



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

September 19, 2017

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

RE: Sprint PCS-Exempt Modification - Crown Site BU: 876325
Sprint PCS Site ID: CT03XC064
92 Weston Street, Hartford, CT 06103
Latitude: 41° 47' 12.3"/ Longitude: -72° 39' 44.42"

Dear Ms. Bachman:

Sprint currently maintains three (3) antennas at the 108-foot level of the existing 110-foot monopole tower at 92 Weston Street in Hartford, Connecticut. The tower is owned by Crown Castle. The property is owned by Nepreo, Inc. Sprint intends to install (3) antennas and (3) RRUs with (1) hybrid fiber cable.

The original approval for this facility could not be located or was otherwise not available at the time of filing.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to The Honorable Luke Bronin, Mayor, City of Hartford, as well as to the Director of Planning and Economic Development, Jamie Bratt and the property owner Nepreo, Inc. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

The Foundation for a Wireless World.

CrownCastle.com

Melanie A. Bachman

September 19, 2017

Page 2

For the foregoing reasons, Sprint respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes

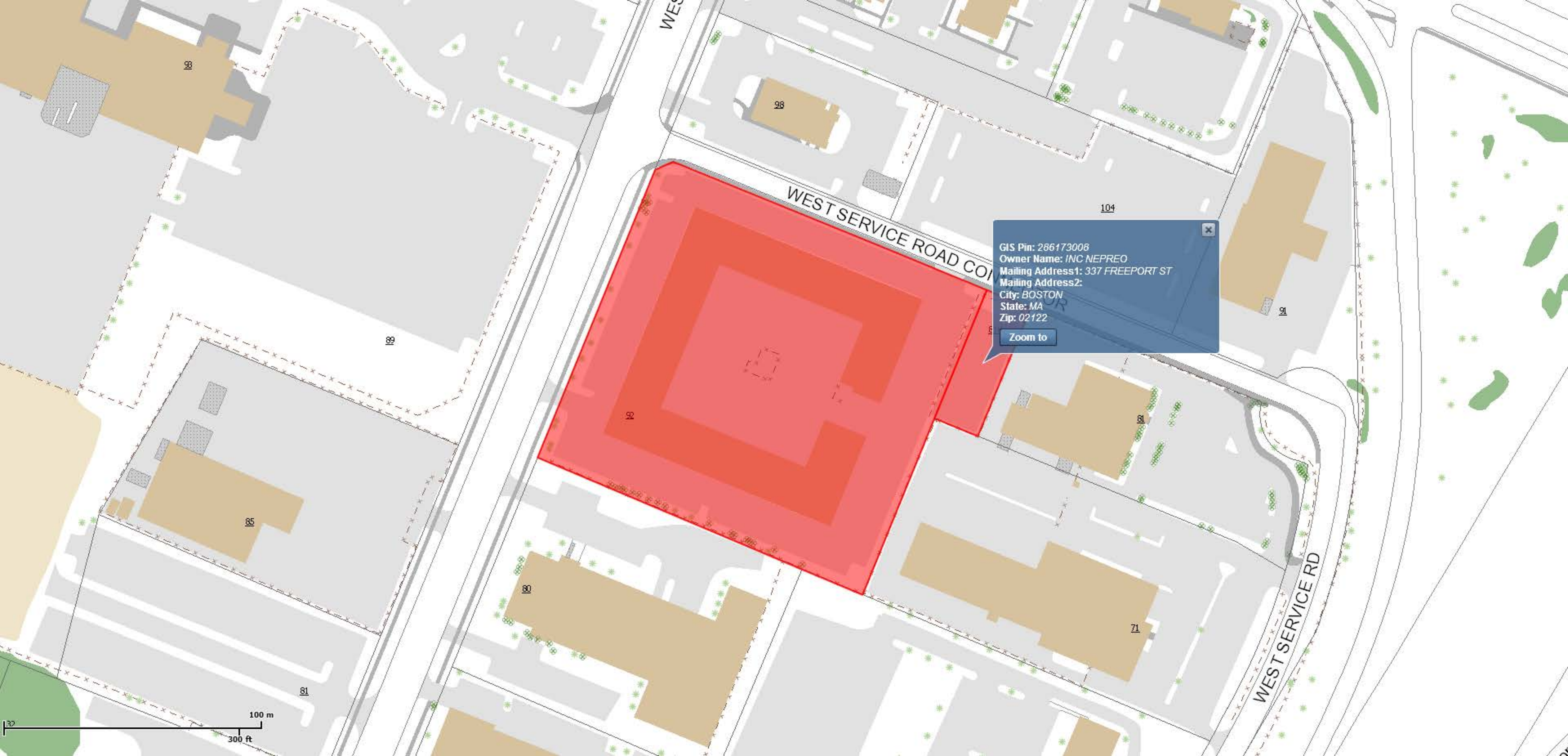
Tab 2: Exhibit-2: Structural Modification Report

Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: The Honorable Luke Bronin, Mayor, City of Hartford
550 Main Street
Hartford, CT 06103

Jamie Bratt, Director of Planning and Economic Development, City of Hartford
260 Constitution Plaza
4th Fl.
Hartford, CT 06103

Nepreo Inc.
337 Freeport Street
Boston, MA 02122



GIS Pin: 286173008
 Owner Name: INC NEPREO
 Mailing Address1: 337 FREEPORT ST
 Mailing Address2:
 City: BOSTON
 State: MA
 Zip: 02122
[Zoom to](#)

100 m
300 ft

Unofficial Property Record Card - City of Hartford, CT

General Property Data

Parcel Identification **286-173-007**
 Property Owner **NEPREO INC**

Property Location **0092 WESTON ST HARTFORD**
 Property Use **WAREHOUSE**

Mailing Address **337 FREEPORT ST**

Most Recent Sale Date **11/3/2016**

Legal Reference **07130-0299**

City **BOSTON**

Grantor **ALBEMARLE WESTON STREET LLC,**

Mailing State **MA** Zip **02122**

Sale Price **0**

ParcelZoning **ID-1**

Land Area **4.301 acres**

Current Property Assessment

Fiscal Year **2016**
 Land Value **886,480**

Total Value **1,771,490**
 Building Value **825,230**

Building Description

Building Style **OFFICE/WHS**
 # of Living Units **0**
 Year Built **1978**
 Building Grade **Average**
 Building Condition **Average**
 Finished Area (SF) **48012**
 Number Rooms **0**
 # of 3/4 Baths **0**

Foundation Type **Concrete**
 Frame Type **Steel**
 Roof Structure **FLAT**
 Roof Cover **Metal**
 Siding **Brick**
 Interior Walls **DRYWALL**
 Number Beds **0**
 # of 1/2 Baths **0**

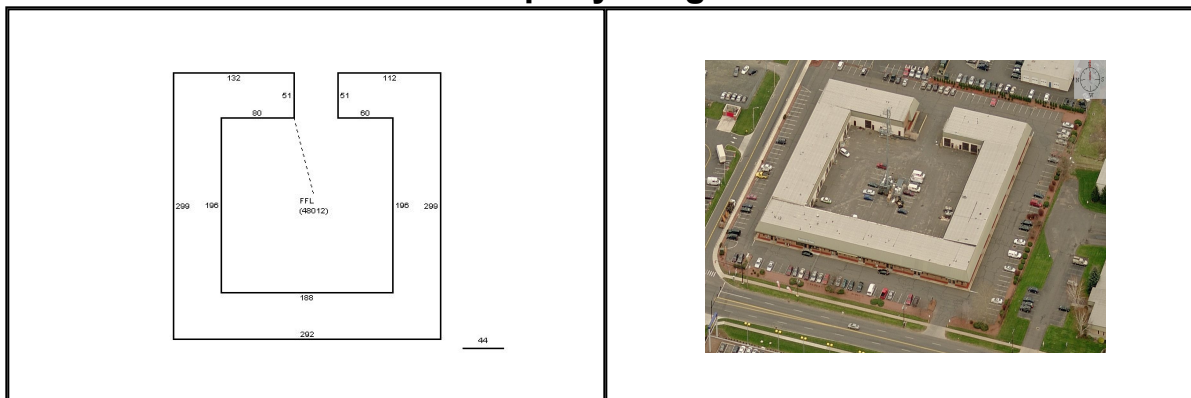
Flooring Type **COMBINATION**
 Basement Floor **N/A**
 Heating Type **Warm Air**
 Heating Fuel **Gas**
 Air Conditioning **30%**
 # of Bsmt Garages **0**
 # of Full Baths **0**
 # of Other Fixtures **0**

Legal Description

Narrative Description of Property

This property contains 4.301 acres of land mainly classified as WAREHOUSE with a(n) OFFICE/WHS style building, built about 1978 , having Brick exterior and Metal roof cover, with 0 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.



Date: **August 10, 2017**

Marianne Dunst
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
704.405.6580

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

Subject: Structural Analysis Report

Carrier Designation: *Sprint PCS Co-Locate*
Carrier Site Number: CT03XC064
Carrier Site Name: CT03XC064

Crown Castle Designation:
Crown Castle BU Number: 876325
Crown Castle Site Name: WESTON SQUARE
Crown Castle JDE Job Number: 447240
Crown Castle Work Order Number: 1439934
Crown Castle Application Number: 397061 Rev. 4

Engineering Firm Designation: **Paul J. Ford and Company Project Number:** 37517-0431.003.7805

Site Data:
92 Weston Street, Hartford, Hartford County, CT
Latitude 41° 47' 12.3", Longitude -72° 39' 44.42"
110 Foot - Monopole Tower

Dear Marianne Dunst,

Paul J. Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1067546, in accordance with application 397061, revision 4.

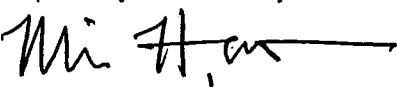
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

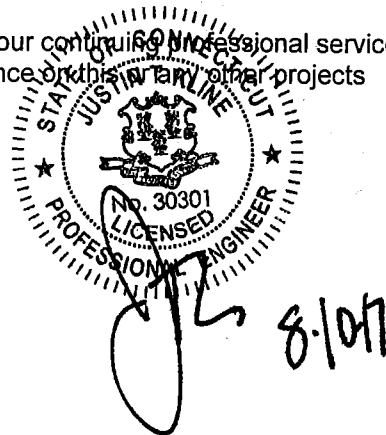
LC4.7: Modified Structure w/ Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

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

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

Respectfully submitted by:


Michelle Herbert JHK
Structural Designer



Date: **August 10, 2017**

Marianne Dunst
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
704.405.6580

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

Subject: Structural Analysis Report

Carrier Designation:

Sprint PCS Co-Locate

Carrier Site Number:

CT03XC064

Carrier Site Name:

CT03XC064

Crown Castle Designation:

Crown Castle BU Number:

876325

Crown Castle Site Name:

WESTON SQUARE

Crown Castle JDE Job Number:

447240

Crown Castle Work Order Number:

1439934

Crown Castle Application Number:

397061 Rev. 4

Engineering Firm Designation:

Paul J. Ford and Company Project Number: 37517-0431.003.7805

Site Data:

92 Weston Street, Hartford, Hartford County, CT

Latitude 41° 47' 12.3", Longitude -72° 39' 44.42"

110 Foot - Monopole Tower

Dear Marianne Dunst,

Paul J. Ford and Company is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural ‘Statement of Work’ and the terms of Crown Castle Purchase Order Number 1067546, in accordance with application 397061, revision 4.

