EM-CING-069-121011

New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067

John Lawrence
Real Estate Consultant
95 Ryan Drive, Suite #1
Raynham, MA 02767
Phone: (781) 715-5532
jlawrence@clinellc.com

October 1, 2012

Bruce E. Benway, Town Manager
Town of Killingly
172 Main Street
Danielson, CT 06239

Re: Notice of Exempt Modification – Existing Telecommunications Facility at 43 Connecticut Ave, Danielson CT 06239

Dear Mr. Benway,

New Cingular Wireless PCS, LLC ("AT&T") intends to replace telecommunications antennas and associated equipment at an existing telecommunications tower, owned and operated by SBA Communications Corp.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council as required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73. Please accept this letter as notification to the Town of Killingly under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The attached letter fully sets forth the AT&T proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council's procedures, please contact John Lawrence at (781) 715-5532 or Linda Roberts, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

John Lawrence
Real Estate Consultant

Enclosure
CC: Honorable Robert Stein, Chairmen of the Connecticut Siting Council

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Rocky Hill, Connecticut 06067

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September 27, 2012

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

Re: Notice of Exempt Modification – Existing Telecommunications Facility at 43 Connecticut Ave, Danielson CT 06239

Dear Chairman Stein and Members of the Council:

New Cingular Wireless PCS, LLC ("AT&T") intends to modify the existing telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at 43 Connecticut. AT&T operates under licenses issued by the Federal Communications Commission ("FCC") to provide cellular and PCS mobile telephone service in Windham County, which includes the area to be served by AT&T's proposed installation.

In order to accommodate technological changes, implement Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to Bruce E. Benway, Town Manager

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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.

Existing Facility

The Danielson facility is located at 43 Connecticut Ave, Killingly CT 06239

The facility is owned by Mark Yellin.

The existing facility consists of a 137 foot water tank with an existing chain link fence around the tower compound fenced in compound. AT&T currently operates wireless communications equipment at the facility and has six (6) antennas mounted at the tower centerline height of 115".

Statutory Considerations

The changes to the Ashford tower facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2) because they will not result in any substantial adverse environmental effect.

1. The height of the overall structure will be unaffected.

2. The proposed changes will not affect the property boundaries. All new construction will take place inside the existing fenced compound.

3. The proposed additions will not increase the noise level at the existing facility by six decibels or more.

4. LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

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

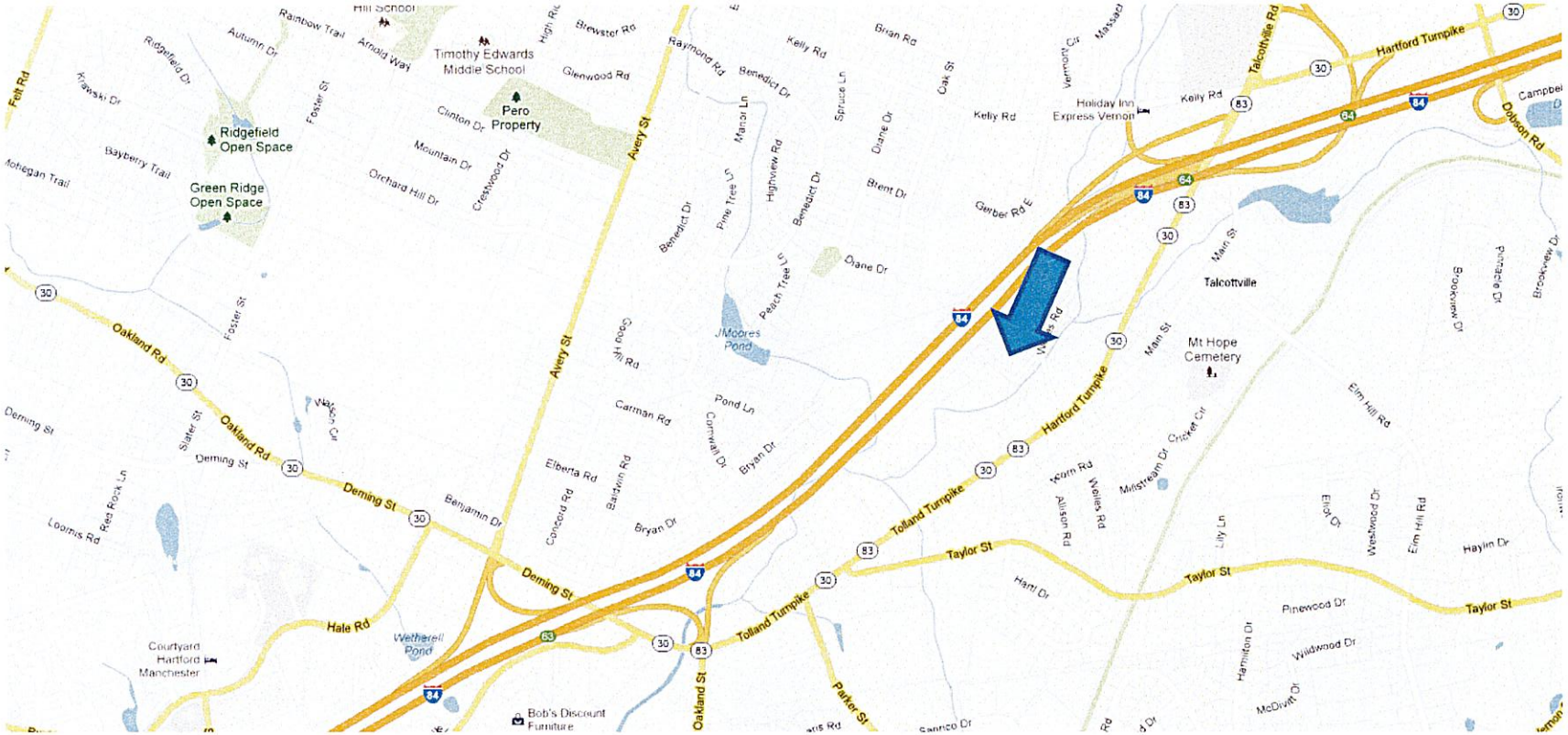
Respectfully yours,

John Lawrence
Real Estate Consultant
Enclosures:
Bruce E. Benway, Town Manager, Town of Killingly

CT5702 – 142 Fitts Road, Ashford, CT 06278

Aerial Location Map

Street Location Map



STRUCTURAL ANALYSIS REPORT

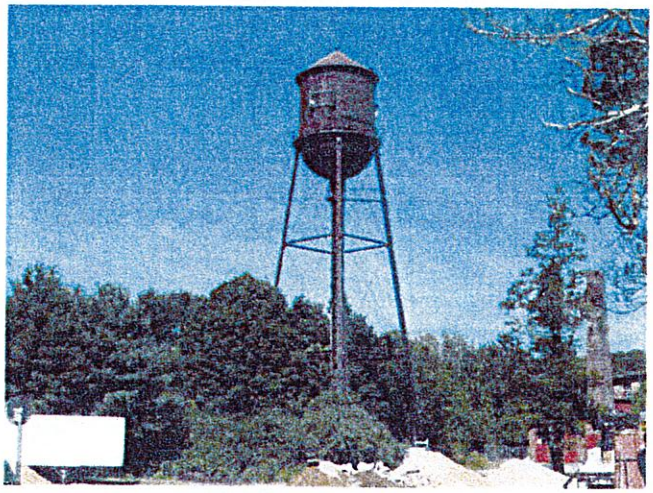
For

CT 5462 (LTE)

KILLINGLY NORTH CENTRAL

Connecticut Avenue
Danielson, Connecticut 06239

Antennas Mounted on the Existing Water Tank: Equipment on a Concrete Pad at Ground Level



Prepared for:

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

Dated: September 25, 2012

Prepared by:

Hudson Design Group LLC
1600 Osgood Street Building 20 North, Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
www.hudsondesigngroupllc.com

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

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the existing 137'-0"± high water tank supporting the proposed AT&T antennas located at the elevation of 115'-0"± above the ground level.

This report represents this office's findings, conclusions and recommendations' pertaining to the support of AT&T's proposed Equipment.

This office conducted an on-site visual survey and climb of the above areas on September 11, 2012. Attendees included Bradley Loeb (HDG-Field Technician) and Nick Marshall (HDG-Field Technician).

CONCLUSION SUMMARY:

Water tank plans were not available and could not be obtained for our use. A limited visual survey of the structure was completed in or near the areas of the Proposed Work.

Based on our evaluation, we have determined that, in general, structural designs to support the proposed AT&T Equipment within or near the Proposed Location can be completed and components installed with **NO STRUCTURAL UPGRADES REQUIRED** to the existing water tank.

However, significant amount of corrosion on the water tank was noted during the HDG survey and climb. See the attached mapping report for additional recommendations.

Existing Mounts:

Based on our evaluation, we have determined that the proposed antennas and RRH's can be installed with **MINOR STRUCTURAL UPGRADES REQUIRED** to the existing antenna mounts.

The existing 2" sch. 40 (10 ft. long) vertical pipes are not structurally adequate to support the proposed/existing loading. HDG recommends replacing the above mentioned pipes with new 3" sch. 40 (3 ½" O.D.) pipes. Reference Mod drawings submitted under separate revision.

Hudson Design Group LLC

A summary of the proposed support types and attachment locations are as follows:

(1) LTE Antenna (AM-X-CD-17-65-00T-RET) (96"x11.8"x6" – Wt. 59.5 lbs.) (Alpha Sector)...Supported by a new steel pipe.

(1) LTE Antenna (80010766) (96"x11.8"x6" – Wt. 61.7 lbs.) (Beta Sector)...Supported by a new steel pipe.

(1) LTE Antenna (AM-X-CD-17-65-00T-RET) (96"x11.8"x6" – Wt. 59.5 lbs.) (Gamma Sector)...Supported by a new steel pipe.

(3) Surge Arrestor DC2-48-60-0-9E (1 per sector)...Supported by new steel pipes.

(6) RRH (2 per sector) (Wt. = 50 lbs. /each)...Supported by new steel pipes.

(1) Fiber-Power Connector FC12-PC6-10E...Mounted on the water tank guard rail.

(1) Purcell FLX16WS Cabinet with LTE6601...Mounted on a plinth secured to the existing concrete pad at ground level.

(1) Purcell FLX12WSW Cabinet with LTE6601...Mounted on a plinth secured to the existing concrete pad at ground level.

(1) Commscope DC Power Plant...Mounted on the existing concrete pad.

Referenced documents are attached.

Hudson Design Group LLC

Referenced documents are attached.

DESIGN CRITERIA:

1. International Building Code with 2005 Connecticut Supplement with 2009 Amendments

   Wind Analysis:

   Approximate water tank height above grade: 137'-0"+/-
   Basic Wind Speed: 105 MPH (includes 3-second gust)
   Exposure: C

2. EIA/TIA -222- F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

   County: Windham
   Wind Load: 85 mph

3. Approximate height above grade to antennas:

   115'-0"+/-

Hudson Design Group LLC

ANTENNA / RRH'S / SURGE ARRESTOR SUPPORT RECOMMENDATIONS:

The new LTE antennas, RRH's and Surge Arrestors are proposed to be mounted on new pipe masts, supported by the existing antenna mounts welded to the face of the water tank.

EQUIPMENT SUPPORT RECOMMENDATIONS:

- The Purcell Cabinets are proposed to be mounted on a plinth secured to the existing concrete pad at ground level. (Remove the existing Nokia Nuss).
- The new DC Plant is proposed to be mounted on to the existing concrete pad at ground level.

OTHER RECOMMENDATIONS:

1. HDG recommends replacing the existing 2" sch. 40 (10 ft. long) vertical pipes with new 3" sch. 40 (3 ½" O.D.) pipes. Reference Mod drawings submitted under separate revision.
2. See the attached mapping report for additional recommendations.
3. HDG recommends a complete condition assessment on the existing water tank.

Limitations and assumptions:

1. Reference the latest HDG construction drawings for all the equipment locations details.
2. Mount all equipment per manufacturer's specifications.
3. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
4. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer requirements.
5. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
6. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified as soon as possible.

Hudson Design Group LLC

EXISTING EQUIPMENT:

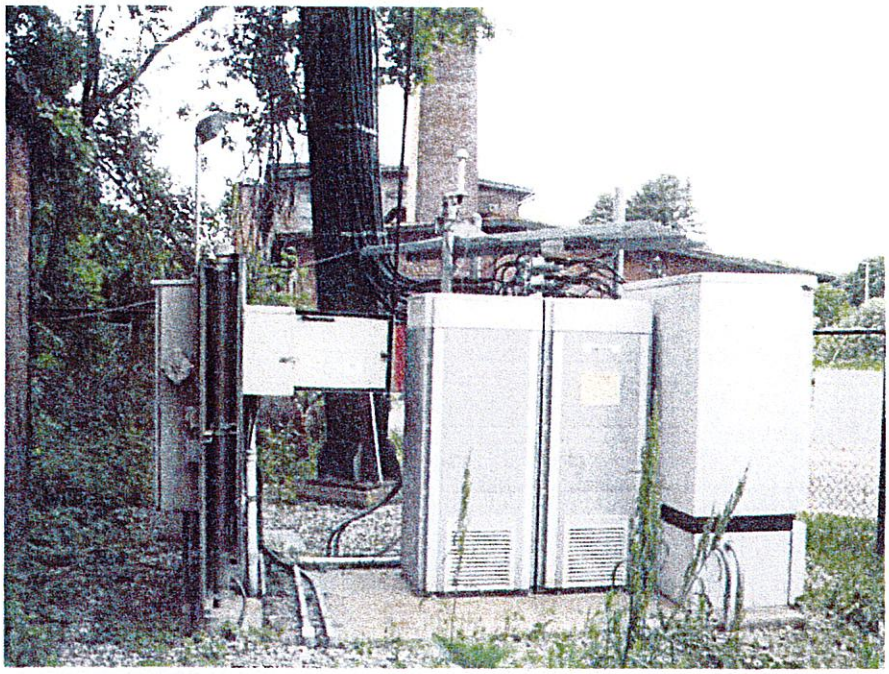


Photo 1: Sample photo illustrating the existing equipment.

