

### Application to Planning Commission and Board of Supervisors

**Application For:** (check appropriate boxes)  
 Rezoning     Rezoning & Special Use Permit     Special Use Permit

**Owner/Applicant Information:** (Use current mailing/contact information for all property owners. An additional sheet may be attached for multiple owners.)

Property Owner: <u>Den Hill Road, LLC</u>	Agent: <u>Gentry Locke Rakes &amp; Moore LLP</u>
Address: <u>800 Summers Road</u> <u>Blacksburg, Virginia 24060</u>	Address: <u>10 Franklin Road, Suite 900</u> <u>Roanoke, Virginia 24011</u>
Phone 1: <u>N/A</u>	Phone 1: <u>(540) 983-9350</u>
Phone 2: _____	Phone 2: _____
Email: <u>N/A</u>	Email: <u>mwiegard@gentrylocke.com</u>

Location of Property/ Site Address: 906 Den Hill Road, Christiansburg, VA 24073

Legal Record of Property: Total Area: 44 Acres    Magisterial District C

Parcel ID: 160444; 006179    Tax Parcel Number(s): 68-A-145A; 145

Rezoning Details: Current Zoning District: N/A    Requested Zoning District: N/A

Desired Use(s): N/A

Special Use Permit: Current Zoning District A-1    Total Area/Acres: ±400 sq. ft.

Desired Use(s): Telecommunications Tower - Modifications to Existing Tower.

Comprehensive Plan Designation: Resource Stewardship

Traffic Impact Analysis Required:  Yes (payment enclosed)     No

*I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.*

<u>Laura Estes</u> Property Owner(s) Signature	<u>June 6 2015</u> Date	<u>[Signature]</u> Agent's Signature	<u>6-1-15</u> Date
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**FOR OFFICE USE ONLY**

Date Received: 7/1/15    Application Number: SU-2015-13029

Traffic Impact Analysis and Payment Received:  Yes  No    Date Submitted to VDOT: \_\_\_\_\_



**GENTRY LOCKE**  
Attorneys

Maxwell H. Wiegard  
mwiegard@gentrylocke.com  
P: (540) 983-9350  
F: (540) 983-9400

September 1, 2015

**By Hand Delivery**

Ms. Dari Jenkins  
Planning & Zoning Administrator  
Montgomery County, Department of Planning & GIS Services  
755 Roanoke Street, Suite 2A  
Christiansburg, Virginia 24073-3177



Re: Proposed Special Use Permit Application  
Second Amended Justification Statement and Comprehensive Plan Justification  
Tax Map Numbers: 68-A-145A  
Address: 906 Den Hill Road, Christiansburg, Virginia 24073 (the "Subject Property")  
Applicant: nTelos (Site ID RN757 Ellet)

Dear Ms. Jenkins:

On behalf of nTelos, please accept this letter as a second amended statement of justification and Comprehensive Plan justification in support of the above referenced application.

The Subject Property is currently zoned to the Agricultural ("A-1") district and is identified in the "Resource Stewardship" land use policy area of the Montgomery County, 2025, Comprehensive Plan. Located in the District C Magisterial District, the Subject Property consists of approximately 44 acres, while only a portion of the Subject Property is used by the Applicant. A portion of the existing telecommunications tower and adjacent property is leased by the Applicant and is currently used as a wireless telecommunications facility. The Applicant proposes a modification to the existing special use permit approval and approved conditions to accommodate minor technological equipment upgrades to the existing telecommunications facility.

Specifically, for the reasons set forth below, the Applicant seeks relief from condition Nos. 2, 3 and 5 to the existing special use permit. Condition No. 2 requires conformance with the prior plans submitted in 2008. The proposed change in the design of nTelos's telecommunications facility differs from the design shown in the plans approved when the telecommunications tower was constructed entitled, "AT&T Saint Andrews, Site No. R0339G" prepared by BC Architects Engineers, dated July 30, 2008. Condition No. 3 to the existing special use permit requires that all antennas mounted on the existing stealth monopole telecommunications tower to be "flush mounted" and prohibits the distance between the face of the pole and the outer face of the antennas from exceeding 12 inches. Condition No. 5 to the

September 1, 2015  
Page 2

existing special use permit prohibits the Applicant from constructing any platforms or dishes on the existing stealth monopole telecommunications tower above the tree line. Without relief from these conditions to the existing special use permit, nTelos would not be able to use a low-profile mount application described below, which is necessary to give the Applicant enough physical space to install all of the antennas and remote radio heads required for an important 4G/LTE technology upgrade within the existing tower space. In the event that the County considers the proposed low-profile mount application to be a "platform," as that term is used in the existing special use permit, the Applicant will need relief from Condition No. 5 to the existing special use permit.

Accordingly, nTelos proposes the following modifications/deletions to the existing conditions:

- 1) Amend Condition 2 to reflect the plans prepared by Mead & Hunt, last revised on August 21, 2015;
- 2) Amend Condition 3 to permit the installation of a low profile antenna mount with a distance between the face of the pole and the outer face of the antennas not to exceed 72 inches; and
- 3) Amend Condition 5 to permit platforms above the tree line.

In the way of background, the Applicant is in the process of enhancing its existing voice and data network by replacing old network equipment with next generation 4G/LTE ("Long Term Evolution") equipment at most of its wireless telecommunications facilities in Montgomery County. The equipment and technology upgrade will provide the Applicant's customers in Montgomery County with access to the most advanced broadband service available along with improved call performance, expanded coverage, faster data speeds and stronger indoor signals.

The Applicant's current facility consists of three (3) HBX-6517DS-VTM antennas and six (6) 1-5/8" coaxial cables at a centerline height of 107' on an existing 117' tower. The Applicant also has two (2) equipment cabinets located on an existing platform at the base of the tower. As shown on the enclosed plans prepared by Mead & Hunt, last revised on August 21, 2015, the Applicant proposed modifications consist principally of the following elements:

- 1) On the tower:
  - a. Three (3) HBX-6517DS-VTM antennas at an antenna centerline height of 107' on an existing 117' above grade level to remain, with new remote radio heads; and
  - b. Three (3) new ET-X-UW-68-14-65-18-IR-AT panel antennas mounted at an antenna centerline height of 107' above grade level, with associated remote radio heads; and

September 1, 2015  
Page 3

- c. Two (2) new TTTT65AP-1XR and one (1) TTTT90AP-1XR panel antennas mounted at an antenna centerline height of 107' above grade level, with associated remote radio heads; and
- d. Three (3) new hybriflex cables; and
- e. Low profile co-location platform.

2) In the Existing Compound:

- a. One (1) new 9927 Base Transceiver Station and one (1) new battery cabinet to be located within the existing ground leased space (ie., platform).

Notably, the Applicant's modifications will not increase the height of the tower or the dimensions of the equipment compound. In addition to the installation of new antennas, the equipment upgrade requires the installation of tower-mounted electronics ("Remote Radio Heads") that were not envisioned when the original special use permit application was granted. These Remote Radio Heads cannot fit into a flush-mount configuration, as specified in the existing special permit conditions, and restricting their installation will severely impact the Applicant's ability to provide the advanced broadband services that wireless users demand and reduce collocation opportunities on the tower. The Applicant proposes to use a low-profile mount application, which would give the Applicant enough physical space for the antennas and remote radio heads required for the 4G/LTE technology upgrade within the existing tower space. Although not a flush-mount application, the low-profile mount mitigates potential adverse impacts and still achieves the network improvements that the Applicant's customers need. For reference, I have enclosed a drawing showing another tower located in Montgomery County that has been upgraded to 4G/LTE technology using a standard mount application. As you will note from comparing the proposed low-profile mount with the standard mount, there are distinguishing features of the low-profile mount that serve to minimize the impact of the proposed design.

The existing tower satisfies the additional regulations for freestanding telecommunications towers, provided in Section 10-48(6) of the Montgomery County Zoning Ordinance (the "Zoning Ordinance") and the Applicant's modifications will not impact the towers' compliance with those regulations.

Similarly, as detailed item by item below, the modifications to the existing special use permit satisfies the conditions and factors when evaluating a special use permit, as specified in Section 10-54(3)(g) of the Zoning Ordinance:

1. Whether the proposed Special Use Permit is consistent with the Comprehensive Plan (Addressed under "3. Comprehensive Plan Justification").
  - a. Applicant's Response: See additional discussion below for a discussion of the application's consistency with the Comprehensive Plan.

September 1, 2015

Page 4

2. Whether the proposed Special Use Permit will adequately provide for safety from fire hazards and have effective measures of fire control.
  - a. Applicant's Response: Not applicable.
3. The level and impact of any noise emanating from the site, including that generated by the proposed use, in relation to the uses in the immediate area.
  - a. Applicant's Response: The Applicant does not anticipate any noise impacts during operation. Some short-term noise will be expected during the construction process.
4. The glare or light that may be generated by the proposed use in relation to uses in the immediate area.
  - a. Applicant's Response: Not applicable.
5. The proposed location, lighting and type of signs in relation to the proposed use, uses in the area, and the sign requirements of this Ordinance.
  - a. Applicant's Response: Not applicable.
6. The compatibility of the proposed use with other existing or proposed uses in the neighborhood, and adjacent parcels.
  - a. Applicant's Response: The existing tower has been sited to minimize negative impacts and to preserve compatibility with surrounding uses.
7. The location and area footprint with dimensions (all drawn to scale), nature and height of existing or proposed buildings, structures, walls, and fences on the site and in the neighborhood.
  - a. Applicant's Response: Please see the Concept Development Plan for all dimensional details.
8. The nature and extent of existing or proposed landscaping, screening and buffering on the site and in the neighborhood.
  - a. Applicant's Response: The existing tower is surrounded by substantial vegetation.
9. The timing and phasing of the proposed development and the duration of the proposed use.
  - a. Applicant's Response: The requested modifications will prolong the technological useful life of the tower.
10. Whether the proposed Special Use Permit will result in the preservation or destruction, loss or damage of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.
  - a. Applicant's Response: Not applicable.

September 1, 2015  
Page 5

11. Whether the proposed Special Use Permit at the specified location will contribute to or promote the welfare or convenience of the public.
  - a. Applicant's Response: As noted above, the Applicant's proposed upgrades will allow the Applicant to better serve and to meet the wireless telecommunications needs of its customers who are residents of Montgomery County.
12. The traffic expected to be generated by the proposed use, the adequacy of access roads and the vehicular and pedestrian circulation elements (on and off-site) of the proposed use, all in relation to the public's interest in pedestrian and vehicular safety and efficient traffic movement.
  - a. Applicant's Response: Not applicable.
13. Whether, in the case of existing structures proposed to be converted to uses requiring a Special Use Permit, the structures meet all code requirements of Montgomery County.
  - a. Applicant's Response: Not applicable.
14. Whether the proposed Special Use Permit will be served adequately by essential public facilities and services.
  - a. Applicant's Response: Yes.
15. The effect of the proposed Special Use Permit on groundwater supply.
  - a. Applicant's Response: Not applicable.
16. The effect of the proposed Special Use Permit on the structural capacity of the soils.
  - a. Applicant's Response: Not applicable.
17. Whether the proposed use will facilitate orderly and safe road development and transportation.
  - a. Applicant's Response: Not applicable.
18. The effect of the proposed Special Use Permit on environmentally sensitive land or natural features, wildlife habitat and vegetation, water quality and air quality.
  - a. Applicant's Response: As the Applicant will be upgrading an existing tower without changes to the overall height, none of these impacts are anticipated.
19. Whether the proposed Special Use Permit use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.
  - a. Applicant's Response: Not applicable.

September 1, 2015

Page 6

20. Whether the proposed Special Use Permit considers the needs of agriculture, industry, and businesses in future growth.
  - a. Applicant's Response: Yes, the Applicant has recognized the need to provide the most up to date technology available which will foster the needs of industry and businesses, as well as, residents.
21. The effect of the proposed Special Use Permit use in enhancing affordable shelter opportunities for residents of the County.
  - a. Applicant's Response: Not applicable.
22. The location, character, and size of any outdoor storage.
  - a. Applicant's Response: Not applicable.
23. The proposed use of open space.
  - a. Applicant's Response: Not applicable.
24. The location of any major floodplain and steep slopes.
  - a. Applicant's Response: Not applicable.
25. The location and use of any existing non-conforming uses and structures.
  - a. Applicant's Response: Not applicable.
26. The location and type of any fuel and fuel storage.
  - a. Applicant's Response: All fuel storage will be provided in accordance with the existing conditions.
27. The location and use of any anticipated accessory uses and structures.
  - a. Applicant's Response: Not applicable.
28. The area of each use; if appropriate.
  - a. Applicant's Response: Not applicable.
29. The proposed days/hours of operation.
  - a. Applicant's Response: Not applicable.
30. The location and screening of parking and loading spaces and/or areas.
  - a. Applicant's Response: Not applicable.
31. The location and nature of any proposed security features and provisions.
  - a. Applicant's Response: Appropriate security procedures are incorporated into the existing facility.

September 1, 2015

Page 7

32. The number of employees.
  - a. Applicant's Response: Not applicable.
33. The location of any existing and/or proposed adequate on and off-site infrastructure.
  - a. Applicant's Response: Not applicable.
34. Any anticipated odors, which may be generated by the uses on site.
  - a. Applicant's Response: Not applicable.
35. Whether the proposed Special Use Permit uses have sufficient measures to mitigate the impact of construction traffic on existing neighborhoods and school areas.
  - a. Applicant's Response: Not applicable.

The proposed application is also consistent with the Comprehensive Plan guidance. The proposed application does not alter any lot size or district minimum sizes and will have no impact on the availability of water or sewer services. Consistent with the policies of the Resource Stewardship land use policy area, the Applicant does not seek to further develop the Subject Property or add additional density. Finally, this application recognizes the value of an existing tower and collocation opportunities, in lieu of additional tower sites which is in harmony with Montgomery County's Regional Approach to Telecommunications Tower, which became a part of the County's Comprehensive Plan in 2001.

Also relevant to the Applicant's application is federal legislation passed in 2012. Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the "Spectrum Act" was created to foster the more rapid deployment of wireless telecommunications nationwide. Among other things, the Spectrum Act, mandated the local government administrative review and approval of certain modifications to existing telecommunications facilities. In late 2014, the Federal Communications Commission ("FCC") published rules in an effort to eliminate confusion resulting from inconsistent interpretations and informal guidance and to promote the congressional intent of Section 6409(a). The FCC rules became effective on April 8, 2015. The FCC unanimously adopted a Report and Order that codified certain rules to clarify, define, and implement the language of Section 6409(a) (the "Report and Order"). The Report and Order provides specific guidance to localities when faced with an application seeking to enhance wireless infrastructure on existing facilities, including definitions of "transmission equipment," "wireless tower or base station," "removal," "replacement," "modification," and "substantial change," and establishing time periods for state and local government review. The FCC defines the above terms broadly and in a manner reflecting the congressional intent to facilitate the rapid deployment of upgrades to existing wireless communications infrastructure. Applying the FCC rules to the technological changes associated with the upgrade to 4G/LTE technology proposed by the Applicant, these upgrades are the nature of upgrades that are eligible for an expedited review by Montgomery County.



September 1, 2015  
Page 8

In accordance with the policy of Montgomery County, I have enclosed ten (10) paper copies and one (1) digital submission of the application package, consisting of the special use permit application form, this statement, the concept development plan, and the drawing of a standard mount (non-low profile) application.

Thank you in advance for your consideration and please do not hesitate to contact me to further discuss any of the application materials. I look forward to continuing to work with you and other representatives of Montgomery County regarding this application.

Very truly yours,

GENTRY LOCKE

A handwritten signature in blue ink, appearing to read 'Maxwell H. Wiegard', written over the printed name.

Maxwell H. Wiegard

cc: Ms. Debbie Balser  
Jonathan D. Puvak, Esq.

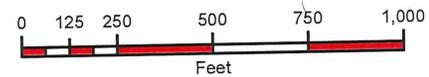


Subject Tower



Map Prepared by Montgomery County, Va  
Planning and GIS Services, 06/02/2015

906 Den Hill Rd





1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

**ELLET  
RN757**  
EXISTING 117' MONOPOLE TOWER SITE  
INSTALLATION OF LTE EQUIPMENT

**OWNER / DEVELOPER CERTIFICATION**

I, \_\_\_\_\_, HEREBY ACKNOWLEDGE THE SITE IMPROVEMENTS IMPOSED BY THIS PLAN AND MONTGOMERY COUNTY. I HEREBY AGREE TO DEVELOP THE SUBJECT PROPERTY IN COMPLIANCE WITH THE PLAN AND WILL SUBMIT ANY PLAN REVISIONS TO MONTGOMERY COUNTY FOR APPROVAL. I AGREE TO POST ALL REQUIRED BONDS WITH MONTGOMERY COUNTY FOR DEVELOPMENT AND ACKNOWLEDGE ALL IMPROVEMENTS MUST BE COMPLETED TO THE COUNTY'S SATISFACTION PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

\_\_\_\_\_  
SIGNATURE DATE

TOWER OWNER AGREES TO MAINTAIN ALL VEGETATION AS SHOWN ON THE LANDSCAPE PLAN IN A VIABLE CONDITION.

\_\_\_\_\_  
SIGNATURE DATE

**ZONING APPROVAL AND ACCEPTANCE**

THE HEREON SHOWN SITE PLAN DATED AUGUST 21, 2015 HAS BEEN SUBMITTED TO AND APPROVED FOR ACCEPTANCE BY MONTGOMERY COUNTY, VIRGINIA

\_\_\_\_\_  
PLANNING & ZONING ADMINISTRATOR DATE



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS: 906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER: AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

**SIGNATURE BLOCK**

**SITE NAME**  
ELLET

**SITE NUMBER**  
RN757

**SITE ADDRESS**  
906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

**TOWER OWNER**  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

**SITE DATA**  
NAD 83 LATITUDE - N37° 11' 50.4"  
NAD 83 LONGITUDE - W80° 21' 36.0"

**LEASE AREA**  
400 SQUARE FEET

**PROJECT DESCRIPTION**  
INSTALLATION OF NEW ANTENNAS ON EXISTING 117' MONOPOLE TOWER AND OUTDOOR EQUIPMENT ON EXISTING EQUIPMENT FRAME. NEW UTILITY RUNS TO SITE.

