



July 13, 2016

State of Connecticut  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

RE: Notification of Construction Completion on telecommunication facilities

To whom it may concern:

Sprint hereby acknowledges that the attached site has completed construction per the approval granted on the specified date. Completion documents are enclosed for your records. Please advise if further information is needed.

Very truly yours

*Florence Nicolas*

Florence Nicolas  
Sprint Network Deployment – Proj/Prg Manager  
Office: 339-987-5622  
Mobile: 603-557-0297  
florence.nicolas@sprint.com



EM/TS #	Address	Town	Sprint ID	Decision Date
EM-SPRINT-104-150421	2 Hinkley Hill Road	Norwich	CT23XC114	05/11/2015

City of Norwich Building Department  
23 Union Street, Norwich, CT 06360

Phone: (860) 823-3745 • Fax: (860) 823-3741

Permit #: 14-0737  
Issued: 6/17/14  
Must Be Posted & Visible From Street

### APPLICATION FOR BUILDING & USE PERMIT

Work May NOT Begin Until Permit Has Been Issued

Work Must be Done in Accordance With State Building Codes

Modifications to Approved Permits and/or Plans Must be Approved Prior to Proceeding

It is the Property Owner's Responsibility to Schedule Required Inspections

Project Address: 2 HINCKLEY HILL ROAD REAR

New  Accessory  Addition  Alteration  Change-of-Use  Temporary

Owner's Name: JAMES & LAVERNE IRWIN Phone #: ( )

Owner's Address: 890 N. BRANADA PL. MANLIER AZ 85226

Work to be Performed: REPLACE 6 EXISTING ANTENNAS WITH 3 NEW ANTENNAS; AND ASSOCIATED Total Value: \$ 30,000

E-Mail (For LOC): EDAHLE.COMCAST.NET RADIO EQUIPMENT

Historic District?  Approval?  Flood Plain?

Contractor: A TECH ELECTRIC, INC. Phone #: (860) 226-2836

Contractor Address: 74 RAILROAD AVE. PATERSON NJ 07501

CT License/Registration Type: MCO Number: 0903314 Expires: 6/30/15 Verified: \_\_\_\_\_

Workmen's Compensation Insurance:  Certificate  Waiver:  Form 7A  Form 7B  Form 7C

All work covered by this application has been authorized by the owner of this property.

Applicant Signature: [Signature] Owner/Agent/Contractor Date: 6/15/14

Print Name: ERIC DAHL  Contractor's Agent Letter Phone #: (860) 227-1975

Below For Office Use Only

<b>Trade Permits:</b> <input type="checkbox"/> HVAC <input type="checkbox"/> Plumbing <input type="checkbox"/> Fuel Tanks <input checked="" type="checkbox"/> Electrical <input type="checkbox"/> Sprinkler	<b>Code Selection:</b> <input type="checkbox"/> IRC <input checked="" type="checkbox"/> IBC <input type="checkbox"/> IEBC <input type="checkbox"/> NEC or <input type="checkbox"/> IRC <input type="checkbox"/> IECC or <input type="checkbox"/> ASHRAE 90.1	<b>Property Taxes:</b> <input checked="" type="checkbox"/> Up to Date <input type="checkbox"/> Emergency <input type="checkbox"/> Written Waiver	<b>Approvals:</b> <input checked="" type="checkbox"/> Zoning Permit Waiver <input type="checkbox"/> Fire Marshal <input type="checkbox"/> Public Utilities <input type="checkbox"/> Health Department
Use Group: _____	Type: _____	Stories: _____	Occupants: _____

# of Units: _____	Permit Fee: \$ <u>277 -</u>
<input type="checkbox"/> Residential	Education Fee: \$ <u>3.90</u>
<input type="checkbox"/> Mobile Home	Late Fee: \$ _____
<input type="checkbox"/> Temporary	Document Fee: \$ <u>20 -</u>
<input checked="" type="checkbox"/> Other/Commercial	Total Fees: \$ <u>296.90</u>

Plan Review Fee Paid? Permit Fees Paid by: HPC SERVICES, LLC Check No.: 10911

Permit Approved By: [Signature] Building Official Date: 6/16/14

For work performed under this permit, inspection(s) at the above referenced property reveals substantial compliance with the referenced State of Connecticut Building Code.

Work Approved By: [Signature] Building Official Date: 6/16/14

MAJOR FINAL:

14-0737



red lines



EM-SPRINT-104-150421

NETWORK VISION MMBTS LAUNCH

MARKET NAME: NORTHERN CT
SITE NUMBER: CT23XC114
SITE NAME: MONTVILLE / NORWICH CDT
SITE ADDRESS: 2 HINKLEY HILL ROAD PRESTON, CT 06360

Sprint NETWORK VISION MMBTS LAUNCH
1 INTERNATIONAL BLVD., SUITE 800 MAHAH, NJ 07495
OFFICE: (201) 684-4000 FAX: (201) 648-4223

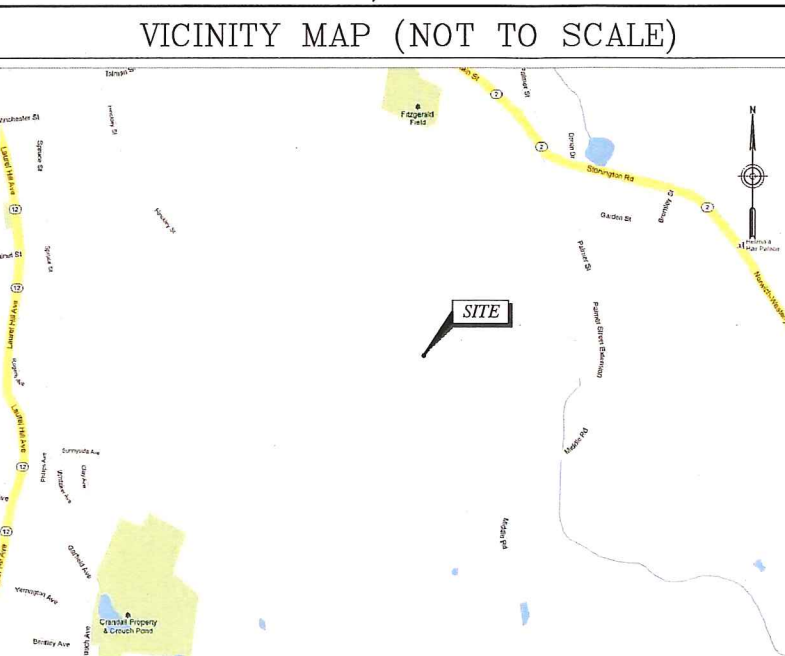
Alcatel-Lucent
1 ROBBINS ROAD WESTFORD, MA 01886 TEL: (978) 952-1600

HPC WIRELESS SERVICES

TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C.
1279 ROUTE 300 NEWBURGH, NY 12550
PHONE: (845) 567-8556 FAX: (845) 567-8703 www.tectonicengineering.com

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SHEET INFORMATION table with columns for SITE NUMBER, SITE NAME, SITE ADDRESS, COUNTY, COORDINATES, GROUND ELEV., STRUCTURE TYPE, STRUCTURE HEIGHT, STRUCTURE RAD CENTER, PARCEL ID, ZONING CLASSIFICATION, LANDLORD, LOCAL POWER COMPANY, LOCAL TELEPHONE COMPANY, APPLICANT, ENGINEER.



SHEET INDEX table with columns for SHT. NO. and SHEET DESCRIPTION, listing sheets T-1, A-1, A-1A, A-2, A-3, A-4, A-5, S-1, S-2, E-1, E-2, E-3, GN-1, GN-2, AAV-1, AAV-2.

SUBMITTALS table with columns for NO, DATE, DESCRIPTION, BY, listing project milestones and dates.

GENERAL NOTES
1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION.
2. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE...

SCOPE OF WORK
SPRINT PROPOSES:
1. (1) NEW ALCATEL LUCENT 9927 BASE STATION MACRO CABINET (TO REPLACE EXISTING MMBTS)
2. (1) RFS APXVSP18-C-A20, (1) KMW ET-X-TU-42-15-37-18-IR-SP...

AAV SCOPE OF WORK NOTES
1. FIBER RUN: COX TO INSTALL FIBER CABLE U/G FROM EXIST UTILITY POLE #8453 TO EXISTING HOFFMAN BOX VIA EXIST 4" PVC CONDUIT...

APPROVALS
THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.



DRIVING DIRECTIONS
I-395S TO EXIT 81; TAKE EXIT ONTO ROUTE 2 TOWARD NORWICH; FOLLOW ROUTE 2 THROUGH NORWICH, TAKE RIGHT ONTO PALMER HILL ROAD, WHICH CHANGES TO MIDDLE ROAD; HINCKLEY ROAD IS ON RIGHT, FOLLOW TO SITE ON RIGHT.







**NORTH NOTE:**  
 NORTH SHOWN HAS BEEN ESTABLISHED USING THE USGS QUADRANGLE 7.5 MINUTE MAPS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.

PLUMBING SCENARIO 124 & 631

**EM-SPRINT-104-150421**

NOTE: ALL SPRINT CDMA COAX CABLES ARE TO BE REMOVED AS PART OF THE PROPOSED UPGRADE

**Sprint**  
 NETWORK VISION MMBTS LAUNCH  
 1 INTERNATIONAL BLVD., SUITE 800  
 MAHWAH, NJ 07495  
 OFFICE: (201) 684-4000  
 FAX: (201) 648-4223

**Alcatel-Lucent**  
 1 ROBBINS ROAD  
 WESTFORD, MA 01886  
 TEL: (978) 952-1500

**HPC**  
 WIRELESS SERVICES

**TECTONIC**  
 • PLANNING  
 • DESIGN  
 • SURVEYING  
 • CONSTRUCTION MANAGEMENT  
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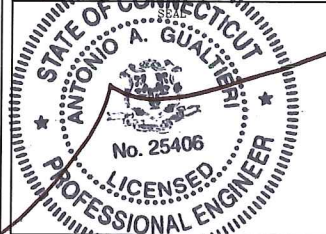
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**SUBMITTALS**

PROJECT NO: 6318.23-114

NO	DATE	DESCRIPTION	BY
0	09/26/12	FOR COMMENT	LP
1	01/21/13	PER COMMENTS	DAC
2	09/03/13	REVISED PER SA	MP
3	10/29/13	REVISED RFDS	MP
4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

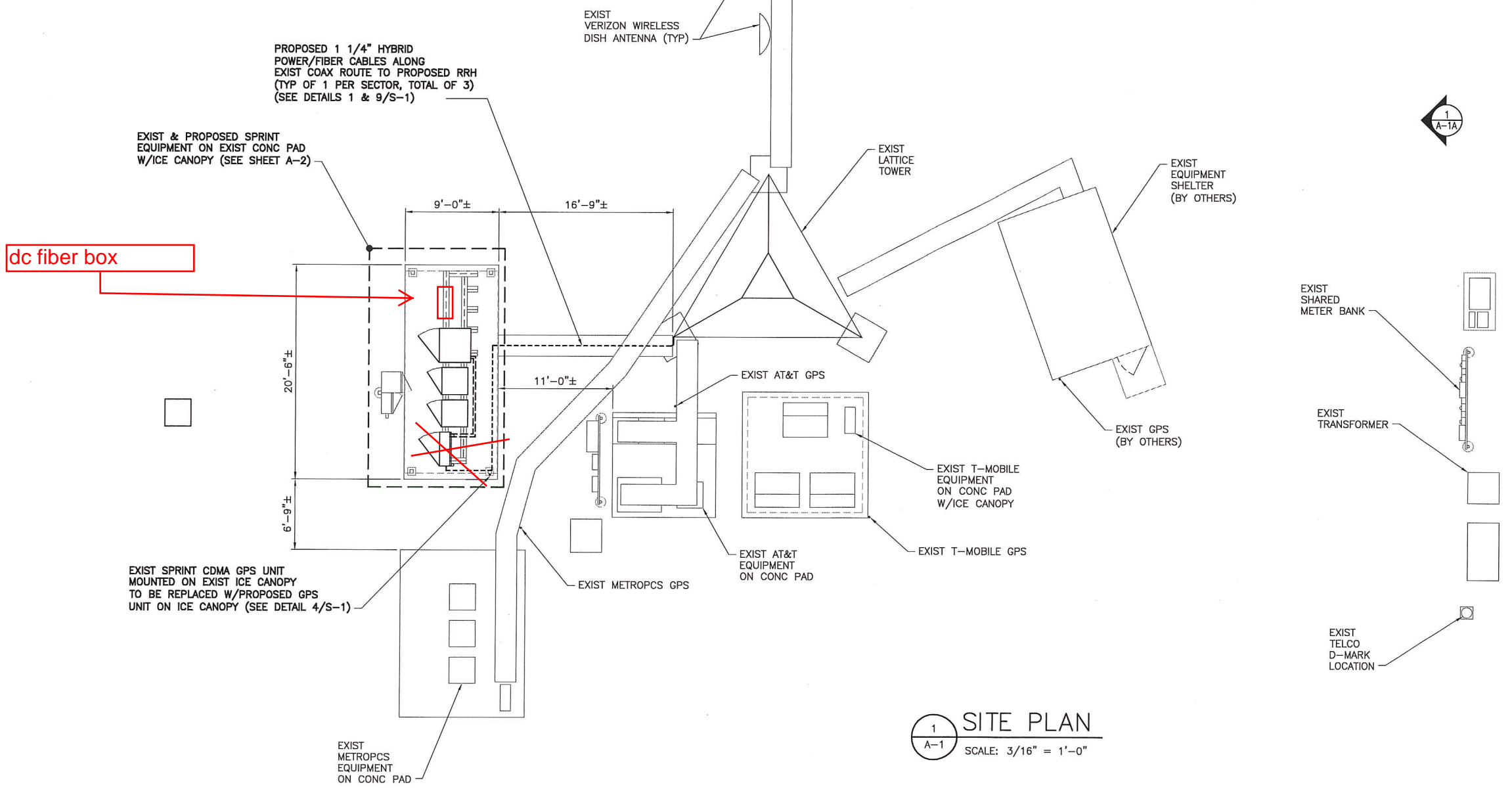
DATE	REVIEWED BY
5/28/14	[Signature]



SITE NUMBER:  
 CT23XC114  
 SITE NAME:  
 MONTVILLE / NORWICH CDT  
 SITE ADDRESS:  
 2 HINKLEY HILL RD  
 PRESTON, CT 06360