Photo 2: Sample photo illustrating the existing equipment.

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EXISTING ANTENNAS:

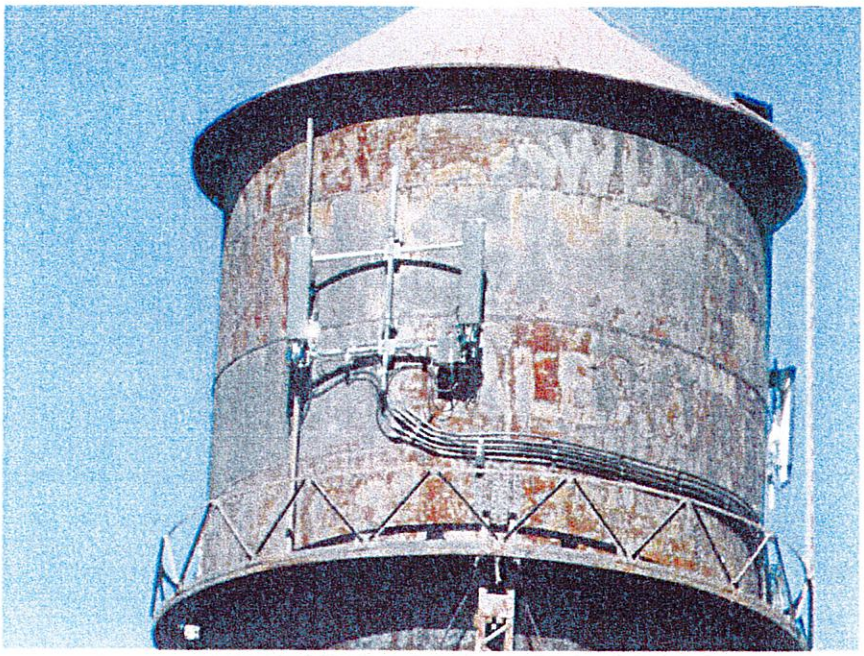


Photo 3: Sample photo illustrating the existing antennas.

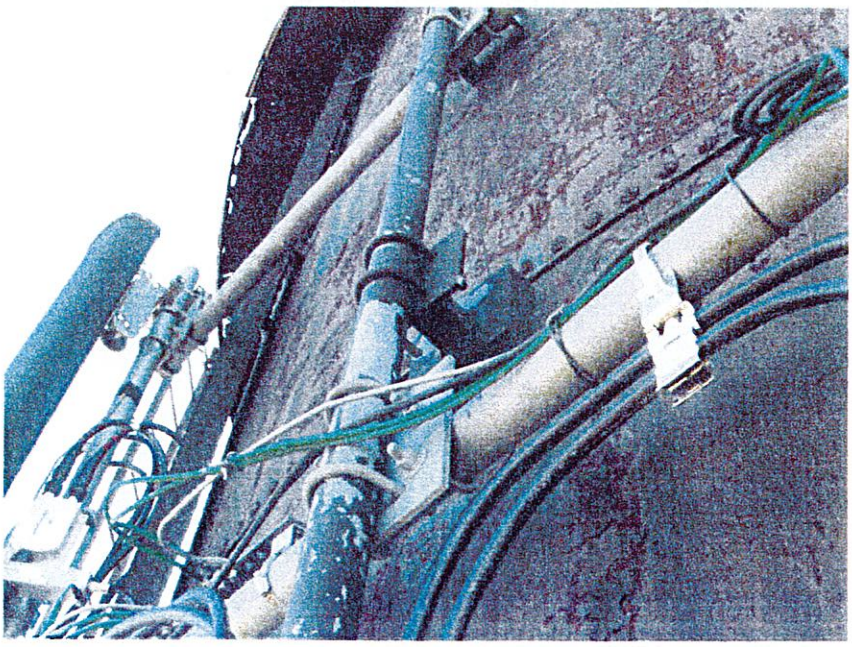


Photo 4: Sample photo illustrating the existing antenna mounts.

Hudson Design Group LLC

Calculations

Site Name:	KILLINGLY NORTH CENTRAL		
Site No.	CT5462		
Done by:	AA	Checked by:	MSC
Date:	9/24/2012		

References:

* Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (TIA/EIA-222-F).

Material Reference Notes:

2.3.1 Wind and Ice Loads

The total design wind load shall include the sum of he horizontal forces applied to the structure in the direction of the wind and the design wind load on guys and discrete appurtenances.

Ice loading, depending on tower height, elevation, and exposure, may be a significant load on the structure in most parts of the United States. If the structure is to be located where ice accumulation is expected, consideration shall be given to an ice load when specifying the requirements for the structure.

2.3.2 Horizontal Force Applied to each Section of the Structure

$$F=q_z*G_H\,[C_F*A_E+\sum(C_A*A_A)]$$ (Not to exceed $2*q_z*G_H*A_G$)

where A_G = Gross area of one tower face (ft^2)

2.3.3 Velocity Pressure (q_z) and Exposure Coefficient (K_z)

$q_z=.00256*K_z*V^2$ V=Basic Wind Speed for the Structure Location (mph)

$K_z=(z/33)^{2/7}$ z=Ht. above avg. ground level to midpoint of section (ft.)

$1.00 \leq K_z \leq 2.58$ A_E=effective projected area of structural components in one face

2.3.4 Gust Response Factors (G_H)

2.3.4.1 For latticed structures , gust response factor (G_H) shall be calculated from the equation:

$G_H=0.65+0.60/(h/33)^{1/7}$ (h in (ft.)) $1.0 < G_H < 1.25$

2.3.4.2 For Tubular pole structures, the gust response factor (G_H) shall be 1.69

2.3.4.3 One gust response factor shall apply for the entire structure.

2.3.4.4 When Cantilevered tubular or latticed pole structures are mounted on latticed structures, the gust response factor the pole and the latticed structure shall be based on the height of the latticed structure without the pole. The stresses calculated for the pole structures and their connections to latticed structures shall be multiplied by 1.25 to compensate for the greater gust response for the mounted pole structures.

2.3.5 Structure Force Coefficients (Reference Table 1)

Site Name	KILLINGLY NORTH CENTRAL
Site No.	CT5462
Done by:	AA Checked by: MSC
Date:	9/24/2012

Hudson Design Group LLC

=Input Values

V= **85** (mph)
z= **115** (ft)

K_z= **1.43**

Velocity Pressure: **qz= 26.42 psf** [2.3.3]

Is member analyzing a tube pole structure? If yes, then: Gh= 1.69

If no, then use value below:
Gh= 1.15 [2.3.4.1]

Gh= 1.69

Determine Cf:

If lattice structure see manual...

If cantilevered tube pole, then: Use Correct Value form Table 1 Below:

TABLE 1
Coefficients (Cf) for Cantilevered Tubular Pole Structures

C (mph ft)	Round	16 Sided r<0.26	16 Sided r≥0.26	12 Sides	8 Sided
<32	1.2	1.2	1.2	1.2	1.2
32 to 64	$130/C^{1.3}$	1.78+1.40r-C/91.5-Cr/22.9	.72+(64-C)/44.8	$12.5/C^{.6}$	1.2
>64	0.59	1.08-1.40r	0.72	1.03	1.2

Derivation of Structure Coefficient (Cf):

Dp = Avg. Diam. or Avg. Least width of Tubular Pole Structure: 0.2 feet

Site Name	KILLINGLY NORTH CENTRAL		
Site No.	CT5462		
Done by:	AA	Checked by:	MSC
Date:	9/24/2012		

C= $(K_z)^{1/2}$ * V * Dp (for Dp in ft [m] C= **20.32**

C (mph ft)	Round Only Member
<32	1.2
32 < 64	2.59
> 64	0.59

(Max Cf= 1.2)
(Min Cf= 0.59)

Cf= 1.2

Determine Ae: **[2.3.6]**

If tube structure, then use projected area including ice:
If not a tube structure, then see manual.

Ae= 0.00 sf

Determine Ca: **[2.3.7]**

2.3.7 The force coefficient (C_A) applied to the projected area (ft^2) [m^2] of a linear appurtenance (A_A) not considered as a structural component shall be determined from Table 3. The force coefficient for cylindrical members may be applied to the additional projected area of radial ice when specified. (Refer to Figure 1.)

TABLE 3
Appurtenance Force Coefficients

Member Type	Aspect Ratio ≤ 7	Aspect Ratio ≥ 25
	C_A	C_A
Flat	1.4	2
Cylindrical	0.8	1.2

Aspect Ratio=Overall length/width ratio in plane normal to wind direction.
(Aspect ratio is not a function of the spacing between support points of a linear appurtenance, nor the section length considered to have a uniformly distributed force.)

Note: Linear interpolation may be used to aspect ratios other than shown

2.3.8 Regardless of location, linear appurtenances not considered as structural components in accordance with 2.3.6.3 shall be included in the term $\Sigma C_A A_A$.

2.3.9 The horizontal force (F) applied to a section of the structure may be assumed to be uniformly distributed based on the wind pressure at the mid-height of the section.

Site Name	KILLINGLY NORTH CENTRAL
Site No.	CT5462
Done by:	AA Checked by: MSC
Date:	9/24/2012

Hudson Design Group LLC

	Item #1	Item #2	Item #3	Item #4	Item #5
Member Length (Inches):	55	96	17.8	10.25	0
Member Width (Inches):	11	11.8	17	10.25	0
Calculated Aspect Ratio:	5	8	1	1	#DIV/0!

From Table 3 Above:

Ca=	1.4	1.4	1.4	1.4	0

Determine Aa: (sf)

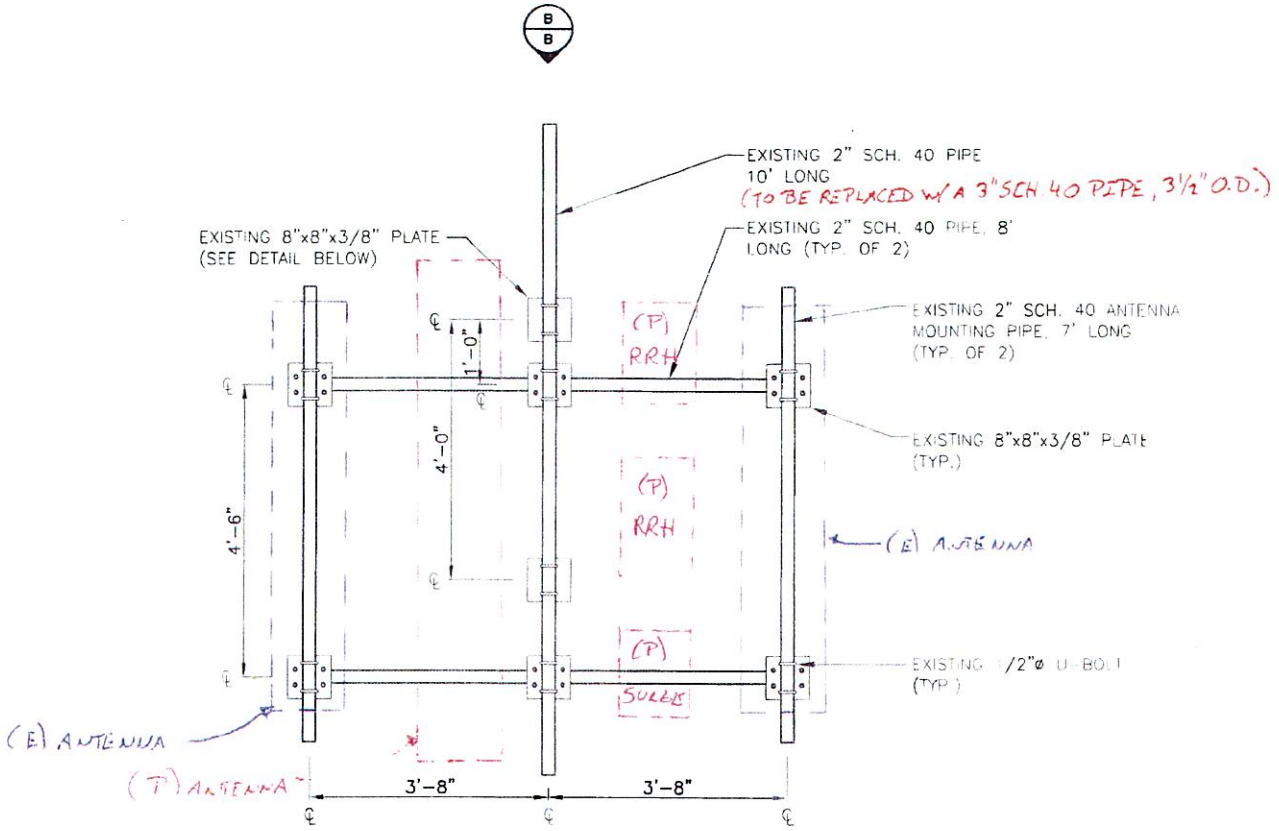
		Item #1	Item #2	Item #3	Item #4	Item #5
From above:	Aa=	4.20	7.87	2.10	0.73	0.00
Calculated Ca*Aa:		5.88	11.01	2.94	1.02	0.00

