

From: Scala, Mary Joy
Sent: Tuesday, April 25, 2017 3:57 PM
To: 'Schweller, Lori H.'; 'Stephen Waller'
Cc: Robertson, Lisa
Subject: BAR Action - 301 15th Street - April 18, 2017

April 25, 2017

Pavilion, LLC
2075 Madison Avenue
Memphis, TN 38104

Verizon Wireless – C/O Stephen Waller, AICP
8159 Cancun Court
Gainesville, VA 20155

RE: Certificate of Appropriateness Application

BAR 17-04-03
301 15th Street NW
Tax Parcel 090094000
Pavilion, LLC, Owner/ Verizon, Applicant
Proposed cell antenna

Dear Applicant,

The above referenced project was discussed before a meeting of the City of Charlottesville Board of Architectural Review (BAR) on April 18, 2017. The following action was taken:

Schwarz moved to approve a COA for BAR 17-04-03, proposing installation of wireless communication transmission equipment on the roof of a building located at 301 15th Street NW, because the proposed installation is architecturally compatible with the character of this property and of the Rugby Road-University Circle-Venable Neighborhood ADC District. This approval is subject to the following conditions:

- (1) All communications/ transmission equipment, and related facilities, shall be installed in accordance with a coordinated Concealment Plan approved by this BAR. The Concealment Plan hereby approved for this property as follows:**
- **Communications/ transmission equipment, and related facilities, shall be disguised by, or disguised as, architectural features, fixtures, or building appurtenances. Concealment elements created for the sole purpose of disguising or hiding such equipment and facilities shall be treated, considered and reviewed in the same manner as the architectural features, fixtures or appurtenances they mimic.**
 - **In the aggregate, all architectural features, fixtures and appurtenances shall not exceed such number, and shall be of such massing, type and appearance, as may be compatible with similar features, fixtures and appurtenances on other building(s) within this ADC District. Approval of a concealment element for one installation does not guarantee approval of the same concealment element(s) for all future installations.**

- All future installations of communications/ transmission equipment shall be in accordance with this Concealment Plan.

(2) The current application proposes only one (1) antenna/data node, and related equipment and facilities, to be installed on or adjacent to the roof of the existing commercial building. Consistent with the above-referenced Concealment Plan, this proposed installation shall be installed and disguised as follows:

- The proposed antenna/data node shall be enclosed within a cornerstone installed for the purpose of concealing the antenna/ data node, and placed at the eastern corner of the parking garage structure, at the top of the garage walls.
- The materials of the cornerstone enclosure shall be a color that is a neutral, light color that closely matches the light-grey concrete of the parking garage façade.
- The cornerstone enclosure shall itself have a height of 3'2" feet or less. No portion of the antenna/ data node shall extend beyond the cornerstone enclosure. It must sit directly upon the garage column and match the cross-section.
- The equipment cabinet (approximately 24 inches (L) x 20 inches (W) x 11 inches (D)), two remote radio heads, and a diplexer, and any and all other equipment and facilities supporting the operation of the antenna/ data node, shall be mounted on a uni-strut frame attached to the interior side of the existing parapet wall at the top of the garage structure. No part or portion of any supporting equipment or facilities shall be visible at ground level from any adjacent street or property. The equipment will be located below the levels of the sloped roof of the attached apartment building within the mechanical equipment well. The conduit to serve the equipment shall be located on the interior surface of the interior wall and not visible from the exterior.

Miller made an amendment to switch the word designed by to disguised by in Number 1. Gastinger seconded the amendment. Balut seconded the motion. Motion passed (7-0).

This certificate of appropriateness shall expire in 18 months (October 18, 2018), unless within that time period you have either: been issued a building permit for construction of the improvements if one is required, or if no building permit is required, commenced the project. The expiration date may differ if the COA is associated with a valid site plan. You may request an extension of the certificate of appropriateness *before this approval expires* for one additional year for reasonable cause.

If you have any questions, please contact me at 434-970-3130 or scala@charlottesville.org.

Sincerely yours,

Mary Joy Scala, AICP
Preservation and Design Planner

Mary Joy Scala, AICP
Preservation and Design Planner
City of Charlottesville
Department of Neighborhood Development Services
City Hall – 610 East Market Street
P.O. Box 911
Charlottesville, VA 22902
Ph 434.970.3130 FAX 434.970.3359
scala@charlottesville.org

**CITY OF CHARLOTTESVILLE
BOARD OF ARCHITECTURAL REVIEW
STAFF REPORT
April 18, 2017**



Certificate of Appropriateness Application

BAR 17-04-03

301 15th Street NW

Tax Parcel 090094000

Pavilion, LLC, Owner/ Verizon, Applicant

Proposed cell antenna

Background

The GrandMarc is a 5-story apartment building located on 15th Street, just south of the intersection with Virginia Avenue. It is a non-contributing structure in the Rugby Road-University Circle-Venable Neighborhood ADC District, that was built just prior to the adoption of the ADC district. The properties surrounding this building consist of student-oriented rental housing and apartment units to the north and east, with a mixture of University Avenue and Corner District retail, restaurant, and commercial service uses to the south and west along the opposite side of the adjacent railroad tracks.

Application

The applicant is requesting approval the installation of a new attached, concealed, wireless telecommunications facility to be installed to the parking deck of the GrandMarc apartment building. This data node facility will consist of a 6.7"(W) x 23.6"(L) panel antenna that will be mounted at the eastern corner of the parking garage, and enclosed within a stealth concealment cornerstone on top of the building's wall. The antenna concealment box will be designed with a color and texture that closely matches the light gray concrete of the existing parking deck.

The supporting base station transmitting equipment will consist of a radio cabinet that is approximately 23.4"(L) x 19.4"(W) x 10.8"(D), two remote radio heads, and a diplexer, which will be mounted on a unistrut framing structure affixed to the parapet wall and will not be visible from the outside of the building at ground level. This equipment will appear similar to the various types of other electrical equipment.

Criteria and Guidelines

Review Criteria Generally

Sec. 34-284(b) of the City Code states that,

In considering a particular application the BAR shall approve the application unless it finds:

- (1) That the proposal does not meet specific standards set forth within this division or applicable provisions of the Design Guidelines established by the board pursuant to Sec.34-288(6); and*
- (2) The proposal is incompatible with the historic, cultural or architectural character of the district in which the property is located or the protected property that is the subject of the application.*

Pertinent Standards for Review of Construction and Alterations include:

- (1) Whether the material, texture, color, height, scale, mass and placement of the proposed addition, modification or construction are visually and architecturally compatible with*

the site and the applicable design control district;

(2) The harmony of the proposed change in terms of overall proportion and the size and placement of entrances, windows, awnings, exterior stairs and signs;

(3) The Secretary of the Interior Standards for Rehabilitation set forth within the Code of Federal Regulations (36 C.F.R. §67.7(b)), as may be relevant;

(4) The effect of the proposed change on the historic district neighborhood;

(5) The impact of the proposed change on other protected features on the property, such as gardens, landscaping, fences, walls and walks;

(6) Whether the proposed method of construction, renovation or restoration could have an adverse impact on the structure or site, or adjacent buildings or structures;

(8) Any applicable provisions of the City's Design Guidelines.

Pertinent Design Review Guidelines for Site Design and Elements

H. Utilities and Other Site Appurtenances

Site appurtenances, such as overhead utilities, fuel tanks, utility poles and meters, antennae, exterior mechanical units, and trash containers, are a necessary part of contemporary life. However, their placement may detract from the character of the site and building.

- 1. Plan the location of overhead wires, utility poles and meters, electrical panels, antennae, trash containers, and exterior mechanical units where they are least likely to detract from the character of the site.*
- 2. Screen utilities and other site elements with fences, walls or plantings*
- 3. Encourage the installation of utility services underground.*
- 4. Antennae and communication dishes should be placed in inconspicuous rooftop locations, not in a front yard.*
- 5. Screen all rooftop mechanical equipment with a wall of material harmonious with the building or structure.*

Discussion and Recommendations

In 2012, congress enacted the "Spectrum Act" to facilitate expansion of wireless broadband services. Localities cannot deny, and must approve, the proposed placement of antennas on existing towers and base stations, if the physical dimensions of the tower or base station will not be substantially changed.

The Telecommunication Facilities section of the City's zoning ordinance was changed in September of 2016, due to the 2012 federal "Spectrum Act." Pertinent sections are:

Sec. 34-1073. Design control districts.

- (a) Within the city's historic and entrance corridor overlay districts attached communications facilities that are visible from any adjacent street or property are prohibited; provided, however, that by special use permit city council may authorize such facilities on a specific lot.*

Sec. 34-1080

- (a) Attached communications facilities that are permitted to be visible from adjacent streets or properties shall comply with the following standards:*
 - (1) Such facilities shall be designed and located so as to blend in with the existing support structure. The facilities shall be attached to the support structure in the least visible location that is consistent with proper functioning of equipment. The colors of*

the facility and the attachment structure will be coordinated, and compatible neutral colors shall be utilized.

(b) Attached communications facilities that are permitted only if not visible from adjacent streets or properties shall comply with the following standards:

(1) Such facilities must be concealed by an architectural feature or lawful appurtenance of the support structure, provided that ground-level equipment may be concealed by landscape screening.

Currently, there is not any existing telecommunications equipment on the parking structure of the GrandMarc. The BAR should read the attached September 24, 2015 memo sent by the City Attorney on telecommunication issues, and decide if adding this proposed equipment and its screening will adversely affect the character of this property within the ADC District.