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

LC4.7: Modified Structure w/ Existing + Reserved + Proposed Equipment

Sufficient Capacity

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

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

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

Respectfully submitted by:

Michelle Herbert
Structural Designer

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Antenna and Cable Information

Table 2 - Existing and Reserved Antenna and Cable Information

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Components vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 110 ft Monopole tower designed by ROHN in October of 1996. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

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

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
107.0	108.0	3	alcatel lucent	TD-RRH8x20-25	1	5/8	--
		3	rfs celwave	APXVTM14-C-120 w/ MP			
	1	tower mounts	T-Arm Mount [TA 702-3]				

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
107.0	108.0	3	rfs celwave	APXVSP18-C-A20 w/ MP	3	1-1/4	1
	107.0	1	tower mounts	Platform Mount [LP 502-1]	--	--	3
105.0	108.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	--	--	1
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
	107.0	3	rfs celwave	IBC1900BB-1			
		3	rfs celwave	IBC1900HG-2A			
	105.0	1	tower mounts	Side Arm Mount [SO 102-3]			
89.0	90.0	3	ericsson	RRUS 32 B2	1 2 1	3/8 3/4 Conduit	2
		3	ericsson	WCS RRUS-32-B30			
		3	quintel	QS66512-2 w/ MP			
		1	raycap	DC6-48-60-18-8F			
		3	kmw	AM-X-CD-16-65-00T-RET w/ MP	1 2 6 1	3/8 3/4 1-5/8 Conduit	1
		3	powerwave	7750.00 w/ MP			
		6	powerwave	LGP21401			
		3	ericsson	RRUS-11			
	1	raycap	DC6-48-60-18-8F				
	89.0	1	tower mounts	Platform Mount [LP 502-1]			
76.0	76.0	3	andrew	LNx-6515DS-A1M w/ MP	1	1-5/8	2
		3	ericsson	AIR 32 B2a/B66Aa w/ MP			
		3	ericsson	RRUS 11 B12			
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ MP	6 1	7/8 1-5/8	4
		3	ericsson	KRY 112 144/1			
		1	tower mounts	Platform Mount [LP 305-1]			

Notes:

- 1) Existing Equipment
- 2) Reserved Equipment
- 3) Equipment To Be Removed
- 4) Equipment To Be Relocated from 80' level

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH, 07-11432G, 01/24/2008	2192540	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Rohn, 34738SW, 10/18/1996	1615433	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Rohn, 34738SW, 10/17/1996	1615400	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 060671, 06/28/2006	1956491	CCISITES
4-POST-MODIFICATION INSPECTION	B&T, 79760, 11/24/2009	2561266	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 126558, 10/22/2012	3355603	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 131001.876325, 08/06/2013	4075332	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B&T, 79760, 11/24/2009	2356066	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	TEP, 126558, 10/22/2012	3187227	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37517-0431.001.7700, 02/10/2017	6702634	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORTS	PJF, 375176-1244.003.7805, 12/21/2016	3361707	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) In accordance with discussions with CCI Corporate Engineering: Based on the assumption that the monopole manufacturer (ROHN/PiRod) has designed the flange plates at splices to adequately develop the full capacity of the unreinforced shaft section using unpublished and/or proprietary methodologies, we are assuming that if our analysis shows that both the existing shaft and the existing flange bolts are at a usage capacity of 100% or less, then the existing flange plates are at a usage capacity of 100% or less and no additional analysis of the flange plate is required.
- 5) Monopole was reinforced in conformance with the referenced modification drawing.
- 6) Monopole will be reinforced in conformance with the proposed modification drawing referenced (Doc# 6702634).

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	110 - 90	Pole	P24x0.25	1	-3.16	662.26	18.6	Pass
L2	90 - 60	Pole	P 24 STD	2	-12.34	1052.07	77.3	Pass
L3	60 - 39.5	Pole	30" x 0.375"	3	-16.02	1311.06	88.4	Pass
L4	39.5 - 30	Pole	RPS 30" x 0.483"	4	-18.14	1606.35	84.0	Pass
L5	30 - 25	Pole	P30x0.5	5	-20.56	1751.60	84.9	Pass
L6	25 - 18.75	Pole	RPS 30" x 0.55311"	6	-22.14	1891.79	85.5	Pass
L7	18.75 - 8.25	Pole	RPS 30" x 0.69241"	7	-25.34	2142.45	87.2	Pass
L8	8.25 - 6	Pole	RPS 30" x 0.85759"	8	-26.16	2809.60	69.0	Pass
L9	6 - 0	Pole	RPS 30" x 0.801"	9	-28.24	2627.97	80.0	Pass
							Summary	
						Pole (L3)	88.4	Pass
						Rating =	88.4	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	83.4	Pass
1	Base Plate	0	76.8	Pass
1	Base Foundation Structural Steel	0	80.6	Pass
1	Base Foundation Soil Interaction	0	20.8	Pass
1	Flange Connection	30.0	80.8	Pass
1,3	Flange Connection	60.0	77.3	Pass
1,3	Flange Connection	90.0	18.6	Pass

Structure Rating (max from all components) =	88.4%
---	--------------

Notes:

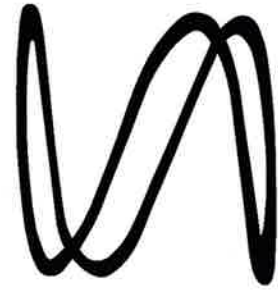
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Worst case scenario between existing and post installed anchors.
- 3) See assumption #4

4.1) Recommendations

The monopole and its foundation will have sufficient capacity to carry the proposed loading configuration once the proposed modifications are installed.

- Install the modifications as per the proposed modification drawings referenced in Table 3.

Sprint



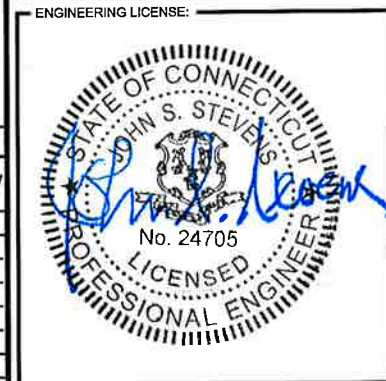
CROWN CASTLE

PROJECT: 2.5 EQUIPMENT DEPLOYMENT
 SITE NAME: WESTON SQUARE
 SITE CASCADE: CT03XC064
 SITE NUMBER: 876325
 SITE ADDRESS: 92 WESTON STREET
 HARTFORD, CT 06120
 SITE TYPE: MONOPOLE TOWER
 MARKET: NORTHERN CONNECTICUT

PLANS PREPARED FOR:
Sprint
 6580 Sprint Parkway
 Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 353-000

MLA PARTNER:
CROWN CASTLE



DRAWING NOTICE:
 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.

REVISIONS:	DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT		3/13/15	SKB	C
REVISED PER COMMENT		3/5/14	MAP	B
ISSUED FOR REVIEW		01/16/14	NER	A

SITE NAME:
WESTON SQUARE

SITE CASCADE:
CT03XC064

SITE ADDRESS:
 92 WESTON STREET
 HARTFORD, CT 06120

SHEET DESCRIPTION:
TITLE SHEET & PROJECT DATA

SHEET NUMBER:
T-1

SITE INFORMATION

TOWER OWNER:
 CROWN CASTLE
 2000 CORPORATE DRIVE
 CANONBURG, PA 15317

LATITUDE (NAD83):
 41° 47' 12.2994" N
 41.78675°

LONGITUDE (NAD83):
 72° 39' 44.4204" W
 -72.662339°

COUNTY:
 HARTFORD

ZONING JURISDICTION:
 CONNECTICUT SITING COUNCIL

ZONING DISTRICT:
 TBD

POWER COMPANY:
 CL&P

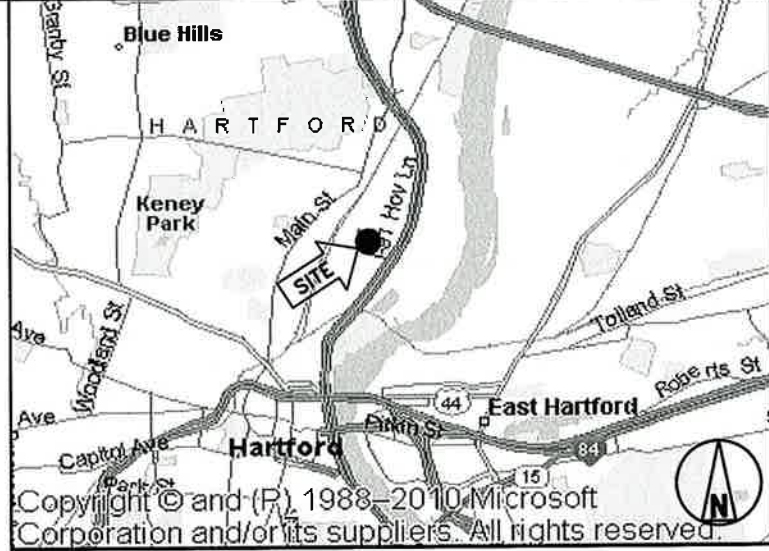
AAV PROVIDER:
 AT&T

SPRINT CM:
 PETER CULBERT
 (603) 203-6446
 (603) 969-0686
 peter.culbert@sprint.com

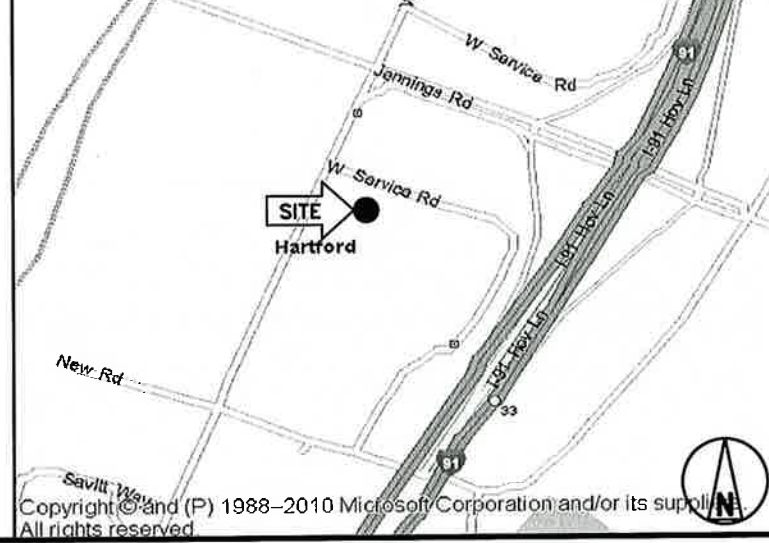
CROWN CASTLE CM:
 JASON D'AMICO
 (860) 209-0104
 JASON.D'AMICO@CROWNCastle.COM

Confirm azimuths with final RFDS - RFDS supersedes CD's

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- INSTALL (3) PANEL ANTENNAS
- INSTALL (3) RRU'S TO TOWER
- INSTALL (27) JUMPER CABLES
- INSTALL (1) HYBRID CABLE
- INSTALL (8) NEW BATTERIES IN EXISTING BBU CABINET
- INSTALL (1) 9927 REPLACEMENT CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- INTERNATIONAL BUILDING CODE (2012 IBC)
- TIA-EIA-222-F OR LATEST EDITION
- NFPA 780 - LIGHTNING PROTECTION CODE
- 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
- ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
- CT BUILDING CODE
- LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

DRAWING INDEX

SHEET NO:	SHEET TITLE	REV
T-1	TITLE SHEET & PROJECT DATA	C
SP-1	SPRINT SPECIFICATIONS	C
SP-2	SPRINT SPECIFICATIONS	C
SP-3	SPRINT SPECIFICATIONS	C
A-1	SITE PLAN	C
A-2	TOWER ELEVATION & CABLE PLAN	C
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	C
A-4	COLOR CODING AND NOTES	C
A-5	EQUIPMENT & MOUNTING DETAILS	C
A-6	CIVIL DETAILS	C
A-7	PLUMBING DIAGRAM	C
E-1	ELECTRICAL & GROUNDING PLAN	C
E-2	ELECTRICAL & GROUNDING DETAILS	C

APPROVED
 By Craig Koppang at 10:11 am, Aug 15, 2017

APPROVED
 By Jeff Barbadora at 12:59 pm, Mar 20, 2015



THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.
- 1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:
 - A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
 4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
 5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 7. AMERICAN CONCRETE INSTITUTE (ACI)
 8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
 9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
 10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 11. PORTLAND CEMENT ASSOCIATION (PCA)
 12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 13. BRICK INDUSTRY ASSOCIATION (BIA)
 14. AMERICAN WELDING SOCIETY (AWS)
 15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
 16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
 17. DOOR AND HARDWARE INSTITUTE (DHI)
 18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
 19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.
- 1.5 DEFINITIONS:
 - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
 - B. COMPANY: SPRINT CORPORATION
 - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
 - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
 - F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
 - G. CONSTRUCTION MANAGER - ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

- 1.6 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.
- 1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.
- 1.8 ON-SITE SUPERVISION: THE 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.
- 1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS 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 DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
 - B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
 - C. 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.
- 1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED.
- 1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.
- 1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193
- 1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.
- 3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
 - A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.
- 3.2 DELIVERABLES:
 - A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
 - B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
 - C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 - CELL SITE CONSTRUCTION CO.

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 NOTICE TO PROCEED
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

TOWER OWNER NOTIFICATION
 ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 FUNCTIONAL REQUIREMENTS:
 - A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
 - B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
 - C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
 - D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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.

REVISIONS:	DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT		3/13/15	SKB	C
REVISED PER COMMENT		3/5/14	MAP	B
ISSUED FOR REVIEW		01/16/14	MER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

92 WESTON STREET
HARTFORD, CT 06120

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
 2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
 3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
 4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
 5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
 6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
 7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
 8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
 9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
 10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
 11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
 12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
 13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
 14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER.
 15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
 16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
 17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
 18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
 19. PERFORM ANTENNA AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
 20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."
- 3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:**
- A. 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 MATERIALS.
 - B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
 - C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 1. 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.
 2. 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.
 - D. 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
 - E. CONDUCT TESTING AS REQUIRED HEREIN.
- 3.3 DELIVERABLES:**
- A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
 - B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 2. PROJECT PROGRESS REPORTS.
 3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).

5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 SUBMITTALS:
 - A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
 - B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL
 1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
 4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
 5. CHEMICAL GROUNDING DESIGN
 - D. 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.

1.4 TESTS AND INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
 2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 3. 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.
- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
 2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 3. ALL AVAILABLE JURISDICTIONAL INFORMATION
 4. PDF SCAN OF REDLINES PRODUCED IN FIELD

5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH, DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNALIGN ALIGNMENT TOOL (AAT)

PLANS PREPARED FOR:



6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:



Design. Build. Deliver.

