INFINIGY Design. Build. Deliver.
479 Rte 17 North | Mahwah, NJ 07430
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www.infinigy.com

October 9, 2014

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

EM-SPRINT-NEXTEL-107-130205

Re: CT13XC263 Post Inspection Report
S Orange Center RD
Orange, CT 06477

Dear Ms. Bachman,

Enclosed you will find a stamped Post Build/Special Inspections Report for the above referenced site.

The approved inspection report concluded that, "Based on this review the project was observed to be completed in general conformance to the project requirements."

Feel free to contact me if you have any questions or need additional information.

Sincerely,

Tina Lopez

Project Manager
Mobile | 646-275-5410
479 Route 17 North | Suite 1A | Mahwah, NJ | 07430
tlopez@infinigy.com

October 1, 2014

Terracon

Infinigy Engineering
1033 Watervliet Shaker Road
Albany, NY 12205

Attn: Ms. Elizabeth Gregory
E: egregory@infinigy.com

Re: Summary of Special Inspections
Monopole Telecommunications Tower, Antenna Upgrade
Site CT13XC263
Orange Center Road Transfer Station
Orange, Connecticut

Dear Ms. Gregory

Terracon Consultants, Inc. (Terracon) is pleased to submit this Summary of special Inspections for the above-referenced tower project. We provided Special Inspections services related to antenna mount upgrades. A Terracon Field Report has been issued under separate cover.

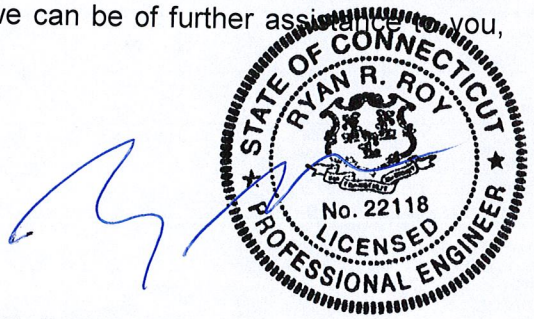
The site is located at Orange Center Road Transfer Station in Orange, Connecticut and has been developed with an approximately 180-foot high monopole telecommunications tower and associated equipment cabinets and identified on the project drawings as Site CT13XC263. The project consists of replacing existing antennas and their structural mounts.

On September 26, 2014, a Terracon Steel Inspector/International Code Council Bolting Special Inspector visited the site to review previously installed antenna mounts and fastening assemblies for general conformance to the project requirements. Our field review was completed without issue. Based on this review the project was observed to be completed in general conformance to the project requirements.

This Summary of Special Inspections is submitted as a professional opinion of the project conditions as of the date of our visit. Based on observations, which were completed at a specific time and specific location, Terracon is of the opinion that the foregoing is representative of the project to date. This report in no way relieves any party responsible for the project related construction from meeting the requirements imposed by contract or other means, including commonly accepted industry practices. To the best of my information, knowledge and belief, the Special Inspections required for this project, have been performed and discovered discrepancies have been reported and resolved. If you have questions or require further assistance concerning this document, please do not hesitate to contact the undersigned.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding the information presented in this report or if we can be of further assistance to you, please feel free to contact us.

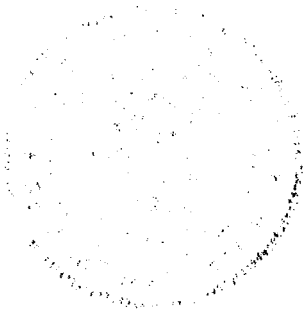
Sincerely,
Terracon Consultants, Inc.



Timothy J. Derr
Special Inspections Representative

Ryan R. Roy, P.E.
Senior Principal/Division Manager

/tjd/J2141231



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

February 22, 2013

David Weisman
Vertical Development LLC
7 Sycamore Way, Unit 1
Branford, CT 06405

RE: **EM-SPRINT-NEXTEL-107-130205** - Sprint Nextel Corporation notice of intent to modify an existing telecommunications facility located at 617 South Orange Center Road, Orange, Connecticut.

Dear Mr. Weisman:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The coax shall be installed in accordance with the recommendations made in the Structural Analysis Report prepared by GPD Group dated November 9, 2012 and stamped by David Granger; and
- Within 45 days following completion of the antenna installation, Sprint shall provide documentation certified by a professional engineer that its installation complied with the recommendation of the structural analysis.
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated February 5, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency

emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable James M. Zeoli, First Selectman, Town of Orange
Paul Dinice, Zoning Enforcement Officer, Town of Orange

Notice of Exempt Modification
617 South Orange Center Road, Orange, CT

Sprint Nextel Corporation ("Sprint") submits this Notice of Exempt Modification to the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-73 and 16-50j-72(b) of the Regulations of Connecticut State Agencies ("Regulations") in connection with Sprint's planned modification of antennas and associated equipment on an existing 180' monopole tower located at 617 South Orange Center Road in the Town of Orange. More particularly, Sprint plans to upgrade this site by adding 4G LTE technology to its facilities. The proposed modifications will not increase the tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six (6) decibels, or add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Connecticut General Statutes § 22a-162.

To better meet the growing voice and data demands of its wireless customers, Sprint is upgrading their network nationwide to include 4G technology, which will provide faster service and better overall performance. Pursuant to the 4G upgrade at this site, Sprint will replace antennas, install RRHs and notch filters, and install related equipment to its equipment area within the fenced compound at the base of the tower.

The 180' monopole located 617 South Orange Center Road in the Town of Orange (lat. 41° 15' 19.91", long. 72° 00' 39.17") is owned by the Town of Orange and managed by AT&T. It is in an approximately 4,500+ square foot fenced compound. Sprint currently has nine (9) antennas (three (3) per sector) and two microwave dishes (one (1) each on two (2) sectors) with a centerline of 127' installed on the tower. Sprint's base station equipment is located within the fenced compound at the base of the tower. A site plan depicting this is attached.

Sprint plans to replace six (6) antennas with three (3) dual pole antennas (one (1) per sector) and three (3) RFS APXVSPP18-C-A20 antennas (one (1) per sector), all with a centerline of 127'. Connected to the three (3) RFS antennas will be one (1) ALU

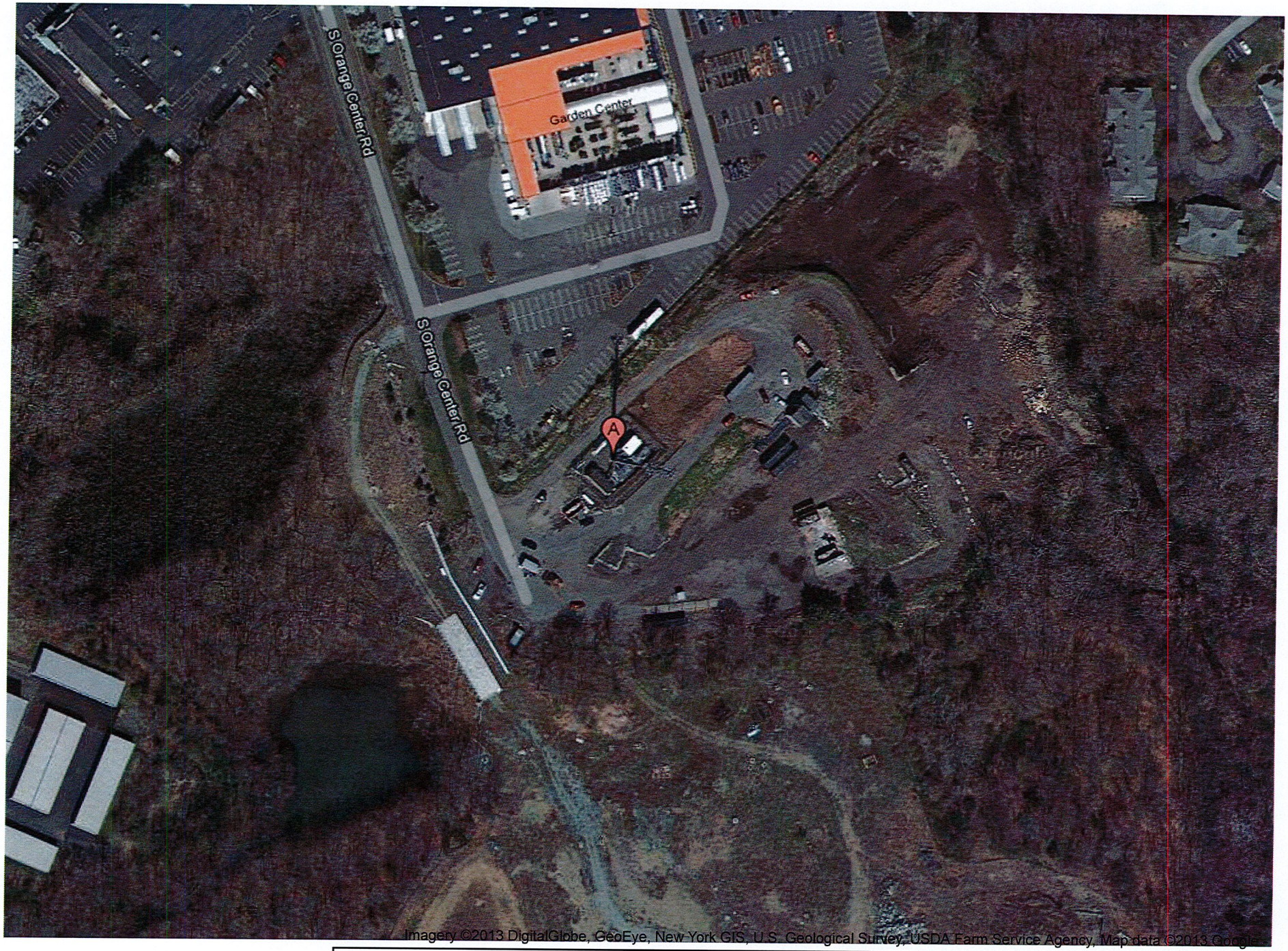
800 MHz RRH with one (1) ALU 800 MHz notch filter attached to it and one (1) ALU 1900 MHz RRH, which will be located behind the antenna on a ring mount approximately 4 ft +/- from the platform. After the new antennas have been tested and are deployed on-air, the three (3) dual pole antennas will be removed. The height of the monopole will not need to be increased. Sprint also plans to install a new fiber junction box on a new H-frame and a new Ciena equipment enclosure into their equipment space within the tower compound's fenced border, and to retrofit or replace the existing BTS cabinet. The compound's boundaries will not need to be extended. Other than brief, construction-related noise, these modifications will not increase noise levels at the tower site boundary by six (6) decibels.

AT&T commissioned GPD Group to perform a structural analysis of the tower to verify that it can support Sprint's proposed loading. The results of the analysis show that the tower passed at 92.6% (see the first page of Structural Analysis Report, November 9, 2012). Sprint commissioned EBI Consulting to perform a structural assessment of the existing mounting system. They concluded that the existing mounting system is "[C]apable of supporting the existing and proposed equipment without causing an overstress condition in the mounting system" (see the second page of Structural Assessment Letter, August 20, 2012).

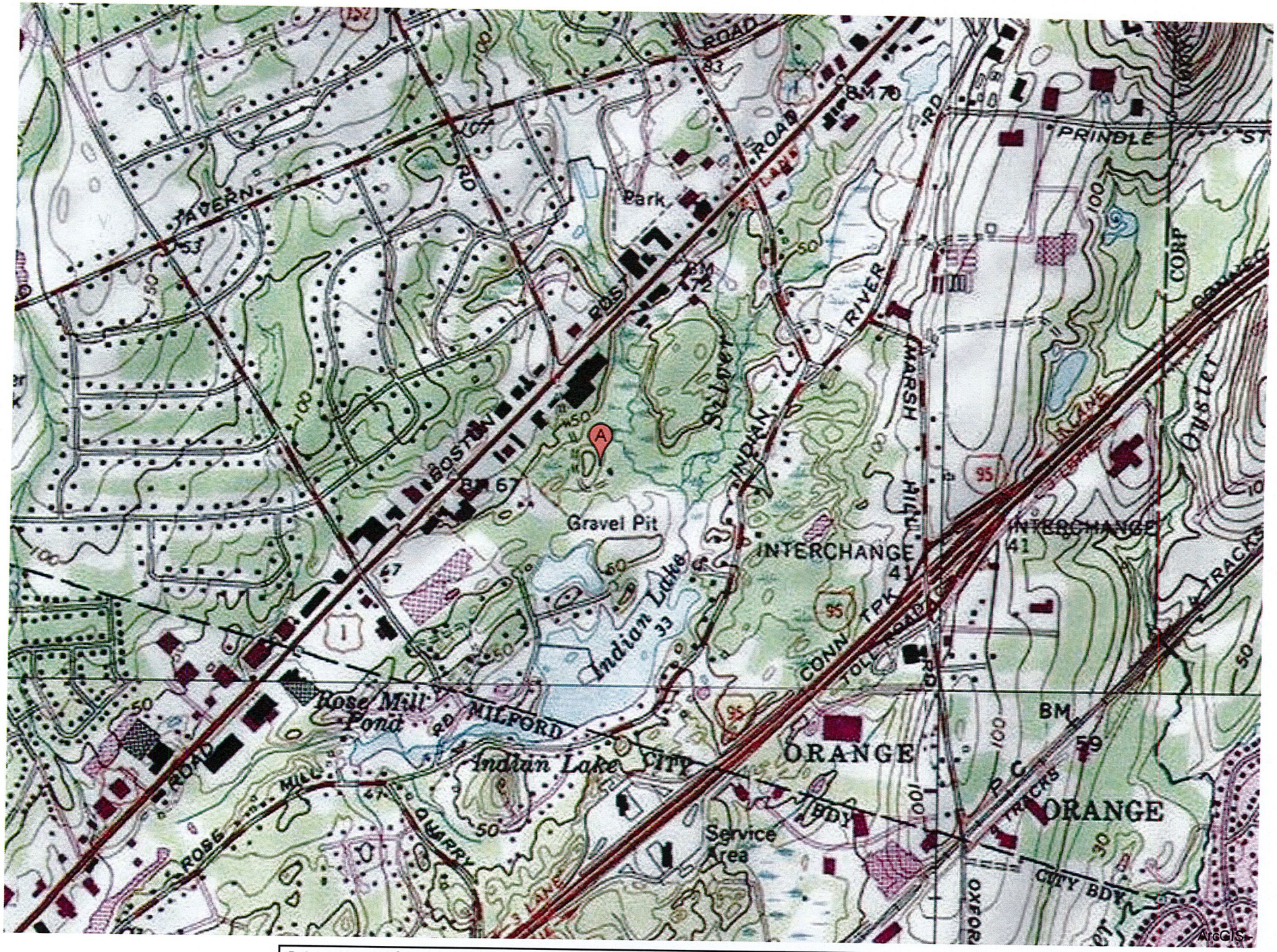
The proposed modifications will not add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Connecticut General Statutes § 22a-162. A radio frequency emissions analysis prepared by EBI Consulting indicates that the proposed final configuration (including other carriers on the tower) will emit 62.632% of the allowable FCC established general public limit sampled at the ground level (see the 5th page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, August 28, 2012). Emission values for the Sprint antennas have been calculated from the sample point, which is the top of a six foot person standing at the base of the tower. Emissions values for additional carriers were based upon values listed in Connecticut Siting Council active database (see the 3rd and 4th page of Radio Frequency Emissions Analysis Report -

Evaluation of Human Exposure Potential to Non-Ionizing Emissions, August 28, 2012). The information used in the report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1 (see the second page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, August 28, 2012).

In conclusion, Sprint's proposed modifications do not constitute a modification subject to the Council's review because Sprint will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards. Therefore, Sprint respectfully requests that the Council acknowledge that this Notice of Exempt Modification meets the Council's exemption criteria.



617 South Orange Center Road, Orange, CT



617 South Orange Center Road, Orange, CT

EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT13XC263

Orange Transfer Station
South Orange Center Road
Orange, CT 06477

August 28, 2012

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

August 28, 2012

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

Re: Emissions Values for Site **CT13XC263 – Orange Transfer Station**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at South Orange Center Road, Orange, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/cm2 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 public 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 public 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the cellular band is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the PCS band is 1000 $\mu W/cm^2$. 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 upgrades to the existing Sprint Wireless antenna facility located at South Orange Center Road, Orange, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. 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 emissions were calculated using the following assumptions:

1) 4 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) 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.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **127.4feet** above ground level (AGL)
7) 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT13XC263 - Orange Transfer Station
Site Addresss	South Orange Center road, Orange, CT 06477
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	127.4	121.4	1/2 "	0.5	0	2773.8948	67.66414	6.76641%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	127.4	121.4	1/2 "	0.5	0	389.96892	9.512586	1.67770%
														Sector total Power Density Value:		8.444%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	127.4	121.4	1/2 "	0.5	0	2773.8948	67.66414	6.76641%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	127.4	121.4	1/2 "	0.5	0	389.96892	9.512586	1.67770%
														Sector total Power Density Value:		8.444%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	127.4	121.4	1/2 "	0.5	0	2773.8948	67.66414	6.76641%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	127.4	121.4	1/2 "	0.5	0	389.96892	9.512586	1.67770%
														Sector total Power Density Value:		8.444%	

Site Composite MPE %	
Carrier	MPE %
Sprint	25.332%
Clearwire	1.150%
Pocket	2.500%
AT&T	6.680%
Verizon Wireless	18.890%
Nextel	4.050%
T-Mobile	4.030%
Total Site MPE %	**62.632%**

EBI Consulting
environmental | engineering | due diligence

Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **25.332% (8.444% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **62.632%** of the allowable FCC established general public 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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT13XC263

Orange Transfer Station
South Orange Center Road
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August 28, 2012

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

August 28, 2012

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

Re: Emissions Values for Site **CT13XC263 – Orange Transfer Station**

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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.

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CALCULATIONS

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For all calculations, all emissions were calculated using the following assumptions:

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2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) 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.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **127.4feet** above ground level (AGL)
7) 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT13XC263 - Orange Transfer Station
Site Addresss	South Orange Center road, Orange, CT 06477
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
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														Sector total Power Density Value:		8.444%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	127.4	121.4	1/2 "	0.5	0	2773.8948	67.66414	6.76641%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	127.4	121.4	1/2 "	0.5	0	389.96892	9.512586	1.67770%
														Sector total Power Density Value:		8.444%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	127.4	121.4	1/2 "	0.5	0	2773.8948	67.66414	6.76641%
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														Sector total Power Density Value:		8.444%	

Site Composite MPE %	
Carrier	MPE %
Sprint	25.332%
Clearwire	1.150%
Pocket	2.500%
AT&T	6.680%
Verizon Wireless	18.890%
Nextel	4.050%
T-Mobile	4.030%
Total Site MPE %	**62.632%**

EBI Consulting
environmental | engineering | due diligence

Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **25.332% (8.444% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **62.632%** of the allowable FCC established general public 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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

EBI Consulting
environmental | engineering | due diligence

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www.ebiconsulting.com

STRUCTURAL ASSESSMENT LETTER

August 20, 2012

Site Number:	CT13XC263
Site Name:	Orange Transfer Station
Site Address:	South Orange Center Road, Orange, CT 06477
Project Number:	81121614
Project Name:	Sprint Network Vision – Southern Connecticut Market

This letter is to confirm EBI's structural assessment of the existing Sprint antenna mounting system on the above listed site located in the Sprint Network Vision – Region 1, Southern Connecticut market. The intent of this review is to determine if the proposed modification of antennas and equipment will exceed the structural capacity of the existing mounting system.

The existing antenna mounting system has been categorized as a *Flat Low Profile Platform.* Currently, Sprint has (6) panel antennas and (6) 1 5/8" coax mounted to the platform at an approximate centerline elevation of 127'-4" above ground level. Further, Clearwire currently has (3) panel antennas, (1) 25.9" diameter dish antenna, (6) 5/16" coax, and (3) 1/2" coax mounted on the same platform at the same RAD elevation. All existing Clearwire equipment will remain in place during Sprint's proposed antenna modification. Sprint is proposing the following two steps to complete the equipment upgrade:

- Step 1 – Interim Configuration
  Sprint is proposing to install (3) APXVSPP18-C-A20 panel antennas (one at each sector), (3) 800 MHz RRHs, (3) 1900 MHz RRHs, (3) 800 MHz Filters, and (3) fiber cables. The proposed panel antennas are to be installed on proposed 2-7/8" O.D. pipe masts attached to the platform face. The proposed RRHs and filters are to be installed on proposed mast pipes mounted to a proposed ring mount approximately 4 ft +/- from the platform. (3) of the (6) existing Sprint panel antennas are proposed to be replaced with (3) Sprint interim dual pole panel antennas, and the other (3) existing Sprint panel antennas are to be removed. The interim configuration is to be in place for less than 1 year.