In a subsequent communication regarding 301 15th Street, she writes: *"The attached facility is not visible from an adjacent street. However, per 34-1080(b), concealment is required and, in an ADC District a COA is required for a concealment feature. ...action on both the COA application and zoning verification will be completed within 60 days (this is not an eligible facilities request)."*

Staff would like to add while there may be little aesthetic impact on the overall property, putting telecommunications equipment on this roof will open up the property to the additions of more antennas in the future. The city attorney writes, **"Upon approval of even a single antenna to be located on an existing building, the City creates an "existing base station". Therefore, collocations of new or replacements antennas cannot be denied if federal criteria are met."**

In staff opinion, the screening of both the antenna and supporting equipment is appropriate.

Suggested Motion

Having considered the standards set forth within the City Code, including City Design Guidelines for Site Design and Elements, I move to find that the proposed cell antenna and additional telecommunications equipment satisfy the BAR's criteria and are compatible with this property and other properties in The Corner ADC District, and that the BAR approves the application as submitted.

From: Robertson, Lisa

Sent: Thursday, September 24, 2015 4:47 PM

To: BAR; Lahendro, Jody; Dowell, Taneaia; Keller, Genevieve; Rosensweig, Dan; Santoski, John

Cc: Ikefuna, Alexander; Creasy, Missy; Haluska, Brian; Gore, Andrew

Subject: Telecomm Issues

Members of the BAR and ERB,

I am writing to call to your attention two circumstances in which applications seeking approval for installation of telecommunications equipment will not be subject to BAR/ ERB review. Staff has two pending applications that must be approved per federal law, but we wanted to provide you with the following information before approval letters are sent out.

1. **“Eligible Facilities Requests” pursuant to the Federal Spectrum Act.**

You may or may not be aware that, in 2012, as part of the Middle Class Tax Relief and Job Creation Act, Congress enacted the “Spectrum Act” in order to (among other things) facilitate the expansion of wireless broadband services. Pursuant to Section 6409 of the Spectrum Act (codified at 47 U.S.C. Sec. 1455(a)) localities cannot deny, and must approve, the proposed placement of antennas on existing towers and base stations, if the physical dimensions of the tower or base station will not be substantially changed. The FCC regulations implementing the Spectrum Act requirements are attached to this e-mail.

In a nutshell: in cases where (i) an existing building currently serves as the support for any “transmission equipment”, including any antenna (together, the building and transmission equipment are referred to as an “existing base station”), (ii) the existing base station was reviewed and approved under the local zoning process, or an applicable state review process, (iii) the installation as proposed will not defeat any concealment element(s) of the building/ support structure, and (iv) the physical dimensions of the existing base station will not be substantially changed, then federal law prohibits the City from doing anything other than approving the application. Upon approval of even a single antenna to be located on an existing building, the City creates an “existing base station”. Thereafter, collocations of new or replacement antennas cannot be denied if federal criteria are met. Localities cannot make applicants comply with general submission requirements for site plans or other development reviews— for “Eligible Facilities”, the City may only require the submission of a minimal amount of information, as necessary to demonstrate that the federal criteria are met. The City is required to make a decision on an Eligible Facilities request within 60 days of the day on which the application is received. **Therefore, going forward, when NDS receives “Eligible Facilities” Requests, I am recommending that those requests be reviewed by staff in relation to the applicable criteria, and then approved by the Director of NDS without review by either the BAR or the Entrance Corridor Board.**

At the existing Monticello Hotel Building (500 Court Square) there are two pending applications (*see attached draft correspondence*). We have reached the 60-day deadline, and the applicants’ attorney is requesting a decision. For each: (i) the existing building serves as the support for numerous items of transmission equipment, including antennas; (ii) one or more of the existing equipment items located on the rooftop was previously approved by the City, either upon original installation, or subsequent replacement; (iii) none of the existing equipment is concealed by any feature of the building, so there are no existing “concealment elements” that could be defeated by additional [unconcealed] antennas, and (iv) we have two applications which, according to plans and the

certification of an attorney, propose installation of antennas in a manner that will not substantially change the physical dimensions of the existing base station. **It is my opinion that these two applications must be approved administratively by the Director, without going through zoning review procedures, because there are no local limitations or requirements (other than USBC requirements) that can be imposed on these installations.**

2. Certain “attached communications facilities” within historic and entrance corridor districts

Under Sec. 34-1073 of the City’s Zoning Ordinance, certain attached communications facilities are permitted uses within the City’s historic and entrance corridor districts. These permitted facilities, so long as they comply with certain height and dimensional requirements, are not subject to the requirement for a certificate of appropriateness—only a building permit is required. See City Code 34-1083. The facilities are as follows:

- Attached communications facilities that utilize utility poles, or other electric transmission facilities, as the attachment structure (subject to certain visibility requirements of Sec. 34-1080), and
- Other attached communications, e.g., antennas mounted on an existing building, if they are invisible (“not visible from any adjacent street or property”). Examples: antennas concealed within existing exterior light fixtures; antennas concealed within an existing chimney structure.

For these facilities, compliance with the visibility, placement and dimensional requirements of the Code must be verified by zoning staff administratively, prior to the building official’s issuance of a building permit.

Note: I will qualify the above by saying that, in the event a NEW structure is proposed to be added onto an existing building—to serve as the concealment mechanism for an antenna—for example, a fake chimney) then a certificate of appropriateness would need to be obtained for the new structure. (As part of that review, the BAR/ ERB should also address how subsequent antennas added to the same site will be concealed).

Recommendation: I recommend that, when the BAR or ERB receives an application seeking approval of the first antenna proposed on a building, the applicable review board (or staff granting administrative approval, if applicable) should consider requiring a comprehensive concealment plan demonstrating how that first, and each potential subsequent antenna, will be and remain concealed in the future. (See Paragraph 1, preceding above). If you don’t establish concealment requirements with the very first approval, then the new federal regulations don’t allow you to require concealment at the time when additional antennas are later proposed to be added.

We are planning to send the letters out tomorrow. Feel free to contact me with any questions.

Lisa

Lisa A. Robertson, Esq.
Chief Deputy City Attorney
City of Charlottesville | Office of The City Attorney



Board of Architectural Review (BAR) Certificate of Appropriateness

Please Return To: City of Charlottesville
Department of Neighborhood Development Services
P.O. Box 911, City Hall
Charlottesville, Virginia 22902
Telephone (434) 970-3130 Email scala@charlottesville.org

Please submit ten (10) hard copies and one (1) digital copy of application form and all attachments.
Please include application fee as follows: New construction project \$375; Demolition of a contributing structure \$375; Appeal of BAR decision \$125; Additions and other projects requiring BAR approval \$125; Administrative approval \$100. Make checks payable to the City of Charlottesville.

The BAR meets the third Tuesday of the month.
Deadline for submittals is Tuesday 3 weeks prior to next BAR meeting by 3:30 p.m.

Owner Name <u>Pavilion, LLC</u>	Applicant Name <u>Verizon</u>
Project Name/Description <u>Verizon - UVA MC N009 (GrandMare)</u>	Parcel Number <u>090094000</u>
Project Property Address <u>301 15th Street NW</u>	

Applicant Information

Address: Verizon Wireless - C/O Stephen Waller, AICP
8159 Cancun Court, Gainesville, VA 20155
Email: stephen.waller@gdnsites.com
Phone: (W) 434-825-9617 (C) _____

Property Owner Information (if not applicant)

Address: Pavilion, LLC
2075 Madison Avenue, Memphis, TN 38104
Email: _____
Phone: (W) 434-293-5787 (C) _____

Do you intend to apply for Federal or State Tax Credits for this project? No

Signature of Applicant

I hereby attest that the information I have provided is, to the best of my knowledge, correct.

Stephen Waller 2/3/2017
Signature Date

Stephen Waller, AICP
Print Name Date

Property Owner Permission (if not applicant)

I have read this application and hereby give my consent to its submission.

Signature Date

Print Name Date

For Office Use Only

Received by: O Eubanks
Fee paid: 125.00 Cash/Ck. # 1488
Date Received: 3/1/2017

Revised 2016

Approved/Disapproved by: _____

Date: _____

Conditions of approval: _____

PN-0027

HISTORIC DISTRICT ORDINANCE: You can review the *Historical Preservation and Architectural Design Control Overlay Districts* regulations in the City of Charlottesville Zoning Ordinance starting with Section 34-271 online at www.charlottesville.org or at Municode.com for the City of Charlottesville.

DESIGN REVIEW GUIDELINES: Please refer to the current *ADC Districts Design Guidelines* online at www.charlottesville.org.

SUBMITTAL REQUIREMENTS: The following information and exhibits shall be submitted along with each application for Certificate of Appropriateness, per *Sec. 34-282 (d)* in the City of Charlottesville Zoning Ordinance:

- (1) Detailed and clear depictions of any proposed changes in the exterior features of the subject property;
- (2) Photographs of the subject property and photographs of the buildings on contiguous properties;
- (3) One set of samples to show the nature, texture and color of materials proposed;
- (4) The history of an existing building or structure, if requested;
- (5) For new construction and projects proposing expansion of the footprint of an existing building: a three-dimensional model (in physical or digital form);
- (6) In the case of a demolition request where structural integrity is at issue, the applicant shall provide a structural evaluation and cost estimates for rehabilitation, prepared by a professional engineer, unless waived by the BAR.

Site Name: UVA MC N009 FKA Grand Marc
Project Number: 20141076438
Attorney: Lori Schweller
Date: 20150804

FIRST AMENDMENT TO LEASE SUPPLEMENT

This First Amendment to Lease Supplement ("Amendment"), is made this 25th day of August, 2016 between **EDR Charlottesville LLC**, a Delaware limited liability company, whose principal place of business is 999 South Shady Grove, Suite 200, Memphis, Tennessee ("Lessor"), and **Cellco Partnership d/b/a Verizon Wireless**, whose principal place of business is One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 ("Lessee").