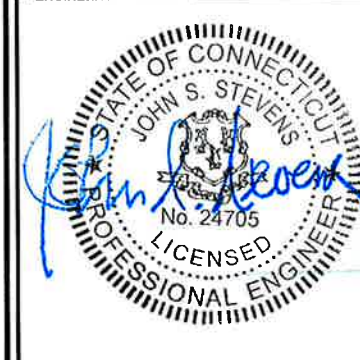
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

JOB NUMBER 353-000

MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	WER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-2

CONTINUE FROM SP-2

- 7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
 - 8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
 - 9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
 - 10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 - 11. ALL AVAILABLE JURISDICTIONAL INFORMATION
 - 12. PDF SCAN OF REDLINES PRODUCED IN FIELD
- C. THE 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.
- D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.
- 3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.
- A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.
- 1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
 - 2. STRUCTURAL BACKFILL COMPACTION REPORTS.
 - 3. SITE RESISTANCE TO EARTH TEST.
 - 4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
 - 5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
 - 6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".
- B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;
- 1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
 - 2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
 - 3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS - PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
 - 4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING - TOP AND BOTTOM; PHOTOS OF COAX GROUNDING---TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
 - 6. SITE LAYOUT - PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
 - 7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL
 - 8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
 - 9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 WEEKLY REPORTS:
 - A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.
 - B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.
- 3.2 PROJECT CONFERENCE CALLS:
 - A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.
- 3.3 PROJECT TRACKING IN SMS:
 - A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.
- 3.4 ADDITIONAL REPORTING:
 - A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.
- 3.5 PROJECT PHOTOGRAPHS:
 - A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:
 - 1. SHELTER AND TOWER OVERVIEW.
 - 2. TOWER FOUNDATION(S) - FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
 - 3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
 - 4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
 - 5. PHOTOS OF TOWER SECTION STACKING.
 - 6. CONCRETE TESTING / SAMPLES.
 - 7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
 - 8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
 - 9. SHELTER FOUNDATION---FORMS AND STEEL BEFORE POURING.
 - 10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
 - 11. COAX CABLE ENTRY INTO SHELTER.
 - 12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
 - 14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
 - 15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
 - 16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
 - 17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
 - 18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
 - 19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
 - 21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

- 24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
- 25. ALL BTS GROUND CONNECTIONS.
- 26. ALL GROUND TEST WELLS.
- 27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
- 28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
- 29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
- 30. GPS ANTENNAS.
- 31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
- 32. DOGHOUSE/CABLE EXIT FROM ROOF.
- 33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
- 34. MASTER BUS BAR.
- 35. TELCO BOARD AND NIU.
- 36. ELECTRICAL DISTRIBUTION WALL.
- 37. CABLE ENTRY WITH SURGE SUPPRESSION.
- 38. ENTRANCE TO EQUIPMENT ROOM.
- 39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.
- 40. COAX GROUNDING --TOP AND BOTTOM OF TOWER.
- 41. ANTENNA AND MAST GROUNDING.
- 42. LANDSCAPING - WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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.

REVISIONS:	DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT		3/13/15	SKB	C
REVISED PER COMMENT		3/5/14	MAP	B
ISSUED FOR REVIEW		01/16/14	MER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-3

DRAWING NOTICE:
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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	MER	A

SITE NAME:
WESTON SQUARE

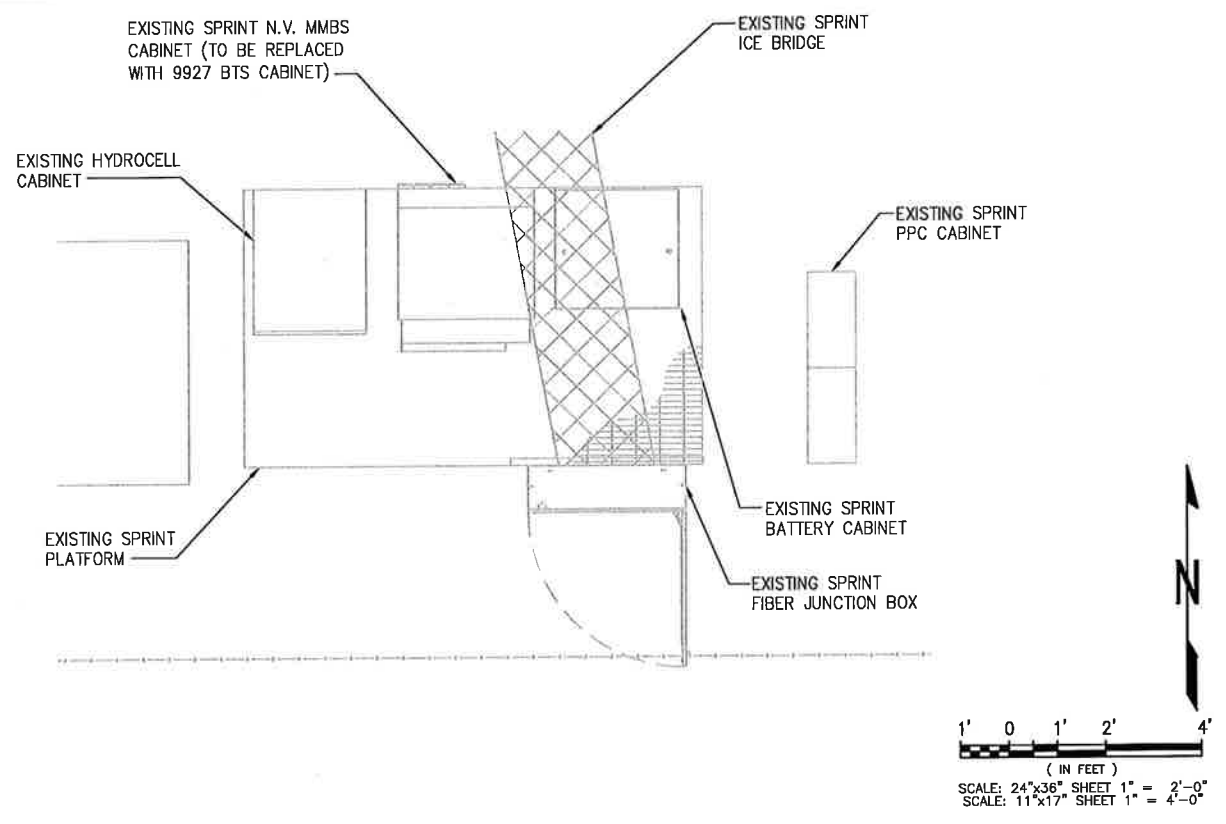
SITE CASCADE:
CT03XC064

SITE ADDRESS:
**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:
SITE PLAN

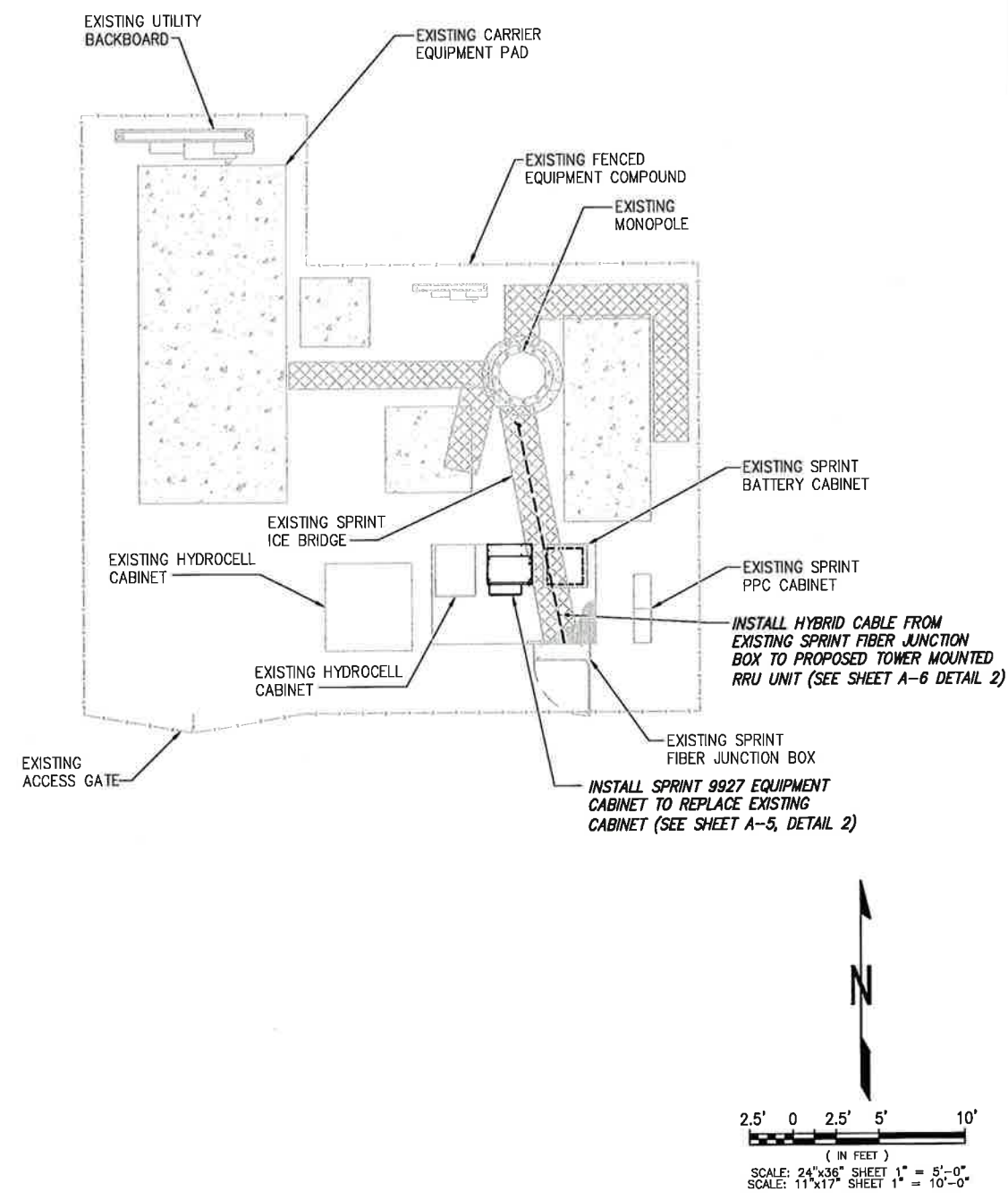
SHEET NUMBER:
A-1

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.