- Step 2 – Final Configuration
  After interim configuration is completed, Sprint is proposing to remove the (3) Sprint interim dual pole Sprint panel antennas and (6) existing 1-5/8" coax.

The generic *Flat Low Profile Platform* antenna mounting system has the following assumed characteristics:

- Triangular in plan with a nominal face width of between 12'-0" and 13'-0", designed to support 4 panel antennas per sector.
- Horizontal platform perimeter members are made from L3x3x1/4" angles minimum, or HSS3x2.5x3/16" minimum.
- Main supporting members, two at each sector spanning from the tower connection point to 1/3 points on each of the triangular plan faces, made from HSS4x3x3/16 (short side vertical) minimum.

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- Platform walking/standing surface consists of either 3/4"x1/8" steel bar or expanded metal grating.
- A robust ring mount with (3) 3/4" minimum diameter or (2) 7/8" minimum diameter high-strength threaded connecting rods.
- Antenna Rad centers align with the platform perimeter member elevation.

This analysis of the existing mounting system is in compliance with ANSI/TIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, using a basic design wind speed of 85 mph with no ice and 50 mph with 0.75" of escalating ice.

By engineering analysis and/or comparison, the existing antenna mounting system is capable of supporting the existing and proposed equipment without causing an overstress condition in the mounting system.

This certification is based on the physical platform characteristics as described above and as determined through site specific photos, proposed CDs, and existing structural analysis. This certification also assumes that all structural members and connections have been properly designed and remain in good condition. Prior to installation of any new antennas and/or RRHs, contractor shall inspect the condition of all relevant members and connectors. The contractor shall be responsible for the means and methods of construction and reporting to EBI Consulting if mount members are found to be smaller than assumed above, prior to placement of proposed appurtenances.

Analysis and certification of the existing tower structure may be performed by others and will be submitted separately.

Please contact us at 781-273-2500 if you have any questions.

Sincerely yours,
EBI Consulting

Andrew White

Andrew White, P.E., SECB
Structural Engineer

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

February 22, 2013

David Weisman
Vertical Development LLC
7 Sycamore Way, Unit 1
Branford, CT 06405

RE: **EM-SPRINT-NEXTEL-107-130205** - Sprint Nextel Corporation notice of intent to modify an existing telecommunications facility located at 617 South Orange Center Road, Orange, Connecticut.

Dear Mr. Weisman:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The coax shall be installed in accordance with the recommendations made in the Structural Analysis Report prepared by GPD Group dated November 9, 2012 and stamped by David Granger; and
- Within 45 days following completion of the antenna installation, Sprint shall provide documentation certified by a professional engineer that its installation complied with the recommendation of the structural analysis.
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated February 5, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency

emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable James M. Zeoli, First Selectman, Town of Orange
Paul Dinice, Zoning Enforcement Officer, Town of Orange

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

February 5, 2013

The Honorable James M. Zeoli
First Selectman
Town of Orange
617 Orange Center Road
Orange, CT 06477-2423

RE: **EM-SPRINT-NEXTEL-107-130205 -** Sprint Nextel Corporation notice of intent to modify an existing telecommunications facility located at 617 South Orange Center Road, Orange, Connecticut.

Dear First Selectman Zeoli:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by February 19, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts

Linda Roberts
Executive Director

LR/cm

c: Paul Dinice, Zoning Enforcement Officer, Town of Orange

CSC
CONNECTICUT SITING COUNCIL

infinigy
engineering & surveying

EM-SPRINT-NEXTEL-107-130205

ite 130
30062
-4463
-4472
y.com

February 5, 2012

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

Re: 617 South Orange Center Road, Orange, CT

Dear Ms. Roberts,

On behalf of Sprint Nextel Corporation ("Sprint"), enclosed for filing are an original and two (2) copies of Sprint's Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site.

I also enclose herewith a check in the amount of $625.00 representing the fee for the Notice of Exempt Modification.

If you have any questions, please feel free to contact me.

RECEIVED
FEB - 5 2013
CONNECTICUT
SITING COUNCIL

Thank you,

By: _____

Name: David Weisman
Vertical Development LLC, an authorized representative of Sprint Nextel
Vertical Development LLC
7 Sycamore Way, Unit 1
Branford, CT 06405
Phone – 401-743-9011
Fax – 401-633-6202
DWeisman@verticaldevelopmentllc.com

CC: Mr. James Zeoli, First Selectman
Orange Town Hall
617 Orange Center Road
Orange, CT 06477

AT&T Towers
5405 Windward Pkwy
Alpharetta, GA 30004
(770) 708-6100

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
Kevin Clements
1117 Perimeter Center West, Suite W303
Atlanta, GA 30338
(678) 781-5061
kclements@gpdgroup.com

GPD# 2012881.29
November 9, 2012

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**16326**
	Site FA:	**10071197**
	Site Name:	**ORANGE TRANSFER STATION**
	AT&T Project:	**Sprint Modification 9-21-2012**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2003 IBC, 2005 CTBC & ASCE 7-05** **90-mph with 0" ice** **37-mph with 3/4" ice**
SITE DATA:		**617 S Orange Center Rd, Orange, CT 06477, New Haven County** **Latitude 41° 15' 19.979" N, Longitude 73° 0' 39.200" W** **Market: New England** **180' Rohn Monopole**

Ms. Charlotte Malone,

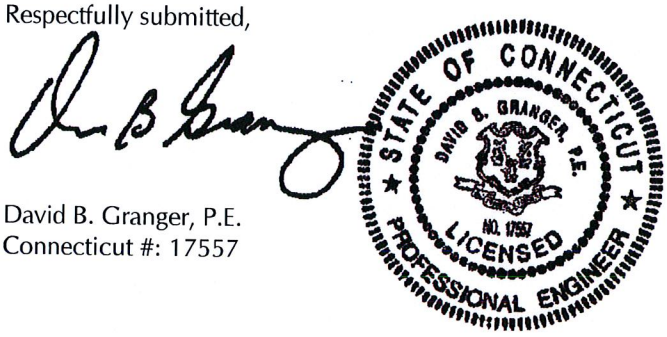
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	92.6%	Pass
Foundation Ratio with Proposed Equipment:	23.2%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T Mobility. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,



David B. Granger, P.E.
Connecticut #: 17557

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by Sprint to AT&T Mobility. This report was commissioned by Ms. Charlotte Malone of AT&T Mobility.

The proposed coax shall be run internal to the monopole with the existing coax in order for the analysis to be valid.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	92.6%	Pass
Anchor Rods	91.9%	Pass
Base Plate	55.6%	Pass
Foundation	23.2%	Pass

ANALYSIS METHOD

tnxTower (Version 6.0.4.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a detailed site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Sprint Co-location document, uploaded 10/24/2012	Siterra
Site Lease Application	Sprint Application, dated 9/20/2012	Siterra
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Geotechnical Report	WEI Project #: 2010-1056, dated 3/31/2010	Siterra
Previous Structural Analysis	GPD Job #: 2012866.11, dated 10/8/2012	Siterra
Foundation Mapping	WEI Project #: 2010-1056, dated 3/31/2012	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower shaft sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from the previous structural analysis by GPD (Job #: 2012866.11, dated 10/8/2012), site photos, the provided site lease application and the notice of co-location form and is assumed to be accurate.
12. The proposed coax shall be run internal to the monopole with the existing coax in order for the analysis to be valid.
13. Existing AT&T loading has been modeled based on the AT&T loading configuration in the previous structural analysis by GPD (Job #: 2012866.11, dated 10/8/2012) per the Siterra note by Richard Salas.
14. Future AT&T loading has been modeled based on the generic future AT&T loading scenario.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD GROUP in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD GROUP does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD GROUP provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD GROUP, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD GROUP makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	ORANGE TRANSFER STATION
Site Number	16326
FA Number	10071197
Date of Analysis	11/9/2012
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	180	
Tower Manufacturer	Rohn	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	WEI Project #: 2010-1056	3/31/2010
Tower Mapping	n/a	
Previous Structural Analysis	GPD Job #: 2012866.11	10/8/2012
Foundation Mapping	WEI Project #: 2010-1056	3/31/2010

Design Parameters

Design Code Used	TIA/EIA-222-F, 2003 IBC 2005 CTBC & ASCE 7-05
Location of Tower (County, State)	New Haven, CT
Basic Wind Speed (mph)	90 (fastest mile)
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	92.6%
Base Plate (%)	91.9%
Foundation (%)	23.2%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Note: Material strength assumed based on previous experience.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
AT&T Mobility	177	177	6	Panel	Powerwave	7770.00	20/120/230	1	Unknown	12.5' LP Platform	9	Unknown	1-5/8"	Internal
AT&T Mobility	177	177	3	Panel	KMW	AM-X-CW-14-65-00T-RET	20/120/230			on same mount	1	Unknown	3" Conduit	Internal
AT&T Mobility	177	177	6	TMA	Powerwave	LGP21401				behind antennas	6	Fiber	1/2"	Inside Conduit
AT&T Mobility	176	178	6	RRU	Ericsson	RRUS 11		1	Unknown	Collar Mount				
AT&T Mobility	176	174	1	Surge	Raycap	DC6-48-60-18-8F				on same mount				
Unknown	165	165	3	Panel	Unknown	5' Panel		1	Unknown	Pipe Mount	6	Unknown	1-5/8"	External
T-Mobile	148	148	6	Panel	RFS	APX16PV-16PVL		1	Unknown	12.5' LP Platform	12	Unknown	1-5/8"	Internal
T-Mobile	148	148	6	TMA	Powerwave	LGP21401				behind antennas				
Nextel	137	137	12	Panel	Decibel	844G45VTZASX		1	Unknown	12.5' LP Platform	12	Unknown	1-5/8"	Internal
Sprint	125	127.4	6	Panel	Decibel	DB980H65T2E-M	30/120/235	1	Unknown	13' LP Platform	6	Unknown	1-5/8"	Internal
Clearwire	125	127	3	Panel	Argus	LLPX310R	50/150/260			on same mount	6	Unknown	5/16"	Inside Conduit
Clearwire	125	127	3	RRH	Samsung	FDD R6 RRH				on same mount	3	RET	1/4"	Internal
Clearwire	125	127	2	Dish	Dragonwave	A-ANT-23G-2-C	50/150			on same mount	2	Unknown	1/2"	Internal
Clearwire	125	127	2	ODU	Dragonwave	Horizon DUO				on same mount	1	Flex Conduit	2"	Internal
Verizon	115	117	3	Panel	Swedcom	SLCP 2X6015	40/120/280	1	Unknown	13' LP Platform	18	Unknown	1-5/8"	Internal
Verizon	115	117	6	Panel	Swedcom	SC-E 6014 REV2	40/120/280			on same mount	5	Unknown	1-5/8"	External
Verizon	115	117	3	Panel	Antel	BXA 171063/12BF	40/120/280			on same mount				
Verizon	115	115	1	GPS	Alcatel Lucent	GPS				on same mount	1	Unknown	1/2"	Internal
Sprint	60	60	1	GPS	Alcatel Lucent	407517689		1	Unknown	2' Standoff	1	Unknown	1/2"	Internal

Note: Prior to the installation of the proposed loading, (6) DB980H65T2E-M antennas at 127.4' and (1) 407517689 GPS at 60' shall be removed. All other loading shall remain.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
Sprint	125	127.4	6	Panel	RFS	APXVSPP18-C-A20	10/120/255			on existing mount	3	Hybrid	1-1/4"	Internal
Sprint	125	127.4	3	RRH	Alcatel Lucent	1900 MHz RRH				on existing mount				
Sprint	125	127.4	3	RRH	Alcatel Lucent	800 MHz RRH				on existing mount				
Sprint	125	127.4	3	Filter	Alcatel Lucent	800 External Notch Filter				on existing mount				
Sprint	60	60	1	GPS	PCTEL	GPS-TMG-HR-26NCM				on existing mount				

Note: The proposed loading shall be installed in addition to the remaining existing loading.

Note: The proposed coax shall be run internal to the monopole with the existing coax in order for the analysis to be valid.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
AT&T Mobility	177	177	3	Panel	Powerwave	7770.00	20/120/230			on existing mount	6	LDF7-50A	1-5/8"	Internal

Note: The future loading shall be in addition to the existing loading at the same elevation.

APPENDIX B

tnxTower Output File

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in New Haven County, Connecticut.
Basic wind speed of 90 mph.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 37 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight klf
Safety Line 3/8	C	No	CaAa (Out Of Face)	180.00 - 8.00	1	No Ice	0.04	0.000
						1/2" Ice	0.14	0.001
						1" Ice	0.24	0.001
						2" Ice	0.44	0.002
						4" Ice	0.84	0.004
5/8" Step Bolts	C	No	CaAa (Out Of Face)	180.00 - 8.00	1	No Ice	0.04	0.001
						1/2" Ice	0.14	0.002
						1" Ice	0.24	0.003
						2" Ice	0.44	0.007
						4" Ice	0.84	0.023
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	177.00 - 8.00	15	No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
3" Flex Conduit	A	No	Inside Pole	177.00 - 8.00	1	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
1/2" Fiber Cable	A	No	Inside Pole	177.00 - 8.00	6	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
LDF7-50A (1-5/8 FOAM)	A	No	CaAa (Out Of Face)	165.00 - 8.00	5	No Ice	0.00	0.001
						1/2" Ice	0.00	0.002
						1" Ice	0.00	0.004
						2" Ice	0.00	0.011
						4" Ice	0.00	0.030
LDF7-50A (1-5/8 FOAM)	A	No	CaAa (Out Of Face)	165.00 - 8.00	1	No Ice	0.20	0.001
						1/2" Ice	0.30	0.002
						1" Ice	0.40	0.004

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	148.00 - 8.00	12	2" Ice	0.60	0.011
						4" Ice	1.00	0.030
						No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	137.00 - 8.00	12	No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	125.00 - 8.00	6	No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
1-1/4" Hybrid Cable	C	No	Inside Pole	125.00 - 8.00	3	No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
2" Flex Conduit	C	No	Inside Pole	125.00 - 8.00	1	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
9207 (5/16")	C	No	Inside Pole	125.00 - 8.00	6	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
RET Cable	C	No	Inside Pole	125.00 - 8.00	3	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
LDF4-50A (1/2 FOAM)	C	No	Inside Pole	125.00 - 8.00	2	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	115.00 - 8.00	18	No Ice	0.00	0.001
						1/2" Ice	0.00	0.001
						1" Ice	0.00	0.001
						2" Ice	0.00	0.001
						4" Ice	0.00	0.001
LDF7-50A (1-5/8 FOAM)	B	No	CaAa (Out Of Face)	115.00 - 8.00	1	No Ice	0.20	0.001
						1/2" Ice	0.30	0.002
						1" Ice	0.40	0.004
						2" Ice	0.60	0.011
						4" Ice	1.00	0.030
LDF7-50A (1-5/8 FOAM)	B	No	CaAa (Out Of Face)	115.00 - 8.00	4	No Ice	0.00	0.001
						1/2" Ice	0.00	0.002
						1" Ice	0.00	0.004
						2" Ice	0.00	0.011
						4" Ice	0.00	0.030
LDF4P-50A (1/2 FOAM)	C	No	Inside Pole	115.00 - 8.00	1	No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF4P-50A (1/2 FOAM)	C	No	Inside Pole	60.00 - 8.00	1	4" Ice	0.00	0.000
						No Ice	0.00	0.000
						1/2" Ice	0.00	0.000
						1" Ice	0.00	0.000
						2" Ice	0.00	0.000
						4" Ice	0.00	0.000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
MTS 12.5' LP Platform	C	None		0.000	177.00	No Ice	14.66	14.66	1250.000
						1/2" Ice	18.87	18.87	1481.330
						1" Ice	23.08	23.08	1712.660
						2" Ice	31.50	31.50	2175.320
						4" Ice	48.34	48.34	3100.640
(3) 7770.00 w/Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	20.000	177.00	No Ice	5.88	4.10	61.538
						1/2" Ice	6.31	4.73	107.077
						1" Ice	6.75	5.37	160.390
						2" Ice	7.66	6.70	289.457
						4" Ice	9.58	9.87	654.286
(3) 7770.00 w/Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.000	177.00	No Ice	5.88	4.10	61.538
						1/2" Ice	6.31	4.73	107.077
						1" Ice	6.75	5.37	160.390
						2" Ice	7.66	6.70	289.457
						4" Ice	9.58	9.87	654.286
(3) 7770.00 w/Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	-10.000	177.00	No Ice	5.88	4.10	61.538
						1/2" Ice	6.31	4.73	107.077
						1" Ice	6.75	5.37	160.390
						2" Ice	7.66	6.70	289.457
						4" Ice	9.58	9.87	654.286
AM-X-CW-14-65-00T-RET w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	20.000	177.00	No Ice	5.77	4.16	59.750
						1/2" Ice	6.22	4.77	105.753
						1" Ice	6.69	5.42	159.408
						2" Ice	7.65	6.82	288.604
						4" Ice	9.71	9.93	652.179
AM-X-CW-14-65-00T-RET w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.000	177.00	No Ice	5.77	4.16	59.750
						1/2" Ice	6.22	4.77	105.753
						1" Ice	6.69	5.42	159.408
						2" Ice	7.65	6.82	288.604
						4" Ice	9.71	9.93	652.179
AM-X-CW-14-65-00T-RET w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	-10.000	177.00	No Ice	5.77	4.16	59.750
						1/2" Ice	6.22	4.77	105.753
						1" Ice	6.69	5.42	159.408
						2" Ice	7.65	6.82	288.604
						4" Ice	9.71	9.93	652.179
(2) LGP21401	A	From Centroid-Leg	4.00 0.000 0.000	0.000	177.00	No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319
						2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
(2) LGP21401	B	From Centroid-Leg	4.00 0.000 0.000	0.000	177.00	No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(2) LGP21401	C	From Centroid-Le g	4.00 0.000 0.000	0.000	177.00	2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
						No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319
						2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
(2) RRUS 11	A	From Leg	0.50 0.000 2.000	0.000	176.00	No Ice	2.94	1.25	55.000
						1/2" Ice	3.17	1.41	74.320
						1" Ice	3.41	1.59	96.557
						2" Ice	3.91	1.96	150.558
						4" Ice	5.02	2.82	302.116
(2) RRUS 11	B	From Leg	0.50 0.000 2.000	0.000	176.00	No Ice	2.94	1.25	55.000
						1/2" Ice	3.17	1.41	74.320
						1" Ice	3.41	1.59	96.557
						2" Ice	3.91	1.96	150.558
						4" Ice	5.02	2.82	302.116
(2) RRUS 11	C	From Leg	0.50 0.000 2.000	0.000	176.00	No Ice	2.94	1.25	55.000
						1/2" Ice	3.17	1.41	74.320
						1" Ice	3.41	1.59	96.557
						2" Ice	3.91	1.96	150.558
						4" Ice	5.02	2.82	302.116
Pipe Mount 6'x2.375"	A	From Leg	0.25 0.000 0.000	0.000	176.00	No Ice	1.43	1.43	26.100
						1/2" Ice	1.92	1.92	36.927
						1" Ice	2.29	2.29	51.814
						2" Ice	3.06	3.06	94.379
						4" Ice	4.70	4.70	234.943
Pipe Mount 6'x2.375"	B	From Leg	0.25 0.000 0.000	0.000	176.00	No Ice	1.43	1.43	26.100
						1/2" Ice	1.92	1.92	36.927
						1" Ice	2.29	2.29	51.814
						2" Ice	3.06	3.06	94.379
						4" Ice	4.70	4.70	234.943
Pipe Mount 6'x2.375"	C	From Leg	0.25 0.000 0.000	0.000	176.00	No Ice	1.43	1.43	26.100
						1/2" Ice	1.92	1.92	36.927
						1" Ice	2.29	2.29	51.814
						2" Ice	3.06	3.06	94.379
						4" Ice	4.70	4.70	234.943
DC6-48-60-18-8F Surge Suppression Unit	C	From Leg	0.50 0.000 -2.000	0.000	176.00	No Ice	1.47	1.47	32.800
						1/2" Ice	1.67	1.67	50.515
						1" Ice	1.88	1.88	70.725
						2" Ice	2.33	2.33	119.237
						4" Ice	3.38	3.38	252.915
Collar Mount (GPD)	C	None		0.000	176.00	No Ice	2.14	2.14	190.300
						1/2" Ice	2.35	2.35	247.390
						1" Ice	2.57	2.57	304.480
						2" Ice	2.99	2.99	418.660
						4" Ice	3.83	3.83	647.020
5 s.f. Panel Antenna w/Mount Pipe	A	From Leg	1.00 0.000 0.000	0.000	165.00	No Ice	5.24	4.20	61.900
						1/2" Ice	5.77	5.07	103.300
						1" Ice	6.29	5.81	154.722
						2" Ice	7.36	7.35	279.847
						4" Ice	9.62	10.63	650.042
5 s.f. Panel Antenna w/Mount Pipe	B	From Leg	1.00 0.000 0.000	0.000	165.00	No Ice	5.24	4.20	61.900
						1/2" Ice	5.77	5.07	103.300
						1" Ice	6.29	5.81	154.722
						2" Ice	7.36	7.35	279.847
						4" Ice	9.62	10.63	650.042

tnxTower	Job	Page
GPD Group 520 South Main St, Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	16326 ORANGE TRANSFER STATION	5 of 10
	Project 2012881.29	Date 10:12:24 11/09/12
	Client AT&T MOBILITY	Designed by kliccar