SHEET TITLE:  
 SITE PLAN

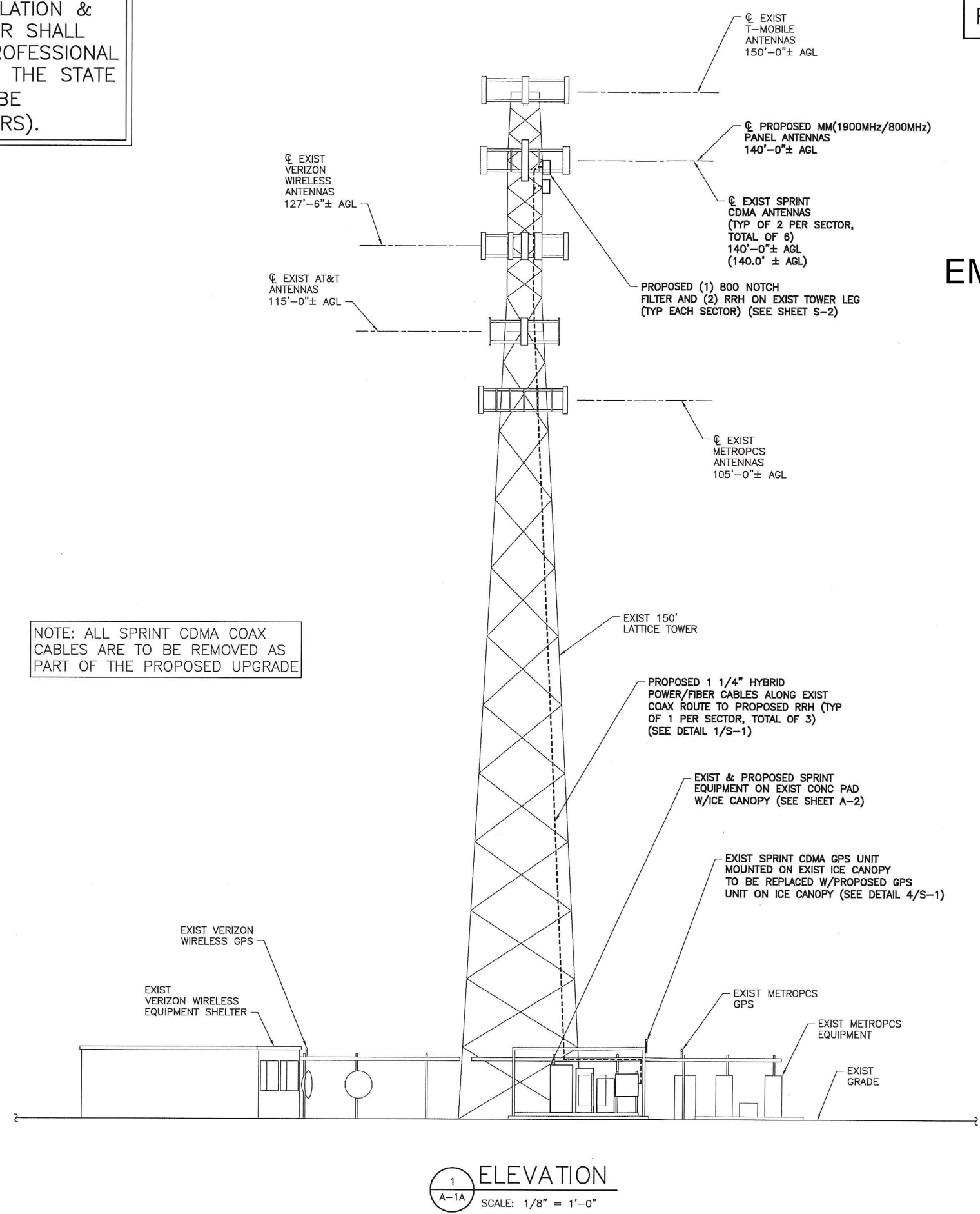
SHEET NO:  
 A-1



**1 SITE PLAN**  
 A-1 SCALE: 3/16" = 1'-0"

THE PROPOSED INSTALLATION & EXISTING LATTICE TOWER SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT (TO BE COORDINATED BY OTHERS).

PLUMBING SCENARIO 124 & 631



NOTE: ALL SPRINT CDMA COAX CABLES ARE TO BE REMOVED AS PART OF THE PROPOSED UPGRADE

EM-SPRINT-104-150421

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

**Sprint**  
NETWORK VISION MMBTS LAUNCH  
1 INTERNATIONAL BLVD., SUITE 800  
MAHWAH, NJ 07495  
OFFICE: (201) 684-4000  
FAX: (201) 648-4223

**Alcatel-Lucent**  
1 ROBBINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 552-1500

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**SUBMITTALS**

PROJECT NO: 6318.23-114

NO	DATE	DESCRIPTION	BY
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3	10/29/13	REVISED RFDS	MP
4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE: \_\_\_\_\_ REVIEWED BY: \_\_\_\_\_

**STATE OF CONNECTICUT**  
ANTONIO A. GUALTIERI  
No. 25406  
LICENSED PROFESSIONAL ENGINEER

SITE NUMBER: CT23XC114  
SITE NAME: MONTVILLE / NORWICH CDT  
SITE ADDRESS: 2 HINKLEY HILL RD  
PRESTON, CT 06360  
SHEET TITLE: ELEVATION  
SHEET NO: A-1A

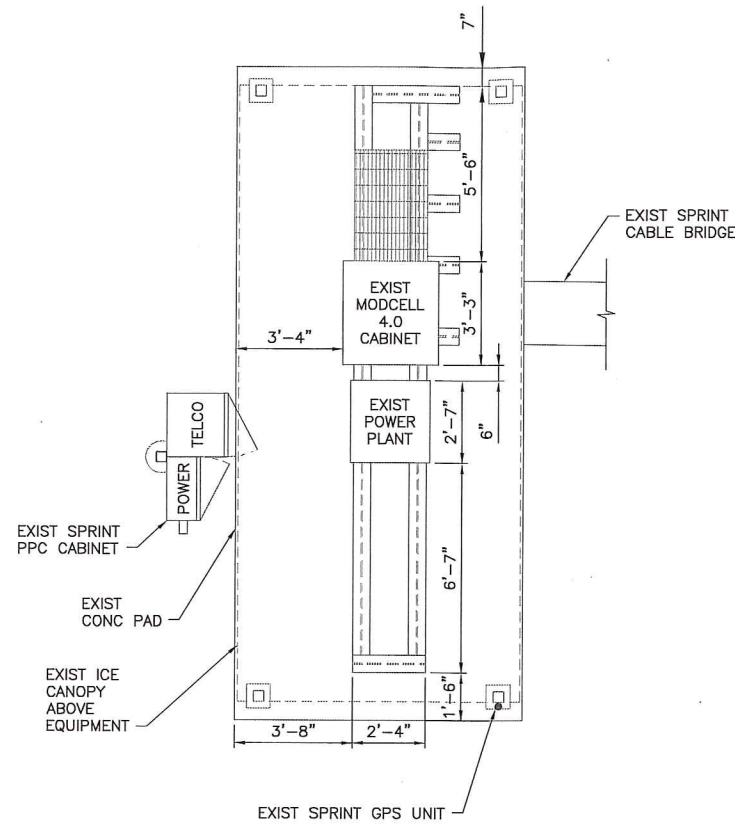




**NORTH NOTE:**

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**PLUMBING SCENARIO 124 & 631**

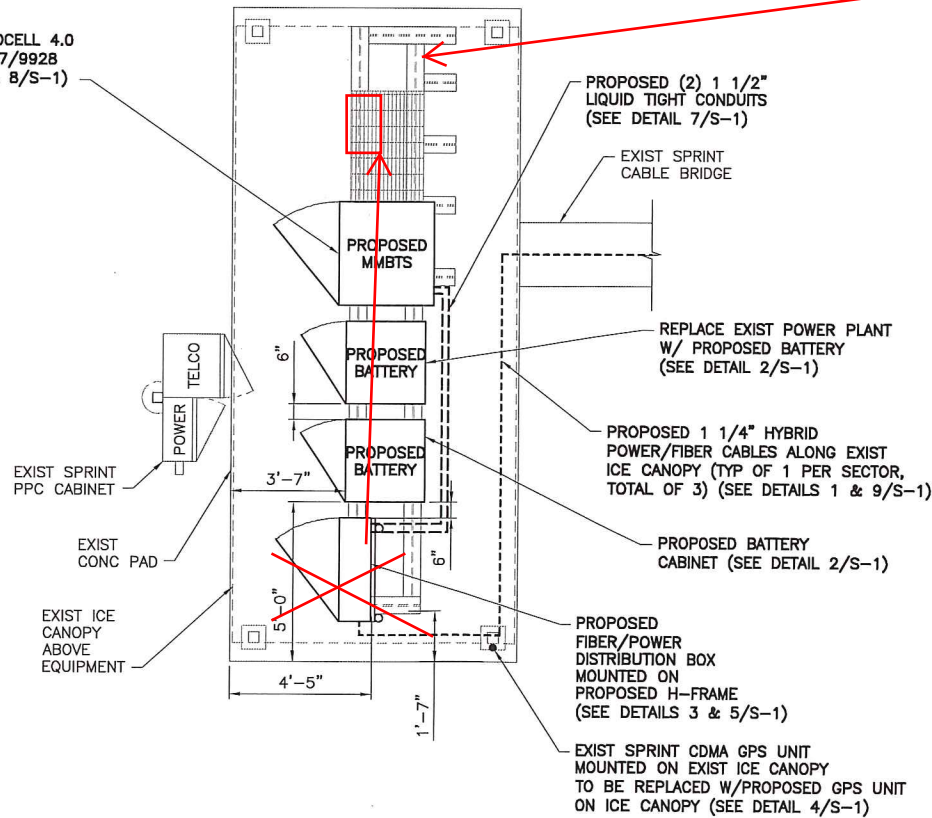


**EM-SPRINT-104-150421**

**1 ENLARGED EQUIPMENT LAYOUT PLAN (EXIST)**  
SCALE: 3/8" = 1'-0"

dc/fiber box

REPLACE EXIST MODCELL 4.0 W/ PROPOSED 9927/9928 MMBTS (SEE DETAIL 8/S-1)



**2 ENLARGED EQUIPMENT LAYOUT PLAN (FINAL)**  
SCALE: 3/8" = 1'-0"

**Sprint**  
NETWORK VISION MMBTS LAUNCH  
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MAHWAH, NJ 07495  
OFFICE: (201) 684-4000  
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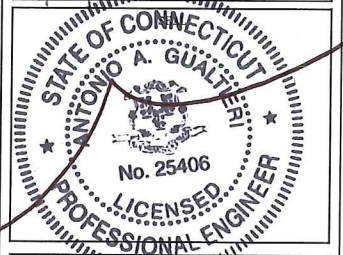
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1	01/21/13	PER COMMENTS	DAC
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4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE	REVIEWED BY
5/28/14	J.M.C.



CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
ENLARGED EQUIPMENT LAYOUT PLANS

SHEET NO:  
A-2

**Sprint**  
 NETWORK VISION MMBTS LAUNCH  
 1 INTERNATIONAL BLVD., SUITE 800  
 MAHWAH, NJ 07495  
 OFFICE: (201) 684-4000  
 FAX: (201) 648-4223

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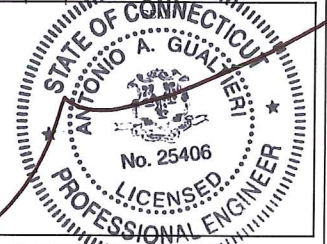
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DATE	REVIEWED BY
5/28/14	[Signature]



SHEET NUMBER:  
CT23XC114

SITE NAME:  
MONTVILLE / NORWICH CDT

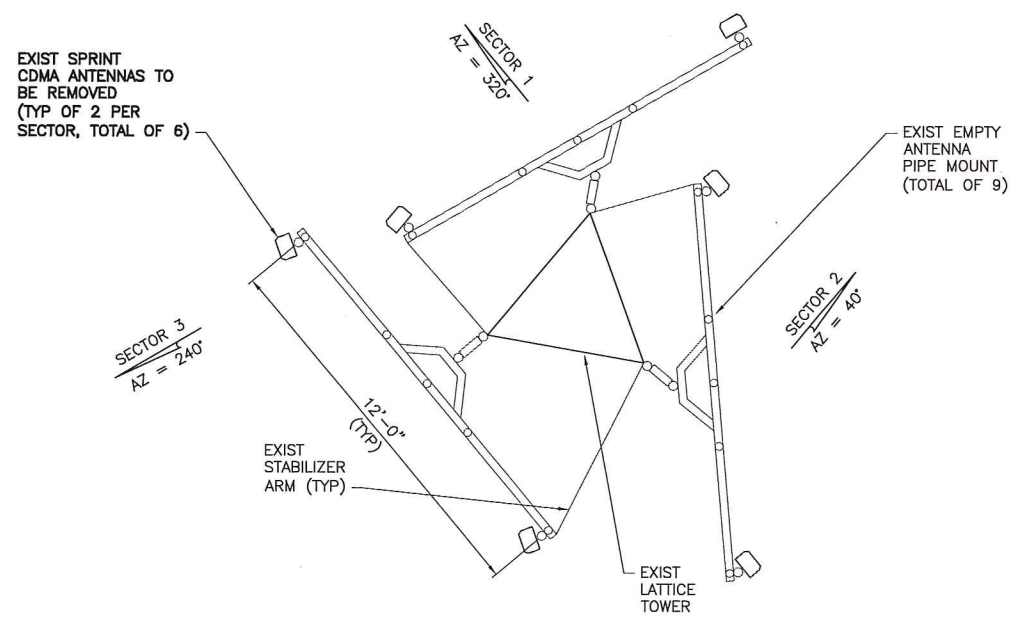
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
ANTENNA LAYOUT PLANS

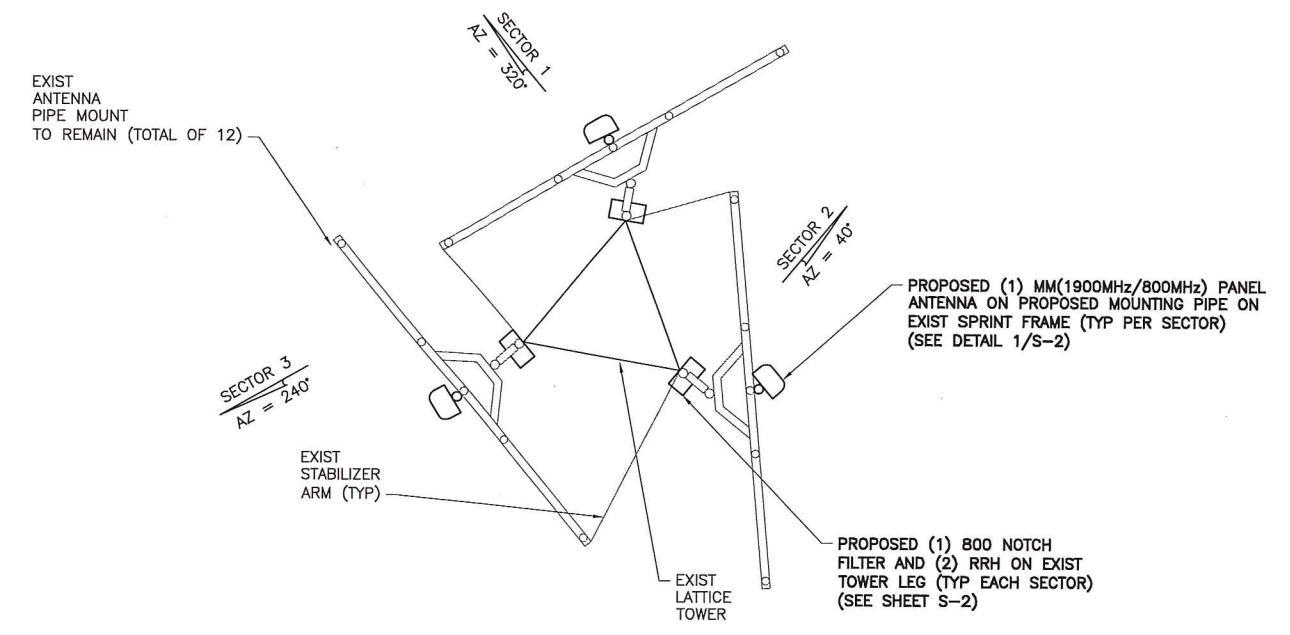
SHEET NO:  
A-3

EM-SPRINT-104-150421

**NORTH NOTE:**  
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1 ANTENNA LAYOUT PLAN (EXIST)  
 A-3 SCALE: 3/8" = 1'-0"



2 ANTENNA LAYOUT PLAN (FINAL - HOT SWAP)  
 A-3 SCALE: 3/8" = 1'-0"

THE PROPOSED INSTALLATION & EXISTING LATTICE TOWER SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT (TO BE COORDINATED BY OTHERS).