RECITALS

R-1. Lessor and Lessee entered into a Lease Supplement, dated July 28, 2015, pursuant to that certain Master Lease Agreement between Lessor and Cellco Partnership d/b/a Verizon Wireless, dated January 14, 2014, (the "Agreement"), whereby Lessor leases to Lessee that certain premises on Lessor's Property located at 301-307 15th Street, NW, Charlottesville, VA 22903 as shown on an exhibit attached thereto.

R-2. Lessor and Lessee desire to amend the lease exhibit showing and depicting the location and dimensions of the Premises and to eliminate the reimbursement payment for electricity.

NOW, THEREFORE, for good and valuable consideration and mutual covenants contained in the Agreement, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree to be legally bound to this Amendment as follows:

1. Premises. Exhibit 1 (the "Lease Exhibit") to the Lease is hereby superseded and replaced by the attached Exhibit A.
2. Consideration. The second sentence of Section 4 of the Supplement stating, "In consideration for electrical service, [REDACTED] shall be added to the annual rent due under this Supplement as additional rent," is hereby deleted. No electricity reimbursement shall be due by Lessee under the Supplement.
3. All remaining provisions of the Supplement shall remain in full force and effect as to all other terms and conditions, and shall remain binding on the parties hereto.

Site Name: UVA MC N009 FKA Grand Marc
Project Number: 20141076438
Attorney: Lori Schweller
Date: 20150804

IN WITNESS WHEREOF, the Parties hereto have executed this First Amendment to Lease Supplement effective the day and year first above written.

LESSOR:

**EDR Charlottesville LLC,
a Delaware limited liability company**

By: 

Name: Scott P. Casey

Title: CTO and SVP

Date: 5/11/16

WITNESS:



LESSEE:

**Cellco Partnership
d/b/a Verizon Wireless**

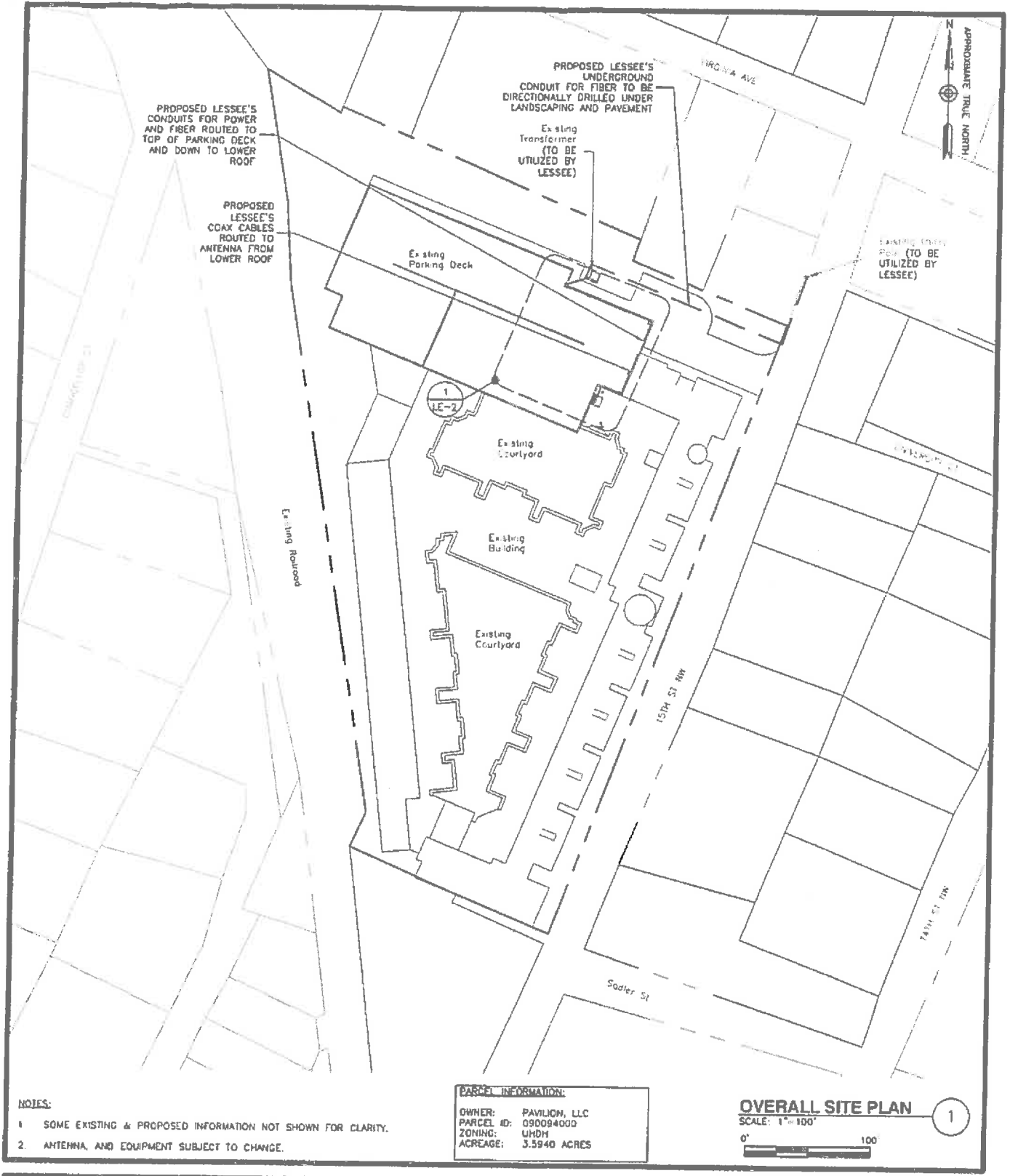
By: 

WITNESS:

~~Aparna Khurjekar, Vice President - Field Network~~
Carie Spencer, Director - Network Field Engineering



Date: 8/25/16



- NOTES:**
- SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
 - ANTENNA, AND EQUIPMENT SUBJECT TO CHANGE.

PARCEL INFORMATION:

OWNER: PAVILION, LLC
 PARCEL ID: 090094000
 ZONING: UHDM
 ACREAGE: 3.5940 ACRES

OVERALL SITE PLAN 1

SCALE: 1" = 100'

0' 100'

Dewberry
 Dewberry Engineers, Inc.
 4805 Lake Brook Drive Suite 200
 Glen Allen, VA 23002
 Phone: 804 290 7957
 Fax: 804 290 7928
 www.dewberry.com

SUBMITTALS			
REV	DATE	BY	
A	06/25/15	STD	
FINAL	07/08/15	DRM	
FINAL	09/11/15	KKB	

PROJECT:
 UVA MC N009

ADDRESS:
 301 15TH STREET NW
 CHARLOTTEVILLE, VA 22903

SITE INFORMATION

GOOGLE EARTH (NAD 83)
 LAT: 38° 02' 15.75" N
 LONG: 78° 29' 58.95" W

PROJECT NO 50074565

SHEET NO.

LE-1



Existing
Parking Deck

Existing
Space
(TO BE
UTILIZED BY
LESSEE)

Existing Vent

Existing Door

PROPOSED LESSEE'S
8'x8' LEASE AREA

PROPOSED LESSEE'S
4'x4' LEASE AREA

Existing Microwave
Dishes

Existing Fence

Existing Building

Existing Road

NOTES:

1. SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
2. ANTENNA, EQUIPMENT, AND EASEMENTS SUBJECT TO CHANGE.

PARTIAL BUILDING PLAN

SCALE 1"=16'



Dewberry
Dewberry Engineers, Inc.

4803 Lake Brock Drive, Suite 200
Chen Allen, VA 22000
Tel: 804 890 7927
Fax: 804 290 7928
www.dewberry.com

SUBMITTALS

REV	DATE	BY
A	06/25/15	STD
FINAL	07/06/15	DFM
FINAL	09/11/15	KKB

PROJECT:

LIVA MC N009

ADDRESS:

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SITE INFORMATION

GOOGLE EARTH
[NAD 83]
LAT: 38° 02' 15.75" N
LONG: 78° 29' 55.95" W

PROJECT NO. 50074595

SHEET NO.

LE-2

Site Name: Grand Marc
Project Number: 20141076438
Attorney: Lori Schweller

LEASE SUPPLEMENT

This Lease Supplement ("**Supplement**"), is made this 28th day of July, 2015 between **EDR Charlottesville LLC**, a Delaware limited liability company, whose principal place of business is 999 South Shady Grove, Suite 200, Memphis, Tennessee ("**Lessor**"), and **Cellco Partnership** d/b/a Verizon Wireless, whose principal place of business is One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 ("**Lessee**").

1. **Master Lease Agreement.** This Supplement is a Supplement as referenced in that certain Master Lease Agreement between Lessor and Cellco Partnership d/b/a Verizon Wireless, dated January 14, 2014, (the "**Agreement**"). All of the terms and conditions of the Agreement are incorporated herein by reference and made a part hereof without the necessity of repeating or attaching the Agreement. In the event of a contradiction, modification or inconsistency between the terms of the Agreement and this Supplement, the terms of this Supplement shall govern. Capitalized terms used in this Supplement shall have the same meaning described for them in the Agreement unless otherwise indicated herein.

2. **Premises.** Lessor hereby leases to Lessee that certain premises on Lessor's Property located at 301-307 15th Street, NW, Charlottesville, VA 22903 as shown on **Exhibit 1** attached hereto and made a part hereof.

3. **Term.** The Commencement Date and the Term of this Supplement shall be as set forth in the Agreement.