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
5 s.f. Panel Antenna w/Mount Pipe	C	From Leg	1.00 0.000 0.000	0.000	165.00	No Ice	5.24	4.20	61.900
						1/2" Ice	5.77	5.07	103.300
						1" Ice	6.29	5.81	154.722
						2" Ice	7.36	7.35	279.847
						4" Ice	9.62	10.63	650.042
MTS 12.5' LP Platform	C	None		0.000	148.00	No Ice	14.66	14.66	1250.000
						1/2" Ice	18.87	18.87	1481.330
						1" Ice	23.08	23.08	1712.660
						2" Ice	31.50	31.50	2175.320
						4" Ice	48.34	48.34	3100.640
(2) APX16PV-16PVL w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	6.79	3.05	62.145
						1/2" Ice	7.23	3.65	103.995
						1" Ice	7.68	4.27	154.525
						2" Ice	8.60	5.55	276.052
						4" Ice	10.54	8.43	626.528
(2) APX16PV-16PVL w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	6.79	3.05	62.145
						1/2" Ice	7.23	3.65	103.995
						1" Ice	7.68	4.27	154.525
						2" Ice	8.60	5.55	276.052
						4" Ice	10.54	8.43	626.528
(2) APX16PV-16PVL w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	6.79	3.05	62.145
						1/2" Ice	7.23	3.65	103.995
						1" Ice	7.68	4.27	154.525
						2" Ice	8.60	5.55	276.052
						4" Ice	10.54	8.43	626.528
(2) LGP21401	A	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319
						2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
(2) LGP21401	B	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319
						2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
(2) LGP21401	C	From Centroid-Leg	4.00 0.000 0.000	0.000	148.00	No Ice	0.00	0.23	14.100
						1/2" Ice	0.00	0.31	21.263
						1" Ice	0.00	0.40	30.319
						2" Ice	0.00	0.61	54.887
						4" Ice	0.00	1.12	135.288
MTS 12.5' LP Platform	C	None		0.000	137.00	No Ice	14.66	14.66	1250.000
						1/2" Ice	18.87	18.87	1481.330
						1" Ice	23.08	23.08	1712.660
						2" Ice	31.50	31.50	2175.320
						4" Ice	48.34	48.34	3100.640
(4) 844G45VTZASX w/Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.000	137.00	No Ice	7.71	5.63	40.550
						1/2" Ice	8.44	6.73	99.254
						1" Ice	9.04	7.54	168.682
						2" Ice	10.29	9.21	330.450
						4" Ice	12.93	12.75	779.969
(4) 844G45VTZASX w/Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.000	137.00	No Ice	7.71	5.63	40.550
						1/2" Ice	8.44	6.73	99.254
						1" Ice	9.04	7.54	168.682
						2" Ice	10.29	9.21	330.450
						4" Ice	12.93	12.75	779.969
(4) 844G45VTZASX w/Mount Pipe	C	From Centroid-Le	4.00 0.000	0.000	137.00	No Ice	7.71	5.63	40.550
						1/2" Ice	8.44	6.73	99.254

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		g	0.000			1" Ice	9.04	7.54	168.682
						2" Ice	10.29	9.21	330.450
						4" Ice	12.93	12.75	779.969
Valmont 13' Platform w/o rails (GPD)	C	None		0.000	125.00	No Ice	24.80	24.80	1500.000
						1/2" Ice	26.20	26.20	2500.000
						1" Ice	27.60	27.60	3500.000
						2" Ice	30.40	30.40	5500.000
						4" Ice	36.00	36.00	9500.000
(2) APXVSPP18-C-A20 w/ Mount Pipe	A	From Centroid-Le g	4.00 0.000 2.400	10.000	125.00	No Ice	8.26	6.71	78.900
						1/2" Ice	8.81	7.66	141.879
						1" Ice	9.36	8.49	216.061
						2" Ice	10.50	10.20	390.251
						4" Ice	12.88	13.98	872.752
(2) APXVSPP18-C-A20 w/ Mount Pipe	B	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	8.26	6.71	78.900
						1/2" Ice	8.81	7.66	141.879
						1" Ice	9.36	8.49	216.061
						2" Ice	10.50	10.20	390.251
						4" Ice	12.88	13.98	872.752
(2) APXVSPP18-C-A20 w/ Mount Pipe	C	From Centroid-Le g	4.00 0.000 2.400	15.000	125.00	No Ice	8.26	6.71	78.900
						1/2" Ice	8.81	7.66	141.879
						1" Ice	9.36	8.49	216.061
						2" Ice	10.50	10.20	390.251
						4" Ice	12.88	13.98	872.752
1900MHz RRH	A	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.91	3.80	44.000
						1/2" Ice	3.14	4.06	75.273
						1" Ice	3.39	4.34	110.176
						2" Ice	3.91	4.91	191.648
						4" Ice	5.05	6.15	406.704
1900MHz RRH	B	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.91	3.80	44.000
						1/2" Ice	3.14	4.06	75.273
						1" Ice	3.39	4.34	110.176
						2" Ice	3.91	4.91	191.648
						4" Ice	5.05	6.15	406.704
1900MHz RRH	C	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.91	3.80	44.000
						1/2" Ice	3.14	4.06	75.273
						1" Ice	3.39	4.34	110.176
						2" Ice	3.91	4.91	191.648
						4" Ice	5.05	6.15	406.704
800 MHZ RRH	A	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.49	2.07	53.000
						1/2" Ice	2.71	2.27	74.187
						1" Ice	2.93	2.48	98.387
						2" Ice	3.41	2.93	156.608
						4" Ice	4.46	3.93	317.771
800 MHZ RRH	B	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.49	2.07	53.000
						1/2" Ice	2.71	2.27	74.187
						1" Ice	2.93	2.48	98.387
						2" Ice	3.41	2.93	156.608
						4" Ice	4.46	3.93	317.771
800 MHZ RRH	C	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	2.49	2.07	53.000
						1/2" Ice	2.71	2.27	74.187
						1" Ice	2.93	2.48	98.387
						2" Ice	3.41	2.93	156.608
						4" Ice	4.46	3.93	317.771
800 External Notch Filter	A	From Centroid-Le g	4.00 0.000 2.400	0.000	125.00	No Ice	0.77	0.37	11.000
						1/2" Ice	0.89	0.46	16.814
						1" Ice	1.02	0.56	24.257
						2" Ice	1.30	0.79	44.808

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						4" Ice	1.97	1.34	114.010
800 External Notch Filter	B	From Centroid-Leg	4.00 0.000 2.400	0.000	125.00	No Ice	0.77	0.37	11.000
						1/2" Ice	0.89	0.46	16.814
						1" Ice	1.02	0.56	24.257
						2" Ice	1.30	0.79	44.808
						4" Ice	1.97	1.34	114.010
800 External Notch Filter	C	From Centroid-Leg	4.00 0.000 2.400	0.000	125.00	No Ice	0.77	0.37	11.000
						1/2" Ice	0.89	0.46	16.814
						1" Ice	1.02	0.56	24.257
						2" Ice	1.30	0.79	44.808
						4" Ice	1.97	1.34	114.010
LLPX310R w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	50.000	125.00	No Ice	5.40	3.59	69.087
						1/2" Ice	5.86	4.19	115.513
						1" Ice	6.34	4.80	166.014
						2" Ice	7.33	6.13	290.234
						4" Ice	9.48	9.15	636.882
LLPX310R w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	30.000	125.00	No Ice	5.40	3.59	69.087
						1/2" Ice	5.86	4.19	115.513
						1" Ice	6.34	4.80	166.014
						2" Ice	7.33	6.13	290.234
						4" Ice	9.48	9.15	636.882
LLPX310R w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	20.000	125.00	No Ice	5.40	3.59	69.087
						1/2" Ice	5.86	4.19	115.513
						1" Ice	6.34	4.80	166.014
						2" Ice	7.33	6.13	290.234
						4" Ice	9.48	9.15	636.882
FDD R6 RRH	A	From Centroid-Leg	4.00 0.000 2.000	50.000	125.00	No Ice	1.80	0.78	33.000
						1/2" Ice	1.99	0.92	44.576
						1" Ice	2.18	1.07	58.459
						2" Ice	2.59	1.39	93.926
						4" Ice	3.51	2.14	201.104
FDD R6 RRH	B	From Centroid-Leg	4.00 0.000 2.000	30.000	125.00	No Ice	1.80	0.78	33.000
						1/2" Ice	1.99	0.92	44.576
						1" Ice	2.18	1.07	58.459
						2" Ice	2.59	1.39	93.926
						4" Ice	3.51	2.14	201.104
FDD R6 RRH	C	From Centroid-Leg	4.00 0.000 2.000	20.000	125.00	No Ice	1.80	0.78	33.000
						1/2" Ice	1.99	0.92	44.576
						1" Ice	2.18	1.07	58.459
						2" Ice	2.59	1.39	93.926
						4" Ice	3.51	2.14	201.104
Horizon DUO	A	From Centroid-Leg	4.00 0.000 2.000	50.000	125.00	No Ice	0.55	0.34	7.000
						1/2" Ice	0.65	0.43	11.778
						1" Ice	0.76	0.52	18.028
						2" Ice	1.00	0.73	35.719
						4" Ice	1.60	1.25	97.313
Horizon DUO	B	From Centroid-Leg	4.00 0.000 2.000	30.000	125.00	No Ice	0.55	0.34	7.000
						1/2" Ice	0.65	0.43	11.778
						1" Ice	0.76	0.52	18.028
						2" Ice	1.00	0.73	35.719
						4" Ice	1.60	1.25	97.313
13' LP Platform - Flat (GPD)	C	None		0.000	115.00	No Ice	21.35	21.35	1300.000
						1/2" Ice	26.45	26.45	1650.000
						1" Ice	31.55	31.55	2000.000
						2" Ice	41.75	41.75	2700.000
						4" Ice	62.15	62.15	4100.000
SLCP 2X6015 w/ mount pipe	A	From	4.00	40.000	115.00	No Ice	10.66	9.94	56.158

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		Centroid-Leg	0.000 2.000			1/2" Ice	11.33	11.26	142.906
						1" Ice	11.98	12.31	242.483
						2" Ice	13.31	14.40	470.620
						4" Ice	16.08	18.80	1077.744
SLCP 2X6015 w/ mount pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.000	115.00	No Ice	10.66	9.94	56.158
						1/2" Ice	11.33	11.26	142.906
						1" Ice	11.98	12.31	242.483
						2" Ice	13.31	14.40	470.620
						4" Ice	16.08	18.80	1077.744
SLCP 2X6015 w/ mount pipe	C	From Centroid-Leg	4.00 0.000 2.000	40.000	115.00	No Ice	10.66	9.94	56.158
						1/2" Ice	11.33	11.26	142.906
						1" Ice	11.98	12.31	242.483
						2" Ice	13.31	14.40	470.620
						4" Ice	16.08	18.80	1077.744
(2) SC-E 6014 rev2 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	40.000	115.00	No Ice	4.13	4.77	36.900
						1/2" Ice	4.67	5.60	77.518
						1" Ice	5.16	6.32	127.310
						2" Ice	6.19	7.80	246.634
						4" Ice	8.39	10.97	595.060
(2) SC-E 6014 rev2 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.000	115.00	No Ice	4.13	4.77	36.900
						1/2" Ice	4.67	5.60	77.518
						1" Ice	5.16	6.32	127.310
						2" Ice	6.19	7.80	246.634
						4" Ice	8.39	10.97	595.060
(2) SC-E 6014 rev2 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	40.000	115.00	No Ice	4.13	4.77	36.900
						1/2" Ice	4.67	5.60	77.518
						1" Ice	5.16	6.32	127.310
						2" Ice	6.19	7.80	246.634
						4" Ice	8.39	10.97	595.060
BXA-171063/12BF w/ 6' mount pipe	A	From Centroid-Leg	4.00 0.000 2.000	40.000	115.00	No Ice	4.74	5.00	36.900
						1/2" Ice	5.19	5.93	77.558
						1" Ice	5.64	6.74	128.843
						2" Ice	6.57	8.42	255.507
						4" Ice	8.58	11.96	636.036
BXA-171063/12BF w/ 6' mount pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.000	115.00	No Ice	4.74	5.00	36.900
						1/2" Ice	5.19	5.93	77.558
						1" Ice	5.64	6.74	128.843
						2" Ice	6.57	8.42	255.507
						4" Ice	8.58	11.96	636.036
BXA-171063/12BF w/ 6' mount pipe	C	From Centroid-Leg	4.00 0.000 2.000	40.000	115.00	No Ice	4.74	5.00	36.900
						1/2" Ice	5.19	5.93	77.558
						1" Ice	5.64	6.74	128.843
						2" Ice	6.57	8.42	255.507
						4" Ice	8.58	11.96	636.036
GPS	C	From Centroid-Leg	4.00 0.000 0.000	0.000	115.00	No Ice	0.17	0.17	0.870
						1/2" Ice	0.24	0.24	3.845
						1" Ice	0.32	0.32	7.851
						2" Ice	0.51	0.51	19.564
						4" Ice	1.02	1.02	62.073
GPS-TMG-HR-26NCM	C	From Face	2.00 0.000 0.000	0.000	60.00	No Ice	0.16	0.16	0.600
						1/2" Ice	0.21	0.21	2.371
						1" Ice	0.28	0.28	5.075
						2" Ice	0.44	0.44	14.061
						4" Ice	0.86	0.86	51.788
2' Standoff - Flat (GPD)	C	From Face	1.00 0.000 0.000	0.000	60.00	No Ice	1.96	4.21	53.300
						1/2" Ice	3.08	5.88	75.940
						1" Ice	4.20	7.55	98.580

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						2" Ice	6.44	10.89	143.860
						4" Ice	10.92	17.57	234.420

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
A-ANT-23G-2-C	A	Paraboloid w/o Radome	From Centroid -Leg	4.00 0.000 2.000	50.000		125.00	2.17	No Ice	3.72	12.300
									1/2" Ice	4.01	20.562
									1" Ice	4.30	28.824
									2" Ice	4.88	45.348
									4" Ice	6.04	78.396
A-ANT-23G-2-C	B	Paraboloid w/o Radome	From Centroid -Leg	4.00 0.000 2.000	30.000		125.00	2.17	No Ice	3.72	12.300
									1/2" Ice	4.01	20.562
									1" Ice	4.30	28.824
									2" Ice	4.88	45.348
									4" Ice	6.04	78.396

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
177.00	MTS 12.5' LP Platform	28	35.2994	1.698	0.003	38997
176.00	(2) RRUS 11	28	34.9438	1.698	0.003	38997
165.00	5 s.f. Panel Antenna w/Mount Pipe	28	31.0602	1.677	0.002	16832
148.00	MTS 12.5' LP Platform	28	25.2451	1.587	0.002	8979
137.00	MTS 12.5' LP Platform	28	21.6771	1.500	0.002	6892
127.00	A-ANT-23G-2-C	28	18.6150	1.405	0.002	5937
125.00	Valmont 13' Platform w/o rails (GPD)	28	18.0262	1.385	0.002	5859
115.00	13' LP Platform - Flat (GPD)	28	15.2076	1.278	0.001	5500
60.00	GPS-TMG-HR-26NCM	28	3.9461	0.621	0.000	4330

tnxTower	Job	Page
	16326 ORANGE TRANSFER STATION	10 of 10
GPD Group 520 South Main St, Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Project 2012881.29	Date 10:12:24 11/09/12
	Client AT&T MOBILITY	Designed by kliccar

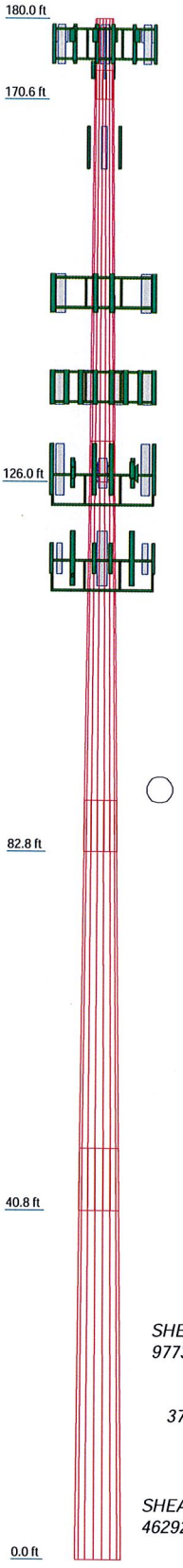
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	180 - 170.58	Pole	TP26.25x24x0.1875	1	-2469.770	781068.652	5.0	Pass
L2	170.58 - 126	Pole	TP36.525x25.0581x0.25	2	-9898.310	1449597.450	47.7	Pass
L3	126 - 82.75	Pole	TP46.357x34.8903x0.3125	3	-22482.199	2300358.005	85.7	Pass
L4	82.75 - 40.75	Pole	TP55.765x44.2987x0.375	4	-35047.699	3320236.262	92.6	Pass
L5	40.75 - 0	Pole	TP64.75x53.2831x0.4375	5	-53754.000	4642745.497	90.0	Pass
							Summary	
						Pole (L4)	92.6	Pass
						RATING =	**92.6**	**Pass**

APPENDIX C

Tower Elevation Drawing

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	9.42	18	0.1875	3.42	24.0000	26.2500		475.7
2	48.00	18	0.2500	4.75	25.0581	36.5250		3958.4
3	48.00	18	0.3125	6.00	34.8903	46.3570		6530.7
4	48.00	18	0.3750	7.25	44.2987	55.7650		9653.7
5	48.00	18	0.4375		53.2831	64.7500		13286.3
							A572-65	33904.8



AXIAL
78079 lb

SHEAR
9773 lb

MOMENT
1191059 lb-ft

TORQUE 226 lb-ft
37 mph WIND - 0.7500 in ICE

AXIAL
53783 lb

SHEAR
46292 lb

MOMENT
5456851 lb-ft

TORQUE 1586 lb-ft
REACTIONS - 90 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
MTS 12.5' LP Platform	177	Valmont 13' Platform w/o rails (GPD)	125
(3) 7770.00 w/Mount Pipe	177	(2) APXVSPP18-C-A20 w/ Mount Pipe	125
(3) 7770.00 w/Mount Pipe	177	(2) APXVSPP18-C-A20 w/ Mount Pipe	125
(3) 7770.00 w/Mount Pipe	177	(2) APXVSPP18-C-A20 w/ Mount Pipe	125
AM-X-CW-14-65-00T-RET w/ Mount Pipe	177	1900MHz RRH	125
		1900MHz RRH	125
AM-X-CW-14-65-00T-RET w/ Mount Pipe	177	1900MHz RRH	125
		800 MHZ RRH	125
AM-X-CW-14-65-00T-RET w/ Mount Pipe	177	800 MHZ RRH	125
		800 MHZ RRH	125
(2) LGP21401	177	800 External Notch Filter	125
(2) LGP21401	177	800 External Notch Filter	125
(2) LGP21401	177	800 External Notch Filter	125
(2) RRUS 11	176	LLPX310R w/ Mount Pipe	125
(2) RRUS 11	176	LLPX310R w/ Mount Pipe	125
(2) RRUS 11	176	LLPX310R w/ Mount Pipe	125
Pipe Mount 6'x2.375"	176	FDD R6 RRH	125
Pipe Mount 6'x2.375"	176	FDD R6 RRH	125
Pipe Mount 6'x2.375"	176	FDD R6 RRH	125
DC6-48-60-18-8F Surge Suppression Unit	176	Horizon DUO	125
		Horizon DUO	125
Collar Mount (GPD)	176	A-ANT-23G-2-C	125
5 s.f. Panel Antenna w/Mount Pipe	165	A-ANT-23G-2-C	125
5 s.f. Panel Antenna w/Mount Pipe	165	SLCP 2X6015 w/ mount pipe	115
5 s.f. Panel Antenna w/Mount Pipe	165	SLCP 2X6015 w/ mount pipe	115
MTS 12.5' LP Platform	148	(2) SC-E 6014 rev2 w/ Mount Pipe	115
(2) APX16PV-16PVL w/ Mount Pipe	148	(2) SC-E 6014 rev2 w/ Mount Pipe	115
(2) APX16PV-16PVL w/ Mount Pipe	148	(2) SC-E 6014 rev2 w/ Mount Pipe	115
(2) APX16PV-16PVL w/ Mount Pipe	148	BXA-171063/12BF w/ 6' mount pipe	115
(2) LGP21401	148	BXA-171063/12BF w/ 6' mount pipe	115
(2) LGP21401	148	BXA-171063/12BF w/ 6' mount pipe	115
(2) LGP21401	148	GPS	115
MTS 12.5' LP Platform	137	13' LP Platform - Flat (GPD)	115
(4) 844G45VTZASX w/Mount Pipe	137	SLCP 2X6015 w/ mount pipe	115
(4) 844G45VTZASX w/Mount Pipe	137	GPS-TMG-HR-26NCM	60
(4) 844G45VTZASX w/Mount Pipe	137	2' Standoff - Flat (GPD)	60

