

Monday, February 11, 2019

ATTN: Melanie Bachman
Connecticut Siting Council
Executive Director / Staff Attorney
10 Franklin Square
New Britain, CT 06051

Notice of Exempt Modification —99 Meadow St., Hartford, CT 06114 — SITE ID: CT43XC806

To Whom It May Concern:

SAC Wireless, on behalf of Sprint, is requesting the necessary approvals from Connecticut Siting Council (CSC) our scope of work for an existing Sprint facility located at – **99 Meadow St.** Scope of work is as follows:

- Sprint is proposing to remove three (3) radios and swap three (3) existing antennas with three (3) new antennas and associated cabling. Install an equipment cabinet within Sprints existing leased space. Please see construction drawings for in-depth scope of work.
- Site is located at the coordinates (Lat/Long): 41.74319722, -72.66753888
- The underlying property owner of the site is Meadow Street Realty Inc.

RF Engineers have determined this minor modification is required to help increase the network for the residents and the workforce within the local jurisdiction by offering faster data transfer speeds, fewer dropped calls and higher capacity.

Connecticut Siting Council, please e-mail me any receipts for application fees and/or fees due after plan review, prior to permit issuance. If any questions or concerns arise, please contact me at 312-858-3641. We greatly appreciate your help with this proposed Sprint facility upgrade.

CC:

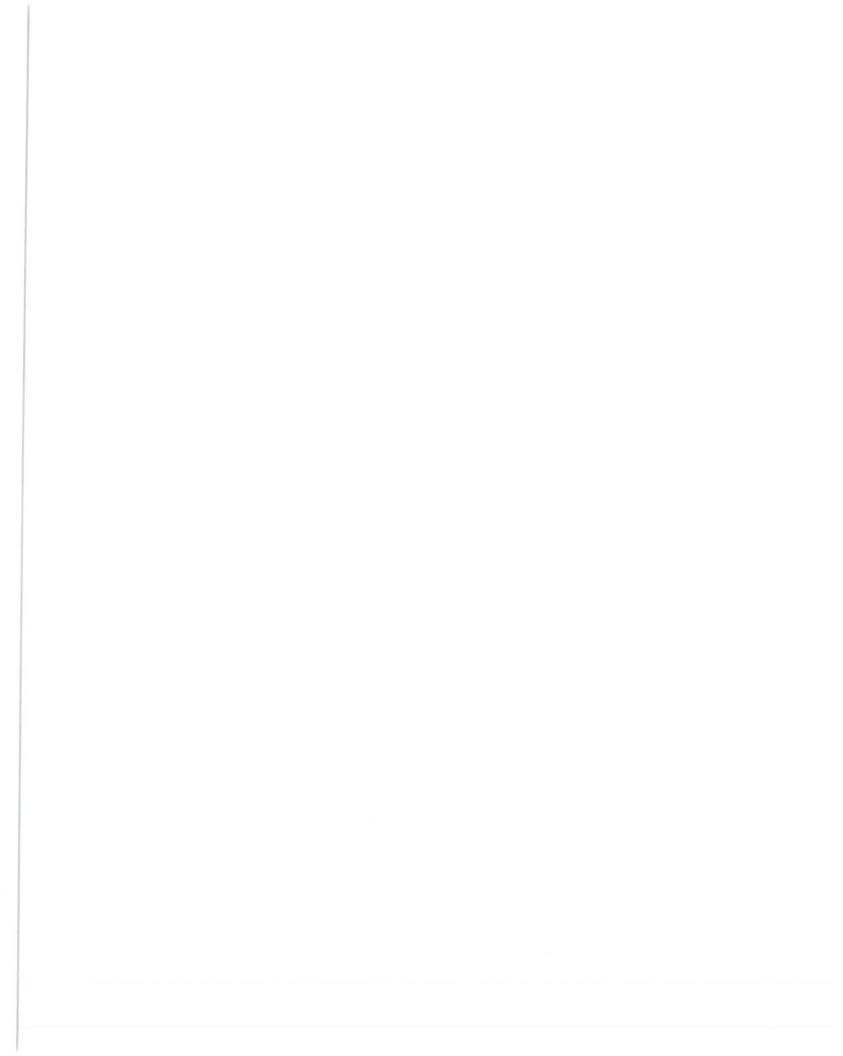
Luke Bronin	Sandra Fry	John Collins	Meadow Street Realty
Mayor of Hartford	Principal Planner	Acting Building Official	Inc.
550 Main Street, Room	250 Constitution Plaza,	260 Constitution Plaza,	Underlying Property
200	4th Floor,	Ground Floor	Owner
Hartford, CT 06103	Hartford, CT 06103	Hartford, CT 06103	99 Meadow St,
	,		Hartford, CT 06114

Best Regards,

Luz Guzman

Luzmaria Guzman | Zoning and Permitting Specialist | (312) 858-3641 SAC Wireless, 540 W. Madison, 9th Floor, Chicago, IL 60661 | Luzmaria.guzman@sacw.com | www.sacw.com

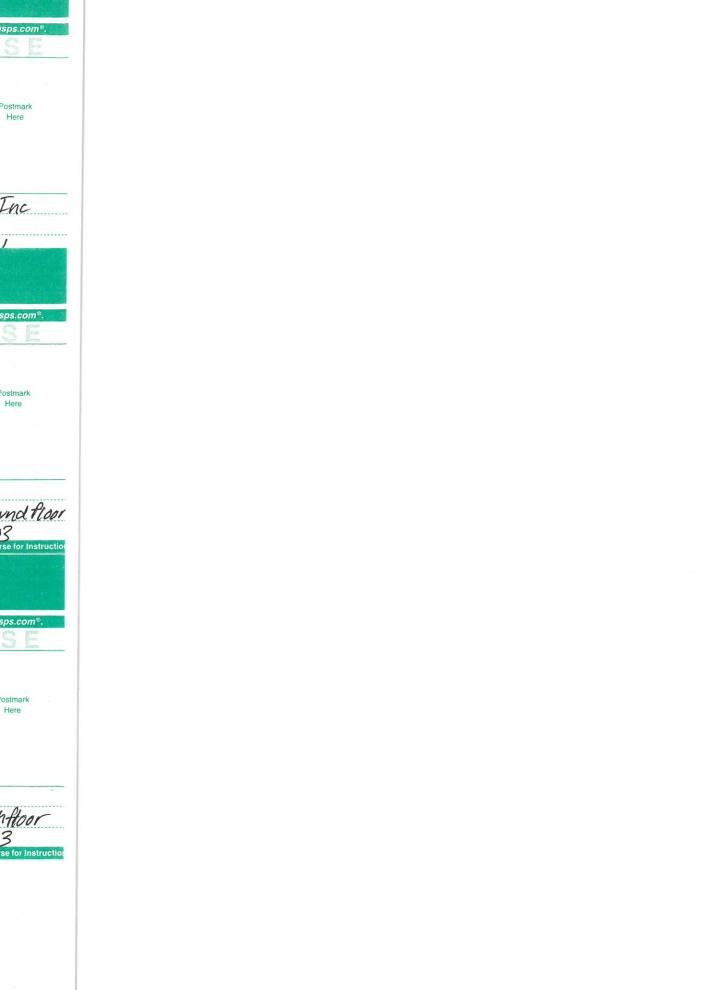
site development, architecture & engineering, construction 540 W. Madison, 9th Floor, Chicago, IL 60661 T 847.944.1600 F 847.991.5707 www.sacw.com



EIPT	at www.usps.com®.	Postmark Here	200 3 See Reverse for Instructions	676 9779
U.S. Postal Service [™] CERTIFIED MAIL® RECEIPT Domestic Mail Only	For delivery information, visit our website at www.usps.com®	\$ Extra Services & Fees (check box, add fee as appropriate) Teturn Receipt (hardcone)	Sent To Luke Bran in Street and Apt. No., of PO Box No. 550 Main Street, Rm 200 City, State, 21P4* Harriford, CT 06103 PS Form 3800, April 2015 PSN 7530-02-000-9047 See R	7018 1830 0001 0676 9779

E676 4540 4000 0684 8409

U.S. Postal Service	
CERTIFIED MAIL® RECEIP Domestic Mail Only	T
Domestic Mail Only For delivery information, visit our website at www	w.usps.com®.
OFFICIAL (JSE
Certified Mail Fee	
Extra Services & Fees (check box, add fee as appropriate)	
Certified Mail Fee \$ Extra Services & Fees (check box, edd fee as appropriate) Return Receipt (hardcopy) Return Receipt (electronic) Certified Mail Restricted Delivery Adult Signature Required \$	Postmark
Certified Mail Restricted Delivery \$	Here
Adult Signature Restricted Delivery \$ Postage	
Adult Signature Restricted Delivery \$ Postage \$ Total Postage and Fees	
Sent To Meadow Streat Realty Street and Agi, No., or PO Box No.	Inc
Sent TO Meadow Streat Realty Street and Apt. No., or PO Box No. City State 218 de Maadow St City State 218 de Maadow St	-710
City, State, ZIP+46 Havthord CT 61	(1/)
U.S. Postal Service™	
CERTIFIED MAIL® RECEIP	Т
P Domestic Mail Only	
For delivery information, visit our website at ww	w.usps.com®.
OFFICIAL I	JSE
Certified Mail Fee \$ Extra Services & Fees (check box, add fee as appropriate)	
Extra Services & Fees (check box, add fee as appropriate) Return Receipt (hardcopy)	
EXTRA SERVICES & Pees (check box, and ree as appropriate) Return Receipt (hardcopy) \$	Postmark Here
Adult Signature Required \$	11010
Postage	
Total Postage and Fees	
Street and Apt. No., or PO Bax No.	
Street and Apt. No., or PO Box No., 240 CONSTITUTION Plaza, G	round floor
maritora, ci 06	103
	everse for Instruction
U.S. Postal Service™	
CERTIFIED MAIL® RECEIP Domestic Mail Only	
~	
ARREST MARKET MARKET DE LANGE, DE LOS DE	w.usps.com*.
Certified Mail Fee	
\$ Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy) \$	
Return Receipt (electronic) \$ Certified Mail Restricted Delivery \$	Postmark Here
Adult Signatura Participed Delivery \$	
Postage Total Postage and Fees	
Total Postage and Fees	
Sent To Canada Fand	-
a Sangra rry	
130 Constitution Plaza,	intoor
Harttord, a Obi	03
PS Form 3800, April 2015 PSN 7530-02-000-9047 See R	everse for Instruction





Letter of Authorization

RE: SAC (Sprint) Site Development Activities

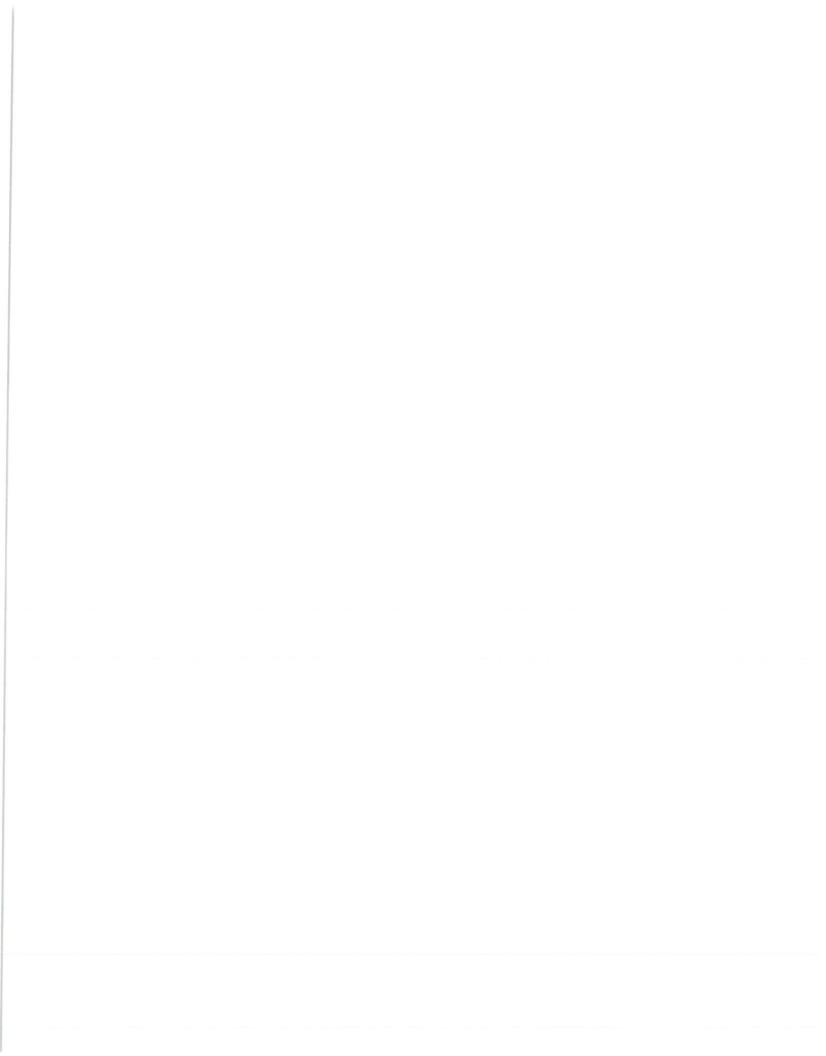
Subject: Letter of Authorization for SAC

To Whom It May Concern:

By way of this letter, please recognize that Sprint has engaged SAC to represent our company to evaluate site conditions, negotiate modifications to our current real estate agreements, obtain necessary permits, and perform maintenance and service work at our facilities. Sprint values its good reputation with its landlords and local government agencies and has instructed SAC to protect its good standing in all matters. To that extent, please accept this as Sprint authorization for you to discuss the terms of our site agreement and possible improvements or changes that may be proposed at the facility with SAC.

Regards,

Nichole Thomas, National Site Development





This report was prepared for American Tower Corporation by



TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure

: 147.9 ft Monopole

ATC Site Name

: Petro Lock, CT

ATC Site Number

: 302468

Engineering Number

: OAA729245_C3_01

Proposed Carrier

: Sprint Nextel

Carrier Site Name

: Petro Lock

Carrier Site Number

: CT43XC806

Site Location

: 99 Meadow St

Hartford, CT 06114-1598

41.743200,-72.667500

County

: Hartford

Date

: April 25, 2018

Max Usage

: 63%

Result

: Pass

Prepared By: Jordan Russ

Jula Mm

TEP

Reviewed By:



COA: PEC.0001553



Eng. Number OAA729245_C3_01 April 25, 2018

Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion	1
Existing and Reserved Equipment	2
Equipment to be Removed	3
Proposed Equipment	. 3
Structure Usages	3
Foundations	3
Deflection, Twist, and Sway	4
Standard Conditions	. 5
Calculations	Attached

Tower Engineering Professionals, Inc. - 326 Tryon Road - Raleigh, NC 27603 - 919-661-6351 Office - 919-661-6350 Fax - www.tepgroup.net



Eng. Number OAA729245_C3_01 April 25, 2018 Page 2

Existing and Reserved Equipment

Elevation		Qty	Antenna	Mount Type	Lines	Carrier	
Mount	RAD	AD		//		Carrier	
148.0 151.0	151.0		Decibel DB844H90E-XY				
148.0 151.0		8	Andrew 844G65VTZASX	Platform w/ Handrails	(12) 1 1/4" Coax	Sprint Nextel	
		6	Powerwave LGP21901				
		6	Powerwave 7020.00 Dual Band RET				
		2	Raycap DC6-48-60-18-8F				
		6	Powerwave LGP21401				
		3	Ericsson RRUS 4478 B14				
		1	Raycap DC6-48-60-18-8C		4		
127.0	127.0	3	Ericsson RRUS 11 (Band 12) (55 lb)	Platform w/	(12) 1 5/8" Coax (6) 0.78" 8 AWG 6		
137.0	137.0	3	Ericsson RRUS 32 B66A	Handrails	(3) 0.39" Fiber	AT&T Mobility	
		3	Ericsson RRUS 32 B2		Trunk		
		3	Ericsson RRUS-32		(1) 3" conduit		
		3	Powerwave 7750.00				
	-	2	KMW AM-X-CD-16-65-00T-RET				
		2	Quintel QS66512-3				
		1	Andrew SBNH-1D6565C				
		1	CCI TPA-65R-LCUUUU-H8				
		3	Kathrein 80010965				
3	3	Ericsson KRY 112 144/1					
		3	Ericsson KRY 112 489/1				
1220	124.0	3	Ericsson AIR 32 B4A-B2P		(12) 1 5/8" Coax		
123.0		3	RFS APX16DWV-16DWVS-E-A20	T-Arm	(1) 1 5/8" Fiber	T-Mobile	
		3	Andrew LNX-6515DS-VTM		. ,		
123.0		3	Kathrein Smart Bias Tee				
116.0	116.0	3	RFS APXV18-206517	Flush	(6) 1 5/8" Coax	Metro PCS	
		3	RFS IBC1900HG-2A				
		3	RFS IBC1900BB-1		1		
98.0	98.0	3	RFS APXVSPP18-C-A20	Low Profile	(3) 1 1/4"		
30.0	36.0	1	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter	Platform	Hybriflex	Sprint Nextel	
1			Alcatel-Lucent 4x40W RRH (88 lb)				
		3	DragonWave Horizon Compact				
		3	NextNet BTS-2500		(3) 1/2" Coax		
93.0	93.0	2	DragonWave A-ANT-18G-2-C	Stand-Off	(6) 5/16" Coax	Clearwire	
	L	3	Argus LLPX310R		(1) 2" conduit		
		1	DragonWave A-ANT-11G-2.5-C				
		3	Alcatel-Lucent RRH2X60-AWS				
		3	Alcatel-Lucent RRH2x60 700	Low Profile	(2) 1 5 (0)		
79.0	79.0	3	Alcatel-Lucent RRH2x60	Platform	(2) 1 5/8"	Verizon	
		2	RFS DB-T1-6Z-8AB-0Z	riatiOffff	Hybriflex		
		12	Commscope SBNHH-1D65B				
20.0	20.0	1	Lucent KS-24019	Stand-Off	(1) 1/2" Coax	Sprint Nextel	

Tower Engineering Professionals, Inc. - 326 Tryon Road - Raleigh, NC 27603 - 919-661-6351 Office - 919-661-6350 Fax - www.tepgroup.net



Eng. Number OAA729245_C3_01 April 25, 2018 Page 4

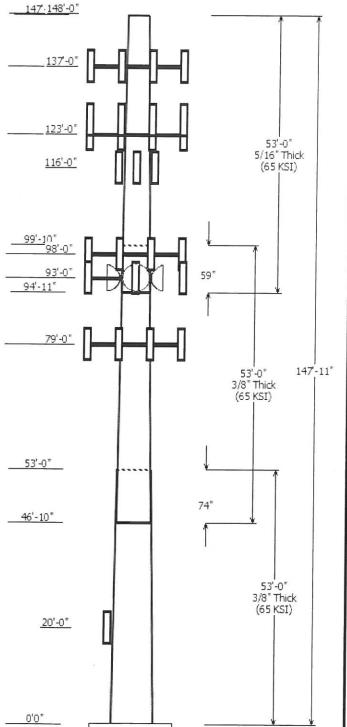
Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation)	
	Alcatel-Lucent 800 MHz 2X50W RRH w/ Filter			0.715	
98.0	Alcatel-Lucent 4x40W RRH (88 lb)	Sprint Nextel	0.647		
	Nokia 2.5G MAA - AAHC(64T64R)				
93.0	DragonWave A-ANT-18G-2-C	Cl	0.505	0.688	
93.0	DragonWave A-ANT-11G-2.5-C	Clearwire	0.585		

^{*}Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G

Tower Engineering Professionals, Inc. - 326 Tryon Road - Raleigh, NC 27603 - 919-661-6351 Office - 919-661-6350 Fax - www.tepgroup.net

© 2007 - 2018 by ATC IP LLC. All rights reserved.



