 1464570  
**Crown Castle Application Number:** 405822 Rev. 4

**Engineering Firm Designation:** Paul J. Ford and Company Project Number: 37517-1326.003.7805

**Site Data:** 53 Slater Street, MANCHESTER, Hartford County, CT  
Latitude 41° 48' 18", Longitude -72° 32' 1"  
155 Foot - Monopole Tower

Dear Charles McGuirt,

Paul J. Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1085464, in accordance with application 405822, revision 4.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment

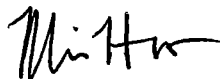
**Sufficient Capacity**

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 were used in this analysis.

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:



Michelle Herbert  
Structural Designer



SEP 26 2017

Date: **September 25, 2017**

Charles McGuirt  
Crown Castle  
3530 Toringdon Way Suite 300  
Charlotte, NC 28277  
704.405.6607

Paul J. Ford and Company  
250 E Broad St, Suite 600  
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We at *Paul J. Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Michelle Herbert  
Structural Designer

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**1) INTRODUCTION**

This tower is a 155 ft Monopole tower designed by SUMMIT in February of 2002. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

**2) ANALYSIS CRITERIA**

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 were used in this analysis.

**Table 1 - Proposed Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
143.0	145.0	3	cci antennas	OPA-65R-LCUU-H6	1 2	3/8 3/4	--
		6	cci antennas	TPX-070821			
		3	ericsson	RRUS 11			
		3	ericsson	RRUS 32			
		3	ericsson	RRUS 32 B2			
		3	kathrein	782 10253			
		3	quintel	QS66512-2			
		1	raycap	DC6-48-60-18-8F			



**Table 2 - Existing and Reserved Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
155.0	155.0	3	alcatel lucent	TD-RRH8x20-25	2 3 5 3	5/8 1-1/4 1/2 5/16	1
		3	argus	LPX310R w/ MP			
		3	rfs celwave	APXVSPP18-C-A20 w/ MP			
		3	rfs celwave	APXVTM14-C-120 w/ MP			
		3	samsung	WIMAX DAP HEAD			
		1	tower mounts	Miscellaneous [NA 510-1]			
		1	tower mounts	Platform Mount [LP 1201-1]			
	151.0	1	andrew	VHLP1-23			
		1	andrew	VHLP2-11			
		1	andrew	VHLP2.5-18			
3		dragonwave	HORIZON COMPACT				
153.0	153.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	--	--	1
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
		1	tower mounts	Pipe Mount [PM 601-3]			
145.0	147.0	3	ericsson	RRUS 11	--	--	1
	145.0	1	tower mounts	Pipe Mount [PM 601-3]			
143.0	145.0	3	cci antennas	DTMABP7819VG12A	1 2 6 1	3/8 3/4 1-1/4 Condtui	1
		3	ericsson	RRUS 32 B30			
		3	ericsson	RRUS-11			
		3	kathrein	800 10121			
		6	kathrein	860 10025			
		1	raycap	DC6-48-60-18-8F			
	143.0	1	tower mounts	T-Arm Mount [TA 702-3]			
133.0	133.0	3	ericsson	AIR -32 B2A/B66AA w/ MP	1	1-5/8	2
		3	ericsson	KRC 118 057/1 w/ MP			
		3	ericsson	RRUS 11 B12			
		1	tower mounts	Platform Mount [LP 403-1]			
113.0	113.0	3	alcatel lucent	RRH2X60-AWS	14	1-5/8	1
		3	alcatel lucent	RRH2x60-700			
		3	andrew	LNx-6512DS-T0M w/ MP			
		3	antel	BXA-70063/6CFx2 w/ MP			
		6	commscope	SBNHH-1D65B w/ MP			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			
		1	tower mounts	Platform Mount [LP 1201-1]			
60.0	60.0	1	tower mounts	Side Arm Mount [SO 701-1]	--	--	3

- Notes:  
 1) Existing Equipment  
 2) Reserved Equipment  
 3) Equipment To Be Removed

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH, 1204605EG1, 06/12/2012	1533476	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	PJF, 329298-597, 09/11/1998	1615406	CCISITES
4-TOWER MANUFACTURER DRAWINGS	PJF, A02-T0021, 02/18/2002	2068033	CCISITES

#### 3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

#### 3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

#### 4) ANALYSIS RESULTS

**Table 4 - Section Capacity (Summary)**

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	155 - 115.5	Pole	TP29.31x22x0.25	1	-11.53	1507.55	55.3	Pass
L2	115.5 - 79.25	Pole	TP35.51x28.11x0.31	2	-21.34	2469.71	80.7	Pass
L3	79.25 - 43.75	Pole	TP41.46x34.06x0.38	3	-30.60	3485.55	86.0	Pass
L4	43.75 - 0	Pole	TP48.8x39.73x0.44	4	-47.45	4858.33	85.9	Pass
							Summary	
						Pole (L3)	86.0	Pass
						RATING =	86.0	Pass

**Table 5 - Tower Component Stresses vs. Capacity**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	87.3	Pass
1	Base Plate	0	70.7	Pass
1	Base Foundation Structural Steel	0	52.6	Pass
1	Base Foundation Soil Interaction	0	10.0	Pass

<b>Structure Rating (max from all components) =</b>	<b>87.3%</b>
-----------------------------------------------------	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

#### 4.1) Recommendations

The monopole and its foundation have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

**APPENDIX A**  
**TNXTOWER OUTPUT**



200 North Glebe Road, Suite 1000, Arlington, VA 22203-3728  
703.276.1100 • 703.276.1169 fax  
info@sitesafe.com • www.sitesafe.com



**SmartLink, LLC on behalf of AT&T  
Mobility, LLC  
Site FA – 10071100  
Site ID – CT5307 (5C)  
USID – 25942  
Site Name – Manchester North  
Site Compliance Report**

**53-73 Slater Street  
Manchester, CT 06040**

Latitude: N41-48-17.97  
Longitude: W72-32-00.96  
Structure Type: Monopole

Report generated date: November 10, 2017  
Report by: Jake Jordan  
Customer Contact: Romina Kirchmaier

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**AT&T Mobility, LLC will be compliant when the  
remediation recommended in Section 5.2 or  
other appropriate remediation is implemented.**

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# 1 General Site Summary

## 1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	No
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	None
Max cumulative simulated RFE level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will Be Compliant

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND\_CONNECTICUT\_CTV5307\_2018-LTE-Next-Carrier\_LTE-5C\_dr701e\_2051A0AD0V\_10071100\_25942\_04-24-2017\_Final-Approved\_v1.00

CD's: 10071100\_AE201\_171018\_CTL05307\_REV 1\_S&S

RF Powers Used: RFDS

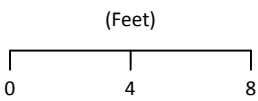
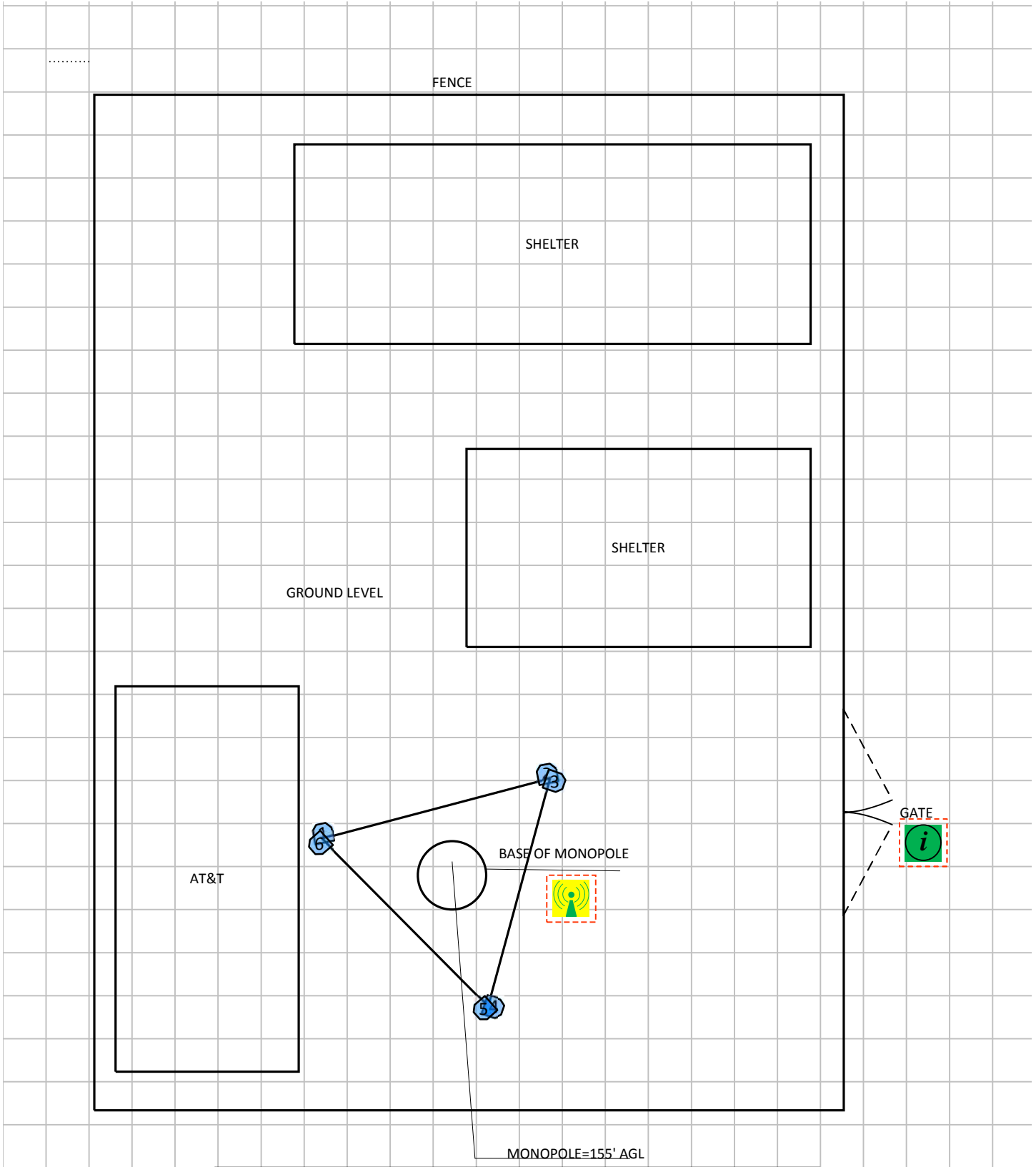
## 2 Scale Maps of Site

The following diagrams are included:

- ) Site Scale Map
- ) Elevation View
- ) AT&T Mobility, LLC Contribution



# Site Scale Map: Manchester North



www.sitesafe.com  
 Site Name: Manchester North  
 11/10/2017 1:42:07 PM

Carrier Identification													
	AT&T MOBILITY LLC		VERIZON WIRELESS		T-MOBILE		SPRINT		UNKNOWN CARRIER				
Sign Legend													
	Caution 1		Caution 2		Notice 2		Notice 1		Warning		Info 1		Info 2
Barrier				Proposed Barriers/		Signs							
—————				- - - - -		- - - - -							

### 3 Antenna Inventory

The following antenna inventory on this and the following page, were obtained by the customer and were utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z
1	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	850	50	61	6	12.46	0	1	0	239.3	25.2'	30.2'	142'
1	AT&T MOBILITY LLC (Proposed)	CCI Antennas OPA-65R-LCUU-H6	Panel	737	50	66	6	11.66	0	0	1	1475	25.2'	30.2'	142'
1	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	1900	50	60	6	14.86	0	1	0	753.4	25.2'	30.2'	142'
2	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	50	68	6	14.16	0	0	1	2182.7	38.2'	33.6'	142'
2	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	737	50	69	6	11.46	0	0	1	119.4	38.2'	33.6'	142'
2	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	50	63	6	10.96	0	0	1	1000	38.2'	33.6'	142'
2	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	50	64	6	14.56	0	0	1	2182.7	38.2'	33.6'	142'
3	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	850	170	61	6	12.46	0	1	0	238.8	38.6'	33.2'	142'
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas OPA-65R-LCUU-H6	Panel	737	170	66	6	11.66	0	0	1	1475	38.6'	33.2'	142'
3	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	1900	170	60	6	14.86	0	1	0	736.2	38.6'	33.2'	142'
4	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	737	170	69	6	11.46	0	0	1	1119.4	35.1'	20.1'	142'
4	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	170	63	6	10.96	0	0	1	1000	35.1'	20.1'	142'
4	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	170	68	6	14.16	0	0	1	2182.7	35.1'	20.1'	142'
4	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	170	64	6	14.56	0	0	1	2182.7	35.1'	20.1'	142'
5	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	850	290	61	6	12.46	0	1	0	238.2	34.5'	19.9'	142'
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas OPA-65R-LCUU-H6	Panel	737	290	66	6	11.66	0	0	1	1475	34.5'	19.9'	142'
5	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H6	Panel	1900	290	60	6	14.86	0	1	0	687.1	34.5'	19.9'	142'
6	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	737	290	69	6	11.46	0	0	1	1119.4	25'	29.5'	142'
6	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	290	63	6	10.96	0	0	1	1000	25'	29.5'	142'
6	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	290	68	6	14.16	0	0	1	2182.7	25'	29.5'	142'
6	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	290	64	6	14.56	0	0	1	2182.7	25'	29.5'	142'

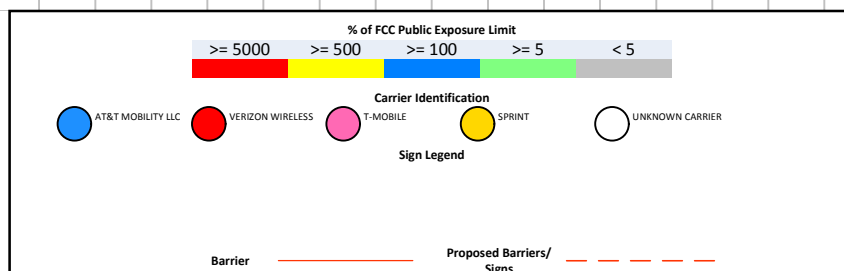
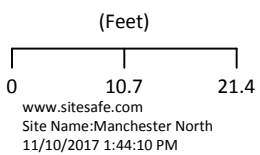
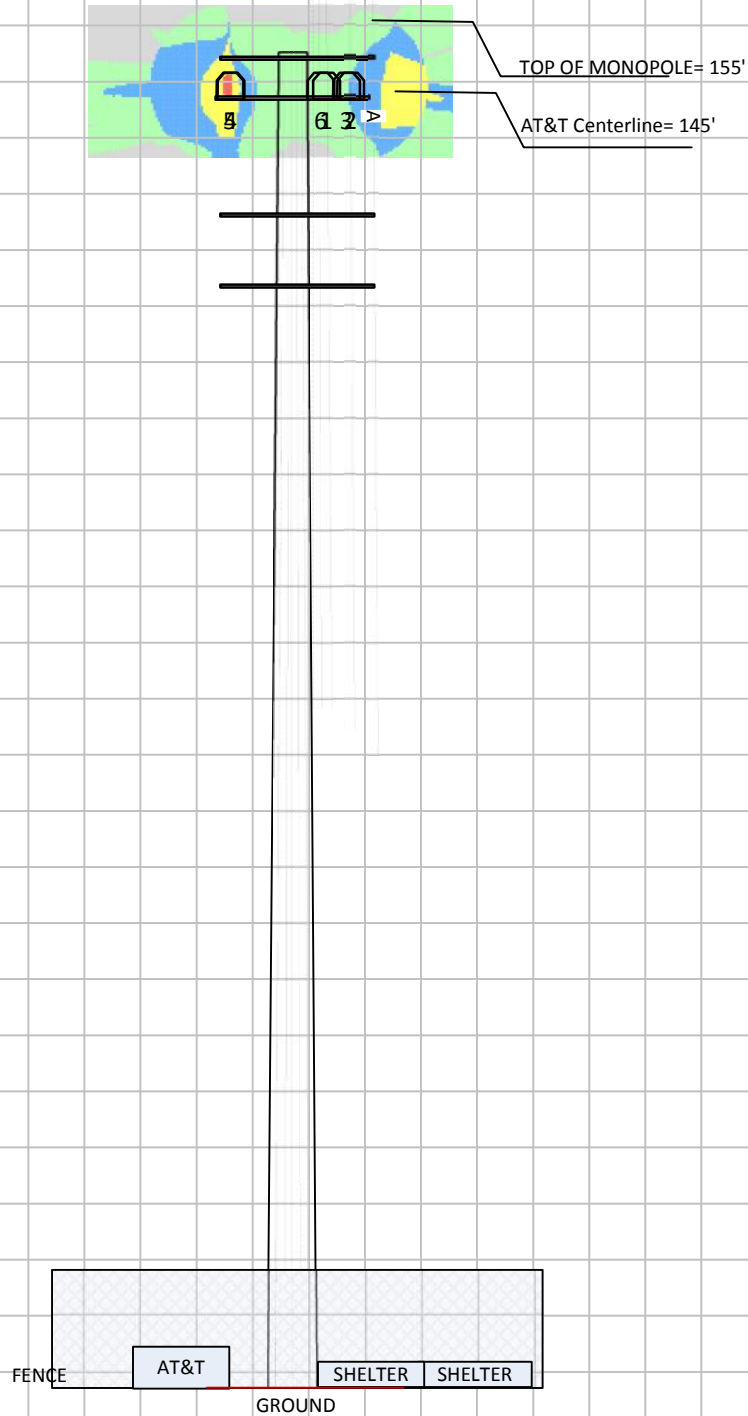
NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

## 4 Emission Predictions

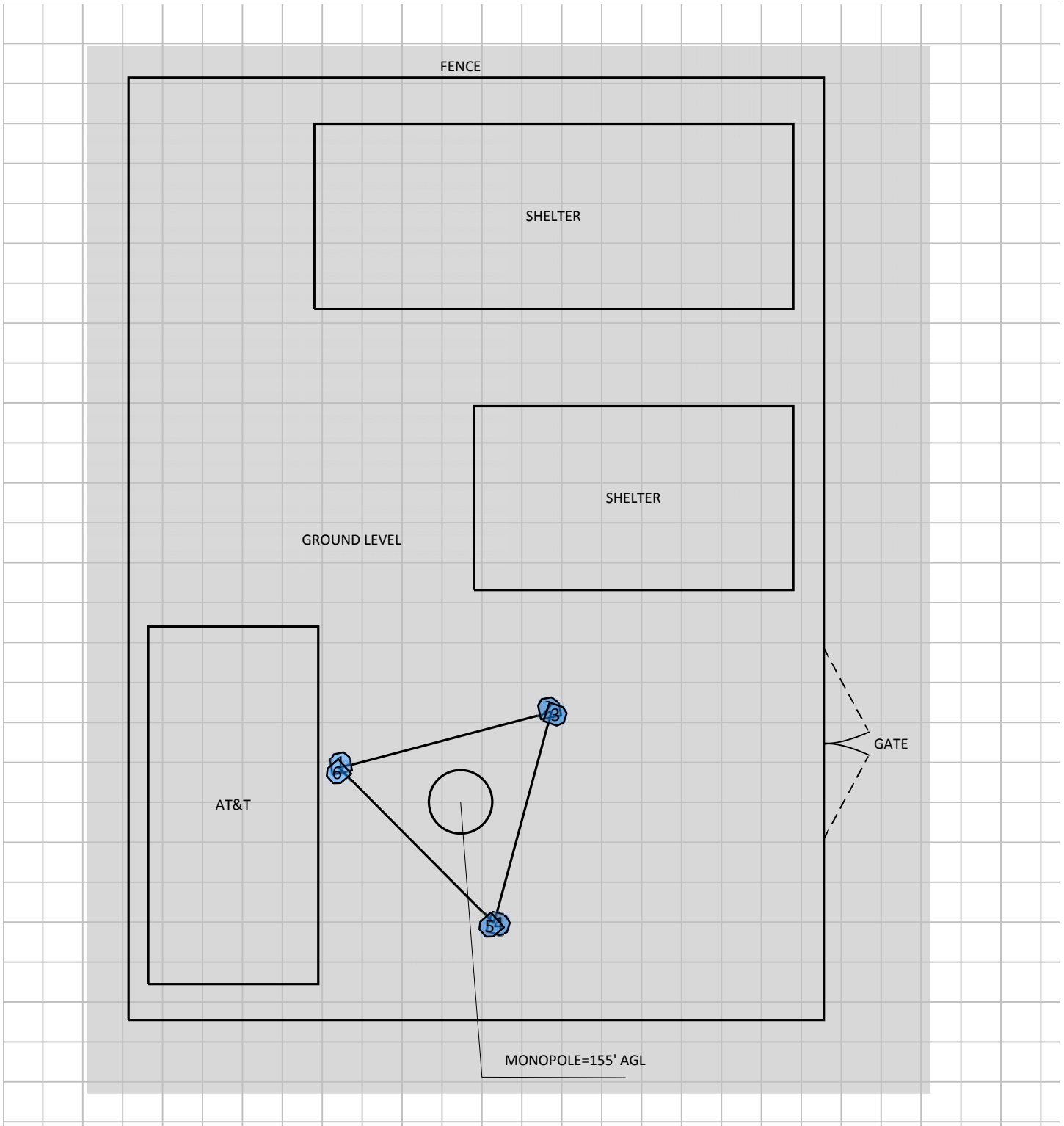
In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas.