**JURISDICTION**  
MONTGOMERY COUNTY

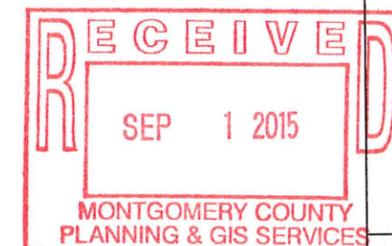
**CONTACTS**

nTELOS (CONSTRUCTION)  
BEN PIERCE  
(804) 218-5474 - PHONE  
7501 BOULDERS VIEW DR., SUITE 600  
RICHMOND, VA 23225

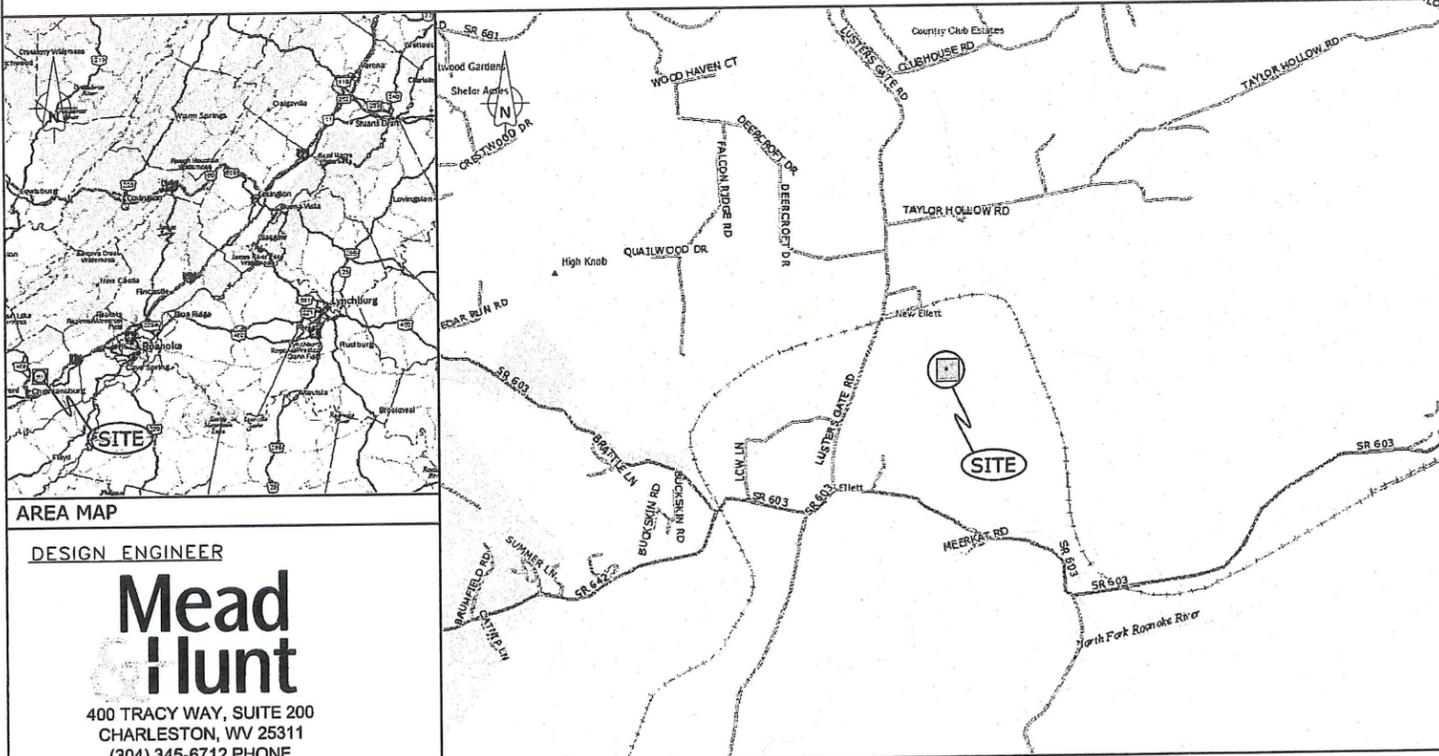
nTELOS (LEASING)  
DEBBIE BALSER  
(540) 941-4220 x3071 - PHONE  
(540) 941-4106 - FAX

MEAD & HUNT  
CURTIS PAXTON  
(304) 553-8103 - PHONE  
400 TRACY WAY, SUITE 200  
CHARLESTON, WV 25311

- |           |                         |
|-----------|-------------------------|
| SHEET T-1 | TITLE SHEET             |
| SHEET C-1 | EXISTING CONDITIONS     |
| SHEET C-2 | EQUIPMENT LAYOUT        |
| SHEET C-3 | UTILITY SERVICE PLAN    |
| SHEET C-4 | GROUNDING PLAN          |
| SHEET C-5 | HYBRIFLEX CABLE DIAGRAM |
| SHEET C-6 | ANTENNA CONFIGURATION   |
| SHEET C-7 | TOWER ELEVATION         |
| SHEET C-8 | ANTENNA DETAILS         |
| SHEET D-1 | MISCELLANEOUS DETAILS   |
| SHEET D-2 | MISCELLANEOUS DETAILS   |
| SHEET D-3 | MISCELLANEOUS DETAILS   |
| SHEET D-4 | MISCELLANEOUS DETAILS   |
| SHEET D-5 | MISCELLANEOUS DETAILS   |
| SHEET D-6 | MISCELLANEOUS DETAILS   |
| SHEET D-7 | MISCELLANEOUS DETAILS   |
| SHEET D-8 | ELECTRICAL DETAILS      |
| SHEET D-9 | GENERAL NOTES           |



NO.	REVISION/ISSUE	DATE
1	ISSUE FOR COMMENT	04/27/15
2	REISSUE FOR COMMENT	05/14/15
3	ISSUE FOR CONSTRUCTION	05/19/15
4	REISSUED	08/21/15



**VICINITY MAP**

**SITE DIRECTIONS**  
FROM 1150 SHENANDOAH VILLAGE DRIVE, WAYNESBORO VA: HEAD SOUTHWEST ON STATE ROUTE F-209/SHENANDOAH VILLAGE DR (0.9 MI). TURN RIGHT ONTO P. BUCKLEY MOSS DR (0.4 MI). TURN LEFT ONTO THE INTERSTATE 64 W RAMP (0.3 MI). MERGE ONTO I-64 W (6.8 MI). TAKE THE INTERSTATE 81 S EXIT ON THE LEFT TOWARD INTERSTATE 64 W/LEXINGTON/ROANOKE (0.8 MI). MERGE ONTO I-81 S (93.0 MI). TAKE EXIT 128 FOR VA-603 TOWARD US-11/IRONTON (0.1 MI). TURN RIGHT ONTO VA-603 (N 37° 11' 25.03", W 80° 21' 36.52") (9.3 MI). TURN RIGHT AND FOLLOW ACCESS ROAD TO SITE LOCATED ON THE LEFT (0.6 MI).

**DESIGN ENGINEER**

**Mead & Hunt**

400 TRACY WAY, SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE  
(304) 345-6714 FAX

**SHEET INDEX**

**POLICE/FIRE/RESCUE**  
911

**ELECTRIC POWER**  
AEP  
CONTACT: CUSTOMER SERVICE  
PHONE#: 800-956-4237

**TELEPHONE**  
LUMOS  
CONTACT: CUSTOMER SERVICE  
PHONE#: 800-320-6144

**nTELOS NOC**  
(800) 566-9568 - PHONE

**Mead & Hunt**

400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

TITLE SHEET	SHEET
	T-1

CONSULTANT TEAM

DIRECTIONS TO SITE

PROJECT INFORMATION

EMERGENCY AND UTILITY CONTACTS

**LEGEND**

---	PROPERTY LINE
---	TRACT LINE
---	LEASE LINE
---	ROW LINE
-x-x-	EXISTING FENCE LINE
-xx-xx-	PROPOSED FENCE LINE
-G-G-	GAS LINE
-E-E-	OVERHEAD POWER
-T-T-	OVERHEAD TELEPHONE
-UE-	UNDERGROUND POWER
-UT-	UNDERGROUND TELCO.
-E&T-	OVERHEAD POWER/TELEPHONE
⊙	5/8" REBAR W/CAP SET
⊠	FOUND MONUMENTATION
⊙	CALCULATED POINT
⊙	EXISTING UTILITY POLE
⊙	PROPOSED UTILITY POLE



1150 SHENANDOAH VILLAGE DRIVE  
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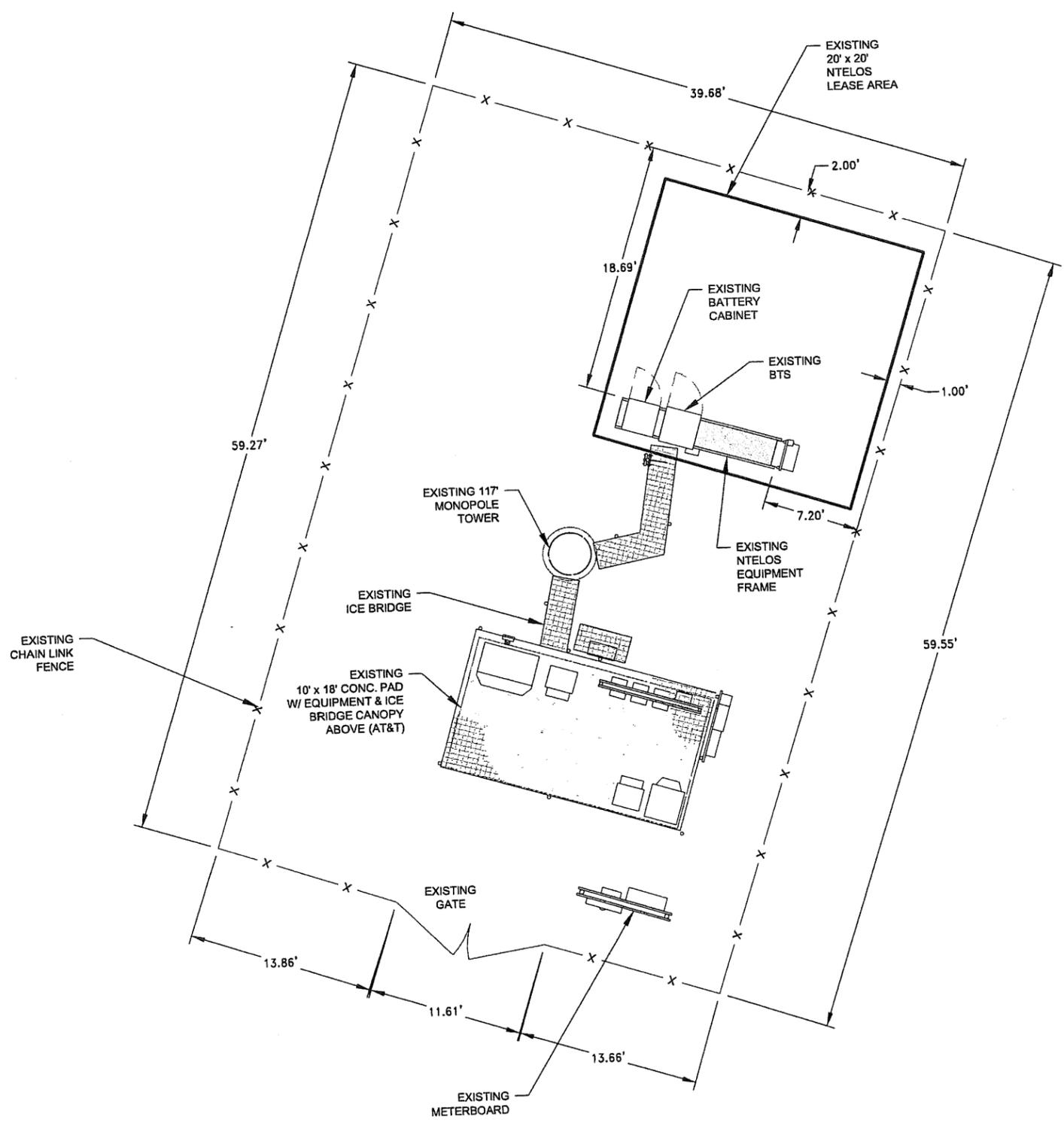
NO.	REVISION/ISSUE	DATE
1	ISSUE FOR COMMENT	04/27/15
2	REISSUE FOR COMMENT	05/14/15
3	ISSUE FOR CONSTRUCTION	05/19/15
4	REISSUED	08/21/15

**Mead Hunt**

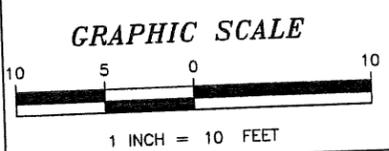
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

EXISTING CONDITIONS SHEET  
C-1



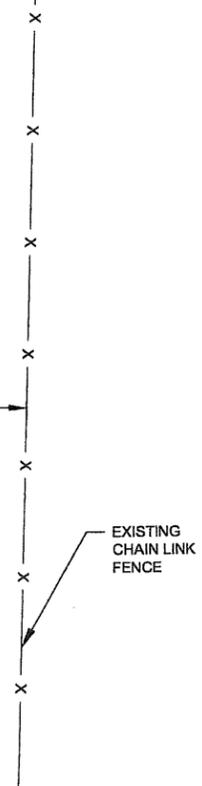
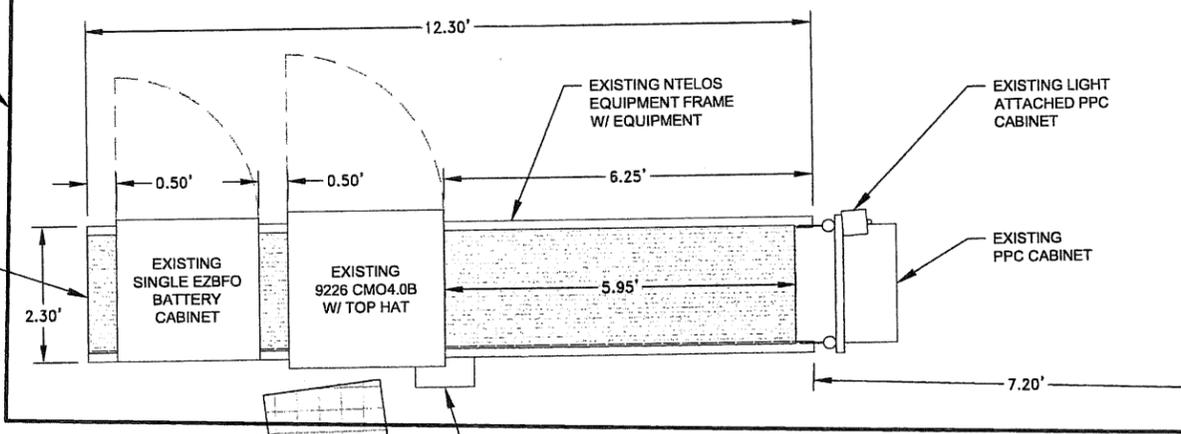
NOTE:  
THE MEASUREMENTS SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE ACCURATE ONLY TO THE MEANS BY WHICH THEY WERE OBTAINED: SOME FROM SURVEY DATA, HAND MEASUREMENTS OR OTHER RELATIVE SKETCHES/DRAWINGS. ALL MEASUREMENTS SHALL BE VERIFIED BY THE CONTRACTOR AND MINOR ADJUSTMENTS MADE TO FACILITATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT. ANY MAJOR DISCREPANCIES SHALL BE PRESENTED TO NTELOS BEFORE PROCEEDING WITH THE WORK.





EXISTING 20' x 20' NTELOS LEASE AREA

EXISTING 12' x 2' STEEL GRATE



EXISTING CHAIN LINK FENCE

NOTE:  
THE MEASUREMENTS SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE ACCURATE ONLY TO THE MEANS BY WHICH THEY WERE OBTAINED: SOME FROM SURVEY DATA, HAND MEASUREMENTS OR OTHER RELATIVE SKETCHES/DRAWINGS. ALL MEASUREMENTS SHALL BE VERIFIED BY THE CONTRACTOR AND MINOR ADJUSTMENTS MADE TO FACILITATE THE INSTALLATION OF ALL MATERIALS AND EQUIPMENT. ANY MAJOR DISCREPANCIES SHALL BE PRESENTED TO NTELOS BEFORE PROCEEDING WITH THE WORK.

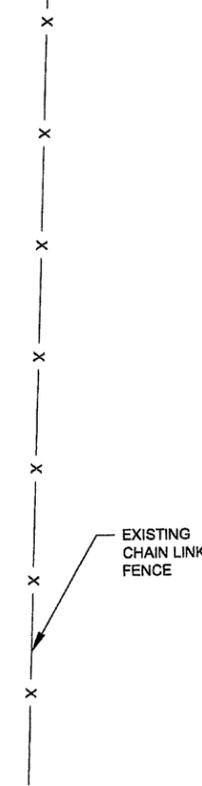
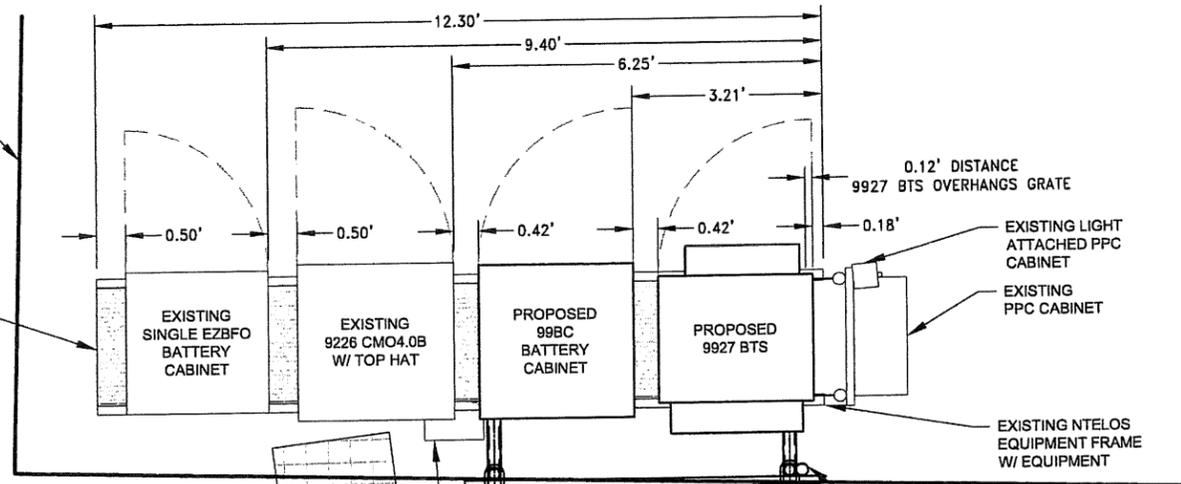
**EXISTING EQUIPMENT FRAME LAYOUT**

SCALE: 1" = 3'

NOTE:  
THE CONTRACTOR SHALL VERIFY RF CONFIGURATION WITH NTELOS 48 HOURS PRIOR TO INSTALLATION OF ANY EQUIPMENT.

