August 16, 2012

VIA UPS Delivery

Ms. Linda Roberts, Executive Director Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

RE: AT&T Mobility - Notice of Exempt Modification 82 Lovely Street, Unionville CT 06085

RECEIVED

AUG 2 4 2012

SITING COUNCIL

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to Albert L Goodhall Jr.; First Selectman of Union.

AT&T plans to modify the existing facility at 82 Lovely Street, owned by the Southern New England Telephone (coordinates 41.761381, -72.887527). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to AT&T's operations at the site.

The changes to the 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. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C. S.A. Section | 6-50j-12(b)(2).

- 1. The height of the overall structure will be unaffected. The existing antennas will remain and AT&T will add three (3) new antennas, six (6) RRU's and one (1) surge arrestor. Additionally, AT&T will install one (1) fiber cable and two (2) DC control cables within the existing monopole.
- 2. The proposed changes will not extend the site boundaries. AT&T will install additional equipment in the existing equipment shelter. Thus, there will no effect on the site compound.
- 3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed change will be negligible.
- 4. The changes to the facility 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 environment as calculated for a mixed frequency site. As indicated in the attached power density calculations, AT&T's operations at the site will result in a power density of 3.98%; the combined site operations will result in a total power density of 12.46 %.

Please feel free to call me with any questions or concerns regarding this matter. Thank you for your consideration.

Respectfully submitted,

AT&T Mobility

Stephanie Wenderoth, Consultant wenderoths@nexlinkgs.com

401.477.2938

Cc:

Albert L Goodhall Jr.; First Selectman

Town Hall

1024 Buckley Highway

Union, Ct 06076



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

Calculated Radio Frequency Emissions



CT1061 – Unionville SBC CO

82 Lovely Street, Unionville, CT 06085

(a.k.a. Farmington - 82 Lovely Street)

Table of Contents

1. Introduction.
2. FCC Guidelines for Evaluating RF Radiation Exposure Limits
3. RF Exposure Prediction Methods
4. Calculation Results
5. Conclusion
6. Statement of Certification4
Attachment A: References5
Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)
Attachment C: AT&T Antenna Data Sheets and Electrical Patterns
List of Tables
Table 1: Carrier Information
Table 2: FCC Limits for Maximum Permissible Exposure (MPE)
List of Figures
Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)



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 monopole tower located at 82 Lovely Street in Unionville, CT. The coordinates of the tower are 41° 45' 40.9716" N, -72° 53' 15.0972" W.

AT&T is proposing the following modifications:

1) Install three 700 MHz LTE antennas (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/cm²). 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:

Power Density =
$$\left(\frac{1.6^2 \times EIRP}{4\pi \times R^2}\right)$$
 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 tower. Please refer to Attachment C for the vertical pattern 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/cm²)	Limit	%МРЕ
	41 A1 4 41 4	. W]		2 K F	200	41:51/	351.7
			k	1.1	Single Control		150.8
<u> </u>	1.50	3 c.		1.50	1. 1.	7 - 2 - 3 - 3 2 - 1 - 3 - 3	1.7.
对某项模式	2.5		,	1.4.4	275	176.57	15.8
Nextel	82	851	9	100	0.0481	0.5673	8.48%
AT&T UMTS	102	880	2	720	. 0.0050	0.5867	0.85%
AT&T UMTS	102	1900	2	1140	0.0079	1.0000	0.79%
AT&T LTE	100	734	1	1615	0.0058	0.4893	1.19%
AT&T GSM	102	880	1	360	0.0012	0.5867	0.21%
AT&T GSM	102	1900	4	684	0.0095	1.0000	0.95%
				-		Total	12.46%

Table 1: Carrier Information 1 2 3

CT1061 3 July 30, 2012

¹ The existing CSC filing for AT&T 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 7/27/2012. 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 B&T Group Structural Analysis Report dated July 26, 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 12.46% 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

July 30, 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

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

CT1061 5 July 30, 2012



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

(A) Limits for Occupational/Controlled Exposure⁴

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
500-100,000	•	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁵

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)

CT1061

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



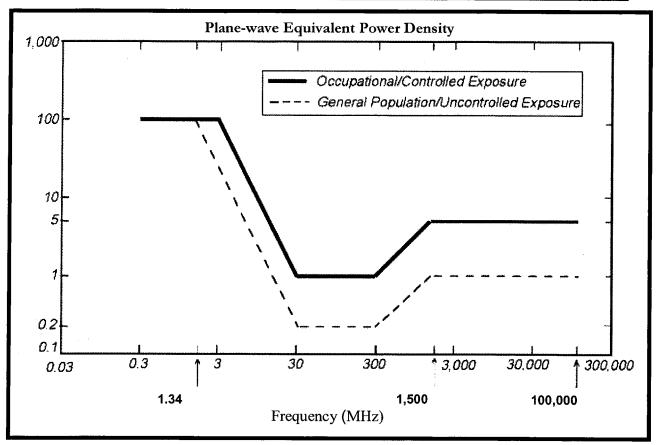


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)



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

700 MHz

Manufacturer: Powerwave

Model #: P65-17XLH-RR

Frequency Band: 698-806 MHz

Gain: 14.3 dBd

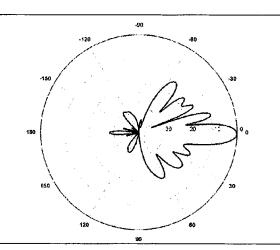
Vertical Beamwidth: 8.4°

Horizontal Beamwidth: 70°

nai Beamwidin. 70

Polarization: Dual Linear $\pm 45^{\circ}$

Size L x W x D: 96.0" x 12.0" x 6.0"



850 MHz

Manufacturer: Powerwave

Model #: P65-15-XLH-RR

Frequency Band: 806-894 MHz

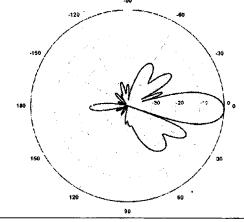
Gain: 12.6 dBd

Vertical Beamwidth: 17°

Horizontal Beamwidth: 63°

Polarization: Dual Linear ±45°

Size L x W x D: 51.0" x 12.0" x 6.0"



1900 MHz

Manufacturer: Powerwave

Model #: P65-15-XLH-RR

Frequency Band: 1850-1990 MHz

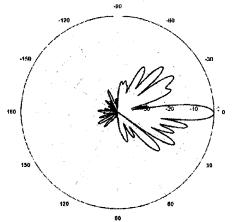
Gain: 14.6 dBd

Vertical Beamwidth: 7.5°

Horizontal Beamwidth: 61°

Polarization: Dual Linear ±45°

Size L x W x D: 51.0" x 12.0" x 6.0"





Nexlink Global Services

Suite A Building 2, 800 Marshall Phelps Road Windsor, CT 06095

August 3, 2012

Structural Modification Report 100' Monopole

59358

Site ID: Site FA:

10035037

Site Name:

UNIONVILLE SBC CO

AT&T Project:

MOD LTE W3 012312

ANALYSIS CRITERIA:

AT&T DESIGNATION:

Codes:

TIA/EIA-222-F (80 mph fastest mile)

IBC 2006

2003 IRC (State Building Code, 2005 CT supplement)

B+T Group

Tulsa, OK 74119

1717 S. Boulder, Suite 300

B+T No.: 84421,000,002

SITE DATA:

82 LOVELY STREET, Unionville , CT, Hartford County

Latitude 41.761381°, Longitude -72.887527°

Market MA/RI/VT/NH/ME/CT

Dear Ms. Wenderoth,

B+T Group is pleased to submit this Structural Modification Report to determine the structural integrity of the aformentioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:

95.1%

Pass

Foundation Ratio with Proposed Equipment:

31.4%

Pass

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and AT&T Towers. If you have any questions or need further assistance on this or any other project please give us a call.

Respectfully Submitted by:

B+T Engineering, Inc.

Analysis Prepared by:

Ali Abbaszadeh

Analysis Reviewed by:

Chad E. Tuttle, P.E.

STONAL ENGLISHED /2/

August 3, 2012 B+T Project No: 84421.000.002

Page 3

ANALYSIS PROCEDURE:

Table 4 - Documents Provided

Document	Description			
T		Date	Source	
Tower Data	SA by B+T Engineering, Inc.	4/24/2012	Siterra	
Foundation Information	WEI Geotechnical Engineers	2/16/2010		
Geotech Report	WEI Geotechnical Engineers		Siterra	
· · · · · · · · · · · · · · · · · · ·	Equipment Mod Form	2/16/2010	Siterra	
Loading	Previous analysis by B+T	4/12/2012	Siterra	
Provious Charles I.A.	SA by B+T Engineering, Inc.	4/24/2012	On File	
Previous Structural Analysis	SA by GPD	4/24/2012	Siterra	
	TON DY GPD	2/9/2011	Siterra	

ANALYSIS METHOD:

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

ASSUMPTIONS:

- 1. Tower and structures were built in accordance with the manufacturer's specifications.
- 2. The tower and structures have been maintained in accordance with the manufacturer's specifications.
- 3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in
- 4. Mount areas and weights are assumed based on photographs provided.
- 5. Refer to the base level drawing for transmission line distribution.

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

TOWER ANALYSIS LOADING:

Existing / Reserved Loading

			Antenna				7		
		Antenna					Mount	Transr	Transmission Line
Antenna Owner	Mount Height (ft)		Quantity	Manufacturer	Model	Quantity	Туре	Quantity	Size
AT&T	100	402							î.
+0+	3	701	0	Powerwave	P65-15-XLH-RR	**	Dual Standoffe*	;	4 4/48
1814	100	100	9	Powerwave	TT19-08BP111-001		2	7.	4/1
Sprint	88	88	m	Kathrein	AB11 080/0001/VD				
					AV/0000000-11-AV	63	Pipe Mounts	9	7/8"
Sprint	ν.	6							
	5	0	9	Kathrein	AP11-880-090D/XP	က	Pipe Mounts	Œ	7/8"
"Remove Mounts and Deplace T Assured T	th T Amen	- Transfer							

Remove Mounts and Replace with T-Arms Mounts

Proposed Loading

			Antenna						
		Antonna					Mount	Transn	Transmission Line
Antenna Owner	Mount Height (ft)	고 () ()	Quantity	Manufacturer	Model	Quantity	Туре	Quantity	Size
AT&T	Ş	5							
	3	3	_	KMW	AM-X-CD-16-65-00T	~	T A see Manage	۱	
AT&T	100	100	1	Andrew	SRNH-1DEREC	,	STUDONI IIIV-	2	1/2"
AT&T	100	400	-						
ATOT	3	3	_	Powerwave	P65-17-XLH-RR				
3 2	100	100	g	Ericsson	RBS6601				
AT&T	100	100	_	Ravcap	DC6-48-60-18-8F				
					0-01-00-01-00-01				

Future Loading									
			Antenna				Mount		
·	:	Antenna					Modific	ıransır	I ransmission Line
Antenna Owner	Mount	_	Quantity	Manufacturer	o CV	1	,		
	rieigiik (it)	(#)				Qualitity	lype	Quantity	(ii)
									f1

12.830 18 0.219 3.000 14.493 9.0 87.2 ft 44.670 18 0.250 3.500 15,412 2.3 A572-60 45.5 ft 27.411 18 0.344 4.5 AXIAL 19 K SHEAR MOMENT 3 K__ 233 kip-ft TORQUE 0 kip-ft 38 mph WIND - 1.000 in ICE AXIAL 12 K SHEAR MOMENT 9K / 740 kip-ft 0.0 ft Socket Length (ft) Top Dia (in) Bot Dia (in) TORQUE 1 kip-ft REACTIONS - 80 mph WIND Thickness (in) Length (ff) Weight (K) Grade

DESIGNED APPURTENANCE LOADING

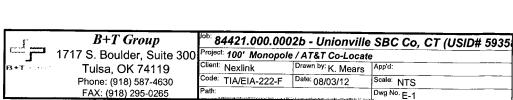
TYPE	ELEVATION	TYPE	ELEVATION
(2) P65-15-XLH-RR w/ Mount	102	(2) RBS-6601 TMA (ATI_P)	100
Pipe (ATI_E)		DC6-48-60-18-8F (ATI P)	100
(2) P65-15-XLH-RR w/ Mount Pipe (ATI E)	102	T-Arm Mount [TA 602-3] (ATI_P)	100
(2) P65-15-XLH-RR w/ Mount Pipe (ATI E)	102	AP11-880/090D/XPV w/Mount Pipe (E)	88
(2) TT19-08BP111-001 (ATI_E)	100	AP11-880/090D/XPV w/Mount Pipe (E)	88
(2) TT19-08BP111-001 (ATI_E)	100	AP11-880/090D/XPV w/Mount	88
(2) TT19-08BP111-001 (ATT_E)	100	Pipe (E)	00
AM-X-CD-16-65-00T-RET w/	100	Pipe Mount [PM 601-3] (E)	88
Mount Pipe (ATI_P)		AP11-880/090D/XPV w/Mount	81
SBNH-1D6565C w/ Mount Pipe	100	Pipe (E)	-
(ATI_P)	1	AP11-880/090D/XPV w/Mount	81
P65-17-XLH-RR w/ Mount Pipe	100	Pipe (E)	,
(ATI_P)		AP11-880/090D/XPV w/Mount	81
(2) RBS-6601 TMA (ATI_P)	100	Pipe (E)	"
(2) RBS-6601 TMA (ATI_P)	100	Pipe Mount [PM 601-3] (E)	81