The Antenna Inventory heights are referenced to the same level.

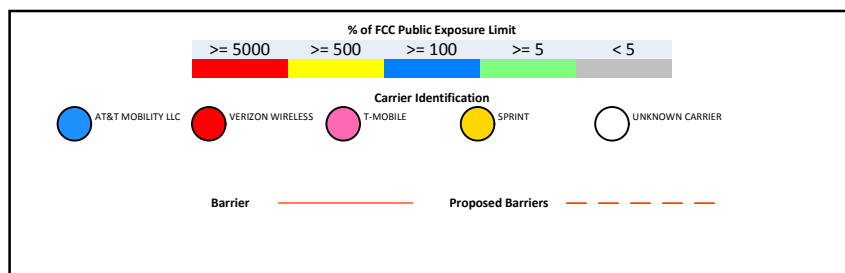
# RF Exposure Simulation For: Manchester North Elevation View



# RF Exposure Simulation For: Manchester North AT&T Mobility, LCC Contribution



% of FCC Public Exposure Limit  
Spatial average 0' - 6'



(Feet)  
0 4.7 9.4  
www.sitesafe.com  
Site Name: Manchester North  
11/6/2017 12:35:53 PM

SitesafeTC Version: 1.0.0.0 - 0.0.0.266  
Sitesafe OET-65 Model  
Near Field Boundary: 1.5 \* Aperture  
Reflection Factor: 1  
Single Level (0)

## 5 Site Compliance

### 5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, and the level of restricted access to the antennas at the site.

Modeling is used for determining compliance and the percentage of MPE contribution.

### 5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

#### **Gate**

Information 1 sign required.

#### **Monopole Base**

Ensure site access is locked.

Yellow Caution 2 sign required.

## 6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Jake Jordan.

November 10, 2017

## Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.



## Appendix B – Regulatory Background Information

### FCC Rules and Regulations

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (“OET Bulletin 65”), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or “Controlled environment” and General Public or “Uncontrolled environment”. The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

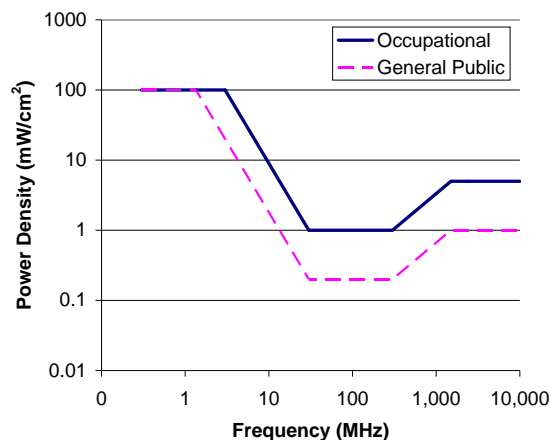
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

**FCC Limits for Maximum Permissible Exposure (MPE)**  
Plane-wave Equivalent Power Density



### Limits for Occupational/Controlled Exposure (MPE)

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

### Limits for General Population/Uncontrolled Exposure (MPE)

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

f = frequency in MHz

\*Plane-wave equivalent power density

## OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

## Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- ) Locked door or gate
- ) Alarmed door
- ) Locked ladder access
- ) Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Maintain a 3 foot clearance from all antennas:** There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

**Site RF Emissions Diagram:** Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

## Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- J Areas indicated as Gray are predicted to be below 5% of the MPE limits. **Gray represents areas more than 20 times below the most conservative exposure limit.**
- J Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- J Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- J Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- J Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

## Appendix E – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

### Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

## Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

**Gain (of an antenna)** – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC’s Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

**OSHA (Occupational Safety and Health Administration)** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA’s role is to promote the safety and health of America’s working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

**Radio Frequency (RF)** – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

**Radio Frequency Exposure (RFE)** – The amount of RF power density that a person is or might be exposed to.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter’s final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, Inc.

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

[http://www.cancer.org/docroot/PED/content/PED\\_1\\_3X\\_Cellular\\_Phone\\_Towers.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED)

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

[http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihp/docs/scenihp\\_o\\_022.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_022.pdf)

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-ionising Radiation

[http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\\_C/1317133826368](http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368)

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>



StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	Freq	Power	Trans Count	Coax Len	Coax Type	Other Losses	Input Power	Calc Power	Mfg	Model	X (ft)	Y (ft)	Z (ft)	Type	Aper (ft)	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
1	AT&T MOB	850	13.58305	1	0			13.58305		CCI Antenn	OPA-65R-L	25.15	30.17		142 Panel	6	12.46 61;50	100%	ON•	
1	AT&T MOB	737	100.645	1	0			100.645		CCI Antenn	OPA-65R-L	25.15	30.17		142 Panel	6	11.66 66;50	100%	ON•	
1	AT&T MOB	1900	24.60382	1	0			24.60382		CCI Antenn	OPA-65R-L	25.15	30.17		142 Panel	6	14.86 60;50	100%	ON•	
2	AT&T MOB	1900	83.75293	1	0			83.75293		Quintel	QS66512-2	38.17	33.63		142 Panel	6	14.16 68;50	100%	ON•	
2	AT&T MOB	737	8.533801	1	0			8.533801		Quintel	QS66512-2	38.17	33.63		142 Panel	6	11.46 69;50	100%	ON•	
2	AT&T MOB	850	80.16781	1	0			80.16781		Quintel	QS66512-2	38.17	33.63		142 Panel	6	10.96 63;50	100%	ON•	
2	AT&T MOB	2300	76.38358	1	0			76.38358		Quintel	QS66512-2	38.17	33.63		142 Panel	6	14.56 64;50	100%	ON•	
3	AT&T MOB	850	13.55183	1	0			13.55183		CCI Antenn	OPA-65R-L	38.63	33.18		142 Panel	6	12.46 61;170	100%	ON•	
3	AT&T MOB	737	100.645	1	0			100.645		CCI Antenn	OPA-65R-L	38.63	33.18		142 Panel	6	11.66 66;170	100%	ON•	
3	AT&T MOB	1900	24.04372	1	0			24.04372		CCI Antenn	OPA-65R-L	38.63	33.18		142 Panel	6	14.86 60;170	100%	ON•	
4	AT&T MOB	737	79.98343	1	0			79.98343		Quintel	QS66512-2	35.07	20.07		142 Panel	6	11.46 69;170	100%	ON•	
4	AT&T MOB	850	80.16781	1	0			80.16781		Quintel	QS66512-2	35.07	20.07		142 Panel	6	10.96 63;170	100%	ON•	
4	AT&T MOB	1900	83.75293	1	0			83.75293		Quintel	QS66512-2	35.07	20.07		142 Panel	6	14.16 68;170	100%	ON•	
4	AT&T MOB	2300	76.38358	1	0			76.38358		Quintel	QS66512-2	35.07	20.07		142 Panel	6	14.56 64;170	100%	ON•	
5	AT&T MOB	850	13.52062	1	0			13.52062		CCI Antenn	OPA-65R-L	34.51	19.94		142 Panel	6	12.46 61;290	100%	ON•	
5	AT&T MOB	737	100.645	1	0			100.645		CCI Antenn	OPA-65R-L	34.51	19.94		142 Panel	6	11.66 66;290	100%	ON•	
5	AT&T MOB	1900	22.43887	1	0			22.43887		CCI Antenn	OPA-65R-L	34.51	19.94		142 Panel	6	14.86 60;290	100%	ON•	
6	AT&T MOB	737	79.98343	1	0			79.98343		Quintel	QS66512-2	24.95	29.54		142 Panel	6	11.46 69;290	100%	ON•	
6	AT&T MOB	850	80.16781	1	0			80.16781		Quintel	QS66512-2	24.95	29.54		142 Panel	6	10.96 63;290	100%	ON•	
6	AT&T MOB	1900	83.75293	1	0			83.75293		Quintel	QS66512-2	24.95	29.54		142 Panel	6	14.16 68;290	100%	ON•	
6	AT&T MOB	2300	76.38358	1	0			76.38358		Quintel	QS66512-2	24.95	29.54		142 Panel	6	14.56 64;290	100%	ON•	

StartSymbolData

# 53 SLATER STREET

**Location** 53 SLATER STREET

**Mblu** 56/ 5140/ 53/ /

**Acct#** 514000053

**Owner** ONE HUNDRED TWENTY ONE  
CONN-

**Assessment** \$1,897,100

**Appraisal** \$2,710,000

**PID** 14616

**Building Count** 4

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$1,951,900	\$758,100	\$2,710,000

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$1,366,400	\$530,700	\$1,897,100

## Owner of Record

**Owner** ONE HUNDRED TWENTY ONE CONN-  
ECTICUT AVENUE ASSOCIATES LLC  
**Address** 9 LAKE LANE  
ELLINGTON, CT 06029

**Sale Price** \$1,180,000  
**Certificate** C  
**Book & Page** 2683/ 224  
**Sale Date** 07/17/2003  
**Instrument** 33

## Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
ONE HUNDRED TWENTY ONE CONN- RAGLIN ASSOCIATES LLC	\$1,180,000	C	2683/ 224	33	07/17/2003
	\$0		2132/ 338		12/02/1999

## Building Information

### Building 1 : Section 1

**Year Built:** 1987  
**Living Area:** 6,333  
**Replacement Cost:** \$393,597  
**Replacement Cost  
Less Depreciation:** \$236,200

### Building Attributes

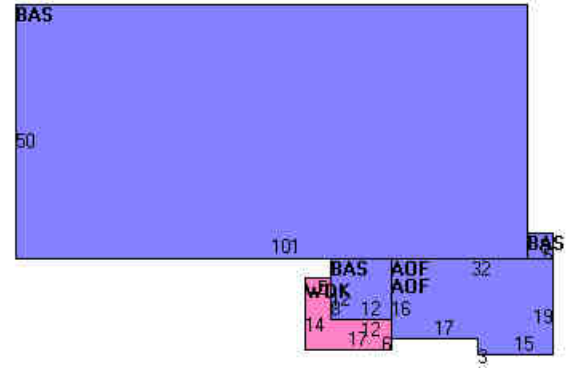
Field	Description
STYLE	Pre-Eng Garage
MODEL	Ind/Comm
Grade	Average
Stories:	1
Occupancy	4
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	Brick Veneer
Roof Structure	Gable/Hip
Roof Cover	Enam Mtl Shing
Interior Wall 1	Wall Brd/Wood
Interior Wall 2	Minim/Masonry
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Partial
Bldg Use	Industrial 96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300
Heat/AC	Heat/AC Packag
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Min WI
Rooms/Prtns	Average
Wall Height	14
% Comn Wall	0

### Building Photo



(<http://images.vgsi.com/photos2/ManchesterCTPhotos//\00\03\4>)

### Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	5,219	5,219
AOF	Office, (Average)	1,114	1,114
WDK	Wood Deck	142	0
		6,475	6,333