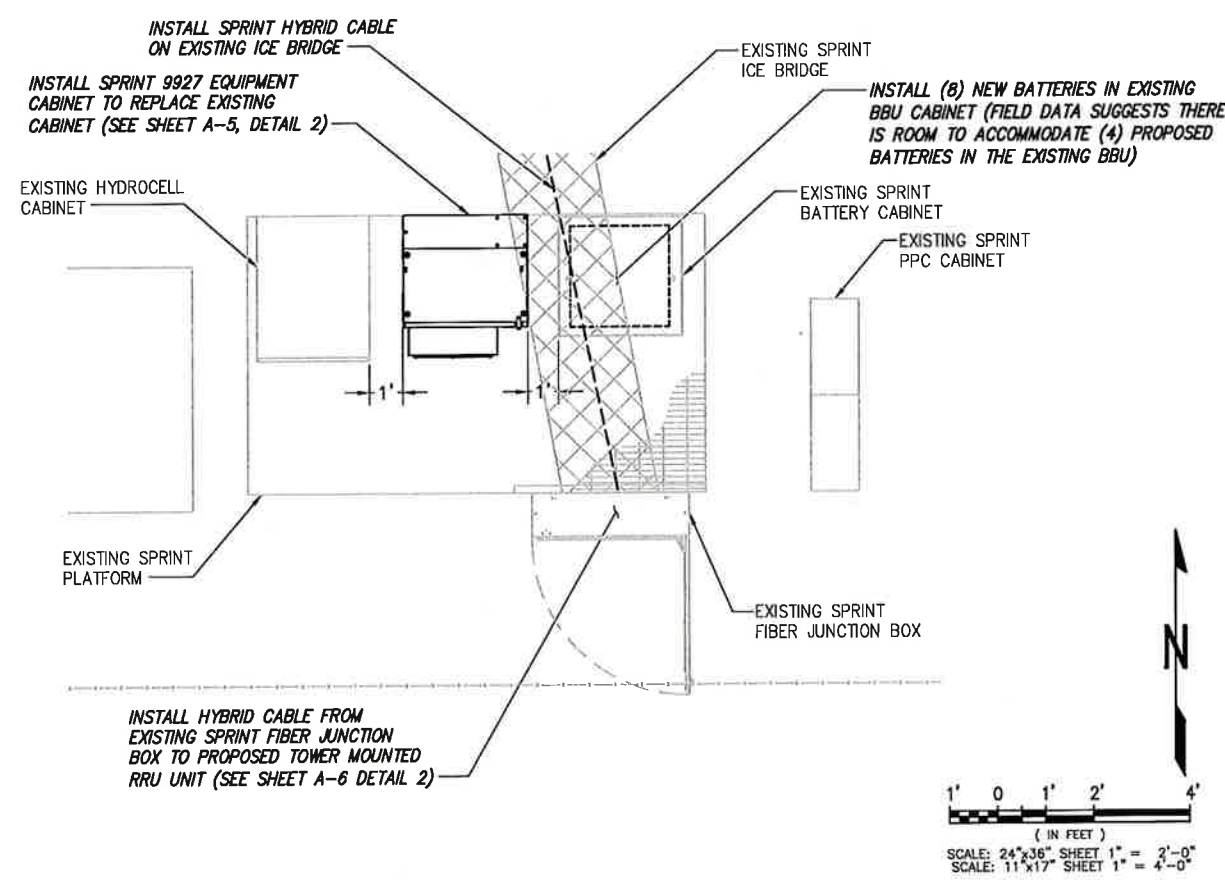
EXISTING EQUIPMENT PLAN

SCALE: AS NOTED 2



OVERALL SITE PLAN

SCALE: AS NOTED 1



PROPOSED EQUIPMENT PLAN

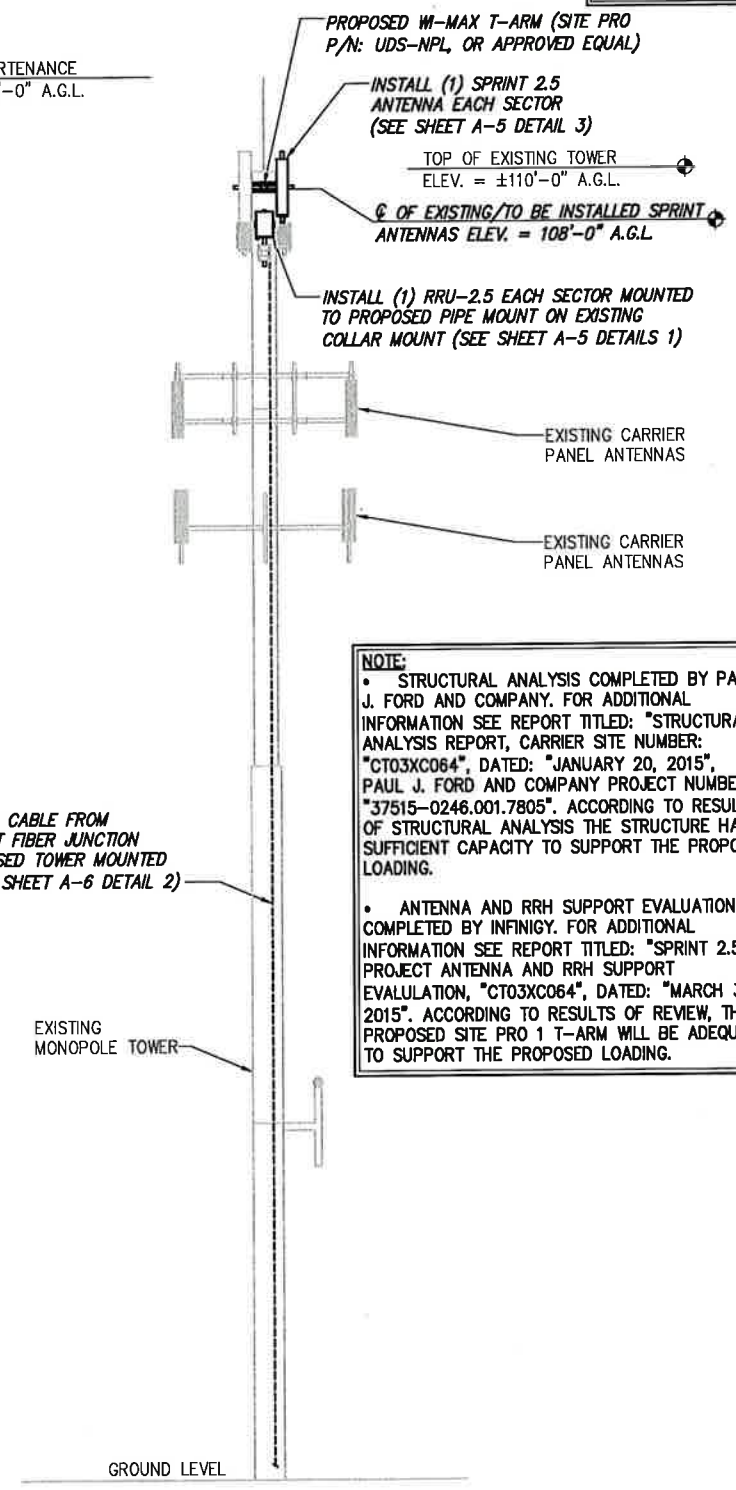
SCALE: AS NOTED 3

NOTE:
SPRINT TOWER TOP WORK CONTINGENT ON FOLLOWING:
COMPLETION OF STRUCTURAL ANALYSIS PROVIDED BY
CROWN CASTLE, COMPLETION OF ANTENNA/RRH
MOUNTING ASSESSMENT (PROVIDED BY AE)

NOTE:
CONTRACTOR SHALL NOT INSTALL THE
2.5 RRU'S SUCH THAT THEY IMPEDE
CLIMBING ACCESS ON THE TOWER.

NOTE:
SEE DETAIL 2 ON A-3
FOR ANTENNA LAYOUT

TOP OF APPURTENANCE
ELEV. = ±118'-0" A.G.L.



NOTE:

- STRUCTURAL ANALYSIS COMPLETED BY PAUL J. FORD AND COMPANY. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT, CARRIER SITE NUMBER: "CT03XC064", DATED: "JANUARY 20, 2015", PAUL J. FORD AND COMPANY PROJECT NUMBER: "37515-0246.001.7805". ACCORDING TO RESULTS OF STRUCTURAL ANALYSIS THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.
- ANTENNA AND RRH SUPPORT EVALUATION COMPLETED BY INFINIGY. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "SPRINT 2.5 PROJECT ANTENNA AND RRH SUPPORT EVALUATION, "CT03XC064", DATED: "MARCH 3, 2015". ACCORDING TO RESULTS OF REVIEW, THE PROPOSED SITE PRO 1 T-ARM WILL BE ADEQUATE TO SUPPORT THE PROPOSED LOADING.

INSTALL HYBRID CABLE FROM
EXISTING SPRINT FIBER JUNCTION
BOX TO PROPOSED TOWER MOUNTED
RRU UNIT (SEE SHEET A-6 DETAIL 2)

EXISTING
MONOPOLE TOWER

GROUND LEVEL

DETAIL NOT USED NO SCALE 2

DETAIL NOT USED NO SCALE 3

DETAIL NOT USED NO SCALE 4

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 353-000

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:
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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	WER	A

SITE NAME:
WESTON SQUARE

SITE CASCADE:
CT03XC064

SITE ADDRESS:
**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:
**TOWER ELEVATION
& CABLE PLAN**

SHEET NUMBER:
A-2

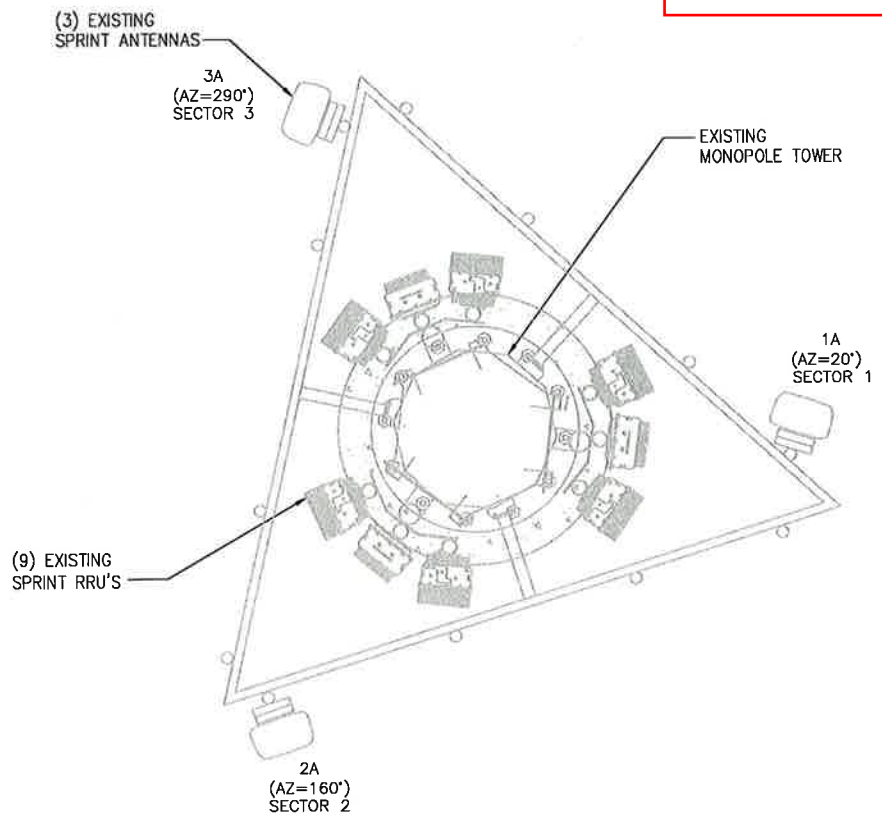
TOWER ELEVATION NO SCALE 1

Confirm azimuths with final RFDS - RFDS supersedes CD's

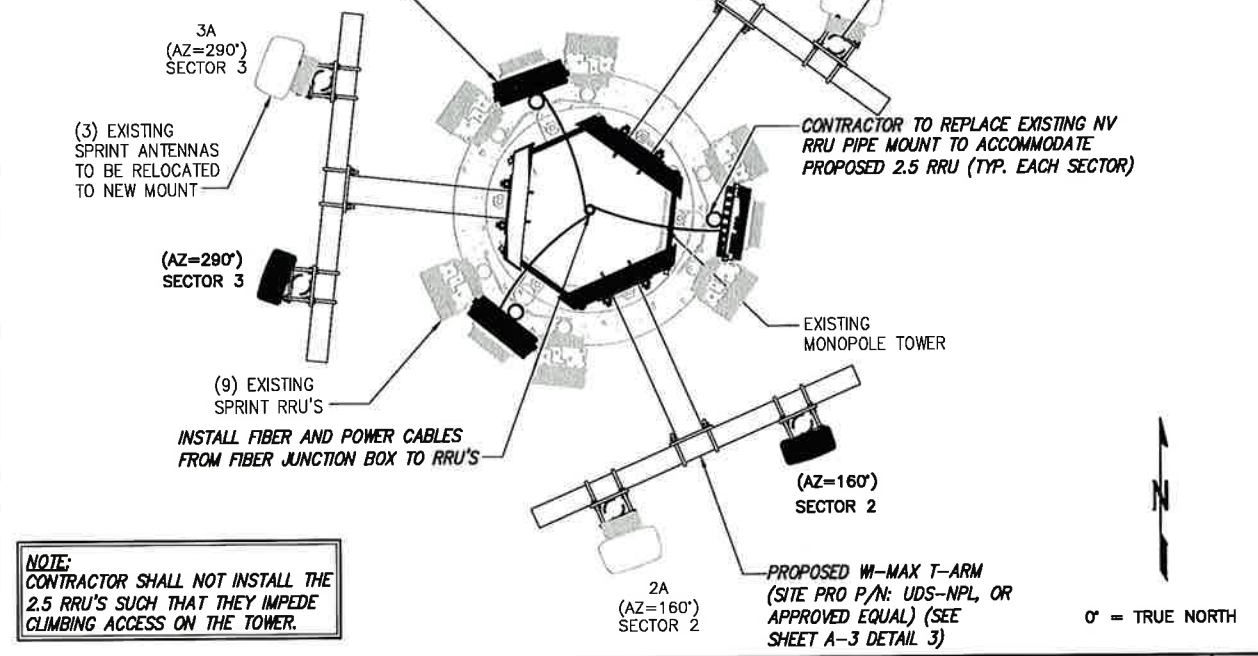
INSTALL (1) SPRINT 2.5 ANTENNA EACH SECTOR (SEE SHEET A-5 DETAIL 3)

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

NOTE: JUMPERS FROM 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15 FEET



INSTALL (1) RRU-2.5 EACH SECTOR MOUNTED TO PROPOSED PIPE MOUNT ON EXISTING COLLAR MOUNT (SEE SHEET A-5 DETAILS 1)



NOTE: CONTRACTOR SHALL NOT INSTALL THE 2.5 RRU'S SUCH THAT THEY IMPEDE CLIMBING ACCESS ON THE TOWER.