MATERIAL STRENGTH

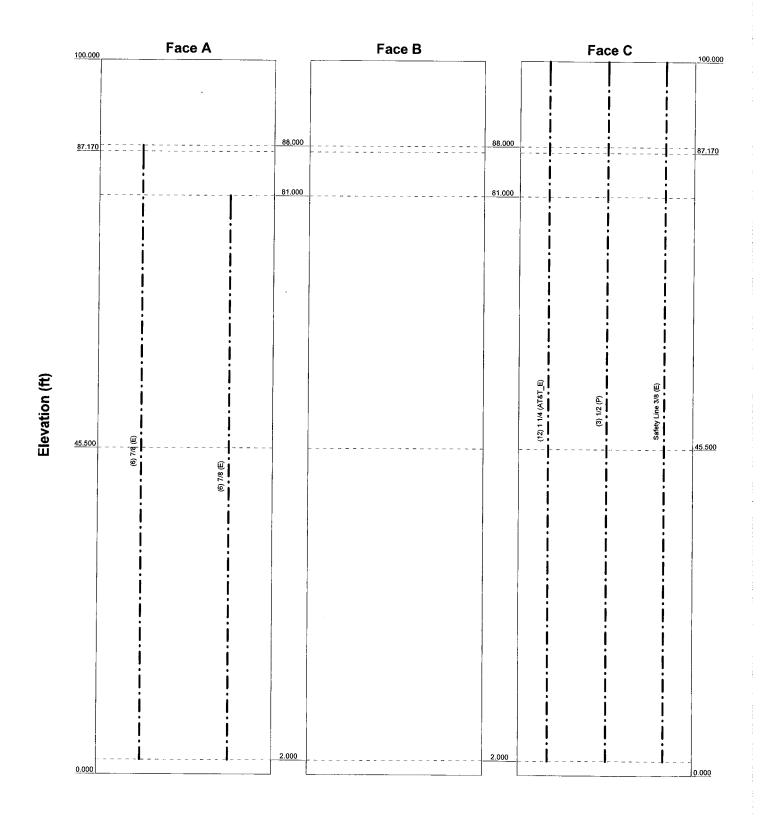
$\overline{}$					
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

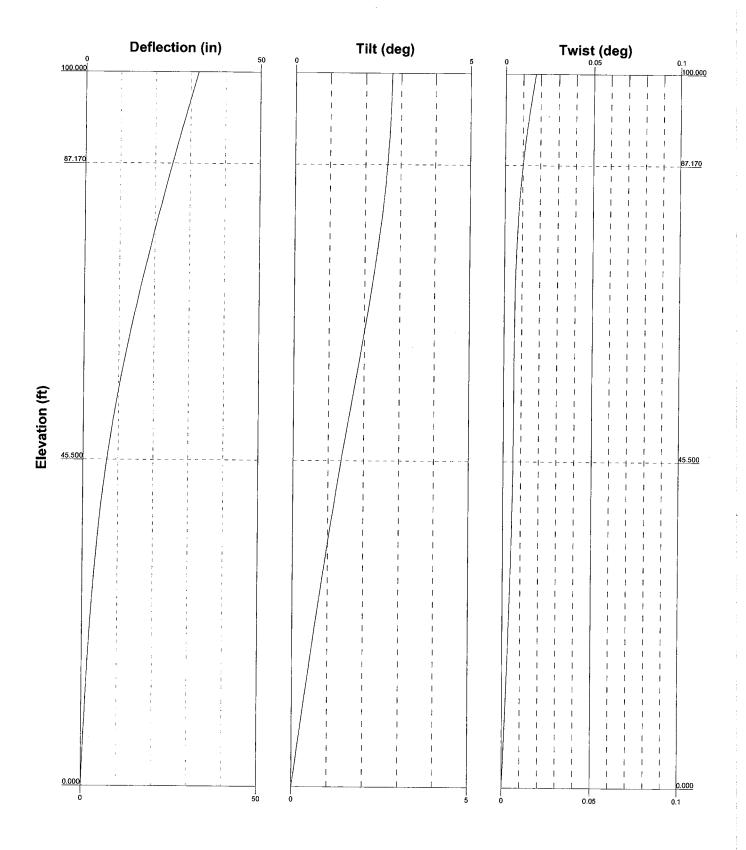
- 1. Tower is located in Hartford County, Connecticut.
- Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
- 3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 50 mph wind.
 5. TOWER RATING: 95.1%



Round Flat App In Face App Out Face Truss I



f"	B+T Group	^{ЈоБ:} 84421.000.00	02b - Unionville	SBC Co, CT (USID# 5	935
	1717 S. Boulder, Suite 300	Project: 100' Monopol	e / AT&T Co-Locate	e	
в+т	Tulsa, OK 74119	Client: Nexlink	Drawn by: K. Mears	App'd:	
	Phone: (918) 587-4630	Code: TIA/EIA-222-F	Date: 08/03/12	Scale: NTS	
	FAX: (918) 295-0265	Path:		Dwg No. F-7	



,J ,	B+T Group	^{Job:} 84421.000.00 0	2b - Unionville	SBC Co, CT (USID# 5935
	1717 S. Boulder, Suite 300	Project: 100' Monopole	AT&T Co-Locate	9
B+T + 0000	Tulsa, OK 74119	Client: Nexlink	Drawn by: K. Mears	App'd:
	Phone: (918) 587-4630	Code: TIA/EIA-222-F	Date: 08/03/12	Scale: NTS
	FAX: (918) 295-0265	Path:	Adams a south to the second state of the second	Dwg No. E-5

B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265

Job	Page
84421.000.0002b - Unionville SBC Co, CT (USID# 59358)	2 of 12
Project 100' Monopole / AT&T Co-Locate	Date 09:40:35 08/03/12
Client Nexlink	Designed by K. Mears

				Tape	red Pole	Prop	erties			
Section	Tip Dia. in	Area in²	ı I in ⁴	r in	C in	I/C in³	J in ⁴	It/Q in ²	w in	w/t
Ll	14.717	9.91			7.363	34.661	510.728	4.958	2.16	6 9.898
	16.514	11.14			8.262	43.864	725.260	5.572	2.47	7 11.322
L2	16.074	12.03			7.829	44.630	699.296	6.017	2.27	2 9.09
	21.969	16.96			10.991	89.210	1962.268	8.486	3.36	8 13.47
L3	21.457	22.15			10.489	110.017	2309.484	11.080	3.029	9 8.81
	27.834	29.53	7 2733.9	9.609	13.925	196.335	5471.489	14.771	4.21	9 12.272
Tower Elevation ft	A	sset rea face) T ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Muli	t. Double Stitch Spac Diago ir	Bolt cing	Double Angle Stitch Bolt Spacing Horizontals in
L1 00.000-87.1	17	12 (a dalah di di di di da a da di mangangan	**************************************	ini et este ett ett ett ett ett ett ett ett	1	1	1.05	Maria de la companio		ETF
0										
L2 7.170-45.50	00				1	1	1.05			
L3 15.500-0.000	0				1	1	1.05			

Feed Line/Linear A	Appurtenances -	Entered As Area

Description	Face or	Allow Shield	Component Type	Placement	Total Number		C_AA_A	Weighi
no mich de interessant anno a communication	Leg	- ANTERS STATE STATE	TO COMPACE OF THE PROPERTY OF THE PROPERTY OF	on a consiste a consiste a series de la consiste a consiste a consiste a consiste a consiste a consiste a cons		e entre control	ft²/ft	klf
1 1/4	С	No	Inside Pole	100.000 - 2.000	12	No Ice	0.000	0.001
(AT&T_E)						1/2" Ice	0.000	0.001
						l" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
1/2	С	No	Inside Pole	100.000 - 2.000	3	No Ice	0.000	0.000
(P)						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
***						4" Ice	0.000	0.000
7/8	Α	No	Inside Pole	88.000 - 2.000	6	No Ice	0.000	0.001
(E)		110	morac i orc	88.000 - 2.000	U	1/2" Ice	0.000	0.001
						1" Ice		0.001
							0.000	0.001
						2" Ice	0.000	0.001
7/8	Α	No	Inside Pole	91 000 2 000	,	4" Ice	0.000	0.001
(E)	Α	NO	mside Pole	81.000 - 2.000	6	No Ice	0.000	0.001
(E)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
****						4" Ice	0.000	0.001
Safety Line 3/8	С	No	CaAa (Out Of	100.000 - 2.000	1	No Ice	0.037	0.000
(E)			Face)		-	1/2" Ice	0.137	0.000
• •			,	•		l" Ice	0.238	0.001
						2" Ice	0.437	0.001
						4" Ice	0.838	0.002

B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265

Job		Page
84421.0	000.0002b - Unionville SBC Co, CT (USID# 59358)	4 of 12
Project	100' Monopole / AT&T Co-Locate	Date 09:40:35 08/03/12
Client	Nexlink	Designed by K. Mears

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		C ₄ A _A Front	C _A A _A Side	Weight
	Leg		Lateral Vert						
			ft ft	٥	ft		ft²	ft²	K
(AT&T_E)	to the second	NAMES TO THE PERSON OF THE PER	ft 0.000		With an early consequence with a constant and a second	1" Ice	(75)	4.000	
(///w/b)			0.000			2" Ice	6.756 7.716	4.902 6.235	0.141 0.262
						4" Ice	9.772	9.277	0.262
(2) P65-15-XLH-RR w/	В	From Leg	3.000	22.000	102.000	No Ice	5.838	3.665	0.048
Mount Pipe		Ü	0.000		102.000	1/2" Ice	6.292	4.278	0.090
(AT&T_E)			0.000			1" Ice	6.756	4.902	0.141
						2" Ice	7.716	6.235	0.262
						4" Ice	9.772	9.277	0.611
(2) P65-15-XLH-RR w/	Α	From Leg	3.000	14.000	102.000	No Ice	5.838	3.665	0.048
Mount Pipe			0.000			1/2" Ice	6.292	4.278	0.090
(AT&T_E)			0.000			1" Ice	6.756	4.902	0.141
						2" Ice	7.716	6.235	0.262
(2) TT19-08BP111-001	С	From Las	3.000	0.000	100.000	4" Ice	9.772	9.277	0.611
(AT&T_E)	C	From Leg	3.000 0.000	0.000	100.000	No Ice	0.636	0.516	0.016
(AI&I_L)			0.000			1/2" Ice 1" Ice	0.747	0.619	0.022
			0.000			2" Ice	0.867	0.730	0.029
						4" Ice	1.133 1.768	0.980	0.049
(2) TT19-08BP111-001	В	From Leg	3.000	0.000	100.000	No Ice	0.636	1.582 0.516	0.118 0.016
(AT&T E)	_	Trom Leg	0.000	0.000	100.000	1/2" Ice	0.030	0.516	0.016
,			0.000			1" Ice	0.867	0.730	0.022
			0,000			2" Ice	1.133	0.980	0.029
						4" Ice	1.768	1.582	0.118
(2) TT19-08BP111-001	Α	From Leg	3.000	0.000	100.000	No Ice	0.636	0.516	0.016
(AT&T_E)		ŭ	0.000			1/2" Ice	0.747	0.619	0.022
			0.000			1" Ice	0.867	0.730	0.029
						2" Ice	1.133	0.980	0.049
N. W. CD. LC. CE AND DDD	_					4" Ice	1.768	1.582	0.118
M-X-CD-16-65-00T-RET	C	From Leg	3.000	40.000	100.000	No Ice	8.498	6.304	0.074
w/ Mount Pipe			0.000			1/2" Ice	9.149	7.479	0.136
(AT&T_P)			0.000			1" Ice	9.767	8.368	0.210
						2" Ice	11.031	10.179	0.385
BNH-1D6565C w/ Mount	Α	From Leg	2 000	50,000	100.000	4" Ice	13.679	14.024	0.874
Pipe	А	rioni Leg	3.000 0.000	50.000	100.000	No Ice	11.644	9.842	0.099
(AT&T P)			0.000			1/2" Ice 1" Ice	12.365	11.366	0.185
(11121_1)			0.000			2" Ice	13.095 14.553	12.914	0.286
						4" Ice	17.825	15.267 20.139	0.521 1.165
65-17-XLH-RR w/ Mount	В	From Leg	3.000	40.000	100.000	No Ice	11.704	8.938	0.092
Pipe			0.000	101000	100.000	1/2" Ice	12.424	10.450	0.032
(AT&T P)			0.000			1" Ice	13.153	11.986	0.174
						2" Ice	14.639	14.313	0.498
						4" Ice	17.906	19,144	1.125
(2) RBS-6601 TMA	C	From Leg	3.000	0.000	100.000	No Ice	2.542	0.483	0.175
(AT&T_P)		_	0.000			1/2" Ice	2.870	0.699	0.220
			0.000			I" Ice	3.198	0.915	0.269
						2" Ice	3.854	1.347	0.380
						4" Ice	5.166	2.211	0.663
(2) RBS-6601 TMA	В	From Leg	3.000	0.000	100.000	No Ice	2.542	0.483	0.175
(AT&T_P)			0.000			1/2" Ice	2.870	0.699	0.220
			0.000			I" Ice	3.198	0.915	0.269
						2" Ice	3.854	1.347	0.380
(2) RBS-6601 TMA	٨	From I	2.000	0.000	100.000	4" Ice	5.166	2.211	0.663
	Α	From Leg	3.000	0.000	100.000	No Ice	2.542	0.483	0.175
(AT&T_P)			0.000			1/2" Ice	2.870	0.699	0.220
			0.000			1" Ice	3.198	0.915	0.269
						2" Ice	3.854	1.347	0.380