Job Information

Pole: 302468 Code: ANSI/TIA-222-G

Location : Petro Lock, CT Description : 148' FWT Monopole

Client : SPRINT NEXTEL Struct Class : II

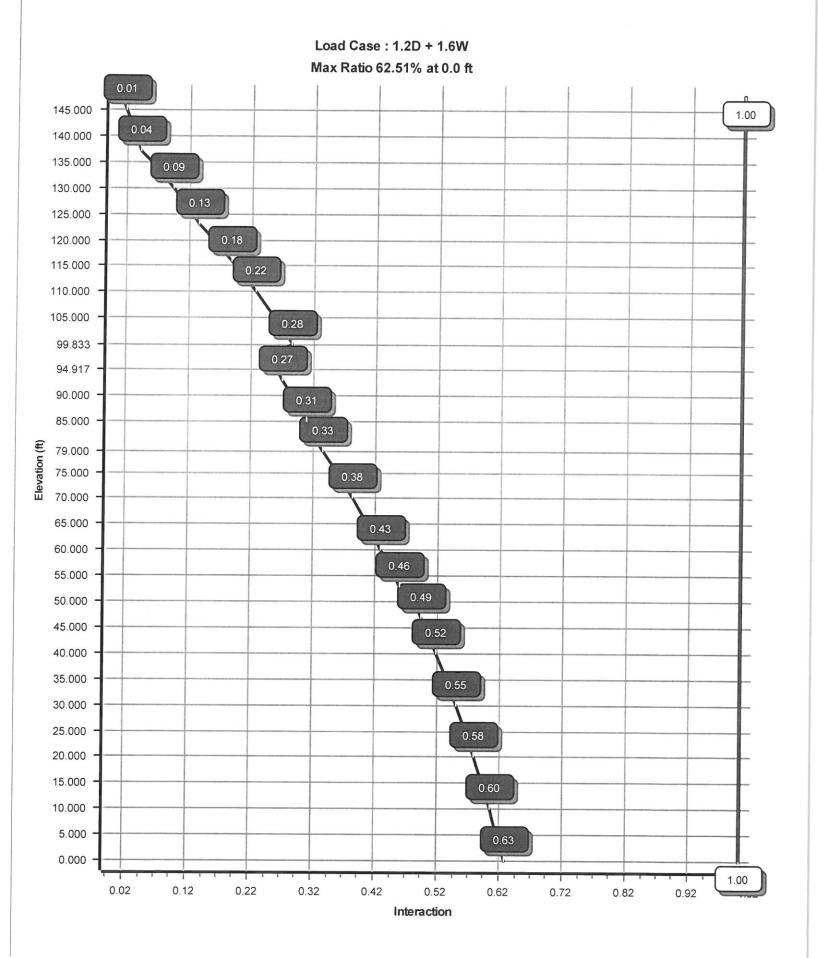
Shape: 18 Sides Exposure: B Height: 147.92 (ft) Topo: 1

Base Elev (ft): 0.00

Taper: 0.21456&in/ft)

			Secti	ons P	roperties			
Shaft Section	Length (ft)		eter (in) ss Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)		Steel Grade (ksi)
1	53.000	45.20	56.58	0.375		0.000	18 Sides	65
2	53.000	35.90	47.28	0.375	Slip Joint	74.000	18 Sides	65
3	53.000	26.21	37.58	0.313	Slip Joint	59.000	18 Sides	65

Discrete Appurtenance						
Attach	Force					
Elev (ft)	Elev (ft)	Qty	Description			
148.000	148.000	1	Flat Platform w/ Handrails			
148.000	151.000	8	Andrew 844G65VTZASX			
148.000	151.000	4	Decibel DB844H90E-XY			
137.000	137.000	2	Quintel QS66512-3 (112 lbs.)			
137.000	137.000	1	CCI TPA-65R-LCUUUU-H8			
137.000	137.000	3	Kathrein Scala 80010965			
137.000	137.000	1	Andrew SBNH-1D6565C			
137.000	137.000	3	Ericsson RRUS-32 (77 lbs)			
137.000	137.000	3	Ericsson RRUS 32 B2			
137.000	137.000	3	Ericsson RRUS 32 B66A			
137.000	137.000	3	Ericsson RRUS 4478 B14 (15")			
137.000	137.000	1	Raycap DC6-48-60-18-8C			
137.000	137.000	1	Flat Platform w/ Handrails			
137.000	137.000	2	KMW AM-X-CD-16-65-00T-RET			
137.000	137.000	3	Powerwave Allgon 7750.00			
137.000	137.000	3	Ericsson RRUS 11 (Band 12) (55			
137.000	137.000	2	Raycap DC6-48-60-18-8F (23.5"			
137.000	137.000	6	Powerwave Allgon LGP21401			
137.000	137.000	6	Powerwave Allgon 7020.00			
137.000 123.000	137.000	6	Powerwave Allgon LGP21901			
123.000	124.000	3	Ericsson AIR 32 B4A-B2P			
	124.000	3	Andrew LNX-6515DS-VTM			
123.000	124.000	3	RFS APX16DWV-16DWVS-E-A20			
123.000 123.000	124.000 124.000	3	Ericsson KRY 112 489/1			
123.000	123.000	3	Ericsson KRY 112 144/1 Kathrein Scala Smart Bias Tee			
123.000	123.000	3	Round T-Arms			
116.000	116.000	3				
			RFS APXV18-206517			
98.000 98.000	98.000 98.000	2	Alcatel Lucent 4x40W RRH (88 I			
98.000	98.000	3	Alcatel-Lucent 800 MHz 2X50W Nokia 2.5G MAA -			
98.000	98.000	ა 1	Round Low Profile Platform			
98.000	98.000	3	RFS APXVSPP18-C-A20			
98.000	98.000	1	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
98.000	98.000	1	Alcatel-Lucent 4x40W RRH (88 I Alcatel-Lucent 800 MHz 2X50W			
98.000	98.000	3	RFS IBC1900HG-2A			
98.000	98.000	3	RFS IBC1900HG-2A RFS IBC1900BB-1			
93.000	93.000	1				
93.000	93.000	1	DragonWave A-ANT-11G-2.5-C Side Arms			
93.000	93.000	2	DragonWave A-ANT-18G-2-C			
93.000	93.000	3	Argus LLPX310R			
93.000	93.000	3	NextNet BTS-2500			
93.000	93.000	3				
79.000	79.000	1	DragonWave Horizon Compact Flat Low Profile Platform			
79.000	79.000	12				
0.000	13.000	12	Commscope SBNHH-1D65B			



Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number:OAA729245_C3_01

4/25/2018 6:36:25 PM

Shaft	Section	Pro	nortice
Onait	occuon	110	perues

Customer: SPRINT NEXTEL

		Slip				Bot	ttom —					— т	op –			
Sect Length Thi		Joint Joint Type Len (in		Dia (in)	Elev (ft)	Area (in ²)	lx (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in 2)	1x (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18 53.000 0.3 2-18 53.000 0.3 3-18 53.000 0.3	750 65 125 65	Slip 74.00	8,848	47.28	46.83	55.83	15518.7	20.47	126.08	35.90	99.83	42.29	6746.8	15.12	95.76	0.214568 0.214568 0.214568

Discrete Appurtenance Properties

Attach Elev	1		Distance From Face	Vert Ecc	14/ : 1 :	No Ice		
(ft)	Description	Qty	(ft)	(ft)	Weight (lb)	(sf)	Orientation Factor	
148.00	Andrew 844G65VTZASX	8	0.000	3.000	16.00	5.310	0.71	_
	Decibel DB844H90E-XY	4	0.000	3.000	14.00	3.610		
148.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	0.74 1.00	
	Andrew SBNH-1D6565C	1	0.000	0.000	66.10		0.70	
	CCI TPA-65R-LCUUUU-H8	1	0.000	0.000	81.60		0.69	
137.00	Ericsson RRUS 11 (Band 12) (55	3	0.000	0.000	55.00	2.520	0.67	
137.00	Ericsson RRUS 32 B2	3	0.000	0.000	53.00	2.740	0.67	
137.00	Ericsson RRUS 32 B66A	3	0.000	0.000	50.70	2.720	0.67	
137.00	Ericsson RRUS 4478 B14 (15")	3	0.000	0.000	59.40	1.650	0.50	
137.00	Ericsson RRUS-32 (77 lbs)	3	0.000	0.000	77.00	3.310	0.67	
137.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00	
137.00	Kathrein Scala 80010965	3	0.000	0.000	97.60	13.810	0.62	
137.00	KMW AM-X-CD-16-65-00T-RET	2	0.000	0.000	48.50	8.020	0.67	
137.00	Powerwave Allgon 7020.00 Dual	6	0.000	0.000	2.20	0.400	0.50	
137.00	Powerwave Allgon 7750.00	3	0.000	0.000	27.00	5.560	0.65	
137.00	Powerwave Allgon LGP21401	6	0.000	0.000	14.10	1.100	0.50	
137.00	Powerwave Allgon LGP21901	6	0.000	0.000	5.50	0.230	0.50	
137.00	Quintel QS66512-3 (112 lbs.)	2	0.000	0.000	112.00	8.130	0.74	
137.00	Raycap DC6-48-60-18-8C	1	0.000	0.000	16.00	3.050	0.67	
137.00	Raycap DC6-48-60-18-8F (23.5"	2	0.000	0.000	20.00	1.110	1.00	
123.00	Andrew LNX-6515DS-VTM	3	0.000	1.000	51.30	11.430	0.70	
123.00	Ericsson AIR 32 B4A-B2P	3	0.000	1.000	105.80	6.520	0.71	
	Ericsson KRY 112 144/1	3	0.000	1.000	11.00	0.410	0.50	
123.00	Ericsson KRY 112 489/1	3	0.000	1.000	15.40	0.650	0.50	
123.00	Kathrein Scala Smart Bias Tee	3	0.000	0.000	3.30	0.090	0.50	
	RFS APX16DWV-16DWVS-E-A20	3	0.000	1.000	40.70	6.590	0.60	
123.00	Round T-Arms	3	0.000	0.000	250.00	9.700	0.67	
	RFS APXV18-206517	3	0.000	0.000	26.40	5.050	0.68	
98.00	Alcatel-Lucent 4x40W RRH (88 I	2	0.000	0.000	88.00	3.260	0.67	
98.00	Alcatel-Lucent 4x40W RRH (88 I	1	0.000	0.000	88.00	3.260	0.67	
98.00	Alcatel-Lucent 800 MHz 2X50W R	2	0.000	0.000	64.00	2.060	0.67	
98.00 98.00	Alcatel-Lucent 800 MHz 2X50W R	1	0.000	0.000	64.00	2.060	0.67	
98.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	0.000	103.60	4.200	0.64	
98.00	RFS APXVSPP18-C-A20 RFS IBC1900BB-1	3	0.000	0.000	57.00	8.020	0.69	
98.00	RFS IBC1900BB-1	3	0.000	0.000	22.00	0.970	0.50	
98.00	Round Low Profile Platform	3 1	0.000	0.000	22.00	0.970	0.50	
	Argus LLPX310R	3	0.000	0.000	1500.00	21.700	1.00	
93.00	DragonWave A-ANT-11G-2.5-C	1	0.000 0.000	0.000	28.60	4.290	0.63	
	DragonWave A-ANT-11G-2:5-C	0.70		0.000	47.60	8.670	1.00	
		2	0.000	0.000	27.10	4.690	1.00	
	DragonWave Horizon Compact NextNet BTS-2500	3	0.000 0.000	0.000	10.60 35.00	0.430	0.50	
	Side Arms	1	0.000	0.000	560.00	1.820 8.500	0.50	
	Alcatel-Lucent RRH2x60	3	0.000	0.000	60.00		1.00	
	Alcatel-Lucent RRH2x60 700	3	0.000	0.000		3.500	0.67	
	Alcatel-Lucent RRH2X60-AWS	3	0.000	0.000	56.70 44.00	2.150	0.67	
	Commscope SBNHH-1D65B	12	0.000	0.000	50.70	1.880 8.170	0.50 0.69	
	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00	
	J I I VIII V I WUVIII	•	0.000	0.000	100.00	20.100	1.00	

Page: 2

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number:OAA729245_C3_01

4/25/2018 6:36:25 PM

Customer: SPRINT NEXTEL

Segr	nent Properties	(Max Len:	5. ft)						
Seg T	ор	Fla	t						
Elev	B	Thick Dia			W/t		S Z	Weight	
(ft)	Description	(in) (in) (in²)	(in ⁴)	Ratio	Ratio (ksi) (i	n³) (in³)	(lb)	
0.00		0.3750 56.58	0 66.895	26,698.9	24.84	150.88 72.2 92	29.4 0.0	0.0	 _
5.00		0.3750 55.50	7 65.618	25,199.0	24.34	148.02 72.8 89		1,127.3	
10.00		0.3750 54.43		23,756.4	23.83	145.16 73.4 85		1,105.6	
15.00		0.3750 53.36		22,369.9	23.33		5.7 0.0	1,083.8	
20.00		0.3750 52.28		21,038.4	22.82	139.44 74.6 79		1,062.1	
25.00		0.3750 51.21		19,760.8	22.32			1,040.4	
30.00 35.00		0.3750 50.14		18,536.1	21.81	133.71 75.7 72		1,018.7	
40.00		0.3750 49.07		17,363.0	21.31	130.85 76.3 69			
45.00		0.3750 47.99		16,240.5	20.81	127.99 76.9 66			
46.83	Bot - Section 2	0.3750 46.924 0.3750 46.53	4 55.4U3	15,167.4 14,786.1	20.30	125.13 77.5 63		70.00	
50.00	Dot - Occilon 2	0.3750 45.85		14,766.1	20.12 19.80	124.08 77.7 629 122.27 78.1 60	프로그래티		
53.00	Top - Section 1	0.3750 45.958		14,242.1	19.85	122.55 78.1 61		1,184.8	
55.00		0.3750 45.528		13,843.6	19.64	121.41 78.3 59		1,106.4 367.5	
60.00		0.3750 44.456	52 465	12,880.1	19.14	118.55 78.9 57			
65.00		0.3750 43.383		11,962.4	18.64	115.69 79.5 54		881.8	
70.00		0.3750 42.310		11,089.3	18.13	112.83 80.1 510		860.0	
75.00		0.3750 41.237	48.634	10,259.8	17.63	109.97 80.7 490		838.3	
79.00		0.3750 40.379	47.613	9,626.8	17.22	107.68 81.1 469		655.0	
80.00		0.3750 40.164		9,472.7	17.12	107.10 81.3 464	4.5 0.0	161.6	
85.00		0.3750 39.091		8,726.9	16.62	104.24 81.9 439	9.7 0.0	794.9	
90.00		0.3750 38.019		8,021.4	16.11	101.38 82.4 418		773.1	
93.00 94.92	Bot - Section 3	0.3750 37.375		7,616.9	15.81	99.67 82.6 401		453.5	
95.00	bot - Section 3	0.3750 36.964		7,365.7	15.62	98.57 82.6 392		285.6	
98.00		0.3750 36.946 0.3750 36.302		7,354.9	15.61	98.52 82.6 392		22.8	
99.83	Top - Section 2	0.3125 36.534		6,973.3 5,955.0	15.31 18.85	96.81 82.6 378		814.4	
100.0	TOP OCCUON 2	0.3125 36.498		5,937.4	18.83	116.91 79.2 321		490.6	
105.0		0.3125 35.425		5,424.8	18.23	116.79 79.3 320 113.36 80.0 301		20.4 601.6	
110.0		0.3125 34.352		4,942.6	17.62	109.93 80.7 283		583.5	
115.0		0.3125 33.279		4,489.8	17.01	106.49 81.4 265		565.4	
116.0		0.3125 33.065		4,402.7	16.89	105.81 81.5 262		110.9	
120.0		0.3125 32.207		4,065.6	16.41	103.06 82.1 248		436.4	
123.0		0.3125 31.563		3,824.4	16.05	101.00 82.5 238		319.7	
125.0		0.3125 31.134		3,669.0	15.80	99.63 82.6 232	2.1 0.0	209.5	
130.0		0.3125 30.061		3,299.0	15.20	96.19 82.6 216	5.2 0.0	511.1	
135.0		0.3125 28.988		2,954.8	14.59	92.76 82.6 200		493.0	
137.0		0.3125 28.559		2,824.1	14.35	91.39 82.6 194		192.1	
140.0 145.0		0.3125 27.915		2,635.4	13.99	89.33 82.6 185		282.7	
147.9		0.3125 26.842 0.3125 26.216		2,339.9	13.38	85.90 82.6 171		456.7	
177.5		0.3123 20.216	25.693	2,178.2	13.03	83.89 82.6 163		258.1	
							2	5,342.4	

Page: 4

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number: OAA729245_C3_01

4/25/2018 6:36:30 PM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.6W

96 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-54.91	-29.43	0.00	-3,080.84	0.00	3,080.84	4,345.86	2.172.93	10,048.4	5.031.69	0.00	0.00	0.625
5.00	-53.48	-29.15	0.00	-2,933.71	0.00	2,933.71	4,297.95	2.148.97	9,746.71	4.880.60	0.09	-0.16	0.614
10.00	-51.74	-28.88	0.00	-2,787.94	0.00	2,787.94	4,248.67	2,124.33	9,446.20	4,730.12	0.34	-0.32	0.602
15.00	-50.02	-28.61	0.00	-2,643.54	0.00	2,643.54	4,198.03	2,099.01	9,147.09	4,580.35	0.77	-0.48	0.589
20.00	-48.33	-28.31	0.00	-2,500.51	0.00	2,500.51	4,146.02	2,073.01	8,849.58	4,431.37	1.36	-0.65	0.576
25.00	-46.67	-28.03	0.00	-2,358.98	0.00	2,358.98	4,092.65	2,046.32	8,553.84	4,283.28	2.13	-0.81	0.562
30.00	-45.04	-27.75	0.00	-2,218.82	0.00	2,218.82			8,260.05		3.07	-0.98	0.548
35.00	-43.44	-27.46	0.00	-2,080.07	0.00	2,080.07	3,981.82	1,990.91	7,968.40	3,990.12	4.18	-1.14	0.532
40.00	-41.86	-27.15	0.00	-1,942.77	0.00	1,942.77	3,924.36	1,962.18	7,679.06	3,845.24	5.47	-1.31	0.516
45.00 46.83	-40.34 -39.77	-26.92	0.00	-1,807.02	0.00	1,807.02			7,392.22		6.92	-1.47	0.499
50.00	-38.09	-26.76 -26.53	0.00	-1,757.66	0.00	1,757.66			7,287.71		7.50	-1.53	0.492
53.00	-36.53	-26.33	0.00	-1,672.91 -1,593.32	0.00 0.00	1,672.91 1,593.32			7,108.06		8.55	-1.64	0.480
55.00	-35.92	-26.10	0.00	-1,593.32	0.00	1,593.32			7,136.09		9.61	-1.74	0.456
60.00	-34.45	-25.73	0.00	-1,410.17	0.00	1,410.17			7,023.10		10.35	-1.80	0.448
65.00	-33.00	-25.35	0.00	-1,281.52	0.00	1,410.17			6,742.70 6,465.40		12.32	-1.95	0.427
70.00	-31.59	-24.97	0.00	-1,154.76	0.00	1,154.76	3 596 99	1,030.04	6,191.38	3,237.50	14.45 16.73	-2.10 -2.25	0.405
75.00	-30.21	-24.62	0.00	-1,029.90	0.00	1,029.90			5,920.82		19.16	-2.25	0.381 0.356
79.00	-26.08	-20.74	0.00	-931.44	0.00	931.44			5,706.98		21.20	-2.50	0.334
80.00	-25.80	-20.52	0.00	-910.70	0.00	910.70	3,463,52	1.731.76	5,653.90	2.831.15	21.73	-2.52	0.329
85.00	-24.51	-20.12	0.00	-808.08	0.00	808.08	3.394.74	1.697.37	5,390.81	2,699,41	24.44	-2.65	0.307
90.00	-23.24	-19.78	0.00	-707.47	0.00	707.47			5,131.72		27.28	-2.77	0.282
93.00	-21.50	-18.30	0.00	-648.12	0.00	648.12	3,271.77	1,635.89	4,962.98	2,485.18	29.05	-2.85	0.267
94.92	-21.04	-18.21	0.00	-613.04	0.00	613.04	3,235.40	1,617.70	4,852.71	2,429.96	30.20	-2.89	0.259
95.00	-21.00	-18.10	0.00	-611.53	0.00	611.53	3,233.82	1,616.91	4,847.95	2,427.58	30.25	-2.89	0.259
98.00	-16.87	-15.68	0.00	-557.24	0.00	557.24	3,176.90	1,588.45	4,677.94	2,342.44	32.09	-2.96	0.243
99.83 100.00	-16.18	-15.57	0.00	-528.49	0.00	528.49	2,561.71	1,280.85	3,809.78	1,907.72	33.24	-3.00	0.283
105.00	-16.14 -15.14	-15.39 -14.98	0.00	-525.89	0.00	525.89			3,803.37		33.34	-3.01	0.283
110.00	-15.14	-14.50	0.00	-448.95	0.00	448.95			3,612.41		36.55	-3.12	0.254
115.00	-13.22	-14.37	0.00	-374.05 -301.17	0.00	374.05 301.17			3,424.31		39.88	-3.23	0.224
116.00	-12.96	-13.70	0.00	-286.87	0.00	286.87			3,239.25 1 3,202.61 1		43.32	-3.33	0.191
120.00	-12.25	-13.42	0.00	-232.06	0.00	232.06	2,303.00	1,131.04	3,057.40 1	1,003.09	44.02	-3.35	0.184
123.00	-10.15	-10.80	0.00	-190.11	0.00	190.11			2,949.92 1		46.85	-3.41	0.157
125.00	-9.84	-10.54	0.00	-168.51	0.00	168.51			2,869.84 1		49.01 50.46	-3.46 -3.48	0.133 0.122
130.00	-9.06	-10.15	0.00	-115.81	0.00	115.81			2,672.56 1		54.14	-3.54	0.091
135.00	-8.31	-9.87	0.00	-65.04	0.00	65.04			2,482.31 1	,	57.87	-3.58	0.056
137.00	-3.67	-4.04	0.00	-45.30	0.00	45.30			2,408.17 1		59.37	-3.59	0.039
140.00	-3.32	-3.76	0.00	-33.18	0.00	33.18	2,034.01				61.63	-3.60	0.030
145.00	-2.74	-3.46	0.00	-14.40	0.00	14.40	1,954.95	977.48	2,122.87 1	,063.01	65.41		0.015
147.92	0.00	-3.28	0.00	-4.30	0.00	4.30	1,908.83	954.42	2,023.32 1	,013.16	67.61		0.004

Page: 6

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number:OAA729245_C3_01

4/25/2018 6:36:34 PM

Customer: SPRINT NEXTEL

Load Case: 0.9D + 1.6W

96 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10 Dead Load Factor :0.90