Calculated Sums of Ca*Aa: 20.86 sf

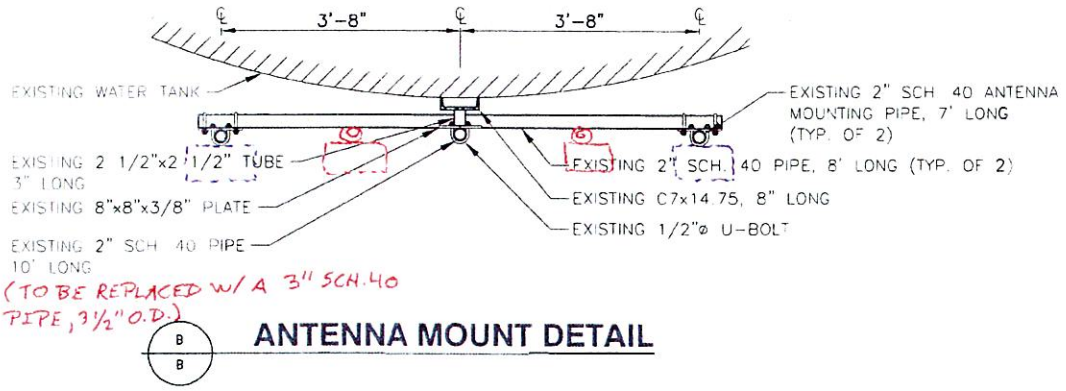
Item 1 calculated force F:	262.660717 (E) ANTENNA
Item 2 calculated force F:	491.805058 (P) ANTENNA
Item 3 calculated force F:	131.373773 (P) RRH
Item 4 calculated force F:	45.6128786 (P) SURGE ARRESTOR
Item 5 calculated force F:	0

Wind Force F= qz*Gh [Cf*Ae+∑(Ca*Aa)] F= 931.45 Pounds

CT5462
AA
09-25-12



A
A
ANTENNA MOUNT ELEVATION



B
B
ANTENNA MOUNT DETAIL

ICE WEIGHT CALCULATIONS

Project: CT5652

Thickness of ice:	0.75	
		(EXISTING)
Weight of ice based on total radial SF area:		**Antennas**
Depth (in):	5	
height (in):	55	
Width (in):	11	
Total weight of ice on object:		43 pounds ice
Weight of object:	35	pounds
Combined weight of ice and object:		113 pounds
		(EXISTING)
Per foot weight of ice:		**Pipe** MOUNT
pipe weight per foot:	3.65	
pipe length (ft):	59	
diameter (in):	2.375	
Per foot weight of ice on object:		2 pounds ice /ft
Total weight of ice on object:		128 pounds
Total weight of pipe:		215.35 pounds
Combined weight of pipe and ice:		344 pounds

* Density of ice used = 56 PCF

Total Weight:	457 pounds

ICE WEIGHT CALCULATIONS

Project: CT5462

Thickness of ice: 0.75

(PROPOSED)
Pipe

Per foot weight of ice:
pipe weight per foot: 3.65
pipe length (ft): 7
diameter (in): 2.375
Per foot weight of ice on object: 2 pounds ice /ft
Total weight of ice on object: 15 pounds
Total weight of pipe: 25.55 pounds
Combined weight of pipe and ice: 41 pounds

* Density of ice used = 56 PCF

(PROPOSED)
SURGE ARRESTOR

Weight of ice based on total radial SF area:
Depth (in): 6.29
height (in): 10.25
Width (in): 10.25
Total weight of ice on object: 8 pounds ice
Weight of object: 20 pounds
Combined weight of ice and object: 28 pounds

(PROPOSED)
RRH

Weight of ice based on total radial SF area:
Depth (in): 7.2
height (in): 17.8
Width (in): 17
Total weight of ice on object: 21 pounds ice
Weight of object: 50 pounds
Combined weight of ice and object: 71 pounds

Total of 2 RRH'S 142 pounds

Total Weight: 211 pounds

ICE WEIGHT CALCULATIONS

Project: CT5652

Thickness of ice: 0.75

(PROPOSED)
Antenna

Weight of ice based on total radial SF area:

Depth (in):	6	
height (in):	96	
Width (in):	11.8	
Total weight of ice on object:		83 pounds ice
Weight of object:	61.7 pounds	
Combined weight of ice and object:		145 pounds

(PROPOSED)
Pipe

Per foot weight of ice:

pipe weight per foot:	3.65	
pipe length (ft):	9	
diameter (in):	2.375	
Per foot weight of ice on object:		2 pounds ice /ft
Total weight of ice on object:		20 pounds
Total weight of pipe:		32.85 pounds
Combined weight of pipe and ice:		52 pounds

* Density of ice used = 56 PCF

Total Weight:	197 pounds

Project: CT5462

Location: Existing Mount (Horizontal)
Multi-Loaded Multi-Span Beam
[2009 International Building Code(AISC 13th Ed ASD)]
Pipe 2 Std. x 7.34 FT (3.7 + 0 + 3.7) / ASTM A53-GR.B
Section Adequate By: 35.6%
Controlling Factor: Moment

Andres Agudelo
Hudson Design Grroup LLC
1600 Osgood Steet, Suite 2-101, Bldg 20N
North Andover, MA 01845

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DEFLECTIONS

Live Load	
Dead Load	
Total Load	

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS

	A	B
Live Load	378 lb	286 lb
Dead Load	13 lb	13 lb
Total Load	391 lb	299 lb
Bearing Length	0.29 in	0.29 in

BEAM DATA

	Left	Right
Span Length	3.67 ft	3.67 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	3.67 ft	3.67 ft

STEEL PROPERTIES

Pipe 2 Std. - A53-GR.B

Properties:

Steel Yield Strength:	Fy =	35	ksi
Modulus of Elasticity:	E =	29000	ksi
Tube Steel Section (X Axis):	dx =	2.38	in
Tube Steel Section (Y Axis):	dy =	2.38	in
Tube Steel Wall Thickness:	t =	0.143	in
Area:	A =	1	in2
Moment of Inertia (X Axis):	Ix =	0.63	in4
Section Modulus (X Axis):	Sx =	0.53	in3
Plastic Section Modulus:	Z =	0.71	in3

Design Properties per AISC 13th Edition Steel Manual:

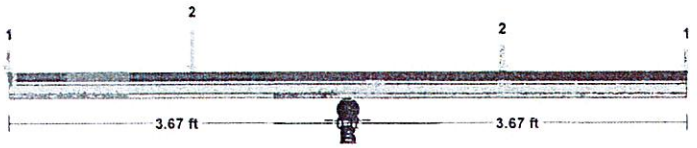
Flange Buckling Ratio:	FBR =	16.61	
Allowable Flange Buckling Ratio:	AFBR =	58	
Allowable Flange Buckling Ratio non-compact:	AFBR_NC =	256.86	
Nominal Flexural Strength w/ Safety Factor:	Mn =	1245	ft-lb
Controlling Equation:	F8-1		
Shear Buckling Stress Coefficient Eqn. G6-2a:	Fcr =	25	ksi
Nominal Shear Strength w/ Safety Factor:	Vn =	6287	lb

Controlling Moment: -918 ft-lb
Over right support of span 1 (Left Span)
Created by combining all dead loads and live loads on span(s) 1, 3

Controlling Shear: -391 lb
4.0 Ft from left support of span 1 (Left Span)
Created by combining all dead loads and live loads on span(s

Comparisons with required sections:	Req'd	Provided
Moment of Inertia (deflection):	0 in4	0.63 in4
Moment:	-918 ft-lb	1245 ft-lb
Shear:	-391 lb	6287 lb

LOADING DIAGRAM



UNIFORM LOADS

	Left	Right
Uniform Live Load	0 plf	0 plf
Uniform Dead Load	0 plf	0 plf
Beam Self Weight	4 plf	4 plf
Total Uniform Load	4 plf	4 plf

POINT LOADS - LEFT SPAN

Load Number	One	Two
Live Load	131.5 lb	246 lb
Dead Load	0 lb	0 lb
Location	0 ft	2 ft

RIGHT SPAN

Load Number	One	Two
Live Load	131.5 lb	154.5 lb
Dead Load	0 lb	0 lb
Location	3.67 ft	1.67 ft

NOTES

Project: CT 5462

Location: Existing Mount (Main Vertical)
Multi-Loaded Multi-Span Beam
[2009 International Building Code(AISC 13th Ed ASD)]
Pipe 2 Std. x 10.0 FT (3 + 4 + 3) / ASTM A53-GR.B
Section Inadequate By: 94.4%
Controlling Factor: Deflection

Andres Agudelo
Hudson Design Grroup LLC
1600 Osgood Steet, Suite 2-101, Bldg. 20N
North Andover, MA 01845

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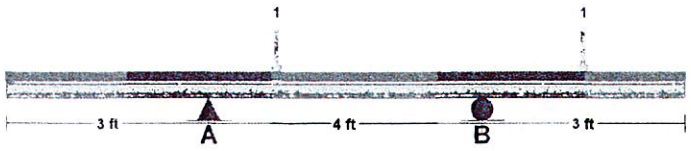
DEFLECTIONS	Left		Center		Right	
Live Load	0.19	IN 2L/380	-0.10	IN L/494	0.56	IN 2L/130
Dead Load	0.01	in	0.00	in	0.03	in
Total Load	0.20	IN 2L/360	-0.10	IN L/476	0.58	IN 2L/124

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/240

REACTIONS	A	B
Live Load	498 lb	1079 lb
Dead Load	28 lb	61 lb
Total Load	526 lb	1140 lb
Uplift (1.5 F.S)	**-230 lb**	0 lb
Bearing Length	0.29 in	0.34 in

BEAM DATA	Left	Center	Right
Span Length	3 ft	4 ft	3 ft
Unbraced Length-Top	0 ft	0 ft	0 ft
Unbraced Length-Bottom	3 ft	4 ft	3 ft

LOADING DIAGRAM



UNIFORM LOADS	Left	Center	Right
Uniform Live Load	0 plf	0 plf	0 plf
Uniform Dead Load	0 plf	0 plf	0 plf
Beam Self Weight	4 plf	4 plf	4 plf
Total Uniform Load	4 plf	4 plf	4 plf

POINT LOADS - CENTER SPAN

Load Number	One	Two
Live Load	378 lb	286 lb
Dead Load	13 lb	13 lb
Location	1 ft	1 ft

RIGHT SPAN

Load Number	One	Two
Live Load	378 lb	286 lb
Dead Load	13 lb	13 lb
Location	1.5 ft	1.5 ft

STEEL PROPERTIES
Pipe 2 Std. - A53-GR.B

Properties:

Steel Yield Strength:	Fy =	35	ksi
Modulus of Elasticity:	E =	29000	ksi
Tube Steel Section (X Axis):	dx =	2.38	in
Tube Steel Section (Y Axis):	dy =	2.38	in
Tube Steel Wall Thickness:	t =	0.143	in
Area:	A =	1	in2
Moment of Inertia (X Axis):	Ix =	0.63	in4
Section Modulus (X Axis):	Sx =	0.53	in3
Plastic Section Modulus:	Z =	0.71	in3

Design Properties per AISC 13th Edition Steel Manual:

Flange Buckling Ratio:	FBR =	16.61	
Allowable Flange Buckling Ratio:	AFBR =	58	
Allowable Flange Buckling Ratio non-compact:	AFBR_NC =	256.86	
Nominal Flexural Strength w/ Safety Factor:	Mn =	1245	ft-lb
Controlling Equation:	F8-1		
Shear Buckling Stress Coefficient Eqn. G6-2a:	Fcr =	21	ksi
Nominal Shear Strength w/ Safety Factor:	Vn =	6287	lb

Controlling Moment: -1051 ft-lb
Over right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 1 3

Controlling Shear: 701 lb
At left support of span 3 (Right Span)
Created by combining all dead loads and live loads on span(s

Comparisons with required sections:	Req'd	Provided
Moment of Inertia (deflection):	1.22 in4	0.63 in4
Moment:	-1051 ft-lb	1245 ft-lb
Shear:	701 lb	6287 lb

NOTES

Project: CT5462

Location: Proposed Mount (Main Vertical)
Multi-Loaded Multi-Span Beam
[2009 International Building Code(AISC 13th Ed ASD)]
Pipe 3 Std. x 10.0 FT (3 + 4 + 3) / ASTM A53-GR.B
Section Adequate By: 129.5%
Controlling Factor: Deflection

Andres Agudelo
Hudson Design Grroup LLC
1600 Osgood Steet, Suite 2-101, Bldg. 20N
North Andover, MA 01845

StruCalc Version 8.0.112.0 9/25/2012 2:36:35 PM

DEFLECTIONS	Left		Center		Right	
Live Load	0.04	IN 2L/1728	-0.02	IN L/2246	0.12	IN 2L/588
Dead Load	0.00	in	0.00	in	0.01	in
Total Load	0.05	IN 2L/1548	-0.02	IN L/2121	0.13	IN 2L/550

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/240

REACTIONS	A	B
Live Load	498 lb	1079 lb
Dead Load	48 lb	80 lb
Total Load	546 lb	1159 lb
Uplift (1.5 F.S)	**-217 lb**	**0 lb**
Bearing Length	0.40 in	0.40 in

BEAM DATA	Left	Center	Right
Span Length	3 ft	4 ft	3 ft
Unbraced Length-Top	0 ft	0 ft	0 ft
Unbraced Length-Bottom	3 ft	4 ft	3 ft

STEEL PROPERTIES
Pipe 3 Std. - A53-GR.B

Properties:

Steel Yield Strength:	Fy =	42	ksi
Modulus of Elasticity:	E =	29000	ksi
Tube Steel Section (X Axis):	dx =	3.5	in
Tube Steel Section (Y Axis):	dy =	3.5	in
Tube Steel Wall Thickness:	t =	0.201	in
Area:	A =	2.08	in2
Moment of Inertia (X Axis):	Ix =	2.85	in4
Section Modulus (X Axis):	Sx =	1.63	in3
Plastic Section Modulus:	Z =	2.19	in3

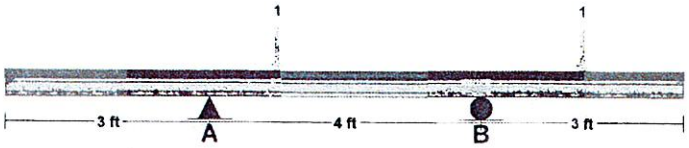
Design Properties per AISC 13th Edition Steel Manual:

Flange Buckling Ratio:	FBR =	17.41	
Allowable Flange Buckling Ratio:	AFBR =	48.33	
Allowable Flange Buckling Ratio non-compact:	AFBR_NC =	214.05	
Nominal Flexural Strength w/ Safety Factor:	Mn =	4590	ft-lb
Controlling Equation:	F8-1		
Shear Buckling Stress Coefficient Eqn. G6-2a:	Fcr =	25	ksi
Nominal Shear Strength w/ Safety Factor:	Vn =	15693	lb

Controlling Moment: -1069 ft-lb
Over right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 1, 2, 3
Controlling Shear: 713 lb
At left support of span 3 (Right Span)
Created by combining all dead loads and live loads on span(s

Comparisons with required sections:	Req'd	Provided
Moment of Inertia (deflection):	1.24 in4	2.85 in4
Moment:	-1069 ft-lb	4590 ft-lb
Shear:	713 lb	15693 lb

LOADING DIAGRAM



UNIFORM LOADS	Left	Center	Right
Uniform Live Load	0 plf	0 plf	0 plf
Uniform Dead Load	0 plf	0 plf	0 plf
Beam Self Weight	8 plf	8 plf	8 plf
Total Uniform Load	8 plf	8 plf	8 plf

POINT LOADS - CENTER SPAN		
Load Number	One	Two
Live Load	378 lb	286 lb
Dead Load	13 lb	13 lb
Location	1 ft	1 ft
RIGHT SPAN		
Load Number	One	Two
Live Load	378 lb	286 lb
Dead Load	13 lb	13 lb
Location	1.5 ft	1.5 ft

NOTES

DATE: 09-25-12
Project Name: KILLINGLY NORTH CENTRAL
Project No.: CT5462
Design By: AA Chk'd By: MSC Page ____ of ____

Hudson Design Group LLC

- TOTAL GRAVITATIONAL LOAD

$f_V = 211^{\#} + 457^{\#} + 197^{\#}$

$= 865^{\#}$

- TOTAL GRAVITATIONAL LOAD/MOUNT:

$f_V = \frac{865^{\#}}{2 \text{ MOUNTS}} = 432.5^{\#}$

USE ⟹ $460^{\#}$ → WELDS OK BY INSPECTION

- WIND LOAD REACTIONS @ SUPPORT

- TOP SUPPORT $f_T = 498^{\#}$
- BOTT. SUPPORT $f_T = 1079^{\#}$

- CHECK PUNCHING SHEAR

THICKNESS of WATER TANK WALL = 0.278

PLATE SIZE = 8 x 8 x 3/8"

$M = \frac{PL}{4} = \frac{(1.079\,K)(8\,IN)}{4} = 2.158^{K\text{-}IN}$

$S_{REQ} = \frac{M}{F_b} = \frac{2.158^{K\text{-}IN}}{(0.6)(36\,KSI)} = 0.099\,IN^3$

$S_{SUPP} = \frac{bh^2}{6} = \frac{(8\,IN)(0.278\,IN)^2}{6} = 0.103\,IN^3 > 0.099\,IN^3 \therefore O.K!$

157132

Hudson Design Group LLC

Reference Documents

MAPPING REPORT

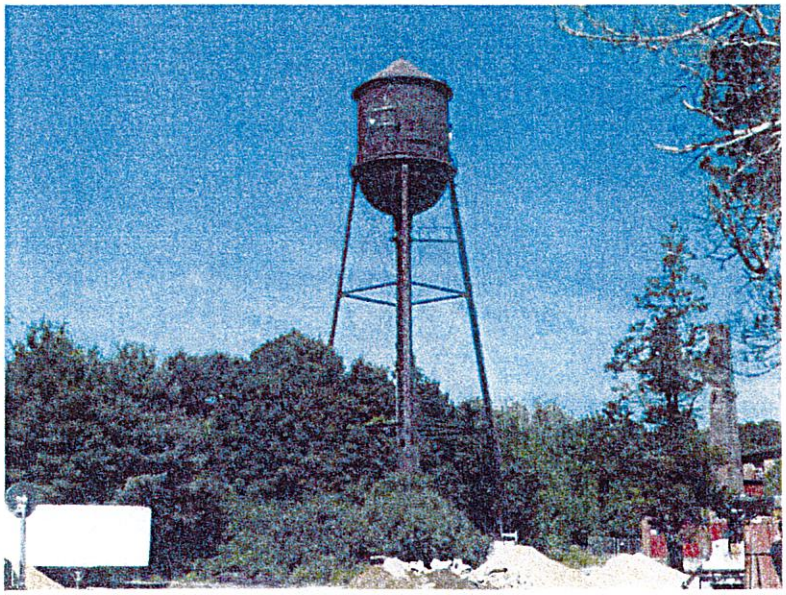
For

CT5462

KILLINGLY NORTH CENTRAL

43 Connecticut Avenue
Danielson, CT 06239

137' Water Tank



Prepared for:

at&t

500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Dated:
September 18, 2012

Prepared by:
HUDSON DESIGN GROUP, LLC.
1600 Osgood Street Building 20 North, Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
www.hudsondesigngroupllc.com

Hudson Design Group LLC

Water Tank Mapping Form

Site Name: KILLINGLY NORTH CENTRAL
Date of Inspection: 9/11/12

Site Number: CT5462
Mapped by: BL, NM

Site Address: 43 CONNECTICUT AVE
DANIELSON, CT 06239
Tower Latitude: 41.8171°
Tower Longitude: 71.8841°

Site Owner: N/A
Gate Combo: 0043

Site Contact & Info: N/A
Tower Manufacturer: N/A

Date Built: N/A

Tower Plate Information: NO PLATE

Exposure Category: (Open) (Wooded) Urban Ocean Other: _____

Site Topography: (Flat) Ridge Hill Other: _____

Access Gate/Road Latitude: 41.8' 6820°
Access Gate/Road Longitude: -71.88'3630°
Access Notes: -

Site Access Description: DRIVE THROUGH CONSTRUCTION YARD TO SITE

General Comments/Observations:

p: 978.557.5553 f: 978.336.5586 a: 1600 Osgood Street Building 20 North Suite 2-101 N. Andover, MA 01845

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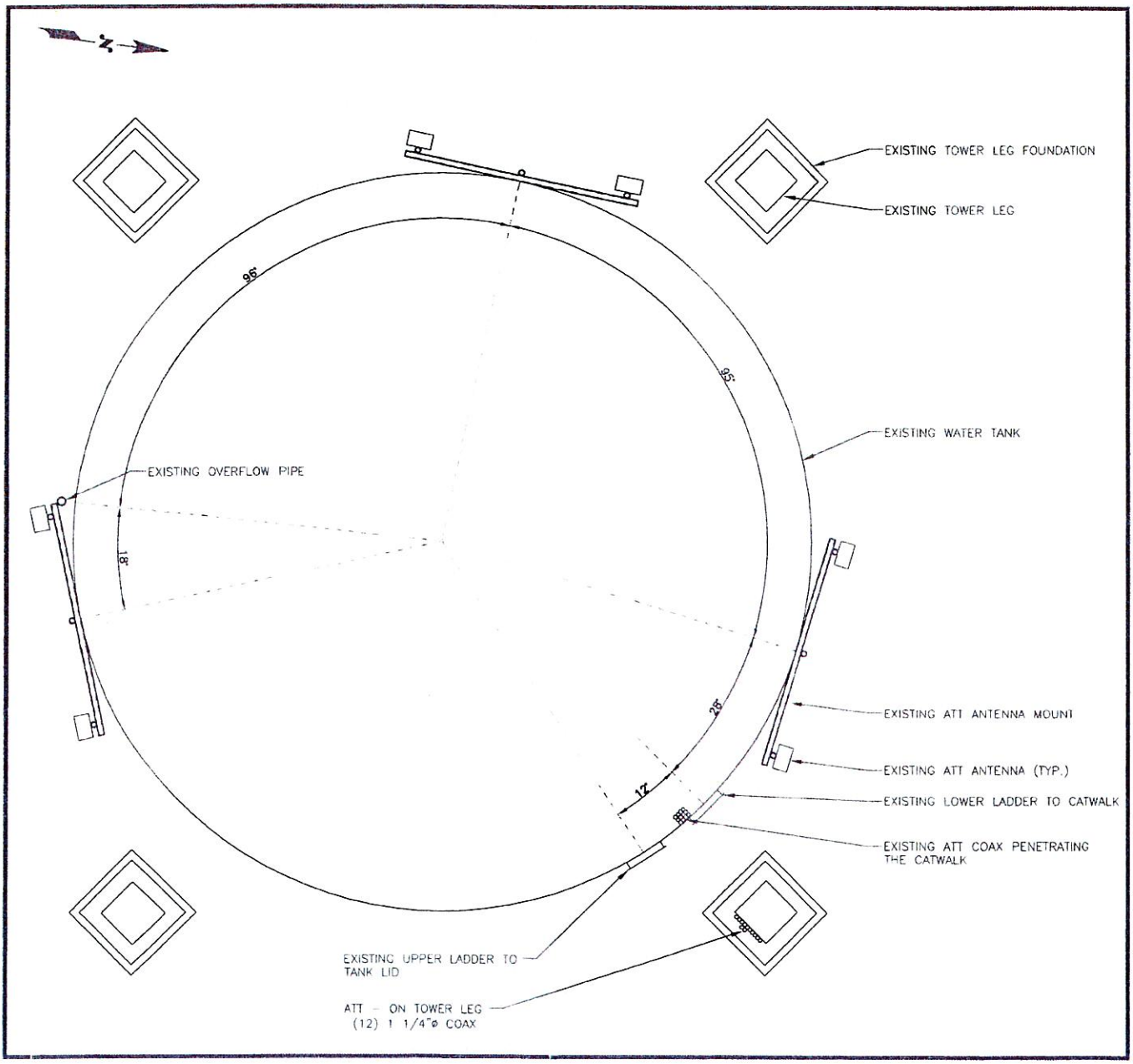
Water Tank Mapping Form

Antenna Location

NOTE:

- Record circumference of tank.
- Locate and label tower legs/supports.
- Locate and label antennas and any other appurtenance in relation to 0' on tank.
- Identify different elevations of antennas with different circles.
- Indicate north.



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Carrier	TOA Elevation	Attach. Loc. Leg/Face	Antenna (or other appurtenance) Quantity	Azimuth	Size and Description or Manufacturer and Model	Mount Description & Size	Mount Elevation	Transmission Lines Quantity	Size/Type	Attachment Location	Support Type
ATT	116'-9"	---	2	23	POWERWAVE 7770.00	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	8	1/2"	FROM TMA	---
ATT	116'-9"	---	2	143	POWERWAVE 7770.00	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	8	1/2"	FROM TMA	---
ATT	116'-9"	---	2	263	POWERWAVE 7770.00	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	8	1/2"	FROM TMA	---
ATT	111'-10"	---	2	23	POWERWAVE LGP 17201	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---
ATT	111'-10"	---	2	143	POWERWAVE LGP 17201	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---
ATT	111'-10"	---	2	263	POWERWAVE LGP 17201	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---
ATT	113'-10"	---	2	23	POWERWAVE LGP 21901	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---
ATT	113'-10"	---	2	143	POWERWAVE LGP 21901	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---
ATT	113'-10"	---	2	263	POWERWAVE LGP 21901	8' T-BOOM, 6" STANDOFF (SEE ATTACHED DETAIL)	115'	2	1 5/8"	NORTHEAST LEG	---

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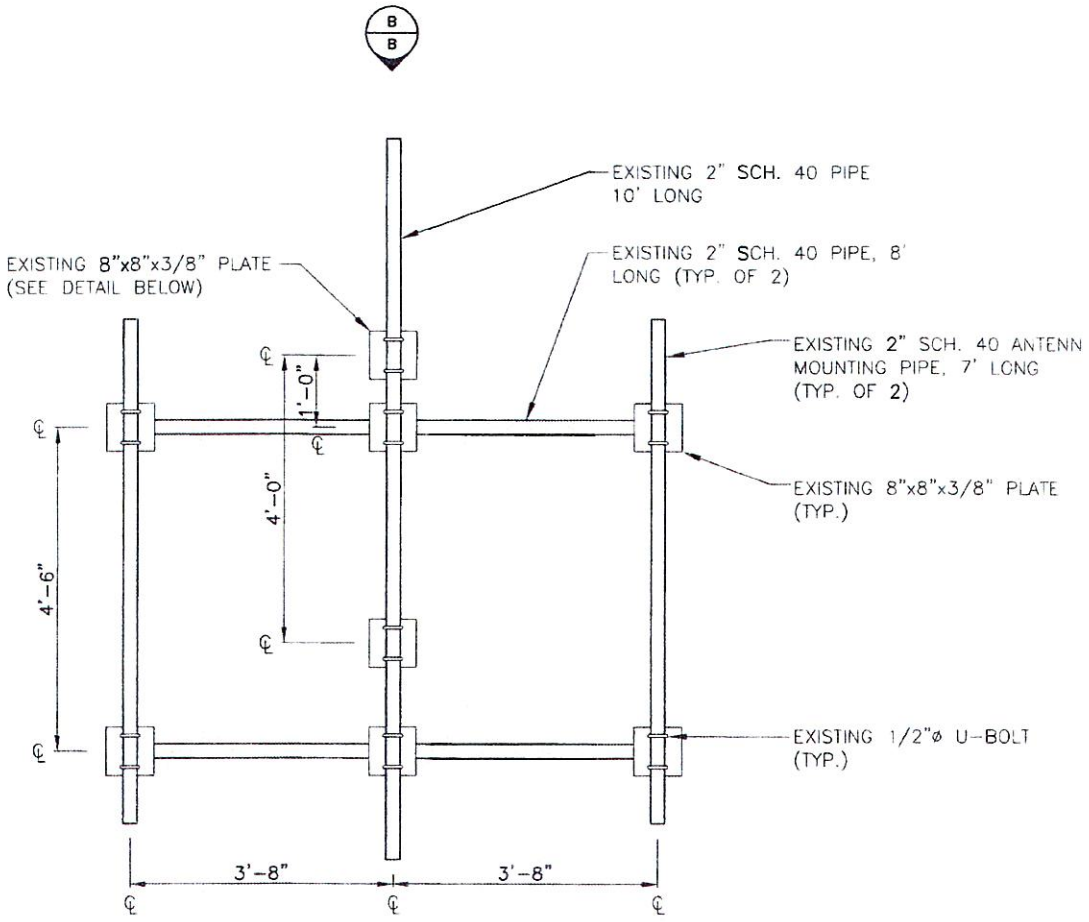
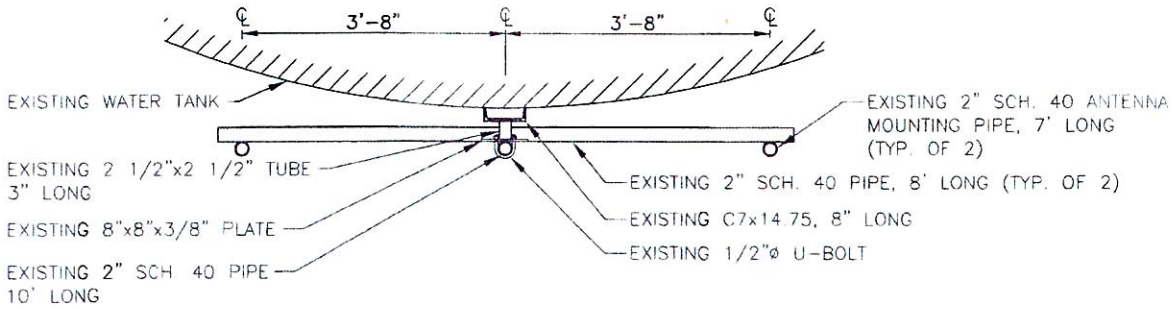
Water Tank Mapping Form