4. **Consideration.** Rent under this Supplement shall be as set forth in the Agreement, payable to EDR Technology at 999 South Shady Grove Road, Memphis Tennessee 38120. In consideration for electrical service, [REDACTED] shall be added to the annual rent due under this Supplement as additional rent.

5. **Site Specific Terms.** None.

Site Name: Grand Marc
Project Number: 20141076438
Attorney: Lori Schweller

IN WITNESS WHEREOF, the Parties hereto have executed this Supplement effective the day and year first above written.

LESSOR:

**EDR Charlottesville LLC,
a Delaware limited liability company**

By: 

Name: Scott P. Casey

Title: CTO and SVP

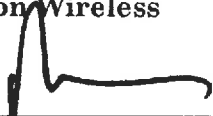
Date:

WITNESS:



LESSEE:

**Cellco Partnership
d/b/a Verizon Wireless**

By: 
David R. Heverling, Area Vice President Network

WITNESS:

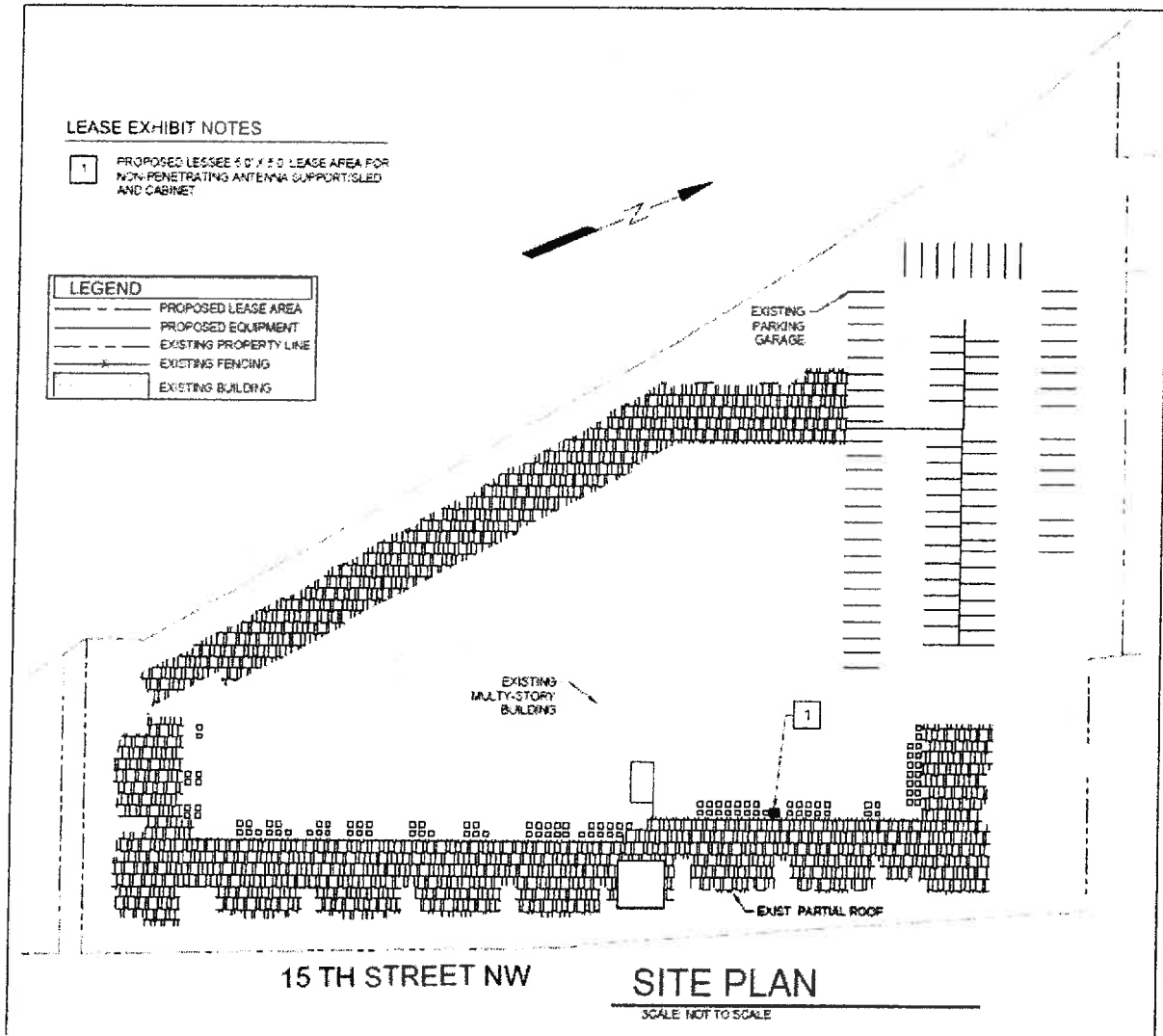


Date: 7 2015

Site Name: Grand Marc
Project Number: 20141076438
Attorney: Lori Schweller

Exhibit 1

Description or Depiction of Premises



Site Name: Grand Marc
 Project Number: 20141076438
 Attorney: Lori Schweller

TOWER VENTURES							
COLLOCATION APPLICATION							
Date Submitted: _____				<input checked="" type="checkbox"/> New Installation <input type="checkbox"/> Modification to Existing			
Submitted By: Chad Freckmann		Carrier Name: Celco Partnership db/a Verizon Wireless					
ANTICIPATED DATE OF INSTALL-							
PART I - APPLICANT / CARRIER INFORMATION							
Applicant Carrier Name: Celco Partnership db/a Verizon Wireless				Site Acq Company Name: GDNsties			
Applicant Carrier Contact Name: Chad Freckmann				Site Acq Contact Name: Chad Freckmann			
Applicant Notice Address: 160 Washington Valley Road, Bedminster, New Jersey 07921, Attn: Network Real Estate				Site Acq Address: 513 Stewart Street, Suite E Charlottesville, VA 22902			
Applicant Billing Address:				Site Acq Phone: 434-996-4473			
Applicant Federal Tax ID: 22-3372889				Site Acq Email: Chad.Freckmann@gdnsties.com			
RF Engineer Contact: Jeff Dubiel				Construction Engineer Contact: Arian Zoto			
RF Email: Jdubiel@nbdc.com				Construction Email: AZoto@cox.net			
RF Phone: 604 548 4079 x5025				Construction Phone: (757) 672-2339			
Real Estate Contact: Ed Given				Emergency/Operations Contact: tbd			
Real Estate Email: ed.given@gdnsties.com				Emergency/Operations Email: tbd			
Real Estate Phone: 304-741-2336				Emergency/Operations Phone: tbd			
PART II - TOWER SITE INFORMATION							
Owner Site Name: GrandMarc At The Corner				Applicant's Proposed Site Name: SC Grand Marc MC			
Site Address (include city, county, state, zip): 301 15th St NW, Charlottesville, VA 22903				Underlying Landowner Name:			
				Structure Type & Height:			
Latitude: 38-02-14.29 N		Longitude: 78-29-56.60 W		Check One:		<input type="checkbox"/> NAD 27 <input type="checkbox"/> NAD 83	
Describe Proposed Use or Proposed Modification: To improve wireless data coverage in the high density student housing corridor near UVA.							
PART III - CURRENT ANTENNA AND RELATED EQUIPMENT CONFIGURATION							
	Antennas Sector 1	Antennas Sector 2	Antennas Sector 3	TMA	RRU/RRH	Microwave	Other
Quantity							
Manufacturer							
Type & Model							
Weight							
Dimensions							
RAD Center AGL							
Mounting Height AGL (if different)							
Mount Type							
Azimuth							
Mech Tril							
Tx Frequency							
Rx Frequency							
Antenna Gain (dB)							
# Lines per Antenna							
Line Manufacturer							
Line Type							
Line Diameter							
PART IV- PROPOSED ANTENNA & RELATED EQUIPMENT CONFIGURATION (Please fill in as Final Configuration)							

Site Name: Grand Marc
 Project Number: 20141076438
 Attorney: Lori Schweller

	Antennas Sector 1	Antennas Sector 2	Antennas Sector 3	TMA	RRU/RRH	Microwave	Other
Quantity	2						
Manufacturer	CSS						
Type & Model	CSS CYL-ATCAP-2-C						
Weight	23lbs						
Dimensions	29.2"H/15.1"D						
RAD Center AGL	20'						
Mounting Height AGL (if different)							
Mount Type	Pipe mount						
Azimuth	360						
Mech Tilt	0						
Tx Frequency	746 - 757						
Rx Frequency	776 - 787						
Antenna Gain (dB)	6.1 dBi						
# Lines per Antenna	2x						
Line Manufacturer	Andrew						
Line Type	Coax						
Line Diameter	1/2"						
PART V - GROUND SPACE & EQUIPMENT REQUIREMENTS							
Proposed Ground Lease Dimensions: 6' x 6'				Equipment Pad/Platform Dimensions: 6' x 6'			
Shelter or Outdoor Equipment? Outdoor				Shelter Dimensions (LxWxH): n/a			
Generator Manufacturer n/a				Generator Make & Model n/a			
Generator Pad Dimensions: n/a				Generator Capacity: n/a			
Fuel Type: n/a				Tank Size: n/a			
	Transmitter 1	Transmitter 2	Transmitter 3	Transmitter 4			
BTS Mfr	ALU						
Type & Model	7310 MC-DBR 1						
Type of Service	Metro Cell LTE/AWS						
Rack Dimsn	n/a						
Cabinet Dimsn	52.4" x 21.5" x 20"						
BTS Dimen							
Cell Sign							
# Channels							
Tx Power							
Desired ERP							
Elec Service	120 V 20 Amp						
# of Outlets	Two						
Combiners							
# of Ports							
Other Equip							
Other Application Comments: PROPOSING TO LEASE SPACE FOR TWO ANTENNAS, 4 COAX CABLES AND WALL SPACE.....An antenna on rooftop skid pole fastened to rooftop wall structure is proposed							



March 10, 2017

VIA HAND DELIVERY

Mary Joy Scala, AICP, Preservation and Design
Planner
City of Charlottesville
Department of Neighborhood Development Services
City Hall - 610 East Market Street
P.O. Box 911
Charlottesville, VA 22902

Re: Board of Architectural Review Application for Attached Communications Facility
UVA N009

Dear Ms. Scala:

On behalf of Celco Partnership d/b/a Verizon Wireless, Stephen Waller and I submit to you ten (10) copies of each of the following documents in support of a Certificate of Appropriateness, required pursuant to City Code §34-1080(b)(3), for an attached communications facility proposed for installation on the The Grand Marc apartment building, located at 301 15th Street, NW, Charlottesville, Virginia:

1. BAR application;
2. Descriptive narrative;
3. Proposed final site plan;
4. Photosimulations of the installation;
5. Stantec Determination of Visual Effects;
6. Sample of Stealth antenna covering material; and
7. A check for \$125.00.