Wind Importance Factor 1.00

Wind Load Factor : 1.60

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips	phi Vn) (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.18	-29.41	0.00	-3,048.82	0.00	3,048.82	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.616
5.00	-40.08	-29.10	0.00	-2,901.78	0.00	2,901.78	4,297.98	2,148.97	9,746.71	4,880.60	0.09	-0.16	0.604
10.00	-38.76	-28.79	0.00	-2,756.30	0.00	2,756.30	4,248.67	2,124.33	9,446.20	4,730.12	0.34	-0.32	0.592
15.00	-37.45	-28.48	0.00	-2,612.38	0.00	2,612.38			9,147.09		0.76	-0.48	0.579
20.00	-36.16	-28.15	0.00	-2,469.99	0.00	2,469.99	4,146.02	2,073.01	8,849.58	4,431.37	1.35	-0.64	0.566
25.00	-34.90	-27.84	0.00	-2,329.26	0.00	2,329.26			8,553.84		2.10	-0.80	0.553
30.00	-33.66	-27.53	0.00	-2,190.06	0.00	2,190.06			8,260.05		3.03	-0.97	0.538
35.00	-32.44	-27.22	0.00	-2,052.40	0.00	2,052.40			7,968.40		4.13	-1.13	0.523
40.00	-31.25	-26.88	0.00	-1,916.32	0.00	1,916.32			7,679.06		5.40	-1.29	0.507
45.00 46.83	-30.09 -29.66	-26.64	0.00	-1,781.90	0.00	1,781.90			7,392.22		6.84	-1.45	0.489
50.00	-28.39	-26.47 -26.24	0.00	-1,733.06	0.00	1,733.06			7,287.71		7.41	-1.51	0.483
53.00	-27.22	-26.24	0.00	-1,649.23 -1,570.52	0.00 0.00	1,649.23 1,570.52	3,805.35	1,902.67	7,108.06	3,559.31	8.45	-1.62	0.471
55.00	-26.74	-25.78	0.00	-1,518.45	0.00	1,518.45			7,136.09		9.50	-1.71	0.447
60.00	-25.63	-25.41	0.00	-1,389.53	0.00	1,389.53	3,700.37	1,053.40	7,023.10 6,742.70	2 276 26	10.23	-1.78	0.439
65.00	-24.54	-25.02	0.00	-1,262.51	0.00	1.262.51			6.465.40		12.17 14.27	-1.93	0.419
70.00	-23.47	-24.63	0.00	-1,137.41	0.00	1,137.41			6,191.38		16.52	-2.07 -2.22	0.397 0.374
75.00	-22.42	-24.27	0.00	-1,014.27	0.00	1,014.27	3,530.94	1.765.47	5,920.82	2.964.81	18.92	-2.22	0.349
79.00	-19.36	-20.43	0.00	-917.18	0.00	917.18			5,706.98		20.94	-2.46	0.327
80.00	-19.15	-20.21	0.00	-896.75	0.00	896.75			5,653.90		21.46	-2.49	0.322
85.00	-18.17	-19.81	0.00	-795.70	0.00	795.70	3,394.74	1.697.37	5,390.81	2.699.41	24.13	-2.62	0.300
90.00	-17.22	-19.48	0.00	-696.66	0.00	696.66	3,324.59	1,662.30	5,131.72	2,569.67	26.94	-2.74	0.276
93.00	-15.92	-18.01	0.00	-638.23	0.00	638.23	3,271.77	1,635.89	4,962.98	2,485.18	28.68	-2.81	0.262
94.92	-15.58	-17.92	0.00	-603.71	0.00	603.71			4,852.71		29.82	-2.85	0.253
95.00	-15.55	-17.81	0.00	-602.22	0.00	602.22			4,847.95		29.87	-2.85	0.253
98.00	-12.47	-15.44	0.00	-548.80	0.00	548.80			4,677.94		31.68	-2.92	0.238
99.83 100.00	-11.95	-15.34	0.00	-520.49	0.00	520.49			3,809.78		32.81	-2.96	0.278
105.00	-11.92 -11.17	-15.15 -14.75	0.00	-517.93	0.00	517.93	2,559.94	1,279.97	3,803.37	1,904.51	32.91	-2.97	0.277
110.00	-10.44	-14.75	0.00	-442.16	0.00	442.16			3,612.41		36.08	-3.08	0.249
115.00	-10.44	-14.35	0.00	-368.41 -296.65	0.00 0.00	368.41 296.65			3,424.31		39.36	-3.19	0.219
116.00	-9.54	-13.49	0.00	-282.55	0.00	282.55			3,239.25 · 3,202.61 ·		42.75	-3.28	0.187
120.00	-9.01	-13.21	0.00	-228.59	0.00	228.59			3,057.40		43.44 46.24	-3.30 -3.37	0.180
123.00	-7.47	-10.63	0.00	-187.25	0.00	187.25			2,949.92		48.37	-3.37	0.153 0.130
125.00	-7.23	-10.37	0.00	-165.99	0.00	165.99			2,869.84		49.80	-3.44	0.130
130.00	-6.66	-10.00	0.00	-114.12	0.00	114.12			2,672.56		53.43	-3.49	0.088
135.00	-6.10	-9.73	0.00	-64.13	0.00	64.13			2,482.31		57.10	-3.53	0.055
137.00	-2.70	-3.98	0.00	-44.68	0.00	44.68			2,408.17		58.58	-3.54	0.038
140.00	-2.44	-3.70	0.00	-32.75	0.00	32.75			2,299.08		60.81	-3.55	0.030
145.00	-2.01	-3.42	0.00	-14.26	0.00	14.26	1,954.95	977.48	2,122.87	1,063.01	64.54	-3.56	0.014
147.92	0.00	-3.28	0.00	-4.30	0.00	4.30	1,908.83	954.42	2,023.32	1,013.16	66.71	-3.57	0.004

Page: 8

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number: OAA729245_C3_01

4/25/2018 6:36:39 PM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

Ice Dead Load Factor 1.00

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20 Wind Load Factor :1.00

Wind Importance Factor :1.00
Ice Importance Factor :1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-101.91	-8.44	0.00	-894.35	0.00	894.35	4,345.86	2.172.93	10,048.4	5.031.69	0.00	0.00	0.201
5.00	-99.99	-8.38	0.00	-852.16	0.00	852.16			9.746.71		0.03	-0.05	0.198
10.00	-97.53	-8.32	0.00	-810.25	0.00	810.25	4,248.67	2,124.33	9,446.20	4,730.12	0.10	-0.09	0.194
15.00	-95.05	-8.26	0.00	-768.65	0.00	768.65	4,198.03	2,099.01	9,147.09	4,580.35	0.22	-0.14	0.190
20.00	-92.54	-8.19	0.00	-727.36	0.00	727.36			8,849.58		0.40	-0.19	0.186
25.00	-90.09	-8.12	0.00	-686.42	0.00	686.42			8,553.84		0.62	-0.24	0.182
30.00	-87.66	-8.06	0.00	-645.80	0.00	645.80			8,260.05		0.89	-0.28	0.178
35.00	-85.25	-7.98	0.00	-605.51	0.00	605.51			7,968.40		1.21	-0.33	0.173
40.00	-82.87	-7.90	0.00	-565.60	0.00	565.60			7,679.06		1.59	-0.38	0.168
45.00 46.83	-80.52 -79.66	-7.84 -7.80	0.00	-526.08	0.00	526.08			7,392.22		2.01	-0.43	0.163
50.00	-77.47	-7.73	0.00	-511.71	0.00	511.71			7,287.71		2.18	-0.45	0.161
53.00	-75.42	-7.73 -7.68	0.00 0.00	-487.02 -463.81	0.00 0.00	487.02 463.81	3,805.35	1,902.67	7,108.06	3,559.31	2.49	-0.48	0.157
55.00	-74.49	-7.61	0.00	-448.46	0.00	448.46			7,136.09		2.80	-0.50	0.150
60.00	-72.20	-7.51	0.00	-410.39	0.00	410.39			7,023.10 6,742.70		3.01	-0.52	0.147
65.00	-69.95	-7.39	0.00	-372.87	0.00	372.87			6,465.40		3.58	-0.57	0.141
70.00	-67.73	-7.28	0.00	-335.90	0.00	335.90	3 596 99	1 798 49	6,191.38	3,237.50 3 100 20	4.20 4.87	-0.61 -0.65	0.134 0.127
75.00	-65.54	-7.17	0.00	-299.52	0.00	299.52			5,920.82		5.57	-0.69	0.127
79.00	-55.61	-6.14	0.00	-270.86	0.00	270.86			5,706.98		6.17	-0.73	0.111
80.00	-55.20	-6.07	0.00	-264.72	0.00	264.72			5,653.90		6.32	-0.73	0.109
85.00	-53.16	-5.94	0.00	-234.36	0.00	234.36			5,390.81		7.11	-0.77	0.102
90.00	-51.16	-5.83	0.00	-204.66	0.00	204.66			5,131.72		7.94	-0.81	0.095
93.00	-47.36	-5.41	0.00	-187.18	0.00	187.18			4,962.98		8.45	-0.83	0.090
94.92	-46.64	-5.37	0.00	-176.82	0.00	176.82	3,235.40	1,617.70	4,852.71	2,429.96	8.79	-0.84	0.087
95.00	-46.60	-5.34	0.00	-176.37	0.00	176.37	3,233.82	1,616.91	4,847.95	2,427.58	8.80	-0.84	0.087
98.00	-38.67	-4.60	0.00	-160.36	0.00	160.36			4,677.94		9.34	-0.86	0.081
99.83	-37.73	-4.56	0.00	-151.94	0.00	151.94			3,809.78		9.67	-0.87	0.094
100.00	-37.68	-4.50	0.00	-151.18	0.00	151.18			3,803.37		9.70	-0.87	0.094
105.00	-36.01	-4.36	0.00	-128.69	0.00	128.69			3,612.41		10.63	-0.91	0.086
110.00 115.00	-34.38 -32.78	-4.21 -4.12	0.00 0.00	-106.90 -85.83	0.00	106.90 85.83			3,424.31		11.60	-0.94	0.076
116.00	-31.88	-3.95	0.00	-81.72	0.00	81.72			3,239.25		12.60	-0.97	0.067
120.00	-30.66	-3.85	0.00	-65.92	0.00	65.92	2,303.00	1,131.04	3,202.61	1,603.69	12.80	-0.97	0.064
123.00	-24.77	-3.11	0.00	-54.02	0.00	54.02	2,337.43	1,100.72	2,949.92	1,530.97	13.62 14.25	-0.99	0.056
125.00	-24.26	-3.02	0.00	-47.80	0.00	47.80	2,302.17	1,131.09	2,869.84	1,477.15	14.25	-1.00 -1.01	0.047
130.00	-23.01	-2.88	0.00	-32.71	0.00	32.71	2.192.12	1.096.06	2,672.56	1 338 27	15.74	-1.01	0.044
135.00	-21.80	-2.77	0.00	-18.33	0.00	18.33			2,482.31		16.82	-1.03	0.035
137.00	-8.67	-1.19	0.00	-12.78	0.00	12.78			2,408.17		17.25	-1.04	0.025
140.00	-8.05	-1.09	0.00	-9.21	0.00	9.21			2,299.08		17.91	-1.04	0.012
145.00	-7.03	-0.97	0.00	-3.78	0.00	3.78			2,122.87 1		19.00	-1.05	0.007
147.92	0.00	-0.85	0.00	-0.94	0.00	0.94	1,908.83	954.42	2,023.32 1	,013.16	19.64	-1.05	0.001

Page: 10

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number: OAA729245_C3_01

4/25/2018 6:36:43 PM

Customer: SPRINT NEXTEL

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10 Dead Load Factor :1.00

Wind Importance Factor 1.00

Wind Load Factor :1.00

-													
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-45.79	-7.18	0.00	-747.35	0.00	747.35	4 345 86	2 172 93	10,048.4	5 031 69	0.00	0.00	0.159
5.00	-44.66	-7.11	0.00	-711.45	0.00	711.45			9,746.71		0.00		7.5.5.5.7.5
10.00	-43.27	-7.04	0.00	-675.91	0.00	675.91	4 248 67	2 124 33	9,446.20	4,000.00	0.02	-0.04 -0.08	0.156 0.153
15.00	-41.90	-6.96	0.00	-640.73	0.00	640.73	4.198.03	2.099.01	9,147.09	4 580 35	0.19	-0.12	0.153
20.00	-40.55	-6.88	0.00	-605.92	0.00	605.92	4.146.02	2.073.01	8,849.58	4 431 37	0.33	-0.12	0.147
25.00	-39.23	-6.81	0.00	-571.49	0.00	571.49			8,553.84		0.52	-0.20	0.147
30.00	-37.93	-6.74	0.00	-537.43	0.00	537.43			8,260.05		0.74	-0.24	0.139
35.00	-36.64	-6.67	0.00	-503.73	0.00	503.73	3,981.82	1,990.91	7,968.40	3.990.12	1.01	-0.28	0.135
40.00	-35.39	-6.59	0.00	-470.40	0.00	470.40			7,679.06		1.32	-0.32	0.131
45.00	-34.15	-6.53	0.00	-437.47	0.00	437.47	3,865.53	1.932.77	7,392.22	3.701.60	1.68	-0.36	0.127
46.83	-33.70	-6.49	0.00	-425.50	0.00	425.50	3,843.62	1,921.81	7,287.71	3,649.27	1.82	-0.37	0.125
50.00	-32.34	-6.43	0.00	-404.95	0.00	404.95	3,805.35	1,902.67	7,108.06	3,559.31	2.07	-0.40	0.122
53.00	-31.06	-6.38	0.00	-385.66	0.00	385.66	3,811.37	1,905.68	7,136.09	3,573.35	2.33	-0.42	0.116
55.00	-30.58	-6.32	0.00	-372.89	0.00	372.89	3,786.97	1,893.48	7,023.10	3,516.77	2.51	-0.44	0.114
60.00	-29.39	-6.23	0.00	-341.28	0.00	341.28	3,725.00	1,862.50	6,742.70	3,376.36	2.99	-0.47	0.109
65.00	-28.23	-6.14	0.00	-310.12	0.00	310.12	3,661.68	1,830.84	6,465.40	3,237.50	3.50	-0.51	0.104
70.00	-27.09	-6.05	0.00	-279.42	0.00	279.42	3,596.99	1,798.49	6,191.38	3,100.29	4.05	-0.54	0.098
75.00	-25.97	-5.96	0.00	-249.20	0.00	249.20	3,530.94	1,765.47	5,920.82	2,964.81	4.64	-0.58	0.091
79.00	-22.42	-5.02	0.00	-225.36	0.00	225.36	3,477.11	1,738.56	5,706.98	2,857.73	5.14	-0.60	0.085
80.00	-22.20	-4.96	0.00	-220.35	0.00	220.35			5,653.90		5.26	-0.61	0.084
85.00 90.00	-21.14 -20.10	-4.87	0.00	-195.53	0.00	195.53	3,394.74	1,697.37	5,390.81	2,699.41	5.92	-0.64	0.079
93.00	-20.10	-4.79	0.00	-171.20	0.00	171.20	3,324.59	1,662.30	5,131.72	2,569.67	6.61	-0.67	0.073
94.92	-18.22	-4.43 -4.40	0.00	-156.84	0.00	156.84	3,271.77	1,635.89	4,962.98	2,485.18	7.04	-0.69	0.069
95.00	-18.20	-4.40	0.00	-148.36	0.00	148.36	3,235.40	1,617.70	4,852.71	2,429.96	7.32	-0.70	0.067
98.00	-14.67	-3.79	0.00	-147.99	0.00	147.99	3,233.82	1,616.91	4,847.95	2,427.58	7.33	-0.70	0.067
99.83	-14.07	-3.79	0.00	-134.87 -127.91	0.00	134.87	3,176.90	1,588.45	4,677.94	2,342.44	7.78	-0.72	0.062
100.00	-14.07	-3.72	0.00	-127.31	0.00	127.91	2,561.71	1,280.85	3,809.78	1,907.72	8.05	-0.73	0.073
105.00	-13.24	-3.62	0.00	-108.67	0.00	127.28 108.67	2,559.94	1,279.97	3,803.37	1,904.51	8.08	-0.73	0.072
110.00	-12.43	-3.53	0.00	-90.54	0.00	90.54	2,506.36				8.86	-0.76	0.065
115.00	-11.64	-3.46	0.00	-72.91	0.00	72.91	2,451.42 1 2,395.11				9.66	-0.78	0.058
116.00	-11.41	-3.32	0.00	-69.44	0.00	69.44	2,383.68				10.50 10.66	-0.81	0.050
120.00	-10.81	-3.25	0.00	-56.18	0.00	56.18	2,337.43				11.35	-0.81	0.048
123.00	-8.95	-2.61	0.00	-46.02	0.00	46.02	2,302.17 1	1 151 00	2 040 02 4	1,530.57	11.87		0.041
125.00	-8.68	-2.55	0.00	-40.80	0.00	40.80	2,271.18 1	1 135 59	2,343.32	1,477.15	12.23		0.035
130.00	-8.03	-2.46	0.00	-28.04	0.00	28.04	2,192.12 1	1,100.00	2 672 56 1	1 338 27	13.12		0.032 0.025
135.00	-7.39	-2.39	0.00	-15.76	0.00	15.76	2,113.07 1	056.53	2 482 31 1	1,330.27	14.02		
137.00	-3.25	-0.98	0.00	-10.98	0.00	10.98	2,081.44 1	.040.72	2.408.17 1	205.88	14.02		0.016
140.00	-2.95	-0.91	0.00	-8.04	0.00	8.04	2,034.01 1	.017.00	2 299 08 1	151 25	14.93		0.008
145.00	-2.45	-0.84	0.00	-3.50	0.00	3.50	1,954.95	977.48	2.122.87 1	.063.01	15.85	(7) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	0.005
147.92	0.00	-0.80	0.00	-1.05	0.00	1.05	1,908.83	954.42	2.023.32 1	.013.16	16.38		0.003
						10407-50	.,		_, , , , , , , , , , , , , , , , , , ,	,	. 0.00	3.00	0.001

Page: 12

Site Number: 302468		С	ode: ANSI/TIA-22	22-G	© 2007 - 2018 by ATC IP LLC. AI	l rights reserve
Site Name: Petro Lock, CT		Engineering Nur	nber:OAA729245	_C3_01	4/25/201	8 6:36:44 PM
Customer: SPRINT NEXTEL						
17 16	72.50	1,118	2,943	0.017	31	1,385
15	67.50 62.50	1,140 1,161	2,630	0.015	28	1,412
14	57.50	1,183	2,327 2,034	0.013 0.012	25 22	1,438 1,465
13	54.00	479	734	0.004	8	594
12 11	51.50	1,274	1,788	0.010	19	1,578
10	48.42 45.92	1,362	1,706	0.010	18	1,687
9	42.50	447 1,233	508 1,216	0.003 0.007	5 13	553
8	37.50	1,255	983	0.007	11	1,527 1,554
7	32.50	1,277	769	0.004	8	1,581
6 5	27.50	1,298	575	0.003	6	1,608
4	22.50 17.50	1,320 1,342	404	0.002	4	1,635
3	12.50	1,364	259 142	0.001 0.001	3 2	1,663 1,690
2	7.50	1,386	56	0.000	1	1,717
1	2.50	1,127	6	0.000	0	1,396
Decibel DB844H90E-XY Andrew 844G65VTZASX	148.00	56	547	0.003	6	69
Flat Platform w/ Han	148.00 148.00	128 2,000	1,251 19,551	0.007	13	159
Powerwave Allgon LGP	137.00	33	280	0.112 0.002	209 3	2,477 41
Powerwave Allgon 702	137.00	13	112	0.001	1	16
Powerwave Allgon LGP	137.00	85	718	0.004	8	105
Raycap DC6-48-60-18- Ericsson RRUS 4478 B	137.00	40	339	0.002	4	50
Ericsson RRUS 11 (Ba	137.00 137.00	178 165	1,511	0.009 0.008	16	221
Ericsson RRUS 32 B66	137.00	152	1,399 1,290	0.008	15 14	204 188
Ericsson RRUS 32 B2	137.00	159	1,349	0.008	14	197
Raycap DC6-48-60-18-	137.00	16	136	0.001	1	20
Ericsson RRUS-32 (77 Powerwave Allgon 775	137.00 137.00	231 81	1,959	0.011	21	286
KMW AM-X-CD-16-65-00	137.00	97	687 823	0.004 0.005	7 9	100
Quintel QS66512-3 (1	137.00	224	1,900	0.003	20	120 277
Andrew SBNH-1D6565C	137.00	66	561	0.003	6	82
CCI TPA-65R-LCUUUU-H	137.00	82	692	0.004	7	101
Kathrein Scala 80010 Flat Platform w/ Han	137.00 137.00	293 2,000	2,483	0.014	27	363
Kathrein Scala Smart	123.00	10	16,963 69	0.097 0.000	181 1	2,477
Ericsson KRY 112 144	123.00	33	230	0.001	2	12 41
Ericsson KRY 112 489	123.00	46	321	0.002	3	57
Ericsson AIR 32 B4A-	123.00	317	2,208	0.013	24	393
RFS APX16DWV-16DWVS- Round T-Arms	123.00 123.00	122	849	0.005	9	151
Andrew LNX-6515DS-VT	123.00	750 154	5,217 1,071	0.030 0.006	56 11	929 191
RFS APXV18-206517	116.00	79	495	0.003	5	98
RFS IBC1900BB-1	98.00	66	302	0.002	3	82
RFS IBC1900HG-2A Alcatel-Lucent 800 M	98.00	66	302	0.002	3	82
Alcatel-Lucent 800 M	98.00 98.00	64 128	293	0.002	3	79
Alcatel-Lucent 4x40W	98.00	176	586 806	0.003 0.005	6 9	159 218
Alcatel-Lucent 4x40W	98.00	88	403	0.002	4	109
Nokia 2.5G MAA - AAH	98.00	311	1,424	0.008	15	385
RFS APXVSPP18-C-A20	98.00	171	783	0.004	8	212
Round Low Profile PI DragonWave Horizon C	98.00 93.00	1,500	6,872	0.039	74	1,858
NextNet BTS-2500	93.00	32 105	132 437	0.001 0.003	1 5	39
Argus LLPX310R	93.00	86	357	0.003	4	130 106
DragonWave A-ANT-18G	93.00	54	226	0.001	2	67
Side Arms	93.00	560	2,330	0.013	25	694
DragonWave A-ANT-11G Alcatel-Lucent RRH2X	93.00	48	198	0.001	2	59
Alcatel-Lucent RRH2x	79.00 79.00	132 170	407 524	0.002 0.003	4	163
Alcatel-Lucent RRH2x	79.00	180	524 555	0.003	6	211 223
RFS DB-T1-6Z-8AB-0Z	79.00	88	271	0.002	3	109