NOTE:  
CONTRACTOR MUST  
CHECK LATEST RFDS

Market	Northern Connecticut		
Cascade ID	CT23XC114		
	Sector 1	Sector 2	Sector 3
1900MHz_Azimuth	320	40	240
1900MHz_No_of_Antennas	1	1	1
1900MHz_RADCenter(ft)	140	140	140
1900MHz_AntennaMake	KMW	RFS	RFS
1900MHz_AntennaModel	ET-X-TU-42-15-37-18-IR-RA	APXVSP18-C-A20	APXV9ERR18-C-A20
1900MHz_Horizontal_Beamwidth	37	65	80
1900MHz_Vertical_Beamwidth	8	5.5	5.5
1900MHz_AntennaHeight (ft)	4	6	6
1900MHz_AntennaGain(dBd)	15.9	15.9	14.9
1900MHz_E_Tilt	-2	-1	0
1900MHz_M_Tilt	0	0	-3
1900MHz_Effective_Tilt	-2	-1	-3
1900MHz_Carrier_Forecast_Year_2013	6	6	6
1900MHz_RRH_Manufacturer	ALU	ALU	ALU
1900MHz_RRH_Model	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz
1900MHz_RRH_Count	1	1	1
1900MHz_RRH_Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
1900MHz_Combiner_Model	No Combiner Required	No Combiner Required	No Combiner Required
1900MHz_Power_Split_Ratio (Main/Split)			
1900MHz_Splitter_Manufacturer			
1900MHz_Splitter_Model			
1900MHz_Number_of_Splitters			
1900MHz_Top_Jumper #1_Length (RRH or Combiner-to-Antenna for TT or Main Coax to Antenna for Ground Mount, ft)	10	10	10
1900MHz_Top_Jumper #1_Cable_Model (RRH or Combiner-to-Antenna for TT or Main Coax to Antenna for Ground Mount)	LCF12-50J	LCF12-50J	LCF12-50J
1900MHz_Top_Jumper #2_Length (RRH to Combiner for TT if applicable, ft)	N/A	N/A	N/A
1900MHz_Top_Jumper #2_Cable_Model (RRH to Combiner for TT if applicable)	N/A	N/A	N/A
1900MHz_Main_Coax_Cable_Length (ft)	160	160	160
1900MHz_Main_Coax_Cable_Model	RFS Cablewave	RFS Cablewave	RFS Cablewave
1900MHz_Bottom_Jumper #1_Length (Ground based RRH to Combiner-OR-Main Coax, ft)	N/A	N/A	N/A
1900MHz_Bottom_Jumper #1_Cable_Model (Ground based RRH to Combiner-OR-Main Coax)	N/A	N/A	N/A
1900MHz_Bottom_Jumper #2_Length (Ground based-Combiner to Main Coax, ft)	N/A	N/A	N/A
1900MHz_Bottom_Jumper #2_Cable_Model (Ground based-Combiner to Main Coax)	N/A	N/A	N/A
800MHz_Azimuth	320	40	240
800MHz_No_of_Antennas	0	0	0
800MHz_RADCenter(ft)	140	140	140
800MHz_AntennaMake	KMW	RFS	RFS
800MHz_AntennaModel	ET-X-TU-42-15-37-18-IR-RA(Shared w/ 1900)	APXVSP18-C-A20 (Shared w/1900)	APXV9ERR18-C-A20 (Shared w/1900)
800MHz_Horizontal_Beamwidth	42	65	80
800MHz_Vertical_Beamwidth	18	11.5	10.5
800MHz_AntennaHeight (ft)	4	6	6
800MHz_AntennaGain (dBd)	12.9	13.4	11.9
800MHz_E_Tilt	-4	-4	0
800MHz_M_Tilt	0	0	-3
800 MHz_Effective Tilt (degrees)	-4	-4	-3
800MHz_RRH_Manufacturer	ALU	ALU	ALU
800MHz_Combiner_Model	N/A	N/A	N/A
800MHz_RRH_Model	800 MHz RRH 2x50W	800 MHz RRH 2x50W	800 MHz RRH 2x50W
800MHz_RRH_Count	1	1	1
800MHz_RRH_Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
800MHz_Power_Split_Ratio (Main/Split)			
800MHz_Splitter_Manufacturer			
800MHz_Splitter_Model			
800MHz_Number_of_Splitters	0	0	0
800_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)	10	10	10
800_Top_Jumper_Cable_Model (RRH to Antenna for TT or Main Coax to Antenna for GM)	LCF12-50J	LCF12-50J	LCF12-50J
800MHz_Main_Coax_Cable_Length (ft)	N/A	N/A	N/A
800MHz_Main_Coax_Cable_Model	N/A	N/A	N/A
800_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)	N/A	N/A	N/A
800_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)	N/A	N/A	N/A
Recommended Hybriflex Length (ft)	180	180	180
Has_Split	No	No	No
Plumbing_Scenario	631	124	124
Date_Updated			
Update_Description			
Site_Type	TT6 jumper with 800 with LTE	TT6 jumper with 800 with LTE	TT6 jumper with 800 with LTE
Deployment_Forecast	12.2	12.2	12.2
Comments			
* Coax and hybriflex lengths have been taken from approved survey by Tectonic Engineering dated 7/7/2012			
This RFDS is Deployment View			
RFDS Generated on 9/24/2013			

**Sprint**  
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**SUBMITTALS**

PROJECT NO: 6318.23-114

NO	DATE	DESCRIPTION	BY
0	09/26/12	FOR COMMENT	LP
1	01/21/13	PER COMMENTS	DAC
2	09/03/13	REVISED PER SA	MP
3	10/29/13	REVISED RFDS	MP
4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE	REVIEWED BY
5/28/14	[Signature]

STATE OF CONNECTICUT  
ANTONIO A. GUALTIERI  
No. 25406  
PROFESSIONAL ENGINEER

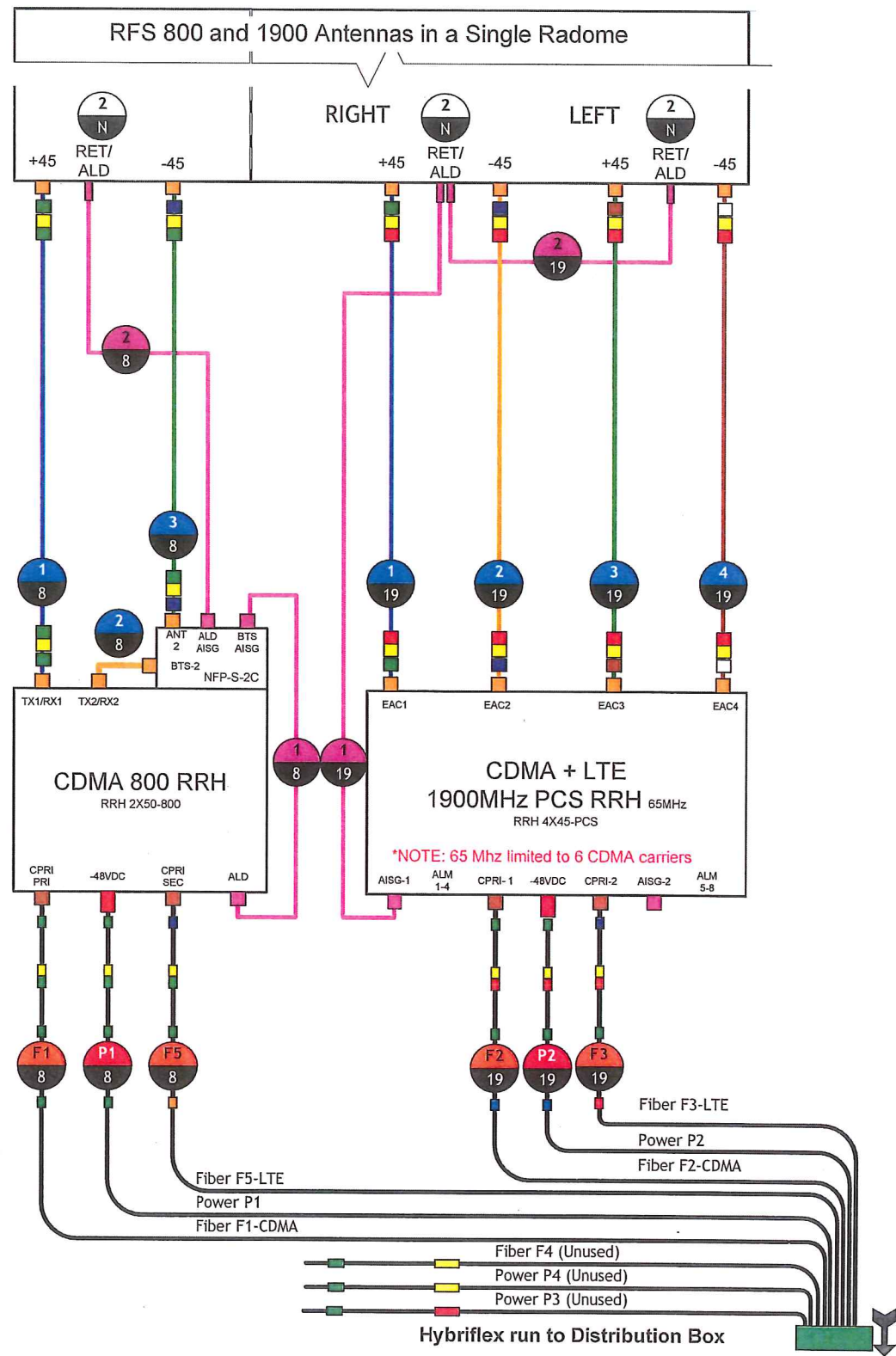
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CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
RFDS SHEET

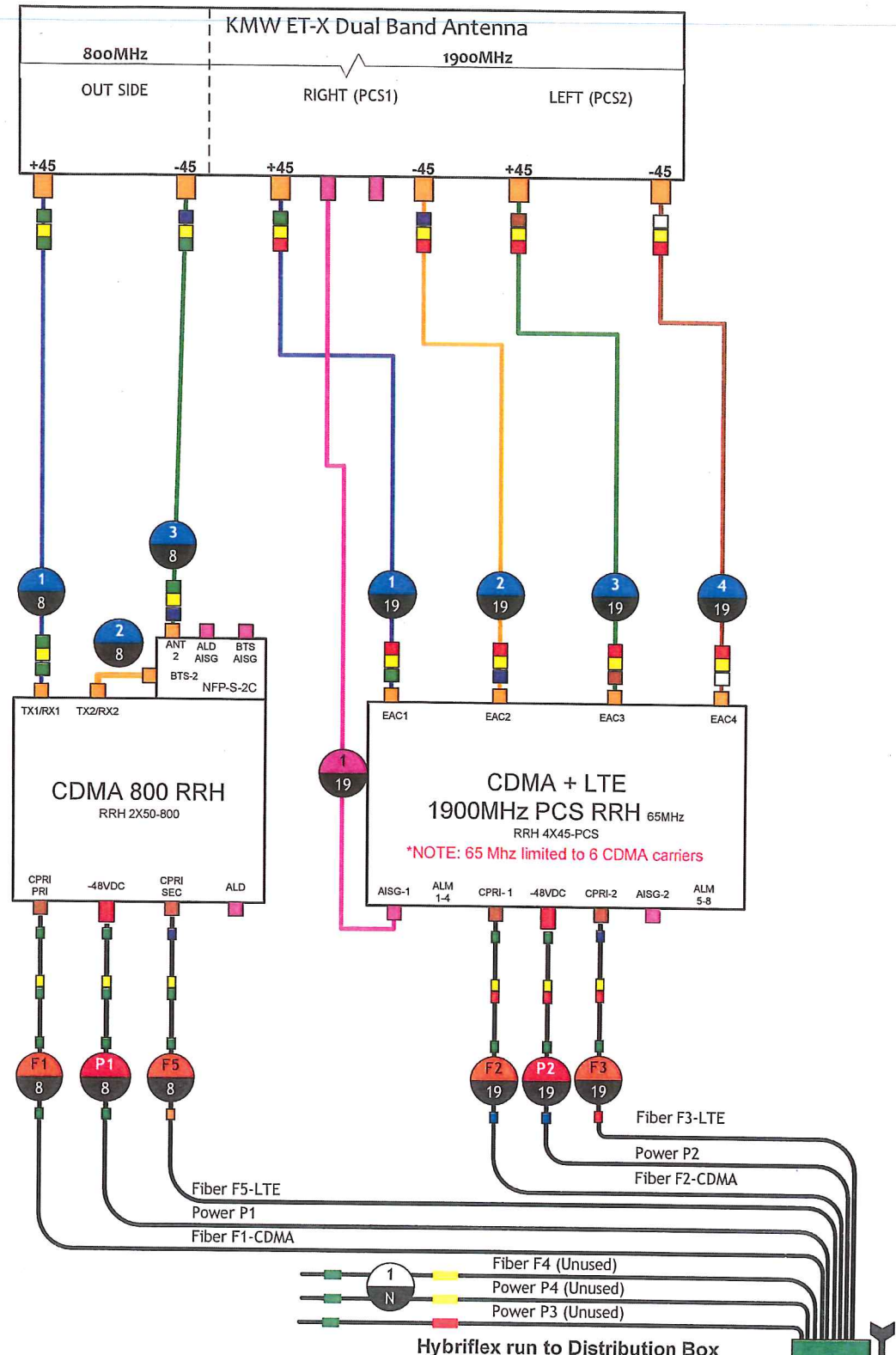
SHEET NO:  
A-4



PLUMBING SCENARIO 124



PLUMBING SCENARIO 631



**Sprint**  
 NETWORK VISION MMBTS LAUNCH  
 1 INTERNATIONAL BLVD., SUITE 800  
 MAHWAH, NJ 07495  
 OFFICE: (201) 684-4000  
 FAX: (201) 648-4223