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

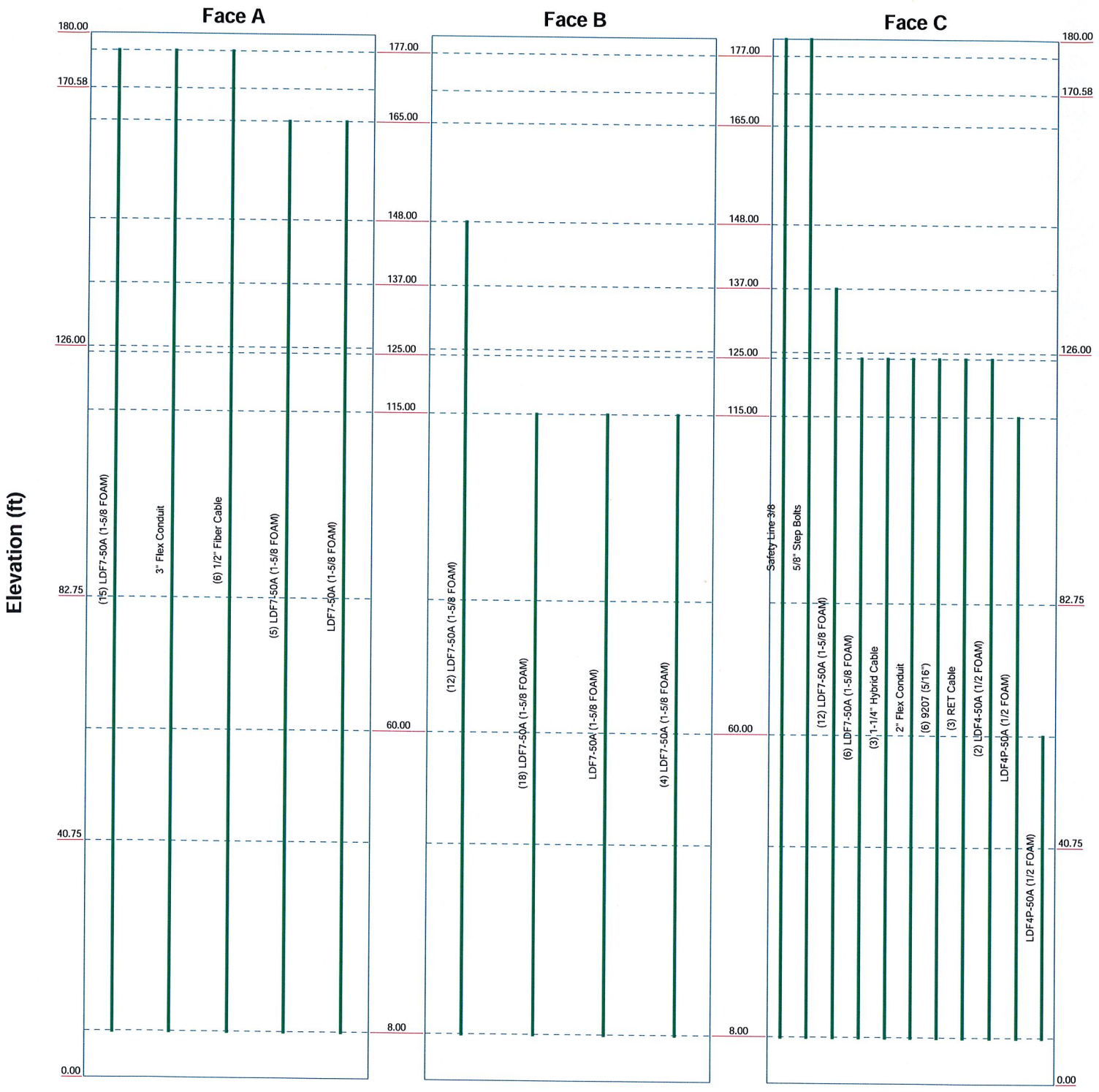
1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 90 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 37 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 92.6%

GPD GROUP
GPD Group
520 South Main St, Suite 2531
Akron, OH 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: **16326 ORANGE TRANSFER STATION**			
Project: **2012881.29**			
Client: AT&T MOBILITY	Drawn by: kliccar	App'd:	
Code: TIA/EIA-222-F	Date: 11/09/12	Scale: NTS	
Path: C:\Users\kliccar\Desktop\TNX Temporary\2012881.29 ORANGE TRANSFER STATION\16326 ORANGE TRANSFER STATION.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 180'

Round | Flat | App In Face | App Out Face | Truss Leg



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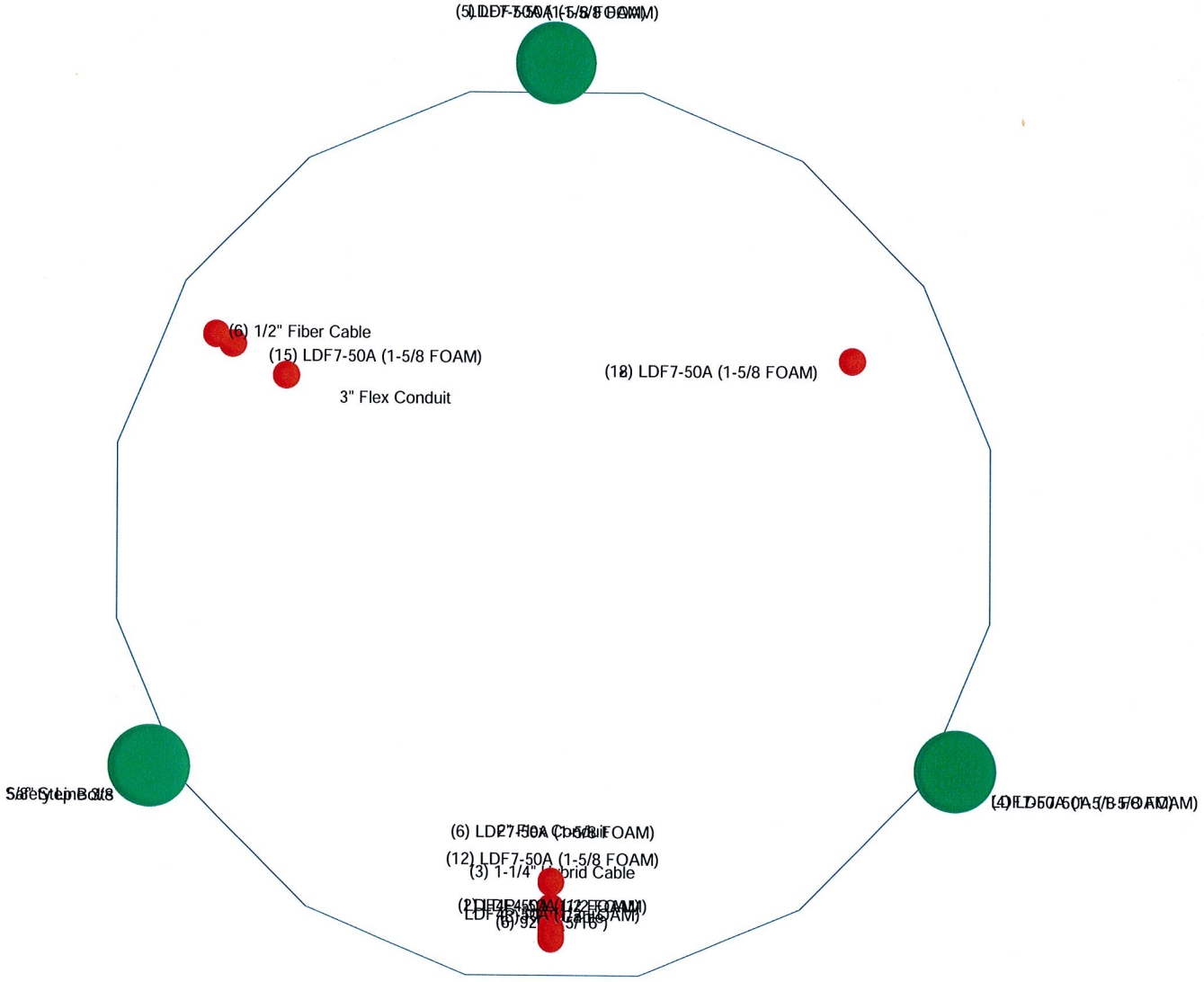
Code: TIA/EIA-222-F	Date: 11/09/12	Scale: NTS	
Path: C:\Users\kliccar\Desktop\TNX Tempprary\2012881.29 ORANGE TRANSFER STATION\16326 ORANGE TRANSFER STATION.eti		Dwg No. E-7	

Feedline Plan

Round Flat App In Face App Out Face



GPD GROUP

GPD Group
520 South Main St, Suite 2531
Akron, OH 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: ***16326 ORANGE TRANSFER STATION***			
Project: ***2012881.29***			
Client: AT&T MOBILITY	Drawn by: kliccar	App'd:	
Code: TIA/EIA-222-F	Date: 11/09/12	Scale: NTS	
Path: C:\Users\kliccar\Desktop\TNX Temporary\2012881.29 ORANGE TRANSFER STATION\16326 ORANGE TRANSFER STATION.eF		Dwg No. E-7	

APPENDIX D

Anchor Rod & Base Plate Analysis

GPD GROUP

Anchor Rod and Base Plate Stresses
16326 ORANGE TRANSFER STATION
2012881.29

Overturning Moment =	5456.85	k*ft
Axial Force =	53.78	k
Shear Force =	46.29	k

Acceptable Stress Ratio =	100.0%

Anchor Rods		
Number of Rods =	20	
Type =	Upset Rod	
Rod Yield Strength (Fy) =	75	ksi
ASIF =	1.333	
Rod Circle =	72	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	179.12	kips
Max Compression on Rod =	184.50	kips
Allow. Rod Force =	195.00	kips
Anchor Rod Capacity =	**91.9%**	**OK**

Base Plate		
Location =	External	
Plate Strength (F_y) =	60	ksi
Outside Diameter =	77.25	in
Plate Thickness =	2.75	in
wcalc =	31.49	in
wmax =	49.75	in
w =	31.49	in
S =	39.69	in^3
fb =	33.34	ksi
Fb =	60	ksi
BP Capacity =	**55.6%**	**OK**

Stiffeners		
Configuration =	None	

Pole		
Pole Diameter =	64.75	in
Number of Sides =	18	
Thickness =	0.4375	in
Pole Yield Strength =	65	ksi

APPENDIX E

Foundation Analysis

GPD GROUP

Mat Foundation Analysis
16326 ORANGE TRANSFER STATION
2012881.29

General Info	
Code	TIA/EIA-222-F (ASD)
Bearing On	Soil
Foundation Type	Mono Pad
Pier Type	Round
Reinforcing Known	No
Max Capacity	1

Tower Reactions		
Moment, M	5456.851	k-ft
Axial, P	53.783	k
Shear, V	46.292	k

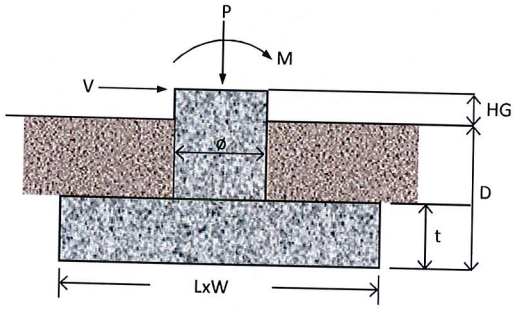
Pad & Pier Geometry		
Pier Diameter, ø	8	ft
Pad Length, L	48	ft
Pad Width, W	48	ft
Pad Thickness, t	6	ft
Depth, D	7	ft
Height Above Grade, HG	1	ft

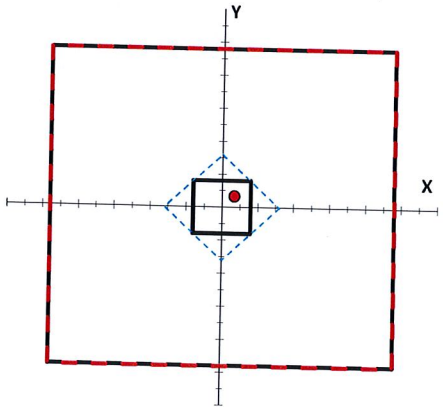
Pad & Pier Reinforcing		
Rebar Fy	60	ksi
Concrete Fc'	3	ksi
Clear Cover	3	in
Reinforced Top & Bottom?		
Pad Reinforcing Size		
Pad Quantity Per Layer		
Pier Rebar Size		
Pier Quantity of Rebar		

Soil Properties	
Soil Type	Granular
Soil Unit Weight	120 pcf
Angle of Friction, ø	32 °
Bearing Type	Net
Ultimate Bearing	12 ksf
Water Table Depth	7 ft
Frost Depth	3 ft

Bearing Summary			Load Case
Qxmax	1.36	ksf	1D+1W
Qymax	1.36	ksf	1D+1W
Qmax @ 45°	1.49	ksf	1D+1W
$Q_{(all)\ Gross}$	6.42	ksf	
Controlling Capacity	**23.2%**	**Pass**	

Overturning Summary (Required FS=1.5)			Load Case
FS(ot)x	10.10	≥1.5	1D+1W
FS(ot)y	10.10	≥1.5	1D+1W
Controlling Capacity	**14.8%**	**Pass**	





SHEET INDEX

NO.	DESCRIPTION
T1	TITLE SHEET
AAV1	OVERALL AND ENLARGED SITE PLANS
AAV2	NOTES AND DETAILS
C1	GENERAL NOTES
C2	COMPOUND SITE PLAN
C3	EQUIPMENT SITE PLANS
C4	SITE ELEVATION AND ANTENNA/RRH DETAILS
C5	ANTENNA PLANS
C6	ANTENNA CABLE RISER AND H-FRAME DETAILS
C7	RF AND CABLE DETAILS
C8	JUNCTION BOX DETAILS
C9	DETAILS
E1	UTILITY SITE PLAN
E2	ONE-LINE DIAGRAMS AND DETAILS
E3	GROUNDING PLAN AND DETAILS

DRIVING DIRECTIONS

DEPART FROM SPRINT:
1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

1. HEAD NORTH ON INTERNATIONAL BLVD TOWARD QUEENSLAND RD 0.3 MI 2. TURN RIGHT ONTO PARK LN 197 FT 3. CONTINUE STRAIGHT ONTO LEISURE LN 0.1 MI 4. SLIGHT RIGHT ONTO NJ-17 N 0.3 MI 5. MERGE ONTO I-287 N/NJ-17 N VIA THE RAMP ON THE LEFT TO I-87/N Y. THRUWAY ENTERING NEW YORK0.6 MI 6. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-87 S/I-287/TAPPAN ZEE BR/NEW YORK CITY/NEW YORK THRUWAY AND MERGE ONTO I-287 E/I-87 N CONTINUE TO FOLLOW I-287 E PARTIAL TOLL ROAD26.3 MI 7. TAKE EXIT 9N-9S FOR HUTCHINSON PKWY TOWARD WHITESTONE BRIDGE/MERRITT PKWY 0.2 MI 8. MERGE ONTO WESTCHESTER AVE E 0.3 MI 9. TAKE THE HUTCHINSON PKWY N RAMP TO MERRITT PKWY 0.2 MI 10. MERGE ONTO HUTCHINSON RIVER PKWY N ENTERING CONNECTICUT3.1 MI 11. CONTINUE ONTO CT-15 N 41.2 MI 12. TAKE EXIT 56 FOR CT-121 TOWARD ORANGE 0.1 MI 13. MERGE ONTO OLD GRASSY HILL RD 0.7 MI 14. TURN RIGHT ONTO ORANGE CENTER RD DESTINATION WILL BE ON THE LEFT0.3 MI
617 ORANGE CENTER RD

Sprint™

NETWORK VISION MMBTS LAUNCH
CONNECTICUT MARKET

SITE NAME

ORANGE TRANSFER STATION

SITE NUMBER

CT13XC263

SITE ADDRESS

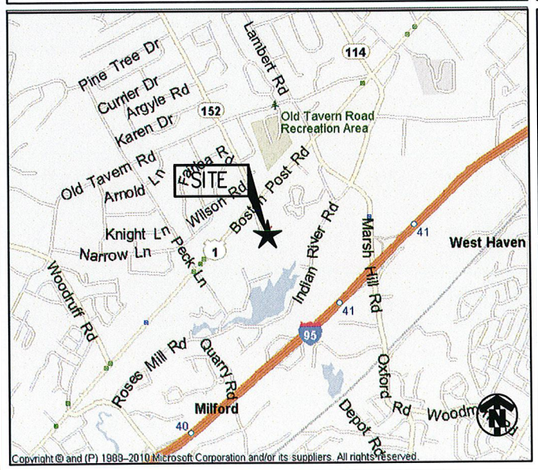
SOUTH ORANGE CENTER RD.
ORANGE, CT 06477

STRUCTURE TYPE

MONOPOLE TOWER

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

VICINITY MAP



PROJECT TEAM

ALCATEL•LUCENT

808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27650

PROJECT MANAGER

infinigy engineering

11 Herbert Drive
Latham, NY 12110
OFFICE #: (518) 690-0790
FAX #: (518) 690-0793

ENGINEER

SCOPE OF WORK:

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR
- INSTALL NEW ANTENNAS/RRH'S ON EXISTING STRUCTURE
- INSTALL NEW BTS OR RETROFIT EXISTING BTS IN EXISTING EQUIPMENT AREA
- REMOVE EXISTING CDMA ANTENNAS AND COAX CABLES
- SPRINT TO REPLACE EXISTING POWER CABINET WITH NEW SECOND BATTERY CABINET OR INSTALL NEW SECOND BATTERY CABINET IF THERE IS AVAILABLE SPACE IN EXISTING SPRINT LEASE AREA.