Page: 14

Site Number: 302468		С	ode: ANSI/TIA-22	22-G © 2007 -	2018 by ATC IP LLC. A	Il rights reserve
Site Name: Petro Lock, CT		Engineering Nur	nber:OAA729245			8 6:36:44 PN
Customer: SPRINT NEXTEL					4/25/201	0.30.44 FW
Raycap DC6-48-60-18-	137.00	16	136	0.001	1	14
Ericsson RRUS-32 (77	137.00	231	1,959	0.001	21	199
Powerwave Allgon 775	137.00	81	687	0.004	7	70
KMW AM-X-CD-16-65-00	137.00	97	823	0.005	9	84
Quintel QS66512-3 (1	137.00	224	1.900	0.011	20	193
Andrew SBNH-1D6565C	137.00	66	561	0.003	6	57
CCI TPA-65R-LCUUUU-H	137.00	82	692	0.004	7	70
Kathrein Scala 80010	137.00	293	2,483	0.014	27	252
Flat Platform w/ Han	137.00	2.000	16,963	0.097	181	1.723
Kathrein Scala Smart	123.00	10	69	0.000	1	1,723
Ericsson KRY 112 144	123.00	33	230	0.001	2	28
Ericsson KRY 112 489	123.00	46	321	0.002	3	40
Ericsson AIR 32 B4A-	123.00	317	2,208	0.013	24	273
RFS APX16DWV-16DWVS-	123.00	122	849	0.005	9	105
Round T-Arms	123.00	750	5,217	0.030	56	646
Andrew LNX-6515DS-VT	123.00	154	1,071	0.006	11	133
RFS APXV18-206517	116.00	79	495	0.003	5	68
RFS IBC1900BB-1	98.00	66	302	0.002	3	57
RFS IBC1900HG-2A	98.00	66	302	0.002	3	57
Alcatel-Lucent 800 M	98.00	64	293	0.002	3	55
Alcatel-Lucent 800 M	98.00	128	586	0.003	6	110
Alcatel-Lucent 4x40W	98.00	176	806	0.005	9	152
Alcatel-Lucent 4x40W	98.00	88	403	0.002	4	76
Nokia 2.5G MAA - AAH	98.00	311	1,424	0.008	15	268
RFS APXVSPP18-C-A20	98.00	171	783	0.004	8	147
Round Low Profile PI	98.00	1,500	6,872	0.039	74	1,292
DragonWave Horizon C	93.00	32	132	0.001	1	27
NextNet BTS-2500	93.00	105	437	0.003	5	90
Argus LLPX310R	93.00	86	357	0.002	4	74
DragonWave A-ANT-18G	93.00	54	226	0.001	2	47
Side Arms	93.00	560	2,330	0.013	25	482
DragonWave A-ANT-11G	93.00	48	198	0.001	2	41
Alcatel-Lucent RRH2X	79.00	132	407	0.002	4	114
Alcatel-Lucent RRH2x	79.00	170	524	0.003	6	147
Alcatel-Lucent RRH2x	79.00	180	555	0.003	6	155
RFS DB-T1-6Z-8AB-0Z	79.00	88	271	0.002	3	76
Commscope SBNHH-1D65	79.00	608	1,875	0.011	20	524
Flat Low Profile Pla	79.00	1,500	4,624	0.026	49	1,292
Lucent KS-24019	20.00	4	1	0.000	0	3
		45,797	174,485	1.000	1,867	39,449

Page: 16

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number: OAA729245_C3_01

4/25/2018 6:36:44 PM

Customer: SPRINT NEXTEL

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn		Rotation	
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	Ratio
0.00	-36.60	-1.64	0.00	-179.25	0.00	179.25	4 245 00	0.470.00	Assess of the same of				
5.00	-35.40	-1.65	0.00	-179.25	0.00	179.25			10,048.4 9,746.71		0.00	0.00	0.044
10.00	-34.23	-1.65	0.00	-162.82	0.00	162.82			9,446.20		0.01	-0.01	0.043
15.00	-33.07	-1.65	0.00	-154.58	0.00	154.58			9,147.09		0.02 0.04	-0.02 -0.03	0.042 0.042
20.00	-31.93	-1.65	0.00	-146.32	0.00	146.32			8,849.58		0.04	-0.03	0.042
25.00	-30.81	-1.65	0.00	-138.06	0.00	138.06			8,553.84		0.08	-0.04	0.041
30.00	-29.71	-1.65	0.00	-129.81	0.00	129.81			8,260.05		0.12	-0.05	0.039
35.00	-28.63	-1.64	0.00	-121.59	0.00	121.59		200	7,968.40		0.24	-0.07	0.038
40.00	-27.57	-1.63	0.00	-113.39	0.00	113.39			7,679.06		0.32	-0.08	0.037
45.00	-27.18	-1.63	0.00	-105.25	0.00	105.25	3.865.53	1.932.77	7,392.22	3 701 60	0.40	-0.09	0.035
46.83	-26.01	-1.61	0.00	-102.26	0.00	102.26			7,287.71		0.44	-0.09	0.035
50.00	-24.91	-1.59	0.00	-97.17	0.00	97.17			7,108.06		0.50	-0.10	0.034
53.00	-24.50	-1.58	0.00	-92.40	0.00	92.40			7,136.09		0.56	-0.10	0.032
55.00	-23.48	-1.56	0.00	-89.23	0.00	89.23	3,786.97	1,893.48	7,023.10	3,516.77	0.60	-0.11	0.032
60.00	-22.48	-1.54	0.00	-81.42	0.00	81.42	3,725.00	1,862.50	6,742.70	3,376.36	0.72	-0.11	0.030
65.00	-21.50	-1.51	0.00	-73.73	0.00	73.73	3,661.68	1,830.84	6,465.40	3,237.50	0.84	-0.12	0.029
70.00	-20.53	-1.48	0.00	-66.17	0.00	66.17	3,596.99	1,798.49	6,191.38	3,100.29	0.98	-0.13	0.027
75.00	-19.78	-1.45	0.00	-58.76	0.00	58.76			5,920.82		1.12	-0.14	0.025
79.00	-17.29	-1.35	0.00	-52.94	0.00	52.94			5,706.98		1.24	-0.14	0.023
80.00	-16.37	-1.32	0.00	-51.59	0.00	51.59			5,653.90		1.27	-0.15	0.023
85.00	-15.48	-1.27	0.00	-45.01	0.00	45.01			5,390.81		1.42	-0.15	0.021
90.00	-14.95	-1.25	0.00	-38.64	0.00	38.64			5,131.72		1.59	-0.16	0.020
93.00 94.92	-13.86 -13.84	-1.19	0.00	-34.90	0.00	34.90			4,962.98		1.69	-0.16	0.018
95.00	-13.04	-1.19 -1.14	0.00	-32.63	0.00	32.63			4,852.71		1.76	-0.17	0.018
98.00	-10.30	-0.98	0.00 0.00	-32.53 -29.11	0.00	32.53	3,233.82	1,616.91	4,847.95	2,427.58	1.76	-0.17	0.017
99.83	-10.30	-0.98	0.00	-29.11	0.00	29.11 27.32			4,677.94		1.87	-0.17	0.016
100.00	-9.56	-0.93	0.00	-27.16	0.00	27.32			3,809.78		1.93	-0.17	0.018
105.00	-8.87	-0.88	0.00	-27.10	0.00	22.50			3,803.37		1.94	-0.17	0.018
110.00	-8.19	-0.83	0.00	-18.09	0.00	18.09			3,612.41 3,424.31		2.12	-0.18	0.016
115.00	-8.05	-0.82	0.00	-13.94	0.00	13.94			3,239.25		2.31 2.51	-0.18 -0.19	0.014 0.012
116.00	-7.47	-0.77	0.00	-13.12	0.00	13.12			3,202.61		2.55	-0.19	0.012
120.00	-7.09	-0.74	0.00	-10.03	0.00	10.03			3,057.40		2.71	-0.19	0.011
123.00	-5.63	-0.61	0.00	-7.81	0.00	7.81			2,949.92 ·		2.83	-0.19	0.008
125.00	-5.06	-0.55	0.00	-6.60	0.00	6.60			2,869.84		2.91	-0.19	0.007
130.00	-4.52	-0.50	0.00	-3.82	0.00	3.82			2,672.56 ·		3.12	-0.20	0.005
135.00	-4.30	-0.48	0.00	-1.33	0.00	1.33	2,113,07	1.056.53	2,482.31 °	1.243.00	3.33		0.003
137.00	-0.67	-0.08	0.00	-0.38	0.00	0.38	2,081.44				3.41		0.003
140.00	-0.24	-0.03	0.00	-0.15	0.00	0.15			2,299.08		3.53	-0.20	0.000
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95		2,122.87		3.74		0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32	1,013.16	3.86		0.000

Page: 18

Site Number: 302468				Code: A	NSI/TIA-22	22-G © 20	007 - 2018 by ATC I	P LLC. All rights reserved.
Site Name: Petro Lock	, СТ		Engineering	Number: 0	DAA729245	_C3_01		4/25/2018 6:36:44 PM
Customer: SPRINT NE	XTEL							
^				-1				
6 5	27.50 22.50	1,298 1,320	0.065 0.044	0.072 0.071	0.041 0.042	0.046 0.044	52	1,608
4	17.50	1,342	0.026	0.071	0.042	0.044	51 49	1,635
3	12.50	1,364	0.013	0.059	0.035	0.042	49	1,663 1,690
2	7.50	1,386	0.005	0.044	0.025	0.030	36	1,717
1	2.50	1,127	0.001	0.018	0.010	0.014	13	1,396
Decibel DB844H90E-XY	148.00	56	1.892	1.991	1.144	0.370	18	69
Andrew 844G65VTZASX	148.00	128	1.892	1.991	1.144	0.370	41	159
Flat Platform w/ Han	148.00	2,000	1.892	1.991	1.144	0.370	642	2,477
Powerwave Allgon LGP	137.00	33	1.621	0.846	0.699	0.209	6	41
Powerwave Allgon 702	137.00	13	1.621	0.846	0.699	0.209	2	16
Powerwave Allgon LGP	137.00	85	1.621	0.846	0.699	0.209	15	105
Raycap DC6-48-60-18-	137.00	40	1.621	0.846	0.699	0.209	7	50
Ericsson RRUS 4478 B	137.00	178	1.621	0.846	0.699	0.209	32	221
Ericsson RRUS 11 (Ba	137.00	165	1.621	0.846	0.699	0.209	30	204
Ericsson RRUS 32 B66 Ericsson RRUS 32 B2	137.00 137.00	152	1.621	0.846	0.699	0.209	28	188
Raycap DC6-48-60-18-	137.00	159 16	1.621	0.846	0.699 0.699	0.209	29	197
Ericsson RRUS-32 (77	137.00		1.621	0.846	0.699	0.209	3	20
Powerwave Allgon 775	137.00	231 81	1.621 1.621	0.846	0.699	0.209	42	286
KMW AM-X-CD-16-65-00	137.00	97	1.621	0.846 0.846	0.699	0.209 0.209	15	100
Quintel QS66512-3 (1	137.00	224	1.621	0.846	0.699	0.209	18 41	120
Andrew SBNH-1D6565C	137.00	66	1.621	0.846	0.699	0.209	12	277
CCI TPA-65R-LCUUUU-H	137.00	82	1.621	0.846	0.699	0.209	15	82 101
Kathrein Scala 80010	137.00	293	1.621	0.846	0.699	0.209	53	363
Flat Platform w/ Han	137.00	2,000	1.621	0.846	0.699	0.209	362	2,477
Kathrein Scala Smart	123.00	10	1.307	0.130	0.342	0.063	1	12
Ericsson KRY 112 144	123.00	33	1.307	0.130	0.342	0.063	2	41
Ericsson KRY 112 489	123.00	46	1.307	0.130	0.342	0.063	3	57
Ericsson AIR 32 B4A-	123.00	317	1.307	0.130	0.342	0.063	17	393
RFS APX16DWV-	123.00	122	1.307	0.130	0.342	0.063	7	151
Round T-Arms	123.00	750	1.307	0.130	0.342	0.063	41	929
Andrew LNX-6515DS-VT	123.00	154	1.307	0.130	0.342	0.063	8	191
RFS APXV18-206517	116.00	79	1.162	-0.028	0.228	0.015	1	98
RFS IBC1900BB-1 RFS IBC1900HG-2A	98.00	66	0.830	-0.117	0.063	-0.037	-2	82
Alcatel-Lucent 800 M	98.00 98.00	66 64	0.830	-0.117	0.063 0.063	-0.037	-2	82
Alcatel-Lucent 800 M	98.00	128	0.830 0.830	-0.117	0.063	-0.037	-2	79
Alcatel-Lucent 4x40W	98.00	176	0.830	-0.117 -0.117	0.063	-0.037	-4	159
Alcatel-Lucent 4x40W	98.00	88	0.830	-0.117	0.063	-0.037 -0.037	-6 -3	218
Nokia 2.5G MAA - AAH	98.00	311	0.830	-0.117	0.063	-0.037	-10	109 385
RFS APXVSPP18-C-A20	98.00	171	0.830	-0.117	0.063	-0.037	-6	212
Round Low Profile PI	98.00	1,500	0.830	-0.117	0.063	-0.037	-48	1,858
DragonWave Horizon C	93.00	32	0.747	-0.100	0.040	-0.034	-1	39
NextNet BTS-2500	93.00	105	0.747	-0.100	0.040	-0.034	-3	130
Argus LLPX310R	93.00	86	0.747	-0.100	0.040	-0.034	-3	106
DragonWave A-ANT-18G	93.00	54	0.747	-0.100	0.040	-0.034	-2	67
Side Arms	93.00	560	0.747	-0.100	0.040	-0.034	-17	694
DragonWave A-ANT-11G	93.00	48	0.747	-0.100	0.040	-0.034	-1	59
Alcatel-Lucent RRH2X	79.00	132	0.539	-0.031	0.009	0.001	0	163
Alcatel-Lucent RRH2x	79.00	170	0.539	-0.031	0.009	0.001	0	211
Alcatel-Lucent RRH2x	79.00	180	0.539	-0.031	0.009	0.001	0	223
RFS DB-T1-6Z-8AB-0Z	79.00	88	0.539	-0.031	0.009	0.001	0	109
Commscope SBNHH-	79.00	608	0.539	-0.031	0.009	0.001	1	754
Flat Low Profile Pla	79.00	1,500	0.539	-0.031	0.009	0.001	1	1,858
Lucent KS-24019	20.00	4	0.035	0.069	0.041	0.043	0	5
		45,797	86.452	25.141	25.579	6.500	2,438	56,725

Page: 20

Site Number: 302468	+ 507 + 50 Well			Code: A	NSI/TIA-22	2-G © 2	007 - 2018 by ATC II	P LLC. All rights reserved.
Site Name: Petro Lock,	СТ		Engineering	Number:C	Δ Δ 7 2 9 2 4 5			4/25/2018 6:36:44 PM
			Linginicering	Number.c	/AA123243	_03_01		+/25/2010 0.30.44 PW
Customer: SPRINT NE	XTEL							
Andrew SBNH-1D6565C	137.00	66	1.621	0.846	0.699	0.209	12	57
CCI TPA-65R-LCUUUU-H	137.00	82	1.621	0.846	0.699	0.209	15	70
Kathrein Scala 80010	137.00	293	1.621	0.846	0.699	0.209	53	252
Flat Platform w/ Han	137.00	2,000	1.621	0.846	0.699	0.209	362	1,723
Kathrein Scala Smart	123.00	10	1.307	0.130	0.342	0.063	1	9
Ericsson KRY 112 144	123.00	33	1.307	0.130	0.342	0.063	2	28
Ericsson KRY 112 489	123.00	46	1.307	0.130	0.342	0.063	3	40
Ericsson AIR 32 B4A-	123.00	317	1.307	0.130	0.342	0.063	17	273
RFS APX16DWV-	123.00	122	1.307	0.130	0.342	0.063	7	105
Round T-Arms	123.00	750	1.307	0.130	0.342	0.063	41	646
Andrew LNX-6515DS-VT	123.00	154	1.307	0.130	0.342	0.063	8	133
RFS APXV18-206517	116.00	79	1.162	-0.028	0.228	0.015	1	68
RFS IBC1900BB-1	98.00	66	0.830	-0.117	0.063	-0.037	-2	57
RFS IBC1900HG-2A	98.00	66	0.830	-0.117	0.063	-0.037	-2	57
Alcatel-Lucent 800 M	98.00	64	0.830	-0.117	0.063	-0.037	-2	55
Alcatel-Lucent 800 M Alcatel-Lucent 4x40W	98.00	128	0.830	-0.117	0.063	-0.037	-4	110
Alcatel-Lucent 4x40W	98.00	176	0.830	-0.117	0.063	-0.037	-6	152
	98.00	88	0.830	-0.117	0.063	-0.037	-3	76
Nokia 2.5G MAA - AAH	98.00	311	0.830	-0.117	0.063	-0.037	-10	268
RFS APXVSPP18-C-A20	98.00	171	0.830	-0.117	0.063	-0.037	-6	147
Round Low Profile PI	98.00	1,500	0.830	-0.117	0.063	-0.037	-48	1,292
DragonWave Horizon C	93.00	32	0.747	-0.100	0.040	-0.034	-1	27
NextNet BTS-2500	93.00	105	0.747	-0.100	0.040	-0.034	-3	90
Argus LLPX310R	93.00	86	0.747	-0.100	0.040	-0.034	-3	74
DragonWave A-ANT-18G	93.00	54	0.747	-0.100	0.040	-0.034	-2	47
Side Arms	93.00	560	0.747	-0.100	0.040	-0.034	-17	482
DragonWave A-ANT-11G	93.00	48	0.747	-0.100	0.040	-0.034	-1	41
Alcatel-Lucent RRH2X	79.00	132	0.539	-0.031	0.009	0.001	0	114
Alcatel-Lucent RRH2x	79.00	170	0.539	-0.031	0.009	0.001	0	147
Alcatel-Lucent RRH2x RFS DB-T1-6Z-8AB-0Z	79.00	180	0.539	-0.031	0.009	0.001	0	155
	79.00	88	0.539	-0.031	0.009	0.001	0	76
Commscope SBNHH-	79.00	608	0.539	-0.031	0.009	0.001	1	524
Flat Low Profile Pla	79.00	1,500	0.539	-0.031	0.009	0.001	1	1,292
Lucent KS-24019	20.00	4	0.035	0.069	0.041	0.043	0	3
		45,797	86.452	25.141	25.579	6.500	2,438	39,449