**Alcatel-Lucent**  
 1 ROBINS ROAD  
 WESTFORD, MA 01886  
 TEL: (978) 992-1600

**HPC**  
 WIRELESS SERVICES

**TECTONIC**  
 PLANNING  
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 SURVEYING  
 CONSTRUCTION MANAGEMENT

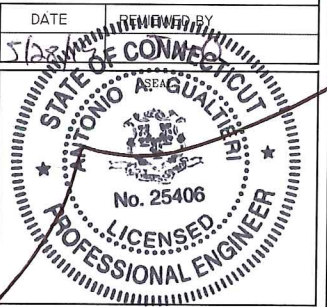
TECTONIC Engineering & Surveying Consultants P.C.  
 1279 Route 300  
 Newburgh, NY 12550  
 Phone: (845) 567-8858  
 Fax: (845) 567-8703  
 www.tectoniceengineering.com

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**SUBMITTALS**

PROJECT NO: 6318.23-114

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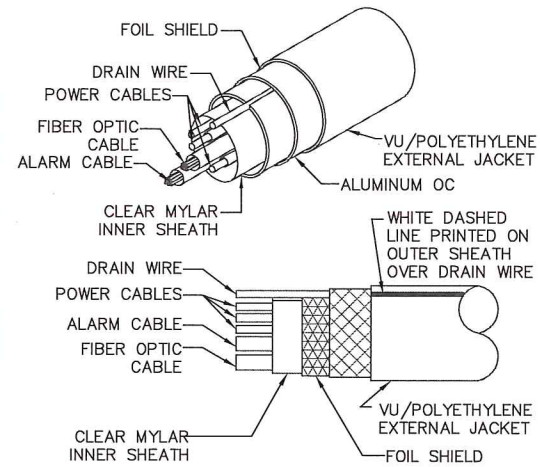
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 SITE NAME: MONTVILLE / NORWICH CDT  
 SITE ADDRESS: 2 HINKLEY HILL RD  
 PRESTON, CT 06360

SHEET TITLE: PLUMBING DIAGRAMS

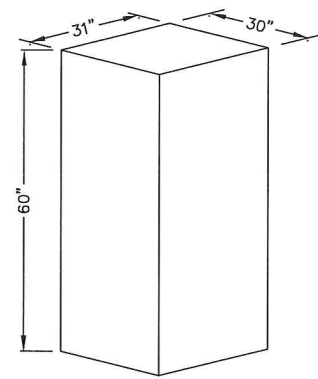
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PLUMBING SCENARIO 124 & 631



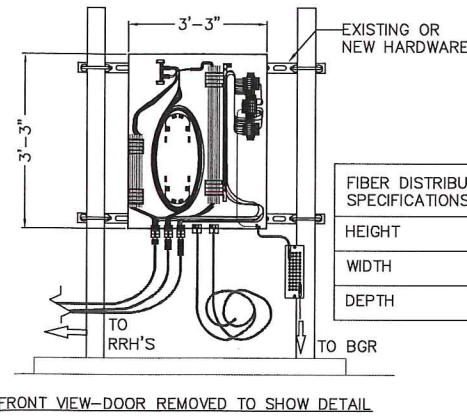
1 HYBRIFLEX CABLE  
S-1 SCALE: NTS



2 60ECv2 BATTERY BACK-UP CABINET (BBU)  
S-1 SCALE: NTS

60ECv2 CABINET SPECIFICATIONS

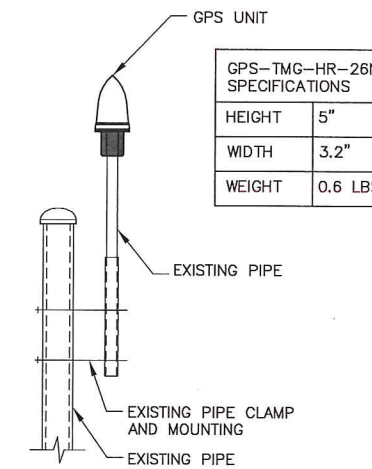
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WIDTH	31"
DEPTH	30"
WEIGHT W/ BATTERIES	2830 LBS.



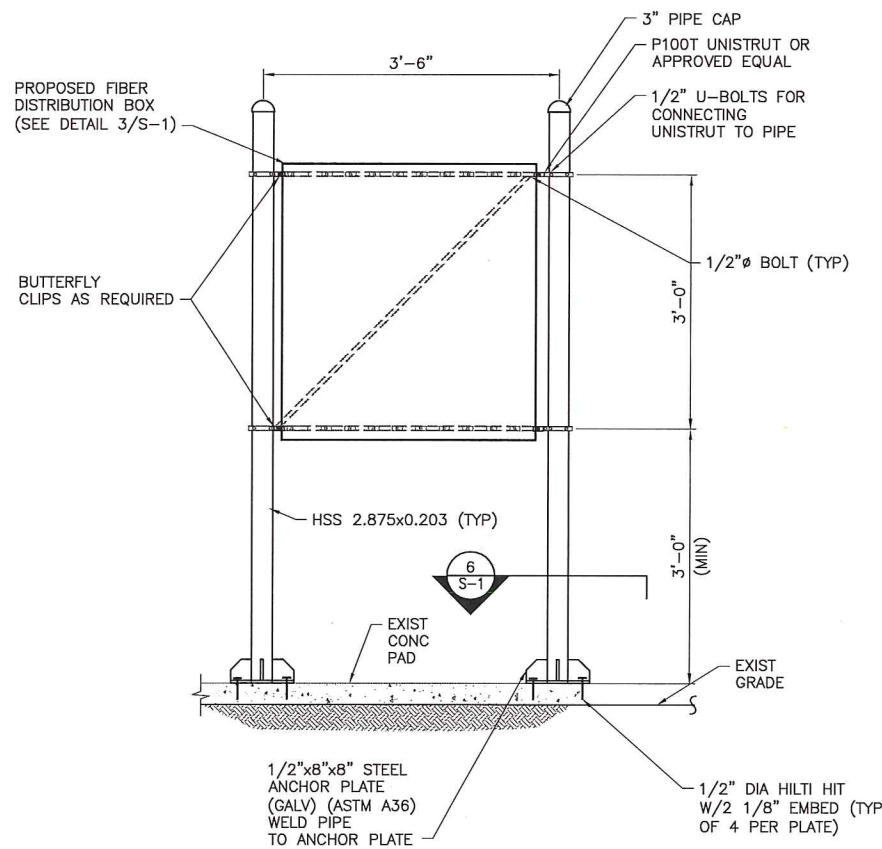
3 FIBER DISTRIBUTION BOX  
S-1 SCALE: NTS

FIBER DISTRIBUTION BOX SPECIFICATIONS

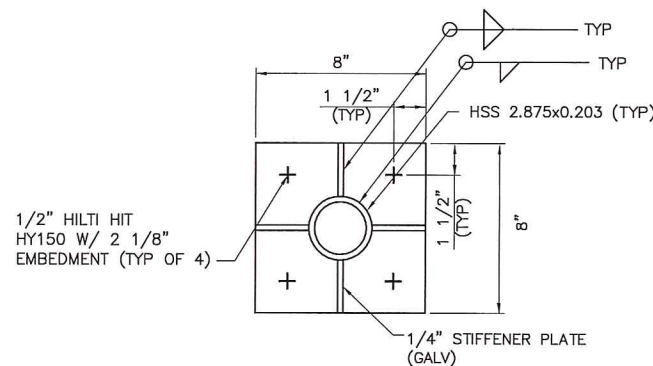
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DEPTH	1'-0"



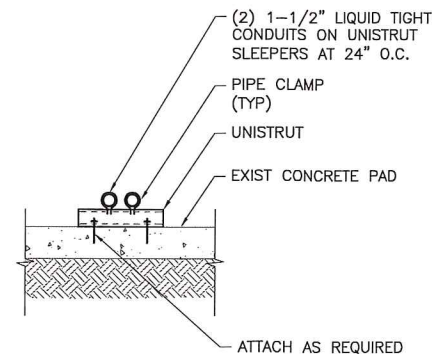
4 GPS UNIT  
S-1 SCALE: 1" = 1'-0"



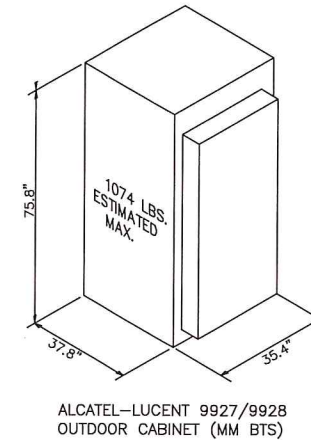
5 MOUNTING DETAIL  
S-1 SCALE: 1" = 1'-0"



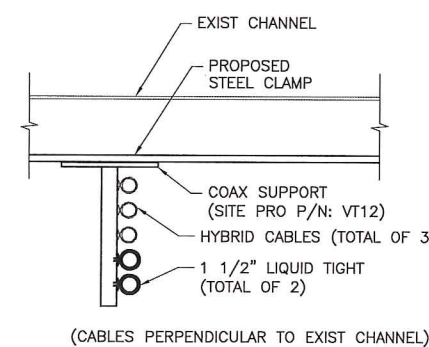
6 DETAIL  
S-1 SCALE: 3" = 1'-0"



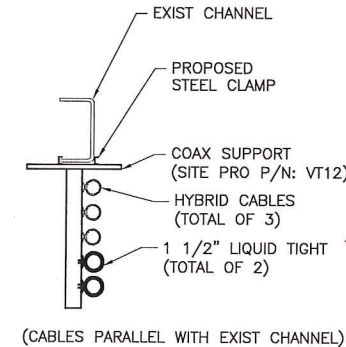
7 DETAIL  
S-1 SCALE: 1 1/2" = 1'-0"



8 DETAIL  
S-1 SCALE: NTS



9 DETAIL  
S-1 SCALE: 1 1/2" = 1'-0"



**Sprint**  
NETWORK VISION MMBTS LAUNCH  
1 INTERNATIONAL BLVD., SUITE 800  
MAHWAH, NJ 07495  
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SUBMITTALS

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5/28/14	JMQ

STATE OF CONNECTICUT  
ANTONIO A. GUARINI  
No. 25406  
LICENSED PROFESSIONAL ENGINEER

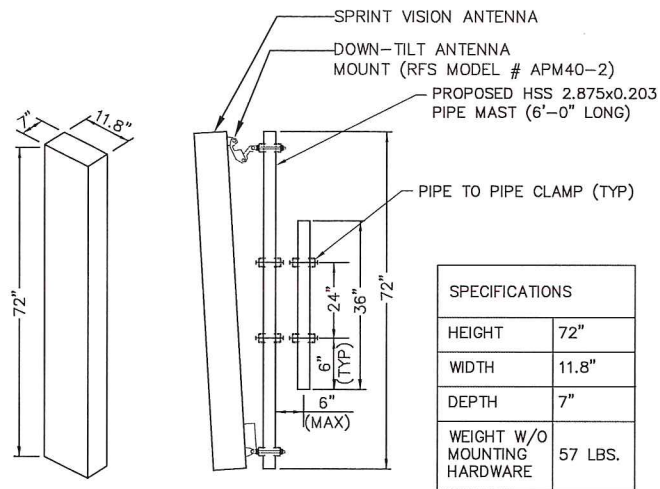
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MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
TYPICAL DETAILS

SHEET NO:  
S-1

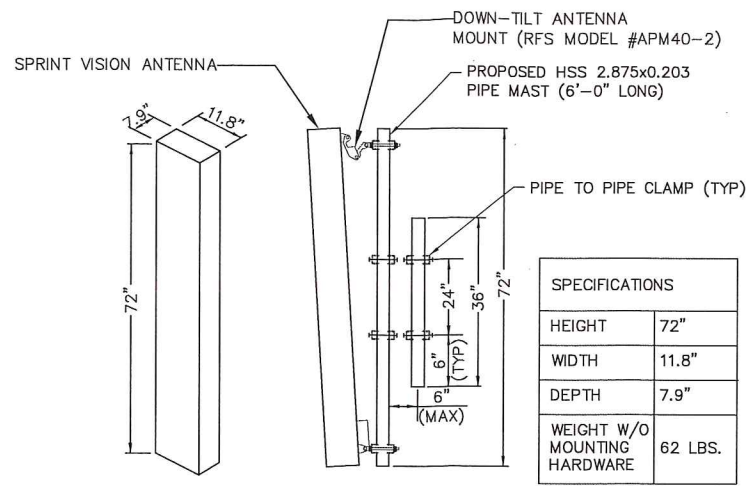


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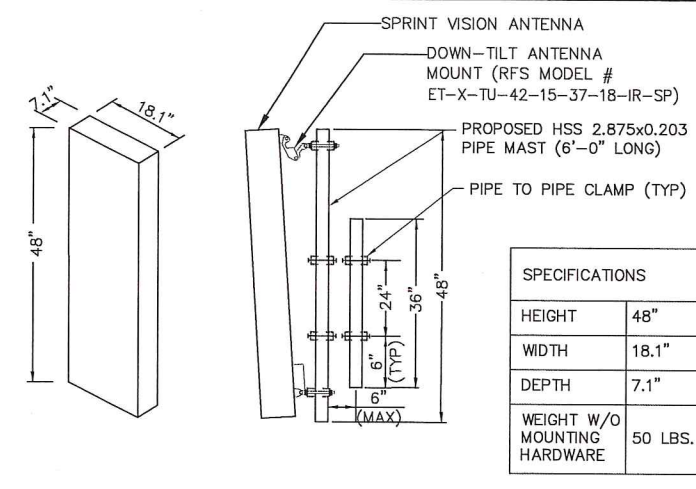
800/1900 MHz ANTENNA MODEL No. APXVSP18-C-A20

SPECIFICATIONS	
HEIGHT	72"
WIDTH	11.8"
DEPTH	7"
WEIGHT W/O MOUNTING HARDWARE	57 LBS.



800/1900 MHz ANTENNA MODEL No. APXV9ERR18-C-A20

SPECIFICATIONS	
HEIGHT	72"
WIDTH	11.8"
DEPTH	7.9"
WEIGHT W/O MOUNTING HARDWARE	62 LBS.



800/1900 MHz ANTENNA MODEL No. ET-X-TU-42-15-37-18-IR-SP

SPECIFICATIONS	
HEIGHT	48"
WIDTH	18.1"
DEPTH	7.1"
WEIGHT W/O MOUNTING HARDWARE	50 LBS.