RECEIVED

MAR 10 2017

NEIGHBORHOOD DEVELOPMENT SERVICES

E-mail: Lori.Schweller@leclairryan.com
Direct Phone: (434) 245-3448
Direct Fax: (434) 296-0905

123 East Main Street, Suite 800
Charlottesville, Virginia 22902
Phone: 434.245.3444 \ Fax: 434.296.0905

CALIFORNIA \ COLORADO \ CONNECTICUT \ MARYLAND \ MASSACHUSETTS \ MICHIGAN \ NEW JERSEY \ NEW YORK \ PENNSYLVANIA \ VIRGINIA \ WASHINGTON, D.C.

ATTORNEYS AT LAW \ WWW.LECLAIRRYAN.COM

Ms. Mary Joy Scala

March 10, 2017

Page 2

The proposed attached facility will not be visible from any adjacent street as it will be screened within a stealth architectural feature. This "small cell" data node facility will consist of a small antenna that will be mounted at the eastern corner of the parking garage, enclosed within a 1 ½' tall "stealth" concealment cornerstone on top of the building's wall; the color and texture of the architectural element (sample attached) closely matches the light gray concrete of the existing parking deck. Associated mechanical equipment will be wall-mounted within an interior courtyard and will also not be visible from neighboring roadways or properties. The proposed facility meets applicable requirements of the zoning ordinance for a new attached communications facility. We are submitting an application for a Certificate of Appropriateness for the stealth architectural element and we request action on the submission within sixty (60) days of our submittal.

Please contact me if you have questions or need additional information or clarification. Thank you for your consideration.

Very truly yours,



Lori H. Schweller

Attachments

cc: Lisa Robertson, Deputy City Attorney
Stephen Waller, GDNsites

VERIZON WIRELESS SITE NAME: "UVA NODE N009"
SMALL CELL ANTENNA NODE INSTALLATION AT GRAND MARC
301 15TH STREET NW

Project Description:

Verizon Wireless respectfully requests approval of a Zoning Verification and a Certificate of Appropriateness for a new concealed, attached wireless communications facility to be attached to the parking deck for The GrandMarc at the Corner ("GrandMarc") apartment building, which is located at 301 15th Street NW. This property is identified as Parcel ID# 090094000 in the City of Charlottesville's tax records and GIS mapping and contains 3.594 acres zoned Residential - University High Density (R-UHD). In the R-UHD zoning district, attached facilities not visible from any adjacent street are permitted by right. The proposed attached facility will not be visible from any adjacent street as it will be screened within a stealth architectural feature. Since the property is within an Architectural Design Control District, a Certificate of Appropriateness is also required for the concealment feature.

This "small cell" data node facility will consist of a 6.7" (W) x 23.6" (L) panel antenna that will be mounted at the eastern corner of the parking garage, and enclosed within a "Stealth" concealment cornerstone on top of the building's wall. The top of the parking garage wall is currently 54 feet high, and the cornerstone will increase the height by an additional 1'-6", for a total top height of 55'-6". The antenna concealment box will be designed with a color and texture that closely matches the light gray concrete of the existing parking deck.

Supporting base station transmitting equipment will consist of a radio cabinet that is approximately 23.4" (L) x 19.4" (W), and 10.8" (D), two remote radio heads, and a diplexer, which will be mounted on a unistrut framing structure affixed to the parapet wall and will not be visible from the outside of the building at ground level (as detailed in the attached plans). This equipment will appear similar to the various types of electrical, telephone and communications equipment that is often seen attached to similar buildings and structures by the other communications and power companies.

Character of the Area:

The GrandMarc is a 5-story apartment building located on 15th Street, just south of the intersection with Virginia Avenue. The properties surrounding this building consist of student-oriented rental housing and apartment units to the north and east, with a mixture of University Avenue and Corner District retail, restaurant and commercial service uses to the south and west along the opposite side of the adjacent railroad tracks. The property is in the Corner Architectural Design Control District. The special designation of the historic overlay district requires the issuance of a Certificate of Appropriateness as part of the City's review and approval process.

Network Improvements:

The deployment of this node and similar facilities throughout the area will help Verizon further improve its state-of-the-art, high-speed wireless data services that are being provided over its 4G LTE (Long-Term Evolution) network for the residents, visitors, business owners and consumers throughout the City of Charlottesville. Slow data transmission due to greater distances from existing facilities and/or a high number of users during peak hours can directly impact citizens' ability to perform various tasks that range from doing business and schoolwork at their homes,

communicating with family and friends, and even receiving messages regarding emergencies, weather, traffic and other local issues that may impact the quality of our daily lives.

Verizon is working across Virginia to increase the capacity for data transmission on its wireless networks to handle the increased demands for service by the company's growing customer base. These small cell/node facilities are much smaller in scale than the more traditional "macro" facilities (such as a cell towers), which typically use multiple antennas that are six to eight feet (6'-8') tall. Small cell facilities often use a single and very inconspicuous antenna approximately two feet (2') tall that is supported by compact base station equipment meant to provide improved coverage in more densely-populated urban areas such as multi-unit residential developments, shopping centers, sports fields, entertainment venues and community centers where data usage tends to be high. The placement of small cell nodes within the dense areas that are currently covered by existing macro sites allows network traffic to be offloaded from those macro sites to the small cells within their specifically targeted areas. This offloading helps to increase data speeds for users across the network, thus providing more reliable access to high-speed data transmissions and overall service improvements and seamless coverage for all users.

In addition to using the measurable data that is compiled by the company's Network Traffic Engineers, Verizon has also taken the input it receives from the local community into consideration when designing and locating these small cell nodes. Customers who have filed reports of slower data speeds, spotty coverage and complete loss of service at certain times and locations throughout this area will benefit from the installation of this proposed facility.

With the addition of these new small cell sites, area residents and businesses will be able to benefit greatly from the technological advances that have taken place in the wireless industry since the introduction of smartphones and wireless broadband services. With the increased usage of smartphones, tablets, laptops and similar devices that allow users to work, research, shop and communicate, the needs for access to high speed, high quality wireless networks will only continue to grow. In fact, wireless networks have become such an integral part of our lives and our economy that access to the highest levels of service has in many cases allowed consumers to save money by eliminating their subscriptions to landline telephone service and/or other hardline communication utilities, such as cable and internet. To that end, the addition of this proposed data node antenna will allow Verizon to provide another high quality option for data streaming services within the City of Charlottesville.

Service Objectives:

Verizon is licensed by the Federal Communications Commission ("FCC") to provide state-of-the-art wireless communication services to citizens, businesses and visitors within City of Charlottesville. To that end, Verizon currently provides service in the area using multiple existing and more traditional towers along with other macro facilities collocated on structures such as power towers and rooftops. However, Verizon is also constantly seeking ways to improve these services through the deployment of state-of-the-art technologies and increasing capacity to support the growing needs for data. Today's citizens expect to be able to stream information, demonstrations and data through their tablets, and stay in constant contact with friends and family. While the existing wireless macro sites have supported network voice services for many years, the ability to meet the escalating demand for large capacity data is requiring that these

small cells and data node antennas be located closer to the customers in areas with higher user intensity so that data service can meet the ever-increasing demand.

It should also be noted in most cases that these needs for access to higher capacity levels and the best data services are largely being experienced in the most densely developed area that offer the fewest (if any) options and insufficient land area for the construction of traditional macro wireless facilities. On the other hand, the small cell nodes are designed to be unobtrusive and low-powered while meeting the specific site coverage requirements for those smaller geographical areas that are being targeted.

The proposed antennas and smaller ground equipment footprint of this installation will help to expand services into this dense residential neighborhood while also being sensitive to the goals and guidelines that are established for the purpose of preserving certain historic and architectural characteristics within the district. This is an important factor because it allows Verizon to implement a solution with far less visual impact than a traditional macro cellular facility. Therefore, a small cell /data node that is designed to blend in with an existing parking deck should clearly be regarded as an ideal solution in this historic residential neighborhood which also has architectural design controls.

Compatibility with Design Guidelines for Historic and Architectural Design Districts:

Antennas and wireless facilities that are not visible from adjacent streets and residential properties are allowed to be attached to existing buildings and similar structures by-right in the R-UHD Zoning District. Chapter II: Site Design & Elements - Section H. Utilities & Other Site Appurtenances, acknowledges that antennas and similar items are a “necessary part of contemporary life. However, their placement may detract from the character of the site and building.” Data nodes such as the ones proposed for City of Charlottesville and the urban ring of Albemarle County are designed to have very minimal visual impacts while deploying the latest technologies in data services with increased capacity and peak usage abilities to the residents, employees and visitors in this area. Five guidelines have been set forth in order to achieve this goal, and Verizon will address them below (**in bold type**):

1. “Plan the location of overhead wires, utility poles and meters, electrical panels, antennae, trash containers, and exterior mechanical units where they are least likely to detract from the character of the site.”