PROJECT SUMMARY

SITE NAME:	ORANGE TRANSFER STATION
SITE NO.:	CT13XC263
SITE ADDRESS:	SOUTH ORANGE CENTER RD. ORANGE, CT 06477
COUNTY:	NEW HAVEN
SITE COORDINATES:	
LATITUDE:	41° 15' 19.99" N (NAD 83)
LONGITUDE:	73° 00' 39.20" W (NAD 83)
GROUND ELEV.:	±44' (AMSL)
JURISDICTION:	TOWN OF ORANGE
APPLICANT:	SPRINT 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495
LAND OWNER:	TOWN OF ORANGE 617 ORANGE CENTER RD. ORANGE, CT 06477
CONSTRUCTION MANAGER:	TODD AMANN 914-715-9363
BUILDING CODE:	2003 INTERNATIONAL BUILDING CODE 2005 CONNECTICUT BUILDING CODE W/ 2009 AMENDMENT
ELECTRICAL CODE:	2005 NATIONAL ELECTRIC CODE

ENGINEER'S LICENSE

CERTIFICATION STATEMENT:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

LICENSED ENGINEER – STATE OF CONNECTICUT

APPROVALS

SPRINT CONST.		DATE
ALU RF		DATE
ALU LEASING/SITE ACQ.		DATE
IN-MARKET CONSTRUCTION LEAD		DATE
SITE OWNER	NAME/COMPANY: TITLE:	DATE

A/E Consultant:

infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
4	FINAL CDs	EKM	2/1/13
3	REVISED PER COMMENTS	EKM	5/22/12
2	REVISED PER COMMENTS	EKM	5/3/12
1	REVISED PER COMMENTS	EKM	3/30/12
0	ISSUED FOR REVIEW	EKM	3/20/12

Drawn: EKM Date: 3/20/12
Designed: EKM Date: 3/20/12
Checked: AJD Date: 3/20/12

Project Number 286-034

Project Title
CT13XC263
ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

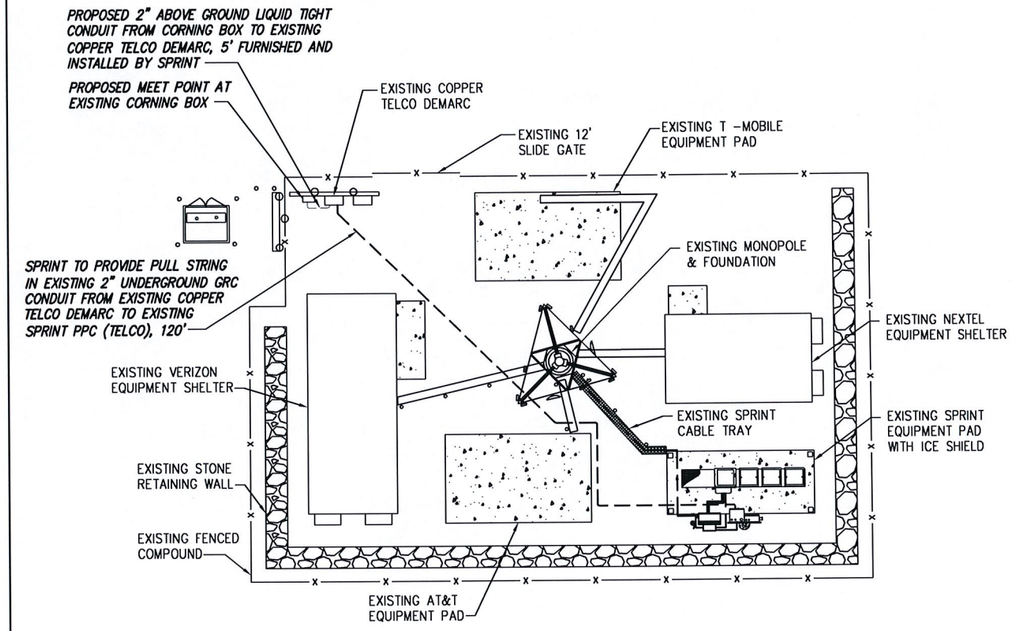
Client: Sprint, 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL•LUCENT, 808 AVIATION PARKWAY SUITE 700, MORRISVILLE, NC 27650

Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title
TITLE SHEET

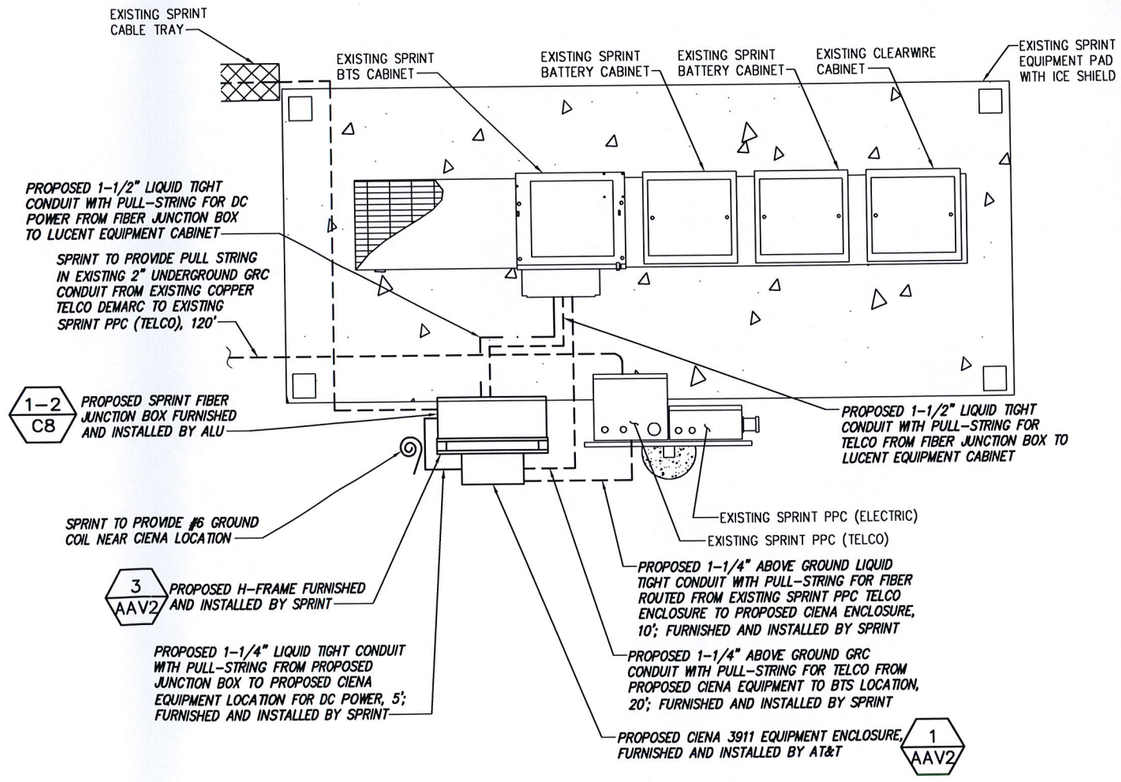
Drawing Number
T1



1 -- OVERALL SITE PLAN
SCALE:

CALLED NORTH

5' 0 5' 10' 20'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 10'
SCALE: 11"X 17" SHEET 1"= 20'



1 -- EQUIPMENT AREA
SCALE:

CALLED NORTH

1' 0 1' 2' 4'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 2'
SCALE: 11"X 17" SHEET 1"= 4'

BASEMAPPING PREPARED FROM A SITE VISIT PERFORMED BY INFINIGY ENGINEERING, AND INFORMATION PROVIDED BY SPRINT, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

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infinigy engineering
11 Herbert Drive
Latham, NY 12110
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STATE OF CONNECTICUT
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Sprint
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MAHWAH, NJ 07495

Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

Date:
2/1/13

Drawing Title
OVERALL & ENLARGED SITE PLANS

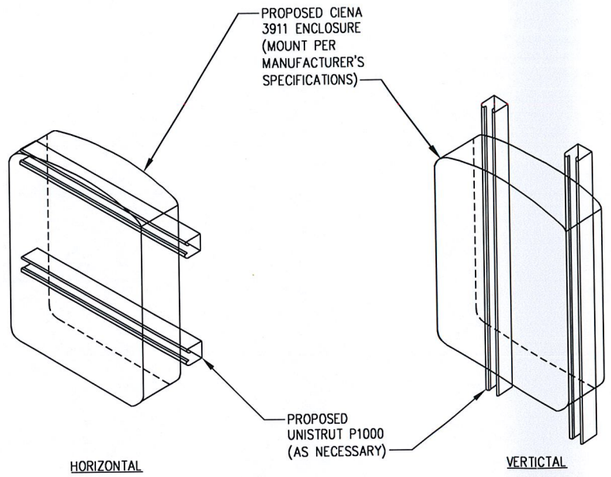
Drawing Number
AAV1

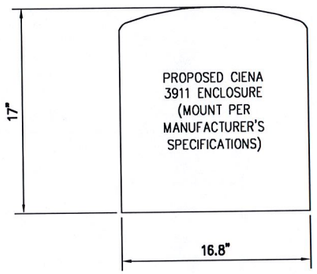
GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OF PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDORS SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
7. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
8. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
10. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
11. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
13. THE CONTRACTOR SHALL NOTIFY THE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE REPRESENTATIVE.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
15. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD OR VIA A REPRESENTATIVE. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. SEE UNDERGROUND UTILITY COMPANY SHEET T-1 (DIG SAFE, MISS UTILITY, ETC.)
16. IF ASSUMED EXISTING CONDITION DIFFERS, ENGINEER MUST BE INFORMED OF ACTUAL FIELD CONDITION.
17. REFER TO THE SITE PLAN FOR APPROXIMATE LENGTH OF ALL U/G WORK AND LOCATION. FINAL LOCATION TO BE DETERMINED BY CLIENT. ALL MATERIALS TO BE USED AS ACCORDING TO DETAIL INSTRUCTIONS. ALL MATERIALS NOT INCLUDED IN THE DETAILS SHALL BE USED ACCORDING TO CODE AND/OR LOCAL JURISDICTION REGULATIONS INCLUDING MATERIALS, PREPARATION, EXACERBATION, EQUIPMENT AND INSTALLATION FOR UNDERGROUND WORK.
18. CONTRACTOR TO COORDINATE WITH SPRINT & PROVIDE GROUND BOND PER NE-250 & SPRINT STANDARDS FOR CLIENT EQUIPMENT AS REQUIRED.
19. ALL ELECTRICAL SPECIFICATIONS SHALL BE IN STRICT ACCORDANCE TO SECTIONS 16010, 16075, 16110, 16120, 16410 AND 16450 OF THE N.E.C.

ELECTRICAL AND GROUNDING NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AN PROCURED PER SPECIFICATION REQUIREMENTS. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
3. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIREMENT IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS
4. PROVISION OF AC/DC POWER IS UNDER SEPARATE SCOPE OF WORK
5. GROUNDING SHALL COMPLY WITH NEC ART. 250. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION FITTINGS. TEST COMPLETED GROUND SYSTEM AND ENSURE ADEQUACY.
6. CONTRACTOR TO PROVIDE GALV. P1000 UNISTRUT FRAMING AND 3/8" GALV. U-BOLTS/BOLTS AS NECESSARY FOR EXISTING CONDITIONS AND TO VERIFY SPACE IS APPROVED BY ALL NECESSARY PARTIES.





1 -- TYPICAL CIENA 3911 MOUNTING DETAIL
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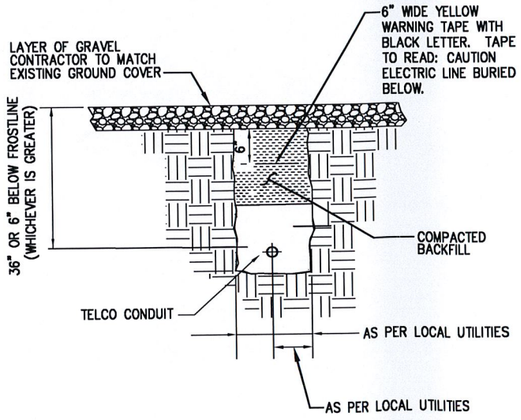
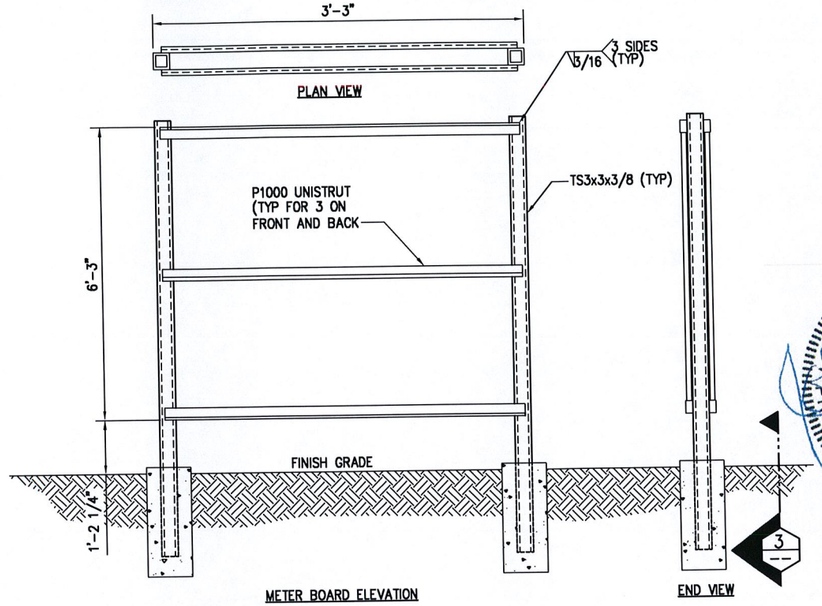
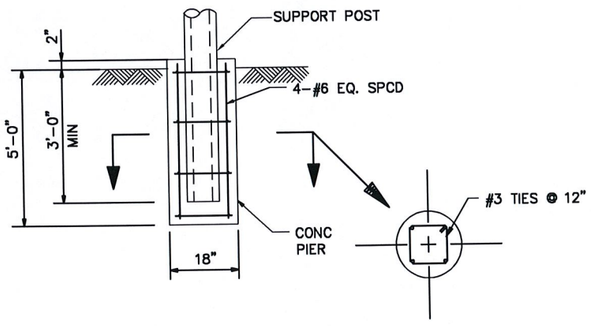


NOTE:
NUMBER AND SIZE OF CONDUITS MAY VARY. SEE DWG FOR CONDUIT SIZE AND LOCATION. CONFIRM CONDUIT SEPARATION AND DIMENSIONS SHOWN WITH LOCAL UTILITY COMPANY.

2 -- CONDUIT TRENCH DETAIL
NO SCALE



3 -- 3'-0" WIDE H-FRAME FABRICATION DETAIL
NOT TO SCALE



4 -- SUPPORT PIER
NOT TO SCALE

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ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint, 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL-LUCENT, 808 AVIATION PARKWAY, SUITE 700, MORRISVILLE, NC 27650

Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title
NOTES & DETAILS

Drawing Number
AAV2

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
D. AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: SPRINT NEXTEL 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.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 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.

1.5 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 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.

1.6 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.

1.7 NOTICE TO PROCEED:

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT NEXTEL WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 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.

2.2 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.

2.3 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.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY SPRINT NEXTEL TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE 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.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
CONTRACTOR IS RESPONSIBLE FOR SPRINT NEXTEL PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. 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 NEXTEL OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
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.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 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.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

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.

4.4 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

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
C. 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.
D. 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.
E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS. HYBERFLEX TESTING NOT LIMITED TO COAX SWEEPS.
G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
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F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

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SYMBOL	DESCRIPTION
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F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
#	DENOTES REFERENCE NOTE
•	EXOTHERMIC WELD CONNECTION
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OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	PIN AND SLEEVE RECEPTACLE
	120AC DUPLEX RECEPTACLE
G OR	GROUND CONDUCTOR
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL
PVC	POLYVINYL CHLORIDE

A/E Consultant:

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11 Herbert Drive
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STATE OF CONNECTICUT
JOHN S. STEVENS
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Drawn: EKM Date: 3/20/12
Designed: EKM Date: 3/20/12
Checked: AJD Date: 3/20/12

Project Number: 286-034

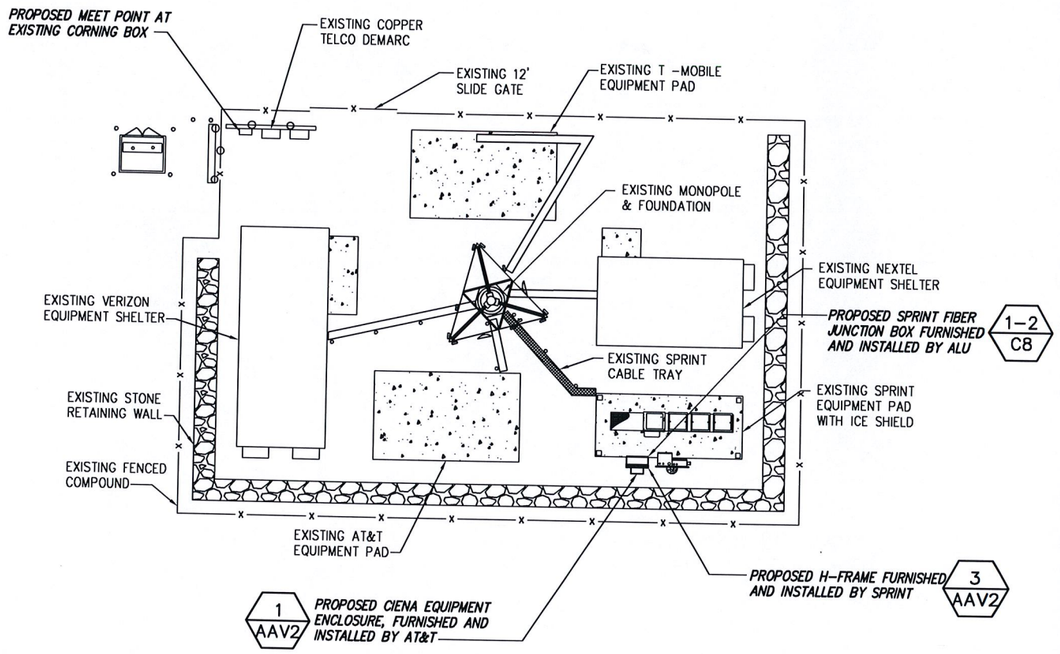
Project Title:
CT13XC263
ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint
Implementation Team: ALCATEL-LUCENT, 808 AVIATION PARKWAY, SUITE 700, MORRISVILLE, NC 27650

Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title:
GENERAL NOTES

Drawing Number:
C1

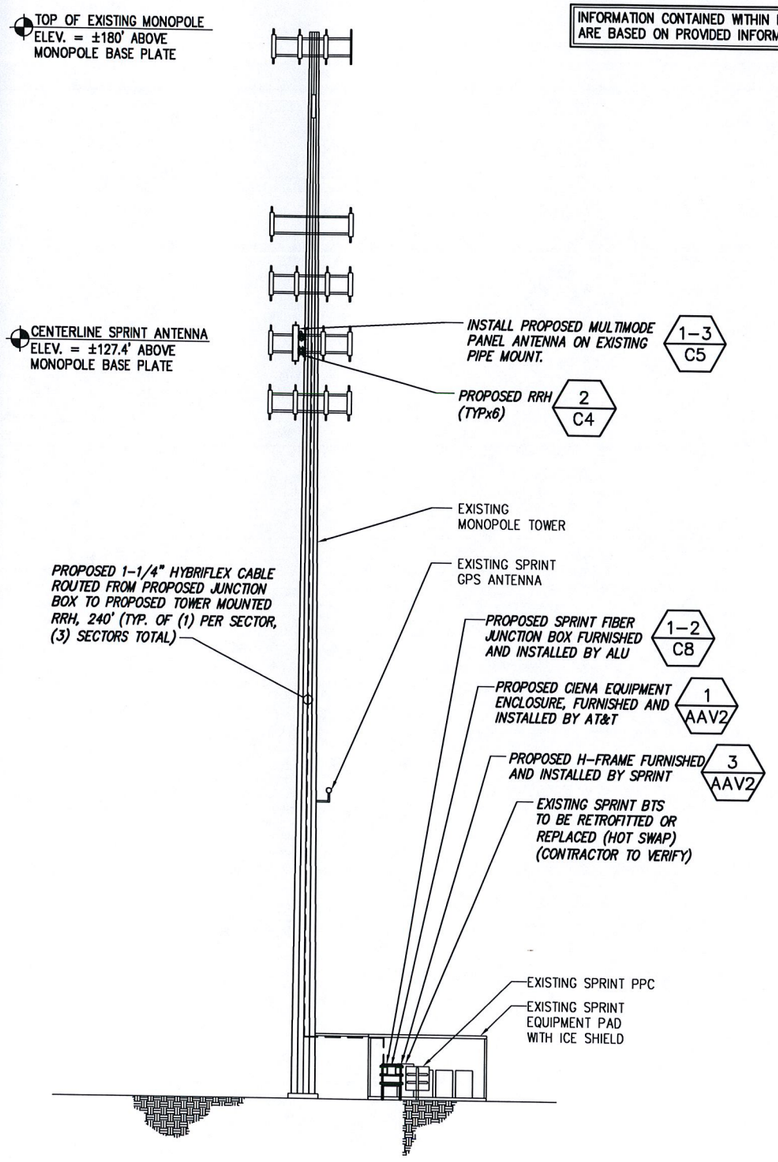


1 -- COMPOUND SITE PLAN
SCALE:

5' 0 5' 10' 20'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 10'
SCALE: 11"X 17" SHEET 1"= 20'

STRUCTURAL ANALYSIS COMPLETED BY GDP GROUP. FOR ADDITIONAL INFORMATION, SEE REPORT: TITLED: ORANGE TRANSFER STATION, SITE FA: 10071197 DATED: 11/09/12.

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION.



2 -- SITE ELEVATION
NOT TO SCALE

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GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
D. AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: SPRINT NEXTEL 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.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 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.

1.5 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 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.

1.6 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.

1.7 NOTICE TO PROCEED:

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT NEXTEL WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 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.

2.2 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.

2.3 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.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY SPRINT NEXTEL TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE 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.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
CONTRACTOR IS RESPONSIBLE FOR SPRINT NEXTEL PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. 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 NEXTEL OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
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.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 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.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

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.