EXISTING ANTENNA & RRU LAYOUT

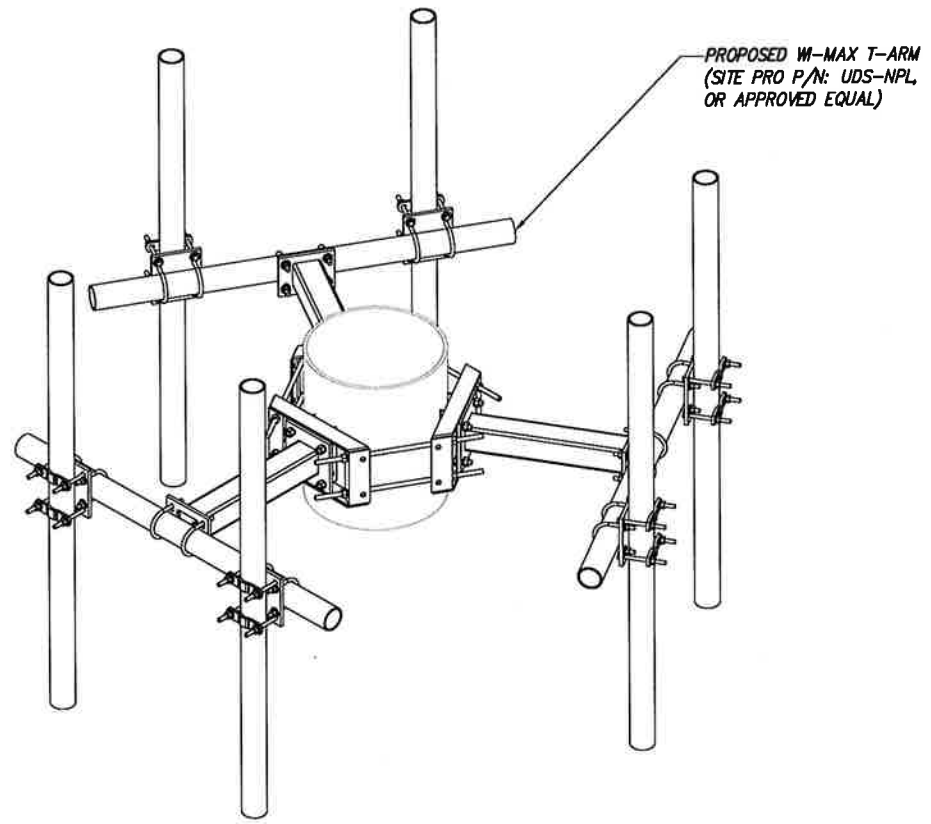
NO SCALE

1

FINAL ANTENNA LAYOUT

NO SCALE

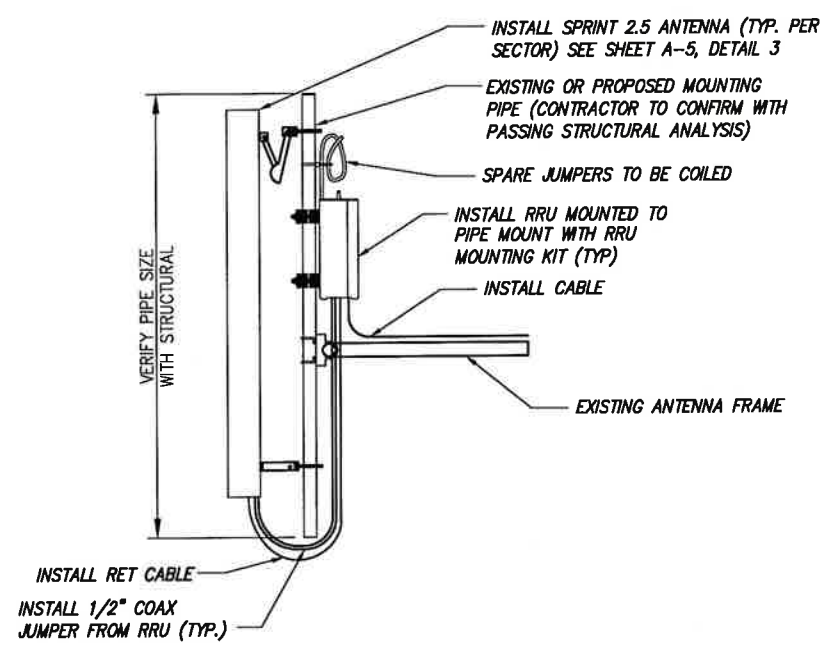
2



PROPOSED MOUNT DETAIL

NO SCALE

3



NOTES:

- CUT DC CONDUCTORS TO LENGTH.
- COIL FIBER CABLE AND SECURE AT SIDE OF RRU.
- DO NOT EXCEED BEND RADIUS.

NOTE: CONTRACTOR TO POSITION RRU ON MOUNT BEHIND ANTENNA SUCH THAT THE RRU DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

NOTE: SPARE DC CABLES ARE COILED UP ON NV RRHS AT SPRINT ARRAY. THESE ARE TO BE USED TO POWER UP THE 2.5 RRHS AND TIED INTO EXISTING DC BREAKERS INSIDE THE FIBER JUNCTION BOX LOCATED AT EQUIPMENT.

NOTE: THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRU MOUNTING DETAILS.

TYPICAL ANTENNA & RRU MOUNTING DETAILS

NO SCALE

4

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 353-000

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:
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.

REVISIONS:	DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT		3/13/15	SKB	C
REVISED PER COMMENT		3/5/14	MAP	B
ISSUED FOR REVIEW		01/16/14	MER	A

SITE NAME:
WESTON SQUARE

SITE CASCADE:
CT03XC064

SITE ADDRESS:
**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:
**ANTENNA LAYOUT
& MOUNTING DETAILS**

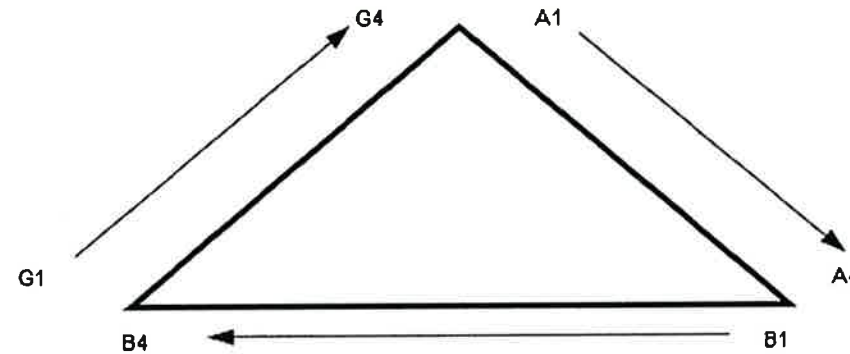
SHEET NUMBER:
A-3

NV CABLES				
BAND	INDICATOR	PORT	COLOR	
800-1	YEL GRN	NV-1	GRN	
1900-1	YEL RED	NV-2	BLU	
1900-2	YEL BRN	NV-3	BRN	
1900-3	YEL BLU	NV-4	WHT	
1900-4	YEL SLT	NV-5	RED	
800-2	YEL ORG	NV-6	SLT	
SPARE	YEL WHT	NV-7	PPL	
2500	YEL PPL	NV-8	ORG	

HYBRID	
HYBRID	COLOR
1	GRN
2	BLU
3	BRN
4	WHT
5	RED
6	SLT
7	PPL
8	ORG

2.5 Band		
2500 Radio 1		COLOR
YEL	WHT	GRN
YEL	WHT	BLU
YEL	WHT	BRN
YEL	WHT	WHT
YEL	WHT	RED
YEL	WHT	SLT
YEL	WHT	PPL
YEL	WHT	ORG

Figure 1: Antenna Orientation



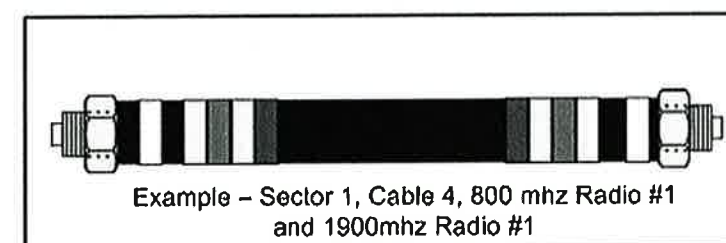
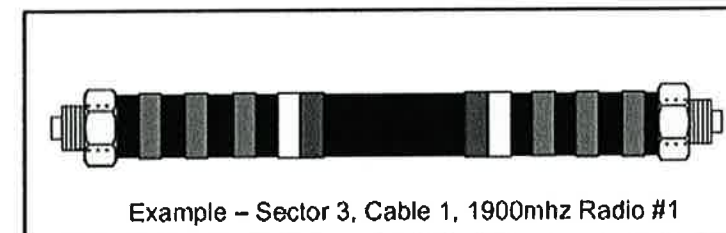
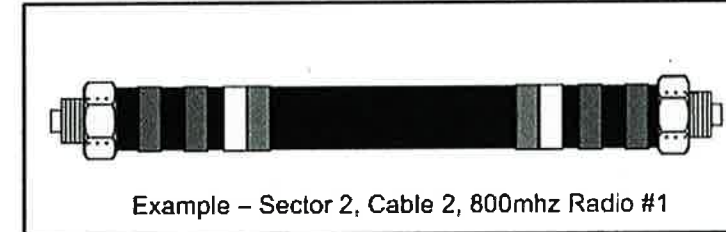
NOTES:

- ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.
- THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAK-OUT CYLINDER. THERE SHALL BE A 1" SPACE BETWEEN EACH RING FOR THE CABLE IDENTIFIER, AND NO SPACES BETWEEN THE FREQUENCY BANDS.
- A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
- THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
- SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE NEXT COLOR IN THE SEQUENCE FOR ADDITIONAL CABLES IN EACH SECTOR.
- HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.
- HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.
- INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
	2		No Tape	No Tape
	3	Brown	No Tape	No Tape
	4	White	No Tape	No Tape
	5	Red	No Tape	No Tape
	6	Grey	No Tape	No Tape
	7	Purple	No Tape	No Tape
	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
	2			No Tape
	3	Brown	Brown	No Tape
	4	White	White	No Tape
	5	Red	Red	No Tape
	6	Grey	Grey	No Tape
	7	Purple	Purple	No Tape
	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
	2			
	3	Brown	Brown	Brown
	4	White	White	White
	5	Red	Red	Red
	6	Grey	Grey	Grey
	7	Purple	Purple	Purple
	8	Orange	Orange	Orange

NV		
FREQUENCY	INDICATOR	ID
800-1	YEL	GRN
1900-1	YEL	RED
1900-2	YEL	BRN
1900-3	YEL	BLU
1900-4	YEL	SLT
800-1	YEL	ORG
RESERVED	YEL	WHT
RESERVED	YEL	PPL

2.5			
FREQUENCY	INDICATOR		ID
2500 -1	YEL	WHT	GRN
2500 -2	YEL	WHT	RED
2500 -3	YEL	WHT	BRN
2500 -4	YEL	WHT	BLU
2500 -5	YEL	WHT	SLT
2500 -6	YEL	WHT	ORG
2500 -7	YEL	WHT	WHT
2500 -8	YEL	WHT	PPL



PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

JOB NUMBER 353-000

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:

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.

REVISIONS:	DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT		3/13/15	SKB	C
REVISED PER COMMENT		3/5/14	MAP	B
ISSUED FOR REVIEW		01/16/14	WER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

92 WESTON STREET
HARTFORD, CT 06120

SHEET DESCRIPTION:

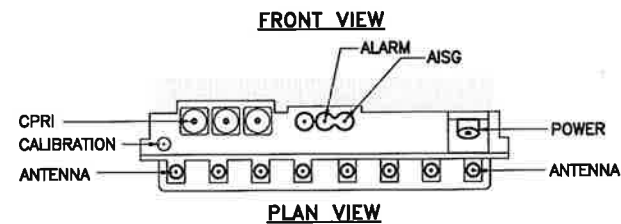
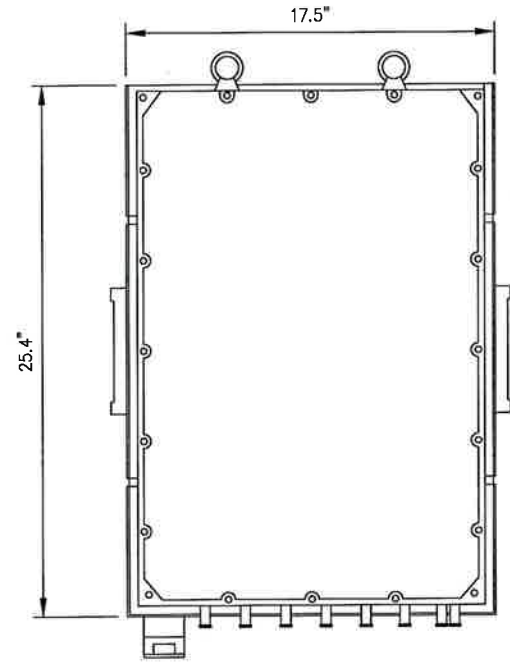
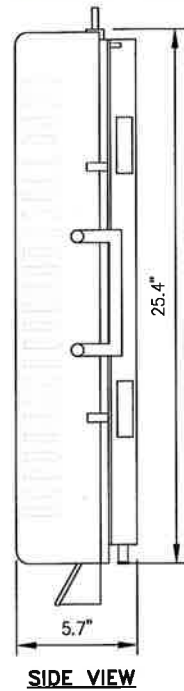
COLOR CODING AND NOTES

SHEET NUMBER:

A-4

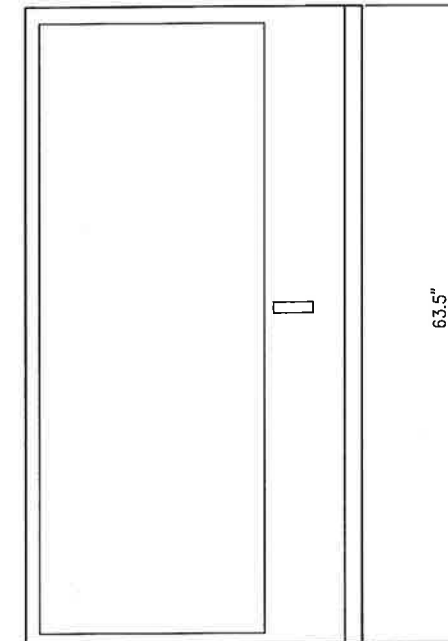
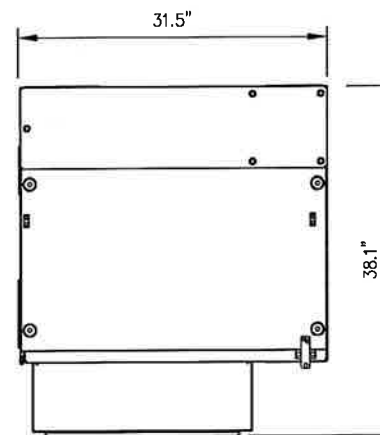
RRU: ALCATEL LUCENT TD-RRH8X20

COLOR: LIGHT GREY
WEIGHT: 70 LBS.