### Building 2 : Section 1

**Year Built:** 1987  
**Living Area:** 24,306  
**Replacement Cost:** \$1,332,996  
**Replacement Cost Less Depreciation:** \$799,800

Building Attributes : Bldg 2 of 4	
Field	Description
STYLE	Pre-Eng Garage
MODEL	Ind/Comm
Grade	Average

Stories:	1
Occupancy	6
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	Brick Veneer
Roof Structure	Gable/Hip
Roof Cover	Enam Mtl Shing
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Partial
Bldg Use	Industrial 96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300
Heat/AC	Heat AC Split
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Susp Ceil & WI
Rooms/Prtns	Average
Wall Height	18
% Comn Wall	0

## Building Photo



(<http://images.vgsi.com/photos2/ManchesterCTPhotos//\00\03\4>)

## Building Layout

BAS			BAS	
AOF	178	27	90	27
BAS			BAS	
		238	3333	30

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	18,510	18,510
AOF	Office, (Average)	5,796	5,796
		24,306	24,306

## Building 3 : Section 1

<b>Year Built:</b>	1987
<b>Living Area:</b>	10,320
<b>Replacement Cost:</b>	\$538,394
<b>Replacement Cost</b>	
<b>Less Depreciation:</b>	\$323,000

Building Attributes : Bldg 3 of 4	
Field	Description
STYLE	Pre-Eng Garage
MODEL	Ind/Comm
Grade	Average
Stories:	1

Occupancy	6
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	Brick Veneer
Roof Structure	Gable/Hip
Roof Cover	Enam Mtl Shing
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Industrial 96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Min WI
Rooms/Prtns	Average
Wall Height	18
% Comn Wall	0

## Building Photo



(<http://images.vgsi.com/photos2/ManchesterCTPhotos//\00\03\4>)

## Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	10,320	10,320
		10,320	10,320

## Building 4 : Section 1

**Year Built:** 2008  
**Living Area:** 12,000  
**Replacement Cost:** \$596,640  
**Replacement Cost**  
**Less Depreciation:** \$459,400

Building Attributes : Bldg 4 of 4	
Field	Description
STYLE	Pre-Eng Garage
MODEL	Ind/Comm
Grade	Average
Stories:	1
Occupancy	6

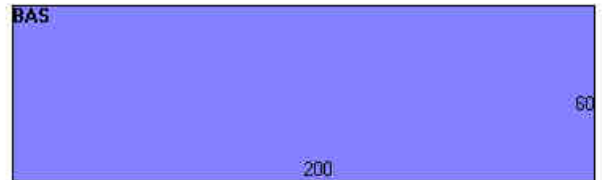
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	Concr/Cinder
Roof Structure	Gable/Hip
Roof Cover	Enam Mtl Shing
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Industrial 96
Total Rooms	00
Total Bedrms	00
Total Baths	0
1st Floor Use:	
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Min WI
Rooms/Prtns	Average
Wall Height	18
% Comn Wall	0

### Building Photo



(<http://images.vgsi.com/photos2/ManchesterCTPhotos//\00\03\4>)

### Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	12,000	12,000
		12,000	12,000

### Extra Features

Extra Features				<u>Legend</u>
Code	Description	Size	Value	Bldg #
A/C	Partial AC	5796 S.F.	\$7,000	2

### Land

#### Land Use

<b>Use Code</b>	300
<b>Description</b>	Industrial 96
<b>Zone</b>	IND
<b>Neighborhood</b>	5000

#### Land Line Valuation

<b>Size (Acres)</b>	4.96
<b>Frontage</b>	0
<b>Depth</b>	0
<b>Assessed Value</b>	\$530,700

**Outbuildings**

<b>Outbuildings</b>						<b>Legend</b>
<b>Code</b>	<b>Description</b>	<b>Sub Code</b>	<b>Sub Description</b>	<b>Size</b>	<b>Value</b>	<b>Bldg #</b>
PAV1	Paving Asphalt			13350 S.F.	\$30,000	4
PAV1	Paving Asphalt			37000 S.F.	\$27,800	1
FN3	Fence 6' Chain			300 L.F.	\$3,500	1
PAV2	Paving Concrete			96 S.F.	\$400	4
SHDT	Telephone Shed			319 S.F.	\$31,600	1
FN4	Fence 8' Chain			54 L.F.	\$1,600	1
SHDT	Telephone Shed			319 S.F.	\$31,600	1

**Valuation History**

<b>Appraisal</b>			
<b>Valuation Year</b>	<b>Improvements</b>	<b>Land</b>	<b>Total</b>
2015	\$1,689,400	\$725,100	\$2,414,500
2010	\$1,766,600	\$760,300	\$2,526,900
2005	\$871,200	\$540,700	\$1,411,900

<b>Assessment</b>			
<b>Valuation Year</b>	<b>Improvements</b>	<b>Land</b>	<b>Total</b>
2015	\$1,182,600	\$507,600	\$1,690,200
2010	\$1,236,700	\$532,300	\$1,769,000
2005	\$609,900	\$378,500	\$988,400



**SITE NAME: MANCHESTER NORTH**  
**FA NUMBER: 10071100**  
**SITE NUMBER: CTL05307**  
**CROWN BU# 876347**  
**5C - MRCTB022441**  
**53-73 SLATER STREET**  
**MANCHESTER, CT 06040**  
**HARTFORD COUNTY**



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 Engineers ■ Planners ■ Surveyors  
 Landscape Architects ■ Environmental Scientists



SCALE:	JOB NUMBER:			
AS SHOWN	17946001A			
1	10/18/17	FOR CONSTRUCTION	AJC	PET
0	10/21/17	ISSUED FOR PERMIT	AJC	PET
REV	DATE	DESCRIPTION	DRAWN	CHECKED BY



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS  
 THEY ARE REGISTERED UNDER THE DIRECTION OF THE  
 RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO  
 ALTER THIS DOCUMENT.

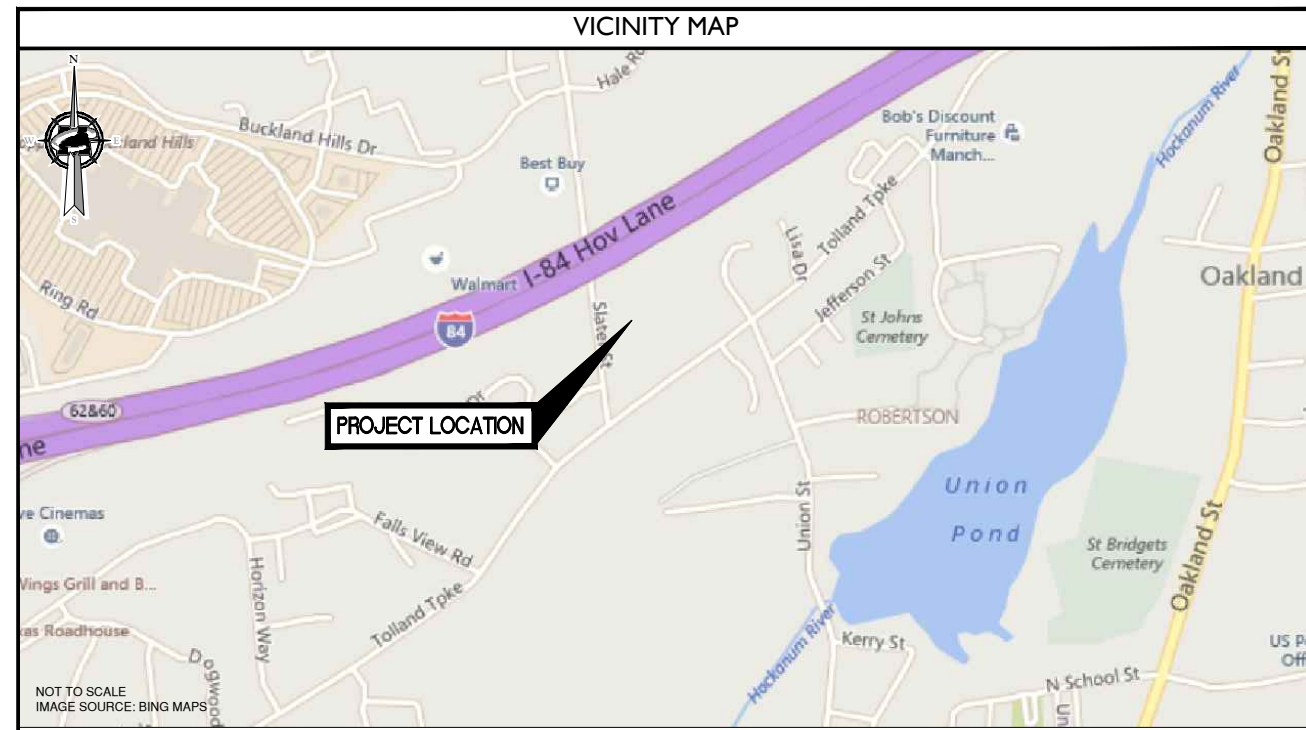
**SITE NAME:**  
**MANCHESTER NORTH**  
**FA# 10071100**  
**SITE # CTL05307**  
**53-73 SLATER STREET**  
**MANCHESTER, CT 06040**  
**HARTFORD COUNTY**



SHEET TITLE:  
**TITLE SHEET**  
 SHEET NUMBER:  
**T-1**

PROJECT TEAM	
<b>CLIENT REPRESENTATIVE</b>	
COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, SUITE 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 02862-2105
CONTACT:	TODD OLIVER
PHONE:	(774) 369-3613
E-MAIL:	TODD.OLIVER@SMARTLINKLLC.COM
<b>SITE ACQUISITION</b>	
COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, SUITE 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 02862-2105
CONTACT:	SHARON KEEFE
PHONE:	(978) 930-3918
E-MAIL:	SHARON.KEEFE@SMARTLINKLLC.COM
<b>ENGINEER</b>	
COMPANY:	MASER CONSULTING CONNECTICUT
ADDRESS:	331 NEWMAN SPRINGS ROAD, SUITE 203
CITY, STATE, ZIP:	RED BANK, NJ 07701-5699
CONTACT:	PETROS TSOUKALAS
PHONE:	(856) 797-0412 x4102
E-MAIL:	PTSOUKALAS@MASERCONSULTING.COM
<b>CONSTRUCTION MANAGER</b>	
COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, SUITE 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 02862-2105
CONTACT:	MARK DONNELLY
PHONE:	(617) 515-2080
E-MAIL:	MARK.DONNELLY@SMARTLINKLLC.COM

SITE INFORMATION	
<b>APPLICANT/LESSEE</b>	
NEW CINGULAR WIRELESS PCS, LLC 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
<b>PROPERTY/TOWER OWNER:</b>	
NAME:	CROWN CASTLE INTERNATIONAL
ADDRESS:	12 GILL STREET, SUITE 5800
CITY, STATE, ZIP:	WOBURN, MA 01801
SITE ID#:	876347
LATITUDE:	41.8049919° N
LONGITUDE:	72.5335989° W
LAT./LONG. TYPE:	NAD 83
AREA OF CONSTRUCTION:	EXISTING OUTDOOR EQUIPMENT AND MONOPOLE
ZONING/JURISDICTION:	CITY OF MANCHESTER
CURRENT USE/PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
CONSTRUCTION TYPE:	IIB
USE GROUP:	U



CODE COMPLIANCE	
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.	
1. 2016 CONNECTICUT STATE BUILDING CODE INCORPORATING THE 2012 IBC	7. EIA/TIA-222 REVISION G
2. NATIONAL FIRE PROTECTION ASSOCIATION 70 - 2015	8. TIA 607 FOR GROUNDING
3. LIGHTNING PROTECTION CODE 2011	9. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10.	10. IEEE C2 LATEST EDITION
	11. TELCORDIA GR-1275
	12. ANSI T1.311

GENERAL CONTRACTOR NOTES	
<b>DO NOT SCALE DRAWINGS</b>	
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	

GENERAL NOTES	
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.	