4.4 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

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
C. 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.
D. 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.
E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS. HYBERFLEX TESTING NOT LIMITED TO COAX SWEEPS.
G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
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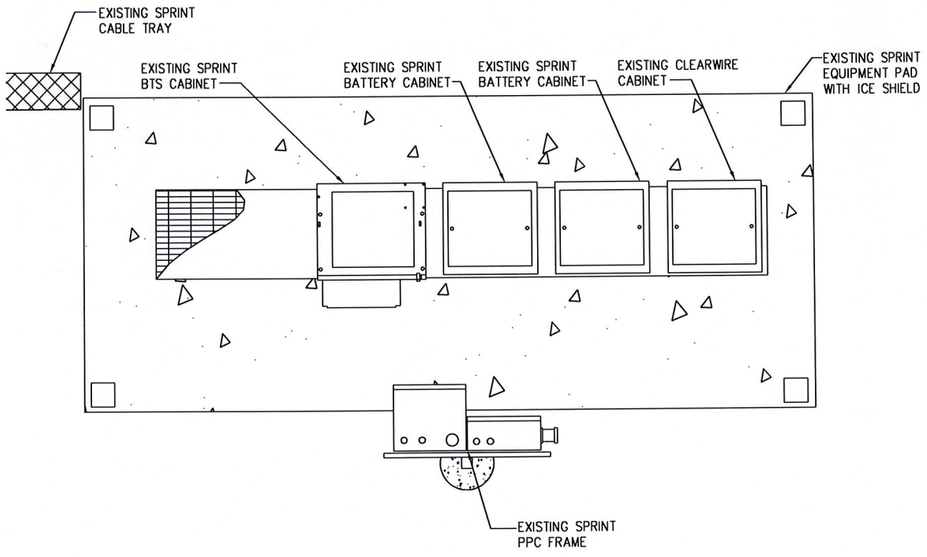
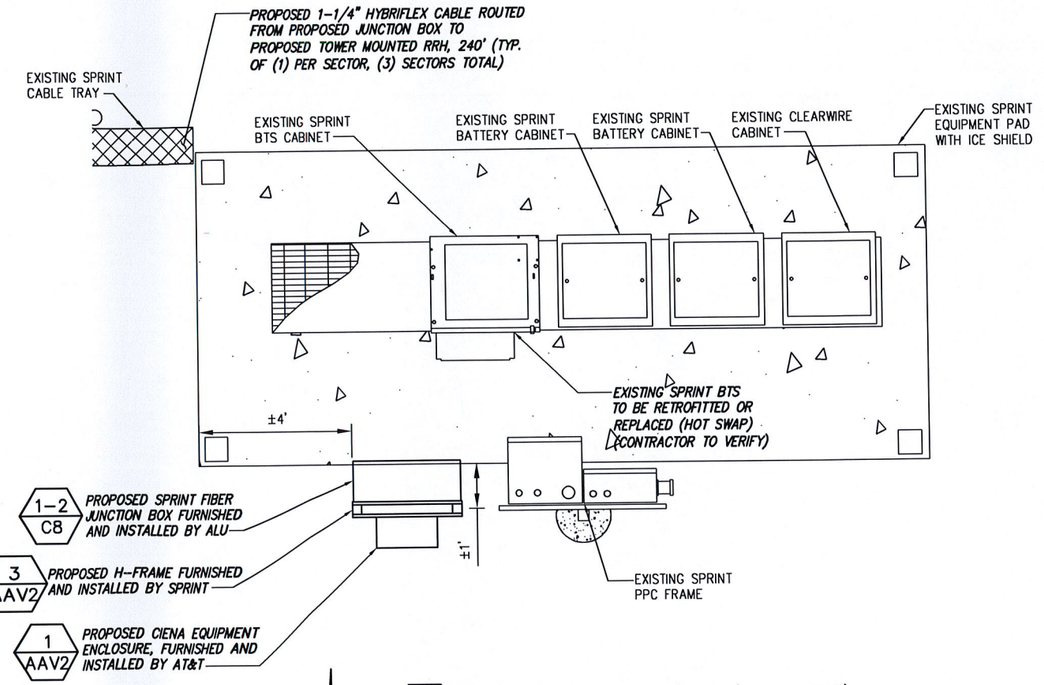
C1



1 — EQUIPMENT SITE PLAN (EXISTING)
SCALE:

CALLED NORTH

1' 0 1' 2' 4'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 2'
SCALE: 11"X 17" SHEET 1"= 4'



2 — EQUIPMENT SITE PLAN (FINAL/PERMANENT)
SCALE:

CALLED NORTH

1' 0 1' 2' 4'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 2'
SCALE: 11"X 17" SHEET 1"= 4'

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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

No.	Submittal / Revision	App'd	Date
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3	REVISED PER COMMENTS	EKM	5/22/12
2	REVISED PER COMMENTS	EKM	5/3/12
1	REVISED PER COMMENTS	EKM	3/30/12
0	ISSUED FOR REVIEW	EKM	3/20/12

Drawn: EKM Date: 3/20/12
Designed: EKM Date: 3/20/12
Checked: AJD Date: 3/20/12

Project Number: 286-034

Project Title:
CT13XC263
ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint — 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

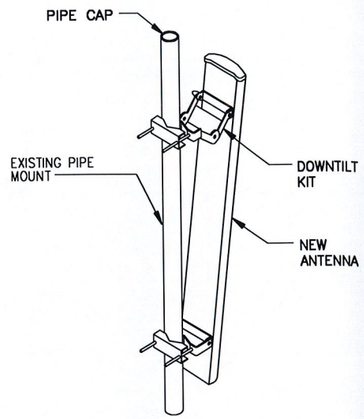
Implementation Team: ALCATEL-LUCENT — 808 AVIATION PARKWAY SUITE 700 MORRISVILLE, NC 27650

Drawing Scale: AS NOTED
Date: 2/1/13

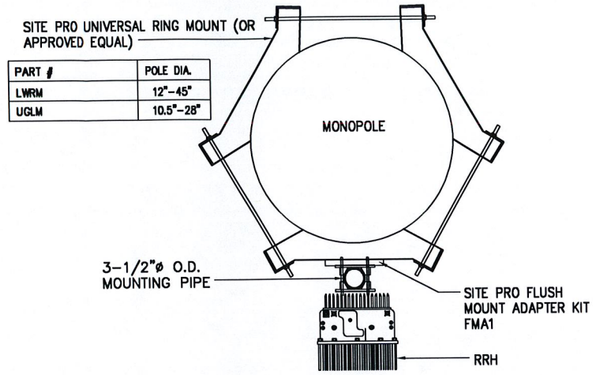
Drawing Title:
EQUIPMENT SITE PLANS

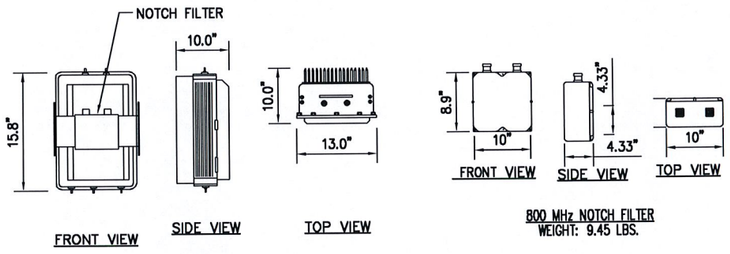
Drawing Number:
C3

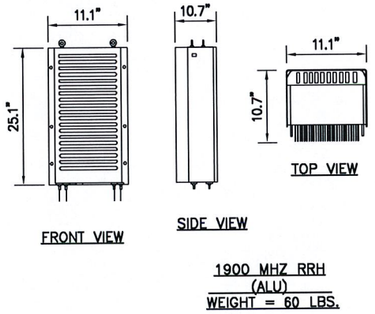
1 ANTENNA DETAILS
NOT TO SCALE



3 PANEL ANTENNA MOUNT DETAIL
NOT TO SCALE

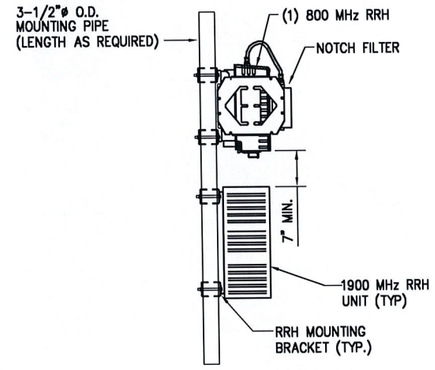




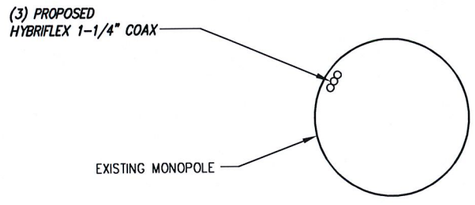


2 RRH EQUIPMENT DETAILS
NOT TO SCALE

NOTE:
REFER TO R.F. SYSTEM SCHEDULE FOR EXACT RRH SPECIFICATIONS AND QUANTITIES.



4 RRH MOUNTING DETAIL
NOT TO SCALE



5 COAX ROUTING DETAIL
NOT TO SCALE

NOTE:
1. SUBCONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

A/E Consultant:

infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

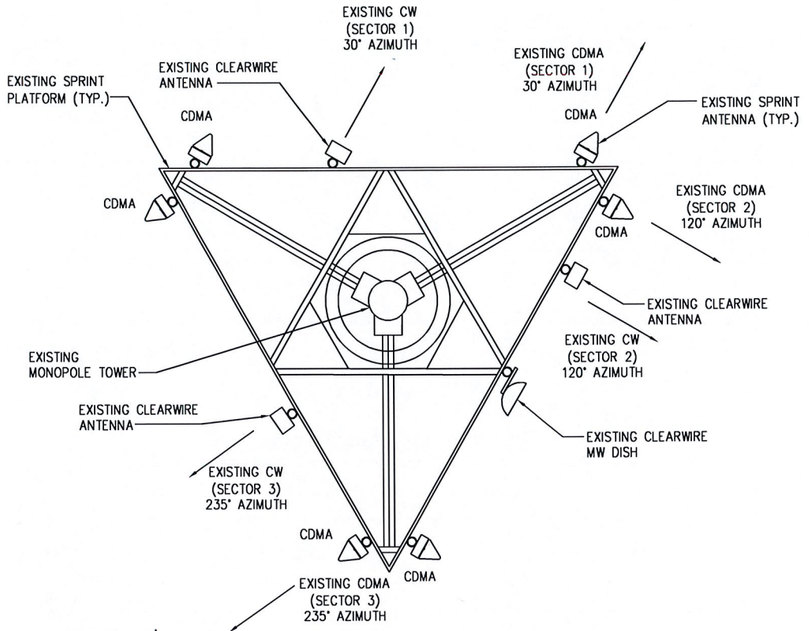
Implementation Team:
ALCATEL•LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

Date:
2/1/13

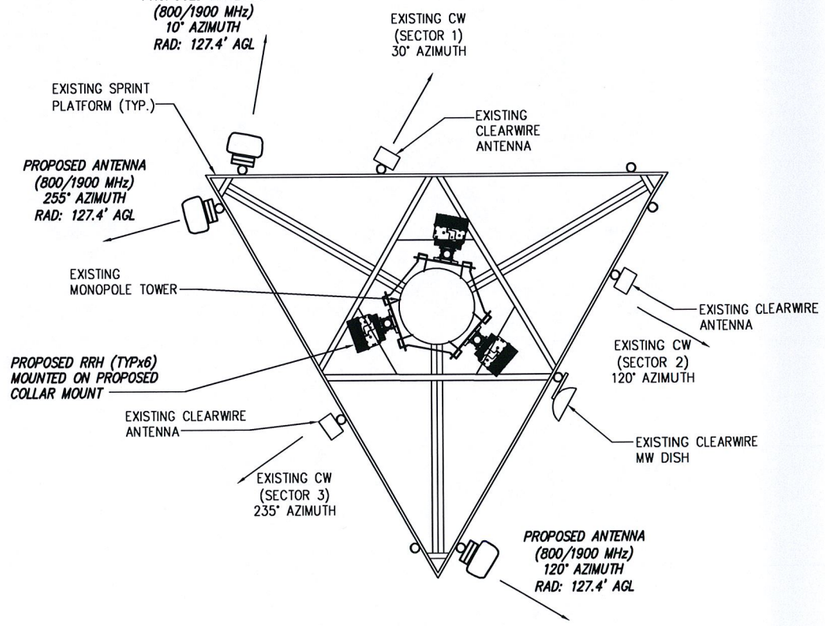
Drawing Title
SITE ELEVATION & ANTENNA/RRH DETAILS

Drawing Number
C4



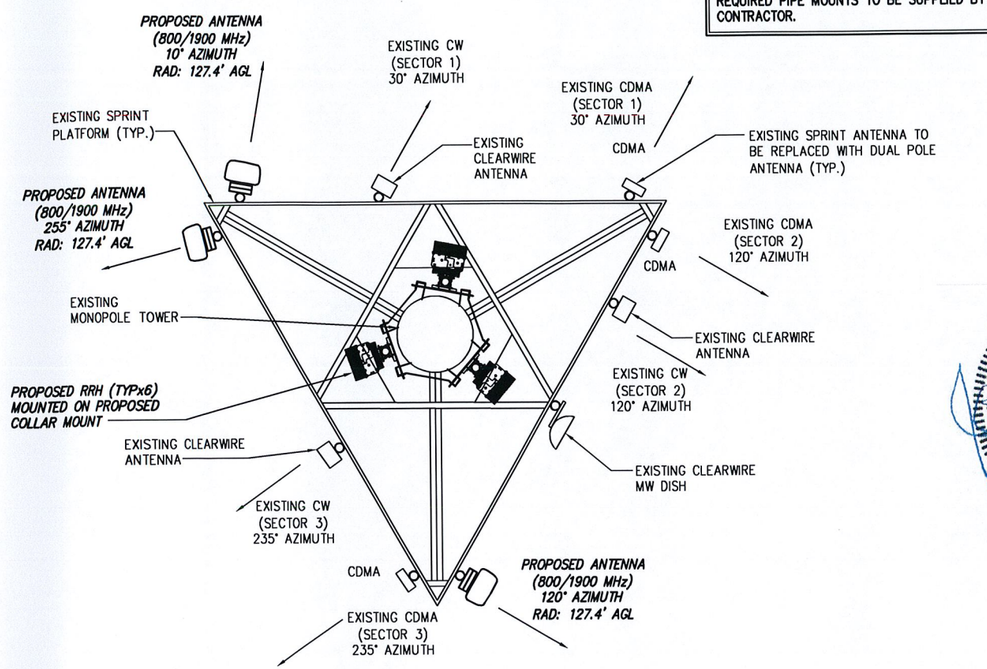
CALLED NORTH

1 — ANTENNA CONFIGURATION (EXISTING)
NOT TO SCALE



CALLED NORTH

3 — ANTENNA CONFIGURATION (FINAL/PERMANENT)
NOT TO SCALE



CALLED NORTH

2 — ANTENNA CONFIGURATION (INTERIM/TEMPORARY)
NOT TO SCALE

NOTE:
REQUIRED PIPE MOUNTS TO BE SUPPLIED BY CONTRACTOR.

NOTES:

EXISTING RF DATA PROVIDED BY SPRINT SITERRA, CLEARWIRE BUILD APPLICATION, EBTS – ANTENNA CONFIGURATION FORM, DATED 8-6-09.

RRH NOTES:

- SEE PAGE C4 FOR RRH MOUNTING INFORMATION (TYP. ALL SECTORS).
- REFER TO RF SCHEDULE ON SHEET C7 FOR RRH UNIT SPECS AND QUANTITIES.

GENERAL NOTES:

1. NEW SPRINT PANEL ANTENNAS TO MEET RF DESIGN REQUIREMENTS PER EBTS, PER APPROVED STRUCTURAL ANALYSIS.
2. CONTRACTOR TO PROVIDE EXISTING ANTENNA VERIFICATION AND TO INCLUDE MOUNTING HEIGHT, RAD CENTER, TOP AND BOTTOM OF ANTENNA AND AZIMUTHS FOR ALL ANTENNAS.
3. CONTRACTOR SHALL VERIFY NEW PARTS BEFORE ORDERING.
4. REFER TO SHEET C7 FOR ANTENNAS SPECS.
5. CONTRACTOR TO USE PROPER TORQUE AMOUNTS WHEN INSTALLING AND TIGHTENING CONNECTORS TO INSURE PROPER FIT.
6. ALL HYBRID CABLES SHALL BE MARKED WITHIN 24" OF THE END OF EACH CABLE WITH 2" WIDE VINYL TAPE. THIS INCLUDES ALL JUMPERS AND MAIN LINE HYBRID CABLE.
7. CDMA ANTENNAS SHALL NOT BE REMOVED UNTIL ALL NEW MULTI-MODE ANTENNAS ARE INSTALLED AND ON-AIR.

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infinigy engineering
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MAHWAH, NJ 07495

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808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

Date:
2/1/13

Drawing Title

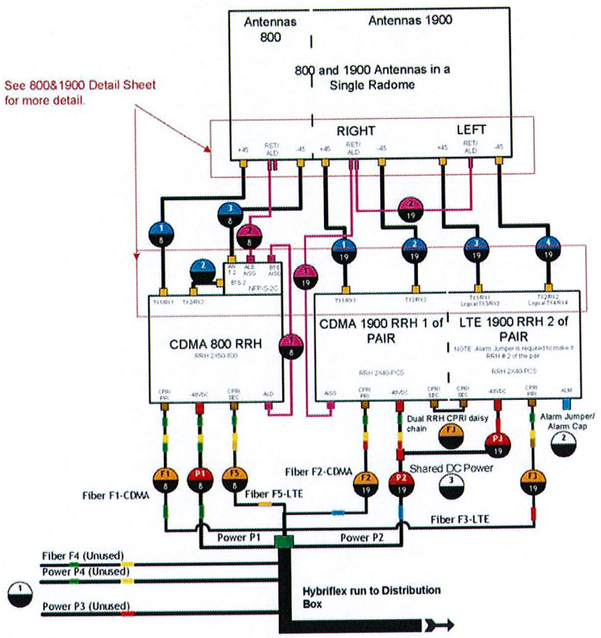
ANTENNA PLANS

Drawing Number

C5

TOWER TOP SCENARIO 2

800 AND SINGLE 1900 RRH PAIR WITH SINGLE 800/1900 RADOME ANTENNA

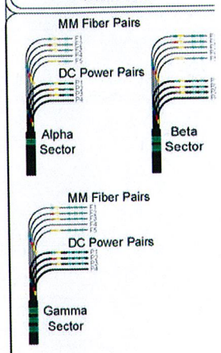


Power Feed Polarity Definition:
Black= -48VDC Feed (Battery)
Black/White Stripe= Return

NOTE: For power feed use the same Hybriflex OEM color designator as the fiber.

MM Pair 1= F1= Green= P1(Green)
MM Pair 2= F2= Blue= P2(Blue)
MM Pair 3= F3= Red= P3(Red)
MM Pair 4= F4= Yellow= P4(Yellow)
MM Pair 5= F5= Orange= (No P5 power feed)

OEM COLOR CODE
HYBRIFLEX



DRAWING LEGEND

0	AISG
0	COAX
0	FIBER
0	POWER
0	NOTES
0	FREQ

SEE CONNECTION LEGEND FOR MORE DETAILS

NOTES:
CONTRACTOR TO FIELD VERIFY GPS LOCATION.

INSTALLER VERIFY LATEST PLUMBING/WIRING DIAGRAMS, PRIOR TO INSTALLATION.

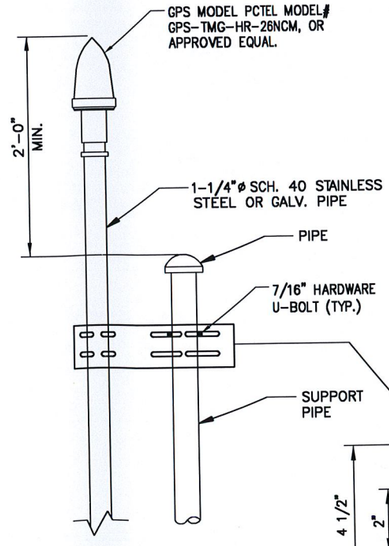
PLUMBING DIAGRAM VERSION 1.9

WEATHERPROOFING CONNECTORS AND GROUND KITS NOTE:

A. ALL CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED USING BUTYL RUBBER WEATHERPROOFING AND TAPE, THIS INSTALLATION MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION OR PER THE FOLLOWING INSTRUCTIONS (WHICHEVER IS GREATER):
1. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE ENCOMPASSED INTO COLD SHRINK AND COMPLETELY WRAPPED WITH 2 IN. WIDE ELECTRICAL TAPE OVERLAPPING EACH ROW BY APPROXIMATELY 1/2" AND EXTENDING PAST THE CONNECTION BY TWO INCHES AS DISCUSSED BELOW; OR
2. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH LAYERS OR ELECTRICAL/BUTYL RUBBER/ELECTRICAL TAPE AS DISCUSSED BELOW; OR
3. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH TWO LAYERS OF 1.5 INCH WIDE SELF-AMALGAMATING TAPE COVERED WITH TWO LAYERS OF ELECTRICAL TAPE.