The proposed antenna will be screened within a concealment element that designed to look like a 2-foot high cornerstone at the eastern corner of the 5-story parking deck adjoining the main apartment building.

2. “Screen utilities and other site elements with fences, walls or plantings.”
Supporting base station transmitting equipment will be placed within a secured cabinet and mounted on a lower level parapet wall that blocks outside views. Since the antenna and supporting equipment will not be visible from off-site, additional screening should not be necessary.

3. “Encourage the installation of utility services underground.”
The main power and fiber optic lines serving this facility will all be run underground from main utility sources. However, the conduit feeding base station equipment must run along the outer wall of the parking garage, but it will be colored to match those walls.

4. "Antennae and communication dishes should be placed in inconspicuous rooftop locations, not in a front yard."

The proposed antenna will be concealed from view and installed on a building corner that is setback more than 100 feet from the public road right-of-way along 15th Street NW. This greatly exceeds the 5-foot minimum setbacks that have been established for the R-UHD zoning district.

5. Screen all rooftop mechanical equipment with a wall of material harmonious with the building or structure.

Base station equipment proposed for supporting this concealed antenna will be wall-mounted, installed within the existing walls of the parking garage and adjoining apartment building.

Conclusions:

A Zoning Verification and Certificate of Appropriateness are requested to permit the addition of this antenna and its supporting equipment in order to improve data capacity and wireless coverage for customers in the City of Charlottesville near the intersection of 15th Street NW and University Avenue. The installation of a small cell facility for the use and enjoyment of residents and visitors this area will enhance quality of life by providing increased availability of high speed, high quality wireless network services. The small cell facility will not be visible to neighboring streets and parcels. Verizon is confident that the proposed small cell facility should be deemed as acceptable under the City's Architectural Design Guidelines for the antennas and similar utilities and appurtenances, and this is further supported by the favorable factors that are listed below:

1. The provision of more reliable wireless and broadband services supports citizens and businesses greater access to a wide range of educational, recreational, economic tools and public service information that are important to achieving various goals and objectives that are set forth in the City's Comprehensive Plan.
2. Small cells, such as the one proposed in this application, are smaller and less visually obtrusive than many other types of utilities and appurtenances that do not require BAR review in other areas outside of Historic and Design Control Districts.
3. The proposed antenna and supporting equipment will have very little, if any, adverse visual impacts upon the historic district or other structures that are situated within it.

Please contact me if you should have any comments, questions or needs for additional information.

Sincerely,



Stephen Waller, AICP

GDNsites

Site Development Consultants to Verizon



SITE LOCATION

PHOTO 1


UVA POLYGON - N009
301 15th Street NW
Charlottesville, VA 22903
(Page 1 of 3)

Simulation Based On Rev-A Lease Exhibit Drawings Dated: 06/25/15



Actual View



UVA POLYGON - N009

Photo 1A

View Facing West
From 15th Street NW
(Page 2 of 3)



4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060
Phone: 804.290.7957
Fax: 804.290.7928
www.dewberry.com

Proposed View

Proposed Antenna Mounted On
Parapet Column Within RF
Transparent Concealment Box



UVA POLYGON - N009

Photo 1B

View Facing West
From 15th Street NW
(Page 3 of 3)



4805 Lake Brook Drive, Suite 200
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www.dewberry.com



1049 Technology Park Drive
Glen Allen, VA 23059
(804) 355-7200
(804) 355-1590 (Fax)

December 12, 2016
File: 203400673 Task 241

Mr. Andrew Hendricks, P.G.
Geo-Technology Associates, Inc.
43760 Trade Center Place, Suite 110
Sterling, Virginia 20166

RE: Determination of Visual Effects for the Charlottesville Small Cell Installation Located at
301 15th Street NW (UVA MC N009), Charlottesville, Virginia

Dear Mr. Hendricks:

The report that follows presents the results of the visual effects survey for the Verizon Wireless (Verizon) small cell site located at 301 15th Street NW (UVA MC N009), Charlottesville, Virginia (Figures 1-5). The site visit was conducted by Tracey MacDonald and the report was reviewed by Ellen M. Brady, Senior Principal Investigator, and Sandra DeChard, Senior Architectural Historian, on behalf of Geo-Technology Associates Inc. (GTA) on December 5, 2016.

The investigations were conducted with reference to state (*Guidelines For Conducting Cultural Resource Survey In Virginia: Additional Guidance for the Implementation of the Federal Standards Entitled Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44742, September 29, 1983 [Virginia Department of Historic Resources {VDHR} 2001]) and federal guidelines (*Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* [United States Department of the Interior {USDI} 1983]) for conducting cultural resources investigations as well as in accordance with the *Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process* (NPA) effective March 7, 2005.

AREA OF POTENTIAL EFFECT

The Area of Potential Effect (APE) for indirect visual effects for UVA MC N009, as determined by the NPA, and in consultation with the VDHR, was 0.25 miles. This survey was designed to assess visual effects to the National Register of Historic Places (NRHP)-eligible or listed resources within the APE.

The APE for direct effects to the building by the proposed small cell antenna project is limited to the structure area where the antenna and associated equipment will be installed.

PROJECT DESCRIPTION

Verizon proposes to install a small cell antenna and associated equipment on front (east) of the buildings parking garage. The antenna will be mounted in a concealment box on a cement column. The radio head and the equipment will be mounted on a unistrut on the side of the parking garage. The radio head and the equipment will not extend above the parapet wall. The antenna and concealment box will extend 1.6 feet above the edge of the parapet for that level of the parking garage (Figures 2-7).

PROJECT LOCATION

Charlottesville N009

301 15th Street NW

The building, located at 301 15th Street NW, was constructed in 2007, and is a multiple story apartment building with a six-story concrete parking garage located off the northern side (Figures 1 and 3). N009 will be installed on the parking deck structure (Figures 3-5). The building has not been individually surveyed; however, it is located within the Venable Neighborhood Historic District (VDHR #104-0133).

The area immediately surrounding 301 15th Street NW consists of narrow strips of lawn with poured concrete sidewalks providing access to the main entries. To the southwest, west, and northwest of the building is a tree line with a single railroad track beyond. To the northeast and east of the building are areas of residential development consisting of mainly two-story early to mid-twentieth century dwellings (Figure 2 and 8-11).



Figure 1. 301 15th Street NW, Charlottesville, Virginia.

RESULTS OF BACKGROUND RESEARCH

Background research for the project involved a review of the VDHR's Virginia Cultural Resources Information System (V-CRIS) database. This review was conducted in order to determine whether any architectural resources, including historic districts, located within the APE of the small cell site have been listed or are eligible for listing on the NRHP. According to V-CRIS, four NRHP-listed or eligible historic districts and seven individually listed resources are located within the 0.25-mile APE of the proposed UVA MC N009 small cell site. In addition, the NRHP-listed Charlottesville, Virginia

Multiple Resource Area is located within the APE, although the boundaries of the Area are not currently mapped in V-CRIS (Table 1; Figure 12).

The four NRHP-listed architectural resources located within the 0.25-mile APE of the UVA MC N009 cellular site include parts the University of Virginia Historic District (VDHR #002-5161), the Venable Neighborhood Historic District (VDHR #104-0133), Wertland Street Historic District (VDHR #104-0136), and the 10th and Page Historic District (VDHR #104-5088) (Table 1; Figure 12). The seven individual resources include the Lewis Brook Hall of Natural History (VDHR #002-5056), located within the University of Virginia Historic District; and the Anderson Brothers Bookstore (VDHR #104-0132), the Turner-LaRowe House (VDHR #104-0234), the Preston Court Apartments (VDHR #104-0239), the Dabney-Thompson House (VDHR #104-0243), the King-Runkle House, and the McConnell-Neve House (VDHR #104-0397; Demolished), all located within the Venable Neighborhood Historic District.

DIRECT EFFECTS EVALUATION

The building was constructed c. 2007 and therefore does not meet the age criteria for direct effects assessment. Since the building does not meet the age criteria no direct effects evaluation was required.

INDIRECT EFFECTS EVALUATION

The purpose of the indirect effects investigation is to determine if any of the NRHP-eligible or listed resources under consideration within the APE will view the proposed small cell installation. The survey was undertaken to ensure compliance with the NPA and with Section 106 of the National Historic Preservation Act (as amended). Since listed and eligible resources were located within the APE, an indirect visual effects study was conducted for each resource (Table 1; Figure 13; Photos 1-23). The study included photographing the individual resources and their views towards the small cell site to evaluate the visual impact of the undertaking on the historic resources within the defined APE. In the case of historic districts only views from points within the historic district towards the small cell site were taken as these photographs already capture resources within the district.

The proposed small cell antenna on front (east) corner of the building's parking garage will be mounted in a concealment box on a cement column which will extend 1.6 feet above the edge of the parapet. As such the proposed antenna had the potential to be viewed from the surrounding NRHP-listed or eligible historic districts or NRHP individually listed resources within the APE. However, due to the existing building stock surrounding the node site, the distance of the NRHP-listed or eligible resources from the proposed node location, and changes in landscape, only in areas within the Venable Neighborhood Historic District immediately surrounding the building viewed the building and/or the proposed location of the UVA MC N009 small cell antenna. Two individual resources within the district, the Turner-LaRowe House and the Anderson Brothers Bookstore, viewed the proposed small cell location. The proposed antenna location and the building were not visible from any other survey point within the 0.25-mile APE from the resources within the APE under consideration.