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	COMPOUND PLAN AND EQUIPMENT PLAN
A-2	ELEVATION VIEW, DETAILS AND ANTENNA SCHEDULE
A-3	ANTENNA LAYOUTS
A-4	DETAILS
A-5	RF PLUMBING DIAGRAMS
G-1	GROUNDING DETAILS

PROJECT DESCRIPTION/SCOPE OF WORK	
THIS PROJECT WILL BE COMPRISED OF:	
<ul style="list-style-type: none"> <li>INSTALL (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS, TYP. 1 PER SECTOR</li> <li>INSTALL (3) NEW RRUS-E2 AT GRADE</li> <li>INSTALL (12) NEW TRIPLEXERS IN POSITION #1</li> <li>REMOVE (6) TMA'S, TYP. OF 2, PER SECTOR</li> <li>ADD (1) XMU TO EXISTING LTE CABINET</li> <li>ADD SBT'S</li> </ul>	
PROPOSED PROJECT SCOPE BASED ON RFDS ID# 1739144 VERSION 1.0, LAST UPDATED 08/16/17.	

0200417946001A Connecticut 1/CT/05307 Manchester North/Rev. 1/17/2019 - CT.mgt/1



**GENERAL NOTES:**

- THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
- 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 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
- THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
  - CONTRACTOR - SMARTLINK
  - SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
  - OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- 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.
- 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.
- 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.
- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF 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.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "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 SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



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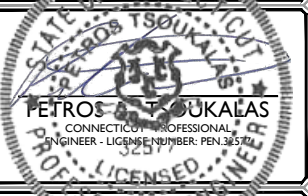


85 RANGEWAY ROAD  
BUILDING 3, SUITE 102  
NORTH BILLERICA, MA 02862-2105  
TEL: (774) 369-3613



SCALE: AS SHOWN JOB NUMBER: 17946001A

REV	DATE	DESCRIPTION	BY	CHECKED BY
1	10/18/17	FOR CONSTRUCTION	AJC	PET
0	10/2/17	ISSUED	AJC	PET



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SITE # CTL05307  
53-73 SLATER STREET  
MANCHESTER, CT 06040  
HARTFORD COUNTY



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331 NEWMAN SPRINGS ROAD  
SUITE 203  
Red Bank, NJ 07701-5699  
Phone: 732.383.1950  
Fax: 732.383.1984

email: solutions@maserconsulting.com

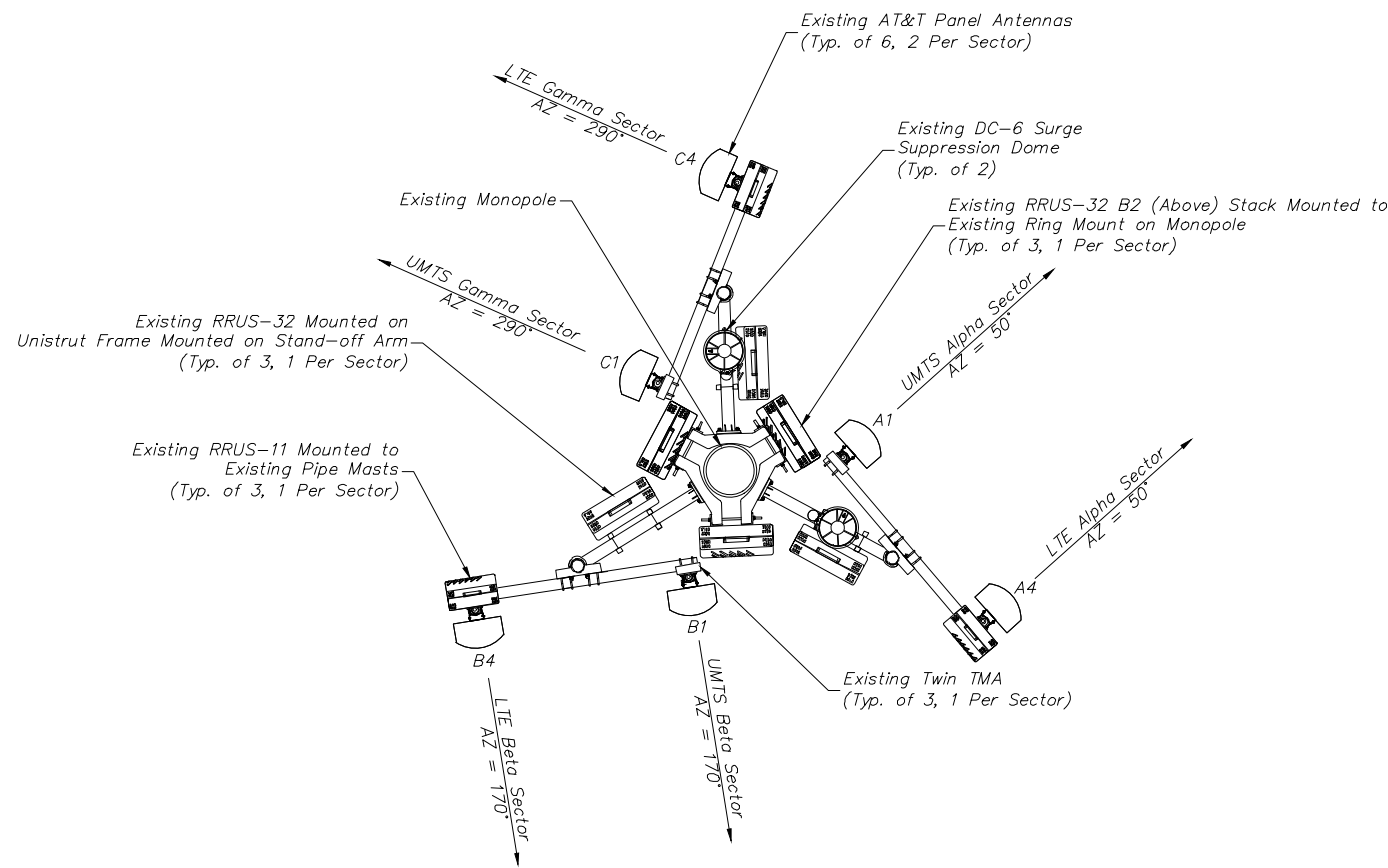
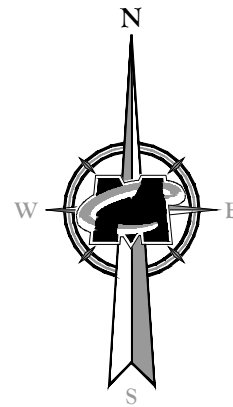
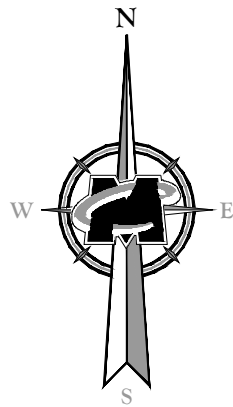
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**GENERAL NOTES**

SHEET NUMBER:  
**GN-1**

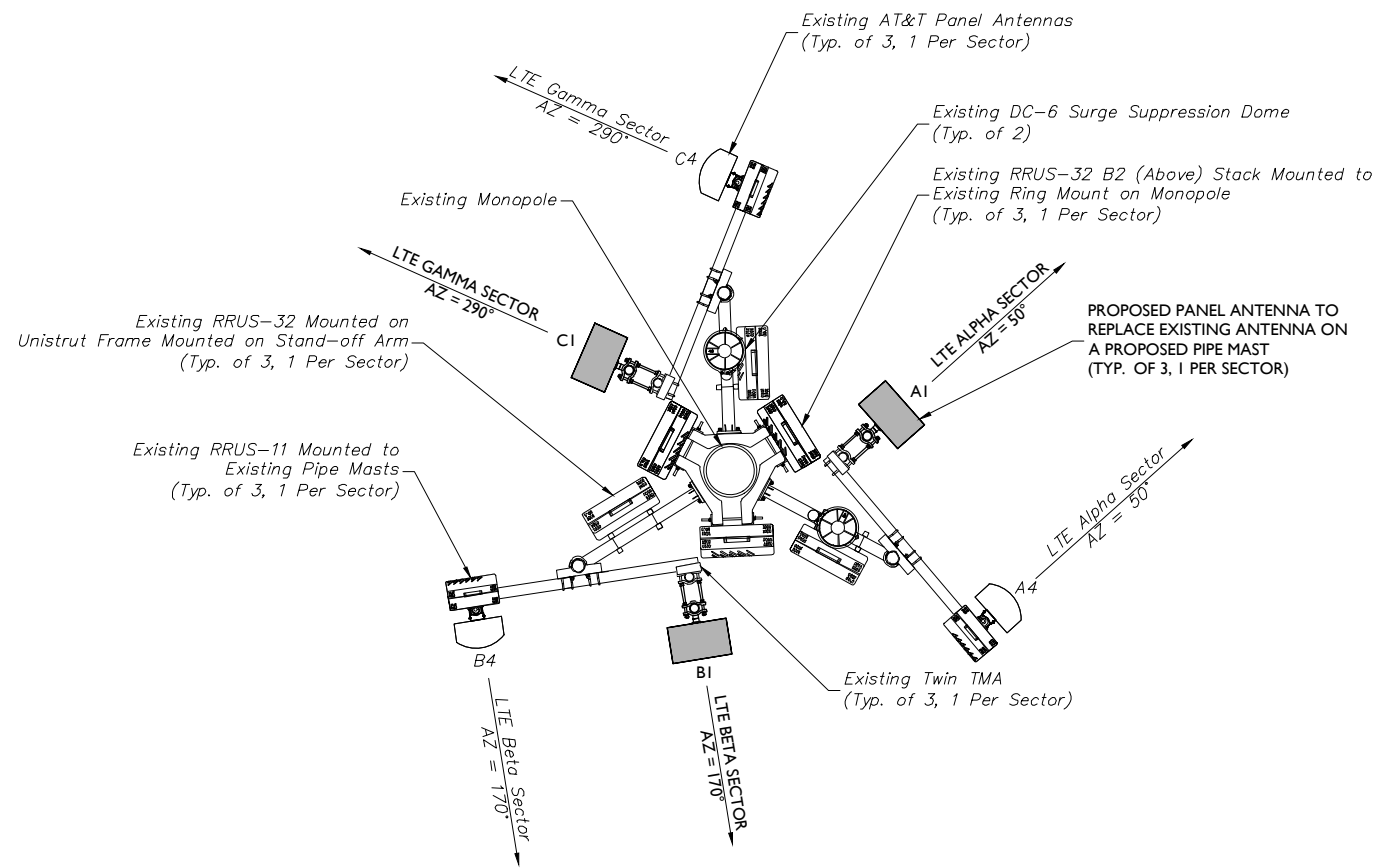
B:\ACCA\17946001\ACCA\17946001\17946001.ctb