Page: 22

Engineering Number:OAA729245_C3_01

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

4/25/2018 6:36:44 PM

Customer: SPRINT NEXTEL

<u>Load Case</u> (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn		Rotation	
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	Ratio
0.00	-36.60	4.72	0.00			100.00	404500						
5.00	-35.40	-1.73 -1.70	0.00 0.00	-180.06 -171.43	0.00	180.06 171.43			10,048.4		0.00	0.00	0.044
10.00	-34.23	-1.66	0.00	-162.95	0.00	162.95			9,746.71 9,446.20		0.01	-0.01	0.043
15.00	-33.07	-1.61	0.00	-154.66	0.00	154.66			9,147.09		0.02	-0.02	0.043
20.00	-31.93	-1.57	0.00	-146.60	0.00	146.60			8,849.58		0.04	-0.03 -0.04	0.042
25.00	-30.81	-1.52	0.00	-138.76	0.00	138.76	4 092 65	2 046 32	8,553.84	4,431.37	0.08	-0.04	0.041
30.00	-29.71	-1.47	0.00	-131.17	0.00	131.17	4.037.92	2.018.96	8,260.05	4,205.20	0.12	-0.05	0.039
35.00	-28.63	-1.42	0.00	-123.81	0.00	123.81	3.981.82	1.990.91	7,968.40	3 990 12	0.24	-0.07	0.038
40.00	-27.57	-1.37	0.00	-116.70	0.00	116.70			7,679.06		0.32	-0.08	0.037
45.00	-27.18	-1.36	0.00	-109.84	0.00	109.84			7,392.22		0.41	-0.09	0.037
46.83	-26.01	-1.30	0.00	-107.36	0.00	107.36	3,843.62	1,921.81	7,287.71	3,649.27	0.44	-0.09	0.036
50.00	-24.91	-1.24	0.00	-103.25	0.00	103.25	3,805.35	1,902.67	7,108.06	3,559.31	0.50	-0.10	0.036
53.00	-24.50	-1.22	0.00	-99.52	0.00	99.52			7,136.09		0.57	-0.10	0.034
55.00	-23.48	-1.18	0.00	-97.08	0.00	97.08	3,786.97	1,893.48	7,023.10	3,516.77	0.61	-0.11	0.034
60.00	-22.48	-1.14	0.00	-91.19	0.00	91.19	3,725.00	1,862.50	6,742.70	3,376.36	0.73	-0.12	0.033
65.00	-21.50	-1.11	0.00	-85.51	0.00	85.51			6,465.40		0.85	-0.13	0.032
70.00	-20.54	-1.09	0.00	-79.97	0.00	79.97			6,191.38		0.99	-0.14	0.032
75.00	-19.78	-1.08	0.00	-74.53	0.00	74.53			5,920.82		1.14	-0.15	0.031
79.00 80.00	-17.29	-1.08	0.00	-70.20	0.00	70.20			5,706.98		1.27	-0.15	0.030
85.00	-16.37 -15.48	-1.08 -1.11	0.00	-69.12	0.00	69.12			5,653.90		1.30	-0.16	0.029
90.00	-14.95	-1.11	0.00 0.00	-63.70 -58.17	0.00	63.70			5,390.81		1.47	-0.17	0.028
93.00	-14.95	-1.12	0.00	-58.17 -54.80	0.00	58.17			5,131.72		1.65	-0.18	0.027
94.92	-13.83	-1.16	0.00	-54.60	0.00	54.80 52.58	3,2/1.//	1,635.89	4,962.98	2,485.18	1.76	-0.18	0.026
95.00	-13.01	-1.19	0.00	-52.48	0.00	52.48	2 222 02	1,617.70	4,852.71	2,429.96	1.84	-0.19	0.026
98.00	-10.30	-1.28	0.00	-48.91	0.00	48.91	3,233.02	1,010.91	4,847.95 2 4,677.94 2	2,427.58	1.84 1.96	-0.19 -0.19	0.026 0.024
99.83	-10.27	-1.28	0.00	-46.56	0.00	46.56			3,809.78		2.03	-0.19	0.024
100.00	-9.56	-1.31	0.00	-46.35	0.00	46.35			3,803.37 ·		2.04	-0.20	0.028
105.00	-8.87	-1.32	0.00	-39.81	0.00	39.81	2,506.36	1 253 18	3 612 41	1 808 89	2.25	-0.21	0.026
110.00	-8.18	-1.32	0.00	-33.20	0.00	33.20			3.424.31		2.47	-0.22	0.023
115.00	-8.05	-1.32	0.00	-26.59	0.00	26.59			3,239.25		2.70	-0.22	0.020
116.00	-7.47	-1.30	0.00	-25.27	0.00	25.27	2,383.68				2.75	-0.23	0.019
120.00	-7.09	-1.28	0.00	-20.05	0.00	20.05	2,337.43	1,168.72	3,057.40	1.530.97	2.94	-0.23	0.016
123.00	-5.62	-1.18	0.00	-16.20	0.00	16.20	2,302.17				3.09	-0.24	0.013
125.00	-5.06	-1.12	0.00	-13.83	0.00	13.83	2,271.18	1,135.59	2,869.84 1	,437.05	3.19	-0.24	0.012
130.00	-4.51	-1.04	0.00	-8.21	0.00	8.21	2,192.12	1,096.06	2,672.56 1	,338.27	3.44	-0.24	0.008
135.00	-4.30	-0.99	0.00	-3.03	0.00	3.03	2,113.07	1,056.53	2,482.31 1	,243.00	3.70	-0.24	0.004
137.00	-0.67	-0.21	0.00	-1.05	0.00	1.05	2,081.44	1,040.72	2,408.17 1	,205.88	3.80		0.001
140.00	-0.24	-0.08	0.00	-0.42	0.00	0.42	2,034.01	1,017.00	2,299.08 1	,151.25	3.95		0.000
145.00 147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95				4.21		0.000
147.32	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32 1	,013.16	4.36	-0.25	0.000

Page: 24

Customer: SPRINT NEXTEL

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Petro Lock, CT

Engineering Number:OAA729245_C3_01

4/25/2018 6:36:44 PM

Base Summary

Reactions

- Orig	inal Desig	n —		Analysis		
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
2,489.00	36.10	23.90	3.080.84	101.91	29.43	91.69

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio	
60.0	2 500	69 000	Pound	0	0.00	44 224	204.04	040.00		_

Anchor Bolts

		200000000000000000000000000000000000000							Start	CO	iiihi 622ii	ווכ		rension		
	Bolt	Num	D-14 T	Boit	Yield	Ultimate			Angle	Force	Allow		Force	Allow		
_	Circle	Bolts	Bolt Type	Dia (in)	(ksi)	(ksi)	Arrange	Dist (in)	(deg)	(kip)	(kip)	Ratio	(kip)	(kip)	Ratio	
	63.00	16	2.25" A615-	2.25	75.00	100.00	Radial	0.00	0.0	153.08	260.00	0.60	140.34	260.00	0.55	All

Page: 26

Caisson Strength Capacity

Concrete Compressive Strength (f'c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	21
Vertical Steel Rebar Yield Strength (F _v):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	18.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F _v):	40 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_V):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M _u):	3097.1 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	4963.4 k-ft - ACI318-005 - 10.2
M_u/ϕ_BM_n :	0.62 Result: OK
Design Shear (V _u):	270.3 k
Nominal Shear Capacity $(\phi_V V_n)$:	457.6 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
V_u/ϕ_vV_n :	0.59 Result: OK
Design Tension (T _u):	0.0 k
Nominal Tension Capacity $(\phi_T T_n)$:	1769.0 k - ACI318-05 - 10.2
$T_{u}/\phi_{T}T_{n}$:	0.00 Result: OK
Design Compression (P _u):	110.6 k
Nominal Compression Capacity $(\phi_p P_p)$:	7304.9 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.02 Result: OK
Bending Reinforcement Ratio:	0.006 ACI318-05 - 10.8.4 & 10.9.1
	10.5.1
$M_u/\phi_BM_n + T_u/\phi_TT_n$:	0.62 Result: OK



DESTINATION WILL BE ON THE LEFT

SPRINT MASSIVE MIMO PROJECT:

SITE CASCADE: CT43XC806

PETRO LOCK SITE NAME:

CT43XC806S18.1 **AUGMENT ID:**

99 MEADOW ST. SITE ADDRESS:

HARTFORD, CT 06518

LANDLORD

SITE TYPE: 126'-0" MONOPOLE

DRAWING DESCRIPTION: FINAL CDs

BEFORE YOU EXCAVATE

RUTHERFORD, NJ 07070 TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST 9TH FLOOR CHICAGO, IL 60661 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS **ARCHITECT**

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 FAX: 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM

PROJECT DESCRIPTION DRAWING INDEX THESE DOCUMENTS ARE AREA MAP SITE INFORMATION CONFIDENTIAL AND ARE THE EXISTING SPRINT EQUIPMENT TO BE REMOVED: SOLE PROPERTY OF SPRINT AND SHEET NO: SHEET TITLE TOWER OWNER: MAY NOT BE REPRODUCED, REMOVE (3) EXISTING SPRINT 2.5 GHz ANTENNAS AMERICAN TOWER CORPORATION 116 HUNTINGTON AVE, 11TH FLOOR DISSEMINATED OR REDISTRIBUTED REMOVE (3) EXISTING SPRINT 2.5 GHz RADIOS TITLE SHEET T-1 WITHOUT THE EXPRESS WRITTEN REMOVE 1" CONDUIT W/(3) ETHERNET & FIBER CABLES BOSTON, MA 02118 SPRINT CONSTRUCTION SPECIFICATIONS (REFERENCE) 0 T-2 CONSENT OF SPRINT PROPERTY OWNER:
MEADOW STREET REALTY LLC SPRINT SPECIFICATIONS T-3 NEW SPRINT EQUIPMENT TO BE INSTALLED: SITE PLANS C-1INSTALL (3) NEW mMIMO 2.5 GHz AIRSCALE MAA 64T64R 128AE B41 120W AAHC ANTENNAS SITE ADDRESS: TOWER ELEVATION - SOUTHWEST 0 07.25.18 PERMIT/CONSTRUCTION C-2 INSTALL (1) NEW 1.3" HYBRID FIBER TRUNK CABLE, (9) NEW FIBER JUMPER CABLES AND 99 MEADOW ST. C-3 ANTENNA LAYOUTS 0 NO. DATE DESCRIPTION HARTFORD, CT 06518 (3) NEW SOOW POWER JUMPER CABLES (PER SPRINT GUIDELINES) INSTALL (1) NEW mMIMO JUNCTION BOX C-4 EQUIPMENT DETAILS 0 DRAWN BY: COUNTY: HARTFORD COUNTY INSTALL (1) NEW mMIMO AIRSCALE BBU IN EXISTING MMBTS CABINET EQUIPMENT DETAILS CHECKED BY: JMB. C-5 SITE INSTALL (1) NEW TOP HAT ON EXISTING MMBTS CABINET IMPLEMENTATION DETAIL JOB NUMBER: CT43XC806 0 LATITUDE (NAD83): 41° 44' 35.5" N (41.74319722') C - 6INSTALL (2) NEW AMOB UNITS STACKED ON EXISTING BBU CABINET ARCHITECT: C-7 ELECTRICAL DETAILS 0 JOHN BANKS LONGITUDE (NAD83): 72' 40' 03.1" W (-72.66753888') C-8 GROUNDING DETAILS APPLICABLE CODES ZONING JURISDICTION: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT OF THE CONNECTICUT SITTING COUNCIL AND CITY OF HARTFORD DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN CURRENT ZONING: 2015 INTERNATIONAL BUILDING CODE 2015 MECHANICAL CODE ELECTRIC PROVIDER: SEAB! NFPA 780-LIGHTNING PROTECTION CODE 07/31/19 CONNECTICUT LIGHT & POWER 2015 UNIFORM BUILDING CODE 2014 NATIONAL ELECTRICAL CODE STE NAME (800) 266-2000 2016 CONNECTICUT STATE BUILDING CODE NFPA 70-2014 EDITION AS AMENDED BY THE STATE OF GONNECTICUT BACKHAUL PROVIDER: LOCATION MAP PETRO LOCK (800) 246-2020 SUBCONTRACTOR'S WORK SHALL COMPLY WITH 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 SPRINT CM: AHMED BASHIP SITE NUMBER (TIA) 222-6, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES: CONSTRUCTION TYPE: CT43XC806 TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR SITE LOCATION OCCUPANCY USE GROUP: INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81 GUIDE FOR MEASURING 99 MEADOW ST. EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. HARTFORD, CT 06114 ALL DRAWINGS CONTAINED HEREIN ARE FORMATIED FOR 11X17
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING
DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL
IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE
RESPONSIBLE FOR SAME. IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT. AUGMENT ID DIRECTIONS TO OBTAIN LOCATION OF PARTICIPANTS FROM BRADLEY INTERNATIONAL AIRPORT CT:
1. HEAD NORTH TOWARD BRADLEY
INTERNATIONAL AIRPORT, KEEP RIGHT TO CT43XC806S18.1 SITE -UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT **APPROVALS** SHEET TITLE CONTINUE ON BRADLEY INTERNATIONAL CALL BEFORE YOU DIG AIRPORT , SLIGHT LEFT TOWARD SCHOEPHOESTER RD , ONTO SCHOEPHOESTER RD . SIGNATURE SIGNER DATE TOLL FREE: 1-800-922-4455 OR TITLE SHEET SPRINT CONSTRUCTION RD, CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON. www.cbyd.com USE THE RIGHT 2 LANES TO MERGE ONTO I-91 S TOWARD HARTFORD. SPRINT OPERATIONS SHEET NUMBER TAKE EXIT 27 FOR AIRPORT RD TOWARD BRAINARD RD TURN RIGHT ONTO AIRPORT RD CONNECTICUT STATUTE NORTH Know what's **below**. REQUIRES MIN OF 2 SPRINT RF ENGINEER WORKING DAYS NOTICE TURN RIGHT ONTO LOCUST ST TURN LEFT ONTO MEADOW ST T-1 O Ren

Call before you dig.

SECTION "01 100 - SCOPE OF WORK

THE WORK THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE CONSTRUCTION DRAWINGS AND ASSOCIATED OUTLINE SPECIFICATIONS AND THE SITE ACTION PLAN, DESCRIBE THE WORK TO BE PERFORMED BY THIS CONSTRUCTION CONTRACTOR (SUPPLIER).

SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS

SITE FAMILIARITY:

CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

DRAWINGS REQUIRED AT JOBSITE:
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION
DRAWINGS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

THE JOBSITE DRAWINGS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE UPLOADED TO SPRINTVISION UNDER THE HEADING OF "AS-BUILT" DRAWINGS.

2. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

COMPANY FURNISHED MATERIAL AND EQUIPMENT FURNISHED MATERIALS:

COMPANY FURNISHED MATERIALS AND EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

RECEIPT OF MATERIAL AND EQUIPMENT:

1. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT. B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

- TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF
- E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

- 1. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
- 2. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

SECTION 01 300 - CELL SITE CONSTRUCTION

NOTICE TO PROCEED (NTP):

1. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S ISSUANCE OF THE WORK ORDER/PO. 2. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

REQUIREMENTS FOR CONSTRUCTION:

- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS
- 2. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED AND "BROOM CLEANED" AND CLEAR OF DEBRIS
- 3. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY
 - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

SECTION 01 400 - TESTS, INSPECTIONS, SUBMITTALS, AND PROJECT CLOSEOUT

- TESTS AND INSPECTIONS:

 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- 2. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - A. COAX SWEEPS AND FIBER TESTS.

B. POST CONSTRUCTION HEIGHT VERIFICATION, AZIMUTH AND DOWN TILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL SUCH AS SUNSIGHT INSTRUMENTS ANTENNA ALIGNMENT TOOL OR SPRINT APPROVED FOUAL.

C. CONCRETE BREAK TESTS

D. SITE RESISTANCE TO EARTH TEST.

E. STRUCTURAL BACKFILL COMPACTION TESTS.

. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING

G. ADDITIONAL TESTING AS REQUIRED ELSEWHERE IN THIS SPECIFICATION.

- THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
- 2. UPLOAD THE FOLLOWING TO SPRINTVISION AS APPLICABLE INCLUDING BUT NOT LIMITED TO THE FOLLOWING A. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND
 - CONCRETE PAVING B. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.

C. CHEMICAL GROUNDING SYSTEM

D. REINFORCEMENT CERTIFICATIONS F STRUCTURAL BACKELL TEST RESULTS.

F. SWEEP AND FIBER TESTS.

- G. ANTENNA AZIMUTH AND DOWN-TILT VERIFICATION.
- H. POST CONSTRUCTION HEIGHT VERIFICATION.
- ADDITIONAL SUBMITTALS MAY BE REQUIRED FOR SPECIAL CONSTRUCTION OR MINOR MATERIALS.
- 3. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT

SECTION 11 700 - ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION SUMMARY:

THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE AND WAVEGUIDE. ALL COAXIAL CABLE AND ASSOCIATED HARDWARE SHALL BE INSTALLED BY OR UNDER THE DIRECT SUPERVISION OF MANUFACTURER TRAINED AND CERTIFIED PERSONNEL.

ANTENNAS AND REMOTE RADIO UNITS (RRU): INSTALL EQUIPMENT FURNISHED BY COMPANY. REFER TO THE DRAWINGS FOR TYPES AND QUANTITIES OF PANEL AND MICROWAVE ANTENNAS AND RRUS TO BE INSTALLED. MISCELLANEOUS RF EQUIPMENT:
INSTALL COMBINERS, FILTERS, COUPLERS, AND AMPLIFIERS, FURNISHED BY COMPANY, PER

MANUFACTURERS' RECOMMENDATIONS.

JUMPERS AND CONNECTORS:

FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE. SUPER-FLEX CABLES AND JUMPERS MAY BE USED ON A LIMITED BASIS WHERE NEEDED AND ONLY IN ENCLOSED LOCATIONS. DO NOT USE SUPER-FLEX OUTDOORS

HYBRID AND COAXIAL CABLE

INSTALL HYBRID DC/FIBER CABLE AND COAXIAL CABLES, INCLUDING CONNECTORS, JUMPERS, AND CABLE TERMINATING DEVICES FURNISHED BY COMPANY. CABLE SHALL BE DELIVERED TO THE JOB SITE OR TO THE COMPANY'S DESIGNATED LOCATION. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS. RF DATA SHEETS:

RF DATA INFORMATION ON THE DRAWINGS WILL PROVIDE A COMPLETE LIST OF EQUIPMENT FURNISHED BY COMPANY TO BE INSTALLED BY CONTRACTOR.

REMOTE ELECTRICAL TILT (RET) CABLES:
FURNISH INSTALL RET CABLE AND CONNECTORS BETWEEN RRU AND ANTENNAS. CABLE SHALL BE AS REQUIRED BY MANUFACTURER.

ANTENNA MOUNTS: FURNISH AND INSTALL ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS. 2. EXCEPT AS OTHERWISE REQUIRED. BALLAST MOUNTS FOR ROOFTOP APPLICATIONS SHALL BE VALMONT/MICROFLECT NO. 31-99540 (12 FOOT SEPARATION) OR SPRINT APPROVED

3. FACADE-MOUNTED ANTENNAS SHALL COMPLY WITH SITE-SPECIFIC MOUNTING REQUIREMENTS INDICATED ON THE DRAWINGS.

HYBRID AND COAXIAL CABLE INSTALLATION:

1. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL COAXIAL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS 2. THE ROUTING OF THE CABLES SHALL BE CHECKED FOR INTERFERENCE WITH OTHER

TOWER APPURTENANCES BEFORE INSTALLATION AND VERTICAL WAVEGUIDE/COAX HANGERS SHALL BE INSTALLED ON THE TOWER WAVEGUIDE LADDER.

3. CABLES SHALL BE HOISTED, CONNECTED TO THE RRU/ANTENNA FEED, SECURED TO THE HANGERS, AND ORIENTED TO PROVIDE THE CORRECT ENTRANCE PLANE TO THE EQUIPMENT CABINET. THE FIELD TERMINATED CABLES SHALL THEN BE CUT TO THE APPROPRIATE LENGTH TO REACH THE EQUIPMENT. FOR FACTORY TERMINATED CABLES, COIL ANY EXCESS IN A HORIZONTAL PLANE UNDER THE ICE BRIDGE OR GROUND PLATFORM AND SECURE TO MINIMIZE VANDALISM RISK.

4. CABLES SHALL BE GROUNDED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS AND MANUFACTURER'S REQUIREMENTS.

5. CABLES SHALL BE ROUTED IN ACCORDANCE WITH THE STRUCTURAL REQUIREMENTS. IF POSSIBLE, CABLES SHALL BE ROUTED ON THE INSIDE OF MONOPOLES OR DOWN THE WAYEGUIDE LADDER IN A MANNER THAT WILL PREVENT OBSTRUCTION OF THE CLIMBING LADDER. ADDITIONALLY, THE CABLES SHALL BE POSITIONED IN THE BEST POSSIBLE LOCATION TO PROTECT IT FROM DAMAGE. THE BENDING RADIUS OF THE CABLES HALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS.

6. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION. THE COMPANY WILL FURNISH TO THE CONTRACTOR PORT ASSIGNMENTS, IF APPLICABLE, PRIOR TO WAVEGUIDE INSTALLATION.

A. WAVEGUIDE LADDER (LATTICE TOWERS ONLY): WAVEGUIDE LADDERS SHALL BE USED TO SUPPORT ALL COAXIAL CABLE, MICROWAVE WAVEGUIDE CABLE AND ANY BASEBAND CABLE ON THE TOWER). ONE LADDER, 18 CABLES WIDE, SHALL BE

MOUNTED ON THE TOWER PER THE TOWER STRUCTURAL REQUIREMENTS. THE RUNGS ON THE WAVEGUIDE LADDERS SHALL BE SPACED A MAXIMUM OF 4 FEET APART

B. ICE BRIDGE: AS SHOWN ON THE DRAWINGS, PROVIDE AN ICE BRIDGE BETWEEN THE TOWER AND THE SHELTER OR GROUND CABINETS TO SUPPORT ALL CABLING. USE STAINLESS STEEL SNAP-IN TYPE HANGERS OR COAX BLOCKS WITH GROMMETS TO SUPPORT CABLES ON THE ICE BRIDGE, PROVIDE A DRIP LOOP IN ALL CABLING BETWEEN THE BASE OF THE TOWER AND THE ICE BRIDGE.

C. FASTENING CABLES: CABLES SHALL BE RAISED ON THE TOWER USING PROPERLY SIZED SPLIT TYPE, LACE-UP HOISTING SOCKS ATTACHED TO EACH CABLE EVERY 200FT EXCEPT AS OTHERWISE REQUIRED BY MANUFACTURER. INSIDE MONOPOLES ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE TOWER USING A HOISTING SOCK AT THE TOP OF THE TOWER. FOR MONOPOLE TOWERS WITH SUPPORTING MEANS AT MIDPOINT, PROVIDE ADDITIONAL HOISTING SOCK. ON LATTICE TOWERS OR FOR CABLES MOUNTED ON THE OUTSIDE OF MONOPOLES, USE STAINLESS STEEL (NON MAGNETIC) SNAP IN TYPE CABLE HANGERS OR COAX BLOCKS WITH GROMMÈTS AT EACH WAVE GUIDE LADDER RUNG. DO NOT DRILL HOLES IN TOWER MEMBERS, USE ANGLE MEMBER ADAPTERS AND STAINLESS STEEL BUTTERFLY CLIPS, TO ATTACH CABLING TO TOWER. MAKE SURE THAT THERE IS NO STRAIN ON ANY CABLE CONNECTOR DUE TO THE CABLE WEIGHT, CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN A NEAT AND ORDERLY MANNER. AVOID TWISTING AND CROSSOVERS IN THE BUILDING, ALONG THE TOWER FACE, AND WAVEGUIDE RACEWAYS. EXCEPT INSIDE MONOPOLES, SECURE CABLE AT MAXIMUM SPACING OF 36" ON CENTER HORIZONTALLY AND 48" ON CENTER VERTICALLY, EXCEPT AS OTHERWISE REQUIRED BY CABLE MANUFACTURER MAKING SURE THAT THE CABLE WEIGHT IS EQUALLY DISTRIBUTED AND NO STRAIN IS PLACED ON CONNECTORS OR ANTENNAS. HOIST CABLE USING PROPER HOISTING GRIPS. HOIST SLOWLY AND CAREFULLY, PREVENT KINKING AND SNAGS WHEN AROUND TOWER MEMBERS. BEND CABLE SLOWLY AT THE MAXIMUM PRACTICAL BEND RADIUS CONSISTENT WITH GOOD INSTALLATION PRACTICE. AVOID USING MINIMUM CABLE BENDS.

a. SUPPORT INDIVIDUAL FIBER AND DC POWER CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA) AT TOWER TOP, INSIDE MMBTS, AND AT ANY INTERMEDIATE FIBER/DC DISTRIBUTION

SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH ON 18" CENTERS. VELCRO STRAPS SHALL BE OIL, UV AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR EQUAL.