EXISTING 20' x 20' NTELOS LEASE AREA

EXISTING 12' x 2' STEEL GRATE



EXISTING CHAIN LINK FENCE

**PROPOSED EQUIPMENT FRAME LAYOUT**

SCALE: 1" = 3'



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS: 906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

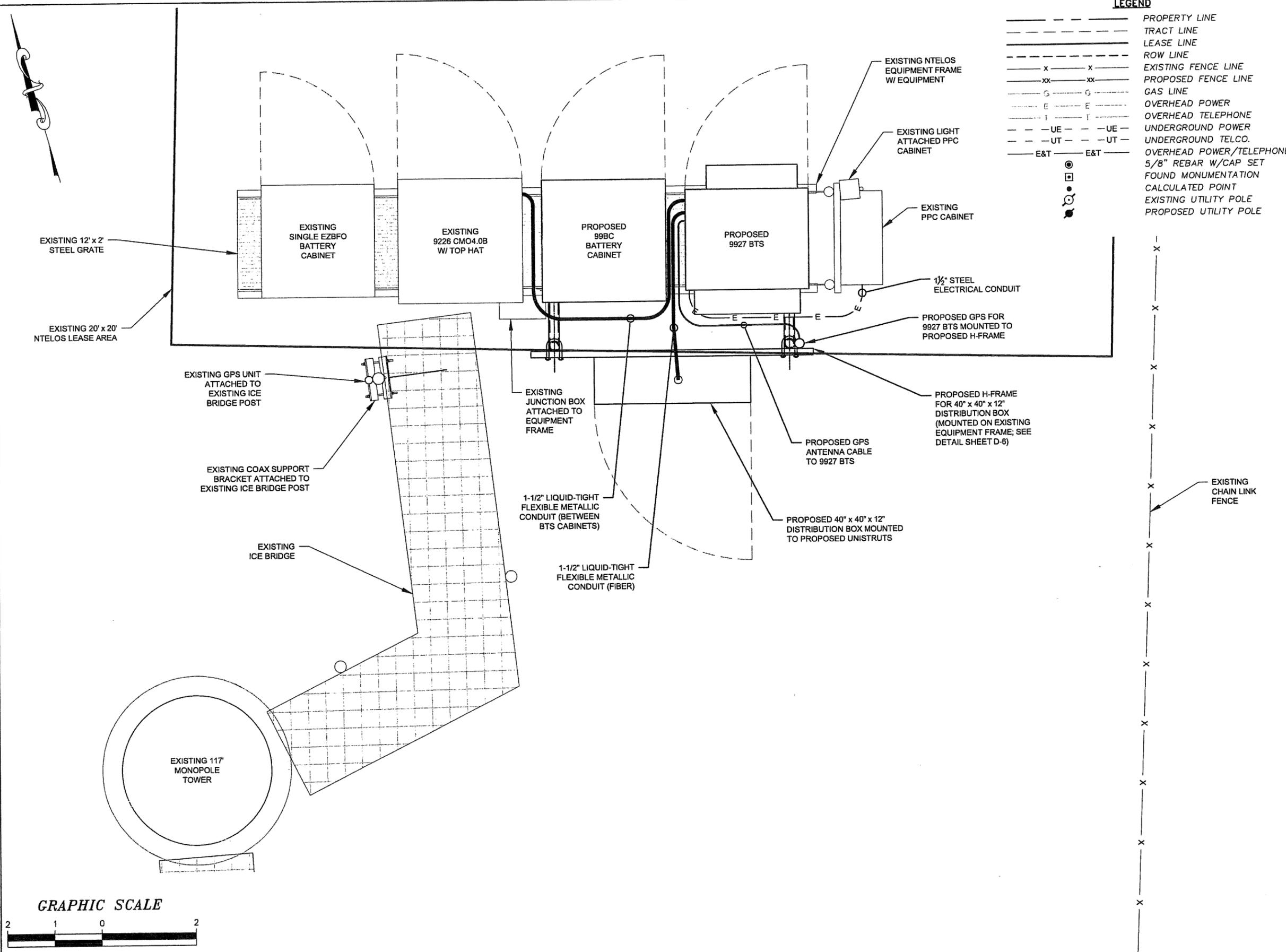
NO.	REVISION/ISSUE	DATE
1	ISSUE FOR COMMENT	04/27/15
2	REISSUE FOR COMMENT	05/14/15
3	ISSUE FOR CONSTRUCTION	05/19/15
4	REISSUED	08/21/15



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

EQUIPMENT LAYOUT	SHEET
	C-2



**LEGEND**

---	PROPERTY LINE
- - - -	TRACT LINE
---	LEASE LINE
---	ROW LINE
-x-x-	EXISTING FENCE LINE
-xx-xx-	PROPOSED FENCE LINE
-G-G-	GAS LINE
-E-E-	OVERHEAD POWER
-T-T-	OVERHEAD TELEPHONE
-UE-UE-	UNDERGROUND POWER
-UT-UT-	UNDERGROUND TELCO.
-E&T-E&T-	OVERHEAD POWER/TELEPHONE
○	5/8" REBAR W/CAP SET FOUND MONUMENTATION
○	CALCULATED POINT
○	EXISTING UTILITY POLE
○	PROPOSED UTILITY POLE



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS: 906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER: AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

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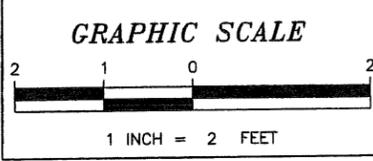
EXISTING CHAIN LINK FENCE

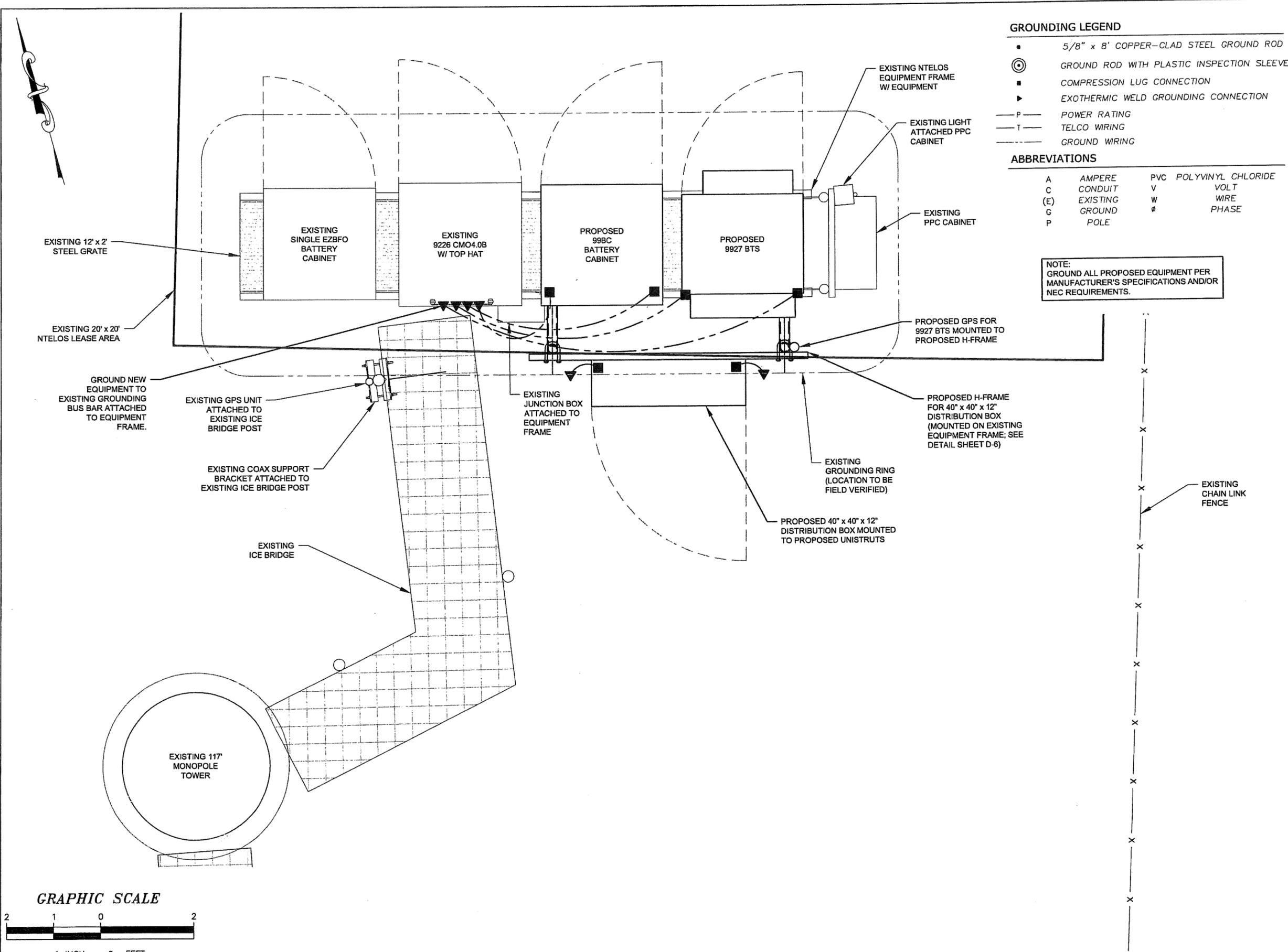


400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

UTILITY SERVICE PLAN	SHEET
	C-3





**NTelos**  
1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

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TOWER OWNER: AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
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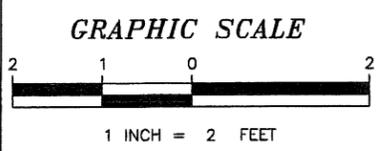
LONGITUDE: W80° 21' 36.0"

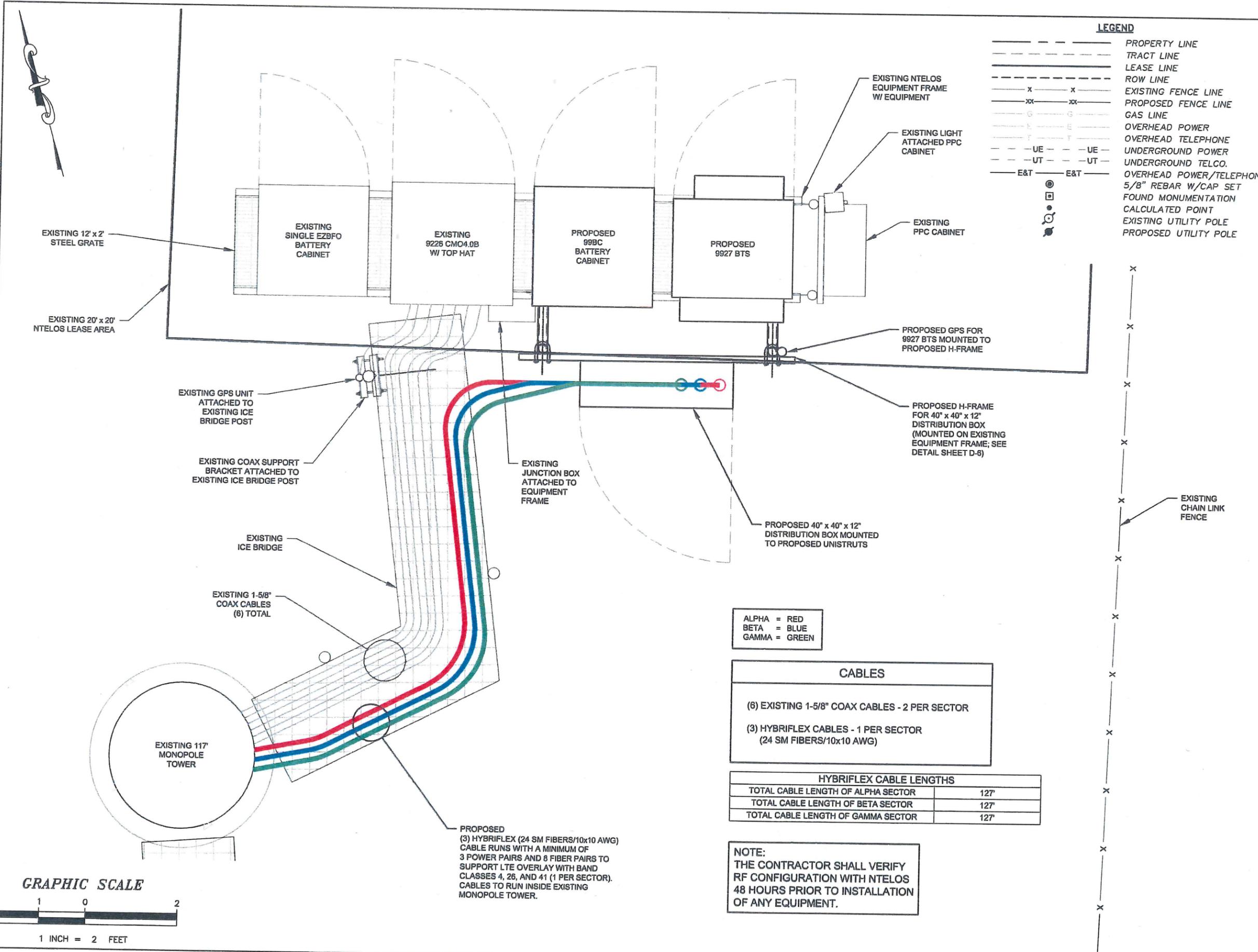
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**Mead Hunt**  
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

GROUNDING PLAN SHEET  
C-4





1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS: 906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER: AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

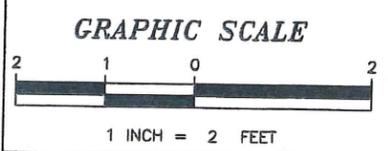
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400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

HYBRIFLEX CABLE DIAGRAM SHEET  
C-5





1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS:  
906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA:  
LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

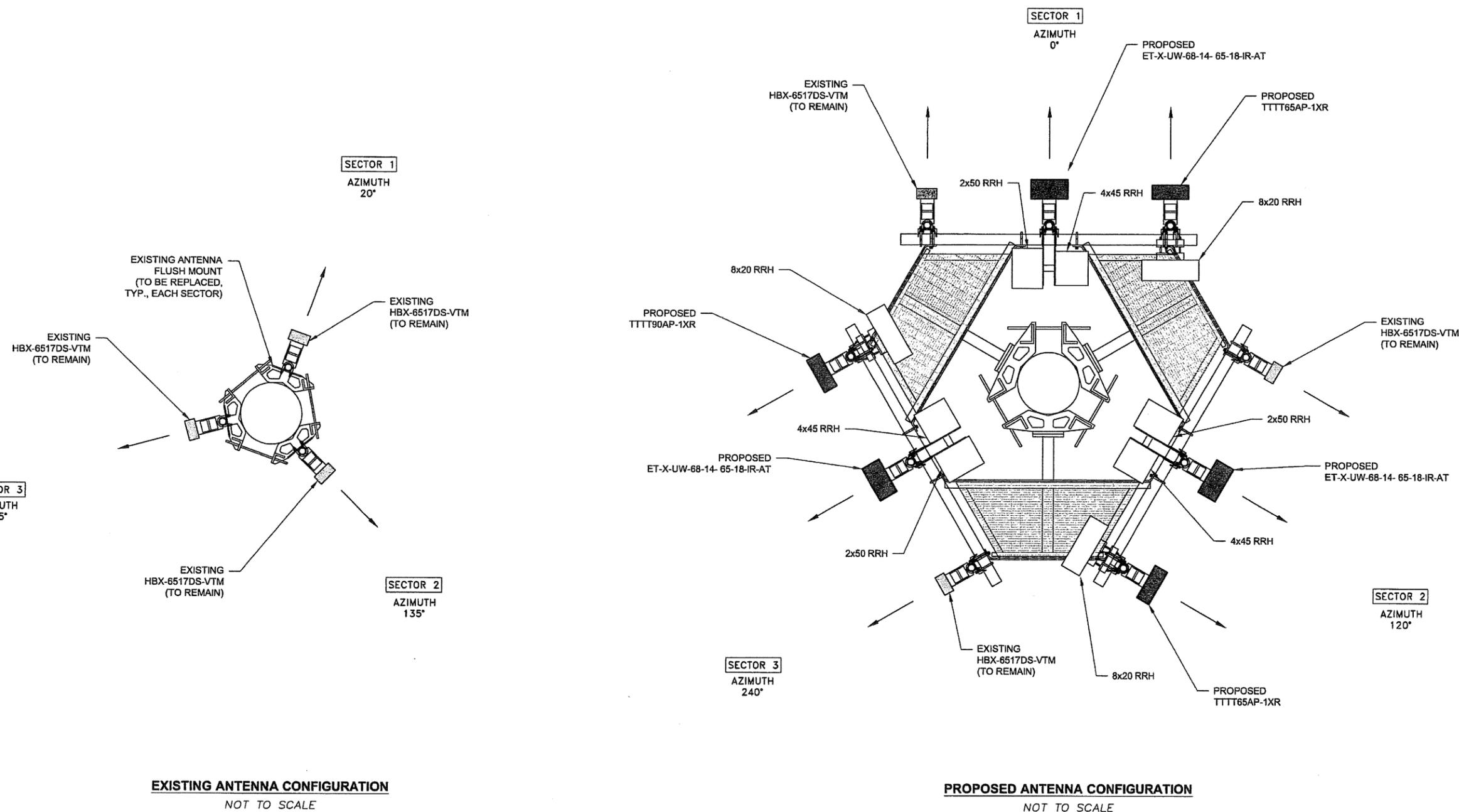
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400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

ANTENNA CONFIGURATION SHEET  
C-6



- NOTES:**
1. THE TOWER AND TOWER FOUNDATION HAS BEEN DESIGNED BY OTHERS.
  2. THE CONTRACTOR TO VERIFY THE COAX AND CABLE PLACEMENT WITH A REPRESENTATIVE OF THE OWNER AND/OR CURRENT STRUCTURAL ANALYSIS.
  3. ALL COAX LINES TO BE STACKED PER CURRENT STRUCTURAL ANALYSIS.
  4. CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE TOWER DESIGN AND/OR CURRENT STRUCTURAL ANALYSIS PERFORMED BY OTHERS.
  5. THE CONTRACTOR TO VERIFY ANTENNA INFORMATION 48 HOURS PRIOR TO INSTALLING.
  6. THIS DRAWING IS FOR GENERAL INFORMATION ONLY.

**NOTE:**  
THE CONTRACTOR SHALL VERIFY RF CONFIGURATION WITH NTELOS 48 HOURS PRIOR TO INSTALLATION OF ANY EQUIPMENT.

CABLES
(6) EXISTING 1-5/8" COAX CABLES - 2 PER SECTOR
(3) HYBRIFLEX CABLES - 1 PER SECTOR (24 SM FIBERS/10x10 AWG)



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

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CHRISTIANSBURG, VA 24073

AREA:  
LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

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FOR  
ILLUSTRATIVE  
PURPOSES  
ONLY



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

TOWER ELEVATION	SHEET C-7
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TOP OF LIGHTNING ROD ELEV. = 123'± (AGL)

TOP OF TOWER ELEV. = 117' (AGL)

EXISTING (AT&T) ANTENNAS RAD CENTER ELEV. = 115' (AGL)

NTELOS ANTENNAS RAD CENTER ELEV. = 107' (AGL)

PROPOSED  
(3) HYBRIFLEX (24 SM FIBERS/10x10 AWG)  
CABLE RUNS WITH A MINIMUM OF  
3 POWER PAIRS AND 8 FIBER PAIRS TO  
SUPPORT LTE OVERLAY WITH BAND  
CLASSES 4, 26, AND 41 (1 PER SECTOR).  
CABLES TO RUN INSIDE EXISTING  
MONOPOLE TOWER.

CABLES
(6) EXISTING 1-5/8" COAX CABLES - 2 PER SECTOR
(3) HYBRIFLEX CABLES - 1 PER SECTOR (24 SM FIBERS/10x10 AWG)

**NOTES:**

1. THE TOWER AND TOWER FOUNDATION HAS BEEN DESIGNED BY OTHERS.
2. THE CONTRACTOR TO VERIFY THE COAX AND CABLE PLACEMENT WITH A REPRESENTATIVE OF THE OWNER AND/OR CURRENT STRUCTURAL ANALYSIS.
3. ALL COAX LINES TO BE STACKED PER CURRENT STRUCTURAL ANALYSIS.
4. CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE TOWER DESIGN AND/OR CURRENT STRUCTURAL ANALYSIS PERFORMED BY OTHERS.
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6. THIS DRAWING IS FOR GENERAL INFORMATION ONLY.