NOTES

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.



2.5 RRU'S

NO SCALE

1

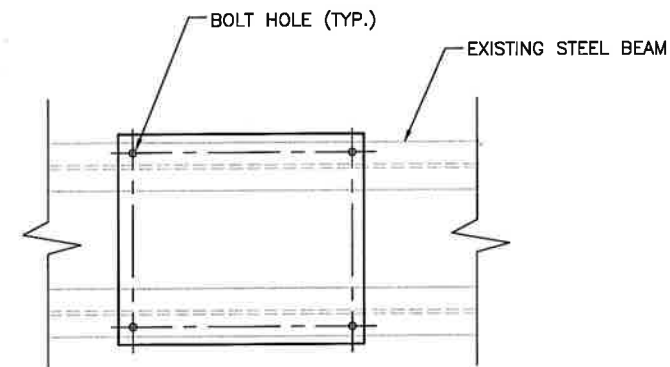
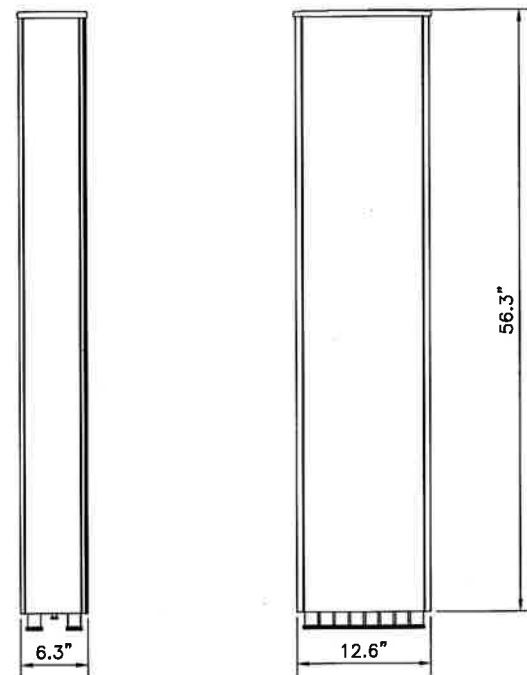
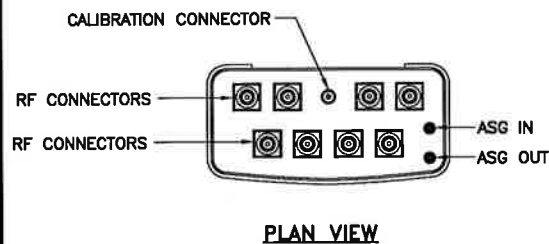
9927 BTS CABINET

NO SCALE

2

ANTENNA RFS APXVTM14-C-I20

RADOME MATERIAL: ASA
 RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD.in(mim): 56.3"x12.6"x6.3" (1430x320x160mm)
 WEIGHT: 52.9 lbs
 CONNECTORS: (8) 4.1/9.5 DIN FEMALE
 (1) NF - CALIBRATION CONNECTOR



1. VERIFY BOLT HOLE SPACING WITH EQUIPMENT CUT SHEETS.
2. NEW EQUIPMENT CABINET TO BE MOUNTED TO EXISTING SUPPORT SURFACE WITH BOLT-DOWN SYSTEM PER MANUFACTURER'S SPECIFICATION AND FIELD DRILL HOLES THROUGH EXISTING STEEL BEAMS AS REQUIRED.
3. MAINTAIN A MINIMUM OF 1" DISTANCE FROM CENTER OF BOLT HOLE TO EDGE OF FLANGE.

2.5 ANTENNA

NO SCALE

3

MOUNTING DETAIL

NO SCALE

4

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	MER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

92 WESTON STREET
HARTFORD, CT 06120

SHEET DESCRIPTION:

EQUIPMENT &
MOUNTING DETAILS

SHEET NUMBER:

A-5

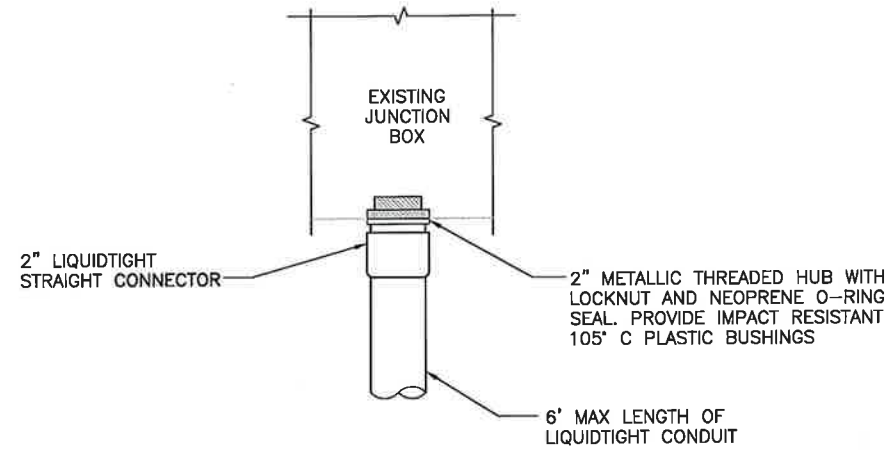
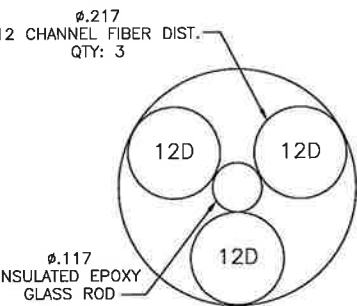
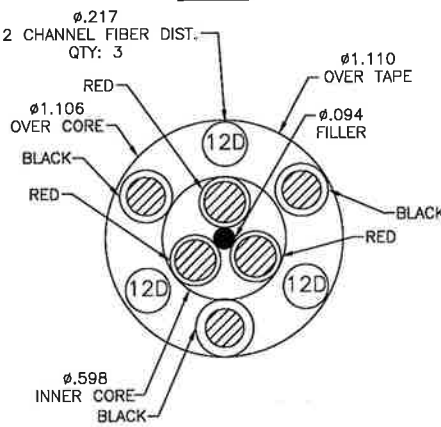
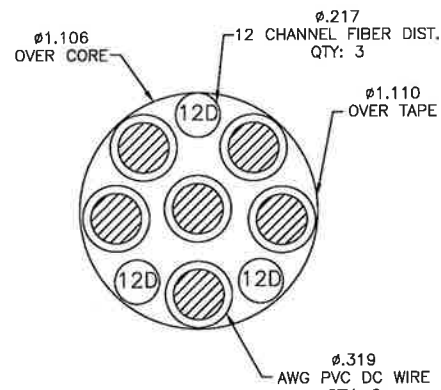
RFS HYBRIFLEX RISER CABLE SCHEDULE

Fiber Only (Existing DC Power)	Hybrid cable MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	Hybrid cable MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	Hybrid cable MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	Hybrid cable MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	Hybrid Jumper cable MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	Hybrid Jumper cable MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	Hybrid Jumper cable MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	Hybrid Jumper cable MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



FIBER JUNCTION BOX PENETRATION

NO SCALE

2

2.5 CABLE CROSS SECTION DATA

NO SCALE

1

DETAIL NOT USED

NO SCALE

3

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	WER	A

SITE NAME:

WESTON SQUARE

SITE CASCADE:

CT03XC064

SITE ADDRESS:

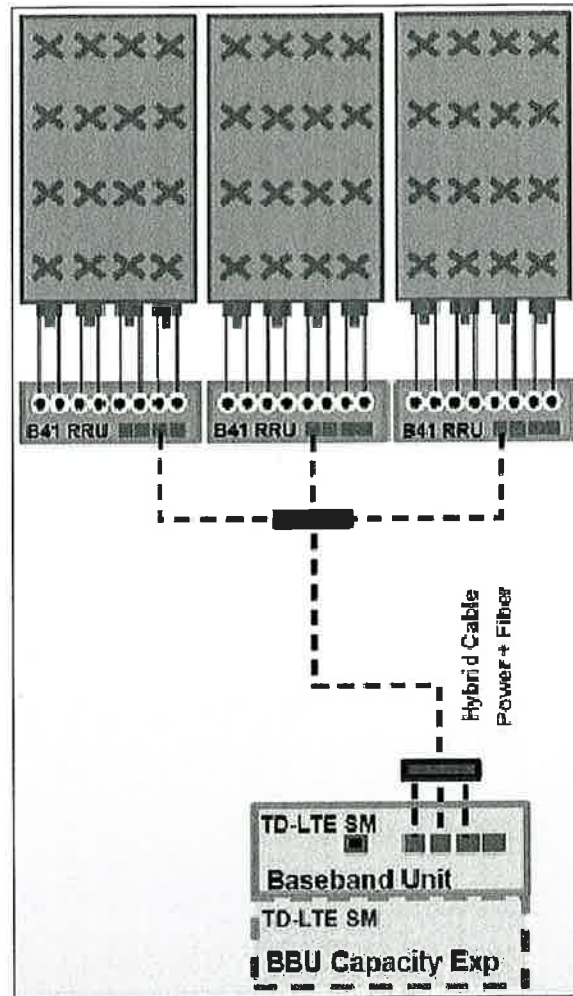
**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:

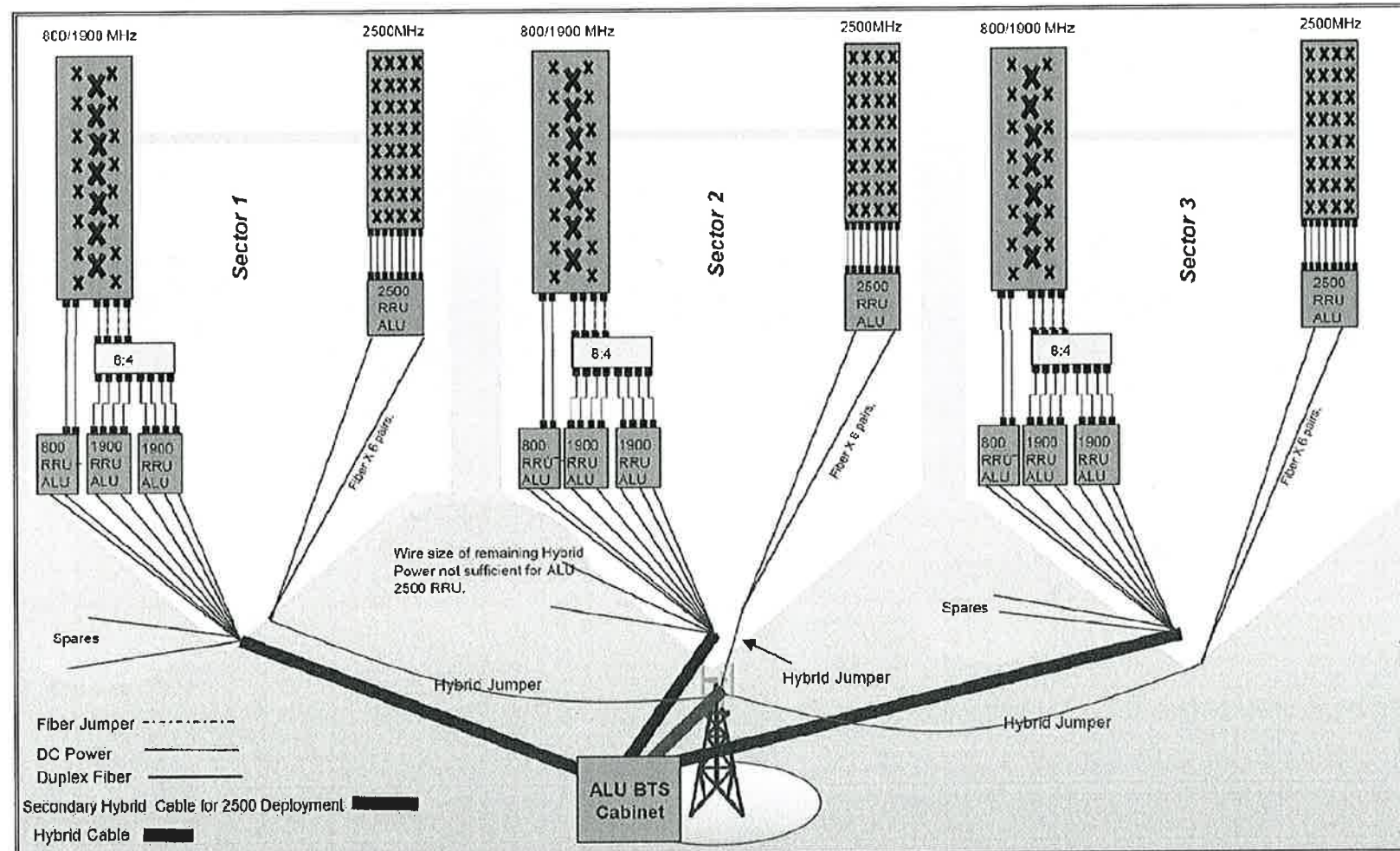
CIVIL DETAILS

SHEET NUMBER:

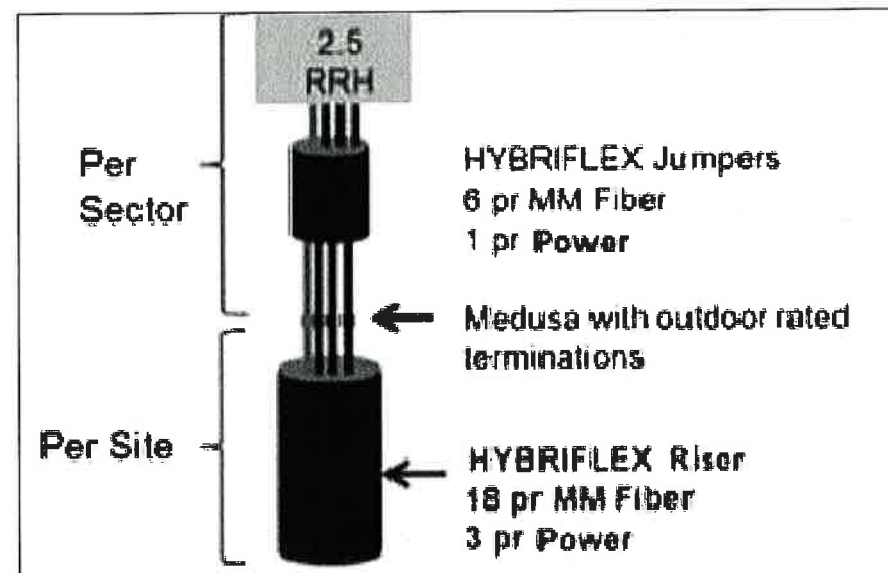
A-6



ALU 2.5 ALU SCENARIO 1



RAN WIRING DIAGRAM



RF 2.5 ALU SCENARIO 1



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.

DESCRIPTION	DATE	BY	REV
REMOVED PER COMMENT	3/13/15	SKB	C
REMOVED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	MER	A

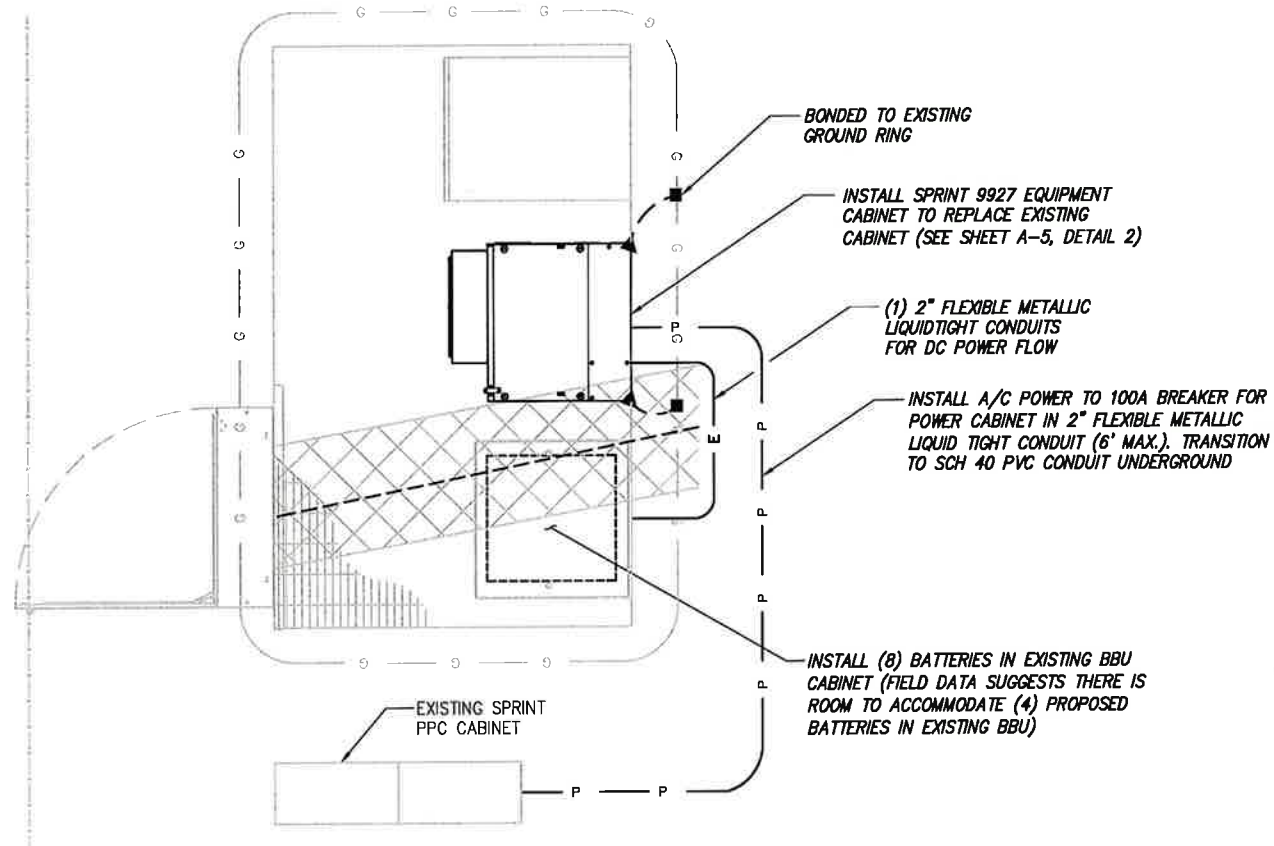
WESTON SQUARE

CT03XC064

92 WESTON STREET
HARTFORD, CT 06120

PLUMBING DIAGRAM

A-7

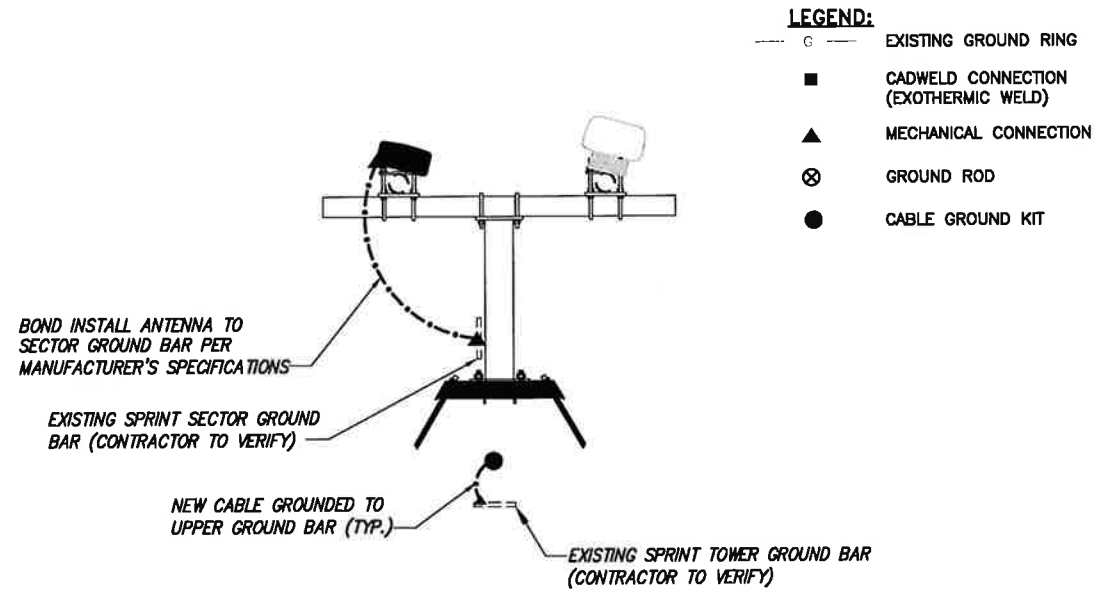


NOTE:
CONTRACTOR IS TO ENSURE THE INSTALLATION INSTRUCTIONS FOR EACH CABINET ARE FOLLOWED AND THAT THE MANUFACTURER'S REQUIREMENTS ARE MET.

- LEGEND:**
- G — EXISTING GROUND RING
 - CADWELD CONNECTION (EXOTHERMIC WELD)
 - ▲ MECHANICAL CONNECTION
 - ⊗ GROUND ROD
 - CABLE GROUND KIT

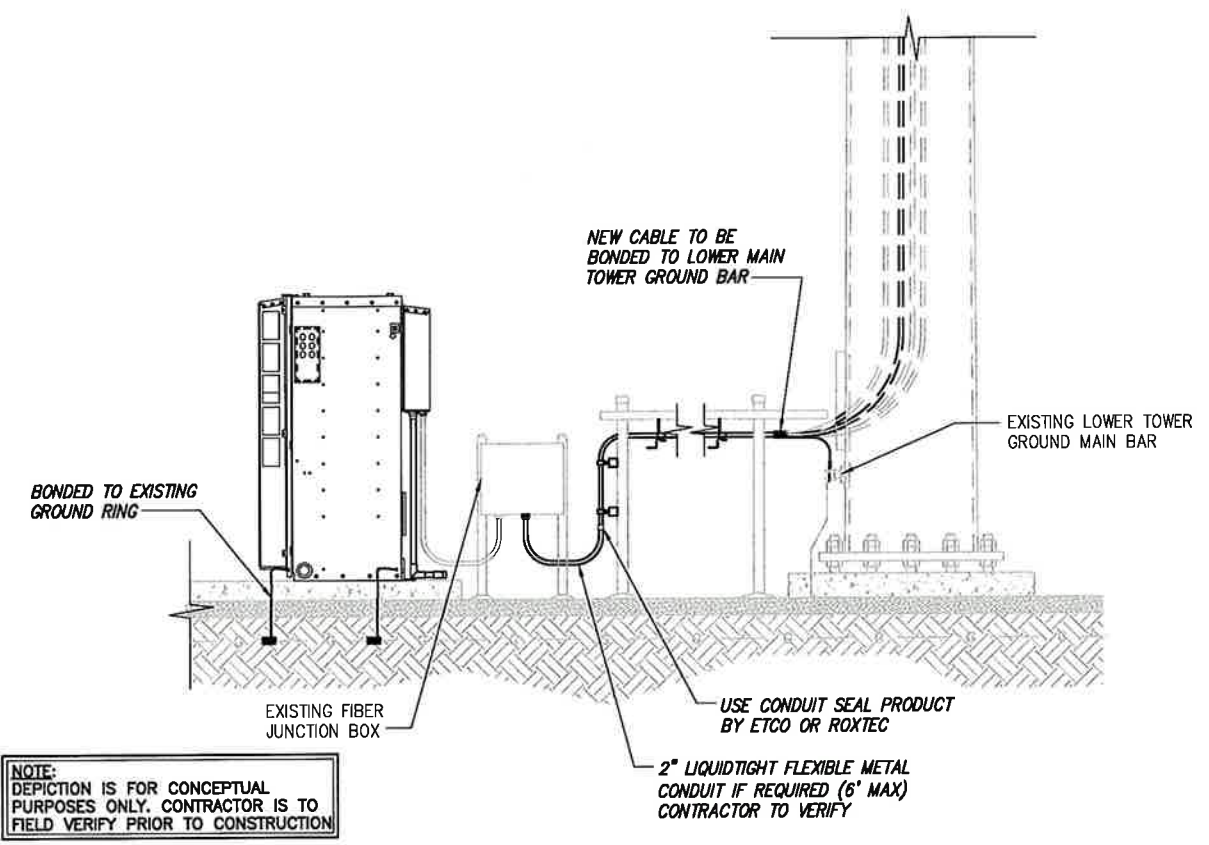
ELECTRICAL & GROUNDING PLAN

NO SCALE 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



NOTE:
DEPICTION IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO FIELD VERIFY PRIOR TO CONSTRUCTION

TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION)

NO SCALE 3

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

Design. Build. Deliver.