SUPPORT DC BUNDLES ON 18" CENTERS WITH ZIP-TIES OF ADEQUATE LENGTH. ZIP-TIES SHALL BE UV STABILIZED, BLACK NYLON WITH A TENSILE STRENGTH OF 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.

D. BENDING RADIUS: CABLES SHALL NOT EXCEED THE MINIMUM BENDING RADIUS AS DETERMINED BY THE CABLE MANUFACTURER

E. TERMINATION AT SHELTER AND ENTRY PLATE:

ALL CABLING SHALL ENTER THE BUILDING THROUGH THE WAVEGUIDE ENTRY PLATE AND BE PROPERLY WEATHER SEALED WITH A CABLE BOOT FABRICATED FOR THE SIZE OF THE CABLE OR WITH ROXTEC BLOCKS. CABLE BOOTS ARE NOT TO BE CUT TO FIT IN THE FIELD. COAXIAL CABLES SHALL BE TERMINATED WITHIN 18 INCHES INSIDE THE SHELTER AND FITTED WITH A SURGE SUPPRESSOR

CABLE PORT ASSIGNMENTS FOR SHELTER SITES: CABLES SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND CONSISTENT WITH TS-0200.

. GROUNDING OF CABLES: ALL CABLES SHALL BE GROUNDED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS. G. CABLE CONNECTIONS:

CLEAN FIBER CONNECTORS AS REQUIRED IN EL-0568.

FOR FIELD FABRICATIONS USE ONLY CABLE CONNECTORS RECOMMENDED BY THE CABLE MANUFACTURER AND REQUIRED BY THE EQUIPMENT BEING CONNECTED. EXCEPT AS OTHERWISE REQUIRED, CONNECTORS FOR ALL MAIN STATION ANTENNA

CABLES SHALL BE 7/16 DIN. d. d.EXCEPT AS OTHERWISE REQUIRED, CONNECTORS FOR GPS ANTENNAS SHALL BE TYPE

CONNECTORS FOR MICROWAVE ANTENNAS, UNLESS OTHERWISE NOTED, SHALL BE TYPE N.

INSTALL AND TIGHTEN CONNECTORS PER MANUFACTURER'S INSTRUCTIONS. H. COLOR CODING OF CABLES: COMPLY WITH TS-0200 AND THE RF DATA SHEETS ON THE DRAWINGS

ALPHA-NUMERIC LABELING OF CABLES: COMPLY WITH EN-2012-001.

WEATHERPROOFING CONNECTORS AND GROUND KITS:

1. ALL COAX CONNECTORS, FIBER CONNECTORS AND INSTALLED CABLE GROUND KITS SHALL
BE WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. SPRINTS PREFERENCE IS
THE USE OF MATERIAL CALLED OUT IN ITEM 1 BELOW. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST

A. WEATHER PROOFING BOOTS FROM APPROVED VENDORS SUCH AS 3M, AMPHENOL, RFS, FCT MOLEX, JMA AND COMMSCOPE. SUBSTITUTIONS WILL NOT BE ALLOWED. B. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE

3M COLD SHRINK CXS SERIES OR EQUAL.

C. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELE-AMALGAMATING TAPE 2" REYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION, APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE D. HEAT SHRINK TUBING REQUIRING OPEN FLAME ON THE SITE IS NOT ACCEPTABLE.

WEATHERPROOFING CONNECTORS AND GROUND KITS:

SUMMARY:

1. THIS SECTION SPECIFIES MMBS AND RELATED EQUIPMENT FURNISHED BY THE COMPANY

FOR INSTALLATION BY THE CONTRACTOR.

2. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND LABOR REQUIRED FOR INSTALLATION OF THE MMBS CABINET AND RELATED EQUIPMENT.

3. ALL WORK PROVIDED BY CONTRACTOR SHALL BE IN COMPLIANCE WITH THE CONSTRUCTION DRAWINGS AND DETAILS, SITE SPECIFIC CONTRACT DOCUMENTS, AND THESE SPECIFICATIONS.



201 STATE ROUTE 17 NORTH RUTHERFORD, NJ 07070 TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST 9TH FLOOR CHICAGO, IL 60661 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS **ARCHITECT**

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF SPRINT AND MAY NOT BE REPRODUCED. DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT

0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY:JM .. CHECKED BY: JMB JOB NUMBER: CT43XC806

ARCHITECT: W JOHN BANKS DATED: 11/07/185 F SEAL 07/31/19

SITE NAME

PETRO LOCK

SITE NUMBER

CT43XC806 SITE LOCATION

99 MEADOW ST. HARTFORD, CT 06114

AUGMENT ID

CT43XC806S18.1

SHEET TITLE

SPRINT CONSTRUCTION **SPECIFICATIONS**

SHEET NUMBER

SECTION 26 100 - BASIC ELECTRICAL REQUIREMENTS

THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

QUALITY ASSURANCE:

1. ALL EQUIPMENT FURNISHED BY DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY

2. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS' EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT

SUPPORTING DEVICES:

- 1. FURNISH AND INSTALL STEEL SUPPORTS AND FRAMES CONNECTED WITH WELDS AND/OR MACHINE BOLTS WITH WOOD BACK PANELS FOR MOUNTING ALL ELECTRICAL EQUIPMENT INCLUDING PANEL BOARDS, SWITCHES, STARTERS, CONTACTORS, AND CONTROLS AS REQUIRED AND AS APPROVED BY THE ENGINEER.
- 2. FURNISH AND INSTALL ANGLE IRON FRAMES BOLTED TO FLOOR OR WALL FOR MOUNTING ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS TO BE INSTALLED BY DIVISION 26 WHERE NECESSARY
- 3. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
 - a. ALLIED TUBE AND CONDUIT

 - b. B-LINE SYSTEMS
 c. UNISTRUT DIVERSIFIED PRODUCTS
 - d. THOMAS & BETTS
- 4. COATINGS: SUPPORTS, SUPPORT HARDWARE, AND FASTENERS SHALL BE PROTECTED WITH ZINC COATING OR WITH TREATMENT OF EQUIVALENT CORROSION RESISTANCE USING APPROVED ALTERNATIVE TREATMENT, FINISH, OR INHERENT MATERIAL CHARACTERISTICS. PRODUCTS FOR USE OUTDOORS SHALL BE HOT-DIP GALVANIZED.
- 5. RACEWAY SUPPORTS: CLEVIS HANGERS RISER CLAMPS CONDUIT STRAPS THREADED C-CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, AND SPRING
- 6. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
 - a. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
 b. TOGGLE BOLTS: ALL STEEL SPRINGHEAD TYPE.

 - c. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED
 - SPECIFICALLY FOR THE INTENDED SERVICE
 - d. FASTEN BY MEANS OF WOOD SCREWS ON WOOD,
 - CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY. f. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL
 - g. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
 - h. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
- i. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

- 1. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC
- 2. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
- 3. RACEWAY SUPPORTS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS FOR
- SELECTION AND INSTALLATION OF SUPPORTS. 4. THE STRENGTH OF EACH SUPPORT SHALL BE ADEQUATE TO CARRY THE PRESENT AND
- FUTURE LOAD MULTIPLIED BY A SAFETY FACTOR OF AT LEAST FOUR. WHERE THIS DETERMINATION RESULTS IN A SAFETY ALLOWANCE OF LESS THAN 200 POUNDS, PROVIDE ADDITIONAL STRENGTH UNTIL THERE IS A MINIMUM OF 200 POUNDS SAFETY ALLOWANCE IN THE STRENGTH OF EACH SUPPORT. 5. INSTALL INDIVIDUAL AND MULTIPLE (TRAPEZE) RACEWAY HANGERS AND RISER CLAMPS AS
- NECESSARY TO SUPPORT THE RACEWAYS. PROVIDE U-BOLTS, CLAMPS, ATTACHMENTS, AND OTHER HARDWARE NECESSARY FOR HANGER ASSEMBLY AND FOR SECURING HANGER RODS
- 6. SUPPORT PARALLEL RUNS OF HORIZONTAL RACEWAYS TOGETHER ON TRAPEZE-TYPE HANGERS
- 7. SUPPORT MISCELLANEOUS ELECTRICAL COMPONENTS AS REQUIRED TO PRODUCE THE SAME STRUCTURAL SAFETY FACTORS AS SPECIFIED FOR RACEWAY SUPPORTS. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANEL BOARDS, DISCONNECTS, CONTROL ENCLOSURES, PULL BOXES, JUNCTION BOXES, TRANSFORMERS AND OTHER DEVICES
- 8. IN OPEN OVERHEAD SPACES, CAST BOXES THREADED TO RACEWAYS NEED NOT BE SUPPORTED SEPARATELY EXCEPT WHERE USED FOR FIXTURE SUPPORT. SUPPORT SHEET METAL BOXES DIRECTLY FROM THE BUILDING STRUCTURE OR BY BAR HANGERS. WHERE BAR HANGERS ARE USED, ATTACH THE BAR TO RACEWAYS ON OPPOSITE SIDES OF THE BOX AND SUPPORT THE RACEWAY WITH A LISTED TYPE OF FASTENER NOT MORE THAN 24" (600 MM) FROM THE BOX.
- 9. INSTALL CONDUIT SEALING FITTINGS FOR CONDUIT PENETRATIONS OF CONCRETE WALL
- EXTERIOR OR BELOW GRADE AS SPECIFIED OR REQUIRED BY CODE.

 10. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
 - a. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
 - b. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
 - CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY. d. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON
 - e. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED
 - f. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
- g. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS. 11. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF
- 12. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:
1. DURING TRENCH BACKFILLING, FOR EXTERIOR UNDERGROUND POWER, CONTROLS, SIGNAL, AND COMMUNICATIONS LINES, INSTALL CONTINUOUS UNDERGROUND PLASTIC LINE MARKER. LOCATED DIRECTLY ABOVE THE LINE AT A BURIAL DEPTH OF 2 FEET BELOW FINISHED

- GRADE. INSTALL TWO LINE MARKERS 6" IN FROM THE EDGE OF EACH TRENCH WHERE THE TRENCH EXCEEDS 16" IN WIDTH, INSTALL LINE MARKERS FOR ALL UNDERGROUND ELECTRICAL TRENCHES REGARDLESS OF VOLTAGE OR MATERIAL
- 2. PROVIDE TYPED CIRCUIT SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF PANEL BOARDS.
- 3. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANEL BOARD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT

- 1. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS, AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED. REPUBLIC OR WHEATLAND AND SHALL BE GROUNDED PER CURRENT NEC SPECIFICATIONS. CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER, WHO SHALL HAVE A MINIMUM OF FIVE YEARS' EXPERIENCE PRODUCING THE MATERIAL.
- 2. EXTERIOR UNDERGROUND CONDUIT SHALL BE POLYVINYLCHLORIDE (PVC) SCHEDULE 80 OR DIRECT BURIAL RATED. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR EQUAL. CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER, WHO SHALL HAVE A MINIMUM OF FIVE YEARS' EXPERIENCE PRODUCING THE
- 3. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN CONCEALED SPACES ABOVE CEILINGS OR WITHIN WALLS AND EXPOSED IN SPRINT SHELTERS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO—GALVANIZED OR HOT—DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR EQUAL.
- 4. FLEXIBLE CONDUIT IS NOT INTENDED TO FULLY REPLACE RIGID CONDUIT IN A CIRCUIT. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC) IS ONLY PERMISSIBLE FOR MAKING FINAL CONNECTIONS TO CABINETS AND ENCLOSURES. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6 FEET IN LENGTH. THE LENGTH OF THE FLEXIBLE CONDUIT CAN BE BROKEN UP INTO TWO 3 FOOT LENGTHS WITH 3 FEET AT EITHER END. LIQUIDTIGHT FLEXIBLE NON-METALLIC CONDUIT (LFNC) IS PERMISSIBLE ONLY FOR DEDICATED GROUNDING CONDUITS SUCH AS GROUNDING CONNECTIONS TO TOWERS, STEEL STRUCTURES, GROUND BARS, CABINET GROUND POINTS, ETC. FLEXIBLE CONDUITS SHALL NOT BE USED WHERE SUBJECT TO MECHANICAL DAMAGE AND SHALL BE SUPPORTED AS REQUIRED BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE (HYSPAN) OR UNIVERSAL METAL HOSE, SOUTHWIRE, OR EQUAL. LIQUIDTIGHT FLEXIBLE CONDUIT (LMFC) SHALL BE UL LISTED, OIL RESISTANT, SUNLIGHT RESISTANT, WATERPROOF, AND TEMPERATURE RATED -30C
- 5. CONDUITS MUST BE SUPPORTED WITHIN 12" OF THE CONNECTION TO CABINETS AND ENCLOSURES TO REDUCE THE STRAIN ON FITTINGS. CONDUITS MUST BE ADEQUATELY SUPPORTED AT 24" CENTERS FOR HORIZONTAL RUNS AND 36" CENTERS FOR VERTICAL RUNS AND MUST BE PROTECTED FROM PHYSICAL DAMAGE. CONDUITS MUST NOT BE ROUTED OVER PLATFORMS AND SLABS AS THIS CREATES A WORKER TRIP HAZARD AND HAS RESULTED IN OSHA REPORTABLE ACCIDENTS, WORKER INJURIES, AND EXCESSIVE LIABILITY FOR SPRINT CONDUITS MUST ALSO NOT BE IS INSTALLED WITHIN EQUIPMENT AND PERSONNEL INGRESS OR EGRESS PATHWAYS AND IS NOT PERMISSIBLE WITHIN THE OSHA REQUIRED WORKING SPACES IN FRONT OF OR BEHIND CABINETS AND ENCLOSURES.
- 6. ALL FITTINGS USED FOR CONNECTION TO CABINETS AND ENCLOSURES MUST BE METALLIC AND INCLUDE PLASTIC BUSHINGS TO PREVENT CABLE JACKET ABRASION.

7. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH.

BOXES AND COVERS

- 1. PULL AND JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH NEC REQUIREMENTS AND SHALL BE INSTALLED SO THAT THE CONDUCTORS IN THEM ARE ACCESSIBLE WITHOUT REMOVING ANY PART OF THE STRUCTURE.
- 2. INTERIOR SWITCH AND OUTLET BOXES FLUSH MOUNTED IN FINISHED AREAS SHALL BE CODE GAUGE PRESSED PLATED STEEL, MIDLAND ROSS OR APPROVED EQUAL, SUITABLE FOR THE DEVICE TO BE INSTALLED. COVERS SHALL BE AS HEREINAFTER SPECIFIED IN PARAGRAPH "DEVICE PLATES IN FINISHED AREAS"
- 3. DEVICE AND PULL BOXES SURFACE-MOUNTED ABOVE ACCESSIBLE CEILINGS AND WITHIN JNFINISHED ENCLOSED MECHANICAL ROOMS SHALL BE AS SPECIFIED ABOVE SIZED FOR THE CONDUCTORS WITHIN AND SHALL HAVE PRESSED PLATED STEEL SCREW ATTACHED COVERS. 4. INTERIOR SWITCH, AND OUTLET BOXES SURFACE MOUNTED IN UNFINISHED INDUSTRIAL
- AREAS SHALL BE PLATED CAST ALLOY, THREADED, SUITABLE FOR THE DEVICE TO BE NSTALLED, CROUSE-HINDS FS/FD SERIES OR APPROVED EQUAL. COVERS SHALL BE SCREW ATTACHED PLATED IRON ALLOY SUITABLE FOR THE BOX AND DEVICE. SWITCH PLATE COVERS SHALL BE "GUARDED" STYLE.
- 5. PULL AND JUNCTION BOXES, ABOVE GRADE, EXTERIOR TO THE BUILDING AND IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, THREADED, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.
- 6. PULL BOXES IN EARTH SHALL BE FIBERGLASS OR COMPOSITE, OPEN BOTTOM COFFINS. INSTALLED IN EARTH ON GRAVEL BEDS AS INDICATED ON THE DRAWINGS AND RATED FOR PEDESTRIAN OR VEHICULAR TRAFFIC AS REQUIRED.
 7. CONDUIT OUTLET BODIES AND CONDULETS SHALL BE PLATED. THREADED. CAST ALLOY
- WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.
- 8. EXTERIOR SWITCH AND OUTLET BOXES SHALL BE RECESSED MOUNTED EXCEPT AS NOTED, CAST ALUMINUM OR PLATED CAST ALLOY WITH WET LOCATION, CROUSE—HINDS SERIES WIRD COVERS, OR EQUAL. MASONRY BOXES MOUNTED RECESSED IN EXTERIOR WALL SHALL BE FURNISHED WITH WEATHERPROOF COVERS
- 9. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, OR RACO.

- 1. ELECTRICAL SERVICES, CIRCUITS AND SYSTEMS, ENCLOSURES AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. 2. GROUNDING SHALL BE PROVIDED AS INDICATED FOR FEEDER, BRANCH CIRCUIT, CONTROL, AND INSTRUMENT CIRCUITS
- 3. EQUIPMENT GROUNDING CONDUCTOR: FURNISH AND INSTALL A SEPARATE INSULATED GREEN WIRE GROUNDING CONDUCTOR IN CONDUIT WITH CIRCUIT CONDUCTORS FOR ALL FEEDERS AND BRANCH CIRCUITS

4. SEPARATELY DERIVED AC SYSTEMS THAT ARE REQUIRED TO BE GROUNDED BY THE NEC SHALL BE GROUNDED IN ACCORDANCE WITH PARAGRAPH 250-26 OF THE NEC.

5. FURNISH AND INSTALL INSULATED COPPER GROUND CONDUCTORS IN CONDUIT FROM MAIN ELECTRICAL SERVICE EQUIPMENT OR ELECTRICAL ROOM GROUND BUS AND CONNECT TO MAIN METALLIC WATER SERVICE ENTRANCE (IF AVAILABLE) WITH GROUND CLAMPS. CONNECT GROUND CONDUCTOR TO THE STREET SIDE OF WATER MAIN WHERE A DIELECTRIC MAIN WATER FITTING

6. FURNISH AND INSTALL GROUND FAULT PROTECTION WHERE REQUIRED BY CODE AND AS REQUIRED BY THE SPECIFICATIONS AND DRAWINGS. INSTALLATION OF GROUND FAULT PROTECTION SHALL BE IN ACCORDANCE WITH NEC

7. FURNISH AND INSTALL SUPPLEMENTAL CELL SITE GROUNDING SYSTEMS AS INDICATED ON THE DRAWINGS

1. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

2. EXISTING EQUIPMENT THAT IS NOT TO BE REUSED SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE COMPANY IF COMPANY WISHES TO RETAIN OWNERSHIP OF SAME. IF NOT, EQUIPMENT SHALL BECOME THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

3. WHEN EXISTING CONDUIT, WIRING OR ANY OUTLET, RECEPTACLE, SWITCH, ETC., THAT IS TO BE UTILIZED IN THE COMPLETED PROJECT CONFLICTS WITH CONSTRUCTION, IT SHALL BE RELOCATED AND RECONNECTED TO MAINTAIN THE DESIRED SERVICE.

4. THIS CONTRACTOR SHALL GIVE FULL COOPERATION IN THE SCHEDULING AND PROCEDURE OF WORK. SERVICE SHALL NOT BE INTERRUPTED WITHOUT APPROVAL OF THE COMPANY.

CONDUIT AND CONDUCTOR INSTALLATION:

1. CONDUIT SHALL BE SIZED AS REQUIRED BY NEC AND SHALL BE INSTALLED CONTINUOUS AND COMPLETE FROM OUTLET TO OUTLET, PANELS AND JUNCTION BOXES.

a. IN ORDER TO CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN

PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES IN EXPOSED LOCATIONS EXCEPT AS OTHERWISE INDICATED, AND IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE.

b. OTHER CHANGES IN DIRECTION SHALL BE MADE WITH TRADE ELBOWS, KEEPING GROUPED IN TIGHT ENVELOPES FOLLOWING THE LINES OF THE STRUCTURE AND MAINTAINING

CLOSE PROXIMITY TO THE STRUCTURE EXCEPT AS OTHERWISE INDICATED, AND IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE. c. ROUTE CONDUITS ACCORDING TO THE ENVELOPES, AREAS, DETAILS AND

SECTIONS, IF ANY, IDENTIFIED ON THE DRAWINGS.

2. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CONDUITS SHALL BE CONCEALED IN FINISHED AREAS. CONDUIT SHALL BE EXPOSED IN UNFINISHED AREAS.

3. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES, CONDUIT SHALL BE INSTALLED AS REQUIRED BY THE DESIGN OF THE STRUCTURE AND PLACED IN CONCRETE FORMS SO AS NOT TO INTERFERE WITH REINFORCING OR STRENGTH OF SLABS, JOISTS OR BEAMS. CONDUIT SHALL CLEAR ALL PIPES AND DUCTS AND DEPRESSIONS IN FLOORS. PERMISSION OF ENGINEER SHALL BE OBTAINED AS TO LOCATION OF CONDUIT IN REINFORCED CONCRETE SLABS, JOISTS AND REAMS

- 4. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. 5. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE. 6. EMT CONDUITS (IF ALLOWED) SHALL HAVE APPROVED FMT THREADED TYPE BOX CONNECTORS AND COUPLINGS. SET SCREW CONNECTORS AND COUPLINGS SHALL NOT BE ACCEPTABLE
- 7. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE. WHERE MORE THAN ONE CONDUCTOR IS INSTALLED IN THE SAME CONDUIT ALL CONDUCTORS WITHIN THE CONDUIT SHALL BE PULLED SIMULTANEOUSLY. PULL SHALL NOT DEFORM CONDUCTORS. APPROVED TYPE LUBRICANT MAY BE USED IN PULLING CONDUCTORS WHERE REQUIRED.
- 8. SPLICES AND TAPS SHALL BE KEPT TO A MINIMUM AND MADE IN ACCORDANCE WITH THE
- 9. WHERE CONDUIT CROSSES AN EXPANSION JOINT, AN EXPANSION AND DEFLECTION FITTING SHALL BE INSTALLED IN THE CONDUIT.
- 10. PROVIDE "MULE TAPE" PULL STRING IN ALL EMPTY CONDUITS.
- 11. PVC CONDUITS SHALL BE INSTALLED USING FITTINGS, SOLVENTS, GLUES, AND METHODOLOGY AS RECOMMENDED BY THE MANUFACTURER.
- 12. PROVIDE ADEQUATE LENGTH OF CONDUCTORS WITHIN ELECTRICAL ENCLOSURES AND TRAIN THE CONDUCTORS TO TERMINAL POINTS WITH NO EXCESS. DO NOT BEND CONDUCTORS SHARPER THAN EIGHT TIMES THE CABLE OUTSIDE DIAMETER. MAKE TERMINATIONS SO THERE IS NO BARE CONDUCTOR AT THE TERMINAL BUNDLE MULTIPLE CONDUCTORS, WITH CONDUCTORS LARGER THAN NO. 10 AWG IN INDIVIDUAL CIRCUIT BUNDLES.
- 13. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL 486A AND 486B.



201 STATE ROUTE 17 NORTH RUTHERFORD, NJ 07070 TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST 9TH FLOOR CHICAGO, IL 60661 www.sacw.com 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 FAX: 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS ARCHITECT

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF SPRINT AND MAY NOT BE REPRODUCED, DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT.

0 07.25.18 PERMIT/CONSTRUCTION

NO. DATE DESCRIPTION DRAWN BY: JM

CHECKED BY: JMB JOB NUMBER: CT43XC806 ARCHITEOTA JOHN BANKS



07/31/19

SE SITE NAME

PETRO LOCK

SITE NUMBER CT43XC806

> SITE LOCATION 99 MEADOW ST.

HARTFORD, CT 06114 AUGMENT ID

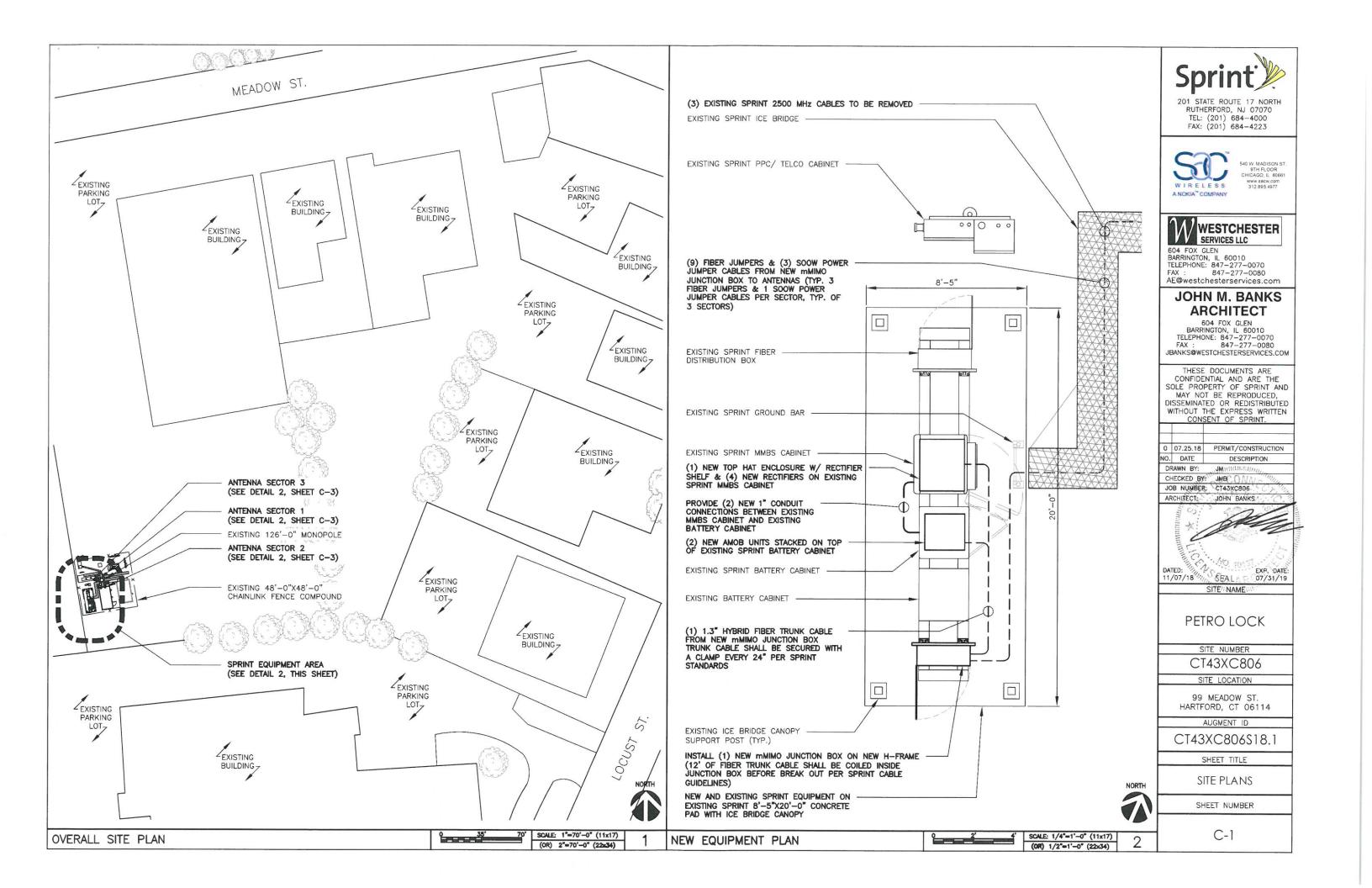
CT43XC806S18.1

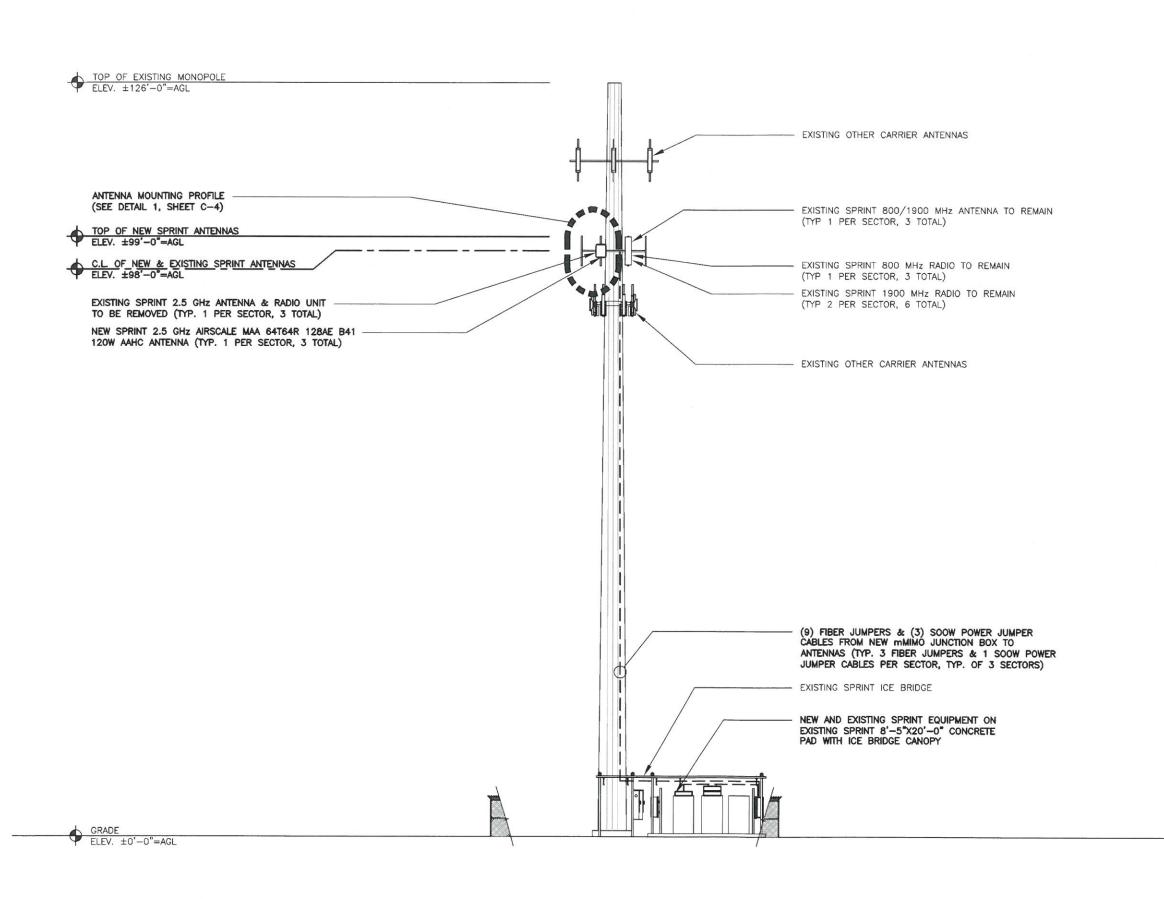
SHEET TITLE

SPRINT CONSTRUCTION **SPECIFICATIONS**

SHEET NUMBER

T-3







201 STATE ROUTE 17 NORTH RUTHERFORD, NJ 07070 TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661 www.sacw.com 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0080
AE@westchesterservices.com

JOHN M. BANKS ARCHITECT

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX: 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE
CONFIDENTIAL AND ARE THE
SOLE PROPERTY OF SPRINT AND
MAY NOT BE REPRODUCED,
DISSEMINATED OR REDISTRIBUTED
WITHOUT THE EXPRESS WRITTEN
CONSENT OF SPRINT.

0 07.25.18 PERMIT/CONSTRUCTION

NO. DATE DESCRIPTION

DRAWN BY: JM

CHECKED RYSHINMB

JOB NUMBER CTASK BOB ARCHITECT! JOHN BANKS

ATEO: EXP. DATE

SEAL 07/31/19

SITE NAME

PETRO LOCK

SITE NUMBER

CT43XC806

SITE LOCATION

99 MEADOW ST. HARTFORD, CT 06114

AUGMENT ID

CT43XC806S18.1

SHEET TITLE

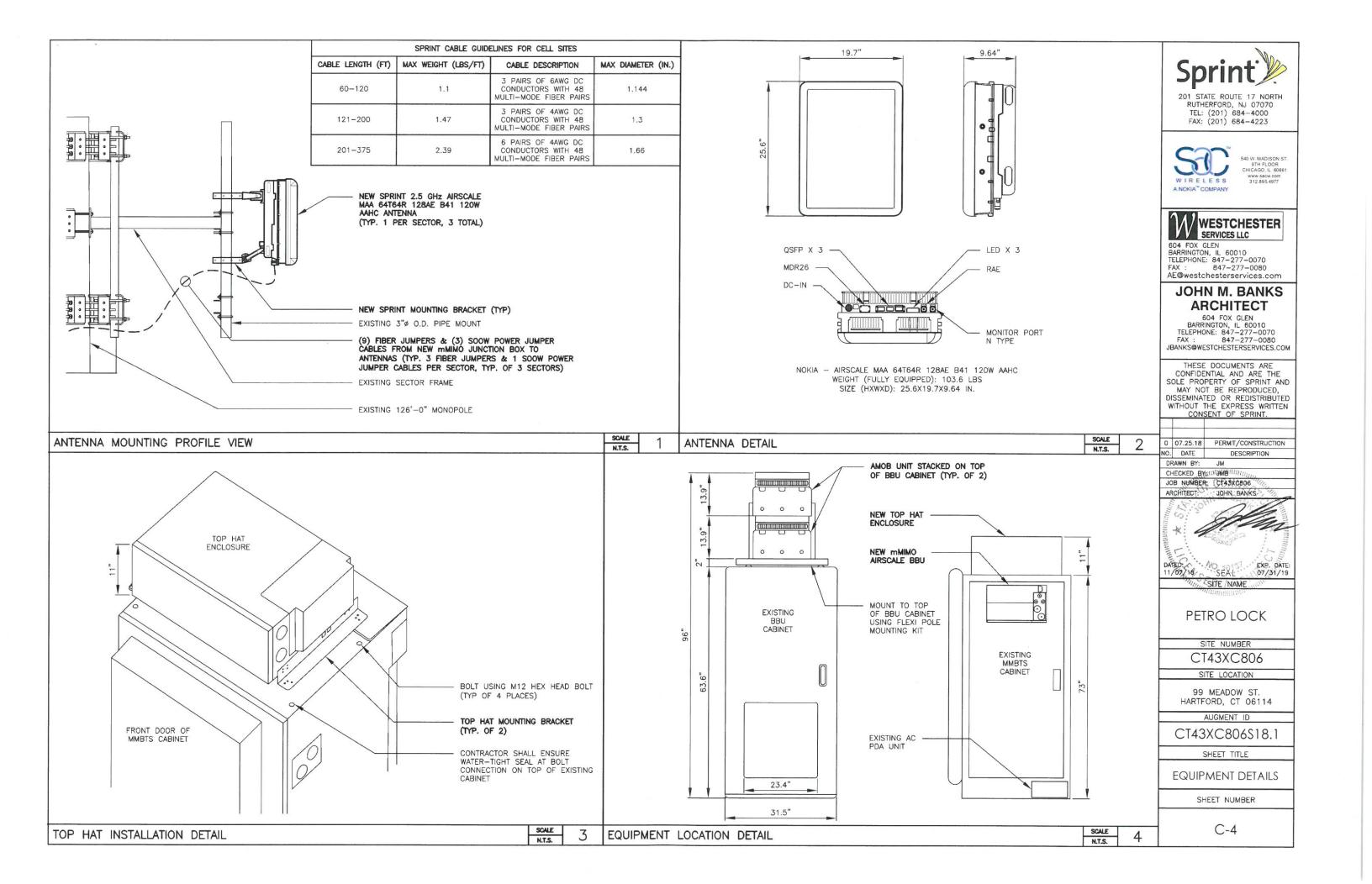
TOWER ELEVATION -SOUTHWEST

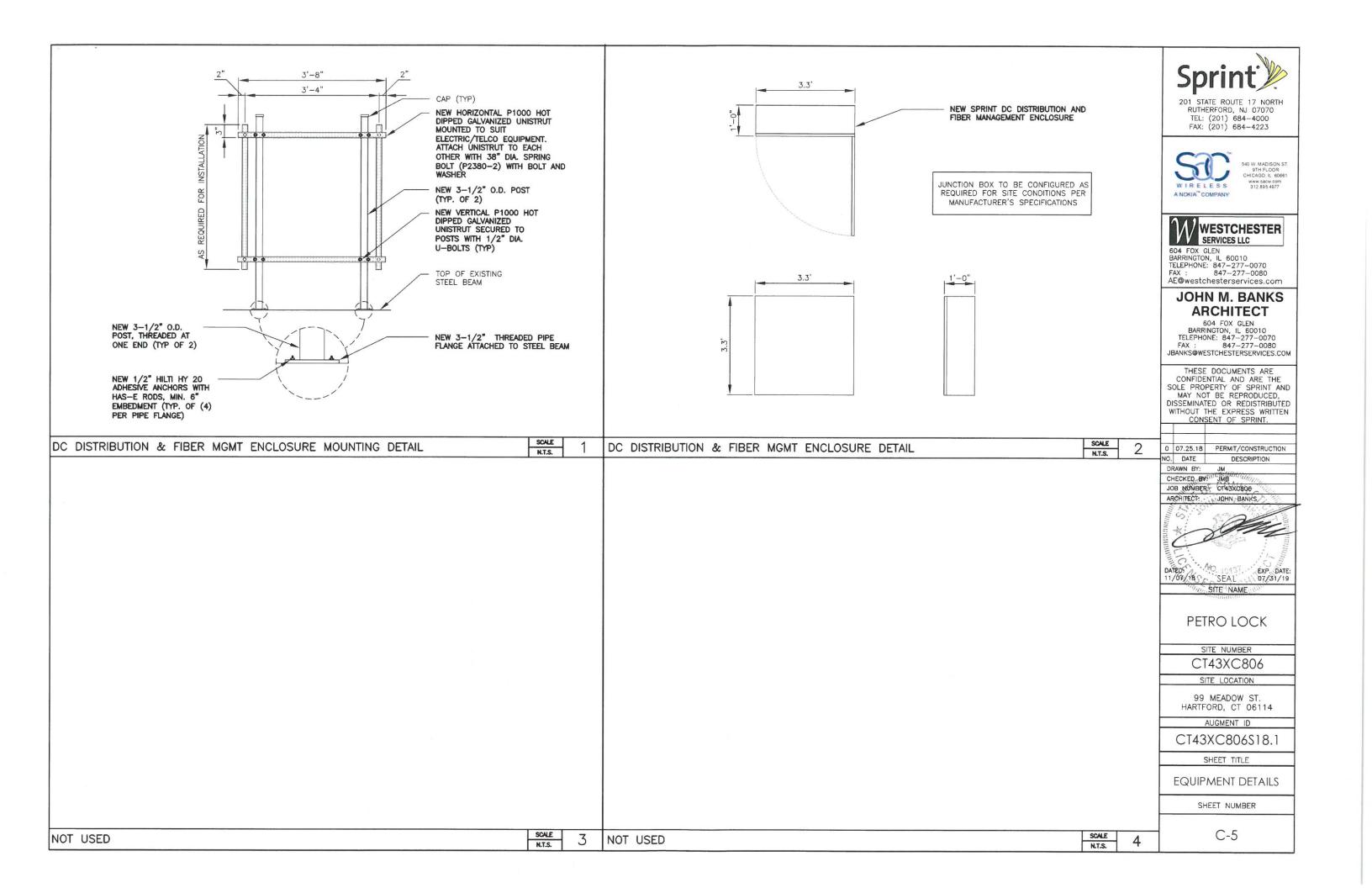
SHEET NUMBER

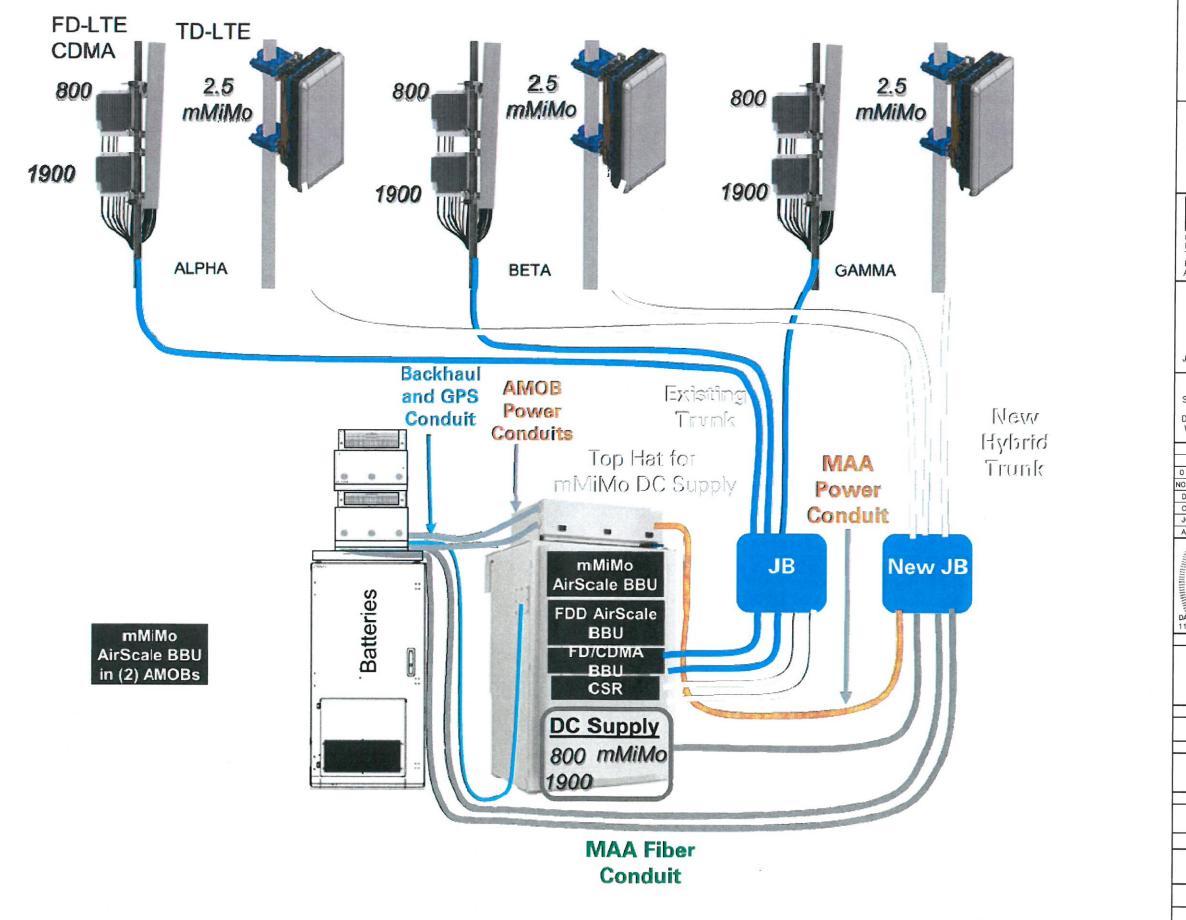
15' 25' SCALE: 1"=25'-0" (11x17) (0R) 2"=25'-0" (22x34)