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Job	Page
84421.000.0002b - Unionville SBC Co, CT (USID# 59358)	6 of 12
Project	Date
100' Monopole / AT&T Co-Locate	09:40:35 08/03/12
Client	Designed by
Nexlink	K. Mears

Load Combinations

Comb.	<i>Description</i>	e a tam
<i>No</i> .		
1	Dead Only	VARCO CONTRACTOR
2	Dead+Wind 0 deg - No Ice	
3	Dead+Wind 30 deg - No Ice	
4	Dead+Wind 60 deg - No Ice	
5	Dead+Wind 90 deg - No Ice	
6	Dead+Wind 120 deg - No Ice	
7	Dead+Wind 150 deg - No Ice	
8	Dead+Wind 180 deg - No Ice	
9	Dead+Wind 210 deg - No Ice	
10	Dead+Wind 240 deg - No Ice	
11	Dead+Wind 270 deg - No Ice	
12	Dead+Wind 300 deg - No Ice	
13	Dead+Wind 330 deg - No Ice	
14	Dead+Ice+Temp	
15	Dead+Wind 0 deg+Ice+Temp	
16	Dead+Wind 30 deg+Ice+Temp	
17	Dead+Wind 60 deg+Ice+Temp	
18	Dead+Wind 90 deg+Ice+Temp	
19	Dead+Wind 120 deg+Ice+Temp	
20	Dead+Wind 150 deg+Ice+Temp	
21	Dead+Wind 180 deg+Ice+Temp	
22	Dead+Wind 210 deg+Ice+Temp	
23	Dead+Wind 240 deg+Ice+Temp	
24	Dead+Wind 270 deg+Ice+Temp	
25	Dead+Wind 300 deg+Ice+Temp	
26	Dead+Wind 330 deg+Ice+Temp	
27	Dead+Wind 0 deg - Service	
28	Dead+Wind 30 deg - Service	
29	Dead+Wind 60 deg - Service	
30	Dead+Wind 90 deg - Service	
31	Dead+Wind 120 deg - Service	
32	Dead+Wind 150 deg - Service	
33	Dead+Wind 180 deg - Service	
34	Dead+Wind 210 deg - Service	
35	Dead+Wind 240 deg - Service	
36	Dead+Wind 270 deg - Service	
37	Dead+Wind 300 deg - Service	
38	Dead+Wind 330 deg - Service	

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load	Force	Major Axis Moment	Minor Axis Moment
	and a self-self-self-self-self-self-self-self-	• •		Comb.	K	kip-ft	kip-ft
L1	100 - 87.17	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-5.764	-0.211	0.541
			Max. Mx	5	-2.505	-38.587	-0.372
			Max. My	2	-2.514	0.402	38.194
			Max. Vy	5	3.883	-38.587	-0.372
			Max. Vx	2	-3.830	0.402	38.194
			Max. Torque	12			-0.998
L2	87.17 - 45.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-12.107	-0.190	0.573

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Job	Page
84421.000.0002b - Unionville SBC Co, CT (USID# 59358)	8 of 12
Project	Date
100' Monopole / AT&T Co-Locate	09:40:35 08/03/12
Client	Designed by
Nexlink	K. Mears

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M ₌	Torque
Established Whatever Continues the contribution of Continues to the contribution of th	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 90 deg+lce+Temp	19.238	2.728	0.008	0.381	-232.384	-0.213
Dead+Wind 120 deg+Ice+Temp	19.238	2.367	1.364	115.560	-201.749	-0.237
Dead+Wind 150 deg+Ice+Temp	19.238	1.372	2.354	199.621	-117.090	-0.199
Dead+Wind 180 deg+Ice+Temp	19.238	0.008	2.714	230.037	-1.095	-0.107
Dead+Wind 210 deg+Ice+Temp	19.238	-1.357	2.346	198.669	115.154	0.013
Dead+Wind 240 deg+Ice+Temp	19.238	-2.359	1.350	113.910	200.510	0.131
Dead+Wind 270 deg+Ice+Temp	19.238	-2.728	-0.008	-1.524	232.096	0.213
Dead+Wind 300 deg+Ice+Temp	19.238	-2.367	-1.364	-116.703	201.463	0.238
Dead+Wind 330 deg+Ice+Temp	19.238	-1.372	-2.354	-200.766	116.805	0.199
Dead+Wind 0 deg - Service	12.174	-0.014	-3.590	-287.019	1.457	0.172
Dead+Wind 30 deg - Service	12.174	1.793	-3.102	-247.836	-143.226	-0.023
Dead+Wind 60 deg - Service	12.174	3.119	-1.783	-142.274	-249.543	-0.211
Dead+Wind 90 deg - Service	12.174	3.610	0.014	1.374	-289.005	-0.343
Dead+Wind 120 deg - Service	12.174	3.133	1.807	144.618	-251.041	-0.383
Dead+Wind 150 deg - Service	12.174	1.817	3.116	249.078	-145.824	-0.321
Dead+Wind 180 deg - Service	12.174	0.014	3.590	286.764	-1.545	-0.173
Dead+Wind 210 deg - Service	12.174	-1.793	3.102	247.578	143.136	0.021
Dead+Wind 240 deg - Service	12.174	-3.119	1.783	142.018	249.452	0.211
Dead+Wind 270 deg - Service	12.174	-3.610	-0.014	-1.629	288.915	0.344
Dead+Wind 300 deg - Service	12.174	-3.133	-1.807	-144.873	250.953	0.385
Dead+Wind 330 deg - Service	12.174	-1.817	-3.116	-249.334	145.737	0.322

Solution Summary

	Su	m of Applied Force.					
Load	PX	PY	PZ	PX	PY	PZ	% Error
Comb.	K	K	K	K	K	K	
1	0.000	-12.174	0.000	0.000	12.174	0.000	0.000%
2	-0.036	-12.174	-9.191	0.036	12,174	9.191	0.000%
3	4.590	-12.174	-7.942	-4.590	12.174	7.942	0.000%
4	7.986	-12.174	-4.565	-7.986	12.174	4.565	0.000%
5	9.242	-12.174	0.036	-9.242	12.174	-0.036	0.000%
6	8.021	-12.174	4.627	-8.021	12.174	-4.627	0.000%
7	4.652	-12.174	7.978	-4.652	12.174	-7.978	0.000%
8	0.036	-12.174	9.191	-0.036	12,174	-9.191	0.000%
9	-4.590	-12.174	7.942	4.590	12.174	-7.942	0.000%
10	-7.986	-12.174	4.565	7.986	12.174	-4.565	0.000%
11	-9.242	-12.174	-0.036	9.242	12.174	0.036	0.000%
12	-8.021	-12.174	-4.627	8.021	12.174	4.627	0.000%
13	-4.652	-12.174	-7.978	4.652	12.174	7.978	0.000%
14	0.000	-19.238	0.000	-0.000	19.238	0.000	0.000%
15	-0.008	-19.238	-2.714	0.008	19.238	2.714	0.000%
16	1.357	-19.238	-2.346	-1.357	19.238	2.346	0.000%
17	2.359	-19.238	-1.350	-2.359	19.238	1.350	0.000%
18	2.728	-19.238	0.008	-2.728	19.238	-0.008	0.000%
19	2.367	-19.238	1.364	-2.367	19.238	-1.364	0.000%
20	1.371	-19.238	2.354	-1.372	19.238	-2.354	0.000%
21	0.008	-19.238	2.714	-0.008	19.238	-2.714	0.000%
22	-1.357	-19.238	2.346	1.357	19.238	-2.346	0.000%
23	-2.359	-19.238	1.350	2.359	19.238	-1.350	0.000%
24	-2.728	-19.238	-0.008	2.728	19.238	0.008	0.000%
25	-2.367	-19.238	-1.364	2.367	19.238	1.364	0.000%
26	-1.371	-19.238	-2.354	1.372	19.238	2.354	0.000%
27	-0.014	-12.174	-3.590	0.014	12.174	3.590	0.000%
28	1.793	-12.174	-3.102	-1.793	12.174	3.102	0.000%
29	3.119	-12.174	-1.783	-3.119	12.174	1.783	0.000%
30	3.610	-12.174	0.014	-3.610	12,174	-0.014	0.000%
31	3.133	-12.174	1.807	-3.133	12.174	-1.807	0.000%

B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265

Job			Page
84421.0	00.0002k	o - Unionville SBC Co, CT (USID# 59358)	10 of 12
Project			Date
	100'	Monopole / AT&T Co-Locate	09:40:35 08/03/12
Client		Nexlink	Designed by K. Mears

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load	Tilt	Twist
710.	ft	in	Comb.	o	0
Li	100 - 87.17	32.178	37	2.740	0.018
L2	90.17 - 45.5	26.595	37	2.667	0.014
L3	49 - 0	7.816	37	1.487	0.004

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov.	Deflection	Tilt	Twist	Radius of
		Load				Curvature
ft		Comb.	in	0	0	ft
102.000	(2) P65-15-XLH-RR w/ Mount Pipe	37	32.178	2.740	0.018	8302
100.000	(2) TT19-08BP111-001	37	32.178	2.740	0.018	8302
88.000	AP11-880/090D/XPV w/Mount Pipe	37	25.390	2.638	0.013	3802
81.000	AP11-880/090D/XPV w/Mount Pipe	37	21.613	2.506	0.010	2819

Maximum Tower Deflections - Design Wind

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	0
Ll	100 - 87.17	81.898	12	6.985	0.047
L2	90.17 - 45.5	67.718	12	6.799	0.035
L3	49 - 0	19.941	12	3.795	0.010

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov.	Deflection	Tilt	Twist	Radius of
		Load				Curvature
ft		Comb.	in	0	٥	ft
102.000	(2) P65-15-XLH-RR w/ Mount Pipe	12	81.898	6.985	0.047	3372
100.000	(2) TT19-08BP111-001	12	81.898	6.985	0.047	3372
88.000	AP11-880/090D/XPV w/Mount Pipe	12	64.655	6.726	0.032	1539
81.000	AP11-880/090D/XPV w/Mount Pipe	12	55.054	6.391	0.026	1135

B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265

Job	Page
84421.000.0002b - Unionville SBC Co, CT (USID# 59358)	12 of 12
Project	Date
100' Monopole / AT&T Co-Locate	09:40:35 08/03/12
Client Nexlink	Designed by K. Mears

Section Capacity Table								
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
Ll	100 - 87.17	Pole	TP16.263x14.493x0.219	1	-2.501	520.914	23.8	Pass
L2	87.17 - 45.5	Pole	TP21.636x15.412x0.25	2	-6.198	795,758	94.5	Pass
L3	45.5 - 0	Pole	TP27.411x20.648x0.344	3	-12.159	1417.392	95.1	Pass
							Summary	
						Pole (L3)	95.1	Pass
						RATING =	95.1	Pass

Program Version 6.0.4.0 - 1/27/2012 File: 84421_000_0002b_Unionville SBC Co_CT - Modified.eri

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

USID#: 59358

Site Name: Unionville SBC Co, CT

Enter Load Factors Below:				
For P (DL)	1.2	< Enter Factor		
For P,V, and M (WL)	1.35	< Enter Factor		