RRH JUMPERS NOTES:

1. FOR DISTANCES BETWEEN RRH'S AND ANTENNAS LESS THAN 10'-0" USE A 1/2" JUMPER.
2. FOR DISTANCES BETWEEN RRH'S AND ANTENNAS GREATER THAN 10'-0" USE A 7/8" JUMPER.

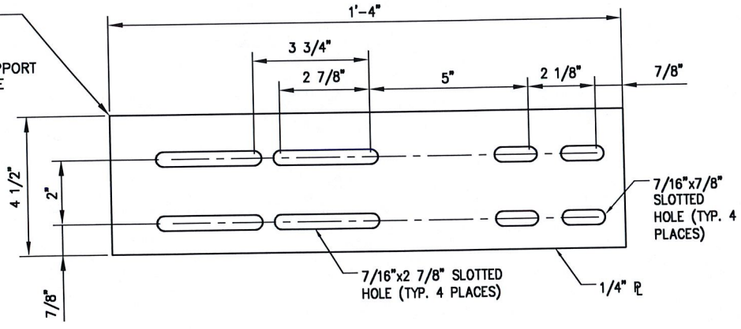


1 GPS ANTENNA DETAIL
NOT TO SCALE

GPS MINIMUM SKY VIEW REQUIREMENTS

NOTES:

1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBARRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
3. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF LEVEL.
4. DO NOT SWEEP TEST GPS ANTENNA.



A/E Consultant:
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11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

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ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint, 1 International Blvd, Mahwah, NJ 07495

Implementation Team: ALCATEL-LUCENT, 808 Aviation Parkway, Suite 700, Morrisville, NC 27560

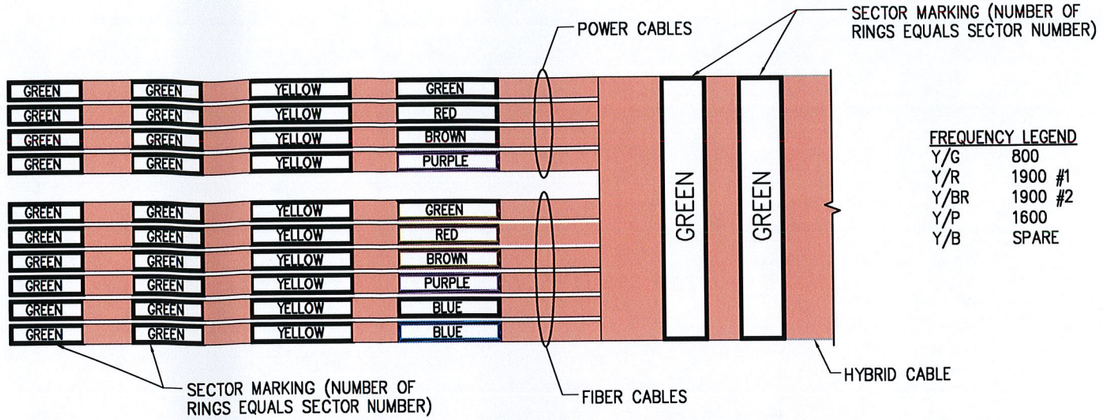
Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title:
ANTENNA CABLE RISER AND H-FRAME DETAILS

Drawing Number:
C6

	Market	Southern Connecticut		
	Cascade ID	CT13XC263		
		SECTOR 1	SECTOR 2	SECTOR 3
1900	1900MHz_Azimuth	10	120	255
	1900_MHz_No_of_Antennas	1	1	1
	1900MHZ_RADCenter(ft)	127.4	127.4	127.4
	1900MHz_Antenna Make	RFS	RFS	RFS
	1900MHz_Antenna Model	APXVSPP18-C-A20	APXVSPP18-C-A20	APXVSPP18-C-A20
	1900MHz_Horizontal_Beamwidth	65	65	65
	1900MHz_Vertical_Beamwidth	5.5	5.5	5.5
	1900MHz_AntennaHeight (ft)	6	6	6
	1900MHz_AntennaGain(dBd)	15.9	15.9	15.9
	1900MHz_E_Tilt	-1	-1	0
	1900MHz _M_Tilt	0	0	0
	1900_Carrier_Forecast_Year_2013	4	4	4
	1900_RRH Manufacturer	ALU	ALU	ALU
	1900_RRH Model	TBD	TBD	TBD
	1900_RRH Count	1	1	1
	1900_RRH Location	Tower-top	Tower-top	Tower-top
	1900 Combiner Model	N/A	N/A	N/A
	1900_Top_Jumper #1_Length (RRH or Combiner-to-Antenna, ft)	10	10	10
	1900_Top_Jumper_Cable_Model (RRH or Combiner-to-Antenna)	LCF12-50J	LCF12-50J	LCF12-50J
	1900_Top_Jumper #2_Length (RRH-to-Combiner, ft)	N/A	N/A	N/A
	1900_Top_Jumper #2_Cable_Model (RRH-to-Combiner)	N/A	N/A	N/A
	1900_Main_Coax_Cable_Length (ft)	N/A	N/A	N/A
	1900_Main_Coax_Cable_Model	N/A	N/A	N/A
	1900_Bottom_Jumper #1_Length (Ground-based-RRH-OR_Combiner-to-Main-Coax, ft)	N/A	N/A	N/A
	1900_Bottom_Jumper #1_Cable_Model (Ground-based-RRH-OR_Combiner-to-Main-Coax)	N/A	N/A	N/A
	1900_Bottom_Jumper #2_Length (Ground-based-Combiner-to-Main-Coax, ft)	N/A	N/A	N/A
	1900_Bottom_Jumper #2_Cable_Model (Ground-based-Combiner-to-Main-Coax)	N/A	N/A	N/A
800	800MHz_Azimuth	10	120	255
	800_MHz_No_of_Antennas	0	0	0
	800MHZ_RADCenter(ft)	127.4	127.4	127.4
	800MHz_AntennaMake	RFS	RFS	RFS
	800MHz_AntennaModel	APXVSPP18-C-A20 (Shared w/1900)	APXVSPP18-C-A20 (Shared w/1900)	APXVSPP18-C-A20 (Shared w/1900)
	800MHz_Horizontal_Beamwidth	65	65	65
	800MHz_Vertical_Beamwidth	11.5	11.5	11.5
	800MHz_AntennaHeight (ft)	6	6	6
	800MHz_AntennaGain (dBd)	13.4	13.4	13.4
	800MHz_E_Tilt	-6	0	-5
	800MHz_M_Tilt	0	0	0
	800_RRH Manufacturer	ALU	ALU	ALU
	800_RRH Model	TBD	TBD	TBD
	800_RRH Count	1	1	1
	1900_RRH Location	Tower-top	Tower-top	Tower-top
	800_Top_Jumper #1_Length (RRH or Combiner-to-Antenna, ft)	10	10	10
	800_Top_Jumper_Cable_Model (RRH or Combiner-to-Antenna)	LCF12-50J	LCF12-50J	LCF12-50J
	800_Main_Coax_Cable_Length (ft)	N/A	N/A	N/A
	800_Main_Coax_Cable_Model	N/A	N/A	N/A
	800_Bottom_Jumper #1_Length (Ground-based-RRH-Main-Coax, ft)	N/A	N/A	N/A
	800_Bottom_Jumper #1_Cable_Model (Ground-based-RRH-OR_Combiner-to-Main-Coax)	N/A	N/A	N/A

1 SPRINT RFDS
NOT TO SCALE



FREQUENCY LEGEND

Y/G	800
Y/R	1900 #1
Y/BR	1900 #2
Y/P	1600
Y/B	SPARE

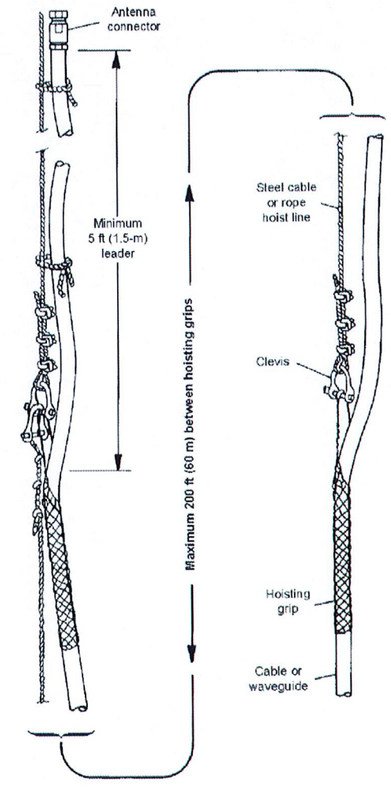
HYBRID CABLE WILL BE MARKED IN A SIMILAR MANNER AS COAX CABLES. THE MAIN TRUNK OF THE HYBRID CABLE IS TO BE MARKED WITH THE SECTOR MARKINGS ONLY. THE INDIVIDUAL POWER PAIRS AND FIBER CABLES WILL BE LABELED WITH BOTH THE SECTOR CABLE MARKINGS AND FREQUENCY (EXAMPLE ABOVE IS FOR SECTOR 2)

2 COLOR CODING
NOT TO SCALE

NOTE:
COORDINATE RF ANTENNA INSTALLATION WITH FINAL SPRINT RFDS. COORDINATE RF MW DISH (IF APPLICABLE) INSTALLATION WITH FINAL SPRINT RFDS.

NOTE:
RFDS SHOWN PROVIDED BY SPRINT DATED 12/07/11.

1. DO NOT USE ONE HOISTING GRIP FOR HOISTING TWO OR MORE CABLES OR CABLE TRAYS. THIS CAN CAUSE THE HOISTING GRIP TO BREAK OR THE CABLES OR WAVE-GUIDES TO FALL.
2. DO NOT USE THE HOISTING GRIP FOR LOWERING CABLE OR CABLE TRAY. SNAGGING OF THE CABLE OR CABLE TRAY MAY LOOSEN THE GRIP AND POSSIBLY CAUSE THE CABLE TO CABLE TRAY TO SWAY OR FALL.
3. DO NOT REUSE HOISTING GRIPS. USED GRIPS MAY HAVE LOST ELASTICITY, STRETCHED, OR BECOME WEAK-ENED. REUSING A GRIP CAN CAUSE THE CABLE OR CABLE TRAY TO SLIP, BREAK, OR FALL.
4. USE HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200 FT (60 M).
5. MAKE SURE THAT THE PROPER HOISTING GRIP IS USED FOR THE CABLE OR CABLE TRAY BEING INSTALLED. SLIPPAGE OR INSUFFICIENT GRIPPING STRENGTH WILL RESULT IF YOU ARE USING THE WRONG HOISTING GRIP.



3 HOIST GRIB DETAIL
NOT TO SCALE

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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RF AND CABLE DETAILS

Drawing Number
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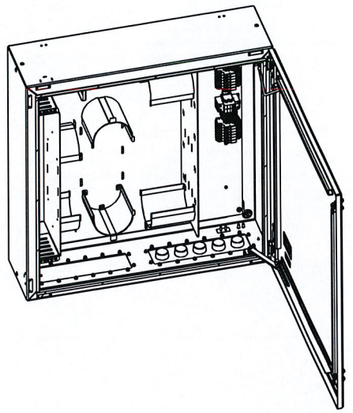
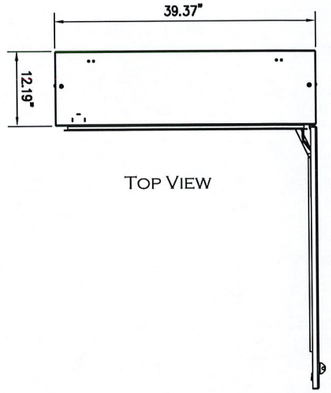
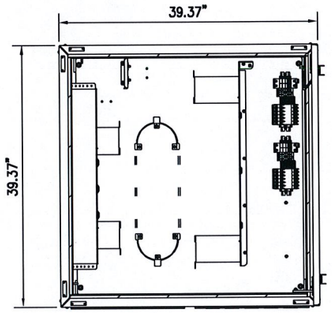




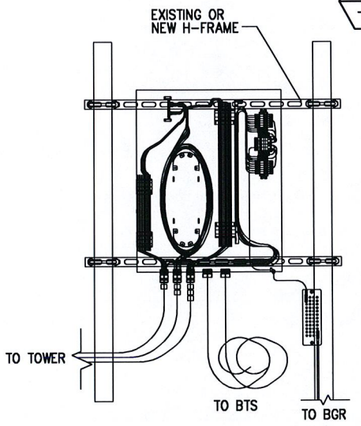
TOP VIEW



FRONT VIEW

SIDE VIEW

1 DISTRIBUTION BOX DETAIL
-- NOT TO SCALE



FRONT VIEW WITH DOOR REMOVED TO SHOW DETAIL

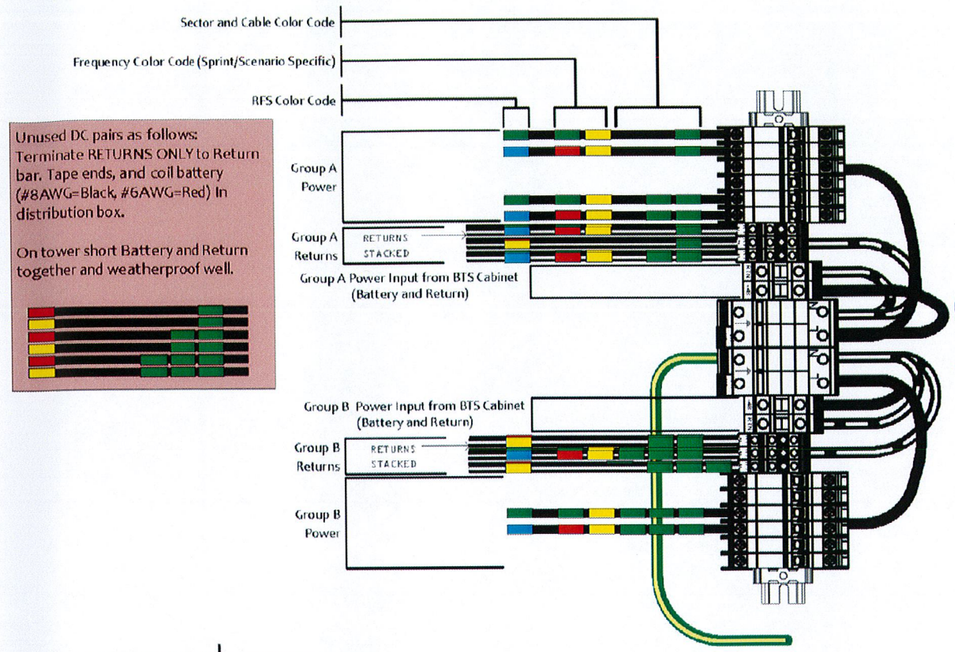
2 DISTRIBUTION BOX INSTALL COMPLETE VIEW
-- NOT TO SCALE

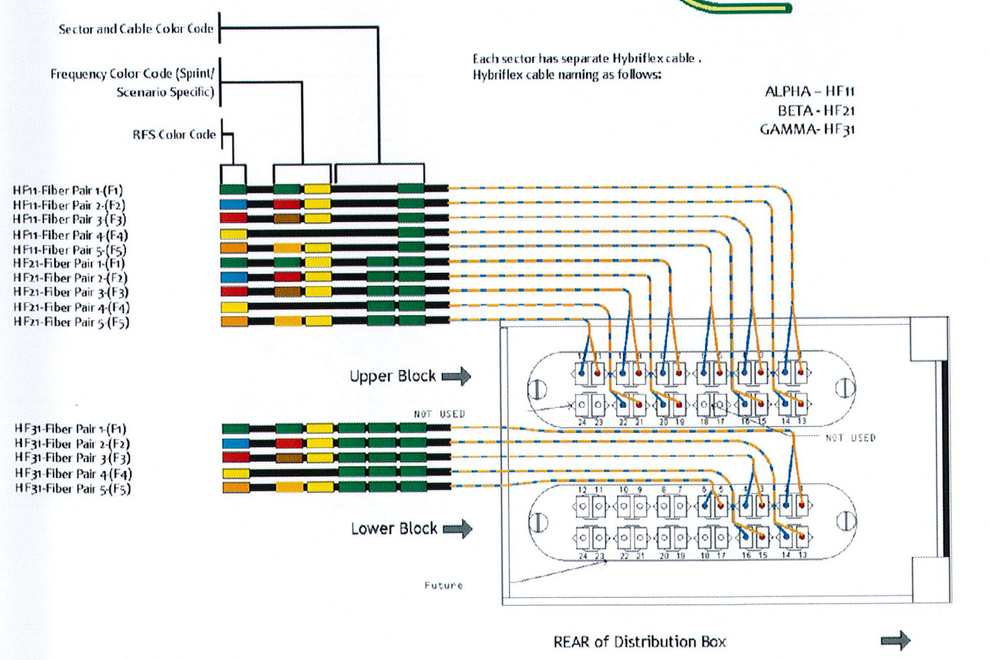
NOTES:

– DISTRIBUTION BOX IS ALU SUPPLIED WITH 1–1/2" LIQUID–TIGHT CONDUIT AND CONNECTORS. THIS SHOULD BE:
* SPLIT IN HALF,
* TERMINATED TO THE DISTRIBUTION BOX AS SHOWN,
* RAN TO AND COILED AS CLOSE TO WHERE THE CABINET IS GOING TO BE MOUNTED AS POSSIBLE.

– DISTRIBUTION BOX IS KITTED WITH 24AWG, POWER CABLE 27' x 2EA. RUNS RED AND 2EA. RUNS BLACK. THIS SHOULD BE COILED AND LEFT INSIDE DISTRIBUTION BOX.

– BTS INSTALLATION TEAM WILL TERMINATE LIQUID–TIGHT, RUN THE FIBER JUMPERS AND POWER CABLES FROM BTS CABINET TO DISTRIBUTION BOX.





Each sector has separate Hybriflex cable .
Hybriflex cable naming as follows:

ALPHA – HF11
BETA - HF21
GAMMA- HF31

INSTALLER VERIFY LATEST PLUMBING/WIRING DIAGRAMS, PRIOR TO INSTALLATION.

3 FIBER & DC CONNECTION DETAILS
-- NOT TO SCALE

PLUMBING DIAGRAM VERSION 1.9

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

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4	FINAL CDs	EKM	2/1/13
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Project Number
286-034

Project Title
CT13XC263
ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

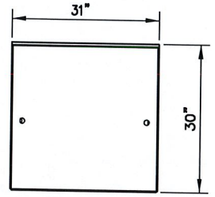
Implementation Team:
ALCATEL•LUCENT
808 AVIATION PARKWAY
SUITE 1000
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

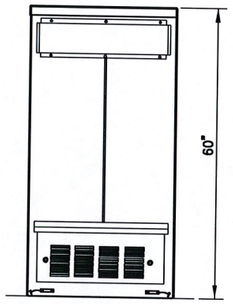
Date:
2/1/13

Drawing Title
JUNCTION BOX DETAILS

Drawing Number
C8

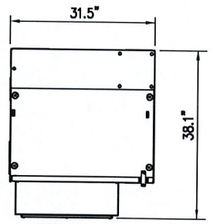


TOP VIEW

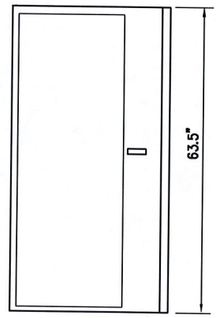


REAR VIEW

1 BATTERY CABINET PROFILE
NOT TO SCALE

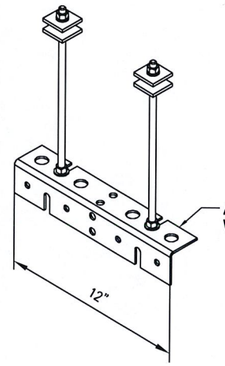


TOP VIEW



FRONT VIEW

2 CABINET PROFILE
NOT TO SCALE



3 TRAPEZE KIT
NOT TO SCALE

DESIGN CRITERIA:

2009 INTERNATIONAL BUILDING CODE W/ STATE MODIFICATION	
WIND SPEED (ASCE-7-05)	90 MPH
EXPOSURE B	
IMPORTANCE FACTOR	1.0
SEISMIC SITE CLASS	D
Ss=0.152 S¹ = 0.050	
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
CABINET WEIGHT:	
9927 MM BTS CABINET	594 lbs.
60EC V2 BATTERY CABINET	2830 lbs.