CONCLUSION

The UVA MC N009 collocation site, located 15th Street NW, Charlottesville, does not meet the age criteria, therefore, according to the NPA there are no historic properties within the direct effects APE. The building is, however, located within the NRHP-listed Venable Neighborhood Historic District. Based on information gathered at the site and the proposed location of the small cell antennas on the

roof it appears that the proposed antennas and associated equipment will not impact the Lewis Brook Hall of Natural History (VDHR #002-5056), the University of Virginia Historic District (VDHR #002-5161), the Wertland Street Historic District (VDHR #104-0136), Preston Court Apartments (VDHR #104-0239), the Dabney-Thompson House (VDHR #104-0243), the King-Runkle House (VDHR #104-0248), or the 10th & Page Historic District (VDHR #104-5088). The building and/or the proposed antenna location was not visible from any of the points of survey from these NRHP-listed or eligible resources due to distance, changes in elevation, and the existing built environment, which shields the view of the proposed antenna installation site from the historic resources within the 0.25-mile APE. The building and/or proposed antenna location was visible from the Anderson Brothers Bookstore (VDHR #104-0132), the Venable Neighborhood Historic District (VDHR #104-0133), and the Turner-LaRowe House (VDHR #104-0234) (Photos 6, 7, and 14). Since the proposed location of the small cell was viewed from the Turner-LaRowe House, it was also viewed from the Charlottesville, Virginia Multiple Resource Area as the house is individually listed under the Area nomination. However, since the antenna will be stealthed within a concealment box, which closely resembles a poured concrete post, and due to the small size of the antenna and the limited visibility of the proposed installation it is recommended that the proposed 301 15th Street NW UVA MC N009 collocation site will have **No Adverse Effect** to resources within the APE for visual effects.

Sincerely,



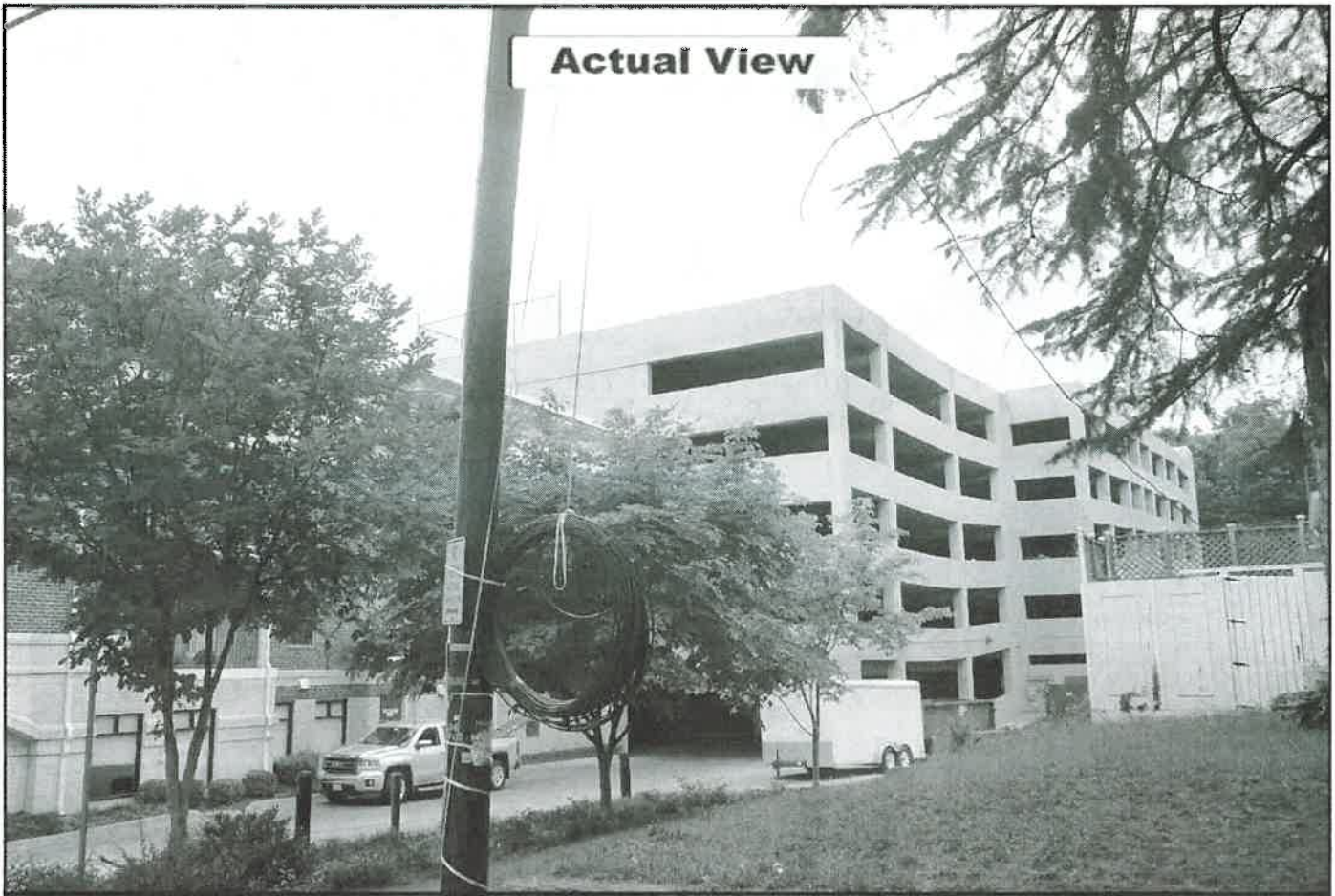
Ellen M. Brady
Senior Principal Investigator



Sandra DeChard
Senior Architectural Historian



Figure 2. Location of 301 15th Street NW (Map also Depicts Location of Photograph for the Photosimulation).



Actual View

UVA POLYGON - N009

Photo 1A

View Facing West
From 15th Street NW
(Page 2 of 3)



4865 Lake Brook Drive, Suite 200
Glen Allen, VA 23060
Phone: 804.203.7351
Fax: 804.294.7518
www.dewberry.com

Figure 3. Parking Garage at 301 15th Street NW.