Pad & Pier Data				
Base PL Dist. Above Pier:	0	in		
Pier Dist. Above Grade:	6	in		
Pad Bearing Depth, D:	9.5]ft		
Pad Thickness, T:	4.5	ft		
Pad Width=Length, L:	17	ft		
Pier Cross Section Shape:	Square	<pull down<="" td=""></pull>		
Enter Pier Side Width:	6.5	ft		
Concrete Density:	150.0	pcf		
Pier Cross Section Area:	42.25]ft^2		
Pier Height:	5.50]ft		
Soil (above pad) Height:	5.00	ft		

Soil Parameters				
Unit Weight, γ:	130.0	pcf		
Ultimate Bearing Capacity, qn:	15.00	ksf		
Strength Reduct. factor, ф:	0.75]		
Angle of Friction, Ф:	30.0	degrees		
Undrained Shear Strength, Cu:	0.00	ksf		
Allowable Bearing: φ*qn:	11.25	ksf		
Passive Pres. Coeff., Kp	3.00			

Forces/Moments due to Wind and Lateral Soil				
Minimum of (φ*Ultimate Pad				
Passive Force, Vu):	12.2	kips		
Pad Force Location Above D:	2.02	ft		
φ(Passive Pressure Moment):	24.51	ft-kips		
Factored O.T. M(WL), "1.6W":	1120.5	ft-kips		
Factored OT (MW-Msoil), M1	1095.99	ft-kips		

Resistance due to Foundation Gravity				
Soil Wedge Projection grade, a:	2.89	ft		
Sum of Soil Wedges Wt:	27.85	kips		
Soil Wedges ecc, K1:	8.53	ft		
Ftg+Soil above Pad wt:	390.3	kips		
Unfactored (Total ftg-soil Wt):	418.17	kips		
1.2D. No Soil Wedges.	493.34	kips		
0.9D. With Soil Wedges	399.13	kips		

Resistance due to Cohesion (Vertical)					
φ*(1/2*Cu)(Total Vert. Planes)	0.00	kips			
Cohesion Force Eccentricity, K2	0.00	ft	╗		

Monopole Base Reaction Forces					
TIA Revision:	F	<pull down<="" td=""></pull>			
Unfactored DL Axial, PD:	7.3	kips			
Unfactored WL Axial, PW:	12	kips			
Unfactored WL Shear, V:	9	kips			
Unfactored WL Moment, M:	740	ft-kips			

Load Factor	Shaft Factored Loads				
1.20	1.2D+1.6W, Pu:	24.96	kips		
0.90	0.9D+1.6W, Pu:	22.77	kips		
1.35	Vu:	12.15	kips		
1.35	Mu:	999	ft-kips		

1.2D+1.6W Load Combination, Bearing Results:

1.25 1.000 Load Combination, Bearing Results.					
(<u>No Soil Wedges</u>)	493.34	P1="1.2D+1.6W"			
[Reaction+Conc+Soil]	493.34	(Kips)			
Factored "1.6W" Overturning Moment (MW-Msoil), M1	1095.99	ft-kips			

Orthogonal Direction:

ecc1 = M1/P1 = 2.22 ft Orthogonal qu= 2.60 ksf qu/ ϕ *qn Ratio= 23.11%

Diagonal Direction:

ecc2 = (0.707M1)/P1 = 1.57 ft
Diagonal qu= 2.57 ksf
qu/φ*qn Ratio= 22.83% %3.50

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

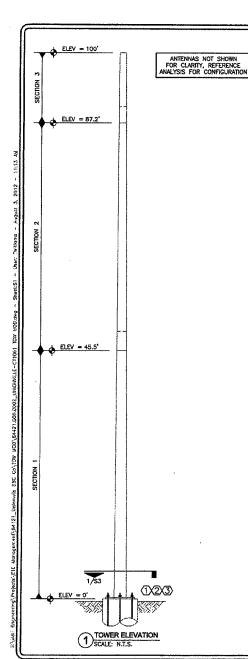
(<u>w/ Soil Wedges</u>) [Reaction+Conc+Soil]	399.13	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	882.07	ft-kips

Orthogonal ecc3 = M2/P2 = 2.21 ft
Ortho Non Bearing Length,NBL= 4.42 ft
Orthogonal qu= 2.10 ksf
Diagonal qu= 2.07 ksf

Max Reaction M	loment (ft-kip	os) so that qu	-φ*qn = 100%			
Capacity Rating						
Actual M: 740.00						
M Orthogonal:	2359.39	31.36%	Pass			
M Diagonal:	2359.39	31.36%	Press			