ELEV. 0' (GROUND LEVEL)

TOWER ELEVATION



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FOR  
ILLUSTRATIVE  
PURPOSES  
ONLY



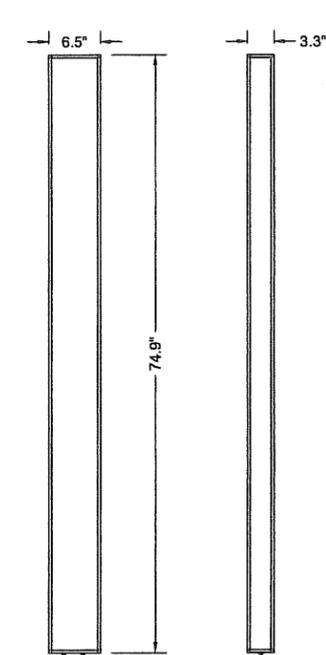
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

ANTENNA DETAILS	SHEET
	C-8

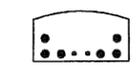


BOTTOM VIEW

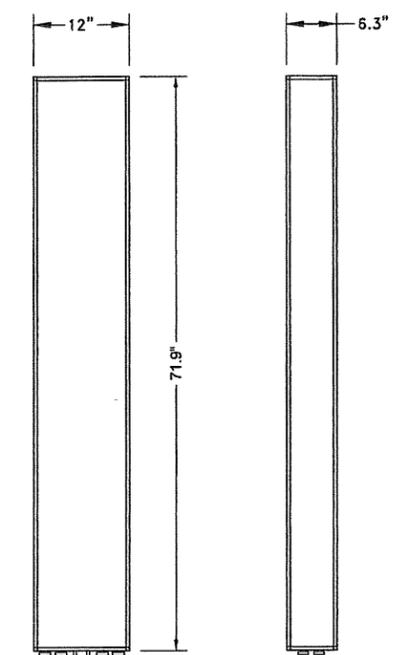


FRONT VIEW      SIDE VIEW

HBX-6517DS-VTM  
NOT TO SCALE  
74.9"Lx6.5"Wx3.3"D  
13.7 LBS

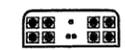


BOTTOM VIEW

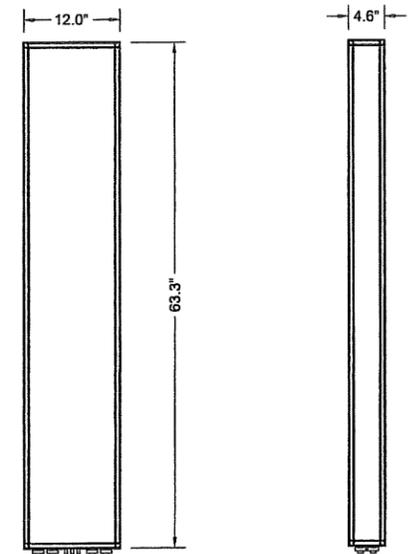


FRONT VIEW      SIDE VIEW

ET-X-UW-68-14-65-18-iR-AT  
NOT TO SCALE  
71.9"Lx12.0"Wx6.3"D  
43.9 LBS

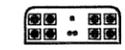


BOTTOM VIEW

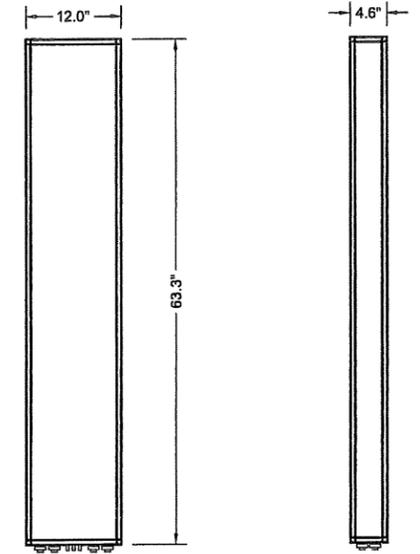


FRONT VIEW      SIDE VIEW

TTTT65AP-1XR  
NOT TO SCALE  
63.3"Lx12.0"Wx4.6"D  
33.0 LBS



BOTTOM VIEW



FRONT VIEW      SIDE VIEW

TTTT90AP-1XR  
NOT TO SCALE  
63.3"Lx12.0"Wx4.6"D  
33.0 LBS



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SITE NUMBER: RN757

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10 PRESIDENTIAL WAY  
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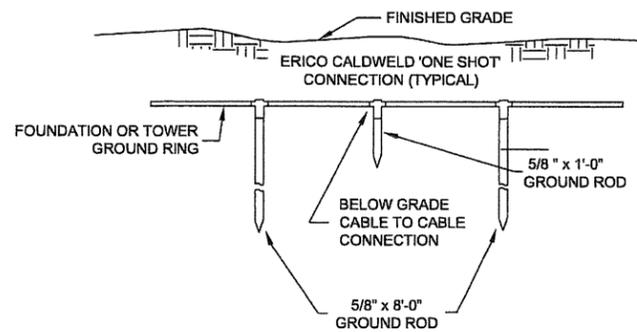
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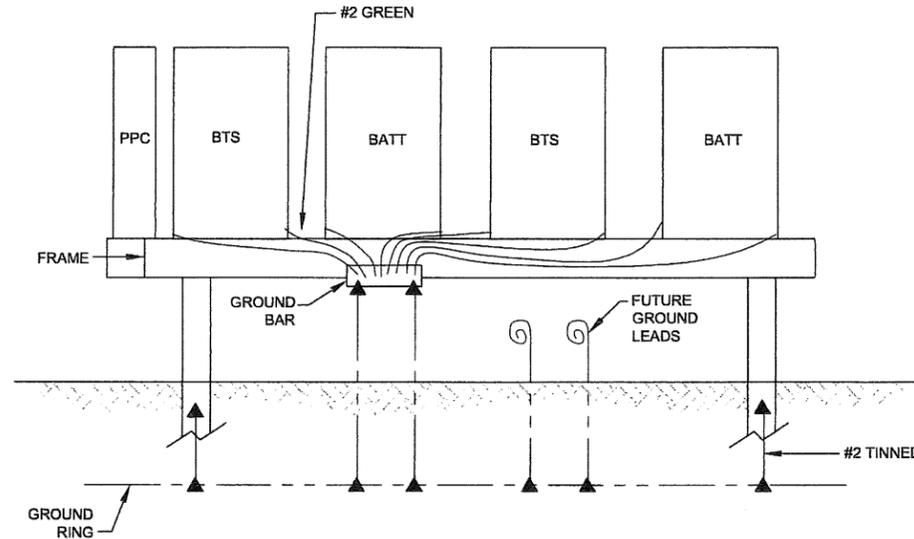
MISCELLANEOUS DETAILS SHEET  
D-1



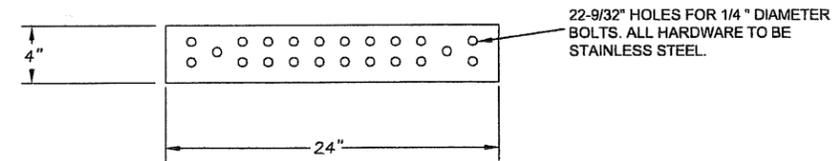
**BELOW GRADE  
CABLE TO CABLE CONNECTION  
DETAIL**  
NOT TO SCALE

NOTE:  
THIS SHEET OF STANDARD DETAILS HAS BEEN PROVIDED AND IS FOR INFORMATION ONLY. THE INSTALLATION OF ALL ELECTRICAL GROUNDING CIRCUITS SHALL BE INSTALLED AS PER THE CURRENT NATIONAL CODE.

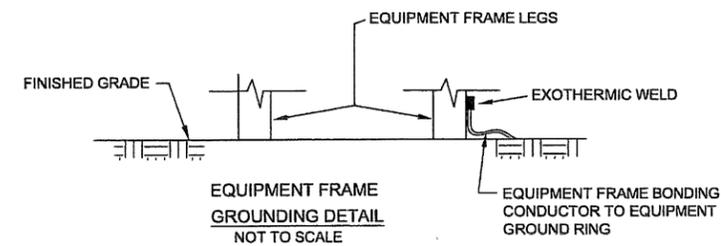
NOTE:  
ALL EXOTHERMIC CONNECTIONS SHALL BE BELOW GRADE WITH THE EXCEPTION OF THE GROUND BAR AND ICE BRIDGE POSTS.



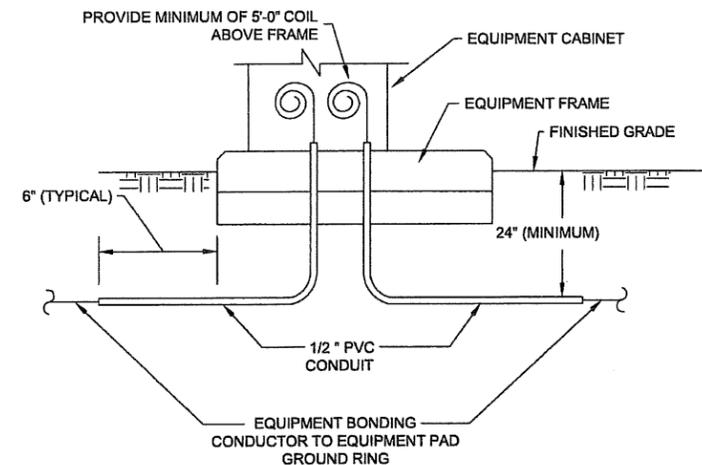
**EQUIPMENT BONDING CONDUCTOR  
ROUTING DETAIL**  
NOT TO SCALE



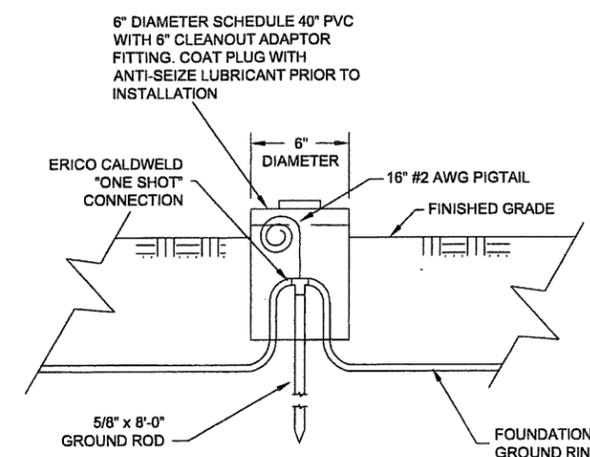
**GROUND BAR DETAIL**  
NOT TO SCALE



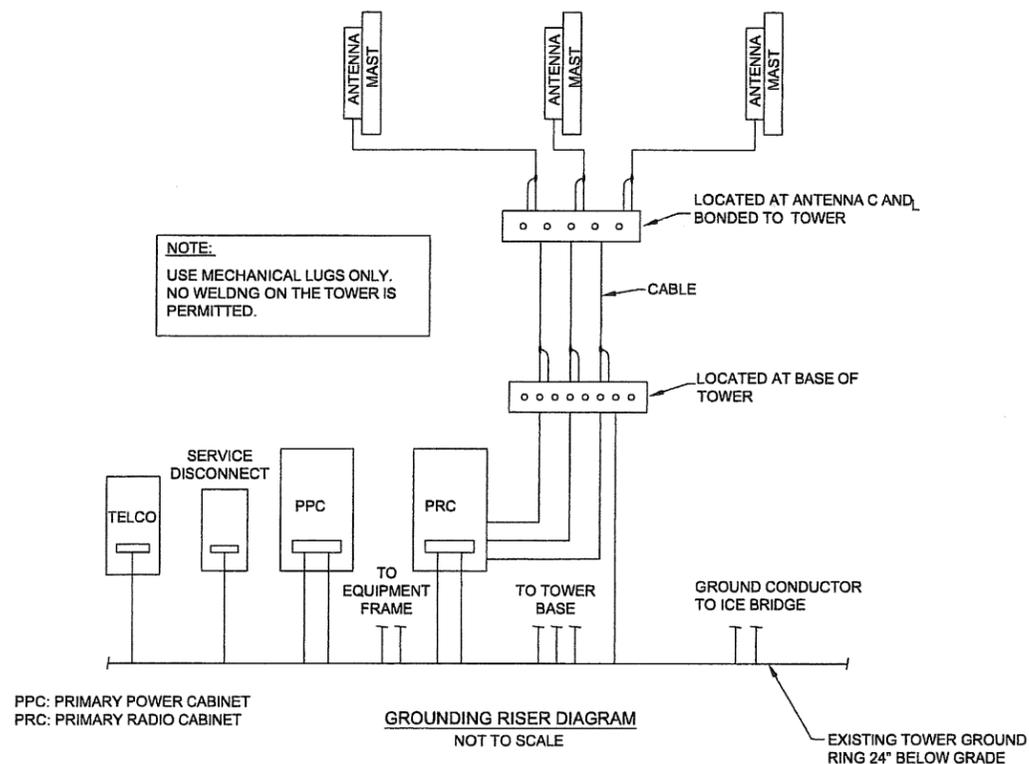
**EQUIPMENT FRAME  
GROUNDING DETAIL**  
NOT TO SCALE



**EQUIPMENT BONDING CONDUCTOR  
ROUTING DETAIL**  
NOT TO SCALE



**INSPECTION WELL DETAIL**  
NOT TO SCALE



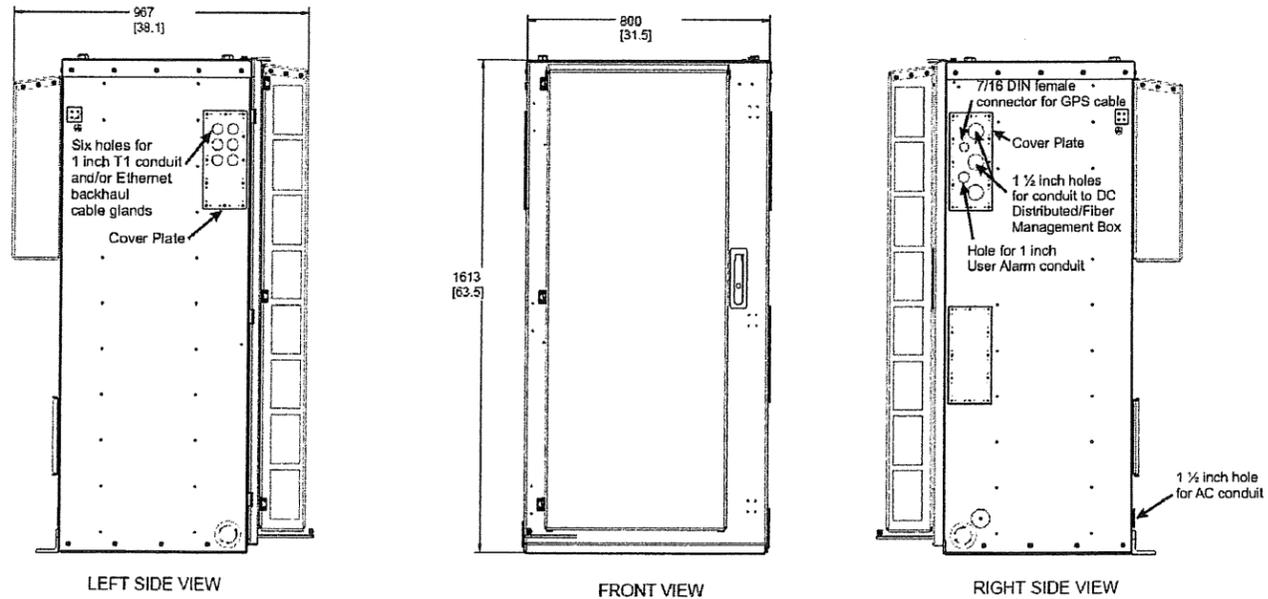
**GROUNDING RISER DIAGRAM**  
NOT TO SCALE

PPC: PRIMARY POWER CABINET  
PRC: PRIMARY RADIO CABINET

NOTE:  
USE MECHANICAL LUGS ONLY. NO WELDING ON THE TOWER IS PERMITTED.

PROPOSED EQUIPMENT DATA								
COMPONENT	MANUFACTURER	MODEL	WIDTH (INCH)	DEPTH (INCH)	HEIGHT (INCH)	QTY	WT. EACH (LBS)	TOTAL WT. (LBS)
BTS CABINET	ALCATEL LUCENT	9927	32	38	63.6	1	634	634
BATTERY CABINET	ALCATEL LUCENT	99BC	31.5	31.2	63.6	1	2640	2640
RADIO HEADS	ALCATEL LUCENT	ALU 4x45	11.1	11.4	25.0	3	59.5	178.5
RADIO HEADS	ALCATEL LUCENT	ALU 2x50	13	9.8	15.7	3	52.9	158.7
RADIO HEADS	ALCATEL LUCENT	ALU 8x20	17.5	5.7	25.4	3	66.1	198.3
ANTENNA	KMW COMMUNICATIONS	ET-X-UW-68-14-65-18-IR-AT	12.0	6.3	71.9	3	43.9	131.7
ANTENNA	COMMSCOPE	TTTT65AP-1XR	12.0	4.6	63.3	2	33.0	66.0
ANTENNA	COMMSCOPE	TTTT90AP-1XR	12.0	4.6	63.3	1	33.0	33.0

EXISTING ANTENNA DATA								
COMPONENT	MANUFACTURER	MODEL	WIDTH (INCH)	DEPTH (INCH)	HEIGHT (INCH)	QTY	WT. EACH (LBS)	TOTAL WT. (LBS)
ANTENNA	COMMSCOPE	HBX-6517DS-VTM	6.5	3.3	74.9	3	13.7	41.1



9927 LTE CABINET DETAIL  
NOT TO SCALE



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

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AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER: AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

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400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

MISCELLANEOUS DETAILS SHEET  
D-2



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS:  
906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA:  
LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
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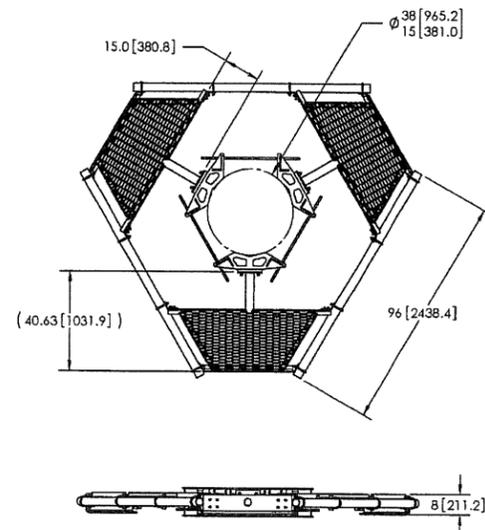


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PROJECT # R4022100-155616.01

MISCELLANEOUS DETAILS SHEET  
D-3

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MC-RM1550-3	12" - 50" OD RINGMOUNT	1	203.94 LBS
2	MIT300601	Low Profile Co-Location Platform Snub Nose	3	130.90 LBS
3	MT196.17	MT196 Pipe Mount Plate	6	2.49 LBS
4	MT54796	Ø3.5" O.D. X 96" PIPE	3	37.68 LBS
5	GUB-4355	1/2" X 3-5/8" X 5" GALV U-BOLT	12	1.30 LBS
6	GB-0520A	5/8" X 2" GALV BOLT KIT (A325)	12	0.27 LBS
7	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	12	0.13 LBS
8	GWF-04	1/2" GALV FLAT WASHER	12	0.06 LBS

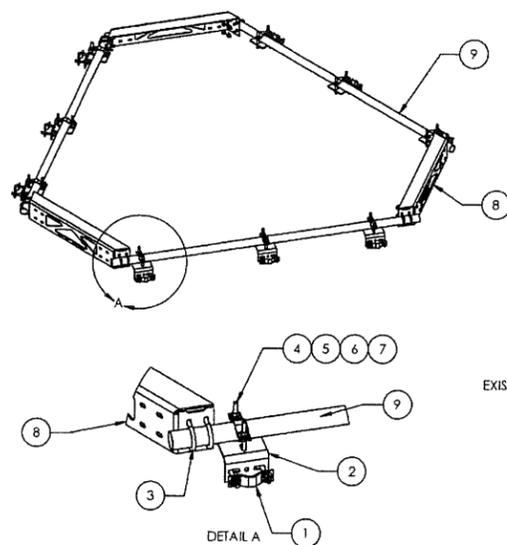


NOTES:  
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.  
2. WILL FIT MONOPOLES 15"-38" OD.