**Sprint**  
 NETWORK VISION MMBTS LAUNCH  
 1 INTERNATIONAL BLVD., SUITE 800  
 MAHWAH, NJ 07495  
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 FAX: (201) 648-4223

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 1 ROBBINS ROAD  
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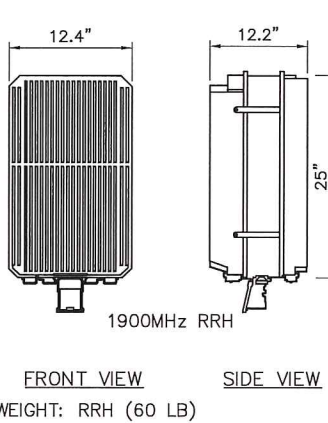
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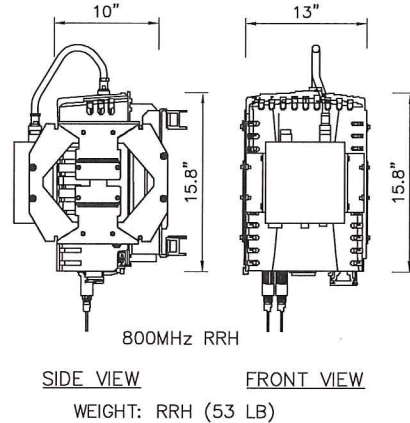
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## 1 ANTENNA & MOUNTING DETAIL

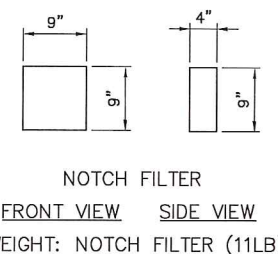
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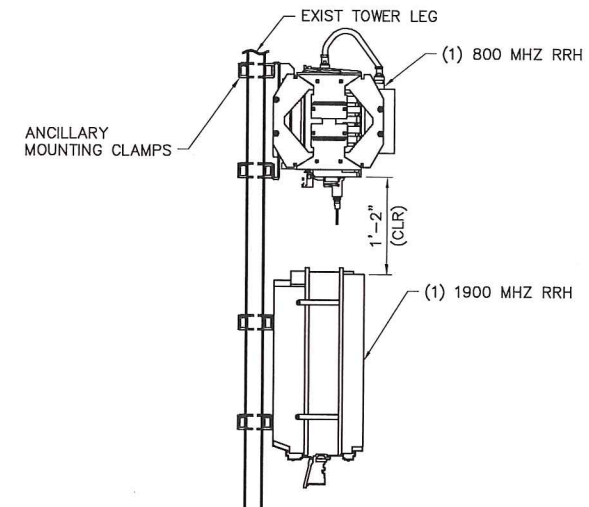
2 1900 MHZ RRH DETAIL  
 SCALE: NTS



3 800 MHZ RRH & NOTCH FILTER DETAIL  
 SCALE: NTS



NOTCH FILTER  
 FRONT VIEW SIDE VIEW  
 WEIGHT: NOTCH FILTER (11LB)



4 MOUNTING DETAIL  
 SCALE: 1" = 1'-0"

PLUMBING SCENARIO 124 & 631

**ANTENNA INSTALLATION NOTE:**

- UTILIZE EXISTING ANTENNA SUPPORT BRACKETS & PIPE MOUNTS WHERE APPLICABLE.
- PROPOSED ANTENNA MOUNTING SYSTEM TO MATCH COMPONENTS, DIMENSIONS & INSTALLATION DETAILS OF EXISTING SPRINT ANTENNA MOUNTS.
- IF LARGER PIPE IS REQUIRED FOR NEW ANTENNA CONNECTION, CONTRACTOR IS TO ENSURE THE PIPE LENGTH WILL NOT EXCEED HEIGHT OF ANTENNA.

THE PROPOSED INSTALLATION & EXISTING LATTICE TOWER SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT (TO BE COORDINATED BY OTHERS).

**SUBMITTALS**

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DATE REVIEWED BY

5/28/14

STATE OF CONNECTICUT  
 Antonio A. Gualtieri  
 No. 25406  
 LICENSED PROFESSIONAL ENGINEER

SITE NUMBER:  
CT23XC114

SITE NAME:  
MONTVILLE / NORWICH CDT

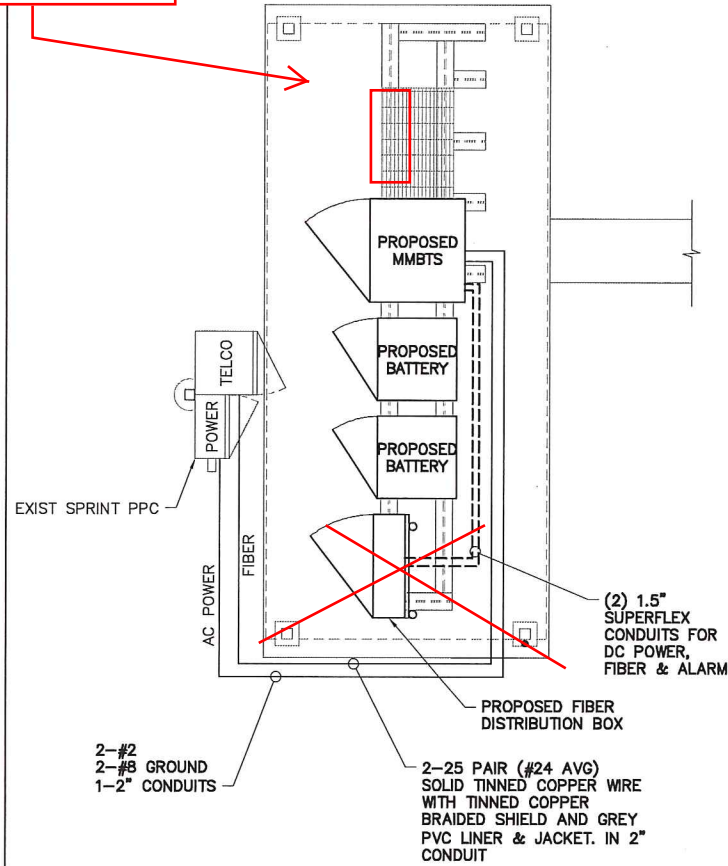
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2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
DETAILS

SHEET NO:  
S-2

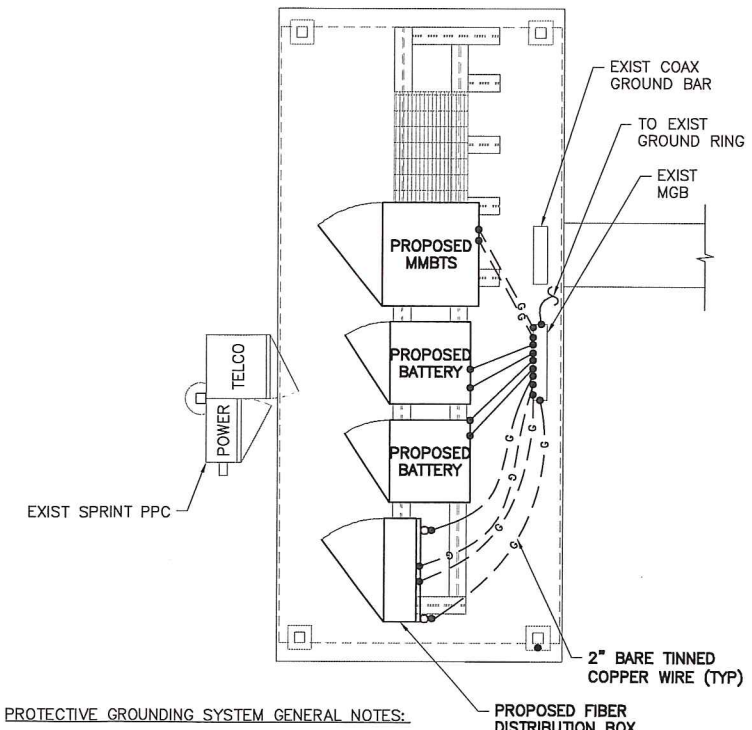


dc/fiber box



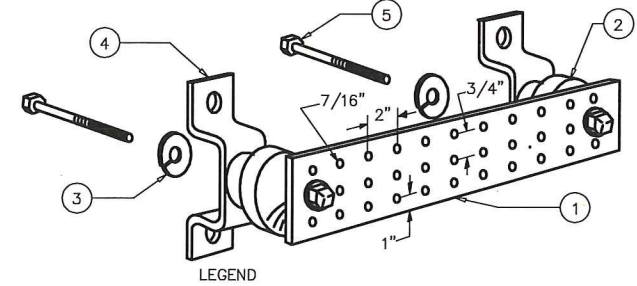
1 TYPICAL ELECTRICAL & TELCO PLAN  
E-1 SCALE: NTS

- ELECTRICAL SPECIFICATIONS:**
1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE.
  2. THE AC PANEL IN THE POWER CABINET IS WIRED AS A SERVICE ENTRANCE. IF IT IS USED AS SERVICE PANEL THE NEC-250.66 REQUIRED GROUNDING ELECTRODE CONDUCTOR SHALL BE INSTALLED IN THE AC POWER CONDUIT. THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA-70). IN THE CASE THAT MAIN SERVICE DISCONNECT IS SUPPLIED AT THE MAIN METER LOCATION, THE BOND BETWEEN NEUTRAL AND EQUIPMENT GROUNDING CONDUCTOR IN THE AC PANEL SHALL BE REMOVED BY CONTRACTOR.
  3. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHIELD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
  4. THE ANTENNA CABLES SHALL BE GROUNDING AT THE TOP AND BOTTOM OF THE VERTICAL RUN FOR LIGHTNING PROTECTION. THE ANTENNA CABLE SHIELD SHALL BE BONDED TO A COPPER GROUND BUS AT THE LOWERMOST POINT OF A VERTICAL RUN JUST BEFORE IT BEGINS TO BEND TOWARD THE HORIZONTAL PLANE. WIRE RUNS TO GROUND SHALL BE KEPT AS STRAIGHT AND SHORT AS POSSIBLE. ANY ANTENNA CABLES OVER 200 FEET IN LENGTH SHALL ALSO BE EQUIPPED WITH ADDITIONAL GROUNDING AT MID-POINT.
  5. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
  6. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED. REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX", OR EQUAL.
  7. FIBER OPTIC CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 770-OPTICAL FIBER CABLES AND RACEWAYS
  8. COMMUNICATIONS CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 800-COMMUNICATIONS SYSTEMS.



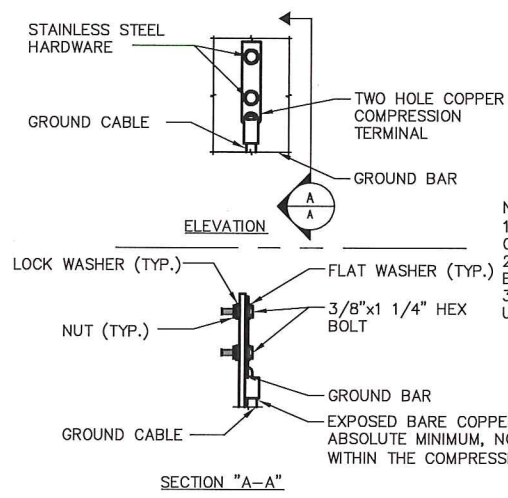
- PROTECTIVE GROUNDING SYSTEM GENERAL NOTES:**
1. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
  2. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
  3. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH PROJECT MANAGER.
  4. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
  5. INSTALL GROUND BUSHING ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
  6. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
  7. GROUND HYBRIFLEX SHIELD AT BOTH ENDS USING MANUFACTURER'S GUIDELINES.

2 PROPOSED EQUIPMENT GROUNDING PLAN  
E-1 SCALE: NTS

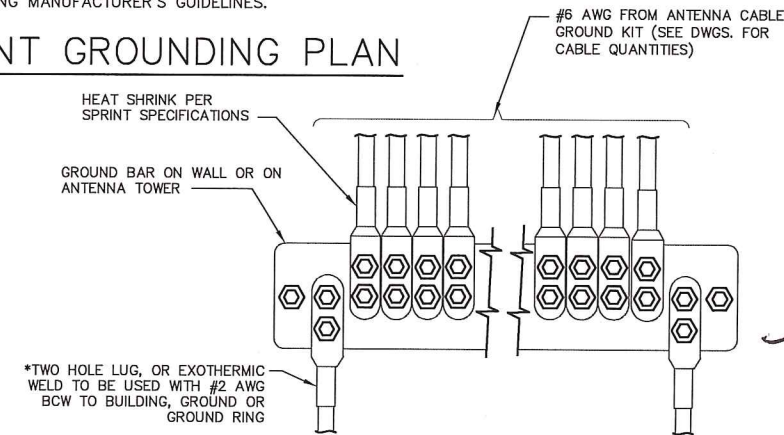


- LEGEND**
- 1- COPPER TINNED GROUND BAR, 1/4"x 4"x 20", OR OTHER LENGTH AS REQUIRED, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
  - 2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL
  - 3- 5/8" LOCKWASHERS OR EQUAL
  - 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056 OR EQUAL
  - 5- 5/8-11 X 1" H.H.C.S.BOLTS
- NOTE:**  
ALL BOLTS, NUTS, WASHERS AND LOCK WASHERS SHALL BE 18-8 STAINLESS STEEL.

3 GROUNDING BAR DETAIL  
E-1 SCALE: NTS



4 GROUNDING BAR CONN. DETAIL  
E-1 SCALE: NTS



- \* TWO HOLE LUG, OR EXOTHERMIC WELD TO BE USED WITH #2 AWG BCW TO BUILDING, GROUND OR GROUND RING**
- \* - GROUND BARS AT THE BOTTOM OF TOWERS/MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS.**
- ATTACH "DO NOT DISCONNECT" LABELS TO GROUND BARS. CAN USE BRASS TAG "DO NOT DISCONNECT" AT EACH HYBRIFLEX GROUND POINT OR BACK-A-LITE PLATE LABEL ON GROUND BAR.**
- CONNECT SEQUENCE- BOLT/WASHER/NO-OX/GROUND BAR/NO-OX/WASHER/LOCK-WASHER/NUT. THIS IS REPEATED FOR EACH LUG CONNECTION POINT.**

5 ANTENNA GROUND BAR DETAIL  
E-1 SCALE: NTS

- GROUNDING NOTES:**
1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-GROUNDING AND BONDING.
  2. ALL GROUND WIRES SHALL BE BARE #2 AWG BCW UNLESS NOTED OTHERWISE.
  3. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
  4. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
  5. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
  6. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
  7. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL AND SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
  8. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
  9. WHEN CABLE LENGTH IS OVER 20' THE MANUFACTURERS GROUND KIT MUST BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.
  10. REFER TO "ANTI-THEFT UPDATE TO SPRINT GROUNDING 082412.PDF" FOR GUIDELINE TO SUSPECTED OR ACTUAL THEFT OF GROUNDING.