A/A ANTENNA MOUNT ELEVATION



B/B ANTENNA MOUNT DETAIL

p. 978.557.5553 f: 978.336.5586 a: 1600 Osgood Street, Building 20 North, Suite 2-101 N. Andover, MA 01845

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Existing Tower and Foundation

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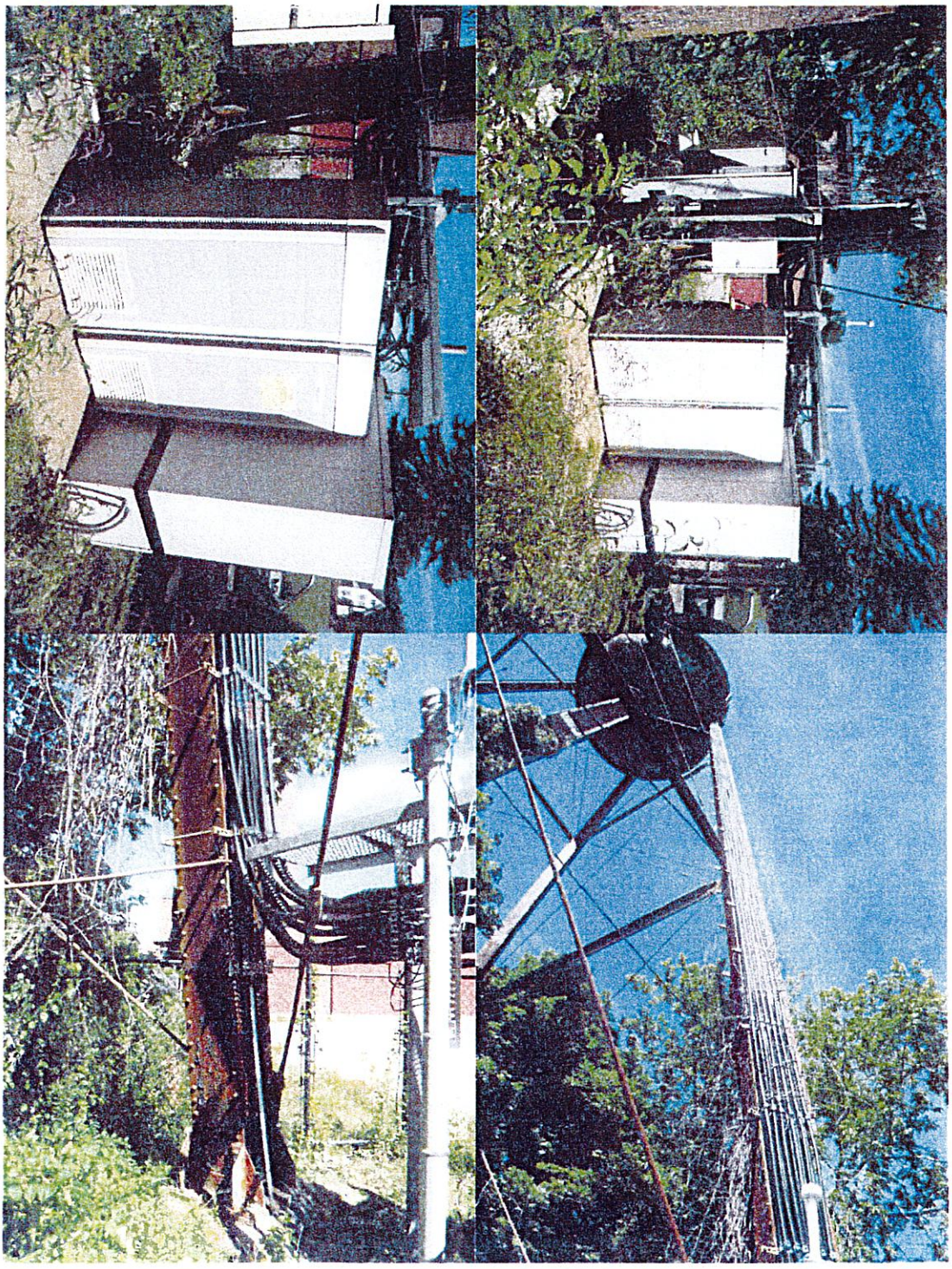
Existing Equipment and Coax Run



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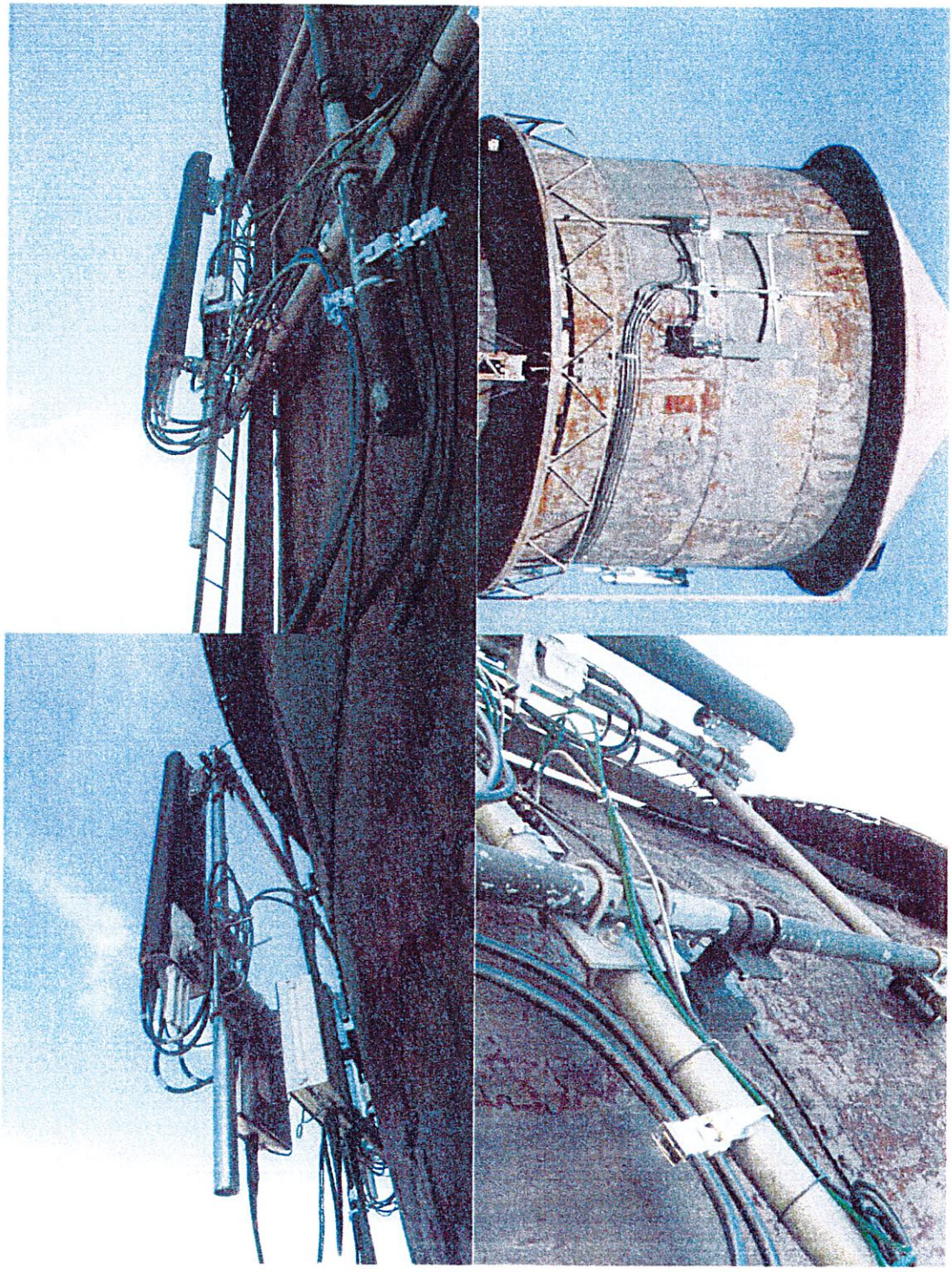
Existing ATT Antennas



C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

CT5462

(Killingly North Central)

43 Connecticut Ave., Danielson, CT 06239

September 28, 2012

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the water tank located at 43 Connecticut Ave. in Danielson, CT. The coordinates of the tank are 41° 49' 2.47" N, 71° 53' 3.48" W.

AT&T is proposing the following modifications:

1) Install three multi-band (700/850/1900/2100 MHz) antennas for their LTE network (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tank. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Cingular UMTS	*121*	*880*	*1*	*500*	*0.0123*	*0.5867*	*2.09%*
Cingular GSM	*121*	*1900*	*2*	*427*	*0.0210*	*1.0000*	*2.10%*
Cingular GSM	*121*	*880*	*4*	*296*	*0.0291*	*0.5867*	*4.96%*
AT&T UMTS	115	880	2	565	0.0031	0.5867	0.52%
AT&T UMTS	115	1900	2	875	0.0048	1.0000	0.48%
AT&T LTE	115	734	1	1771	0.0048	0.4893	0.98%
AT&T GSM	115	880	1	283	0.0008	0.5867	0.13%
AT&T GSM	115	1900	4	525	0.0057	1.0000	0.57%
						Total	**2.69%**

Table 1: Carrier Information[1] [2] [3]

[1] The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 7/26/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

[3] Antenna height listed for AT&T is in reference to the Hudson Design Group Structural Analysis dated September 25, 2012.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **2.69% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

September 28, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[4]

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

(B) Limits for General Population/Uncontrolled Exposure[5]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

[5] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

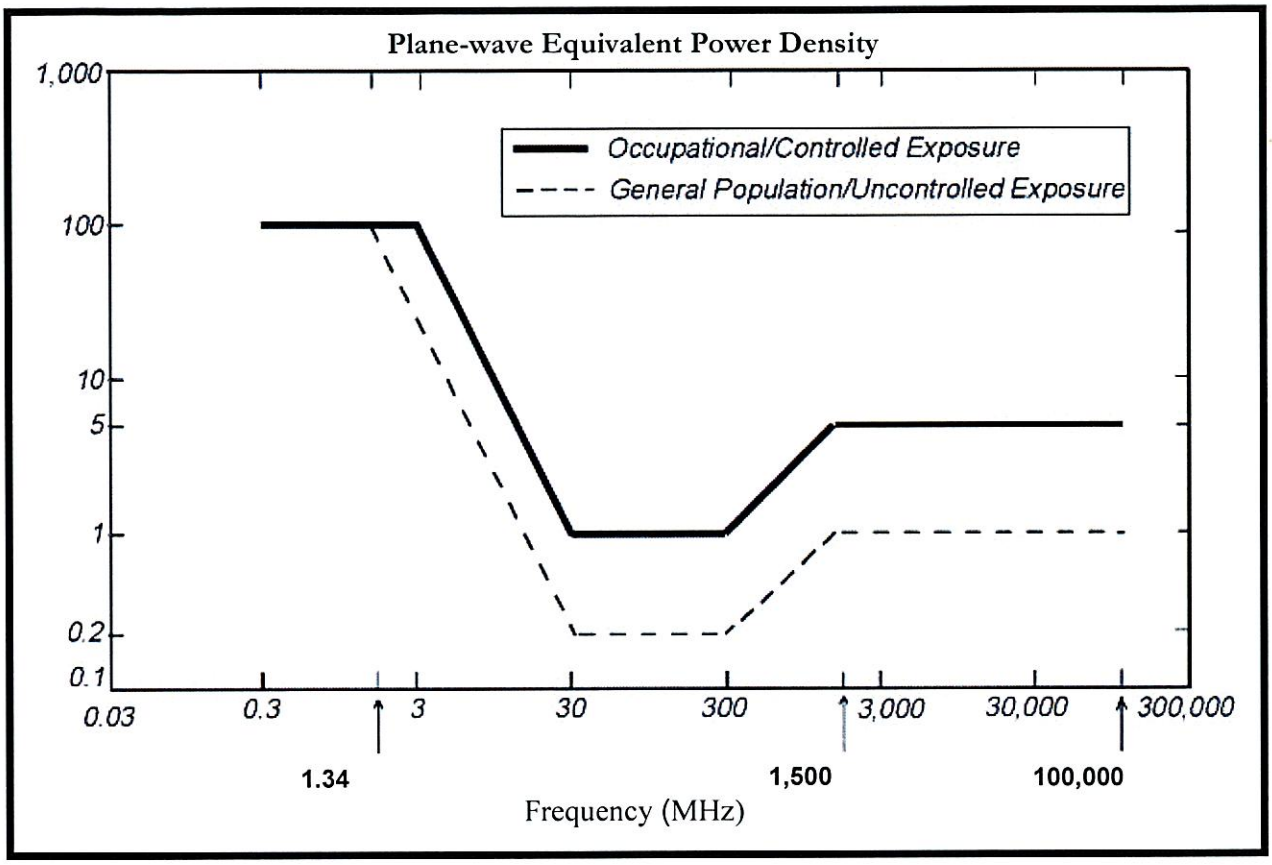
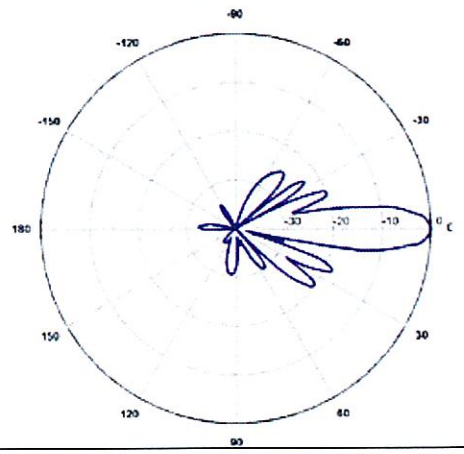