**MC-PK8-B LOW PROFILE CO-LOCATION PLATFORM KIT, 8 FT FACE DETAIL**

NOT TO SCALE

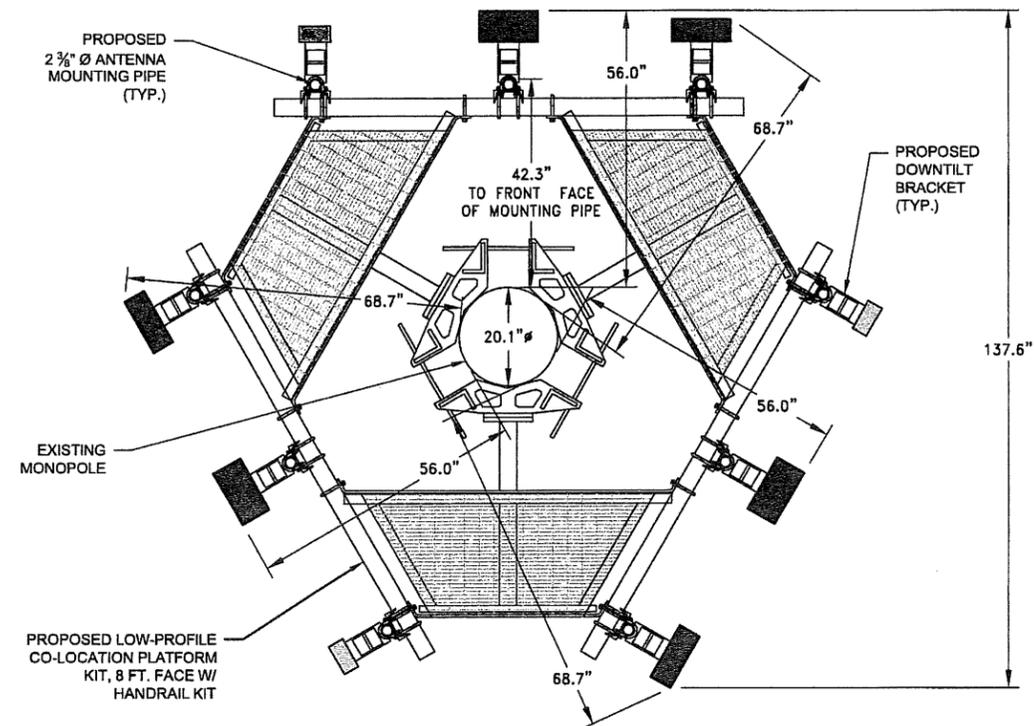
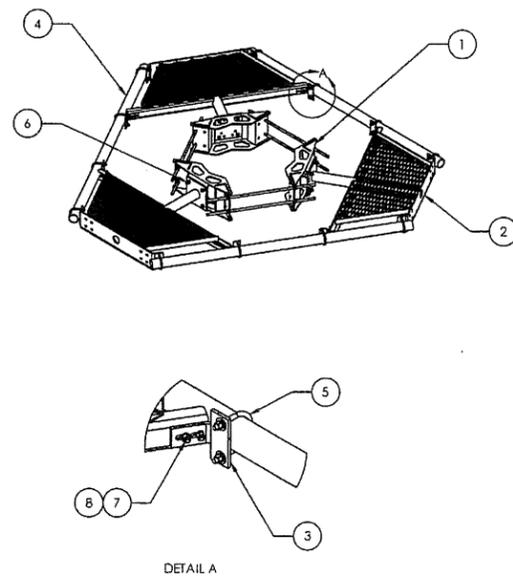
ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	ACP10	1.5" - 3.5" O.D. CLAMP HALF	18	0.61 LBS
2	XAU01	Angle BRK	9	3.59 LBS
3	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	12	0.56 LBS
4	MT-379-6	1/2" X 6" GALV THREADED ROD	36	0.33 LBS
5	GWF-04	1/2" GALV FLAT WASHER	72	0.03 LBS
6	GWL-04	1/2" GALV LOCK WASHER	72	0.01 LBS
7	GN-04	1/2" GALV HEX NUT	72	0.04 LBS
8	MT195801	Corner Weldment Snub Nose Handrail	3	27.10 LBS
9	MT-651-96	Ø2.375" OD X 96" PIPE	3	29.07 LBS



NOTES:  
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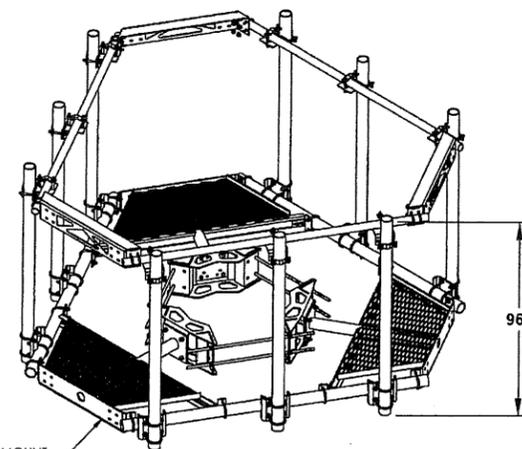
**HANDRAIL FOR MC-PK8 DETAIL**

NOT TO SCALE



**HORIZONTAL DISTANCE OF MOUNTING PIPE FROM MONOPOLE DETAIL**

SCALE: 1" = 3'



EXISTING MC-PK8 AND RINGMOUNT



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CHRISTIANSBURG, VA 24073

AREA:  
LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

NO.	REVISION/ISSUE	DATE
1	ISSUE FOR COMMENT	04/27/15
2	REISSUE FOR COMMENT	05/14/15
3	ISSUE FOR CONSTRUCTION	05/19/15
4	REISSUED	08/21/15



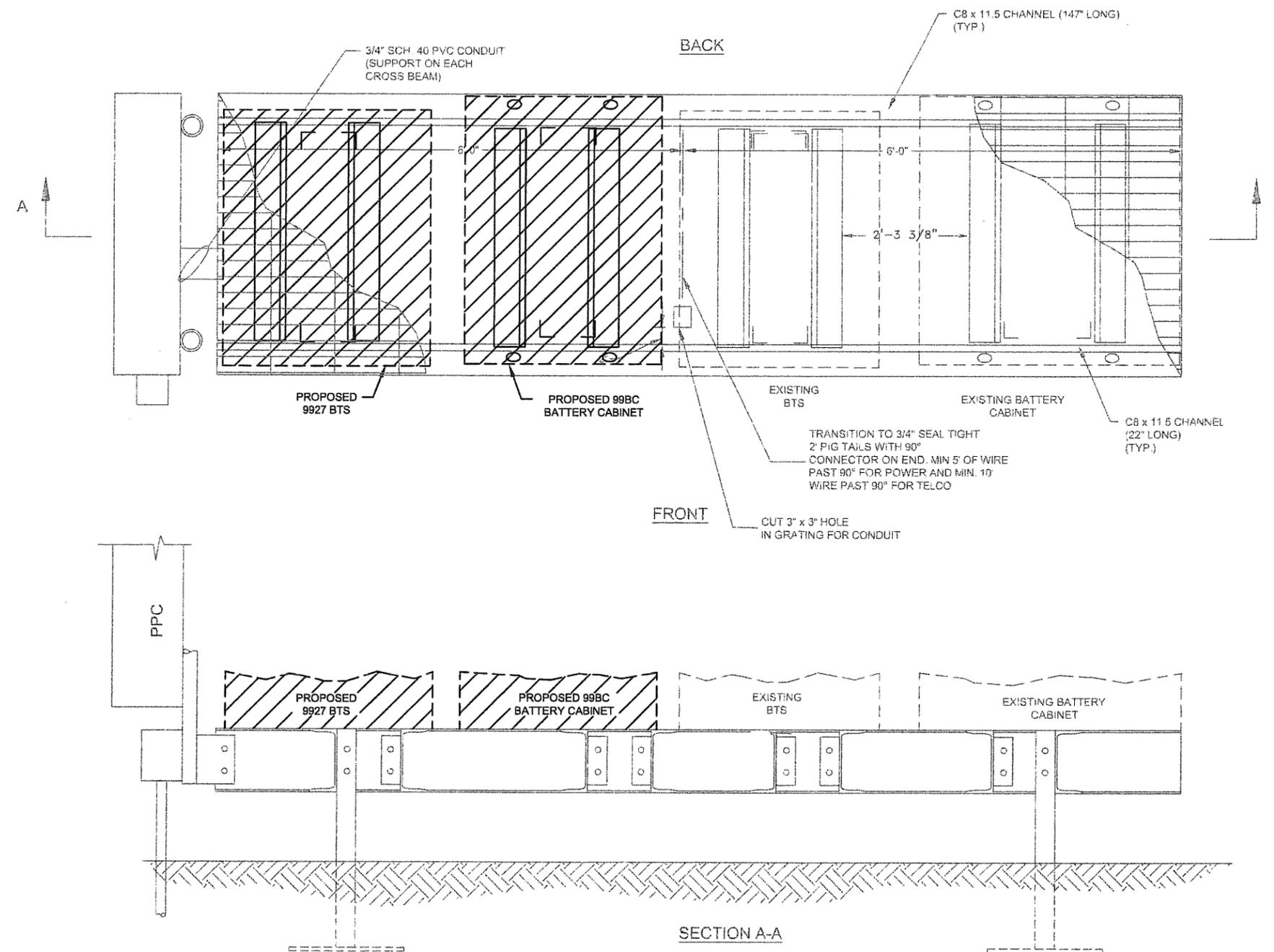
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

MISCELLANEOUS  
DETAILS

SHEET

D-4



NOTE:  
EQUIPMENT FRAME AND  
FOUNDATION DESIGNED BY  
OTHERS.



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS:  
906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

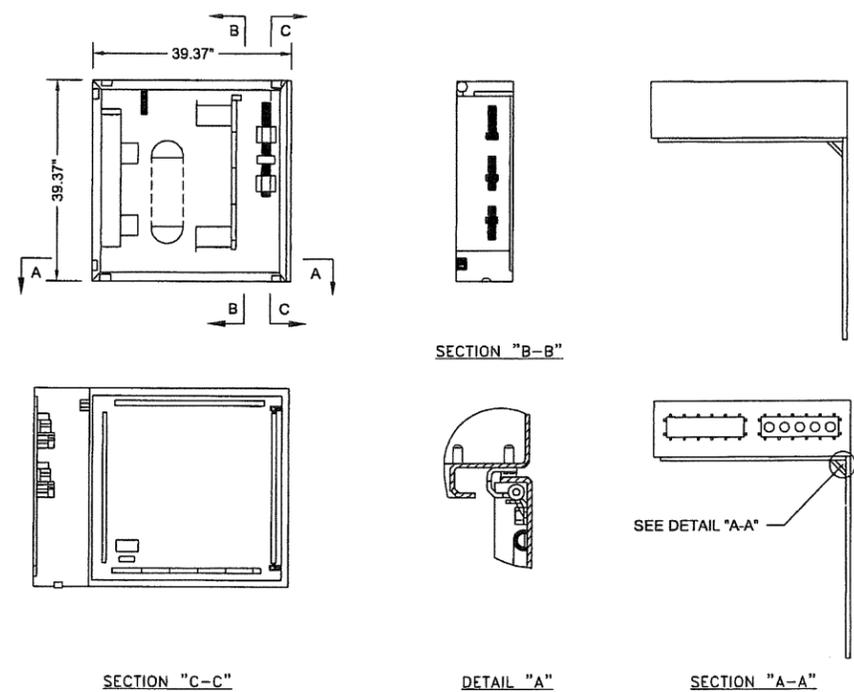
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TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

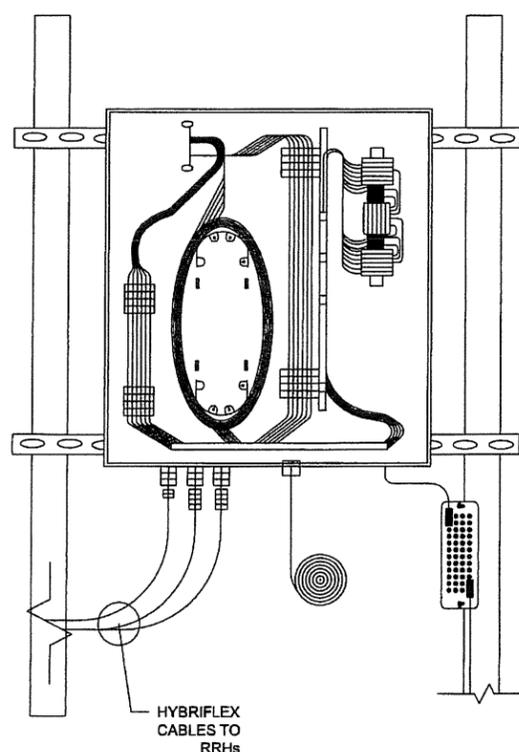
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**DISTRIBUTION BOX PLAN VIEW**  
NO SCALE



**DISTRIBUTION BOX ELEVATION VIEW**  
NO SCALE



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

MISCELLANEOUS  
DETAILS

SHEET  
D-5



1150 SHENANDOAH VILLAGE DRIVE  
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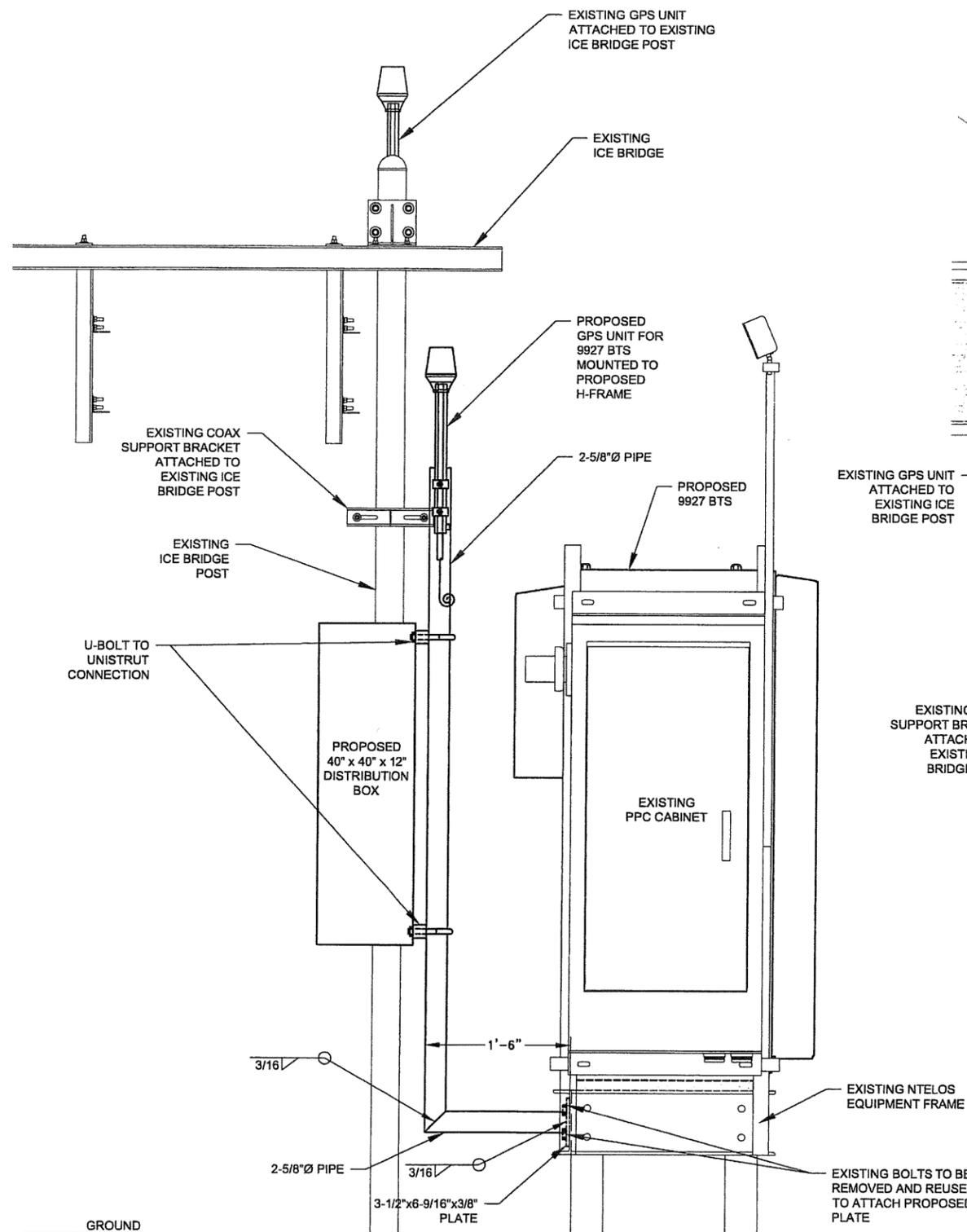
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