**Sprint**  
NETWORK VISION MMBTS LAUNCH  
1 INTERNATIONAL BLVD., SUITE 800  
MAHWAH, NJ 07495  
OFFICE: (201)684-4000  
FAX: (201)648-4223

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NEWBURGH, NY 12550  
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DATE: 5/28/14  
REVIEWED BY: [Signature]

STATE OF CONNECTICUT  
ANTONIO A. GUALTIERI  
No. 25406  
LICENSED PROFESSIONAL ENGINEER

SITE NUMBER:  
CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
ELECTRICAL GROUNDING  
PLAN & DETAILS

SHEET NO:  
E-1

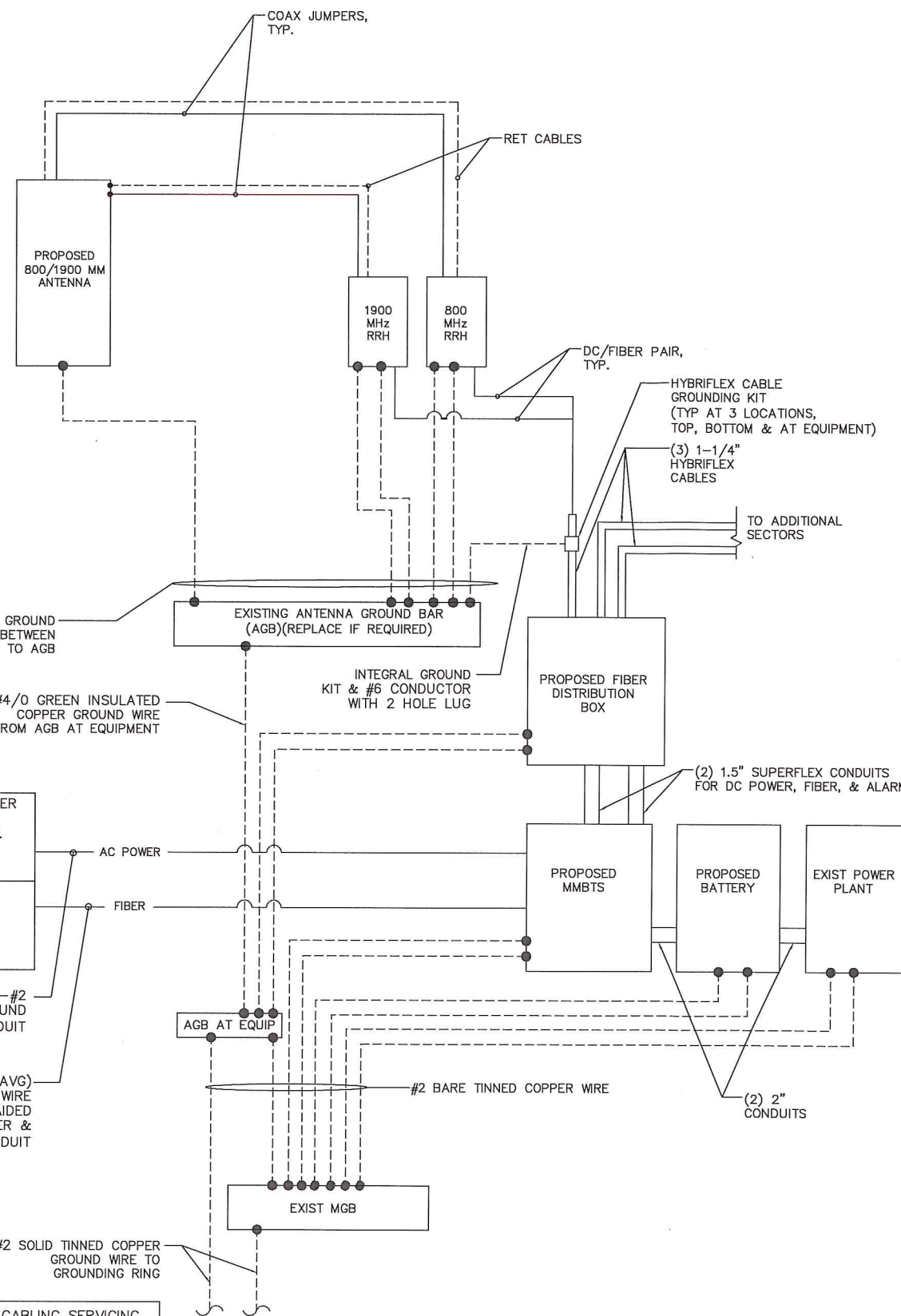


**SPRINT PPC  
200A INTERLOCKED MAIN CKT BKRS  
1-PHASE, 3-WIRE, 120/240V  
POWER PANEL (PP1)**

1			2
3	NO LABEL	NO LABEL	4
5	NO BREAKER	NO BREAKER	6
7			8
9	NO LABEL	NO LABEL	10
11			12

NOTE: CONTRACTOR TO VERIFY BREAKER SCHEDULE AND SUPPLY BREAKERS AS NECESSARY

**1  
E-2  
BREAKER SCHEDULE**  
SCALE: NTS



\*CONTRACTOR (ELECTRICIAN) TO VERIFY IN FIELD THAT THE CABLING SERVICING THE EXISTING BTS CABINET FROM THE EXISTING POWER PANEL IS RATED EQUAL TO OR GREATER THAN #2 AWG SPECIFIED FOR THE PROPOSED BTS 9927/9928 CABINET. UPGRADE THE CABLING AND CONDUIT IF NEEDED.

**2  
E-2  
TYPICAL POWER & GROUNDING ONE LINE DIAGRAM**  
SCALE: NTS

**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 AND PROCURED PER SPECIFICATION REQUIREMENTS.
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 REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
4. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
5. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.
6. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
7. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
8. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
9. GROUNDING SHALL COMPLY WITH NEC ART. 250.
10. GROUND HYBRIFLEX CABLE SHIELDS AT 3 LOCATIONS USING MANUFACTURER'S HYBRIFLEX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
11. USE #2 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
12. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
13. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #2 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
14. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
15. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
16. BOND ANTENNA MOUNTING BRACKETS, HYBRIFLEX CABLE GROUND KITS, AND RRHs TO EGB PLACED NEAR THE ANTENNA LOCATION.
17. BOND ANTENNA EGB'S AND MGB TO GROUND RING.
18. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULT FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
19. CONTRACTOR SHALL CONDUCT ANTENNA, HYBRIFLEX CABLES, AND RRH RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.
20. CONTRACTOR SHALL CHECK CAPACITY OF EXISTING SERVICE & PANEL ON SITE TO DETERMINE IF CAPACITY EXISTS TO ACCOMMODATE THE ADDED LOAD OF THIS PROJECT. ADVISE ENGINEER OF ANY DISCREPANCY.
21. LOCATION OF ALL OUTLET, BOXES, ETC, AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
22. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNERS REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT.

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**SUBMITTALS**

PROJECT NO: 6318.23-114

NO	DATE	DESCRIPTION	BY
0	09/26/12	FOR COMMENT	LP
1	01/21/13	PER COMMENTS	DAC
2	09/03/13	REVISED PER SA	MP
3	10/29/13	REVISED RFDS	MP
4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE: 5/28/14  
REVIEWED BY: JMO

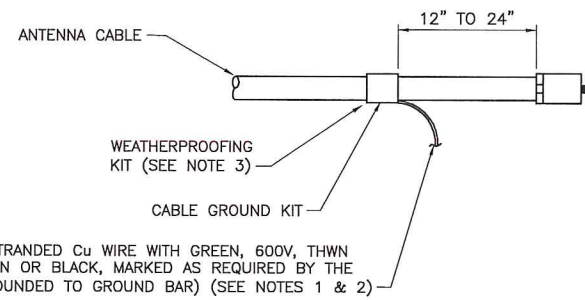
STATE OF CONNECTICUT  
ANTONIO A. GUATTERI  
No. 25406  
LICENSED PROFESSIONAL ENGINEER

CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
BREAKER SCHEDULE  
TYPICAL POWER &  
GROUND ONE-LINE DIAGRAM

SHEET NO:  
E-2





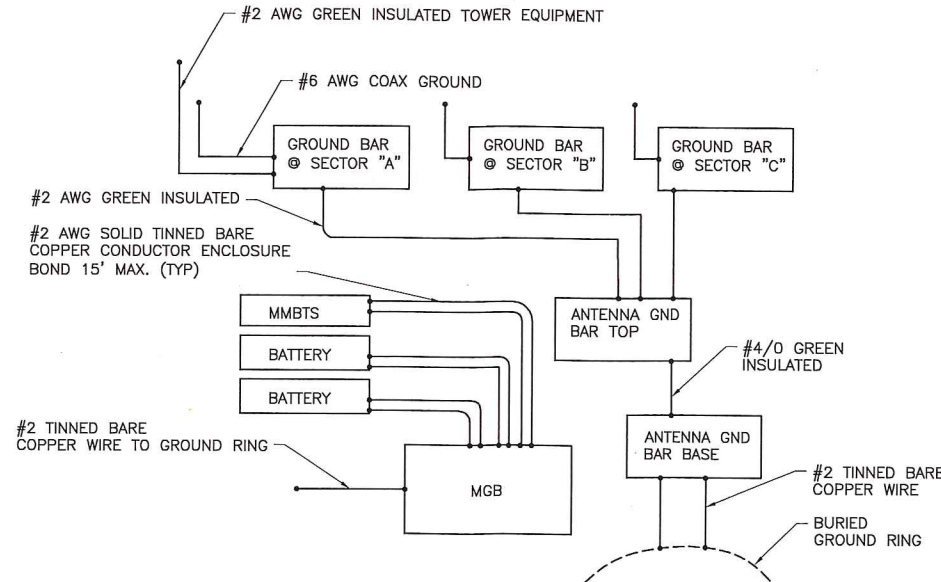
6 AWG STRANDED Cu WIRE WITH GREEN, 600V, THWN INSULATION OR BLACK, MARKED AS REQUIRED BY THE NEC (GROUNDED TO GROUND BAR) (SEE NOTES 1 & 2)

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- GROUNING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHER PROOFING SHALL BE (TYPE AND PART NUMBER) AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER AND APPROVED BY CONTRACTOR.

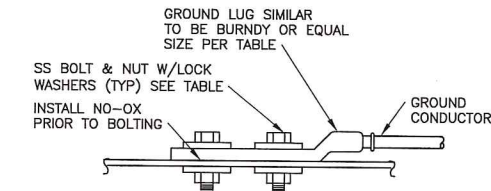
1 CABLE GROUNDING KIT DETAIL  
E-3 SCALE: N.T.S.



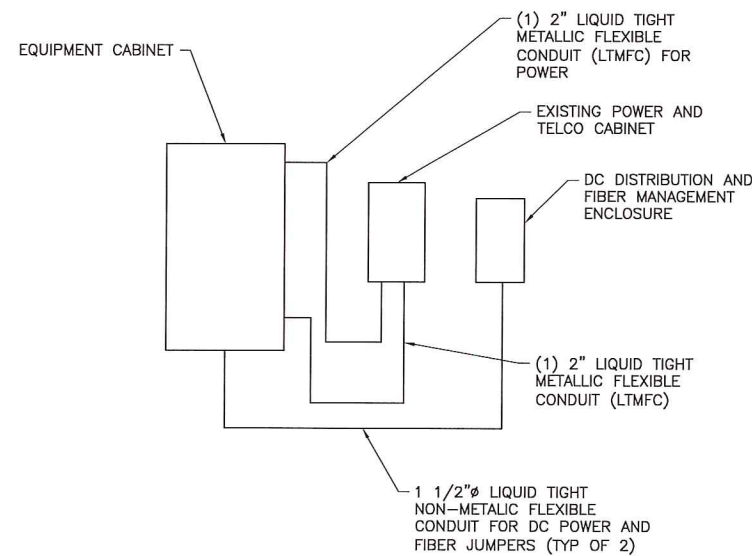
TYPICAL GROUNING SCHEMATIC EQUIPMENT & ANTENNAS (MODIFIED)

NOTE: ALL GROUND WIRES ARE #2 AWG GREEN INSULATED UNLESS NOTED OTHERWISE.

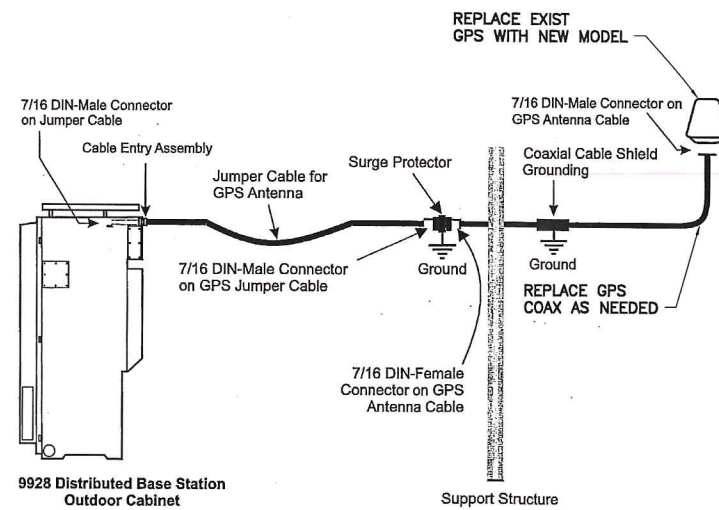
2 GROUNING SCHEMATIC  
E-3 SCALE: N.T.S.



3 LUG GROUND CONNECTION  
E-3 SCALE: N.T.S.



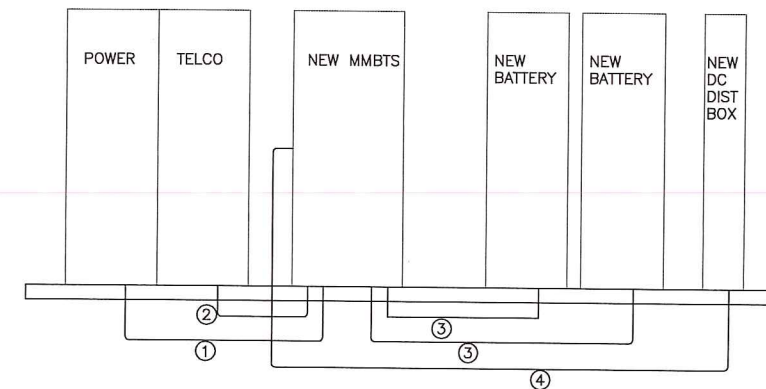
4 PLUMBING SCHEMATIC (IF REQUIRED)  
E-3 SCALE: NTS



THE GPS SURGE NEEDS TO BE INSTALLED AWAY FROM, AND SEPARATE FROM THE MMBTS CABINET. (PER THE SITE PREP GUIDE)

- THE JUMPERS ARE DESIGNED TO BE INSTALLED BEFORE/AFTER THE GPS SURGE.
- THE GPS SURGE NEEDS TO BE CONNECTED TO THE GROUND SYSTEM, VIA A GROUND LEAD.

5 GPS UNIT DETAIL  
E-3 SCALE: NTS



NOTES:

- CONTRACTOR TO USE EXISTING 100A 2 POLE BREAKER IN EXISTING PPC. VERIFY EXISTING CONTRACTOR TO REPLACE UNDERSIZED ITEM(S).
- CONTRACTOR TO PROVIDE (1) 2" EMPTY CONDUIT WITH HEAVY DUTY PULLSTRING FROM EXISTING PPC. TO PROPOSED MMBTS.
- CONTRACTOR TO PROVIDE (1) 2" SEALTIGHT CONDUIT WITH 2 #3.
- (2) NEW 1-1/2" LIQUIDTITE FLEXIBLE CONDUITS.