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

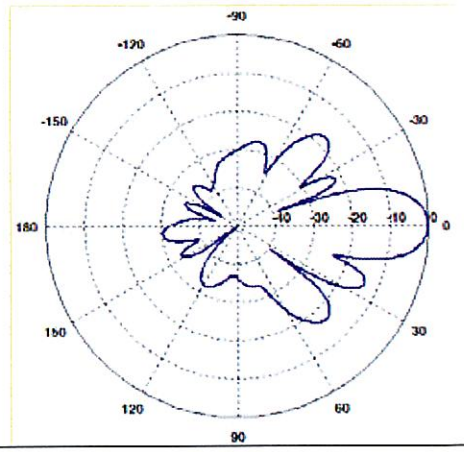
700 MHz

Manufacturer:	KMW
Model #:	AM-X-CD-17-65-00T-RET
Frequency Band:	698-894 MHz
Gain:	14.7 dBd
Vertical Beamwidth:	10°
Horizontal Beamwidth:	66°
Polarization:	Dual Slant ± 45°
Size L x W x D:	96.0" x 11.8" x 6.0"



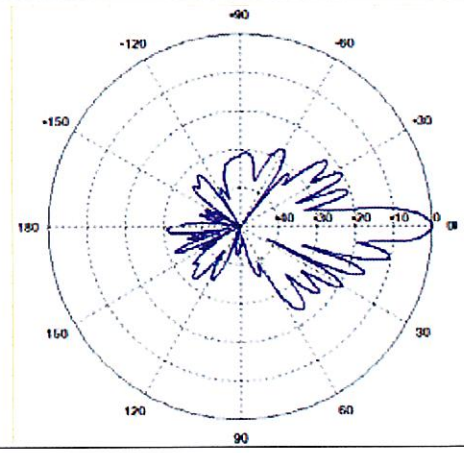
850 MHz

Manufacturer:	Powerwave
Model #:	7770.00
Frequency Band:	824-896 MHz
Gain:	11.5 dBd
Vertical Beamwidth:	15°
Horizontal Beamwidth:	82°
Polarization:	Dual Linear ± 45°
Size L x W x D:	55.0" x 11.0" x 5.0"



1900 MHz

Manufacturer:	Powerwave
Model #:	7770.00
Frequency Band:	1850-1990 MHz
Gain:	13.4 dBd
Vertical Beamwidth:	7°
Horizontal Beamwidth:	86°
Polarization:	Dual Linear ± 45°
Size L x W x D:	55.0" x 11.0" x 5.0"



PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS 1. INSTALL (3) NEW LTE ANTENNAS, (6) RRH'S, (3) SURGE ARRESTOR, (1) FIBER & (2) DC POWER LINES, (1) FIBER & POWER CONNECTOR, & (1) GPS ANTENNA 2. INSTALL (1) PURCELL CABINET & (1) POWER CABINET
SITE ADDRESS:	43 CONNECTICUT AVENUE DANIELSON, CT 06239
LATITUDE:	41.8171 N (41° 49' 01.6" N)
LONGITUDE:	71.8841 W (71° 53' 02.8 W)
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

at&t

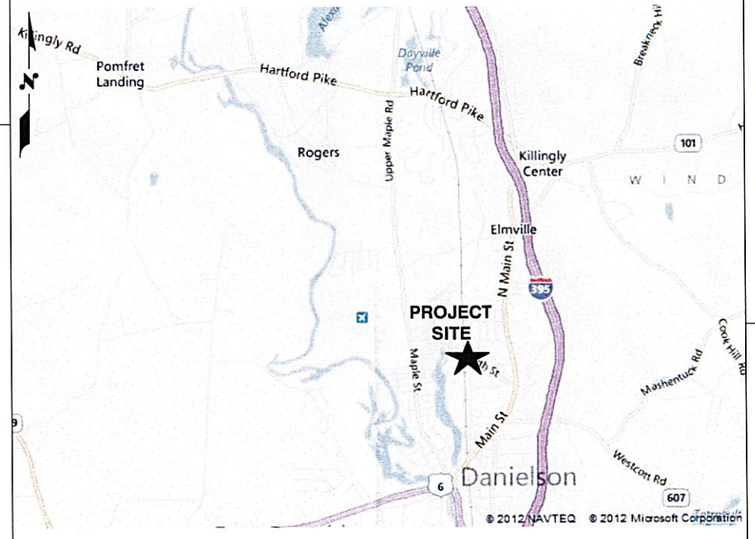
SITE NUMBER: CT5462
SITE NAME: KILLINGLY NORTH CENTRAL

DRAWING INDEX

VICINITY MAP

DIRECTION TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. – TURN LEFT ONTO CAPITOL BLVD. – TURN LEFT ONTO WEST ST. – MERGE ONTO I-91 N VIA THE RAMP ON THE LEFT TOWARD HARTFORD – MERGE ONTO CT-3 N VIA EXIT 25 TOWARD GLASTONBURY – MERGE ONTO CT-2 E TOWARD NORWICH – MERGE ONTO I-395 N VIA EXIT 28N TOWARD PROVIDENCE – TAKE EXIT 92 TOWARD S. KILLINGLY – STAY STRAIGHT TO GO ONTO KNOX AVE. – TURN LEFT ONTO CT-607/WESTCOTT RD. – TURN RIGHT ONTO MAIN ST/CT-12 – TURN LEFT ONTO NORTH ST. – TURN RIGHT ONTO CONNECTICUT MILLS AVE. – END AT 43 CONNECTICUT MILLS AVE. DANIELSON, CT 06239.



GENERAL NOTES

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

CALL

BEFORE YOU DIG

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UNDERGROUND SERVICE ALERT

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

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5462
SITE NAME: KILLINGLY NORTH CENTRAL
43 CONNECTICUT AVENUE
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	07/27/12	ISSUED FOR REVIEW	CG	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: CG

AT&T

TITLE SHEET (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

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

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

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

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

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

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

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

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

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

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

GENERAL NOTES

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

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

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

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

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

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

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

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

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

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

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

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

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

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WINDSOR, CT 06095

SITE NUMBER: CT5462
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43 CONNECTICUT AVENUE
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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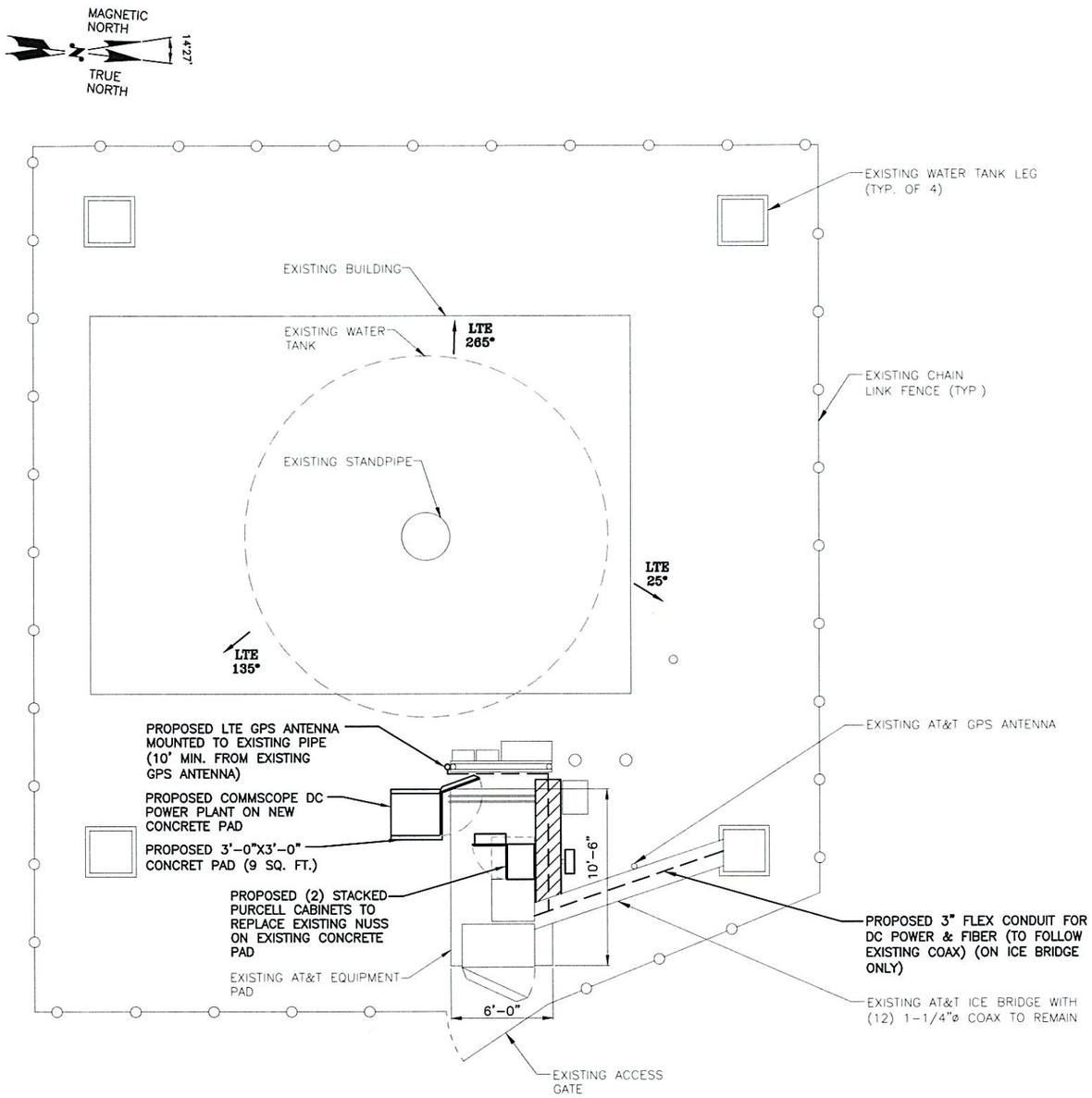
0	07/27/12	ISSUED FOR REVIEW	CG	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: CG

AT&T

GENERAL NOTES
(LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	GN-1	1



COMPOUND PLAN

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

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

NOTE:

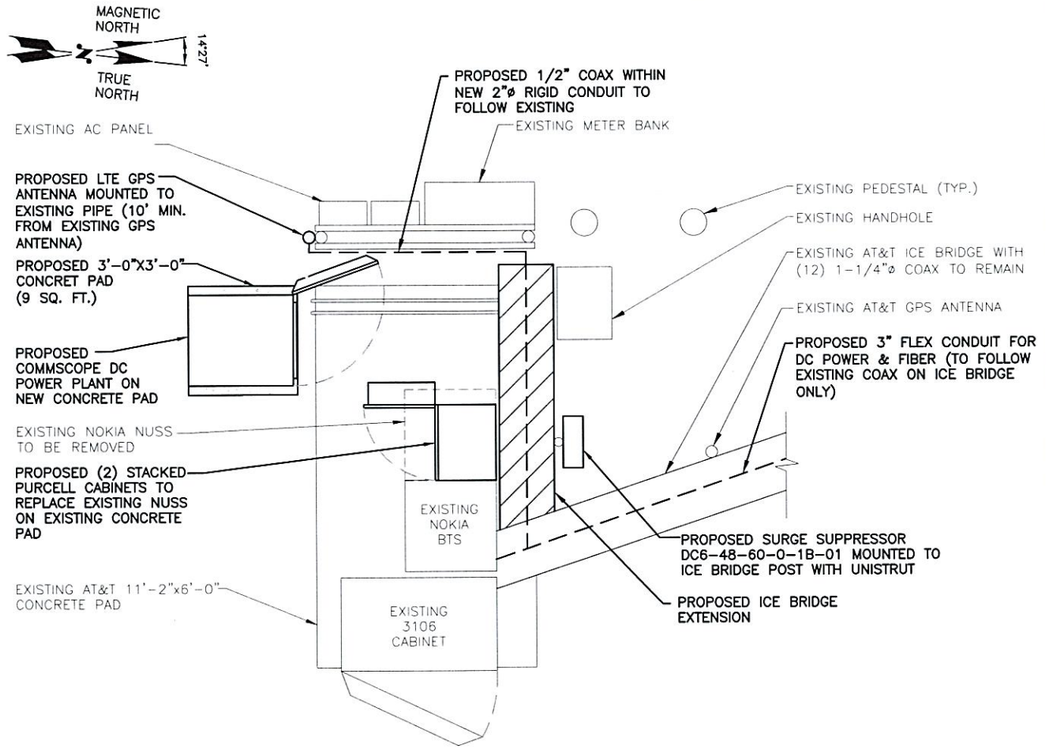
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 25, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