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

JOB NUMBER 353-000

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:

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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/16/14	MER	A

SITE NAME:
WESTON SQUARE

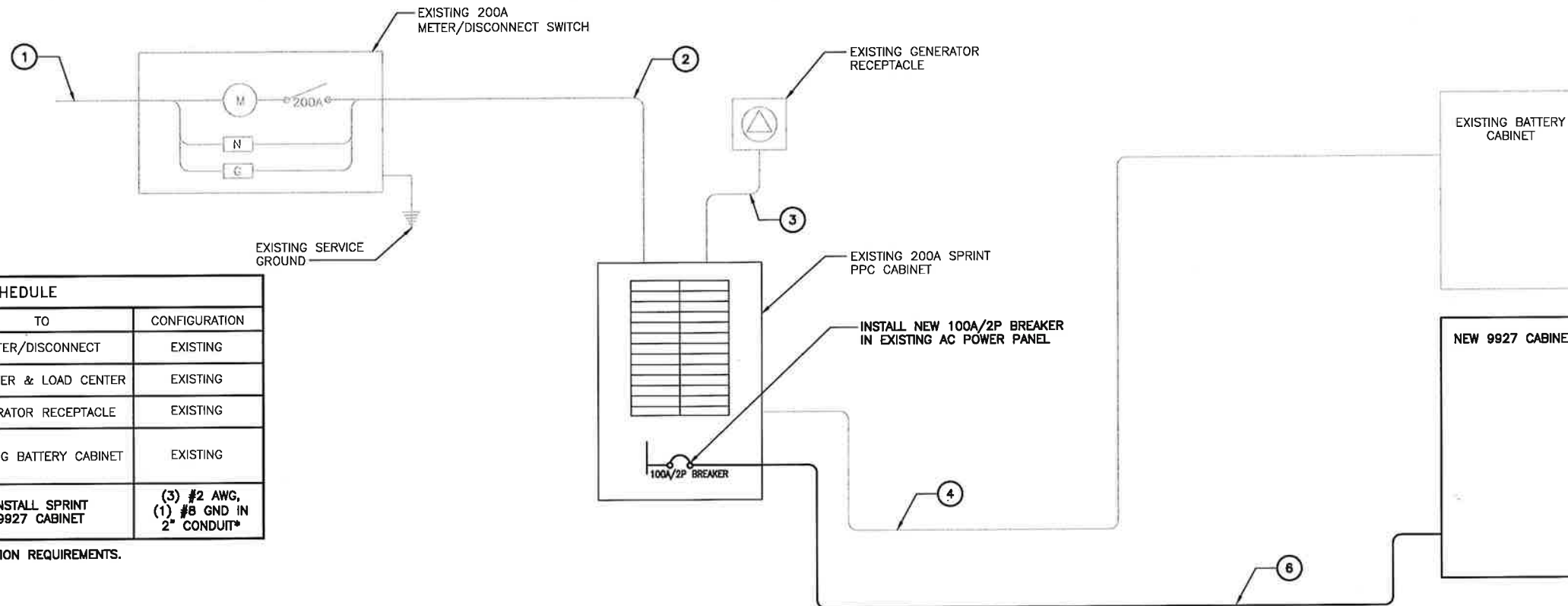
SITE CASCADE:
CT03XC064

SITE ADDRESS:
**92 WESTON STREET
HARTFORD, CT 06120**

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

NOTES
GC SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

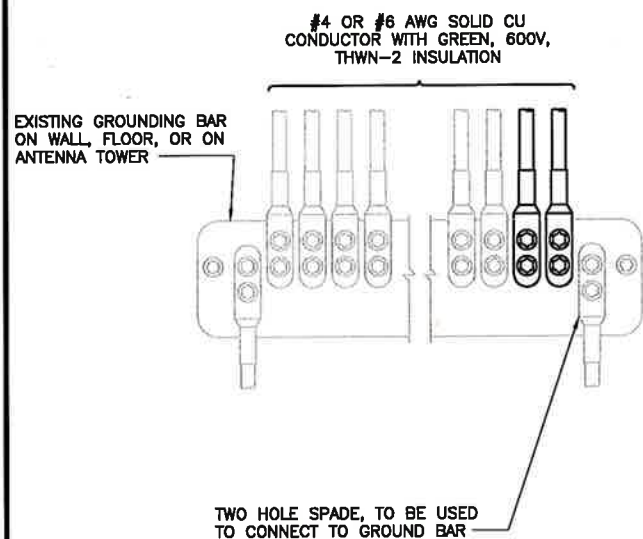


CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
①	UTILITY SOURCE	METER/DISCONNECT	EXISTING
②	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
③	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
④	TRANSFER & LOAD CENTER	EXISTING BATTERY CABINET	EXISTING
⑤	TRANSFER & LOAD CENTER	INSTALL SPRINT 9927 CABINET	(3) #2 AWG, (1) #8 GND IN 2" CONDUIT*

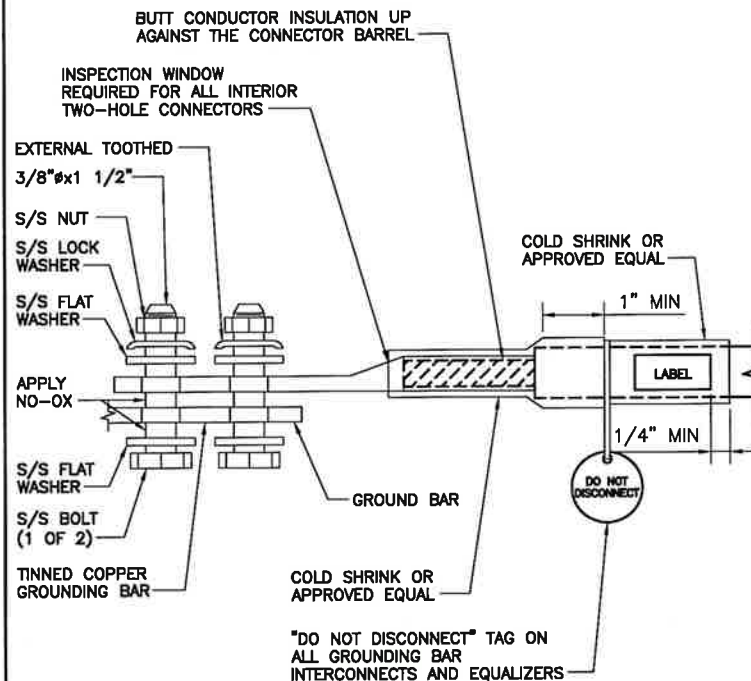
*CONTRACTOR TO VERIFY WITH 9927 INSTALLATION REQUIREMENTS.

ELECTRICAL ONE-LINE DIAGRAM

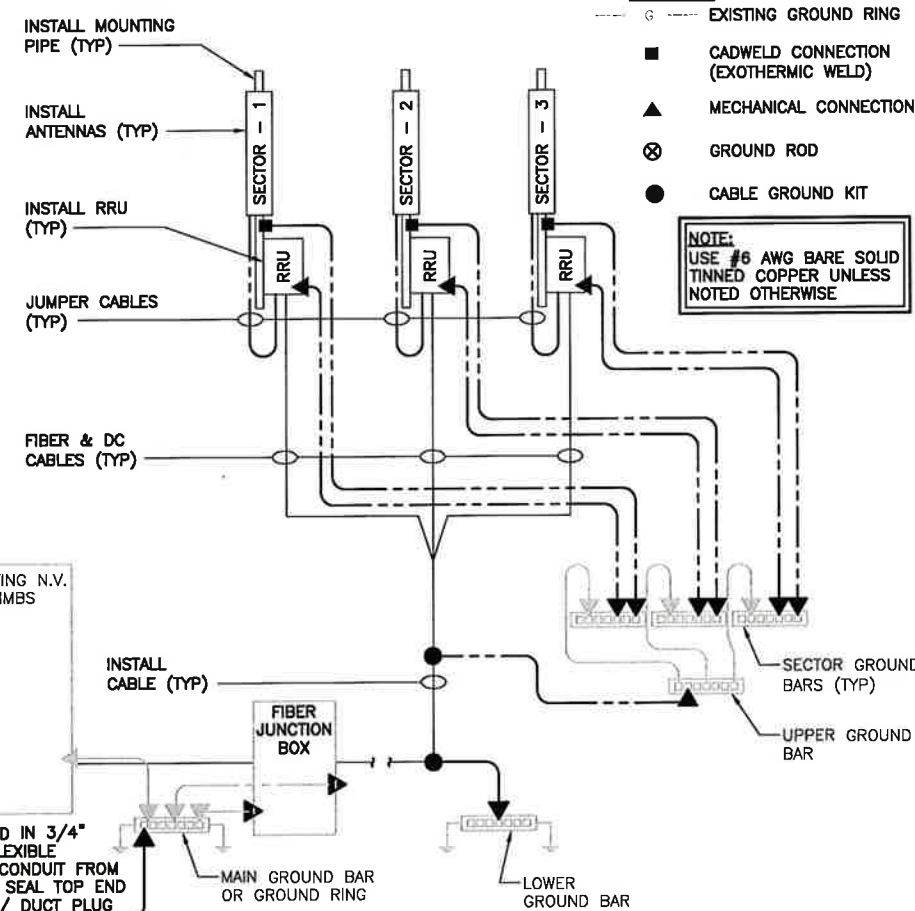
NO SCALE 1



NOTES
1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.



"DO NOT DISCONNECT" TAG ON ALL GROUNDING BAR INTERCONNECTS AND EQUALIZERS



LEGEND:
 G EXISTING GROUND RING
 ■ CADWELD CONNECTION (EXOTHERMIC WELD)
 ▲ MECHANICAL CONNECTION
 ⊗ GROUND ROD
 ● CABLE GROUND KIT
NOTE:
 USE #6 AWG BARE SOLID TINNED COPPER UNLESS NOTED OTHERWISE

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

NO SCALE

2

TWO HOLE LUG

NO SCALE

3

GROUNDING RISER DIAGRAM

NO SCALE

4

PLANS PREPARED FOR:
Sprint
 6580 Sprint Parkway
 Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 333-000

MLA PARTNER:
CROWN CASTLE

ENGINEERING LICENSE:
 STATE OF CONNECTICUT
 JOHN S. STEVENS
 No. 24705
 LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:
 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.

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED PER COMMENT	3/13/15	SKB	C
REVISED PER COMMENT	3/5/14	MAP	B
ISSUED FOR REVIEW	01/15/14	MER	A

SITE NAME:
WESTON SQUARE

SITE CASCADE:
CT03XC064

SITE ADDRESS:
 92 WESTON STREET
 HARTFORD, CT 06120

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:
E-2



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

SPRINT Existing Facility

Site ID: CT03XC064

Weston Square
92 Weston Street
Hartford, CT 06120

September 8, 2017

EBI Project Number: 6217003922

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	28.48 %



September 8, 2017

SPRINT

Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT03XC064 – Weston Square**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **92 Weston Street, Hartford, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 850 MHz Band is approximately $567 \mu\text{W}/\text{cm}^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **92 Weston Street, Hartford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.
- 4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.



- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **RFS APXVSP18-C-A20** and the **RFS APXVTM14-C-120** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerlines of the proposed antennas are **108 feet** above ground level (AGL) for **Sector A**, **108 feet** above ground level (AGL) for **Sector B** and **108 feet** above ground level (AGL) for Sector C.
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVSPPI8-C-A20	Make / Model:	RFS APXVSPPI8-C-A20	Make / Model:	RFS APXVSPPI8-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	108 feet	Height (AGL):	108 feet	Height (AGL):	108 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts
ERP (W):	7,537.38	ERP (W):	7,537.38	ERP (W):	7,537.38
Antenna A1 MPE%	2.95 %	Antenna B1 MPE%	2.95 %	Antenna C1 MPE%	2.95 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVTM14-C-120	Make / Model:	RFS APXVTM14-C-120	Make / Model:	RFS APXVTM14-C-120
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	108 feet	Height (AGL):	108 feet	Height (AGL):	108 feet
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	2.15 %	Antenna B2 MPE%	2.15 %	Antenna C2 MPE%	2.15 %

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	5.10 %
T-Mobile	12.79 %
AT&T	10.59 %
Site Total MPE %:	28.48 %

SPRINT Sector A Total:	5.10 %
SPRINT Sector B Total:	5.10 %
SPRINT Sector C Total:	5.10 %
Site Total:	28.48 %

SPRINT _ Max Values per Frequency Band / Technology Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	437.55	108	1.51	850 MHz	567	0.27%
Sprint 850 MHz LTE	2	437.55	108	3.02	850 MHz	567	0.53%
Sprint 1900 MHz (PCS) CDMA	5	622.47	108	10.75	1900 MHz (PCS)	1000	1.08%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	108	10.75	1900 MHz (PCS)	1000	1.08%
Sprint 2500 MHz (BRS) LTE	8	778.09	108	21.51	2500 MHz (BRS)	1000	2.15%
Total*:						5.10%	

*NOTE: Totals may vary by 0.01% due to summing of remainders



Summary

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

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	5.10 %
Sector B:	5.10 %
Sector C:	5.10 %
SPRINT Maximum Total (per sector):	5.10 %
Site Total:	28.48 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **28.48 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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