6 EQUIPMENT WIRING SCHEMATIC  
E-3 SCALE: NTS

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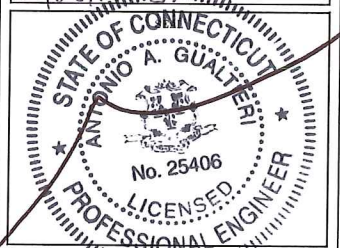
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SITE NUMBER:  
CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
GROUNDING DETAILS

SHEET NO:  
E-3



## DIVISION 01000—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 CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE PROJECT OWNER'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. 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.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM THE PROJECT OWNER'S REPRESENTATIVE TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. 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.
9. 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.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. 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.
12. 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.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING AND EXCAVATION OF ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHICH INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT THE POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER.
14. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING 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 LESSEE/LICENSEE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE CONTRACTOR SHALL NOTIFY THE THE RF ENGINEER FOR ANTENNA AZIMUTH VERIFICATION (DURING ANTENNA INSTALLATION) PRIOR TO CONDUCTING SWEEP TESTS.
17. THE CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS-BUILT DRAWINGS TO THE CLIENT REPRESENTATIVE.
18. REFER TO: CONSTRUCTION STANDARDS—SPRINT DOCUMENT EXHIBIT A—STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES REV. 4.0— 02.15.2011.DOCM.
19. REFER TO: WEATHER PROOFING SPECS: EXCERPT EXH A—WIHRPRF—STD CONSTR SPECS...157201110421855492.DOCM.
20. REFER TO: COLOR CODING—SPRINT NEXTEL ANT AND LINE COLOR CODING (DRAFT) V3 09-08-11.PDF
21. REFER TO LATEST DOCUMENTATION REVISION.

## DIVISION 03000—CONCRETE

- 1.03 APPLICABLE STANDARDS (USE LATEST EDITIONS)
- A. ACI-301 — SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
  - B. ACI-347 GUIDE TO FORM WORK FOR CONCRETE.
  - C. ASTM C33— CONCRETE AGGREGATE
  - D. ASTM C94 — READY MIXED CONCRETE e. ASTM C150 — PORTLAND CEMENT.
  - E. ASTM C260 — AIR-ENTRAINING ADMIXTURES FOR CONCRETE
  - F. ASTM C309— LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE.
  - H. ASTM C494 — CHEMICAL ADMIXTURES FOR CONCRETE
  - I. ASTM A615— DEFORMED AND PLAIN BILLET—STEEL BARS FOR CONCRETE REINFORCEMENT
  - J. ASTM A185— STEEL WELDED WIRE FABRIC (PLAIN) FOR CONCRETE REINFORCEMENT
- 1.04 QUALITY ASSURANCE
- CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ARCHITECT/ENGINEER AS DIRECTED BY THE CLIENT'S REPRESENTATIVE.
- 3.04 SURFACE FINISHES
- A. SURFACES AGAINST WHICH BACKFILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.
  - B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINS AND THE FILLING HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.
  - C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE. UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SURFACES SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 1/4" PER FOOT.
  - D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREENED.
  - E. EXPOSED SLAB SURFACES SHALL BE CONSOLIDATED, SCREENED, FLOATED, AND STEEL TROWELED. HAND OR POWER-DRIVEN EQUIPMENT MAY BE USED FOR FLOATING. FLOATING SHALL BE STARTED AS SOON AS THE SCREENED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. OPERATIONS. ALL EDGES MUST HAVE A 3/4" CHAMFER.
- 1.04 QUALITY ASSURANCE CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER.
- 3.05 PATCHING
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE ENGINEER'S DIRECTION.
- 3.06 DEFECTIVE CONCRETE
- THE CONTRACTOR SHALL NOTIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS, AND ELEVATIONS AS SPECIFIED IN ACI 301.
- 3.07 PROTECTION
- A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.
  - B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
  - C. ALL CONCRETE SHALL BE WATER CURED PER ACCEPTABLE PRACTICES SPECIFIED BY ACI CODE (LATEST EDITION)

## DIVISION 05000 — METALS

- PART 1 — GENERAL
- 1.01 WORK INCLUDED
- A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED, AND WITHOUT LIMITING THE GENERALITY HEREOF, INCLUDING ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK AND ALL ITEMS INCIDENTAL AS SPECIFIED AND AS SHOWN ON THE DRAWINGS:
1. STEEL FRAMING INCLUDING BEAMS, ANGLES, CHANNELS AND PLATES.
  2. WELDING AND BOLTING OF ATTACHMENTS.
- 1.02 REFERENCE STANDARDS
- A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:
  1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES" OR LATEST EDITION.
  2. AWS: AMERICAN WELDING SOCIETY CODE OR LATEST EDITION.
  3. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).
- PART 2 — PRODUCTS
- 2.01 MATERIALS
- A. STRUCTURAL STEEL: SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36 AND A992 FOR STRUCTURAL STEEL.
- ALL PROPOSED STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC CODE AND ASTM SPECIFICATIONS (LATEST EDITION) ALL NEW STEEL SHALL CONFORM TO THE FOLLOWING.
1. STRUCTURAL WIDE FLANGE: ASTM A992 Fy=50KSI.
  2. MISCELLANEOUS STEEL (PLATES), CHANNELS, ANGLES, ETC): ASTM A36 (Fy=36KSI).
  3. STRUCTURAL TUBING: ASTM A500 Gr. B (Fy=46KSI).
  4. STEEL PIPE: ASTM A53 Gr B (Fy=35KSI).
- 2.02 WELDING
- A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.
  - B. WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM E-233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.
  - C. FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS VISUAL INSPECTION IS ACCEPTABLE.
  - D. STUD WELDING SHALL BE ACCOMPLISHED BY CAPACITOR DISCHARGE (CD) WELDING TECHNIQUE USING CAPACITOR DISCHARGE STUD WELDER.
  - E. PROVIDE STUD FASTENERS OF MATERIALS AND SIZES SHOWN ON DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER FOR STRUCTURAL LOADINGS REQUIRED.
  - F. FOLLOW MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS TO PROPERLY SELECT AND INSTALL STUD WELDS.
- 2.03 BOLTING
- A. BOLTS SHALL BE CONFORMING TO ASTM A35 HIGH STRENGTH HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.
  - B. BOLTS SHALL BE 3/4" (MINIMUM) CONFORMING TO ASTM A325, HOT DIP GALVANIZED, ASTM A153 NUTS SHALL BE HEAVY HEX TYPE.
  - C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.
  - D. EXCEPT WHERE SHOWN, ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS TO BE DOUBLE ANGLED CONNECTIONS WITH HIGH STRENGTH BOLTS (THREADS EXCLUDED FROM SHEAR PLANE) AND HARDENED WASHERS.
  - E. STANDARD, OVERSIZED OR HORIZONTAL SHORT SLOTTED HOLES.
  - F. SNUG-TIGHT STRENGTH BEARING BOLTS MAY BE USED IN STANDARD HOLES CONFORMING TO ACIS, USING THE TURN OF THE NUT METHOD.
  - H. FULLY-TENSIONED HIGH STRENGTH (SLIP CRITICAL) SHALL BE USED IN OVERSIZED SLOT HOLES (RESPECTIVE OF SLOT ORIENTATION).
  - I. ALL BRACED CONNECTION, MOMENT CONNECTION AND CONNECTIONS NOTED AS "SLIP CRITICAL" SHALL BE BE SLIP CRITICAL JOINTS WITH CLASS A SURFACE CONDITIONS, UNLESS OTHERWISE NOTED.
  - J. EPOXY ANCHOR ASSEMBLIES SHALL BE AS MANUFACTURED BY HILTI OR ENGINEER APPROVED EQUAL, AS FOLLOWS:
- | BASE MATERIAL                 | ANCHOR SYSTEM       |
|-------------------------------|---------------------|
| CONCRETE                      | HILTI HIT-HY150 MAX |
| HOLLOW & GROUTED CMU OR BRICK | HILTI HIT-HY 70     |
- 2.04 FABRICATION
- A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS

- 2.05 FINISH
- A. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. (LATEST EDITION) UNLESS OTHERWISE NOTED.
- 2.06 PROTECTION
- A. UPON COMPLETION OF ERECTION, INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS OR GALVANIZED BREAKS WITH (2) COATS OF ZINC-RICH COLD GALVANIZING PAINT.
- PART 3 — ERECTION
- A. PROVIDE ALL ERECTION, EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION, BUT ARE NECESSARY FOR ITS PROPER ERECTION.
  - B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING
  - C. TEMPORARY BRACING, GUYING, AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SET AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.



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SUBMITTALS			
PROJECT NO: 6318.23-114			
NO	DATE	DESCRIPTION	BY
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1	01/21/13	PER COMMENTS	DAC
2	09/03/13	REVISED PER SA	MP
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5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE	REVIEWED BY
5/28/14	JMQ



SITE NAME:  
**MONTVILLE / NORWICH CDT**

SITE ADDRESS:  
**2 HINKLEY HILL RD**  
**PRESTON, CT 06360**

SHEET TITLE:  
**GENERAL NOTES**

SHEET NO:  
**GN-1**



## DIVISION 13000--SPECIAL CONSTRUCTION ANTENNA INSTALLATION

### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

A. ANTENNAS AND HYBRIFLEX CABLES ARE FURNISHED BY CLIENT'S REPRESENTATIVE UNDER SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPERTY.

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT RESULT

F. INSTALL HYBRIFLEX CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.

G. ANTENNA AND HYBRIFLEX CABLE GROUNDING:

1. ALL EXTERIOR #6 GREEN GROUND WIRE DAISY CHAIN CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE 3221213 OR EQUIVALENT.

2. ALL HYBRIFLEX CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF HYBRIFLEX CABLE (NOT WITHIN BENDS). 1.02 RELATED WORK FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH QOTHER TRADES PRIOR TO BID:

1. FLASHING OF OPENING INTO OUTSIDE WALLS.
2. SEALING AND CAULKING ALL OPENINGS.
3. PAINTING.
4. CUTTING AND PATCHING.

#### 1.03 REQUIREMENTS OF REGULATOR AGENCIES

A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.

B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. EIA - ELECTRONIC INDUSTRIES ASSOCIATION RS-22. STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. FAA - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7480-1H, CONSTRUCTION MARKING AND LIGHTING.
3. FCC - FEDERAL COMMUNICATION COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES
4. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION FOR STRUCTURAL JOINTS USING ASTM 1325 OR A490 BOLTS.
5. NEC - NATIONAL ELECTRIC CODE - ON TOWER LIGHTING KITS.
6. UL - UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.
7. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.
8. LIFE SAFETY CODE NFPA, LATEST EDITION.

## DIVISION 13000--EARTHWORK

### PART 1 GENERAL

1.01 WORK INCLUDED: REFER TO SURVEY AND SITE PLAN FOR WORK INCLUDED.

#### 1.02 RELATED WORK

A. CONSTRUCTION OF EQUIPMENT FOUNDATIONS  
B. INSTALLATION OF ANTENNA SYSTEM

### PART 2 PRODUCTS

#### 2.01 MATERIALS

A. ROAD AND SITE MATERIALS; FILL MATERIAL SHALL BE ACCEPTABLE, SELECT FILL SHALL BE IN ACCORDANCE WITH LOCAL DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS.

B. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE-EMERGENCE DESIGN.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI OR EQUAL - 600X AT ACCESS ROAD AND COMPOUND.

D. GRAVEL FILL; WELL GRADED, HARD, DURABLE, NATURAL SAND AND GRAVEL, FREE FROM ICE AND SNOW, ROOTS, SOD RUBBISH, AND OTHER DELETERIOUS OR ORGANIC MATTER.

MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS.

GRAVEL FILL TO BE PLACED IN LIFTS OF 9" MAXIMUM THICKNESS AND 90 % DENSITY. COMPACTED TO 95

E. NO FILL OR EMBANKMENT MATERIALS SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OF EMBANKMENT

#### 2.02 EQUIPMENT

A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS. LARGER AREAS SHALL BE COMPACTED BY SHEEPS FOOT, VIBRATORY OR RUBBER TIED ROLLERS WEIGHING AT LEAST FIVE TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER-DRIVER, HAND HELD TAMPERS.

B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS GRUB ORGANIC MATERIAL TO A MINIMUM OF 6" BELOW ORIGINAL GROUND LEVEL.

C. UNLESS OTHERWISE INSTRUCTED BY CLIENT'S REPRESENTATIVE. REMOVE TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED DISPOSAL LOCATION.

D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.

E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE GRUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.

#### 3.03 INSTALLATION

A. THE SITE AND TURNAROUND AREAS SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS. GRADE OR FILL THE SITE AND ACCESS ROAD AS REQUIRED TO PRODUCE EVEN DISTRIBUTION OF SPOILS RESULTING FROM FOUNDATION EXCAVATIONS. THE RESULTING GRADE SHALL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FORM FINISHED GRADES OR SLOPES INDICATED.

B. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION.

C. DO NOT CREATE DEPRESSIONS WHERE WATER MAY POND.

D. THE CONTRACT INCLUDES ALL NECESSARY GRADING, BANKING, DITCHING AND COMPLETE SURFACE COURSE FOR ACCESS ROAD. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO PUBLIC THOROUGHFARE IS INCLUDED IN SCOPE OF WORK UNLESS OTHERWISE INDICATED.

E. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.

F. PLACE FILL OR STONE IN 3" MAXIMUM LIFTS AND COMPACT BEFORE PLACING NEXT LIFT.

G. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF 12" BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.

H. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SLOPES GREATER THAN 2:1.

I. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.

J. RIPRAP ENTIRE DITCH FOR 6'-0" IN ALL DIRECTIONS AT CULVERT OPENINGS.

K. SEED, FERTILIZER AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS AND DITCHES, DRAINAGE, SWALES, NOT OTHERWISE RIP-RAPPED.

L. UNDER NO CIRCUMSTANCES SHALL DITCHES, SWALES OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SITE. IF OWNER DESIGNS OR IF DESIGN ELEVATIONS CONFLICT WITH THIS GUIDANCE ADVISE THE OWNER IMMEDIATELY.

M. IF A DITCH LIES WITH SLOPE GREATER THAN TEN PERCENT, MOUND DIVERSIONARY HEADWALL IN THE DITCH AT CULVERT ENTRANCES. RIP-RAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR 6'-0" ABOVE THE CULVERT.

N. IF A DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUND DIVERSIONARY HEADWALLS IN THE DITCH FOR 6'-0" ABOVE THE CULVERT ENTRANCE.

O. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND TO LOOSEN THE SOIL.

P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.

Q. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

#### 3.04 FIELD QUALITY CONTROL

A. COMPACTION SHALL BE D-1557 FOR SITE WORK AND 95 % MAXIMUM DENSITY UNDER SLAB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. THE COMPACTION TEST RESULTS SHALL BE AVAILABLE PRIOR TO THE CONCRETE POUR.