**EXISTING ANTENNA LAYOUT**  
NOT TO SCALE



**PROPOSED ANTENNA LAYOUT**  
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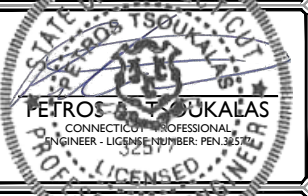
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SCALE: AS SHOWN JOB NUMBER: 17946001A

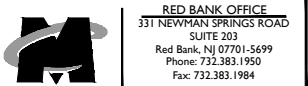
REV	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY
1	10/18/17	FOR CONSTRUCTION	AJC	PET
0	10/2/17	ISSUE FOR PERMIT	AJC	PET



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HARTFORD COUNTY



email: solutions@maserconsulting.com

SHEET TITLE:

ANTENNA LAYOUTS

SHEET NUMBER:

A-3

By: ACDA



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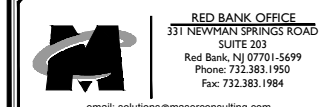
SCALE: AS SHOWN JOB NUMBER: 17946001A

REV	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY
1	10/18/17	FOR CONSTRUCTION	AJC	PET
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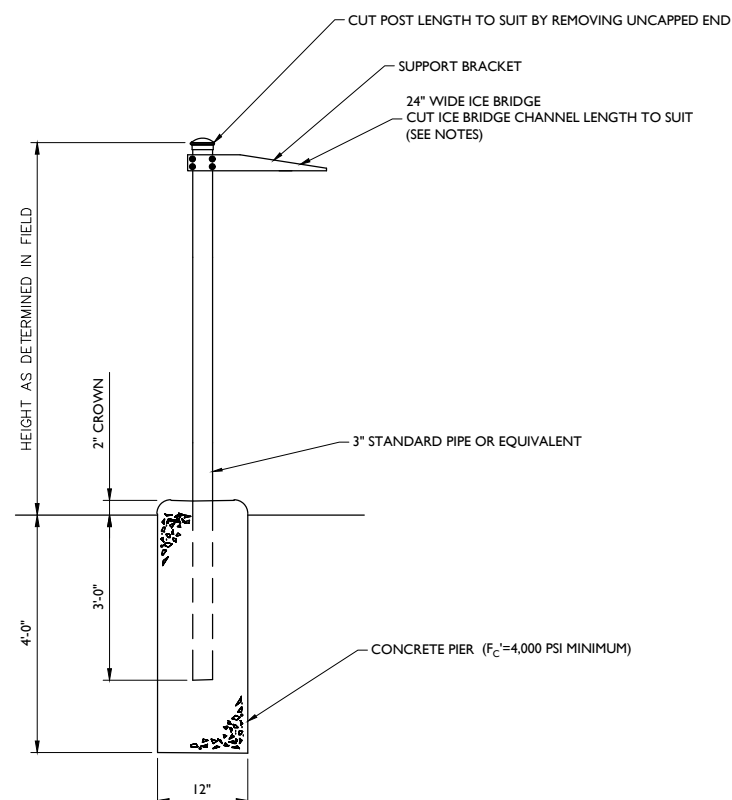
SITE NAME:  
MANCHESTER NORTH  
FA# 10071100  
SITE # CTL05307  
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SHEET TITLE: DETAILS

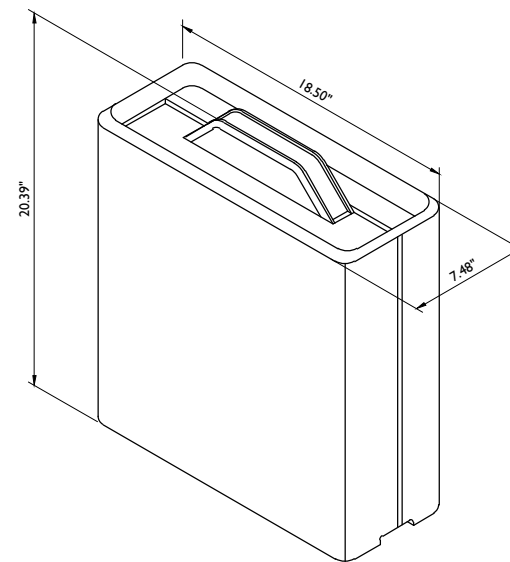
SHEET NUMBER: A-4



**NOTES:**

1. WHEN USING COMPONENTS AS SHOWN IN STANDARD DETAILS, MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 6 FEET.
2. WHEN USING COMPONENTS FOR SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
3. WHEN USING COMPONENTS, SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF ICE BRIDGES, WITH A MAXIMUM CANTILEVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE ICE BRIDGE.
4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.
5. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM OTHER MANUFACTURERS, PROVIDED THE MANUFACTURER'S INSTALLATION GUIDELINES ARE FOLLOWED.
6. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
7. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL.
8. HEIGHT OF POST SHALL BE 10'-6" MAX. ABOVE GROUND LEVEL.

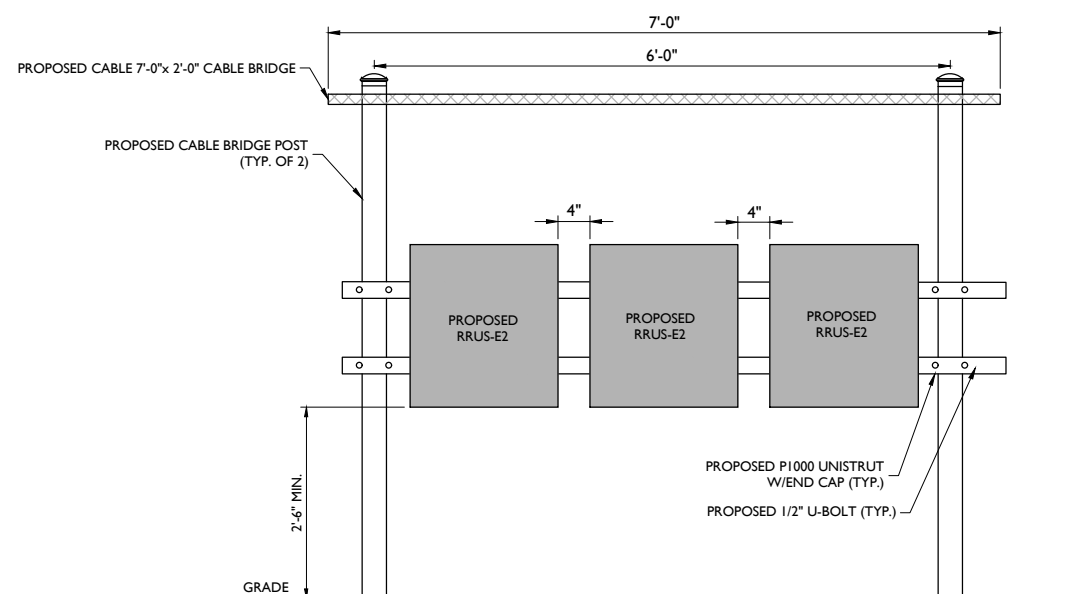
**CABLE BRIDGE DETAIL**  
NOT TO SCALE



RRUS-32 B66 DIMENSIONS (H X W X D): 20.39" X 18.5" X 7.48"  
(INCLUDES HANDLES)

WEIGHT: 53 LBS

**RRUS E2 DETAIL**  
NOT TO SCALE



**NOTES:**

1. ALL FASTENERS ARE 1/2"Ø. ALL DRILLED HOLES SHALL BE 9/16"Ø.
2. MOUNT RRUS TO UNISTRUT WITH 3/8"Ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR (4) PER DEVICE SUBCONTRACTOR SHALL SUPPLY.

**RRUS MOUNTING DETAIL**  
NOT TO SCALE



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REV	DATE	DESCRIPTION	APPROVED BY	CHECKED BY
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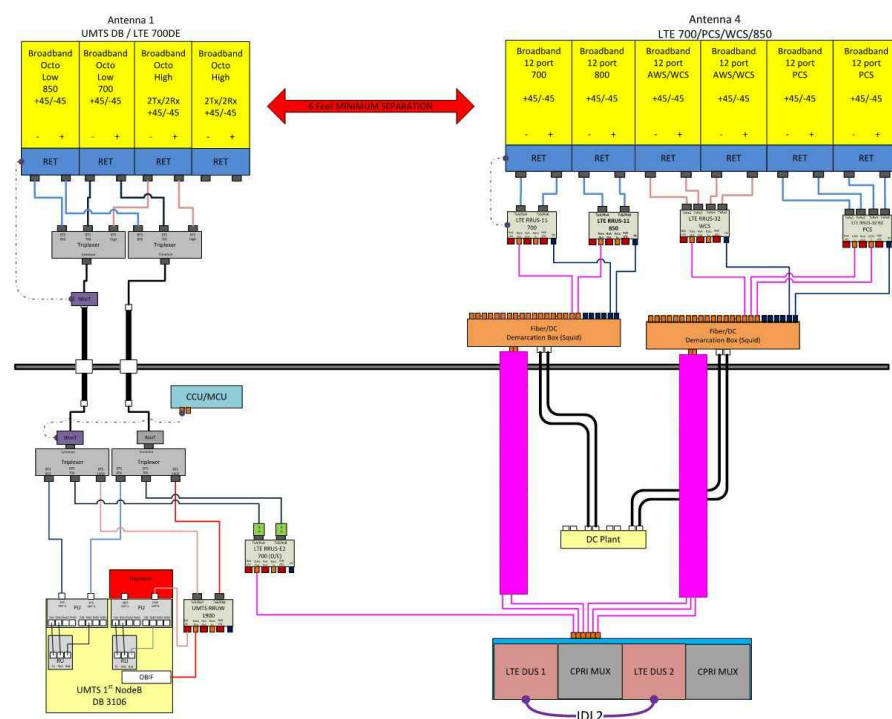
SHEET TITLE:  
RF PLUMBING DIAGRAMS