A CONDITION ASSESSMENT OF THE WATER TANK IS RECOMMENDED. REFER TO MAPPING REPORT BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 18, 2012,



EQUIPMENT PLAN

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

0 1'-0" 2'-0" 4'-0" 6'-0"

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SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: CG

STATE OF CONNECTICUT — DANIEL P. HAMM — LICENSED PROFESSIONAL ENGINEER

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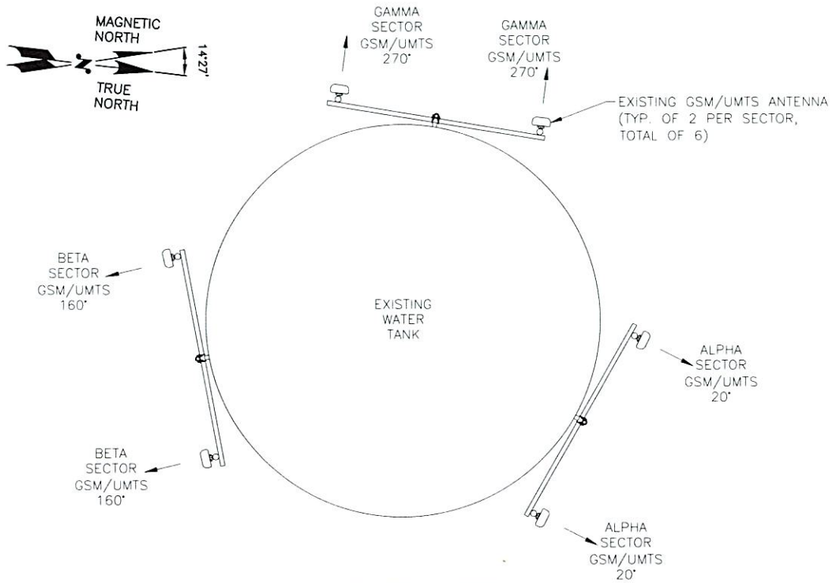
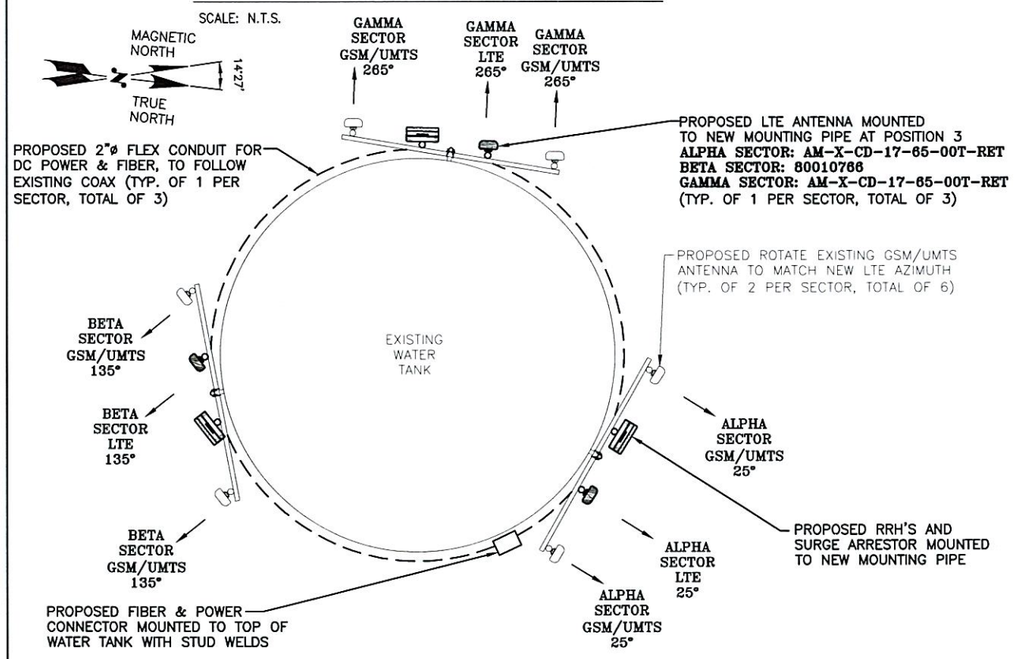
COMPOUND PLAN & EQUIPMENT PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	A-1	1



EXISTING GSM/UMTS ANTENNA PLAN

SCALE: N.T.S.



PROPOSED LTE ANTENNA PLAN

SCALE: N.T.S.

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 25, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

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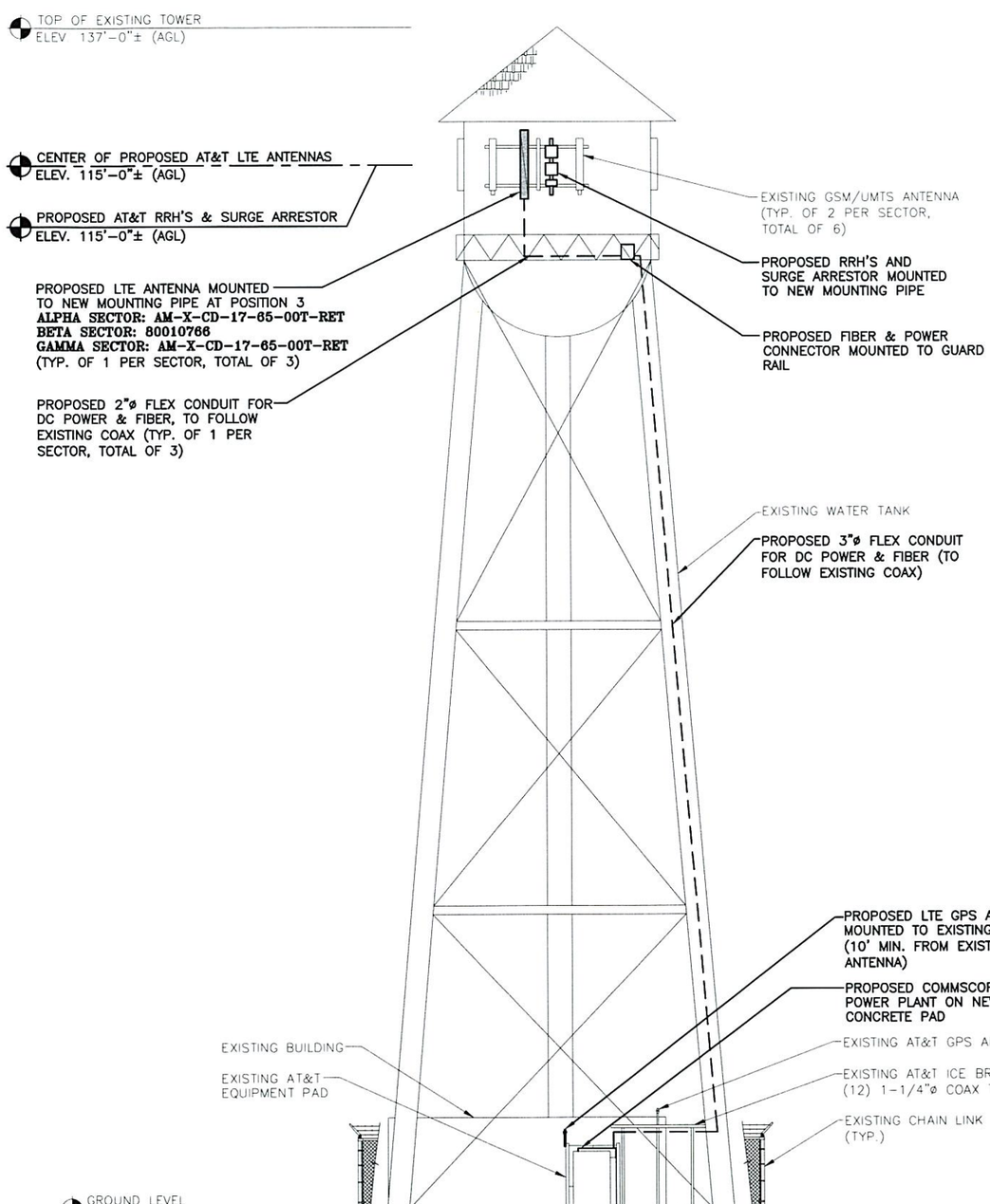
NOTE:

PAINT ALL VISIBLE PROPOSED EQUIPMENT TO MATCH EXISTING WATER TANK



NORTH ELEVATION

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

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

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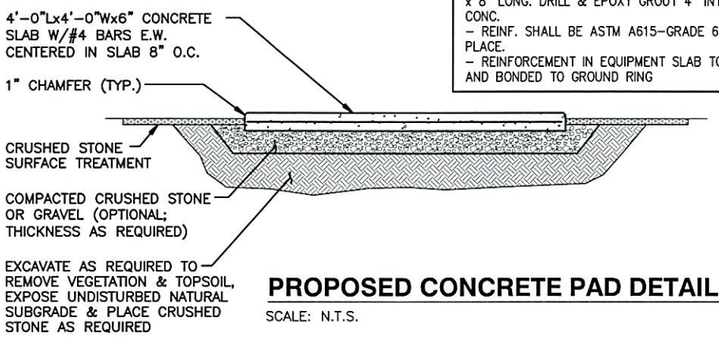
AT&T

ANTENNA PLAN & ELEVATION (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	A-2	1

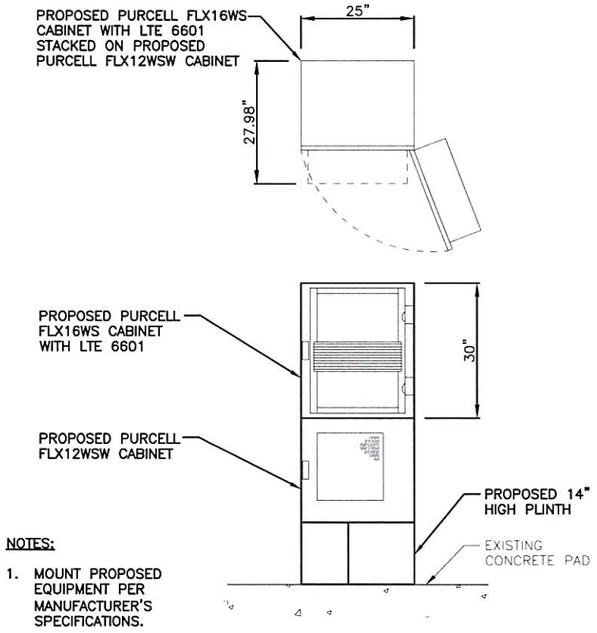
NOTE:
– ATTACH EQUIPMENT TO CONCRETE PER MANUFACTURER'S SPECIFICATIONS.

NEW CONC. PAD NOTES:
– REINF. W/ #4's @ 8" O.C. EA. WAY (MID–DEPTH).
– DOWEL NEW CONC. TO EXIST. W/ #4's @ 8" O.C. x 8" LONG. DRILL & EPOXY GROUT 4" INTO EXIST. CONC.
– REINF. SHALL BE ASTM A615–GRADE 60. SECURE IN PLACE.
– REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND BONDED TO GROUND RING



PROPOSED CONCRETE PAD DETAIL

SCALE: N.T.S.

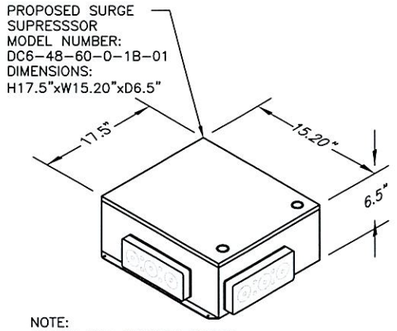


NOTES:

1. MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS.
2. CONTRACTOR TO PROVIDE MOUNTING HARDWARE.

PROPOSED EQUIPMENT MOUNTING DETAIL

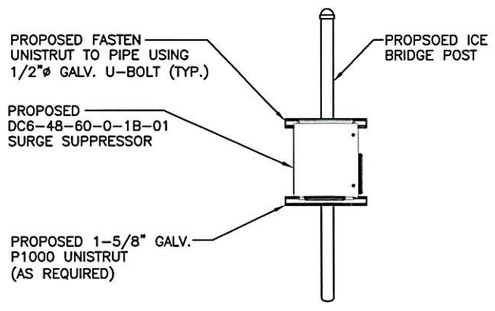
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS

PROPOSED SURGE SUPPRESSOR MOUNTING DETAIL

SCALE: N.T.S.

NOTE:

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

NOTE:

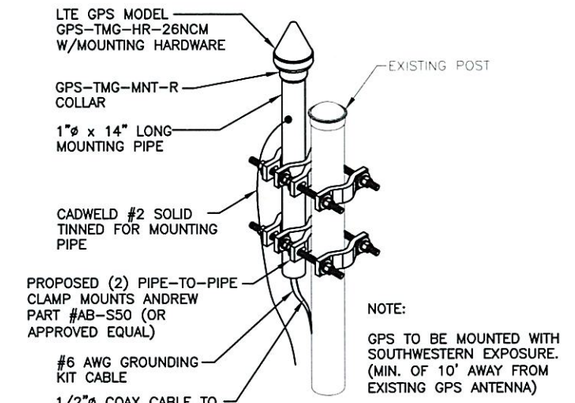
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 25, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

A CONDITION ASSESSMENT OF THE WATER TANK IS RECOMMENDED. REFER TO MAPPING REPORT BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 18, 2012.