ANTERNA CORFIG (FROM BACK):	A)((1844) 6534, UM(15 (850 / 1900) or	ANTERIOL 2 65M, UMITS (\$56/1909) oc	Section 168, GURRENT SECTION GEL AUTHORAS GSIA, UMFS [850 / 1900] or LTE (700 / AWIS)	ARTERNA 4	ANTONIA S	ANTERNAS CEM ANTERNAS ANTON	AHITHMA? 65M, UNITS (850 / 1900) or
THE STATE OF THE S	538, U819 (2007 1900) 6* 118 (1007 1900) 6* 118 (1007 1900) 12 (1007 1900) 12 (1007 1900) 13 (1007 1900) 14 (1007 1900) 14 (1007 1900) 15 (1007 1900) 16 (1007 1900) 16 (1007 1900) 17 (1007 1900) 17 (1007 1900) 18 (10	GSM/680 GSM/1900	LTE (700 / AWS)	LTE (700 / Alwis)	65M, UNITS (550 / 1900) or 1/6 (705 / AWS)	GSM, UNITS [850 / 1900] or LTE (790 / AWS)	CTE (700 / AWS)
FEEDING TIPE Fender Leagh (fact) ARTENSIA ATOLL	100	NA NA 1 1/4 - RFS 1 1/4 - RFS 180 180					
ANTERNA MARE - INCOEL ANTERNA VERIOR ANTERNA SER DE 19 x 9 x 05 ENTERNA WERGHT	P65-15-XLH-RR Powerwave 51.0 x 12.0 x 8.0	P65-15-XLH-RR Powerwave 51 0 x 12 0 x 6.0					
ANTERNA CAN AZOAUTH RADIATION CENTER (Net)	16.3 dBi 263 * 102 *	263 ' 102 '		J			
COPATRI SADATONI CENTREPINEI MITTERIA TRE PROGRET ELECTRICAL TRE PROGRETA ELECTRICAL TRE PROGRETA PERDA AND URIT	0' 1 0'	0. 104					
Antiping RET Motor (011/AGODE) Antiques RET Spillor (011/AGOEL) Antique RET Eurith (Grovedley) Clarge (011/AGODE)	A / Powerwaye / Built in RET Equipme	N/A / Powerwave / Built in RET Equipment					
Antones RET Suzgi Armanic (COT/MCCEL) Antones RET Suzgi Armanic (COT/MCCEL) Unio By pay skip OC MCCK (COT/MCCEL) (TMANUM (TYPEAMORE)	2 / Pomenwave / TT19-08BP111-001	2 / Powerwave / TT19-088P111-001					
CURRENT BUECTORS FOR THAN (QTY/MODEL) 9700 FOR THUS (QTY/MODEL) SAMELY PET SEE SURGE ARRESTOR (QTY/MODEL)							
DRICERRET THROUGH	0 + 2 : Kellren / 782-10250	0 + 2 / Kelhrein / 762-10250					
RXAT XIT MODULE? TRINERER of RARROW BAND LLC (QTY/MODEU SCRATMCPA MODULE?	No RualT No RualT No LLC No LLC N/A Booster (1900 Band	No RealT No RealT No LLC No LLC N/A Booster (1900 Band)					
Addition Component2 Lidition Component3 MAGHETE OFCINATION	-14*	-14*					
HATCH FLATE POWER RÖNES) ERP (WARL) Rocal Marter Metri							
STECHNICAL CONTROL OF	AKTERNA 1		Socionas - Gurienes Sectoriorio e de la Afenda 3 Gena, unas (150/1900) de	NFORMATION GAMMA			
	AUA CRITC NEG (1600)	ANTENNA 2 GSAN, UNITS (BSO / 1900) or UTE (PGO / ANYS) TURK-TURK TURK-TURK	GEAL UMPS (850 / 1900) as LTE (790 / AWS)	65M, UNITS (850 / 1900) or 176 [760 / AWS)	ASTITUTE S GSM, (MATS (850 / 1900) or LTE (700 / AWS)	ANTENDIA 6 GSAL UNITS (850 / 1900) of UTE (700 / AWS)	ANTISMA 7 6514, UNITS (850 / 1900) or LTE (700 / ANTS)
TECHNOLOGY ROH LOCATION (Top/Botton/Moor) DESCRIPT	TE(F00/AWS) TERC-TERC UMTS / 850 UMTS / 1800 UMT	11E (100 / MYS) TURE-TURE 12E 12E 12E 12E 12E 12E 12E 12E 12E 12					
antinga atom. Antinga bart - Model Anterna yendor	505 (6 VI H 00	P65-15-XLH-RR Powerwave 51.0 x 12.0 x 80					
ASTERNAC COMPS (PANS) BACKS: SECTION OF THE SECTIO	Power/nave 51.0 x 12.0 x 6.0 41 18.3 db	51.0 x 12.0 x 80 41 16.3 dBs					
ALOUTON CENTER DEED ANTERNA THE HISSET SURTERNA, BUT (100/8501(800/AWT)	102' 104'	23 * 102 * 104 * 0 * 104					
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ANTICOLOGICA STATE OF THE STATE							
OC BLOCK (CITYA-600E) THAYATA (TITYA-600E) CURRINT BURCTORS FOR THA ROTYA-600E)	2 / Powerwaye / TT19-068P111-001	2 / Powerwaye / TT19-08BP111-001					
SURGE ARRESTOR KITY/MODELL DRI COMMERCE (CITY/MODELL HTERD COMMERCE (CITY/MODELL)	0 + 2 / Kathrein / 782-10250	0 + 2 / Kathrein / 787-10250					
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Addered Completed planting orcheston parting for death north	-14"	4,					
Additional Composition							
	ANTENNA 1 6544, UNITS (ESS / 1300) as		Section 150 - CURRENT SECTORICECT (AUTÉNICA 3 GSML UNITS (850 / 1909) oc	ANTENNA 4 65MA, UNITS (850 / 1900) or	ALITERIÚA S GSAA, UNITS (ESO / 1900) er	4,571 (1504) & 6504, UAFI's (1507 1509) or	ANTENNA 7 4564, UNITS (650 / 1500) ur
	AMILIANA 1 10001 (2001) 1710 (2001) 1711 (2004) (2007) 1711	GSM, UMTS (850 / 1800) or LTF (700 / AMS)	Sociosi 190 - GURRENI SEGI ORIGERI E ANTENNA 3 GSM, UNITS (850 / 1907) oc LTE (750 / NVS)	AMTERICA 3	AMTERICAS GSAR, OMTS (ESG / 3000) er ETE (700 / ANYS)	ANTENNA 6 6334, UARI 5 (150 / 1309) or CCE (790 / ANS)	ANTENNA 7 4544, DHTS (850 / 1500) & LIF (760 / AWS)
	ANTENNA 1 6144, MATTE (ESS / 1900) or 131 (700 / ANTO)			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	AMSTERMAS 5 GSAL, UMSTS (ESG / AVES) LITE (100 / AVES)	ANTENNA S SIRA, MATS (\$59 / 1500) os CIE (790 / AWS)	ANTI INNA 7 6164, UMTS (856 / 1900) or LTE (766 / ANTI)
	ANTERNA 1 614, VARTS (ESP.) 1000) or 1111 (100 / ANTO)			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	ASSICIALS S GOAL, UMSTS (ESS 5 SSOC) or LTE [789 / ANYS]	ASTEUMA A GRAU, UMET S (PER) T. SON) os CDE (790) / AVMS)	ANTIMALY GAM, UNITS (SSP / MOD) or LIF (CSP / ANT)
	ACTIONAL 1 65M, (ANT) ESS / 1100) to 11II (700 / ANY)			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	AAFCEWA 5 GMA, MATS (SEG) 1900 or LEE (TOP / ANTS)	AFTERMA 4 CRA (MATE (1904 1500) cs CTE (1904 Avery)	ARTHMAT GASA LOWES (SEE / LOOD) or LIST (C.O. / ARTS)
	ARTIDIA 1 6546, MATE (BSS / 1100) or 11fl (TOS / AMY)			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	AMTERIALS GUA, MONTE (150 / 1500) or LET (150 / ANTE)	ASTERNALE SSA4_URIT (1909 1500) or CEL (1909 Aves)	ANTIMAY 7 654, GRT (569 / Sep) or 13T C (67 / Amr)
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	ANTONA 1 454 (ANT) ERRY 1 200 JU III (100 (ANT)			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	AMTERIALS GM, MOST (1994) 3809 or URLEIN FASTS	AFTENNA E SINA, MARTIN (1997) (MOS) or CEE (1997) (MOS) or	ANT1894.7 5694, WHIS (SM / 2009) or 337 C/00 / Amry
	ANTIDMA 1 644 (ANTIDMA 1 11 (FOR) EGRY 1 (DOT) on 111 (FOR) ANTI			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	ANTENNAS CINA, MODES (1994 / 1995) er LELL (1994 / ANTE)	SATEMALE GIAL MATEMALE CELEPO / AND) CELEPO / AND)	ANT1894.7 5694, 5895 [2895] 2895 (2895) (289
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	ANTIDAR 1 654 (ANTI DAY 1 DOG) 111 (Fig. ANTI-			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	ANTERNAS ON, WOT 1007 / 1000 or LET FOR ANTE	SPTCHINA 4 GSA, MART, (1992 / 1809) α CEL (1992 / 1809) α	ART 1994 7 1995 at 15
NAT SERVE CONTROL (PAGE BANCE): 17-15 17-1	ANTIDAR 1 654 (WIT) DISK 1 DISK 1 11 LING (ANTI			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	AMTORIAS ON, IN TOTAL AND IN DISTRICT AND IN D	APTERIOL 4 COL (MAT) (1902 / 1509) α CTL (190 / 1409).	ANTENNA 7 GM, ONTO ERRY (1800) — LEF COM / ANY)
WIT SERVE CONTROL PROCESS THE SERVE CONTROL C	ANTIDAR I SSI, WITT DEST JOST DE THE TOTAL JOST			ANTENNIA 4 GSMA, UNITS (850 / 1900) or	ANTONIA S ONN INTERPRETATION LET FOR / ANTONIA L	AFT ENDA # SIAL MATE (1929 / 1909) or CEE (1929 / 1909) or LEE	ANTENNA 7 GSA, Vents (SAY, 1260) as LET COM / 1495
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SANT SERVED CONTROL (PLOCAL BALOC): 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ANTIQUE, A	ANGUMA AN	ANTENNA SON MATERIAL SON MATERI	ANT LORGE 1 200 or 100	IN COMPANY	CELEDO (AMS)	AMTIGOTY OMA (MET \$500 / MMG or
NOT SERVE CONTROL PROCESS TO SERVE CONTROL	ANTIQUE, A	ANGUMA AN	ANTENNA SON MATERIAL SON MATERI	ANT LORGE 1 200 or 100	IN COMPANY	CELEDO (AMS)	AMTURAY OMA (MET \$500 / Medica)
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	LTE (700 / AWS)	USEC UNITS (850 / 1900) CO LTE (700 / AWS)	GSIA, UNITS (850 / 1900) cm	GSML UMTS (850 / 1900) or LTE (700 / 8WS)	6564, UMTS (850 / 1900) or 111. (100 / AWS)	GSM, UMFS (850 / 1900) or (TE (190 / AWS)	ANTEHNA 7 65M, UNITS (359/1909) or (16 (100/AWS)
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LIKINTEXCS OF WARROW BIND TTC, ICLE/MODED							
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(L) (E) (L) (E) (E) (E) (E) (E) (E) (E) (E) (E) (E	21.24/KH3]	INGTOW/ AWD	LIE (PW/AWS)	LIE (AWS)	LTE (HOO / AWIS)	LTE (700 / AWS)	LTT (760 / AWS)
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Content RET GENERAL (CONTENT) TO THE CONTENT OF TH	ATTURA 1 ATTURA	APTERNA I OSI, ARTIC (1905) (1905) osi 1 11 (1905) (Artic)	SIGN NET - NILLYWRIGHT SECTORISE ANTIGEN 1 COL, MATERIAN 7 SECTORISE ANTIGEN 7 SECTORI	CINCORMATION - Z-TA O APRIABRA E SSL, MATE (1907 / 1908) or 11 TELD / MATE).	AATTNIGA 3 GM, MMT (RO) (1900) or UN (UM) / AGS)	ANTERNA B GRAM UNITS (SES) / 1900 pc LEET (ROY / ANTE)	AMPLIONA 7 SM, MATERIOR J 1990 or UT (EUP (JAST)
Content RE CONTENT CON	ANTIBIA 1 COSS, IT (TO) (w LTT (TO) / ANS)	ANTERNAL I OIL NEET (DAY) (190) or 11 (T GO J AND)	ISON NET - NILVERBERSSEED SECTIONER. ARTEGRAS 3 COL, LIVETS, gard, TRAST) LET, GOV FANDS.	C. INCORMATICAL - Z.T.A. AMTIGISA. SAS. LEATS, page 7 (190) or 11 (10) Anti).	ANTITIONALS GUAL MATE (SO) 1903 or UR (1904 A MISS)	ARTERNA B GMM, URES (SED) (300) or URE (NOV) (AMS).	ANCHONA 7 6344, MATS (EGG) (1909) or UT (EGG) (Asset)
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Control RECOGNIC CONTROL CONTR	4517(94.1) 455 (981)(90) (90) (90) (91) (17 (98 / Am))	GEAL ROOT (1990) or 11E (1990) Ares) 1	1920 NET - NILVERFED POSTED SECTORIZES ANT CRASA 1 LEE (TOP / 2015).	LINCORNATION-ZATA APPLIANA SSAL TETRO / AMS) LTETRO / AMS)	AATTRIGA 3 COL, M. (1970) or 13 (70 / 1991)	AAFERRALE GIM, UMS 1999 / 1909 or LIST EROOF ANDS	AMIDINA 7 614, MATS (SOA) 1995 or UTE DRY (AMIS)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE) SELECTION (Copy Indicator/Vision) SELECTION (Copy	ARTIDAL 1 CASA (MITE RED) 1900) or (UT (100 / ARTS)	ANTERNA) GIÁN (MET (1907) (MET) LITE (1907) ANTS)	SOUTH THE STATE OF	GENERALISATES ASSESSED	ANTTHINGS GENERAL STREET GENERAL STR	APTIMALE GIAM, WHI SEO! HORSE CIT [TOO / AMT].	ANTIQUE 7 GAM, CARTS (COS / 1000) OF LTT (200 / ANT)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ARTERIA 1 635 (MRI SED J (200) as LIT (300 (Astr))	ANTURNA) GOS, RATE STRO (1900) or 11E (100 / Arts)	SUSTINET - NATIVALITIES SECUCIONES CONTROL CON	E INEGRIANICH - JERA SAMI JAMES (1990) ed LTE (1900 / AMS).	AMTERIORS GRA, MATERIOR / 1800pe LTL (200 Ares)	APERIOD TO COMPANY OF THE PROPERTY OF THE PROP	AMERICA TO SOLUTION OF THE SOL
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ANTIQUA 1 CONSTRUCTOR (AND) UT (100 (AND)	ANTERNA 1 OSM, MATE (190) (190) or 111 (190) (Asts)	1000 MET NAVIONALISATION SECULIARISMO ANTICOMA SECULIARISMO SECU	CINCONNATION CARA ANTIQUE ASSAULTED ASSAULTED ANTIQUE ASSAULTED ANTIQUE ASSAULTED ANTIQUE ASSAULTED AN	ANTINORS GNA, UNIT ERO J 1900 or LTL (700 / ANG)	4 4000 MB P P P P P P P P P P P P P P P P P P	ANTIDOS 7 6144, VARIS (SER) (120) or LIT (200 / AMS)
WITEMAN CONTROL PROOFE SACRE- "THE" (SUPPOSE OF THE TOP TO THE TO	ANTIGOLA 1 GAS (URI GEO) 1200) to (UT (100 / ARTS)	ANTERNA OSA, MATE 1990 1990 of 11E (100 / Arts)	Stort NET - NATIVE STATE SELECTION OF SELECT	CLIFECGUATION—FIRE GIAL MATERIAN (1909) of LTE COD (AMS)	AATTRIGES GIA (MRT GEO) 1900 or 137 (700 / Ares)	ANT COMAL E GM, UNITS 0000 / 10000 pc UNIT (FOR AMS)	AFTERSO 7 614, AFT (1909) or UT (200 A Arts)) or
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	AFFERIAL I CIA (MEDIA) I U LET (100 (Area)	ANTERNA 2 COLA MATE (1907) (190) or 111 (200 / ANTE	INFO NOT NILVONGENESSEO SECTORIAL ANTEGRAS SEA, LONG SECTION SECTION SEA CONTROL SECTION SEA CONTROL S	UNEGRUATION ZATA APPENDA SAL MART (SOF) (SOF) of 111 (TOT) / AND)	ANTITIONA 3 GIA MATERIO (1900) or UNIT (IN) / ANS)	ARTOMAS GIAL JUES (SSO) 1500) or LET (TOY) ANS)	AMEDINA 7 SIM, WATER GOAD (1990) OF UTI (1997 / Ares)
AFFEMAN COMMITTENS ALCOS	ANTERNA 1 GASA (MISS (EGA (1900) or LUT (1907 (ARM)	ANTERNA) GEN (REST (SEG) (SEG) of 11E (DO) (ANS)	SIGN NET - NILVO SOCIETE SECULIONARE SPECIAL DE SOCIETA SEGULIONARE LEE (TODA (ANSE). LEE (TODA (ANSE).	TEIPERGRANTEGRE-VIA N. SIAL MATE (SOF 1900) of LTE (TOO / ANS).	AATTRICES GEA, MATE (SO) / 1900 (or 131 (709 / ANY)	ANT DEAL TO THE CONTROL OF THE CONTR	ANTIDOS (1990) o 111 (100 / Anti)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	###### 1 635 (081)	AMCARIA. OSA, NI, CROS AMS) 11E (TOS / AMS)	ISON NOT - NALVAPRICIPASED SECTORISE ANTIGORAL 1 OLD SECTION S	C. INCORMATION - ZTA APPRIABA CONTRACTOR OF SOUR CO	AATTRIGAS 3 CINA, MATTRIGAS 3 CINA, MATTRIGAS 3 CINA, MATTRIGAS ARES	AATCOMA E GMA UNES SESS / SESS	AND UNION 7 6344, MRTS (EGG / 1305) or UT EGG / And)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ARTIBOLY 1 ENAL CONTENTED 1 (MOS) or LTL (100 /ART)	AMTERIA 1 GIAL MATE (NO / 1900) of LITE, (NO / ANS)	TOTAL THE STATE OF	CIPICORDANICOREZANA ANTHRANE SEMA LERRIT (RAD 1900) of 11TE (TOD /AMS)	ANTINOS, 3 GIA, MATE (SO) 1 500 por 137, (700 / ANS)	ATTOMAS GIM, UNIT (SGO) 1200/pt LTE (TGO / AMT)	ANTERIOR 7 GIAL (MITSICKE) (1000) or UTF (2007 / AMY)
WITEMAN CONTROL PROOFE SACRE- "THE" (SUPPOSE OF THE TOP TO THE TO	ANTENNA 1 488 (MITTEN) (190) o UTT (202 / Ants)	COLUMN TO A COLUMN	INPO NOT NATIVE PROPOSITION AND AND AND AND AND AND AND AND AND AN	LINCORNATION-ZATA APPLIANA SALITERO / AMESS LIST TO / AMESS	ANTINGAT SOLITON OF A PART	AATERNALE GIAL (UNIS 1999) 1909) or UNI ERROY ANSI	AMIDINAT 614, MATS (SOA) 1999 or UT EMP (AMS)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ANTIDAA 1 dass (sens per sood or UT (the same)	ANTERNA I OSA (ARTE 1905) (190) or 11E (190 / Arts)	10-2) LET NILVOSIDE COSES SECLOSIVES APELDARA) COLA LUTRI SECO / 1000 or LET (100 / 1405).	CINCONATION VAR ANTIBAR SIM LIGHT (NO 1500) of LICE OF 1400)	AMTHRIG.5 GNA_MATTERS () 1900 or LTL (100 / AMS)	ATTORNE MAN UNIT (000 / 100 /	ANTIQUET 634, UNIS (SEP) (100) (x) LIT (DD) (AMS)
WITEMAN CONTROL PROOFE SACRE- "THE" (SUPPOSE OF THE TOP TO THE TO	ARTERIA 1. 635 (ORTERIO) (190) or UT (190 (Arts))	APTURNS) COSA, MATE (SPO.) (MO) LET (COS.) ARS)	SUPPLIES AND	LINEGRIANICH - ZETA AMTIGALA (1999) COL LET TOO (ANS).	ARTINICAS GNA, ARTI SPO J ANDIGO LTI (TEP ANDI) C	APT CROSS & CANCELLOS OF STANDING OF STAND	AMCIDIAL 7 014, WATER (SM / 1990) or 11 E (SM / Arth)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	AMTERIA 1 EM. VORT (1997) 1000 (a. U.S.) (1996) AMTERIA 1 EM. VORT (1997) 1000 (a. U.S.) (1996) AMTERIA 1 EM. VORT (1997) 1000 (a. U.S.) (1997) (a. U.S.)	ANTERNA I GIÁ MARTO 1906 / 1906 of 110 (100 / AND)	BED ME INLYDING CASE SEQUENCE AFTCHAN 1 COA LUMPS (200 Sequence) LECTOR / ANS).	CINCORNATION / JULY ANTIDOX ASSOCIATION (CINCORNATION CINCORNATION CIN	AAITTHIGA 3 GM4. (MMT REO) 1900) or LTI (190 / ANS)	ARTINALE GRAVUHS (SSS) 1509/W GST (COL/ANS)	AMEDIOU.7 45M, UNITS (CEP) 1500) or UTT (CEP / AME)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ARTERNA 1 635/GRISTED (1990) or UTC (1997 / Arts)	ANTURNA) GOS, RICE STO-0 1100 or 11E (700 / Arts)	SUSPINED - NAVARRANCE SECUCIONE DE LA CONTRACTOR DE LA CO	L INCOMMATICH - FILE A STATE OF THE ACT OF T	AATTHIGES GAS, MATS (BOD) / MODION UNIT (BOD / ANG) IN (BOD / ANG)	APEDIALE GML CET FOR / AND CET FOR / AND	ANGUNAT YOU S. I.I. (100 / ANG) S. II. (100 / ANG) S.
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	AFTURAL COSS, IT (TO / ASSO) U LIT (TO / ASSO)	APTERNA 2 OIA LEURI (1905) (190) oi 11 (100 Arti).	SIGN NET - NILYWORD SECTORIZED ANT CARACA S COLLANTS (SECTION SECTION	UNCORDATION / TANA APPRIMA SAM, MATERIA SAM,	AATTHINAS SIGNA MATTER SECTION OF UTILITIES OF JUSTO OF UTILITIES OF UTIL	ARTOMAS GIAL VIETS (SEO) 1500) oc LIST (TOO) ANS)	AMTIDOL 7 SM, MIRES (COP) 1000) or UTI (TOP / ZMS)
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ANTIGOLA S GAS, GARGE (GE) (1900) UTC (GE) (ANTI)	AMTERNA CISA, RATE 1990 1990 of 11E (100 / Arts)	SIGN NET - NAVARRAGINES ELOS ELOT GRAPE CICA (JUFF) 1800 / 1800 (or LEE (190 / AMS).	C DECOMATION - JAKA SIM, MATE (NO 1 1500) of LTE COD / MYS).	ANTTHINGS GIA (MATERIAL) J SOOJEE LET (MATERIAL) J SOO	APTIMALE GIAM, WATS (SEC) (100)(H CUT (TOW / AMT))	ANTIDOL TO THE CONTROL OF THE CONTRO
VETERRA COSSERIO (PRICOLE SALCE): VETER (SALCE)	ATTORAL 1 COSS, ART (TOP A 1900) to LTF (TOP A 1900) to	AMERIA 1 GIA 11 (70 / AME) 1 11 (70 / AME) 1	INFO NET - NELYWORD RESERVED SECTION OF A METCHANA 3 COLA LUTHE LIGHT (NOT) AND COLA	C NEGRUATION - Z.T.A. APRIBAR. SSA, LETT, party 1909 of 11-110 / Arti).	AATTRIGAS 3 GUA LIMITE (SO 5) 1909) or UTI (SO 5 A MIN)	ANTORAS GIAL VIETS (SED) 1909 or UTI (TOY) ANT)	ANTIQUAT SM, MINTS (COP) 1900) or UT (FOR / Zerr)
ASSENCE AND	ANTIGON 1 ESS (UTI-109 AST) (UTI-109 AST)	ANTENNA OSM, MATE 1909 (1906) of 11TE (1902) ANS)	SIGN NET - NILVY SUCCESSES SECTION AND SEC	STATE OF STA	AATTRIGGS 3 SOOJOW LTX (1907 AMS)	ATTORIS GM, UNIT (SGO) 1009/W LIX (COV / AMT)	ANTIDOS 7 61M, VARIS (CSG) 13/00 or LET (CSG / AMS)
WITEMAN CONTROL PROOFE SACRE- "THE" (SUPPOSE OF THE TOP TO THE TO	ARTERIAL) 455 (ORTERIAL) (SOI) ORTERIAL (SOI) ORT	ANTIGRA I GOA, NI (TOO / ANS) 11T (TOO / ANS)	SIGN NET MILLYPRICIPOSED SECTORIZE AFFGRAN 1 LEE (TOP (Arms)) LEE (TOP (Arms))	CINCRIBATION - ZTA APPRIBAC SIL UNIT (1907) LIT (20 Jahr)	AATTRIGAS 3 CIN, UMIT, ISSO J 1900 or LT 1 (SOL A ART)	AATCOMAS GMA UNES SESS / 1909 or UNES FORVE/ AMS)	AMUNAT 64M, MRS (1904) 07 (1905) 07
AFFEMAN COMMITTENS ALCOS	ANTIPATA 1 d.M. (1981) (1997) (1996) (a) LET (1987) (ARRES)	APTERIAL I GEN LIGHT (1905) (190) or VECTOR FASS)	SEP THE INVESTIGATION OF THE STATE OF T	UNCORNATION VAR ANTIANA SIAM LIMIT (RAD 1909) of UNCORNATION (NAT)	AATTHIGGS S GNA, MATTERSO J 1900) or LIT (199 / AVIS)	ATTORNE GAM, UNIT (000) (100)	AMTION T 61M, MATS (SSF) 1200 or LIT (DB / AMS)
Totale RE (SERVE (STATE (STATE)) TOTALE RE (SERVE (STATE	ANTERIA 1 GAS CONTRICTO (1900) or LTT (2007 Anti)	COLUMN TO A COLUMN	INPO NOT NATIVE PROPOSITION AND AND AND AND AND AND AND AND AND AN	LINCORNATION-ZATO APPLIANA SOLUTION OF THE TOTAL APPLIANA LIST TOT	ANTINGS STATE OF ANTING	ANTERNALE GIM, UNIS 600 / 1009 or USI FROM ANSI	ANTUNAT SIA, MATERIA (199) or UT DIS (AMS)