SHEET NUMBER:  
A-5

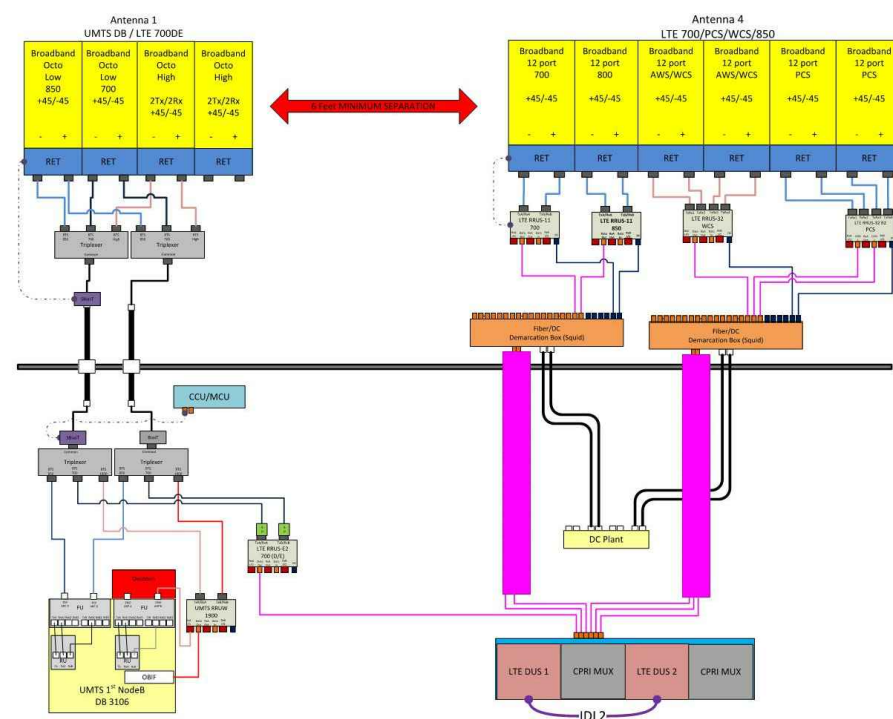
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Atol Site Name: CTV5307  
Location Name: MANCHESTER NORTH  
Market: CONNECTICUT  
Market Cluster: NEW ENGLAND

Diagram - Sector: B/2  
Atol Site Name: CTV5307  
Location Name: MANCHESTER NORTH  
Market: CONNECTICUT  
Market Cluster: NEW ENGLAND

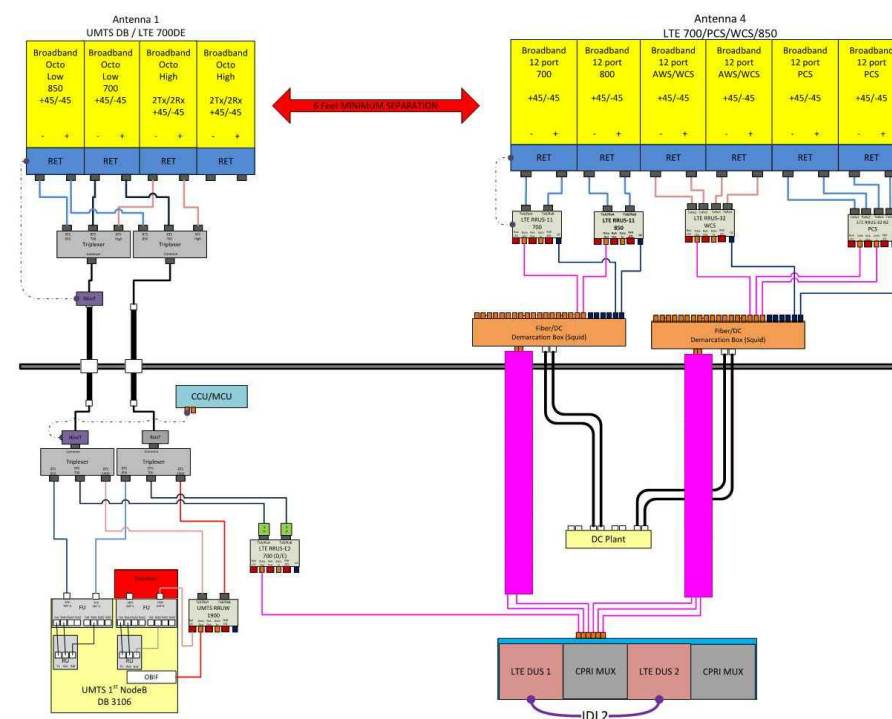
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Location Name: MANCHESTER NORTH  
Market: CONNECTICUT  
Market Cluster: NEW ENGLAND



ALPHA SECTOR



BETA SECTOR

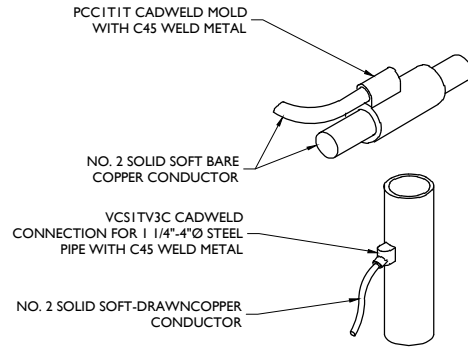
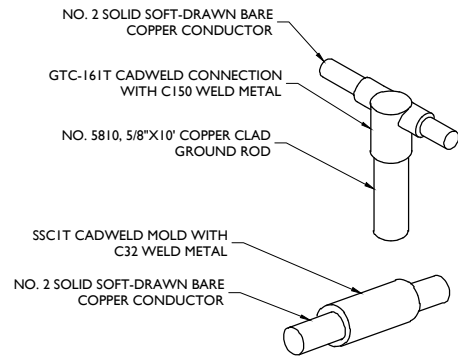


GAMMA SECTOR

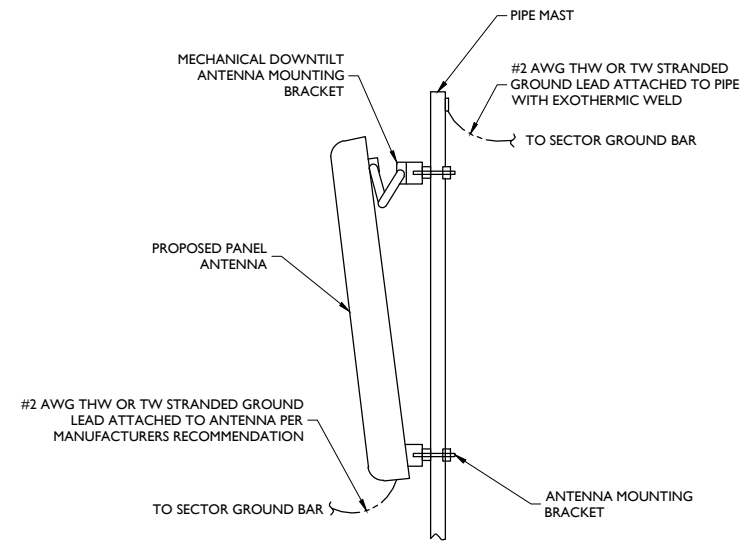
BASED ON RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND\_CONNECTICUT\_CTV5307\_2018-LTE-Next-Carrier\_LTE-5C\_dr701e\_2051A0AD0V\_10071100\_25942\_04-24-2017\_Final-Approved\_v1.00", LAST UPDATED 08/16/17

RF PLUMBING DIAGRAMS

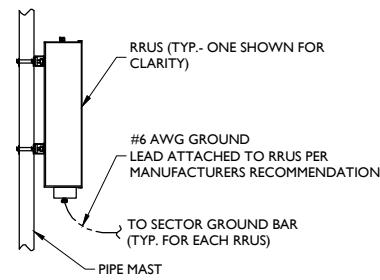
By: ACOA



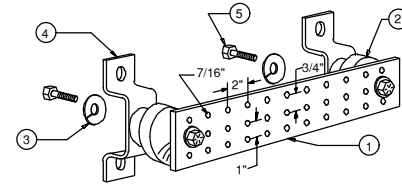
**CADWELD DETAILS**  
NOT TO SCALE



**ANTENNA GROUNDING**  
NOT TO SCALE



**RRU GROUNDING**  
NOT TO SCALE



**LEGEND**

- 1- TINNED COPPER GROUND BAR, 1/4"x4"x20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-5056
- 5- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

**SECTION "P" - SURGE PRODUCERS**

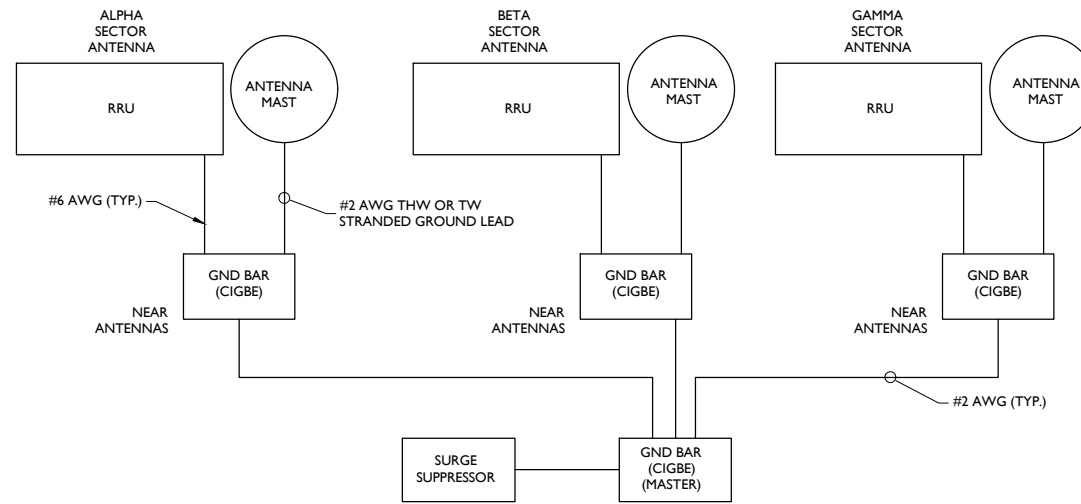
- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