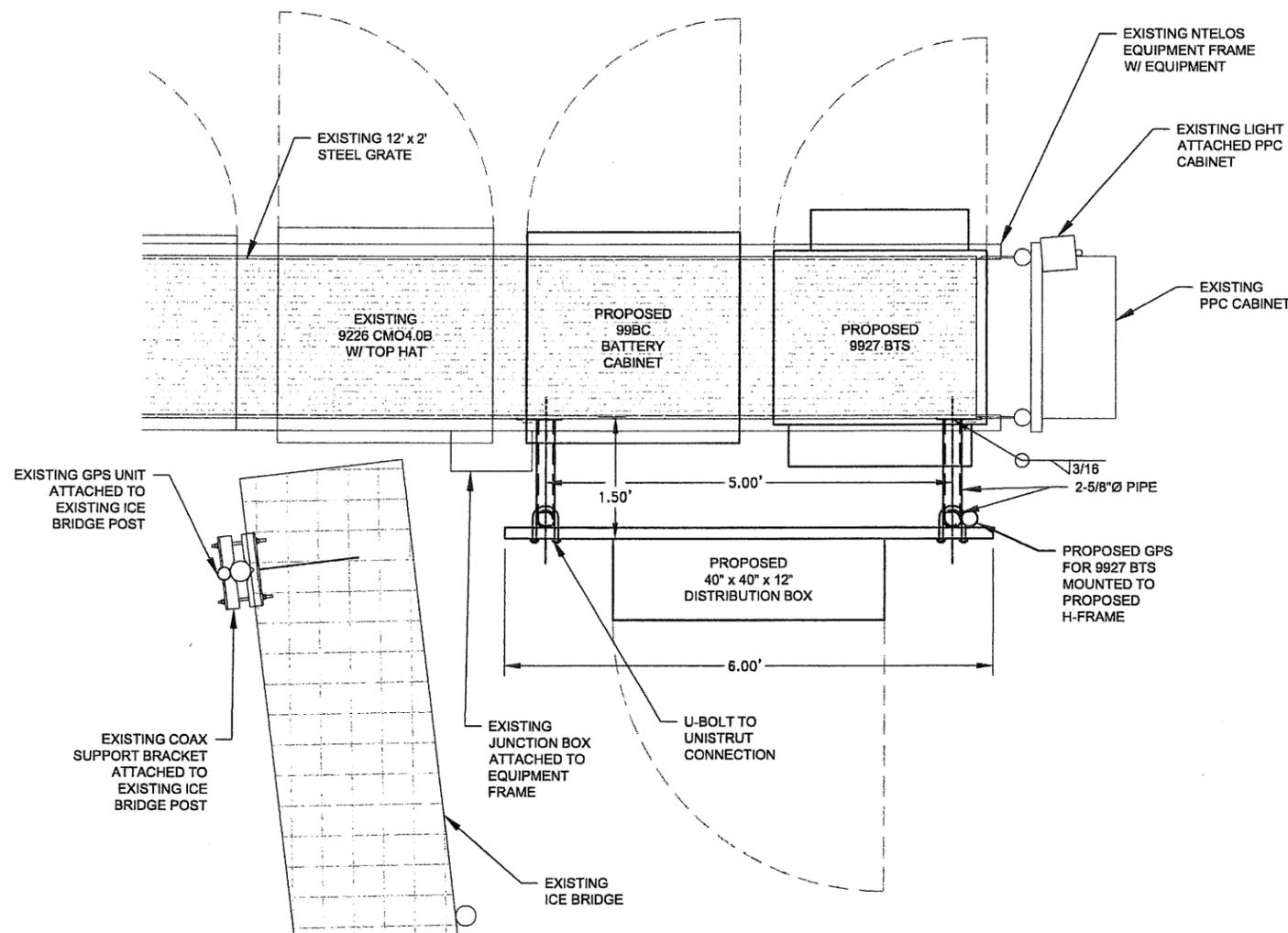
MISCELLANEOUS  
DETAILS

SHEET

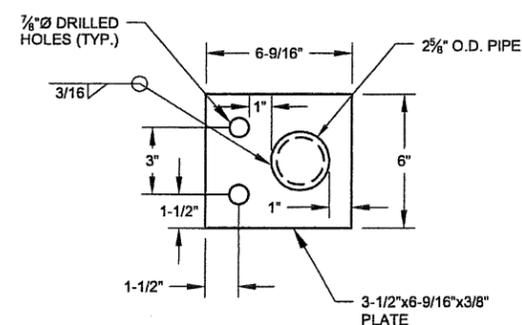
D-6



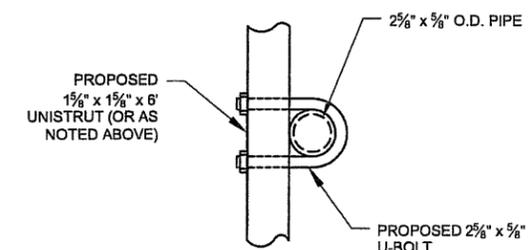
**H-FRAME ELEVATION DETAIL (SIDE)**  
NOT TO SCALE



**H-FRAME PLAN VIEW**  
NOT TO SCALE



**PLATE DETAIL**  
NOT TO SCALE



**UNISTRUT ATTACHMENT DETAIL**  
NOT TO SCALE



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

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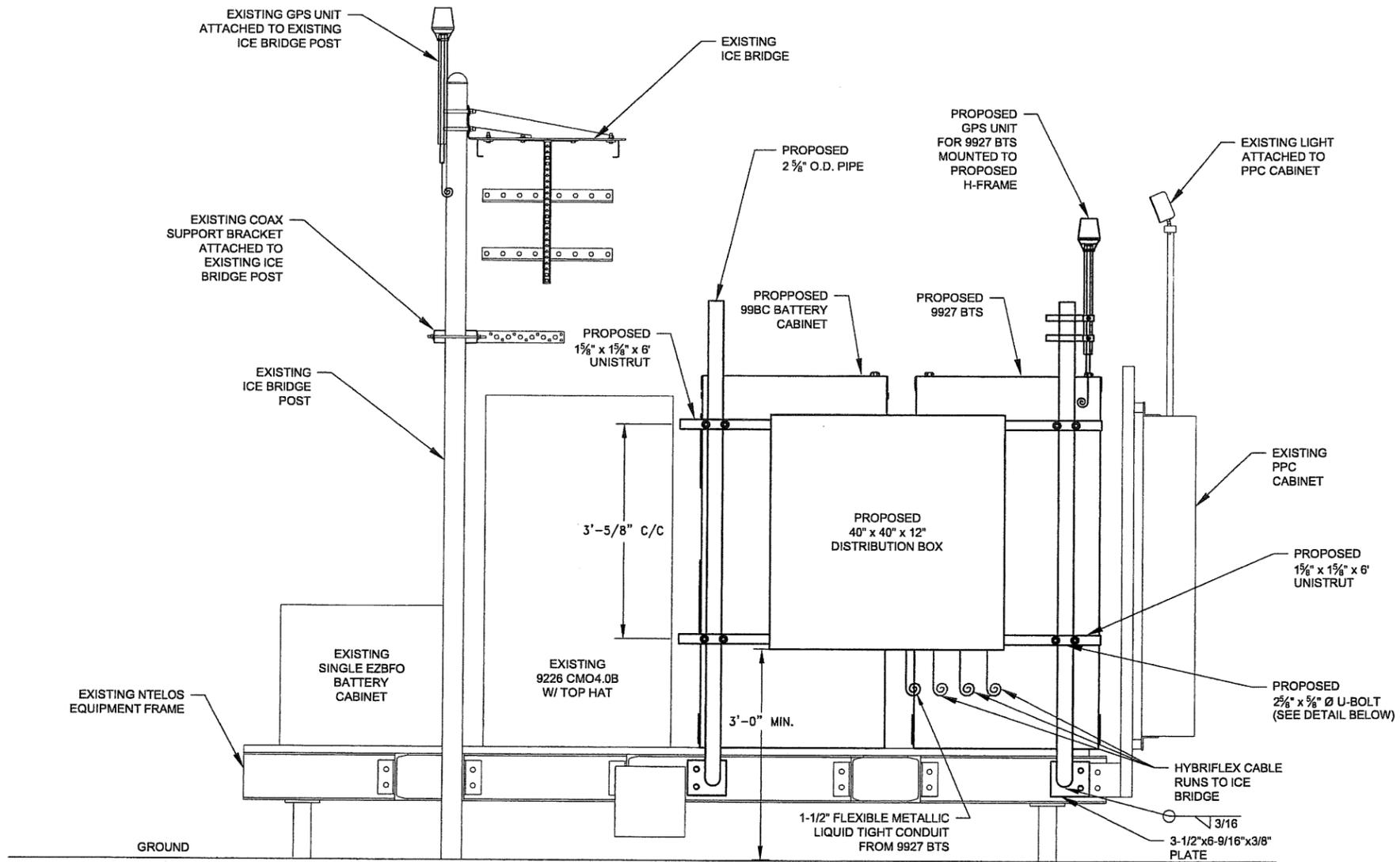
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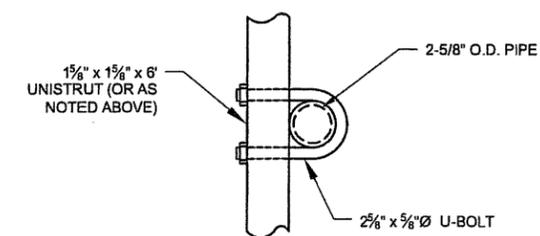
PROJECT # R4022100-155616.01

MISCELLANEOUS DETAILS SHEET  
D-7



H-FRAME ELEVATION DETAIL (FRONT)

NOT TO SCALE



U-BOLT DETAIL  
NOT TO SCALE

**GENERAL NOTES - ELECTRIC WORK**

**A. WORK INCLUDED:**

THIS SPECIFICATION AND ACCOMPANYING DRAWINGS CONTEMPLATES THE PROVISIONS AND INSTALLATION REQUIRED BY THE ELECTRICAL CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THE INSTALLATION OF THE ELECTRICAL WORK IN CONNECTION WITH NTELOS' TOWER SITE AND SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, THE FOLLOWING:

1. THE PROVISIONS FOR THE INSTALLATION AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH A EQUIPMENT CABINET AND SECONDARY GROUNDING, EXISTING TOWER GROUNDING, AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
2. THE PROVISIONS FOR THE INSTALLATION OF AN ELECTRICAL SERVICE AND ALL ASSOCIATED CONDUIT AND WIRING AS REQUIRED.
3. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. (UNLESS OTHERWISE NOTED)
4. ALL SPARE CONDUITS SHALL BE LEFT WITH A PULL WIRE FOR FUTURE USE. STUB BOTH ENDS OF SPARE CONDUIT 12 INCHES ABOVE FINISHED GRADE AND INSTALL PLUGS AT BOTH ENDS.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS AND CONDUIT, AND MAKE THE CONNECTION TO THE SERVICE EQUIPMENT WITHIN THE EQUIPMENT CABINET.
6. THE CONTRACTOR SHALL FURNISH AND INSTALL A 200 lb TEST PULL LINE IN ALL SPARE CONDUIT.
7. THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL AND TELEPHONE SERVICE CONTACTS AT THE START OF CONSTRUCTION.
8. THE ABOVE GRADE CONDUIT RISERS SHALL BE GALVANIZED STEEL WITH MATCHING FITTINGS.
9. THE CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THE EQUIPMENT DRAWINGS, NOTED FIELD WORK, AND/OR AS OTHERWISE NOTED TO BE COMPLETED IN THE FIELD.
10. ALL WIRE SHALL BE (COPPER, 600V THHW, 90°C) UNLESS NOTED OTHERWISE.
11. THE CONTRACTOR SHALL MAINTAIN A DISTANCE OF 12 INCHES BETWEEN EXISTING/NEW TELCO & ELECTRIC CONDUITS UNLESS NOTED OTHERWISE.
12. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE PROPOSED GROUNDING SYSTEM PRIOR TO TRENCHING.

**B. CODES, PERMITS AND FEES:**

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL ASSOCIATED FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL STATE, LOCAL, AND NATIONAL APPLICABLE CODES AND ORDINANCES RELATIVE TO THE DESIGN.
3. PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT, SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARDS SPECIFICATIONS OF THE FOLLOWING RECOGNIZED AUTHORITIES:  
 A.N.S.I. - AMERICAN NATIONAL STANDARDS INSTITUTE  
 I.E.E.E. - INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS  
 N.E.C. - NATIONAL ELECTRIC CODE  
 N.E.M.A. - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION  
 N.F.P.A. - NATIONAL FIRE PROTECTION ASSOCIATION  
 U.L. - UNDERWRITERS LABORATORIES, INC.
4. THE CONTRACTOR SHALL BE LICENSED TO PERFORM WORK IN THE STATE, CITY, OR COUNTY IN WHICH THE WORK IS TO BE PERFORMED.

**C. GROUNDING ELECTRODE SYSTEM**

**1. CONNECTIONS**

ALL GROUNDING CONNECTIONS SHALL BE MADE UTILIZING AN EXOTHERMIC WELDED PROCESS (CADWELD OR APPROVED EQUAL), UNLESS OTHERWISE SHOWN. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, TEE'S, X'S, ETC. ALL CABLE TO GROUND RODS, GROUND ROD SPLICES, AND LIGHTING PROTECTION SYSTEM AS INDICATED. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE CADWELDED AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.

**2. GROUND RODS**

ALL GROUND RODS SHALL BE 5/8" INCH STAINLESS STEEL OR COPPER CLAD STEEL COPPERWELD OR APPROVED EQUAL. THE MINIMUM NUMBER OF GROUNDING RODS REQUIRED SHALL BE THE NUMBER AS SHOWN AND AT THE LOCATIONS AS INDICATED ON THE PLANS. GROUNDING RODS SHALL BE DRIVEN VERTICALLY IN UNDISTURBED EARTH FOR ITS FULL LENGTH SO THAT THE TOP IS 24 INCHES BELOW FINISHED GRADE. ALL GROUND RODS SHALL BE AT LEAST 8 FEET APART UNLESS OTHERWISE NOTED.

**3. GROUNDING LEADS**

ALL GROUND LEADS CONNECTED TO BURIED GROUND RINGS SHALL BE #2 AWG TINNED SOLID COPPER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 FEET OF #2 AWG TINNED SOLID COPPER COILED AT EACH EQUIPMENT CABINET, COAX ENTRY GROUND BAR, PIPE BRIDGE SUPPORT FOUNDATIONS, AND TOWER FOUNDATIONS FOR TERMINATION BY THE ELECTRICAL CONTRACTOR. AFTER CABINET INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL SPLICE GROUND RING LEAD TO #2 AWG INSULATED STRANDED COPPER WIRE SUPPLIED WITH CABINET.

**4. GROUND RING**

THE GROUND RING REQUIRED TO GROUND THE EQUIPMENT FRAME SHALL BE #2 AWG TINNED SOLID COPPER CABLE IN DIRECT CONTACT WITH THE EARTH AT A DEPTH OF NOT LESS THAN 24 INCHES. CONDUCTOR BENDS SHALL HAVE A MINIMUM RADIUS OF 12 INCHES. A 2 FOOT CLEARANCE FROM ANY FOUNDATION OR SIDEWALK SHALL BE MAINTAINED.

**5. BACKFILL**

BACK FILL MATERIAL SHALL BE NON-CORROSIVE, LOW RESISTIVITY MATERIAL, FREE OF STONE, DEBRIS, ETC. AND TAMPED DOWN THOROUGHLY IN LAYERS NOT EXCEEDING SIX (6) INCHES IN DEPTH, AND COMPACTED TO AT LEAST 95% OF ITS ORIGINAL DENSITY BEFORE EXCAVATION.

**6. MISCELLANEOUS**

ALL EXTERIOR METAL SHALL BE CONNECTED TO THE GROUNDING SYSTEM WITH HIGH PRESSURE 2-BOLD LUG BY BURNDY OR BY THE EXOTHERMIC WELDED PROCESS (CADWELD OR APPROVED EQUAL) AS APPLICABLE. ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY THE EXOTHERMIC WELDED PROCESS (CADWELD OR APPROVED EQUAL) AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. ALL MECHANICAL FASTENER CONNECTIONS CONNECTED TO GROUND BARS SHALL BE LUBRICATED WITH A CORROSION INHIBITOR; THOMAS AND BETTS KOPR - SHIELD.

**7. UTILITY COMPANY COORDINATION**

ELECTRICAL CONTRACTOR SHALL COMPLETE ALL WORK IN ACCORDANCE WITH THE RULES AND GUIDELINES OF THE LOCAL UTILITY COMPANY. BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THE PROJECT AND SHALL DETERMINE ALL REQUIRED EQUIPMENT AND SERVICE CHARGES AND SHALL INCLUDE IT IN HIS BID COST.

**8. GROUND TEST**

GROUND TESTS SHALL BE PERFORMED UTILIZING A BIDDLE GROUND OHMMER OR THE METHOD OF USING TWO AUXILIARY GROUND RODS MAY BE USED AS DESCRIBED IN I.E.E.E. STANDARD No. 550, PARAGRAPH 3.42. THE I.E.E.E. METHOD REQUIRES THE USE OF AN A.C. TEST CURRENT. THE AUXILIARY TEST RODS MUST BE AT A SUFFICIENT DISTANCE AWAY FROM THE ROD UNDER TEST SO THAT THE REGIONS IN WHICH THEIR RESISTANCE IS LOCATED DOES NOT OVERLAP. THE CONTRACTOR SHALL MAINTAIN CONTINUITY OF ANY EXISTING GROUND RING BY SPLICING (VIA CADWELD) ANY CUT OR BROKEN SECTIONS WITH #2 SOLID TINNED COPPER TO THE EXISTING OR NEW GROUNDING SYSTEM.

**D. TESTING**

1. ALL TEST SHALL BE PERFORMED BY AUTHORIZED AND QUALIFIED PERSONNEL.
2. THE CONTRACTOR SHALL CONDUCT GROUND RESISTANCE TEST IN THE FORMAT AS FOLLOWS: TESTS SHALL BE PERFORMED UNDER DRY SOIL CONDITIONS WITH THE GROUND RODS CONNECTED AND WHEN NO STANDING OR GROUND WATER HAS BEEN PRESENT FOR THE PAST TEN DAYS. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS, THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTIFIED SO THAT ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.
3. THE CONTRACTOR SHALL CALL AN NTELOS REPRESENTATIVE FOR INSPECTION OF THE GROUNDING SYSTEM 48 HOURS PRIOR TO ITS COMPLETION. THE SYSTEM SHALL BE LEFT UNCOVERED UNTIL APPROVED.
4. UPON COMPLETION OF THE GROUNDING SYSTEM, THE ELECTRICAL CONTRACTOR SHALL MEGGER TEST THE GROUND SYSTEM. THE TEST IS TO BE PERFORMED BEFORE CONNECTING IT TO THE TOWER RING AND THEN AGAIN THEREAFTER. MAXIMUM RESISTANCE LEVEL IS 5 OHMS. THE LOCATION, DATE, TIME, WEATHER CONDITIONS, AND SOIL MOISTURE CONTENT SHALL BE RECORDED. IF 5 OHMS IS EXCEEDED WITHIN THE CURRENT CONFIGURATION, THE ELECTRICAL CONTRACTOR SHALL SUBMIT A QUOTE TO THE OWNER TO LOWER THE RESISTANCE TO 5 OHMS OR LESS.

**E. ELECTRICAL LOADS**

1. THE EQUIPMENT IS SET UP FOR A 200 AMP, 120/240 VOLT, SINGLE PHASE, THREE WIRE ELECTRICAL SERVICE. THE TOTAL CONNECTED LOAD IS 10.1 KILOVOLT-AMPERES (KVA).

**SPECIAL CONTRACTOR NOTES**

**NOTE 1:**

1. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ANY EXISTING GROUNDING GRID PRIOR TO TRENCHING.
2. CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING GROUND RING BY SPLICING (VIA CADWELD) ANY CUT OR BROKEN SECTIONS WITH #2 SOLID TINNED COPPER TO THE EXISTING OR NEW GROUNDING SYSTEM.

**NOTE 2:**

1. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL HAND DIG IN THE VICINITY OF ALL EXISTING LINES.