C-2

				EXIST	TING ANTENNA AN	ND CABLE SCHEDULE								NE	W ANTENNA AND	CABLE SCHEDULE		300.00		1.
LOCATI	ON	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL #	# OF RRH	CABLE SIZE	CABLE LENGTH	LOCA	TION A	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL #	# OF RRH	CABLE SIZE	CABLE LENGTH	Sprint *
	1A	20*	98'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1 1900 MHz-2	1-1/4" HYBRIFLEX	±124'	CECTOR	1A	20°	98'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1 1900 MHz-2	1-1/4" HYBRIFLEX	±124'	201 STATE ROUTE 17 NORTH RUTHERFORD, NJ 07070
SECTOR 1	1B	350°	98'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APZXVTM14—C—I20	2500 MHz-1	1" CONDUIT W/(3) ETHERNET & FIBER CABLES TO BE	±124'	SECTOR 1		350°	98'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120 W AAHC	INTEGRATED	1.3" HYBRID	±15'	TEL: (201) 684-4000 FAX: (201) 684-4223
	2.4	4.40	0.57 0.7	FWIOTING	800/1900	RFS	800 MHz-1	1-1/4"		SECTOR	2A	140*	98'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1 1900 MHz-2	1-1/4" HYBRIFLEX	±124'	540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661
SECTOR	2A	140*	98'-0"	EXISTING	MHz	APXVSPP18-C-A20	1900 MHz-2	HYBRİFLEX 1" CONDUIT	±124'	2 SECTOR	2В	115°	98'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120 W AAHC	INTEGRATED	SHARED	SHARED	WIRELESS 312.895.4977 A NOKIA™ COMPANY
2	2B	115*	98'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APZXVTM14-C-I20	2500 MHz-1	W/(3) ETHERNET & FIBER CABLES TO BE	±124'	SECTOR	1 1	270°	98'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1 1900 MHz-2	1-1/4" HYBRIFLEX	±124'	1/1/WESTCHESTER
	3A	270°	98'-0"	EXISTING	800/1900	RFS	800 MHz-1	1-1/4"	±124'	3		220°	98'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120 W AAHC	INTEGRATED	SHARED	SHARED	SERVICES LLC 604 FOX GLEN BARRINGTON, IL 60010
SECTOR	- JA	270	30 -0	EXISTING	MHz	APXVSPP18-C-A20	1900 MHz-2	HYBRÍFLEX 1" CONDUIT	1124						1	, Allo			±15'	TELEPHONE: 847-277-0070 FAX: 847-277-0080 AE@westchesterservices.com
3	3B	220	98'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APZXVTM14-C-I20	2500 MHz-1	W/(3) ETHERNET & FIBER CABLES	±124'											JOHN M. BANKS
								TO BE REMOVED												ARCHITECT
			-			La Bridge Colonia			10113-223						1A	SECTOR 1 AZ 350°				604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070
											NG SPRINT NA TO REM		00 MHz		AZ 20	o• 1B				FAX: 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM
		/			A7 20		-	COTING CODING OF		1			Π			797				DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN
ANTENN (TYP 1	A TO F PER S	SECTOR, 3	TOTAL) 3B AZ 220° TOR 3 220° AZ 270°	410	AZ 20	18 4'-10"AZ 350'	AZ 140° SECTOR 2 AZ 115°	KISTING SPRINT 25 NTENNA TO BE RE YP. 1 PER SECTO KISTING SPRINT 25 RH TO BE REMOVI YP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 1 EXISTIN ON EXI	NG SPRINT ISTING UNI: 2 PER SEC NG SPRINT ISTING UNI: 1 PER SEC	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T	3A AZ 270° dz RRH REMAIN COTAL) RRH REMAIN			2B AZ 115	2A AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BY JMMB JMMB JOB NUMBER: [CT43XC806 ARCHITECT: JOHN BANKS PETRO LOCK SITE NUMBER CT43XC806 SITE LOCATION
EXISTING ON EXIS (TYP. 2	A TO F PER S S SPRII PER S	SECTOR, 3 NT 1900 M UNISTRUT TO SECTOR, 6 NT 800 MH	TOTAL) 3B AZ 220° TOR 3 220° 3A AZ 270° HHz RRH O REMAIN TOTAL) Hz RRH	42-10	AZ 20	1B	AZ 140° SECTOR 2 AZ 115°	NTENNA TO BE REYP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 1 EXISTIN ON EXI	ISTING UNI: 2 PER SEC NG SPRINT ISTING UNI:	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T	OR 3 220° 3A AZ 270° AZ 270° AZ RRH COTAL) RRH REMAIN			2B AZ 115	AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BY JMB
EXISTING ON EXIS (TYP. 2 EXISTING ON EXIS	A TO F PER S STING U PER S SPRII STING U	SECTOR, 3	TOTAL) 3B AZ 220° TOR 3 220° 3A AZ 270° MHz RRH O REMAIN TOTAL) dz RRH O REMAIN	410.	AZ 20	18 4'-10"AZ 350'	AZ 140° SECTOR 2 AZ 115°	NTENNA TO BE REYP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 1 EXISTIN ON EXI	ISTING UNI: 2 PER SEC NG SPRINT ISTING UNI:	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T	OR 3 220° 3A AZ 270° AZ 270° AZ RRH COTAL) RRH REMAIN			2B AZ 115	AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BY JAMMBHILL JOB NUMBER: [CT43XC806 ARCHITECT: JOHN BANKS PETRO LOCK SITE NUMBER CT43XC806 SITE LOCATION 99 MEADOW ST. HARTFORD, CT 06114
EXISTING ON EXIS (TYP. 2 EXISTING ON EXIS	A TO F PER S STING U PER S SPRII STING U	SECTOR, 3 NT 1900 M JNISTRUT TO SECTOR, 6 NT 800 MH JNISTRUT TO	TOTAL) 3B AZ 220° TOR 3 220° 3A AZ 270° MHz RRH O REMAIN TOTAL) dz RRH O REMAIN	42-10"	AZ 20	18 4'-10"AZ 350'	AZ 140° SECTOR 2 AZ 115°	NTENNA TO BE REYP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 1 EXISTIN ON EXI	ISTING UNI: 2 PER SEC NG SPRINT ISTING UNI: 1 PER SEC	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T 800 MHz IISTRUT TO CTOR, 3 T	OR 3 220° 3A AZ 270° AZ 270° AZ RRH P REMAIN POTAL) P REMAIN POTAL)			AZ 115	AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BYANIMMBULLING JOB NUMBER: [CT43XC806 ARCHITECT: JOHN BANKS PETRO LOCK SITE NUMBER CT43XC806 SITE LOCATION 99 MEADOW ST. HARTFORD, CT 06114 AUGMENT ID CT43XC806S18.1 SHEET TITLE
EXISTING ON EXIS (TYP. 2 EXISTING ON EXIS	A TO F PER S S SPRII PER S	SECTOR, 3 NT 1900 M UNISTRUT TO SECTOR, 6 NT 800 MH UNISTRUT TO SECTOR, 3	TOTAL) 3B AZ 220° TOR 3 220° 3A AZ 270° MHz RRH O REMAIN TOTAL) dz RRH O REMAIN TOTAL)		AZ 20	18 4'-10"AZ 350'	AZ 140° SECTOR 2 AZ 115°	NTENNA TO BE REYP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 1 EXISTIN ON EXI	ISTING UNIX 2 PER SEC NG SPRINT ISTING UNIX 1 PER SEC	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T 800 MHz ISTRUT TO CTOR, 3 T	OR 3 220° 3A AZ 270° AZ RRH REMAIN TOTAL) RRH REMAIN TOTAL) AZIMUTHS BA	CIFIED BY N	OTE:		AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BY JAMES JOHN BANKS ARCHITECT: JOHN BANKS PETRO LOCK SITE NAME PETRO LOCK SITE NUMBER CT43XC806 SITE LOCATION 99 MEADOW ST. HARTFORD, CT 06114 AUGMENT ID CT43XC806S18.1
EXISTING ON EXIS (TYP. 2 EXISTING ON EXIS (TYP. 1	A TO F PER S S SPRII PER S S SPRII PER S	SECTOR, 3 NT 1900 M JNISTRUT TO SECTOR, 6 NT 800 MH JNISTRUT TO SECTOR, 3	TOTAL) 3B AZ 220° TOR 3 220° 3A AZ 270° MHz RRH O REMAIN TOTAL) dz RRH O REMAIN	BASED CIFIED	AZ 20	18 4'-10"AZ 350'	AZ 140° SECTOR 2 AZ 115°	NTENNA TO BE REYP. 1 PER SECTO	EMOVED DR, 3 TOTAL) 500 MHz ED	EXISTIN ON EXI (TYP. 2 EXISTIN ON EXI (TYP. 1	ISTING UNI: 2 PER SEC NG SPRINT ISTING UNI: 1 PER SEC	SECTO AZ 2 1900 MH IISTRUT TO CTOR, 6 T 800 MHz IISTRUT TO CTOR, 3 T TOTOR, 3 T TRUE NOR TRUE NOR TRUE NOR ALL SPRIN	OR 3 220° 3A AZ 270° AZ RRH P REMAIN OTAL) RRH COTAL) AZIMUTHS BA	CIFIED BY NO.	OTE: THE AAHC WI A 40A CIRCU	LL REQUIRE	AZ 140' SECTOR 2 AZ 115'			WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT. 0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION DRAWN BY: JM CHECKED BYANIMMBULLING JOB NUMBER: [CT43XC806 ARCHITECT: JOHN BANKS PETRO LOCK SITE NUMBER CT43XC806 SITE LOCATION 99 MEADOW ST. HARTFORD, CT 06114 AUGMENT ID CT43XC806S18.1 SHEET TITLE









201 STATE ROUTE 17 NORTH RUTHERFORD, NJ 07070 TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661 www.sacw.com 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 FAX: 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS ARCHITECT

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX: 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE
CONFIDENTIAL AND ARE THE
SOLE PROPERTY OF SPRINT AND
MAY NOT BE REPRODUCED,
DISSEMINATED OR REDISTRIBUTED
WITHOUT THE EXPRESS WRITTEN
CONSENT OF SPRINT.

 D
 07.25.18
 PERMIT/CONSTRUCTION

 NO.
 DATE
 DESCRIPTION

 DRAWN BY:
 JM

JOB NUMBER: CT4370806

AFECT EXP. DATE: 1/83/18 SEAL 07/31/19

PETRO LOCK

SITE NUMBER
CT43XC806
SITE LOCATION

99 MEADOW ST. HARTFORD, CT 06114

AUGMENT ID

CT43XC806S18.1

SHEET TITLE

IMPLEMENTATION DETAIL

SHEET NUMBER

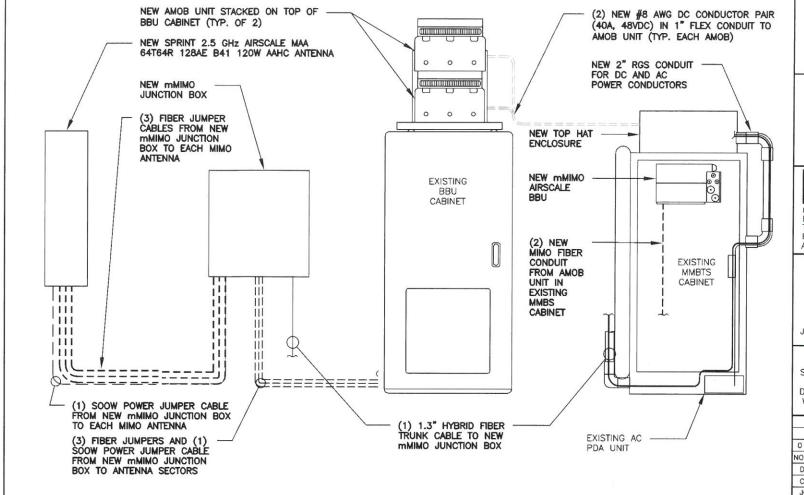
C-6

IMPLEMENTATION DETAIL

SCALE N.T.S.

ELECTRICAL NOTES:

- 1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED
- 2. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
- 3. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
- 4. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
- 5. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS OR LB'S FOR ALL CONDUITS 2" OR LARGER.
- 6. ALL CONDUIT TERMINATION'S SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
- 7. ALL WIRE SHALL BE TYPE THHN/THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY, MINIMUM #12.
- 8. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
- 9. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
- 10.CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS
- 11.ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
- 12.INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
- 13.THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
- 14.ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.)
- 15.ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
- 16.PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS
- 17.ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS). LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.







WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 FAX: 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS **ARCHITECT**

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF SPRINT AND MAY NOT BE REPRODUCED. DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT

0 07.25.18 PERMIT/CONSTRUCTION NO. DATE DESCRIPTION

DRAWN BY: CHECKED BY!!!! JMB JOB NUMBER: COTATX 0806 ARCHITECT: JOHN BANKS

DATED: EXP. DATE 07/31/19 SITE NAME

PETRO LOCK

SITE NUMBER CT43XC806

SITE LOCATION

99 MEADOW ST. HARTFORD, CT 06114

AUGMENT ID

CT43XC806S18.1

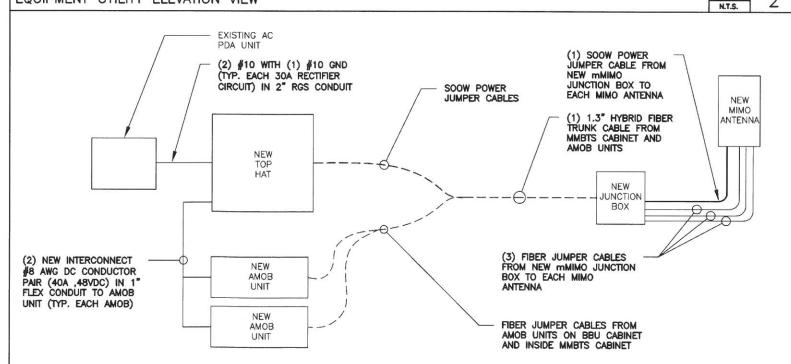
SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

C-7

EQUIPMENT UTILITY ELEVATION VIEW

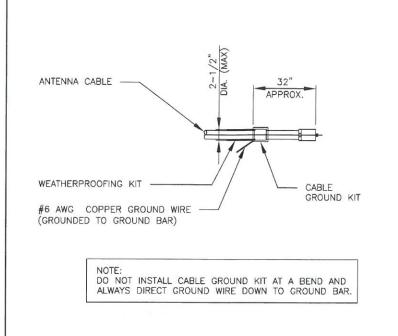


SCALE

GROUNDING NOTES:

ELECTRICAL NOTES

- 1. ALL GROUNDING SYSTEM CONDUCTORS AND CONNECTIONS BELOW GRADE SHALL BE THERMAL WELDS AT GROUND RODS AND AT A MINIMUM OF 36" BELOW GRADE.
- 2. ALL INSTALLATIONS SHALL BE FIELD VERIFIED.
- 3. ALL GROUND WIRE SHALL BE #2 AWG BARE COPPER TINNED UNLESS NOTED OTHERWISE.
- 4. ALL GROUND WIRES SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
- 5. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF GROUND RODS AND GROUND RING WITH FOUNDATION AND UNDERGROUND CONDUIT.
- 6. EACH EQUIPMENT CABINET SHALL BE CONNECTED WITH (2) #2 AWG INSULATED SOLID TINNED COPPER WIRE TO GROUND BAR. EQUIPMENT CABINETS SHALL EACH HAVE (2)
- 7. ANTENNA GROUND KITS SHALL BE FURNISHED BY SPRINT AND INSTALLED BY CONTRACTOR.
- 8. KOPR-SHIELD ANTI-OXIDATION COMPOUND SHALL BE USED ON ALL GROUNDING CONNECTIONS.
- 9. ALL EXOTHERMIC CONNECTS SHALL BE INSTALLED UTILIZING THE PROPER CONNECTION/MOLD AND MATERIALS FOR THE PARTICULAR APPLICATION.
- 10.ALL BOLTED GROUNDING CONNECTIONS SHALL BE INSTALLED WITH A LOCK WASHER UNDER THE NUT. HARDWARE FOR BOLTED CONNECTIONS SHALL BE A MINIMUM OF 3/8" DIAMETER AND SHALL BE STAINLESS STEEL.
- 11.GROUNDING WIRE SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT
- 12.PLASTIC CLIPS OR METAL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTORS SHALL BE USED TO FASTEN AND SUPPORT GROUNDING CONDUCTORS FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED
- 13.STANDARD BUS BARS (CIGBE AND MIGB) SHALL BE FURNISHED AND INSTALLED. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD.
- 14.THE GROUNDING CONNECTION TO THE POWER AND TELCO SECTIONS OF THE PPC CABINET SHALL BE MADE BY CONNECTING A CONDUCTOR FROM THE GROUND RING TO THE FACTORY FURNISHED BUS BAR IN EACH COMPARTMENT.
- 15. THE CONTRACTOR SHALL SUPPLY SPRINT AND NIH/ORF WITH RESULTS FROM PRE-CONSTRUCTION (CO-LO ONLY) AND POST-CONSTRUCTION OHM TESTING (GROUND) RESULTS
- 16.THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A "FALL OF POTENTIAL" TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER AND NIH/ORF FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.

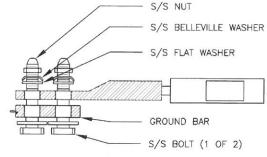


GROUND

GROUNDING RISER DIAGRAM

SCALE

N.T.S.



- PROVIDE 2-HOLE, LONG BARREL, TINNED SOLID COPPER LUGS WHEREVER LUGS ARE SHOWN. ERICO B-122-CE PREFERRED WITH CADWELD TYPE GL CONNECTION. THOMAS AND BETTS 54800BE SERIES WHERE CRIMP CONNECTOR IS REQUIRED.
- 2. ALL CRIMP CONNECTIONS MUST BE MADE USING HYDRAULIC TOOLS AND THREE POINT HEXAGONAL COMPRESSION MOLDS ON LONG BARREL LUGS.
- ALL MECHANICAL CONNECTIONS MUST BE MADE USING THOMAS AND BETTS "KOPR-SHIELD". COAT ALL WIRES BEFORE LUGGING. COAT ALL SURFACES BEFORE CONNECTING.
- ALL HARDWARE 18/8 STAINLESS STEEL INCLUDING BELLEVILLE, COAT ALL SURFACES WITH "KOPR-SHIELD" BEFORE MATING.
- FOR GROUNDING BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH
- NO SLOTTED HOLES ON BUS BAR OR LUGS ARE PERMITTED.

ALL LUG SHANKS AND LEAD JOINTS SHALL HAVE HEAT SHRINK MATERIAL



TEL: (201) 684-4000 FAX: (201) 684-4223



540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661 www.sacw.com 312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 847-277-0080 AE@westchesterservices.com

JOHN M. BANKS **ARCHITECT**

604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847-277-0070 FAX: 847-277-0080 JBANKS@WESTCHESTERSERVICES.COM

THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF SPRINT AND MAY NOT BE REPRODUCED. DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT.

07.25.18 PERMIT/CONSTRUCTION NO. DATE

DRAWN BY CHECKED BY: JMB

JOB NUMBER: CT43XC806 ARCHITECT: JOHN BANKS



PETRO LOCK

SITE NUMBER CT43XC806

SITE LOCATION 99 MEADOW ST.

HARTFORD, CT 06114

AUGMENT ID CT43XC806S18.1

SHEET TITLE

GROUNDING DETAILS

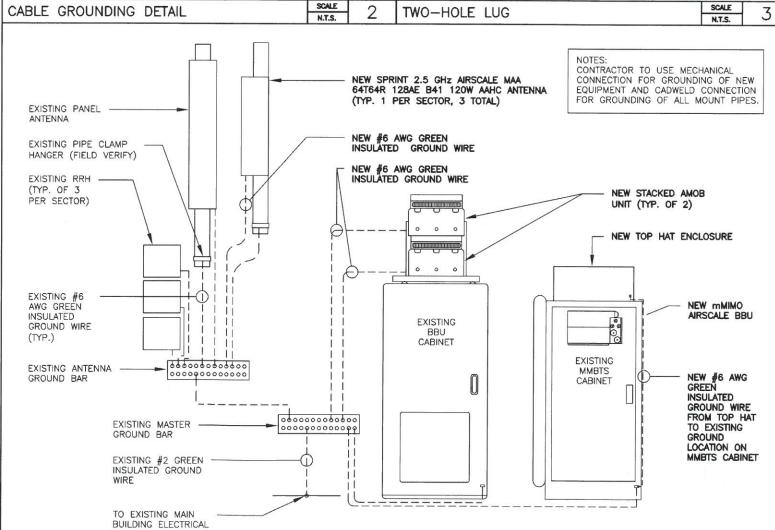
SHEET NUMBER

C-8

SCALE

N.T.S.

4



UPS CampusShip: View/Print Label

- 1. Ensure there are no other shipping or tracking labels attached to your package.
- 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a Daily Pickup

Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.

Hand the package to any UPS driver in your area.

Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

FOLD HERE