**SECTION "A" - SURGE ABSORBERS**

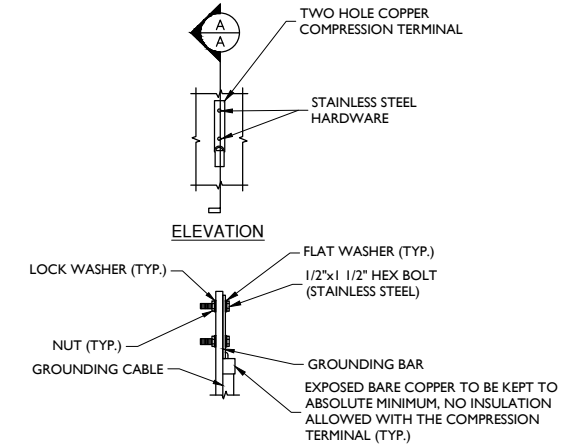
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

**MASTER GROUND BAR**

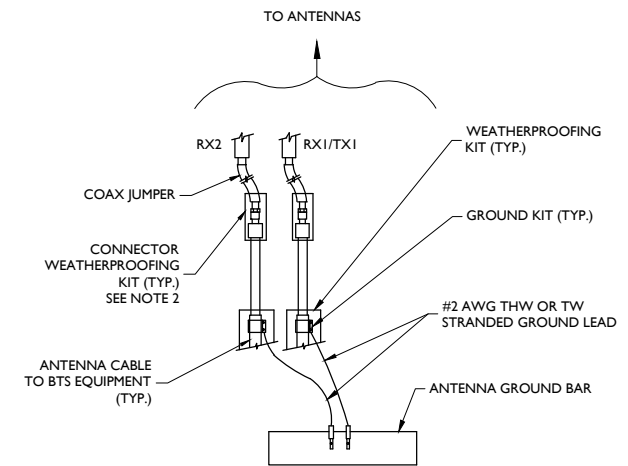
NOT TO SCALE



**SCHEMATIC DIAGRAM GROUNDING SYSTEM**



**TYPICAL GROUND BAR CONNECTION DETAIL**  
NOT TO SCALE



**NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

**TYPICAL GROUND WIRE TO GROUNDING BAR**  
NOT TO SCALE



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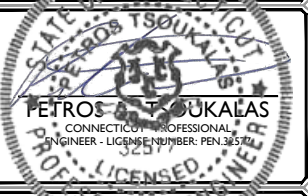


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TEL: (774) 369-3613



SCALE: AS SHOWN	JOB NUMBER: 17946001A
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REV	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY
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SHEET TITLE:  
**GROUNDING DETAILS**

SHEET NUMBER:  
**G-1**

## Romina Kirchmaier

---

**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, December 20, 2017 2:34 PM  
**To:** Romina Kirchmaier  
**Subject:** FedEx Shipment 771025867085 Delivered

## Your package has been delivered

Tracking # [771025867085](#)

Ship date: <b>Mon, 12/18/2017</b>	Delivery date: <b>Wed, 12/20/2017 2:32 pm</b>	
<b>Romina Kirchmaier</b> Smartlink LLC North Billerica, MA 01862 US	 <b>Delivered</b>	<b>121 Connecticut Avenue Associates</b> 9 Lake Lane ELLINGTON, CT 06029 US

### Shipment Facts

Our records indicate that the following package has been delivered.


<b>Tracking number:</b>	<a href="#">771025867085</a>
<b>Status:</b>	Delivered: 12/20/2017 2:32 PM Signed for By: Signature not required
<b>Reference:</b>	CTL05307 - CSC
<b>Signed for by:</b>	Signature not required
<b>Delivery location:</b>	ELLINGTON, CT
<b>Delivered to:</b>	Residence
<b>Service type:</b>	FedEx Express Saver
<b>Packaging type:</b>	FedEx Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	Deliver Weekday Residential Delivery





**Standard transit:**

12/21/2017 by 8:00 pm

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**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, December 20, 2017 3:54 PM  
**To:** Romina Kirchmaier  
**Subject:** FedEx Shipment 771025956356 Delivered

## Your package has been delivered

Tracking # [771025956356](#)


Ship date: <b>Mon, 12/18/2017</b>	Delivery date: <b>Wed, 12/20/2017 3:51 pm</b>	
<b>Romina Kirchmaier</b> Smartlink LLC North Billerica, MA 01862 US	 <b>Delivered</b>	<b>Paul Pedicone</b> Crown Castle 3 Corporate Park Dr. Suite 101 CLIFTON PARK, NY 12065 US

### Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">771025956356</a>
<b>Status:</b>	Delivered: 12/20/2017 3:51 PM Signed for By: E.VADNEY
<b>Reference:</b>	CTL05307 - CSC
<b>Signed for by:</b>	E.VADNEY
<b>Delivery location:</b>	CLIFTON PARK, NY
<b>Delivered to:</b>	Receptionist/Front Desk
<b>Service type:</b>	FedEx Express Saver
<b>Packaging type:</b>	FedEx Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	Deliver Weekday
<b>Standard transit:</b>	12/21/2017 by 4:30 pm



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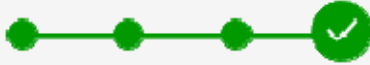
## Romina Kirchmaier

---

**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, December 20, 2017 12:19 PM  
**To:** Romina Kirchmaier  
**Subject:** FedEx Shipment 771025794741 Delivered

## Your package has been delivered

Tracking # 771025794741


Ship date: <b>Mon, 12/18/2017</b>	Delivery date: <b>Wed, 12/20/2017 12:15 pm</b>	
<b>Romina Kirchmaier</b> Smartlink LLC North Billerica, MA 01862 US	 <b>Delivered</b>	<b>James Davis</b> Town of Manchester 494 Main St. MANCHESTER, CT 06045 US

### Shipment Facts

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<b>Tracking number:</b>	<a href="#">771025794741</a>
<b>Status:</b>	Delivered: 12/20/2017 12:15 PM Signed for By: P.PEEK
<b>Reference:</b>	CTL05307 - CSC Filing
<b>Signed for by:</b>	P.PEEK
<b>Delivery location:</b>	MANCHESTER, CT
<b>Delivered to:</b>	Receptionist/Front Desk
<b>Service type:</b>	FedEx Express Saver
<b>Packaging type:</b>	FedEx Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	Deliver Weekday
<b>Standard transit:</b>	12/21/2017 by 4:30 pm



 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:19 AM CST on 12/20/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Thank you for your business.

## Track Another Package +

Tracking Number: 9500111241027352169922

Remove X

On Time

Expected Delivery on

**WEDNESDAY**

**20** DECEMBER  
2017 ⓘ

by  
**8:00pm** ⓘ

 **Delivered**

December 20, 2017 at 7:41 am  
DELIVERED, PO BOX  
MANCHESTER, CT 06045

Get Updates ✓

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Text & Email Updates



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Tracking History



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Product Information



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See Less ^

Can't find what you're looking for?

Go to our **FAQs** (<http://faq.usps.com/?articleId=220900>) section to find answers to your tracking questions.

## **The easiest tracking number is the one you don't have to know.**

With Informed Delivery<sup>®</sup>, you never have to type in another tracking number. Sign up to:

- See images\* of incoming mail.
- Automatically track the packages you're expecting.
- Set up email and text alerts so you don't need to enter tracking numbers.
- Enter USPS Delivery Instructions<sup>™</sup> for your mail carrier.

### **Sign Up**

**([https://reg.usps.com/entreg/RegistrationAction\\_input?](https://reg.usps.com/entreg/RegistrationAction_input?app=UspsTools&appURL=https%3A%2F%2Ftools.usps.com%2Fgc)**

**\*NOTE: Black and white (grayscale) images show the outside, front of letter-sized envelopes and mailpieces that are processed through USPS automated equipment.**

(<https://www.usps.com/>)

**HELPFUL LINKS**[Contact Us](https://www.usps.com/help/welcome.htm) [\(https://www.usps.com/help/welcome.htm\)](https://www.usps.com/help/welcome.htm)[Site Index](https://www.usps.com/globals/site-index.htm) [\(https://www.usps.com/globals/site-index.htm\)](https://www.usps.com/globals/site-index.htm)[FAQs \(http://faq.usps.com/\)](http://faq.usps.com/)**ON ABOUT.USPS.COM**[About USPS Home](http://about.usps.com/) [\(http://about.usps.com/\)](http://about.usps.com/)[Newsroom](http://about.usps.com/news/welcome.htm) [\(http://about.usps.com/news/welcome.htm\)](http://about.usps.com/news/welcome.htm)[USPS Service Updates](http://about.usps.com/news/service-alerts/welcome.htm) [\(http://about.usps.com/news/service-alerts/welcome.htm\)](http://about.usps.com/news/service-alerts/welcome.htm)[Forms & Publications](http://about.usps.com/forms-publications/welcome.htm) [\(http://about.usps.com/forms-publications/welcome.htm\)](http://about.usps.com/forms-publications/welcome.htm)[Government Services](https://www.usps.com/gov-services/gov-services.htm) [\(https://www.usps.com/gov-services/gov-services.htm\)](https://www.usps.com/gov-services/gov-services.htm)[Careers](http://about.usps.com/careers/welcome.htm) [\(http://about.usps.com/careers/welcome.htm\)](http://about.usps.com/careers/welcome.htm)**OTHER USPS SITES**[Business Customer Gateway](https://gateway.usps.com/) [\(https://gateway.usps.com/\)](https://gateway.usps.com/)[Postal Inspectors](https://postalinspectors.uspis.gov/) [\(https://postalinspectors.uspis.gov/\)](https://postalinspectors.uspis.gov/)[Inspector General](http://www.uspsoig.gov/) [\(http://www.uspsoig.gov/\)](http://www.uspsoig.gov/)[Postal Explorer](http://pe.usps.gov/) [\(http://pe.usps.gov/\)](http://pe.usps.gov/)[National Postal Museum](http://www.postalmuseum.si.edu/) [\(http://www.postalmuseum.si.edu/\)](http://www.postalmuseum.si.edu/)[Resources for Developers](https://www.usps.com/webtools/webtools.htm) [\(https://www.usps.com/webtools/webtools.htm\)](https://www.usps.com/webtools/webtools.htm)**LEGAL INFORMATION**[Privacy Policy](http://about.usps.com/who-we-are/privacy-policy/privacy-policy-highlights.htm) [\(http://about.usps.com/who-we-are/privacy-policy/privacy-policy-highlights.htm\)](http://about.usps.com/who-we-are/privacy-policy/privacy-policy-highlights.htm)[Terms of Use](http://about.usps.com/termsfuse.htm) [\(http://about.usps.com/termsfuse.htm\)](http://about.usps.com/termsfuse.htm)[FOIA](http://about.usps.com/who-we-are/foia/welcome.htm) [\(http://about.usps.com/who-we-are/foia/welcome.htm\)](http://about.usps.com/who-we-are/foia/welcome.htm)[No FEAR Act EEO Data](http://about.usps.com/who-we-are/foia/welcome.htm) [\(http://about.usps.com/who-we-are/foia/welcome.htm\)](http://about.usps.com/who-we-are/foia/welcome.htm)

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