#### 3.05 PROTECTION

A. PROTECT SEEDED AREAS FORM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1"-2". STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE AND SECURED TO STAKES EXTENDING 2'-0" INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES SHALL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS. REFER TO DETAILS ON DRAWINGS

SYMBOLS	ABBREVIATIONS
--- g --- g ---	GROUND WIRE
--- E --- E ---	ELECTRIC
--- T --- T ---	TELEPHONE
--- OW --- OW --- OW --- OW ---	OVERHEAD WIRE
-----	PROPERTY LINE
-x-x-x-x-x-	CHAIN LINK FENCE
A-1	ANTENNA MARK
(E)	EXISTING
(P)	PROPOSED DETAIL
	REFERENCE
	SURFACE ELEVATION

# Sprint

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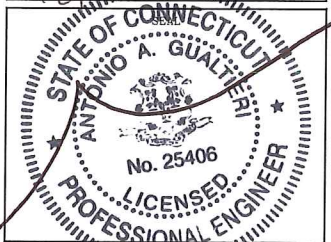
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## SUBMITTALS

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5	05/14/14	FOR CONSTRUCTION	JT
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DATE	REVIEWED BY
5/28/14	



SITE NUMBER:  
CT23XC114  
SITE NAME:  
MONTVILLE / NORWICH CDT  
SITE ADDRESS:  
2 HINKLEY HILL RD  
PRESTON, CT 06360

SHEET TITLE:  
GENERAL NOTES

SHEET NO:  
GN-2



**AAV SCOPE OF WORK NOTES:**

- ① FIBER RUN: EXISTING HANDHOLE NEXT TO FIBER TERMINAL.
- ② AT&T FIBER TO ORIGINATE FROM EXISTING HANDHOLE AND RUN WITHIN PROPOSED 2" PVC CONDUIT U.G. TO EXISTING HOFFMAN BOX. (APPROX. 20')
- ③ PROPOSED FIBER TO CONTINUE FROM EXISTING HOFFMAN BOX AND RUN WITHIN EXISTING 4" PVC CONDUIT U.G. TO EXISTING SPRINT TELCO CABINET. (APPROX. 150')
- ④ PROPOSED CIENA 3911 TO BE MOUNTED ON THE BACK OF SPRINT TELCO CABINET.
- ⑤ FIBER TO CONTINUE FROM EXISTING TELCO CABINET WITHIN PROPOSED 2" LIQUID TIGHT CONDUIT A.G. TO PROPOSED CIENA 3911. (APPROX. 3')
- ⑥ FIBER TO CONTINUE FROM PROPOSED CIENA 3911 WITHIN PROPOSED 2" LIQUID TIGHT CONDUIT A.G. TO EXISTING SPRINT TELCO CABINET. (APPROX. 3')
- ⑦ FIBER TO CONTINUE FROM EXISTING SPRINT TELCO CABINET WITHIN EXISTING 2" RGS CONDUIT U.G. TO PROPOSED MM-BTS CABINET. (APPROX. 20')
- ⑧ PROPOSED FIBER FROM EXISTING HANDHOLE TO PROPOSED MM-BTS CABINET (APPROX. 198'± TOTAL)
- ⑨ PROPOSED INSTALL 1 1/4" RGS CONDUIT FROM THE PROPOSED MM-BTS TO PROPOSED CIENA 3911. INLINE FUSE TO BE MOUNTED AT PROPOSED CIENA 3911. (APPROX. 20'±) (DC POWER CONDUCTORS \*TBD BY SPRINT GC\*)

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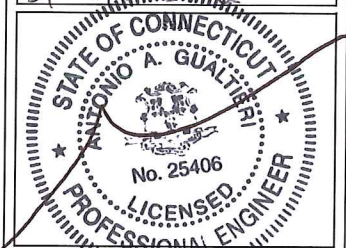
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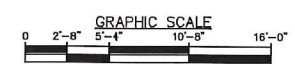
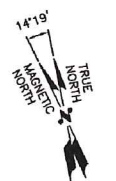
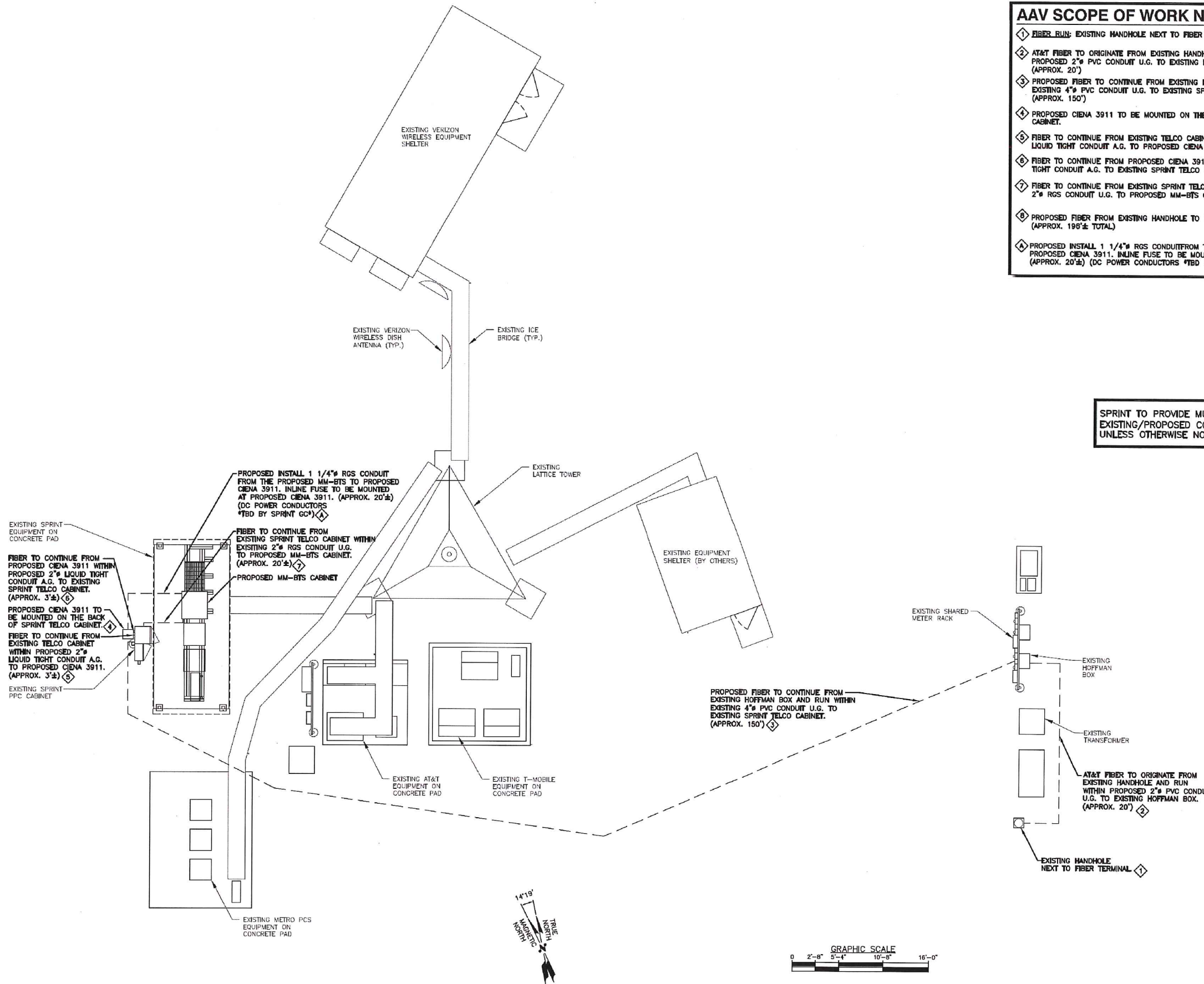


CT23XC114  
 SITE NAME:  
 MONTVILLE / NORWICH CDT  
 SITE ADDRESS:  
 2 HINKLEY HILL RD  
 PRESTON, CT 06360

SHEET TITLE:  
 COMPOUND PLAN  
 & NOTES

SHEET NO:  
 AAV-1

SPRINT TO PROVIDE MULE TAPE IN EXISTING/PROPOSED CONDUIT PATHS UNLESS OTHERWISE NOTED





MAXIMUM PIPE DIAMETER (IN.)	MAXIMUM EMT	ANNULAR SPACE (IN.)	FORMING MATERIAL THICKNESS (IN.)	MINIMUM SEALANT THICKNESS (IN.)	F RATING (HOURS)	T RATING (HOURS)
1-1/2	-	3/8 TO 2-1/8	2-1/2	2	3	1
6	4	3/8 TO 3/4	3-1/2	1	3	0
6	4	3/8 TO 1	2-1/2	2	3	0

CONCRETE FLOOR OR WALL ASSEMBLY, MINIMUM 4-1/2 IN. THICKNESS FLOOR/ MINIMUM 6-1/2 IN. WALL.

TYPE AS OR TYPE SS: MINIMUM THICKNESS OF SEALANT AS SPECIFIED IN THE TABLE BELOW, APPLIED WITHIN THE OPENING, FLUSH WITH THE TOP SURFACE OF THE FLOOR OR BOTH SURFACES OF THE WALL.

FORMING MATERIAL: MINERAL WOOL INSULATION (MINIMUM 4.0 PCF) FIRMLY PACKED INTO THE OPENING AS A PERMANENT FORM; SEE TABLE FOR MINIMUM REQUIRED THICKNESS.

METALLIC PIPE: STEEL PIPE: 6" (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE. CONDUIT: 4" (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT) OR 6" RIGID STEEL CONDUIT.

UL SYSTEM NUMBER: C-AJ-1020  
F RATING - 3 HR.

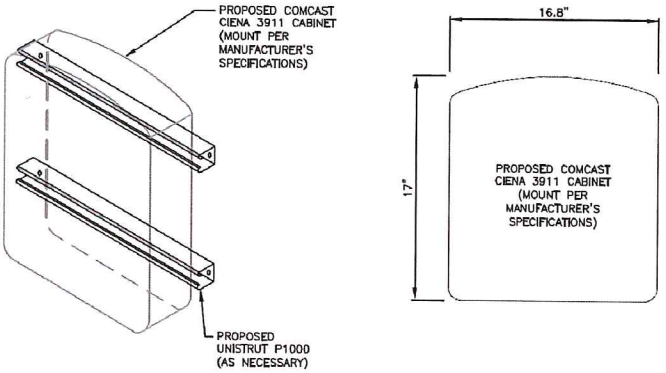
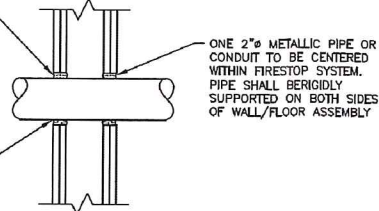
PIPE AND CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY

PACKING MATERIAL: MIN. 1 IN. THICKNESS OF MIN. 3.5 PCF FIBERGLASS INSULATION SHALL BE WRAPPED AROUND THE THROUGH-PENETRANT AND SECURED TOGETHER BY MEANS OF NO. 24 AWG STEEL TIE WIRE. PACKING MATERIAL SHALL BE CENTERED AT MID-DEPTH OF OPENING AND RECESSED FROM BOTH SURFACES OF WALL ASSEMBLY REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

FILL VOID OR CAVITY MATERIAL - CAULK OR PUTTY: IN 2 HR FIRE RATED ASSEMBLIES MIN 3/4 IN. THICKNESS FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 IN. CROWN IS FORMED AROUND THE PENETRATING ITEM. IN 1 HR FIRE RATED ASSEMBLIES, MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS ON BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 3/8 IN. CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 IN. BEYOND THE PERIPHERY OF THE OPENING.

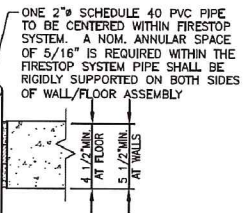
SPECIFIED TECHNOLOGIES, INC.  
SPECSEAL SERIES SSS SEALANT,  
SPECSEAL LCI SEALANT OR SPECSEAL PUTTY. F RATING - 1 & 2 HR.

PIPE AND CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



2 CIENA 3911 MOUNTING DETAIL  
AAV-2 SCALE: NTS

PACKING MATERIAL: MIN 1-1/2 IN. THICKNESS OF MIN 6 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.



ALL CORES THROUGH ELECTRIC ROOMS TO BE FIRE-STOPPED.  
USE FULL CONDUIT RUNS THROUGH PENETRATIONS

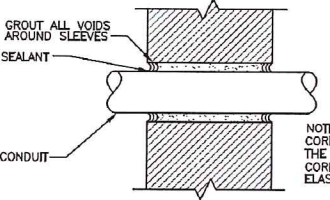
FILL VOID OR CAVITY MATERIAL - SEALANT: MIN 2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH THE TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL.

SPECIFIED TECHNOLOGIES, INC.  
SPECSEAL SERIES SSS SEALANT OR SPECSEAL LCI SEALANT.

UL SYSTEM NUMBER: C-AJ-2057  
F RATING - 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY

WALL HR	MAX DIAM OF THROUGH PENETRANT IN.	T RATING HR
1	2	1
1	1-1/4	1
2	2	1
2	1-1/4	1 1/2



PIPE AND CONDUIT PENETRATION  
DETAIL IN NON-RATED PARTITION

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

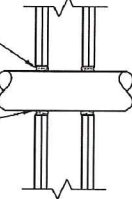
THROUGH PENETRANTS: ONE 2" NONMETALLIC PIPE, CONDUIT OR RACEWAY TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. A NOM ANNULAR SPACE OF 5/16 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR RACEWAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

FILL VOID OR CAVITY MATERIAL - SEALANT: MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 IN. THICK CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 IN. BEYOND THE PERIPHERY OF THE OPENING.

SPECIFIED TECHNOLOGIES, INC.  
SPECSEAL SERIES SSS SEALANT,  
SPECSEAL LCI SEALANT.

UL SYSTEM NUMBER: W-L-2093  
F RATING - 1 & 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



1 PENETRATION DETAILS  
AAV-2 SCALE: NTS

**Sprint**  
NETWORK VISION MMBTS LAUNCH  
1 INTERNATIONAL BLVD., SUITE 800  
MAHWAH, NJ 07495  
OFFICE: (201) 684-4000  
FAX: (201) 648-4223

**Alcatel-Lucent**  
1 ROBBINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**HPC**  
WIRELESS SERVICES

**TECTONIC**  
ENGINEERING & SURVEYING CONSULTANTS P.C.  
1279 ROUTE 300  
NEWBURGH, NY 12550  
PHONE: (845) 567-8558  
FAX: (845) 567-8703  
WWW.TECTONICENGINEERING.COM

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**SUBMITTALS**

PROJECT NO: 6318.23-114

NO	DATE	DESCRIPTION	BY
0	09/26/12	FOR COMMENT	LP
1	01/21/13	PER COMMENTS	DAC
2	09/03/13	REVISED PER SA	MP
3	10/29/13	REVISED RFDS	MP
4	05/12/14	REVISED TO HOT SWAP	MP
5	05/14/14	FOR CONSTRUCTION	JT
6	05/28/14	PER LL COMMENTS	AS

DATE: 5/28/14 REVIEWED BY: [Signature]

STATE OF CONNECTICUT  
ANTONIO A. GUALTIERI  
No. 25406  
LICENSED PROFESSIONAL ENGINEER

SITE NUMBER: CT23XC114  
SITE NAME: MONTVILLE / NORWICH CDT  
SITE ADDRESS: 2 HINKLEY HILL RD  
PRESTON, CT 06360  
SHEET TITLE: DETAILS  
SHEET NO: AAV-2