MATERIAL SPECIFICATIONS

C-, M-, AND ANGLE SHAPES:	ASTM A36
HIGH-STRENGTH BOLTS:	ASTM A325SC OR (A325N
STRUCTURAL WF SHAPES:	ASTM A572-GR50
TUBE STEEL & PIPE COLUMNS:	ASTM A500, GRADE B
WELDING ELECTRODES:	E70XX
W - SHAPES:	ASTM A992, GRADE 50
U-BOLTS:	ASTM A36

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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SOUTH ORANGE CENTER RD
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Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

Date:
2/1/13

Drawing Title

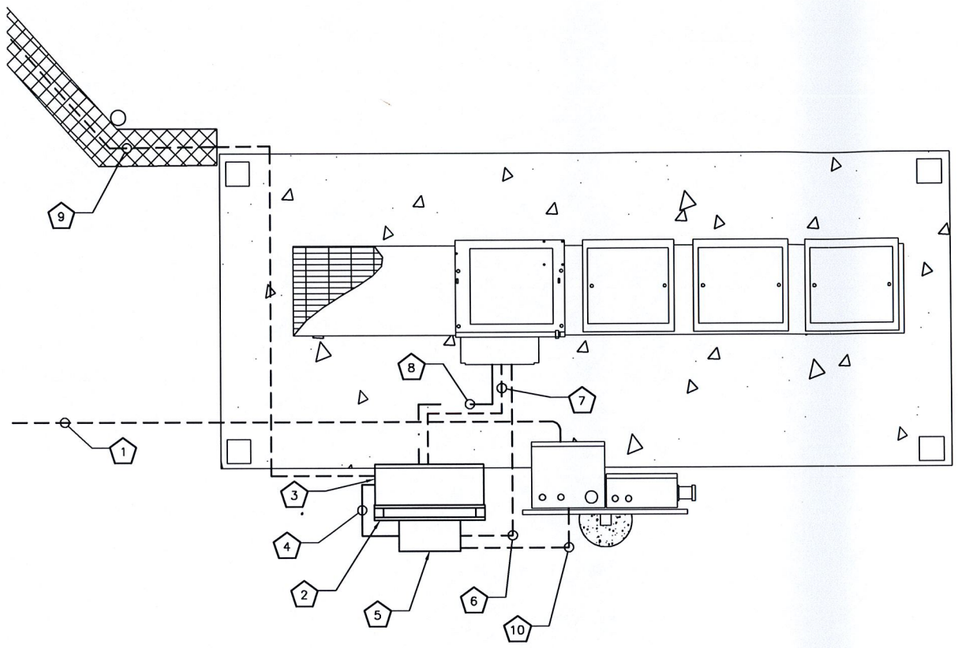
DETAILS

Drawing Number

C9

CODED NOTES:

1. SPRINT TO PROVIDE PULL STRING IN EXISTING 2" UNDERGROUND GRC CONDUIT FROM EXISTING COPPER TELCO DEMARC TO EXISTING SPRINT PPC (TELCO), 120'
2. PROPOSED H-FRAME FURNISHED AND INSTALLED BY SPRINT
3. PROPOSED SPRINT FIBER JUNCTION BOX FURNISHED AND INSTALLED BY ALU
4. PROPOSED 1-1/4" LIQUID TIGHT CONDUIT WITH PULL-STRING FROM PROPOSED JUNCTION BOX TO PROPOSED CIENA EQUIPMENT LOCATION FOR DC POWER, 5'; FURNISHED AND INSTALLED BY SPRINT
5. PROPOSED CIENA EQUIPMENT ENCLOSURE, FURNISHED AND INSTALLED BY AT&T
6. PROPOSED 1-1/4" ABOVE GROUND GRC CONDUIT WITH PULL-STRING FOR TELCO FROM PROPOSED CIENA EQUIPMENT TO BTS LOCATION, 20'; FURNISHED AND INSTALLED BY SPRINT
7. PROPOSED 1-1/2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR TELCO FROM FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
8. PROPOSED 1-1/2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR DC POWER FROM FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
9. PROPOSED 1-1/4" HYBRIFLEX CABLE ROUTED FROM PROPOSED JUNCTION BOX TO PROPOSED TOWER MOUNTED RRH, 240' (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL)
10. PROPOSED 1-1/4" ABOVE GROUND LIQUID TIGHT CONDUIT WITH PULL-STRING FOR FIBER ROUTED FROM EXISTING SPRINT PPC TELCO ENCLOSURE TO PROPOSED CIENA ENCLOSURE, 10'; FURNISHED AND INSTALLED BY SPRINT



CALLED NORTH

1 UTILITY SITE PLAN

SCALE:

1' 0 1' 2' 4'

(IN FEET)

SCALE: 24"X 36" SHEET 1"= 2'
SCALE: 11"X 17" SHEET 1"= 4'

NOTES:

1. CONTRACTOR TO USE EXISTING SPARE CONDUITS, IF AVAILABLE. CONDUIT SIZES MUST BE EQUAL TO OR GREATER THAN THAT ALLOWED BY CODE.
2. EXISTING ALARMS NEED TO BE RE-ROUTED AND VERIFIED IN PROPER WORKING CONDITION WHEN NEW MMBTS EQUIPMENT IS INSTALLED.
3. REMAINING GROUND LEADS FROM REMOVED CABINETS TO BE COILED (NOT ON WALKING SURFACE).
4. REMAINING UNUSED CONDUITS FROM EXISTING CABINETS TO BE COVERED WITH WATERPROOF CAPS (NOT DUCT TAPE).

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES
2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
4. ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
5. CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED OTHERWISE.
6. LABEL SPRINT SERVICE DISCONNECT SWITCH AND PPC CABINET WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
8. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 5 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY SPRINTS REPRESENTATIVE.
9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360°.
10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT REPRESENTATIVE.
11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO SPRINT REPRESENTATIVE.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY SPRINT REPRESENTATIVE.
16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
17. PROJECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.
21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO SPRINT'S REPRESENTATIVE.
22. ALL ABOVE GRADE CONDUIT TO BE RIGID METALLIC.

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

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

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ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL•LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale: AS NOTED

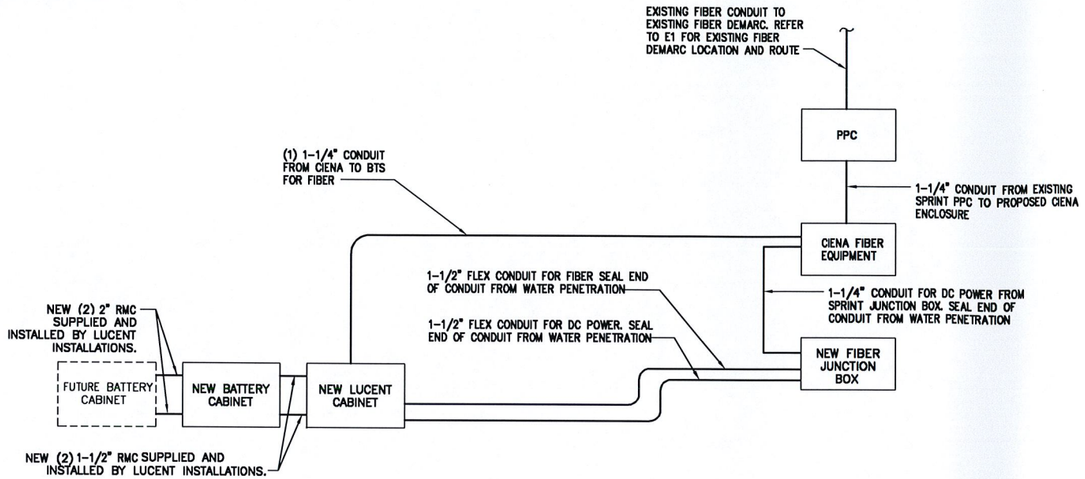
Date: 2/1/13

Drawing Title:
UTILITY SITE PLAN

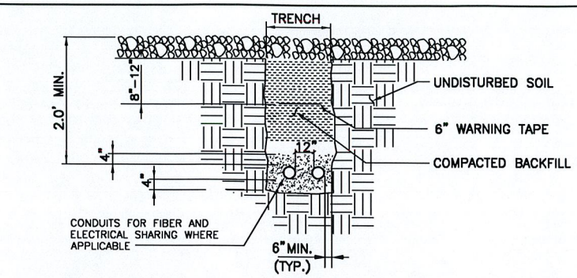
Drawing Number:
E1

GROUNDING NOTE:

IN ADDITION TO POWER SERVICE GROUNDING AS REQUIRED BY NEC. CONTRACTOR SHALL BE RESPONSIBLE TO COORD AND INSTALL ALL SURGE AND LIGHTING PROTECTION GROUNDING AS REQUIRED AND SPECIFIED BY SPRINT

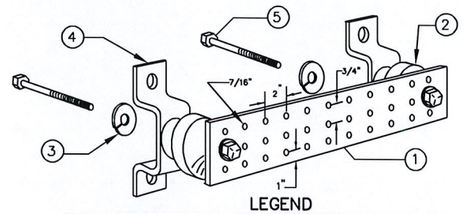


1 -- ONE-LINE DIAGRAM
NOT TO SCALE



– SEPARATION DIMENSIONS MUST BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS.
*HAND DIG INSIDE COMPOUND

2 -- UTILITY TRENCH DETAIL
NOT TO SCALE

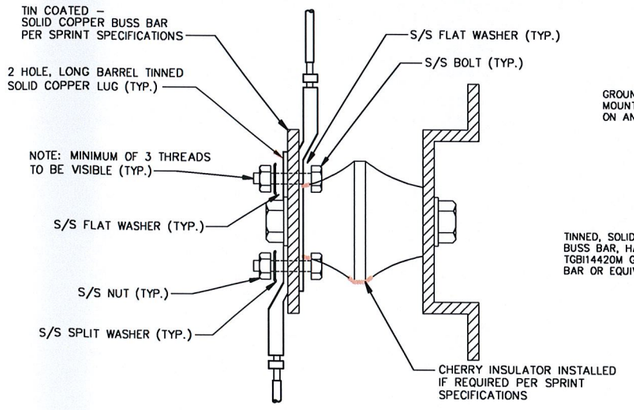


LEGEND

1. TINNED COPPER GROUND BAR, ¼" x 4" x 20", NEWTON INSTRUMENT Co., HARGER TGBI1420M, OR EQUIVALENT. HOLE CENTERS TO MATCH
2. NEMA DOUBLE LUG CONFIGURATION.
3. INSULATORS, NEWTON INSTRUMENT Co. CAT. NO. 3061-4 OR HARGER EQUIVALENT.
4. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT.
   WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
5. 5/8-11 x 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

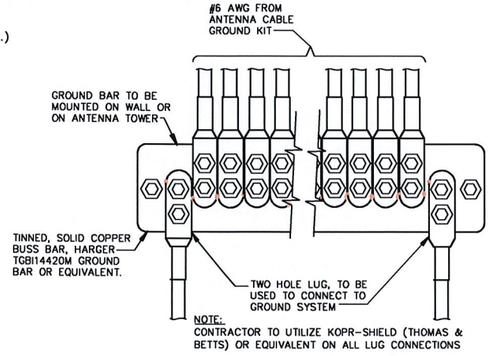
NOTE:
1) ALL MOUNTING HARDWARE CAN ALSO BE USED ON 6", 12", 18", ETC. GROUND BARS.
2) ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGBI1442OM.

GROUND BAR



NOTES:
1) ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2) COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3) APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

GROUND LUG



NOTE:
CONTRACTOR TO UTILIZE KOPR-SHIELD (THOMAS & BETTS) OR EQUIVALENT ON ALL LUG CONNECTIONS

ANTENNA GROUND BAR

3 -- GROUND BAR DETAILS
NOT TO SCALE

A/E Consultant:
infinigy engineering
11 Herbert Drive
Latham, NY 12110
(518) 690-0790

JOHN S. STEVENS — No. 24705 — LICENSED PROFESSIONAL ENGINEER — STATE OF CONNECTICUT

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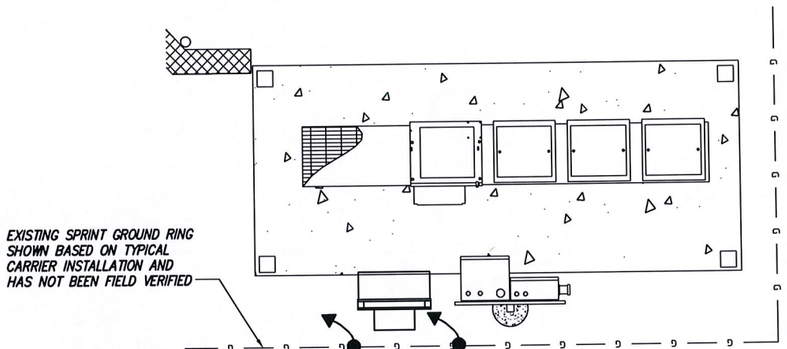
Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title:
ONE-LINE DIAGRAM AND DETAILS

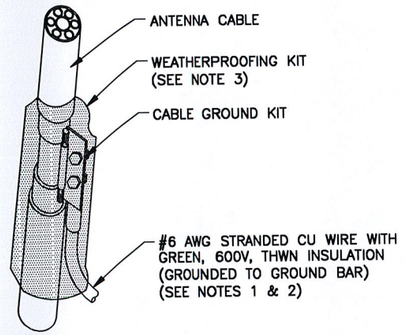
Drawing Number:
E2

SYMBOL	
⊗	COPPER GROUND ROD
▶	CONNECT PER MANUFACTURER SPECS
●	CADWELD CONNECTION
▬	GROUND BAR

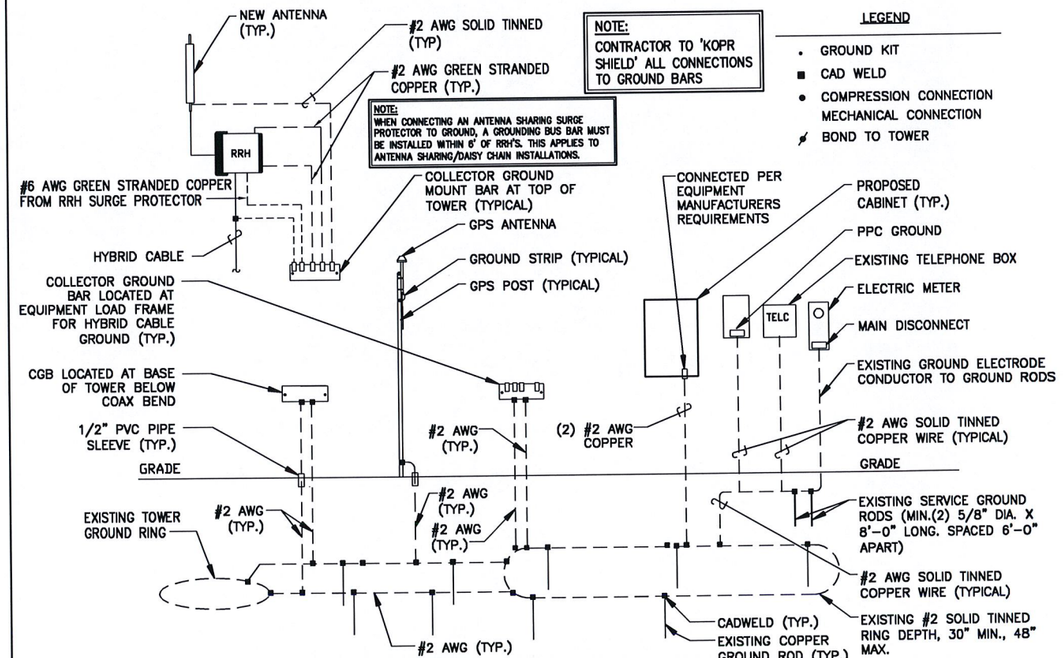


1 EQUIPMENT GROUNDING PLAN
NOT TO SCALE

NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.



3 CONNECTION OF GROUND KIT TO ANTENNA CABLE
NOT TO SCALE



NOTE:
CONTRACTOR TO 'KOPR SHIELD' ALL CONNECTIONS TO GROUND BARS

NOTE:
WHEN CONNECTING AN ANTENNA SHARING SURGE PROTECTOR TO GROUND, A GROUNDING BUS BAR MUST BE INSTALLED WITHIN 6' OF RRH'S. THIS APPLIES TO ANTENNA SHARING/DAISY CHAIN INSTALLATIONS.

LEGEND
- GROUND KIT
- CAD WELD
- COMPRESSION CONNECTION
- MECHANICAL CONNECTION
- BOND TO TOWER

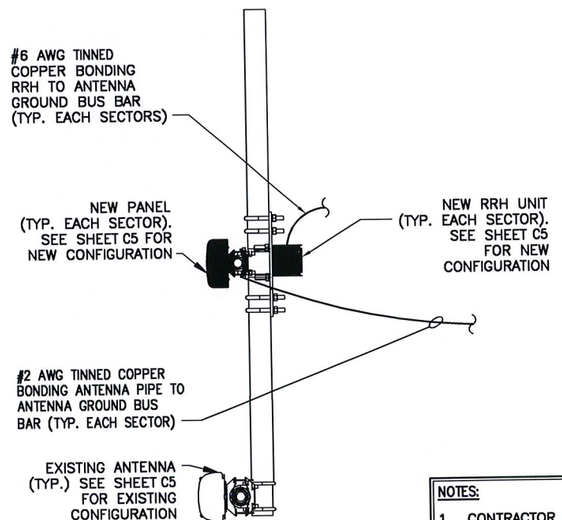
NOTE:
DIAGRAM FOR GRAPHICAL PURPOSES ONLY. REFER ACTUAL SITE LAYOUT AND RF PAGES FOR ADDITIONAL INFORMATION

NOTE:
ALL GROUND WIRES ENTERING GROUND SHALL BE IN PVC SLEEVE.

2 GROUNDING RISER DIAGRAM
NOT TO SCALE

GROUNDING NOTES:

1. ALL DOWN CONDUCTORS AND GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNO. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE A MINIMUM DEPTH BELOW GRADE OF 30 INCHES OR TO THE LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNO.
2. WHERE MECHANICAL CONDUCTOR CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
3. GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND.
4. GROUND CONDUCTORS ON EXTERIOR WALL OF SHELTER SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED "C" CLAMPS. SEAL TOP ENDS.
5. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER.
6. ALL GROUNDING WORK SHALL COMPLY WITH CARRIER(S) STANDARDS.
7. GROUNDING REQUIREMENTS SHOWN ON THIS PLAN ARE FOR ITEMS THAT ARE LOCATED NEAR GRADE LEVEL AND THAT NEED TO BE TIED TO THE BELOW GRADE GROUND RING.
8. UNLESS NOTED OTHERWISE, ALL GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT'S SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES", AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING". ALL GROUNDING SHALL ALSO COMPLY WITH ALL STATE AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE (NEC).
9. UNLESS NOTED OTHERWISE, ALL GROUNDING CONNECTIONS SHALL BE MADE BY AN EXOTHERMIC WELD.
10. RESISTANCE TO EARTH TESTING IS REQUIRED PER SPRINT STANDARDS ON ALL NEW SITES.



4 TYPICAL ANTENNA GROUNDING PLAN
NOT TO SCALE

NOTES:
1. CONTRACTOR TO VERIFY EXISTING LUG SPACES ARE AVAILABLE ON GROUND BAR. ADD ADDITIONAL BUS BAR IF NO LUG SPACES ARE AVAILABLE.
2. ANTENNA GROUNDING CONNECTIONS SHOWN ARE NOT EXACT TO THIS SITE. FOR EXACT ANTENNA LAYOUT REFER TO SHEET C5.

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No.	Submittal / Revision	App'd	Date
4	FINAL CDs	EKM	2/1/13
3	REVISED PER COMMENTS	EKM	5/22/12
2	REVISED PER COMMENTS	EKM	5/3/12
1	REVISED PER COMMENTS	EKM	3/30/12
0	ISSUED FOR REVIEW	EKM	3/20/12

Drawn: EKM Date: 3/20/12
Designed: EKM Date: 3/20/12
Checked: AJD Date: 3/20/12

Project Number: 286-034

Project Title:
CT13XC263
ORANGE TRANSFER STATION
SOUTH ORANGE CENTER RD
ORANGE, CT 06477

Client: Sprint, 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL-LUCENT, 808 AVIATION PARKWAY, SUITE 700, MORRISVILLE, NC 27560

Drawing Scale: AS NOTED
Date: 2/1/13

Drawing Title:
GROUNDING PLAN AND DETAILS

Drawing Number:
E3