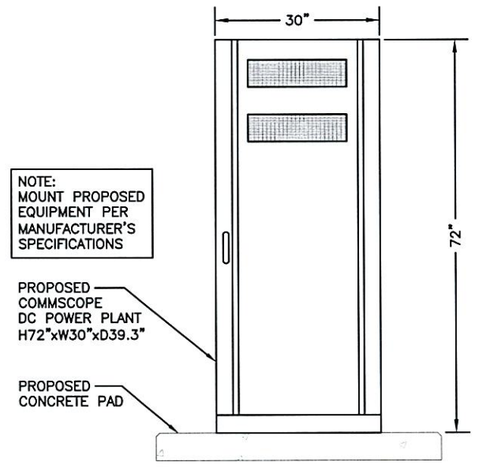
NOTE:

PAINT ALL VISIBLE PROPOSED EQUIPMENT TO MATCH EXISTING WATER TANK



GPS MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED DC POWER PLANT DETAIL

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ROCKY HILL, CT 06067

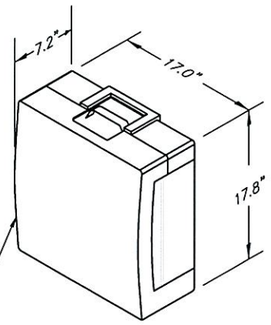
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/26/12	ISSUED FOR CONSTRUCTION	AC	DC	DPH
0	07/27/12	ISSUED FOR REVIEW	CG	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: CG

AT&T

DETAILS
(LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	A–3	1

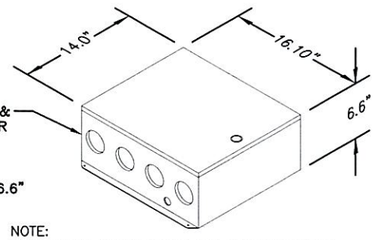


PROPOSED RRH
DIMENSIONS:
H17.8"xW17"xD7.2"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

SCALE: N.T.S.

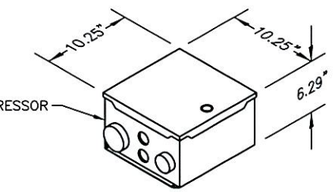


PROPOSED FIBER &
POWER CONNECTOR
MODEL NUMBER:
FC12-PC6-10E
DIMENSIONS:
H16.10"xW14.0"xD6.6"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

FIBER & POWER CONNECTOR DETAIL

SCALE: N.T.S.

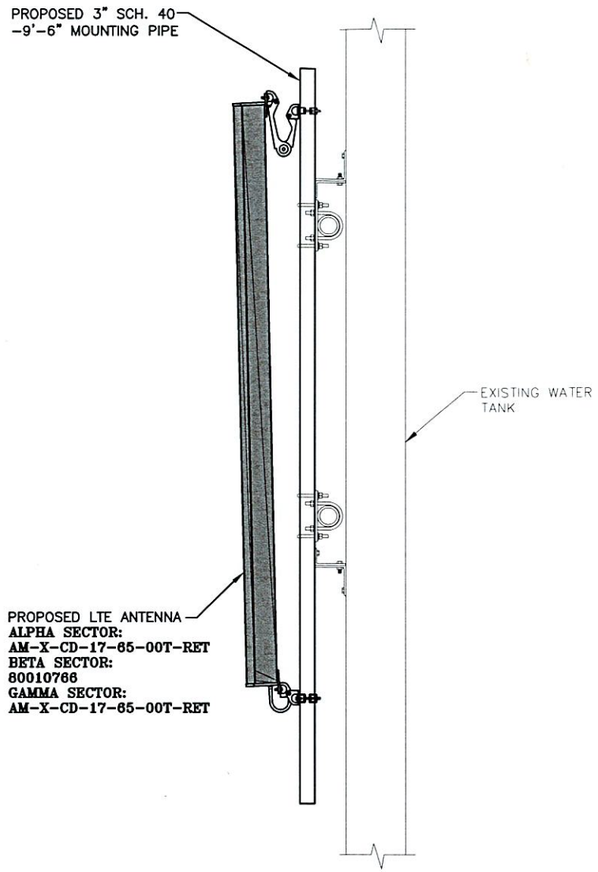


PROPOSED SURGE SUPPRESSOR
MODEL NUMBER:
DC2-48-60-0-9E
DIMENSIONS:
H10.25"xW10.25"xD6.29"

NOTE:
MOUNT PER MANUFACTURE'S SPECIFICATIONS.

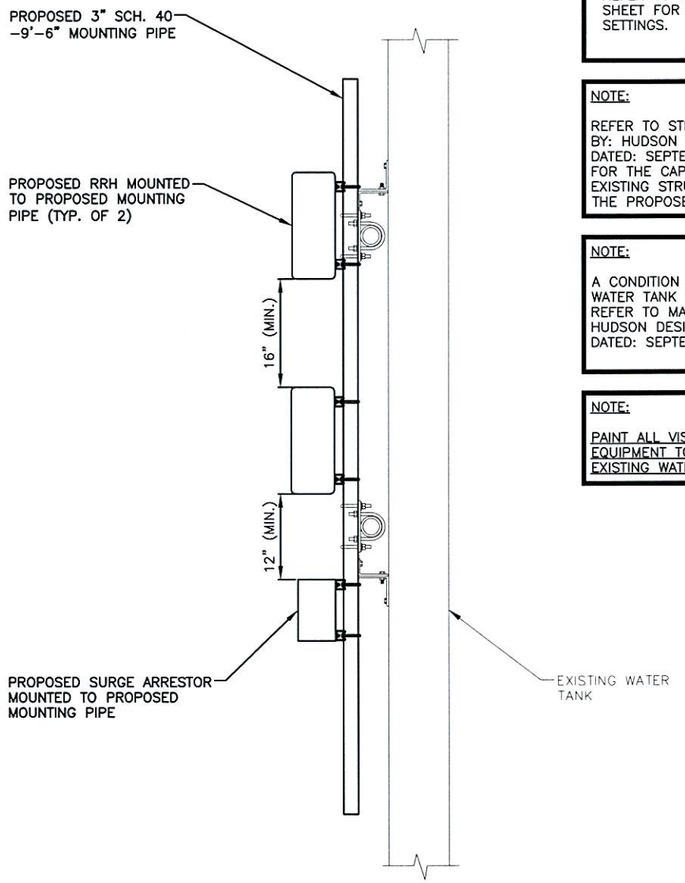
DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



PROPOSED LTE ANTENNA MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 25, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

A CONDITION ASSESSMENT OF THE WATER TANK IS RECOMMENDED. REFER TO MAPPING REPORT BY: HUDSON DESIGN GROUP, LLC, DATED: SEPTEMBER 18, 2012,

NOTE:

PAINT ALL VISIBLE PROPOSED EQUIPMENT TO MATCH EXISTING WATER TANK

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

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5462
SITE NAME: KILLINGLY NORTH CENTRAL
43 CONNECTICUT AVENUE
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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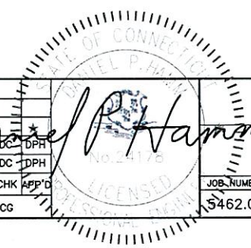
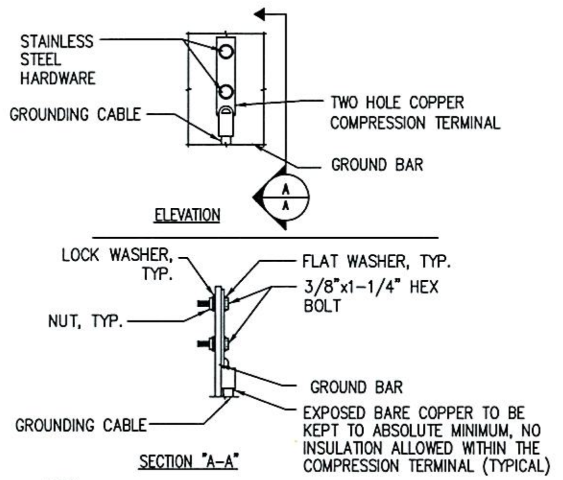


AT&T

DETAILS
(LTE)

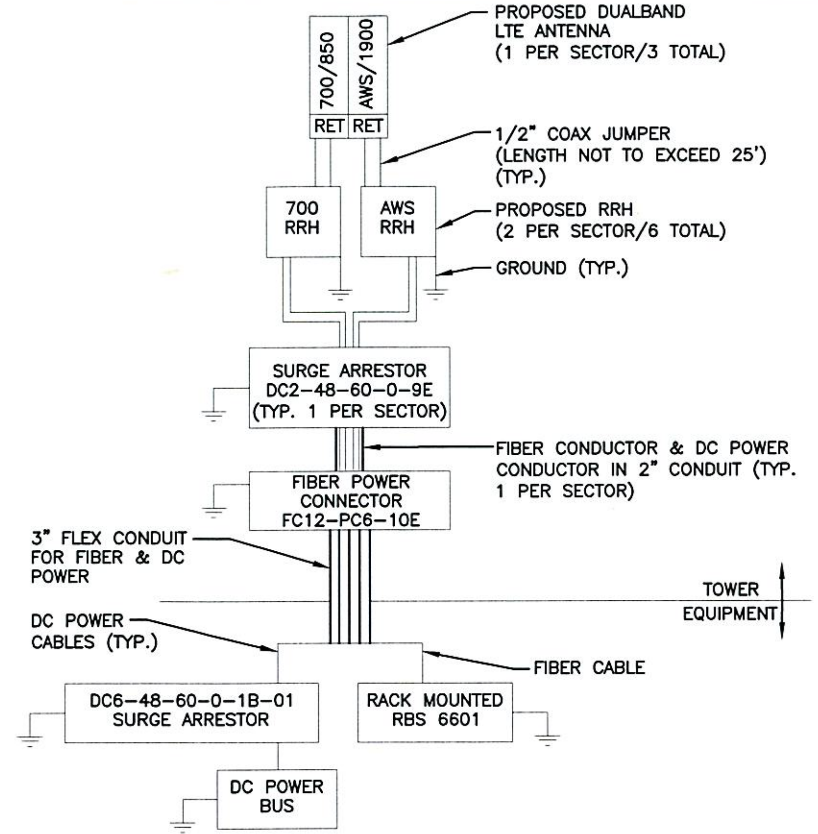
JOB NUMBER	DRAWING NUMBER	REV
5462.01	A-4	1



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

TYPICAL GROUND BAR CONNECTION DETAIL

1 / — N.T.S.

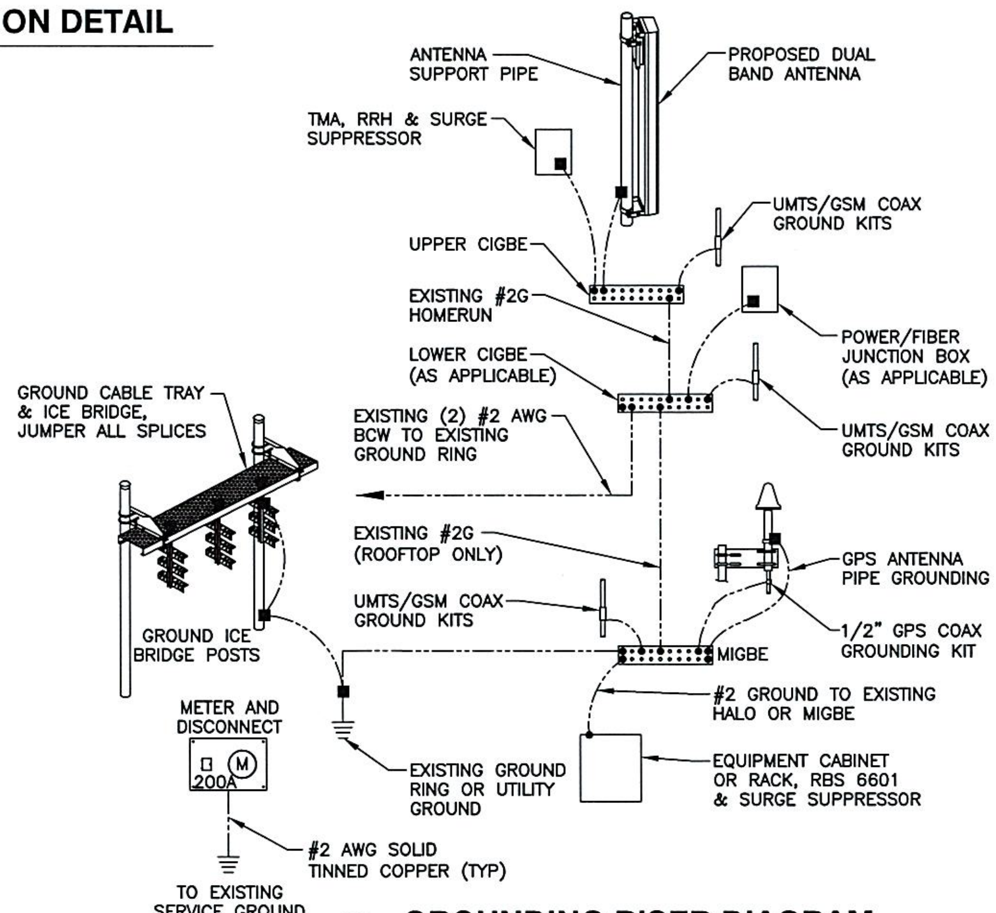


NOTE:

CONTRACTOR TO CONFIRM ALL PARTS & INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

LTE PLUMBING DIAGRAM

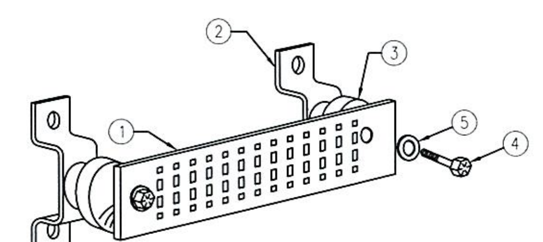
2 / — N.T.S.



GROUNDING RISER DIAGRAM

3 / — N.T.S.

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



GROUND BAR DETAIL

4 / — N.T.S.

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

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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

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

AT&T
PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5462.01	G-1	1