MODIFICATIONS BASED ON STRUCTURAL ANALYSIS FROM B+T ENGINEERING DATED 04/23/12 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 08/03/12.

EXISTING MEMBER SCHEDULE								
ECTION NUMBER THICKNESS BOTTOM TOP DIAMETER DIAMETER								
1	18	0.344*	27.411"	20,648"				
2	18	0.250*	21.636°	15.412"				
3	18	0,219*	16.263°	14.493*				

GENERAL NOTES

- 1.1 ALL WORK SHALL COMPLY WITH THE TA/EM-222—F STANDARD AS WELL AS ANY OTHER COVENNING BUILDING CODES.

 1.2 PILD SOME WITHER COVENNING BUILDING CODES.

 1.3 PILD SOURCEST, ALL WORK SHALL BE BEONE IN MANNER SUCH THAT NO DAMAGE COCINS TO THE EXISTING EQUIPMENT OR THAT TO DAMAGE COCINS TO THE EXISTING EQUIPMENT OR OR PROVED EQUIPMENT OR FLOOR COMPOUND (OR APPROVED EQUIPMENT) AND FIRED OWNER.

 1.3 A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIPMENT) AND LESS TO A FILED ORILLED HOLES.

 1.4 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.

 1.5 ALL FIELD CONNECTIONS SHALL BE MADE WITH ASSEX BOLTS, U.N.O.

 1.6 IN LIEU OF TEMPORARY BRACING CONTRACTOR MAY HAVE A STARE THE TOWER SEPRORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER SECONDED BY AN ENGINEER LICENSED IN THE STATE THE TOWER SECONDED BY AN ENGINEER LICENSED IN THE STATE THE TOWER SELOCATED. THE AMALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3–SEC) PER TAI—1019.

FABRICATION

- 2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALLS.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
 2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

YIELD ASTM SPECS 36ksi A36 A. STEEL SHAPES AND PLATES, U.N.O.

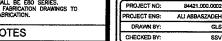
- 2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTA A 123 AND A 153.

 2.4 WELDING SHALL MEET ANS/AMS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). LECTRODES SHALL BE EDO SERIES.

 2.5 COMTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B4-T GROUP 2 WEERS PRIOR TO FABRICATION.

KEY NOTES

(#) TOWER MODIFICATION I.D.



B+T ENGINEERING, INC.

GLS

SSV

ISSUED FOR: DATE DESCRIPTION

0 08/03/12 ISSUED FOR CONSTRUCTION

B+T GRP 1717 S. BOULDER SUITE 300 TULSA, OK 74119 PH: (918) 587-4630 www.blgrp.com



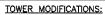
UNIONVILLE CT1061 82 LOVELY STREET UNIONVILLE, CT

QUEST TIDE TOWER ELEV., SCHEDULES.

AND GENERAL NOTES

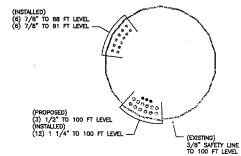
SHEET NUMBER S1

REVISION

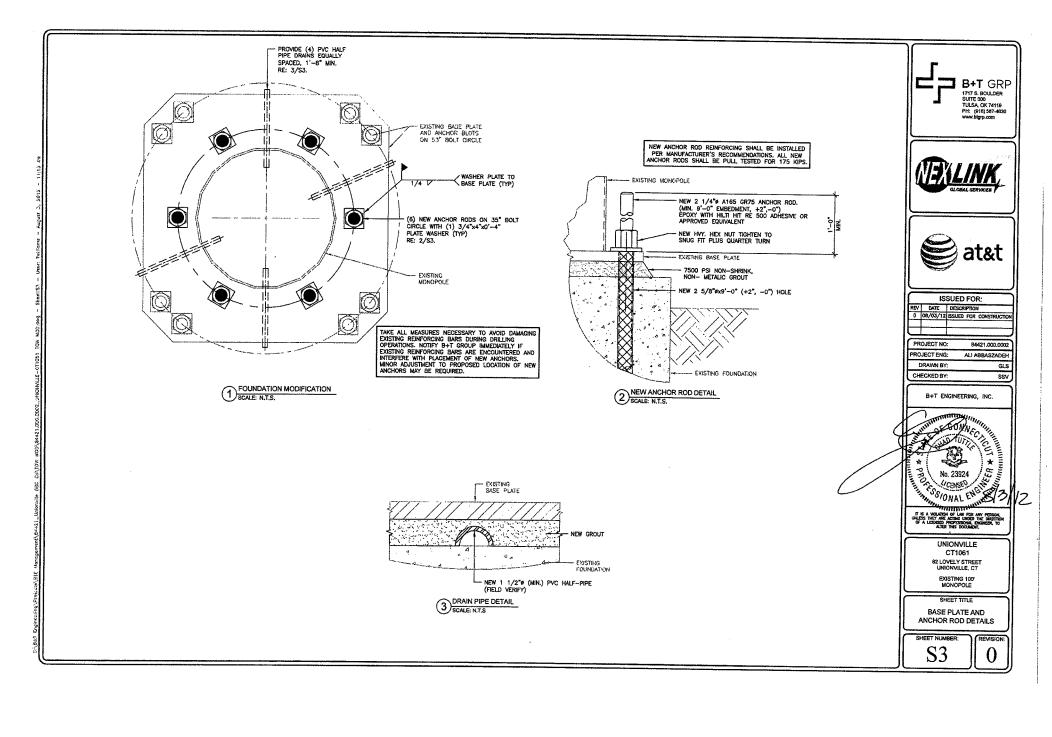


- CONTRACTOR SHALL BUDGET A SITE VISIT TO CHECK CRITICAL DIMENSIONS AND VERIFY UNKNOWN CONDITIONS PRIOR TO STEEL FABRICATION.
- THE NEW AND EXISTING TRANSMISSION MUST BE DISTRIBUTED AS SHOWN IN THE LISE DISTRIBUTION DIAGRAM RE: DETAIL 2/S1.
- INSTALL NEW ANCHOR RODS RE: SHEET S3.

 - CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR ALL REMOVE AND REPLACE PROCEDURES.
 MODIFICATIONS SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.



TX LINE DISTRIBUTION DIAGRAM SCALE: N.T.S.