**F. TELCO**

1. PULL BOX (12" x 12") TO BE INSTALLED ON THE END OF THE TELCO CONDUIT AT METERBOARD AND PPC CABINET.

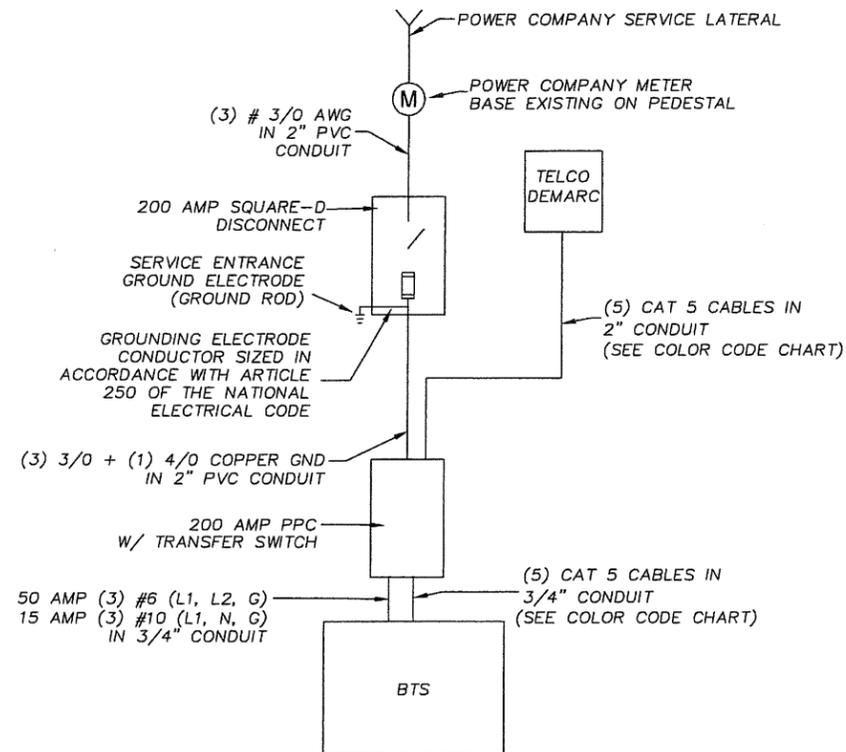
**NOTES:**

1. THE SUBCONTRACTOR SHALL PROVIDE 200 AMP, SINGLE PHASE, 120/240 VAC 60HZ SERVICE FOR THE SITE.
2. THE SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELEPHONE CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS.
3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO DRAWINGS PROVIDED BY PANEL MANUFACTURER.
4. THE SUBCONTRACTOR SHALL INSTALL SUFFICIENT LENGTHS OF CONDUIT INCLUDING ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC.) NECESSARY FOR CONNECTING FROM CONDUIT TO THE INTERIOR OF THE BTS CABINET.
5. THE SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
6. AT THE END OF THE CONDUIT, CUT COIL AND TAPE A 10' FOOT PITGAIL FOR TERMINATING BY BTS EQUIPMENT MANUFACTURER.
7. THE SUBCONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR IS INSTALLED PROPERLY WHEN PANEL SERVICE ENTRANCE EQUIPMENT IS INSTALLED.
8. THE CONTRACTOR SHALL VERIFY THAT THE INSTALLATION PERFORMED BY HIS SUBCONTRACTOR CONFORMS TO THE CURRENT NATIONAL CODE.

**CABLE COLOR CODE CHART**

CAT-5 CABLE COLOR CODE CHART  
(CABLE JACKET NEEDS TO BE APPROPRIATE COLOR, NOT COLORED TAPE)

- 1) YELLOW
- 2) WHITE
- 3) BLUE
- 4) GREEN
- 5) YELLOW WITH ONE STRIPE BLACK TAPE
- 6) WHITE WITH ONE STRIPE BLACK TAPE
- 7) BLUE WITH ONE STRIPE BLACK TAPE
- 8) GREEN WITH ONE STRIPE BLACK TAPE
- 9) RED



**ONE-LINE DIAGRAM  
UNDERGROUND SERVICE TO PEDESTAL**

NOT TO SCALE



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

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CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER: AMERICAN TOWERS, LLC  
10 RESIDENTIAL WAY  
WOBURN, MA 01801

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400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

ELECTRICAL DETAILS	SHEET
	D-8

**GENERAL NOTES**

1. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENT AGENCIES.
2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
3. CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
4. LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN, ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITS BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE OWNER'S ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLANS. IF THERE APPEARS TO BE A CONFLICT, OR UPON THE DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS, CALL "MISS UTILITY" FOR ASSISTANCE.
5. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED OR REPLACED IN-KIND.
6. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER, THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.
7. THE CONTRACTOR SHALL COORDINATE THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE WITH NTELOS.
8. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) FULL YEAR FROM THE DATE OF ACCEPTANCE.
9. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE CHARGED EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY COUNTY INSPECTORS.
10. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN THE PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE IN WHICH THE WORK IS TO BE PERFORMED. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
11. ALL MANUFACTURER'S HARDWARE ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
12. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND ANY FIELD MODIFICATIONS THERETO, TO INSURE THE SAFETY OF THE STRUCTURE'S COMPONENT PARTS, AND EMPLOYEES DURING ERECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
13. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK PERFORMED ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE OWNER'S ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
14. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD WORKING QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
16. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF THE LOCAL BUILDING CODE.
17. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
18. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
19. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
20. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
21. THE ELECTRICAL AND RF STANDARDS AND SPECIFICATIONS SHOWN ON THESE PLANS HAVE BEEN PROVIDED BY THE CLIENT. MEAD & HUNT, INC. HAS NOT DESIGNED NOR PREPARED ANY OF THE ELECTRICAL AND RF STANDARDS AND SPECIFICATIONS. THEY HAVE BEEN PROVIDED FOR INFORMATION ONLY.
22. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
23. COORDINATE THE CONSTRUCTION STAGING AREA WITH THE PROPERTY OWNER AND THE PROPERTY MANAGER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.
24. THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS AND PLAN DIMENSIONS, AND NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
25. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE WORK SITE ON A DAILY BASIS.



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: ELLET

SITE NUMBER: RN757

SITE ADDRESS: 906 DEN HILL ROAD  
CHRISTIANSBURG, VA 24073

AREA: LEASE AREA = 400 SQ. FT.

TOWER OWNER:  
AMERICAN TOWERS, LLC  
10 PRESIDENTIAL WAY  
WOBBURN, MA 01801

LATITUDE: N37° 11' 50.4"

LONGITUDE: W80° 21' 36.0"

NO.	REVISION/ISSUE	DATE
1	ISSUE FOR COMMENT	04/27/15
2	REISSUE FOR COMMENT	05/14/15
3	ISSUE FOR CONSTRUCTION	05/19/15
4	REISSUED	08/21/15



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-155616.01

GENERAL NOTES SHEET  
D-9

AT AN ADJOURNED MEETING OF THE BOARD OF SUPERVISORS OF THE COUNTY OF MONTGOMERY, VIRGINIA HELD ON THE 24<sup>th</sup> DAY OF NOVEMBER, 2008 AT 6:30 P.M. IN THE BOARD CHAMBERS, MONTGOMERY COUNTY GOVERNMENT CENTER, 755 ROANOKE STREET, CHRISTIANSBURG, VIRGINIA:

**R-FY-09-63  
SPECIAL USE PERMIT  
LAWRENCE S. ESTES (AGENT: AT&T)  
FOR THE PURPOSE OF ALLOWING  
A 120 FOOT TELECOMMUNICATIONS TOWER  
906 DEN HILL ROAD PARCEL ID #006179,  
TAX MAP NUMBER 68-A-145**

On a motion by Gary D. Creed, seconded by William H. Brown and carried unanimously,

BE IT RESOLVED, By the Board of Supervisors of Montgomery County, Virginia that the **Lawrence S. Estes (Agent: AT&T) request for a Special Use Permit (SUP) on 44.923 acres in an Agriculture (A-1) zoning district to allow a 120 foot tall telecommunications tower is consistent with the County's Comprehensive Plan and is hereby approved** with the following conditions:

1. Tower shall not exceed a total overall height of 120 feet inclusive of the proposed lightening rod with a ground elevation of 1,786 feet. Tower shall not have lighting. Tower shall have a base diameter not to exceed 48 inches and a top diameter of 22 inches.
2. Site development shall be in substantial conformance with the plans entitled, "AT&T Saint Andrews, Site No. R0339G", prepared by BC Architects Engineers, dated July 30, 2008 and received by Montgomery County on August 1, 2008. Revised Sheet No. VA-R0339G-A-1 shall be received and approved by the Zoning Administrator before site plan approval and issuance of zoning permit.

3. Tower shall be of a "monopole stealth design" where all antennae shall be flush mounted (distance between face of pole and outer face of antennas not to exceed 12 inches in the top position) In lieu of not making a separate tower application on the same property, Verizon Wireless shall be allowed to co-locate on this structure using a modified flush mount design (24 inches distance between face of pole and outer face of antennas). Tower shall be painted brown (Wooden Cabin or similar color brown). All wiring and cables shall be located inside the pole structure.
4. Engineering plans, signed and sealed by a licensed engineer in the State of Virginia, shall be submitted to and approved by the Building Official prior to issuance of a building permit.
5. No platforms or dishes shall be permitted on the structure above the tree line.
6. Tower shall meet all regulations found in Section 10-48(6) of the Montgomery County Zoning Ordinance.
7. Backup generator, if applicable, shall be fueled only by propane.
8. Owner/agent shall provide emergency services antennae space on the proposed tower for the agreed upon rental rate of \$1 per year subject to the structural capacity of the tower and provided that emergency service antennae do not provide radio frequency interference to other antennae located upon the tower.
  - Emergency service providers shall provide equipment.
  - Tower owner/agent shall install the antennae at market rate.
  - The tower owner will provide the County with a location on the tower between 86 feet and 100 ft.
9. Tower compound fence shall be screened with Leyland Cypress, 6 ft in height and 5 feet on center. Similar screening shall be provided along the Amodeo (Tax Map 055-16-23D)/Este's property in the line of site of the proposed house site in accordance with the attached conceptual map dated November 6, 2008. Screening shall be approved by the Zoning Administrator at the time of the site plan approval.
10. All trees on the property (within 50 feet of the proposed lease area) shall be maintained and not removed except for damaged or diseased trees.

The property is located at 906 Den Hill Road and is identified as Tax Parcel No(s) 68-A-145, Parcel ID 001679, in the Mount Tabor Magisterial District (District B). This property currently lies in an area designated as Resource Stewardship in the Comprehensive Plan.

The vote on the foregoing resolution was as follows:

<u>AYE</u>	<u>NAY</u>
William H. Brown	None
Gary D. Creed	
John A. Muffo	
James D. Politis	
Mary W. Biggs	
Doug Marrs	
Annette S. Perkins	

ATTEST: B. Clayton Goodman III  
B. Clayton Goodman, III  
County Administrator

nTelos

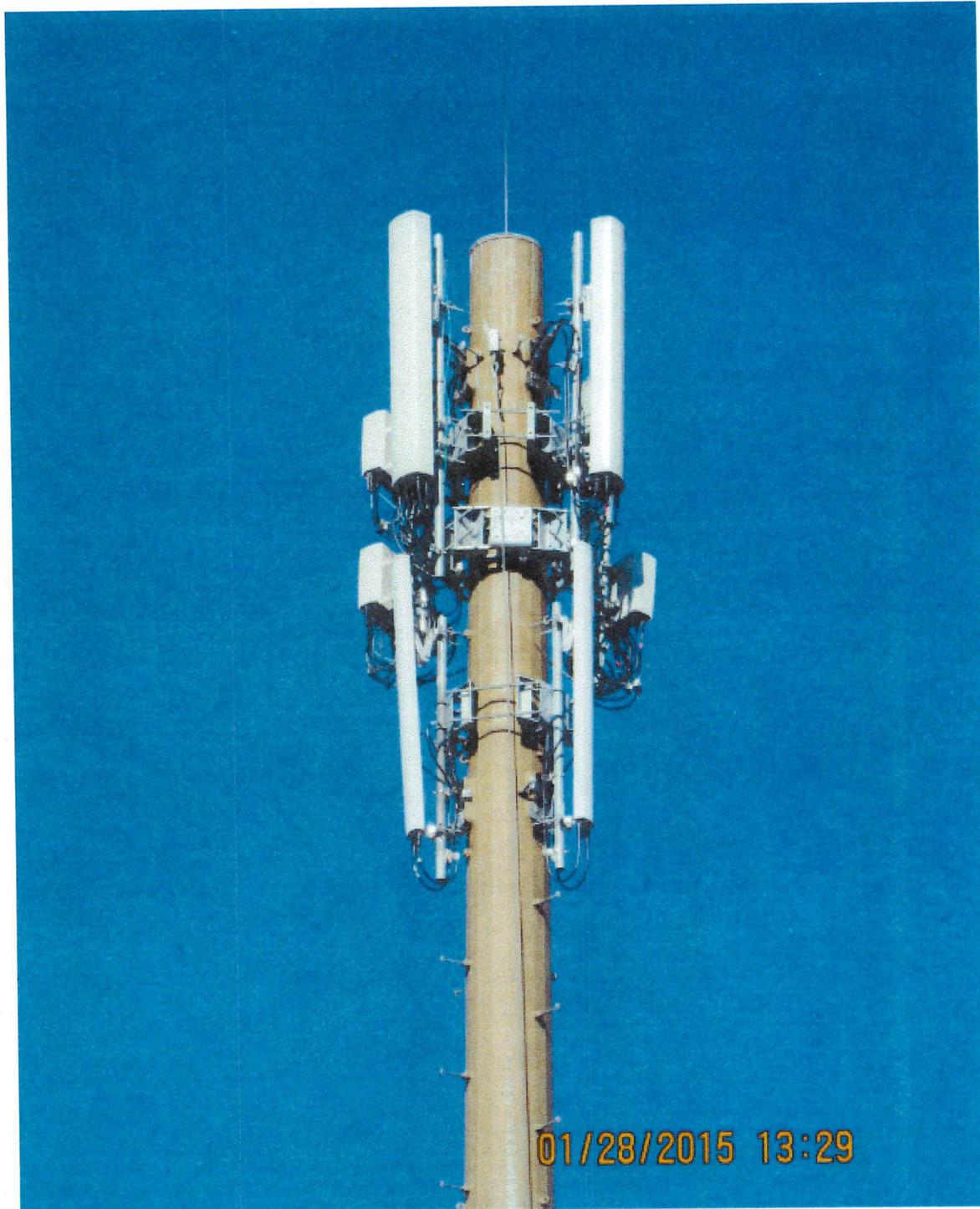
RN757

906 Den Hill Road

SU-2015-13029



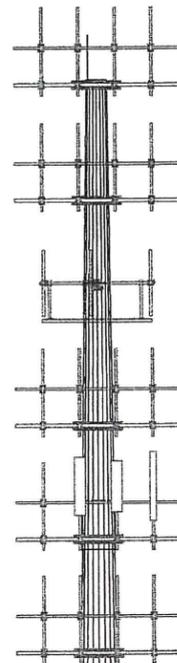
01/28/2015 13:28



01/28/2015 13:29

TOP OF LIGHTNING ROD ELEV. = 132'

TOP OF TOWER ELEV. = 128'



EXISTING ANTENNAS RAD CENTER ELEV. = 129'-8"  
(U.S. CELLULAR)

EXISTING ANTENNAS RAD CENTER ELEV. = 121'  
(AT&T)

EXISTING ANTENNAS RAD CENTER ELEV. = 109'-6"  
(T-MOBILE)

EXISTING ANTENNAS RAD CENTER ELEV. = 99'  
(VERIZON)

EXISTING ANTENNAS RAD CENTER ELEV. = 91'  
(NTELOS)

EXISTING PLATFORM MOUNT ELEV. = 75'-10"  
(EMPTY)

ELEV. 0' (BASE OF MONOPOLE)

TOWER ELEVATION



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: VTCRC

SITE NUMBER: RN758

SITE ADDRESS:  
208 S. KNOLLWOOD DRIVE  
BLACKSBURG, VA 24062

AREA:  
LEASE AREA = 288 SQ. FT.

TOWER OWNER:  
KALER COMMUNICATIONS, LLC  
P.O. BOX 10397  
BLACKSBURG, VA 24062

LATITUDE: N37° 12' 01.07"

LONGITUDE: W80° 24' 08.33"

NO.	REVISION/ISSUE	DATE
1	ISSUED	08/27/15

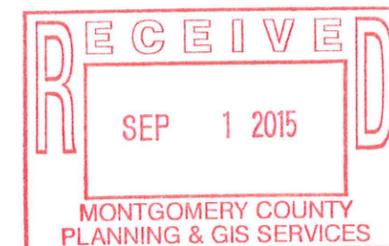
FOR  
ILLUSTRATIVE  
PURPOSES  
ONLY



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-150113.01

TOWER ELEVATION SHEET  
D-1





1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: VTCRC

SITE NUMBER: RN758

SITE ADDRESS:  
208 S. KNOLLWOOD DRIVE  
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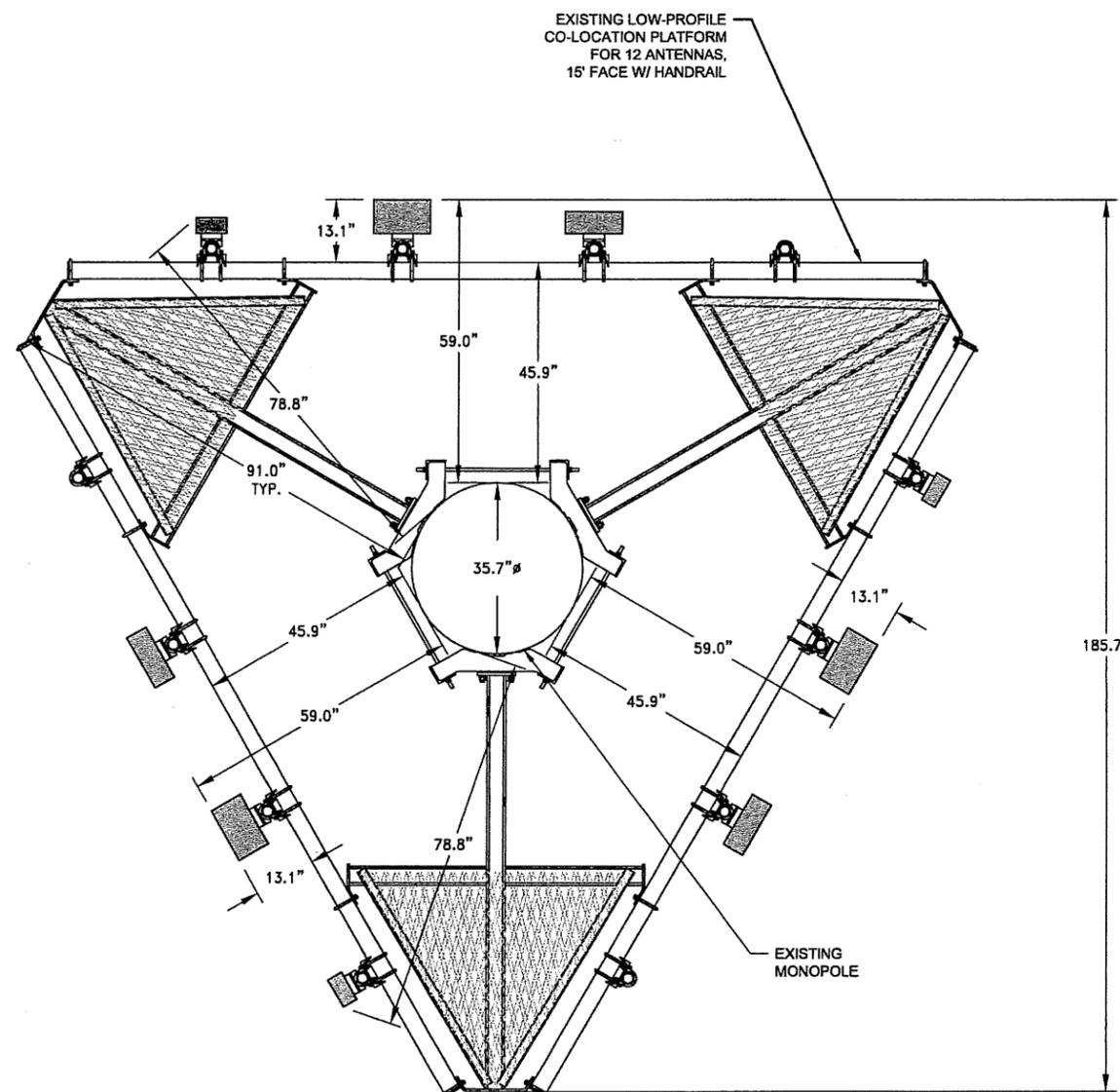