PROJECT INFORMATION

SCOPE OF WORK-

UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS

SITE ADDRESS:

82 LOVELY STREET FARMINGTON, CT 06085

LATITUDE: LONGITUDE: JURISDICTION:

41.761389 N 41° 45' 41" N

72.887528 W 72" 53' 15.1" W NATIONAL, STATE & LOCAL CODES OR ORDINANCES TELECOMMUNICATIONS FACILITY

CURRENT USE: PROPOSED USE:

TELECOMMUNICATIONS FACILITY



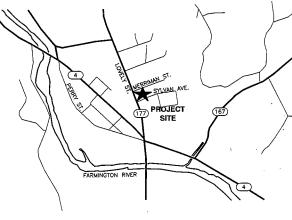
SITE NUMBER: CT1061 SITE NAME: UNIONVILLE

DRAWING INDEX	REV	VICINITY MAP	
T-1 TITLE SHEET	2	DIRECTIONS TO SITE: START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO CAPIT BLVD, TURN LEFT ONTO WEST ST. MERGE ONTO 1-91 S VIA THE RAMP ON THE LEFT TOWARD N	TOL
GN-1 GENERAL NOTES	2	HAVEN, MERGE ONTO CT-9 N VIA EXT 22N TOWARD NEW BRITAIN, MERGE ONTO 1-84 W / US-6 VIA EXIT 32 ON THE LEFT TOWARD WATERBURY / CT-4. MERGE ONTO CT-4. W / FARMINISTON. TURN RIGHT ONTO LOVELY ST / CT-177. 82 LOVELY ST / ST	AVE
A-1 EQUIPMENT & COMPOUND PLAN	2	THE RIGHT.	ON
A-2 ELEVATION & ANTENNA LAYOUT	2		
A-3 DETAILS	2		
G-1 PLUMBING DIAGRAM & GROUNDING DETAILS	2		Ì
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GENERAL NOTES

- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION, IT IS ONLY
 ACCESSED BY TRAINED TECHNICANS FOR PERIODIC ROLITINE MAINTENANCE AND THEREFORE
 DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT
 GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB STIE AND SHALL IMMEDIATELY MOTIFY THE ATAZE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OF BE RESPONSIBLE FOR SAME.





CALL

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CALL TOLL FREE 800-922-4455







SITE NUMBER: CT1061 SITE NAME: UNIONVILLE 82 LOVELY STREET FARMINGTON, CT 06085 HARTFORD COUNTY



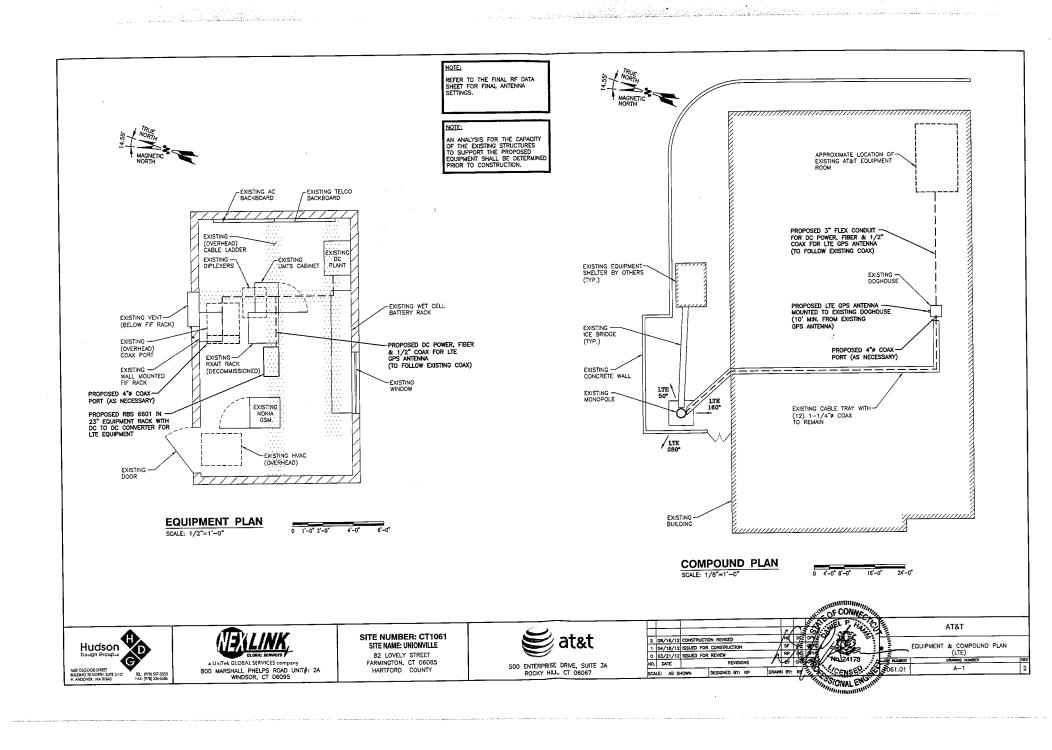
500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

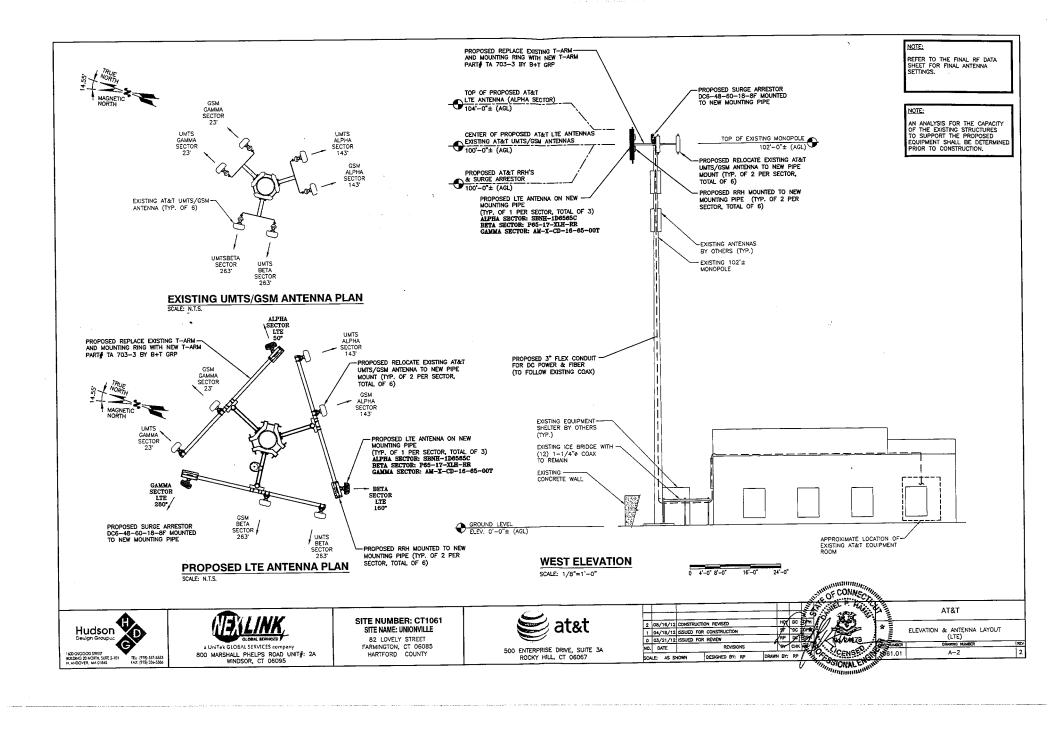
2 08/16/12 CONSTRUCTION REVISED 1 04/18/12 ISSUED FOR CONSTRUCTION 0 03/21/12 ISSUED FOR REVIEW NO. DATE REVISIONS

AT&T

TITLE SHEET (LTE)

RAWING NUMBE





PROJECT INFORMATION

SCOPE OF WORK:

UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS

SITE ADDRESS:

82 LOVELY STREET FARMINGTON, CT 06085

LATITUDE:

41.761389 N

LONGITUDE:

41° 45' 41" N 72° 53' 15.1" W 72.887528 W

JURISDICTION:

NATIONAL, STATE & LOCAL CODES OR ORDINANCES

CURRENT USE:

TELECOMMUNICATIONS FACILITY

PROPOSED USE:

TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT1061 SITE NAME: UNIONVILLE

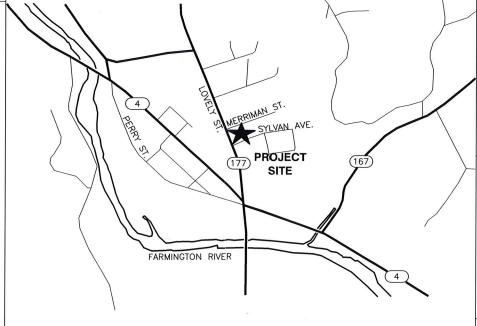
	DRAWING INDEX	REV	VICINITY MAP
T-1	TITLE SHEET	2	DIRECTIONS TO SITE: START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO CAPITOL
GN-1	GENERAL NOTES	2	BLVD. TURN LEFT ONTO WEST ST. MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN. MERGE ONTO CT-9 N VIA EXIT 22N TOWARD NEW BRITAIN. MERGE ONTO I-84 W / US-6 W VIA EXIT 32 ON THE LEFT TOWARD WATERBURY / CT-4. MERGE ONTO CT-4 W / FARMINGTON AVE
A-1	EQUIPMENT & COMPOUND PLAN	2	VIA EXIT 39 TOWARD FARMINGTON. TURN RIGHT ONTO LOVELY ST / CT-177. 82 LOVELY ST IS ON THE RIGHT.
A-2	ELEVATION & ANTENNA LAYOUT	2	
A-3	DETAILS	2	
G-1	PLUMBING DIAGRAM & GROUNDING DETAILS	2	

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THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY

GENERAL NOTES

- 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.





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UNDERGROUNDA ERVICE ALERT



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

SITE NUMBER: CT1061 SITE NAME: UNIONVILLE

82 LOVELY STREET FARMINGTON, CT 06085 HARTFORD COUNTY



500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

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2	08/16/12	CONSTRUCTI	ON REVISED			HC	DC	DPH	*
1	04/18/12	ISSUED FOR	CONSTRUCTION			SF	DC	DPE	
0	03/21/12	ISSUED FOR	REVIEW			RP	ØC.	9PH	1
NO.	DATE		REVISIO	ONS		BY	снк	APP'D	1
SCA	LE: AS SI	NWOH	DESIGNED BY:	RP	DRAW	N BY:	RP	1	100



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.
- 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.
- 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										
EG	EQUIPMENT GROUND	REFERENCE	REFERENCE		AND REPLACED										
EGR	EQUIPMENT GROUND RING	REST CONN	RECUIRED	TYP	TYPICAL										

Hudson Design Group.ic



WINDSOR, CT 06095

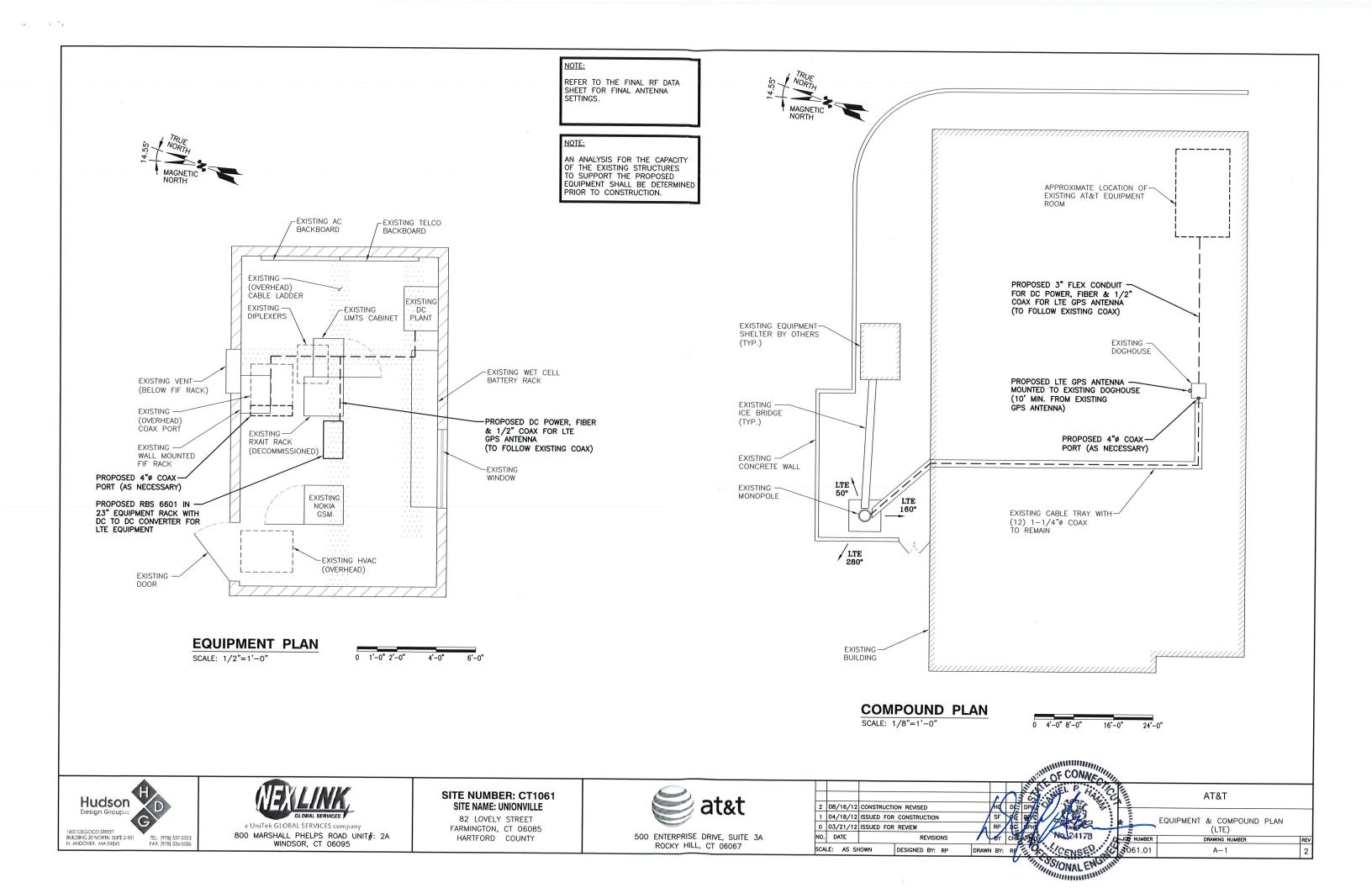
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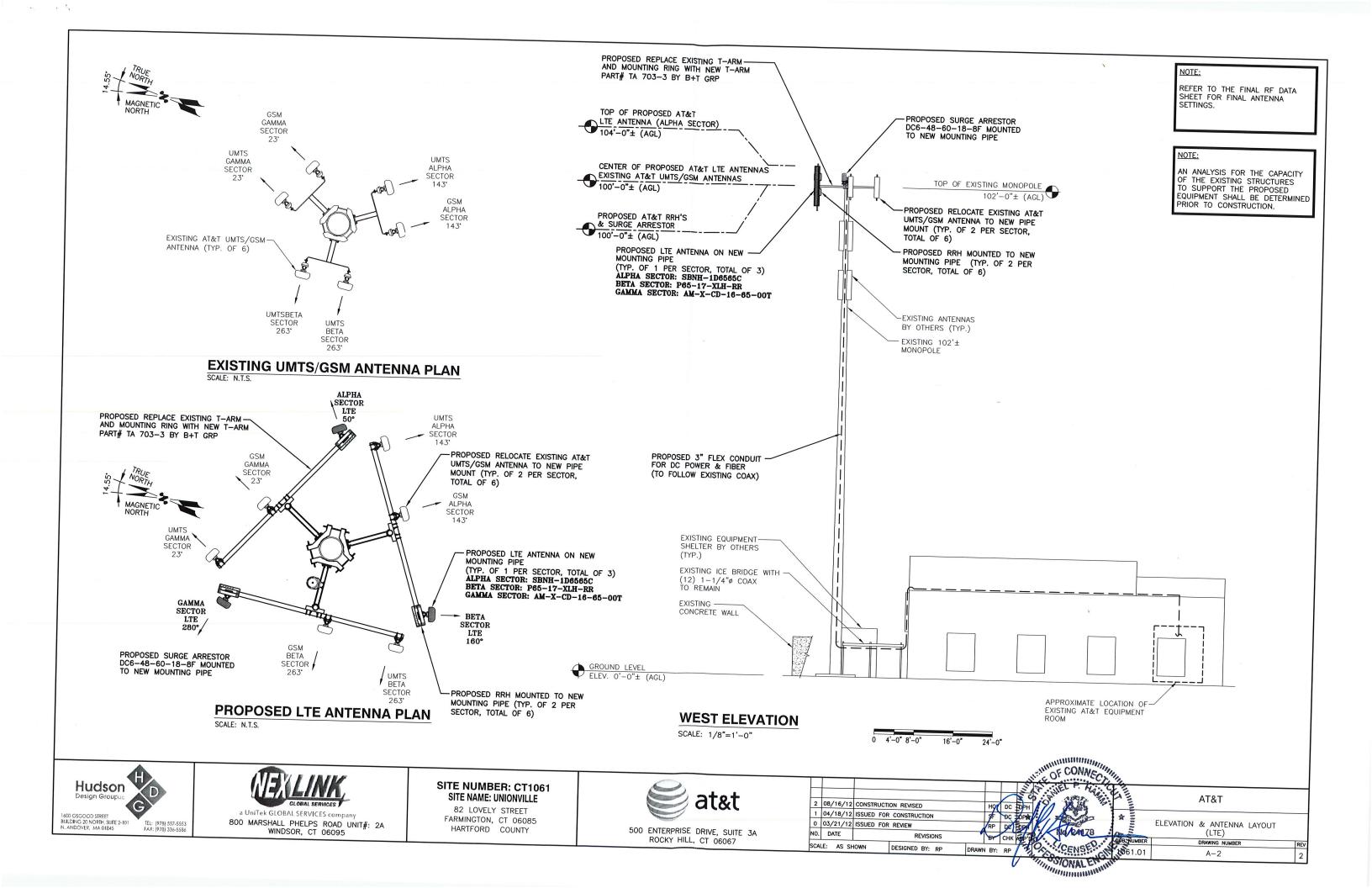
82 LOVELY STREET FARMINGTON, CT 06085 HARTFORD COUNTY

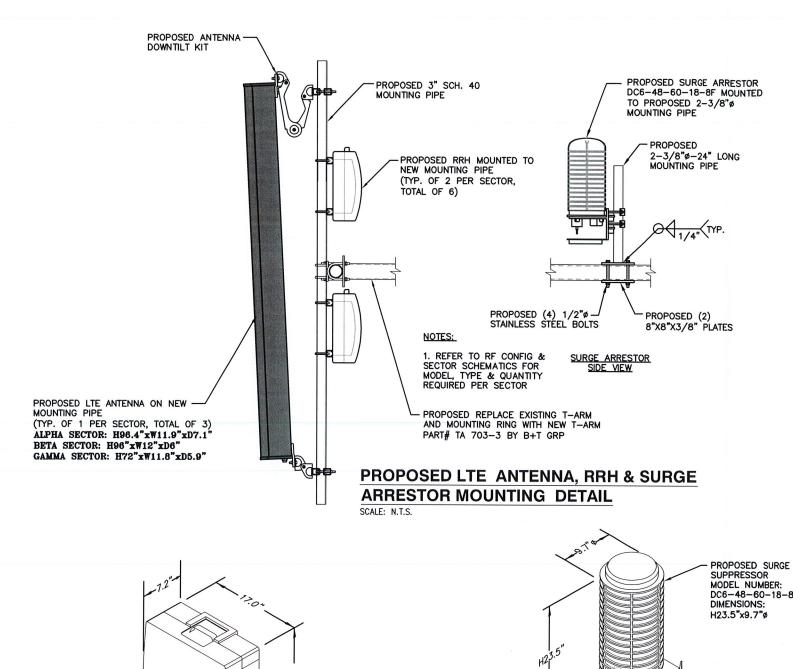


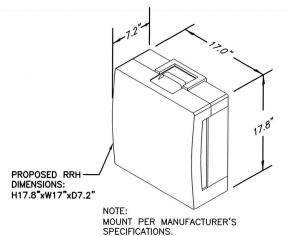
500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

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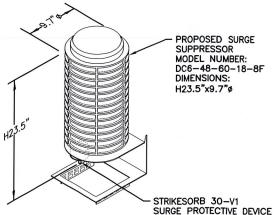








RRH DETAIL SCALE: N.T.S.



MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL SCALE: N.T.S.

82 LOVELY STREET FARMINGTON, CT 06085



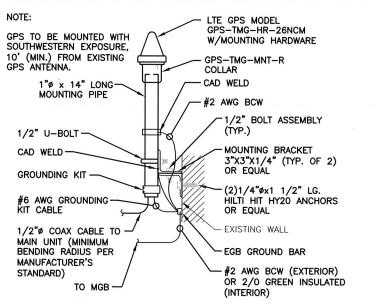
500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

NOTE:

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

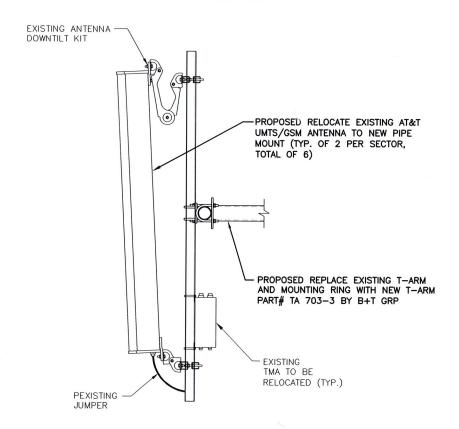
NOTE:

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



GPS MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED UMTS/GSM ANTENNA **MOUNTING DETAIL**

SCALE: N.T.S.

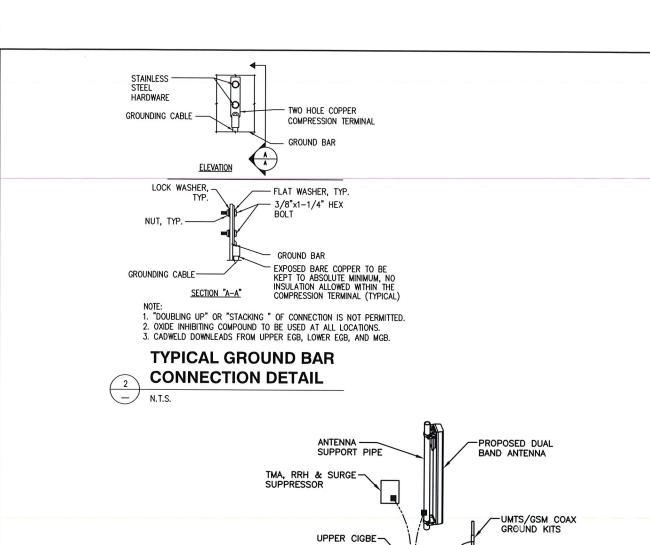


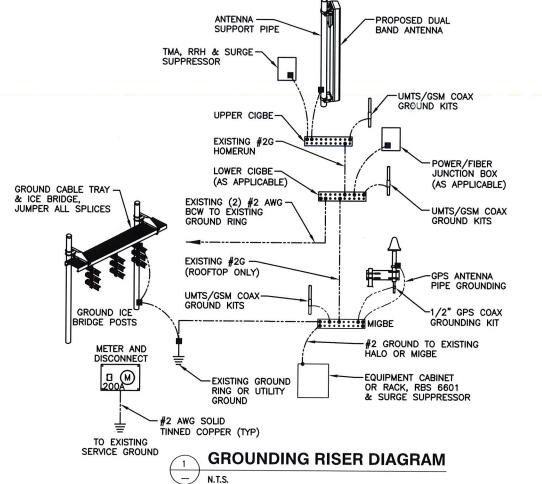


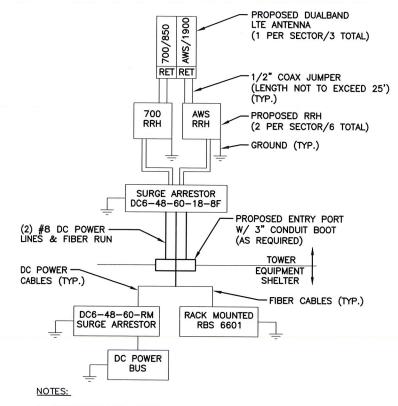


SITE NUMBER: CT1061 SITE NAME: UNIONVILLE

HARTFORD COUNTY



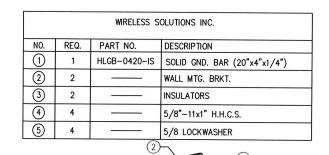




1. CONTRACTOR TO CONFIRM ALL PARTS.

2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.





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

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)

GROUND BAR - DETAIL N.T.S.





WINDSOR, CT 06095

SITE NUMBER: CT1061 SITE NAME: UNIONVILLE

82 LOVELY STREET FARMINGTON, CT 06085 HARTFORD COUNTY



ROCKY HILL, CT 06067

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