400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-150113.01

MISCELLANEOUS  
DETAILS

SHEET  
D-2



**NTELOS PLATFORM**

GRAPHIC SCALE



1 INCH = 3 FEET



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: VTCRC

SITE NUMBER: RN758

SITE ADDRESS:  
208 S. KNOLLWOOD DRIVE  
BLACKSBURG, VA 24062

AREA:  
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NO.	REVISION/ISSUE	DATE
1	ISSUED	08/27/15



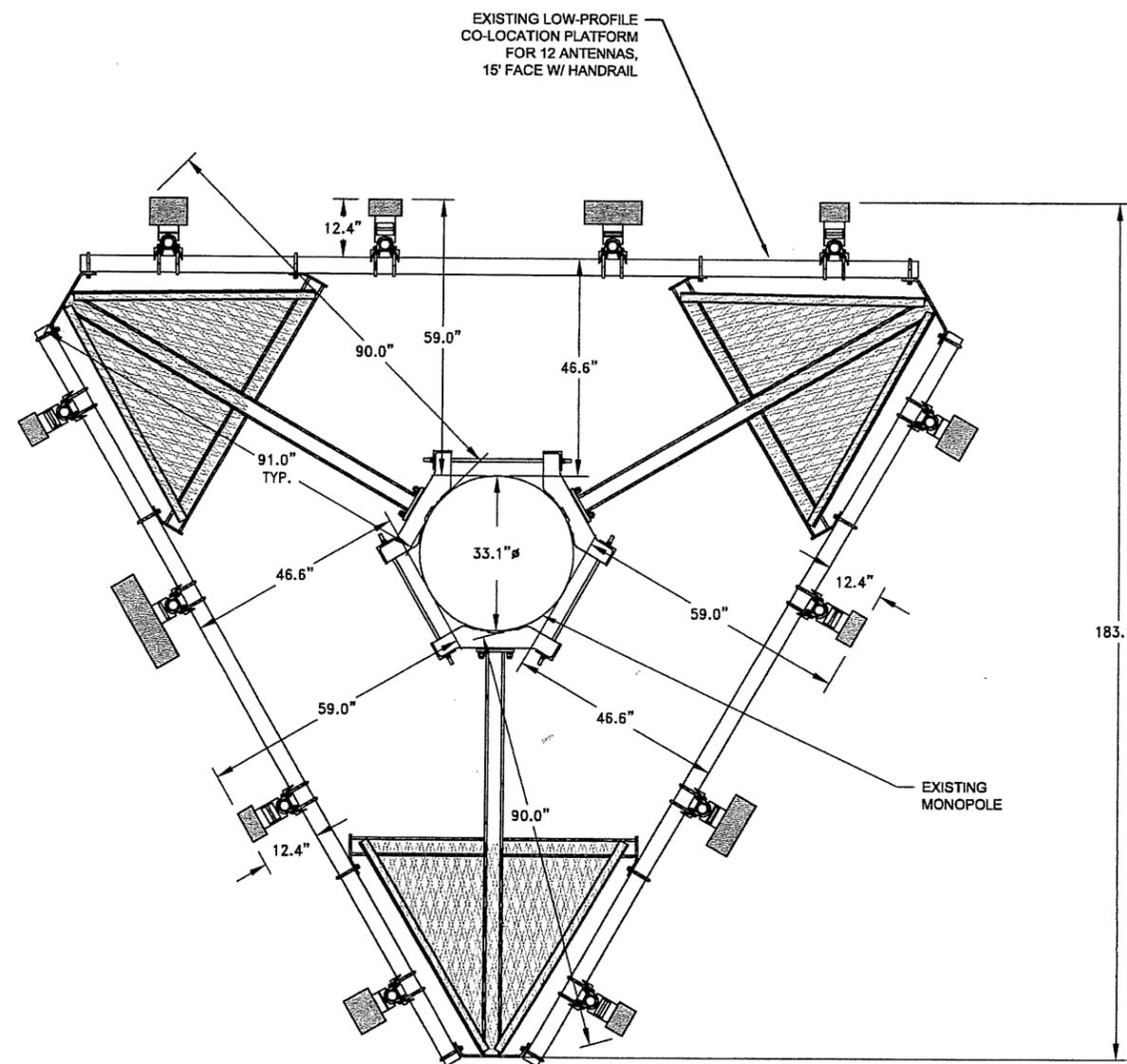
400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-150113.01

MISCELLANEOUS  
DETAILS

SHEET

D-3



### VERIZON PLATFORM

GRAPHIC SCALE



1 INCH = 3 FEET



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: VTCRC

SITE NUMBER: RN758

SITE ADDRESS:  
208 S. KNOLLWOOD DRIVE  
BLACKSBURG, VA 24062

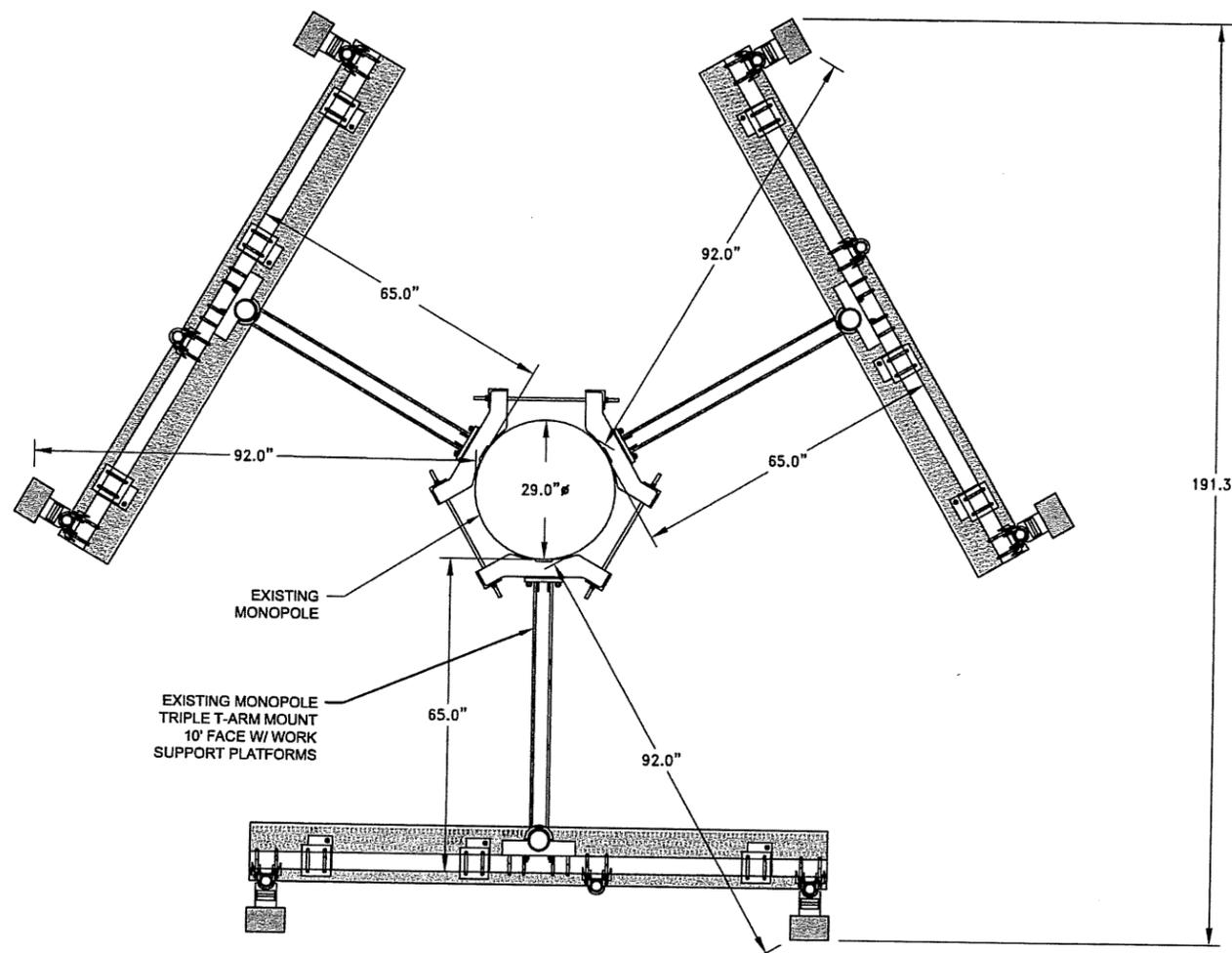
AREA:  
LEASE AREA = 288 SQ. FT.

TOWER OWNER:  
KALER COMMUNICATIONS, LLC  
P.O. BOX 10397  
BLACKSBURG, VA 24062

LATITUDE: N37° 12' 01.07"

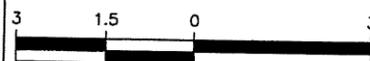
LONGITUDE: W80° 24' 08.33"

NO.	REVISION/ISSUE	DATE
1	ISSUED	08/27/15



### T-MOBILE TRIPLE T-ARM MOUNT

GRAPHIC SCALE



1 INCH = 3 FEET



400 TRACY WAY  
SUITE 200  
CHARLESTON, WV 25311  
(304) 345-6712 PHONE

PROJECT # R4022100-150113.01

MISCELLANEOUS DETAILS	SHEET D-4
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1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

SITE NAME: VTCRC

SITE NUMBER: RN758

SITE ADDRESS:  
208 S. KNOLLWOOD DRIVE  
BLACKSBURG, VA 24062

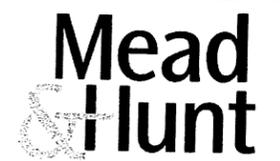
AREA:  
LEASE AREA = 288 SQ. FT.

TOWER OWNER:  
KALER COMMUNICATIONS, LLC  
P.O. BOX 10397  
BLACKSBURG, VA 24062

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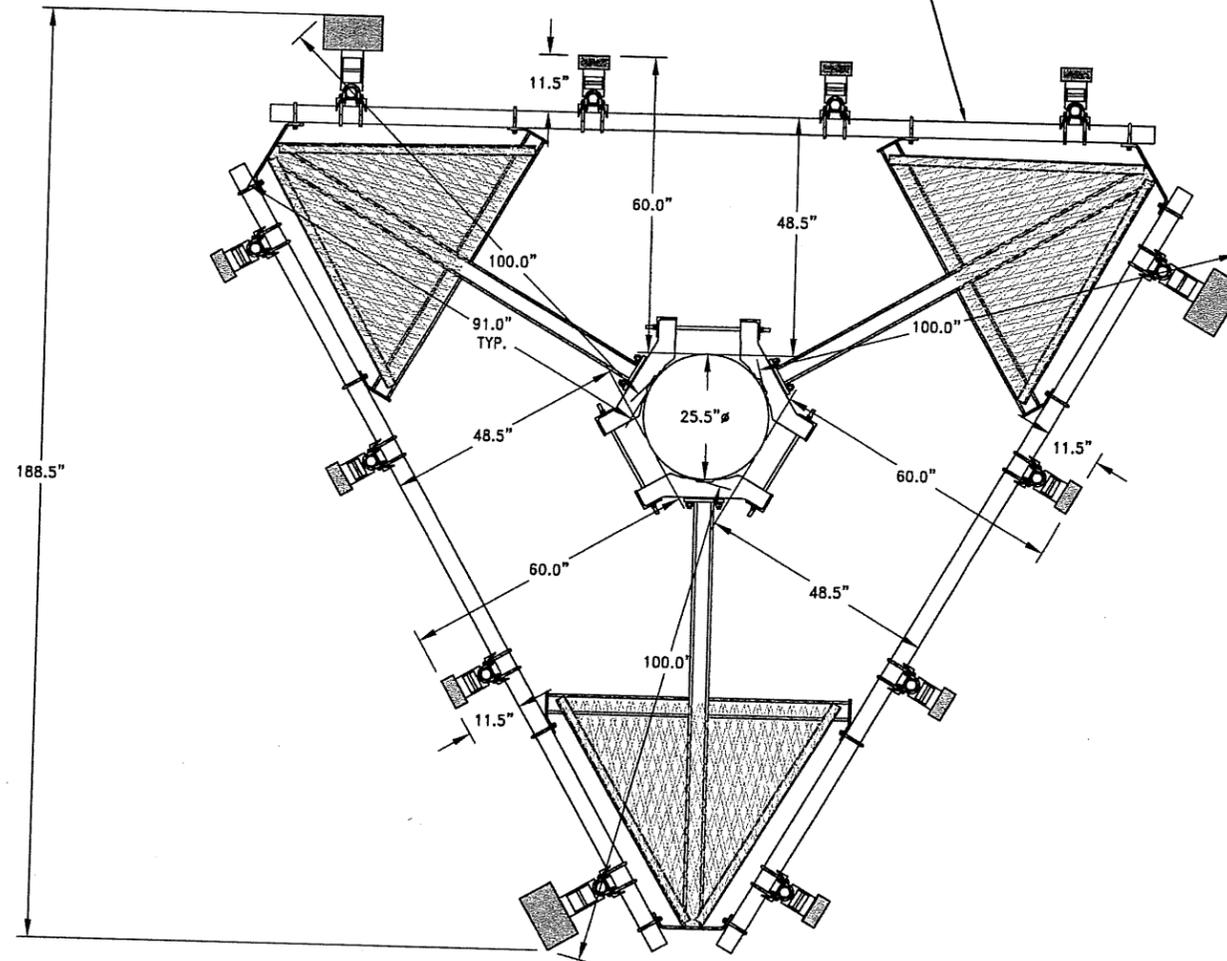


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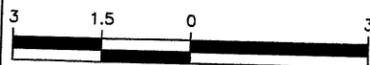
MISCELLANEOUS  
DETAILS SHEET  
D-5

EXISTING LOW-PROFILE  
CO-LOCATION PLATFORM  
FOR 12 ANTENNAS,  
15' FACE W/ HANDRAIL



AT&T PLATFORM

GRAPHIC SCALE



1 INCH = 3 FEET



1150 SHENANDOAH VILLAGE DRIVE  
WAYNESBORO, VA 22980

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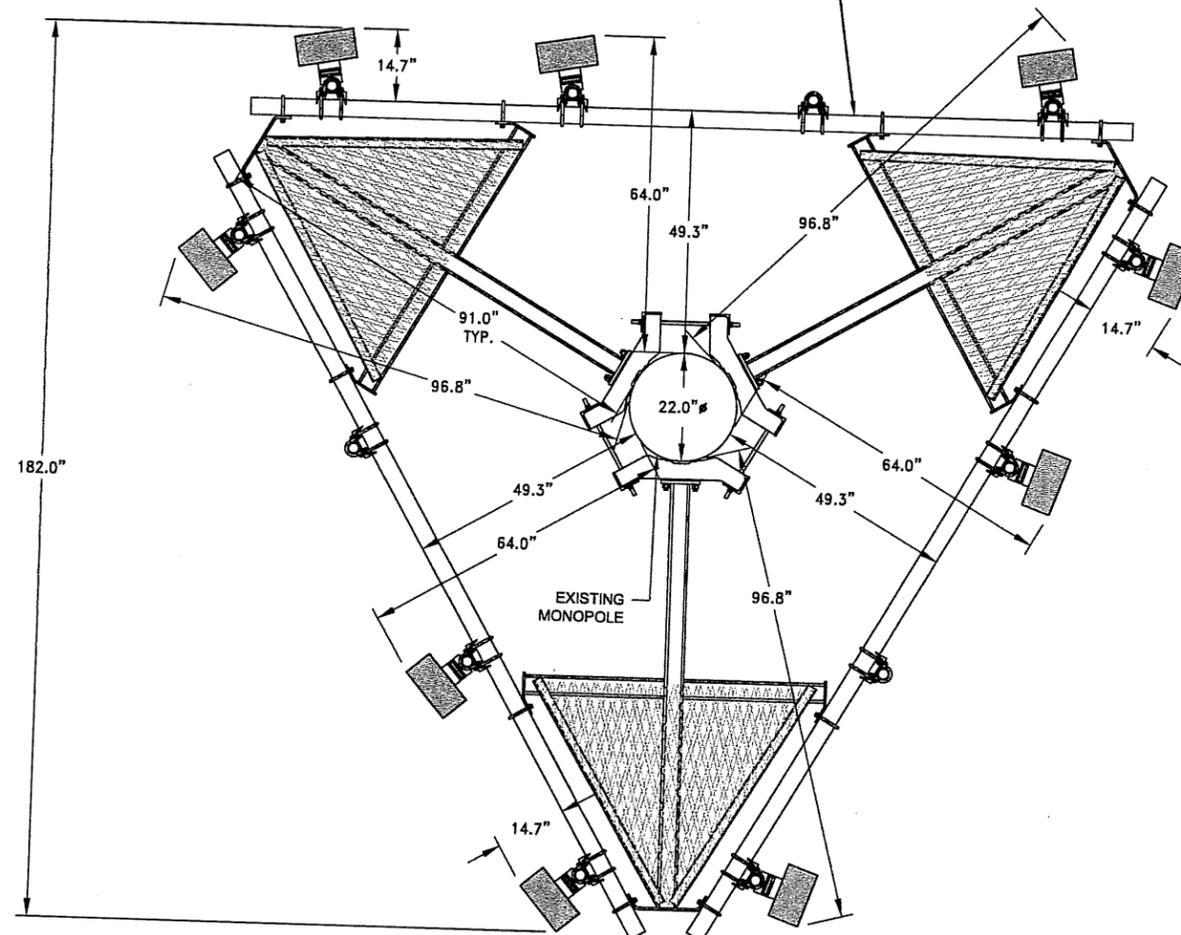


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PROJECT # R4022100-150113.01

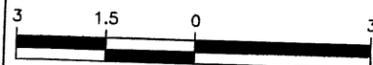
MISCELLANEOUS  
DETAILS SHEET

EXISTING LOW-PROFILE  
CO-LOCATION PLATFORM  
FOR 12 ANTENNAS,  
15' FACE W/ HANDRAIL



U.S. CELLULAR PLATFORM

GRAPHIC SCALE



1 INCH = 3 FEET