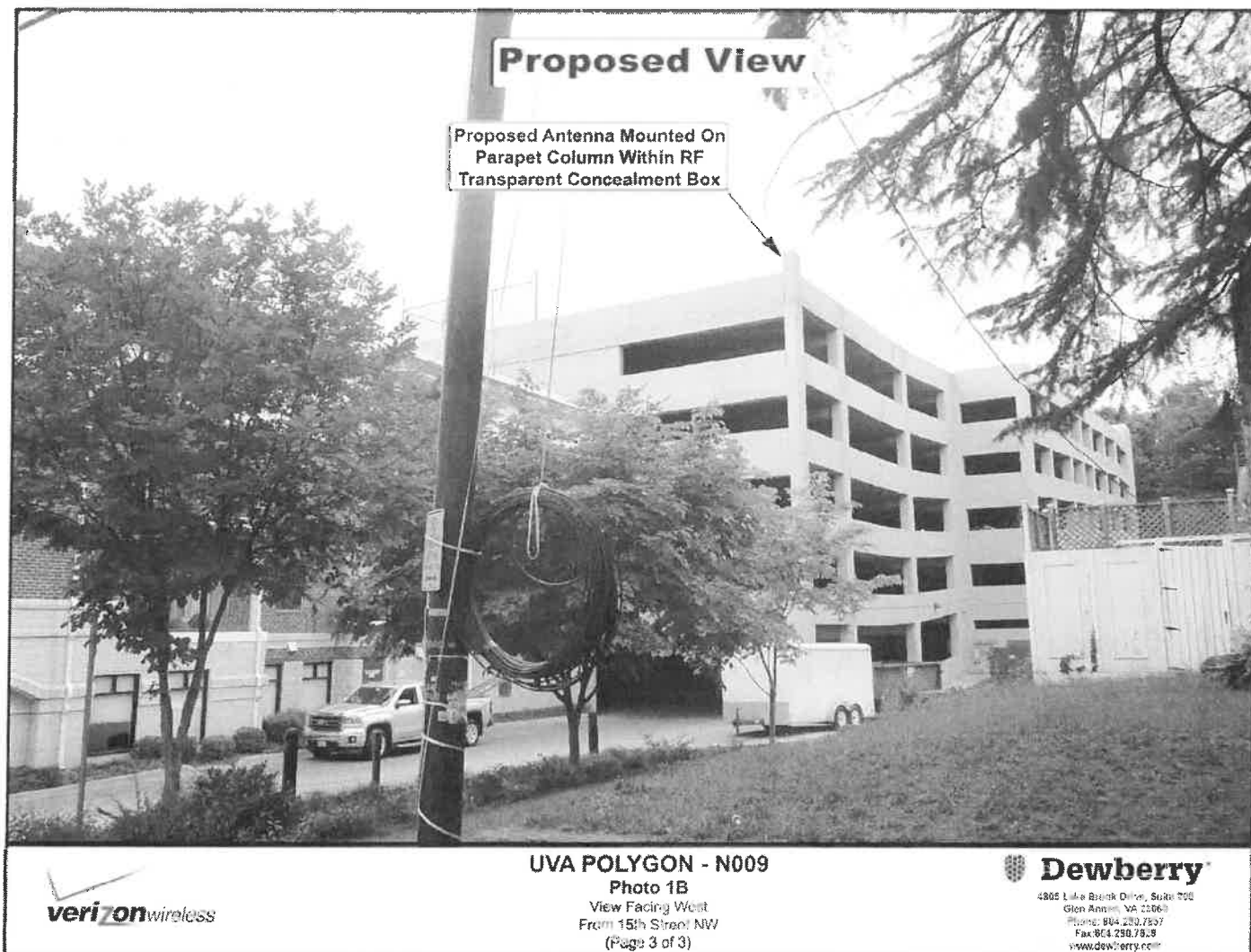
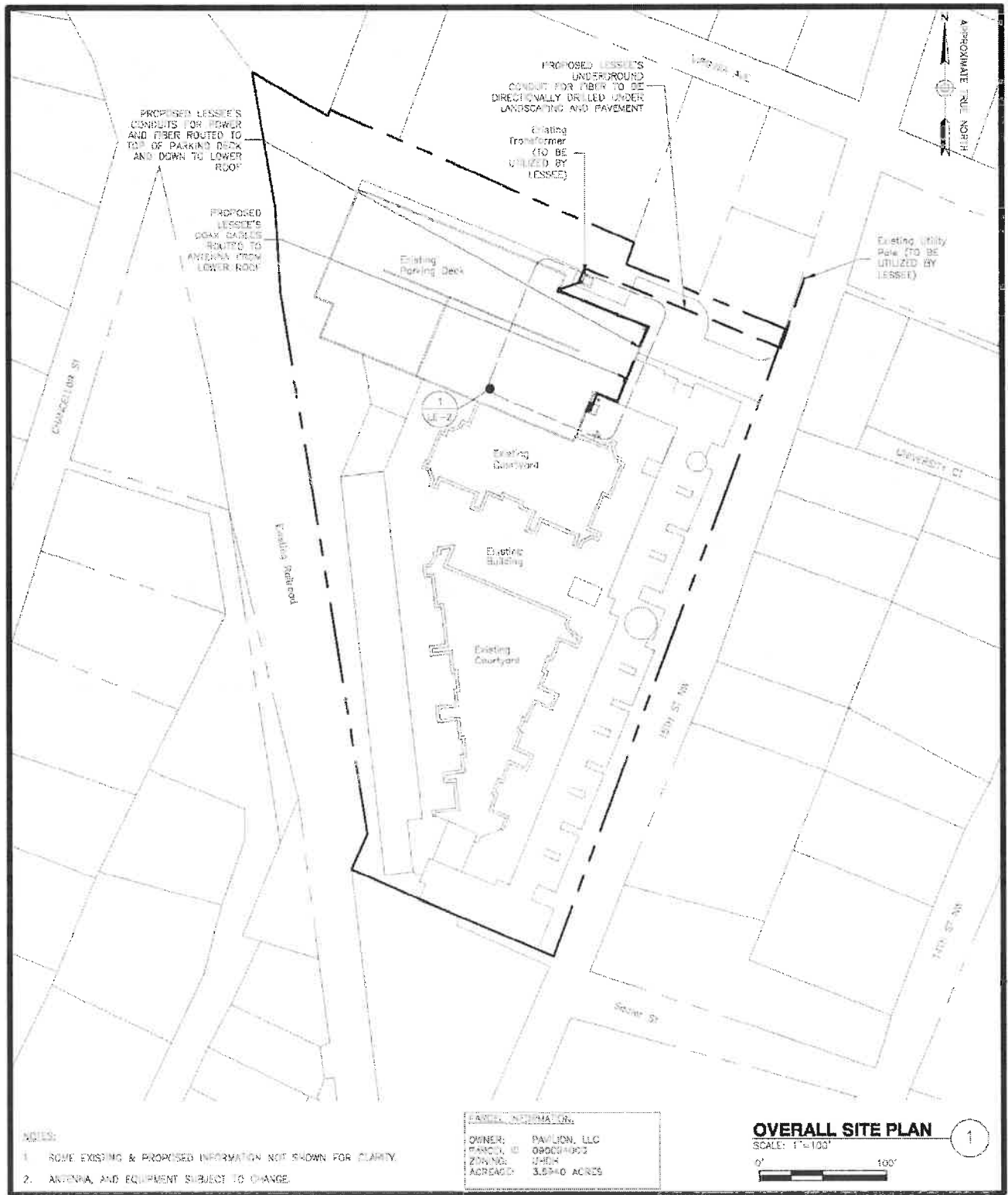
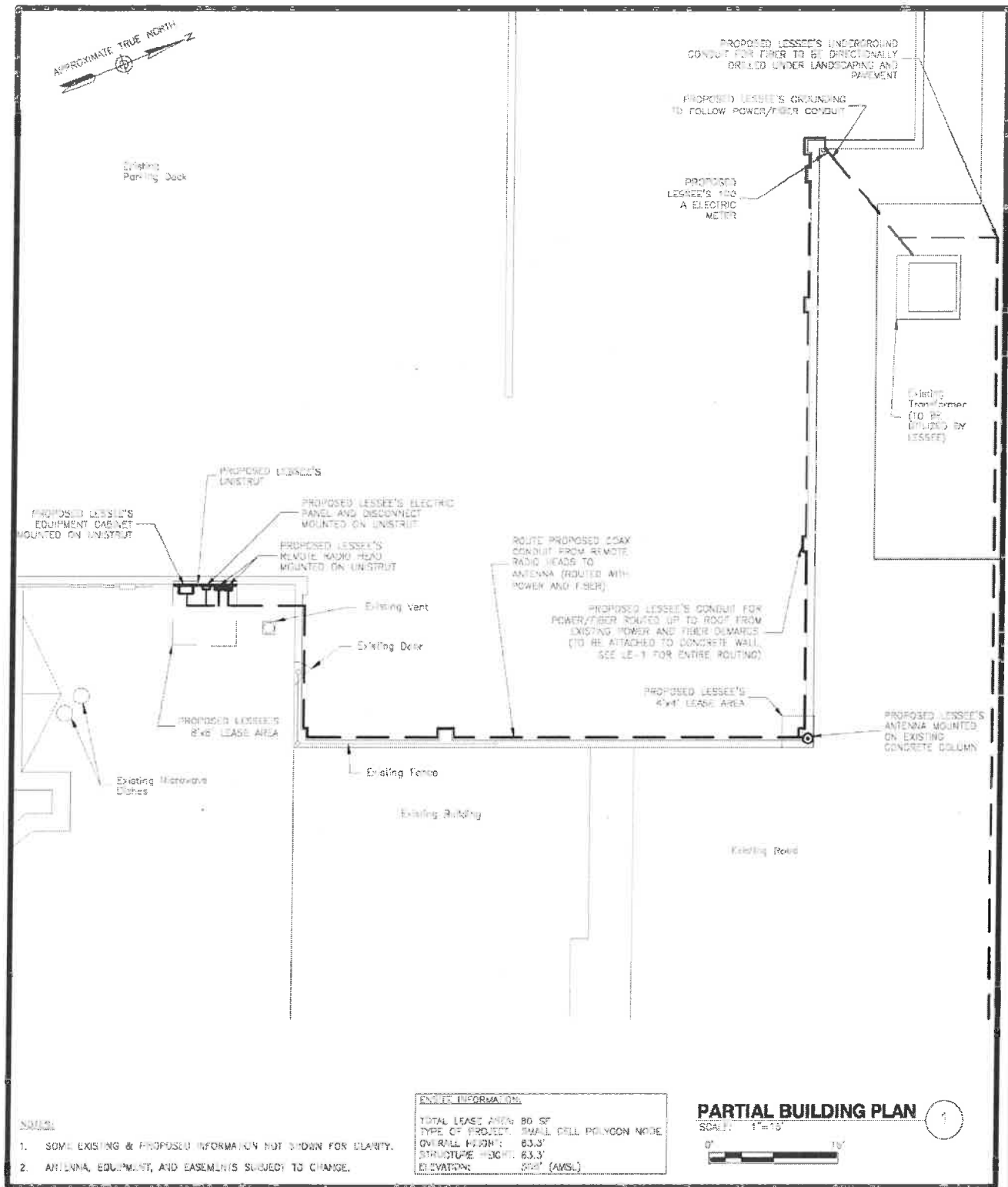


Figure 4. Photosimulation of the Proposed Small Cell Antenna Installation Site.



<p>Dewberry Dewberry Engineers, Inc. 4608 Lake Brook Drive, Suite 200 Glen Allen, VA 23060 Phone: 804.290.7987 Fax: 804.290.7599 www.dewberry.com</p>	SUBMITTALS			PROJECT:		SITE INFORMATION		SHEET NO. LE-1
	REV	DATE	BY	UVA MC N009		GOOGLE EARTH (NAD 83)		
	A	06/25/15	STD	ADDRESS:		LAT.: 38° 02' 15.75" N LONG.: 78° 23' 53.95" W ELEV.: 508' AMSL		
	B	07/06/15	DRM	301 15TH STREET NW CHARLOTTESVILLE, VA 22903		PROJECT NO. 50074886		
	C	09/11/15	KKB					
	FINAL	08/03/18	RJR					

Figure 5. Site Plan of 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia.



NOTES:

1. SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
2. ANTENNA, EQUIPMENT, AND EASEMENTS SUBJECT TO CHANGE.

EXISTING INFORMATION:			
TOTAL LEASE AREA:	80 SF		
TYPE OF PROJECT:	SMALL CELL POLYGON NODE		
OVERALL HEIGHT:	63.3'		
STRUCTURE HEIGHT:	63.3'		
ELEVATION:	508' (AMSL)		

PARTIAL BUILDING PLAN

SCALE: 1"=10'

1

Dewberry
 Dewberry Engineers, Inc.
 4606 Lake Brook Drive, Suite 200
 Green Allen, VA 22080
 Phone: 804.280.7987
 Fax: 804.290.7993
 www.dewberry.com

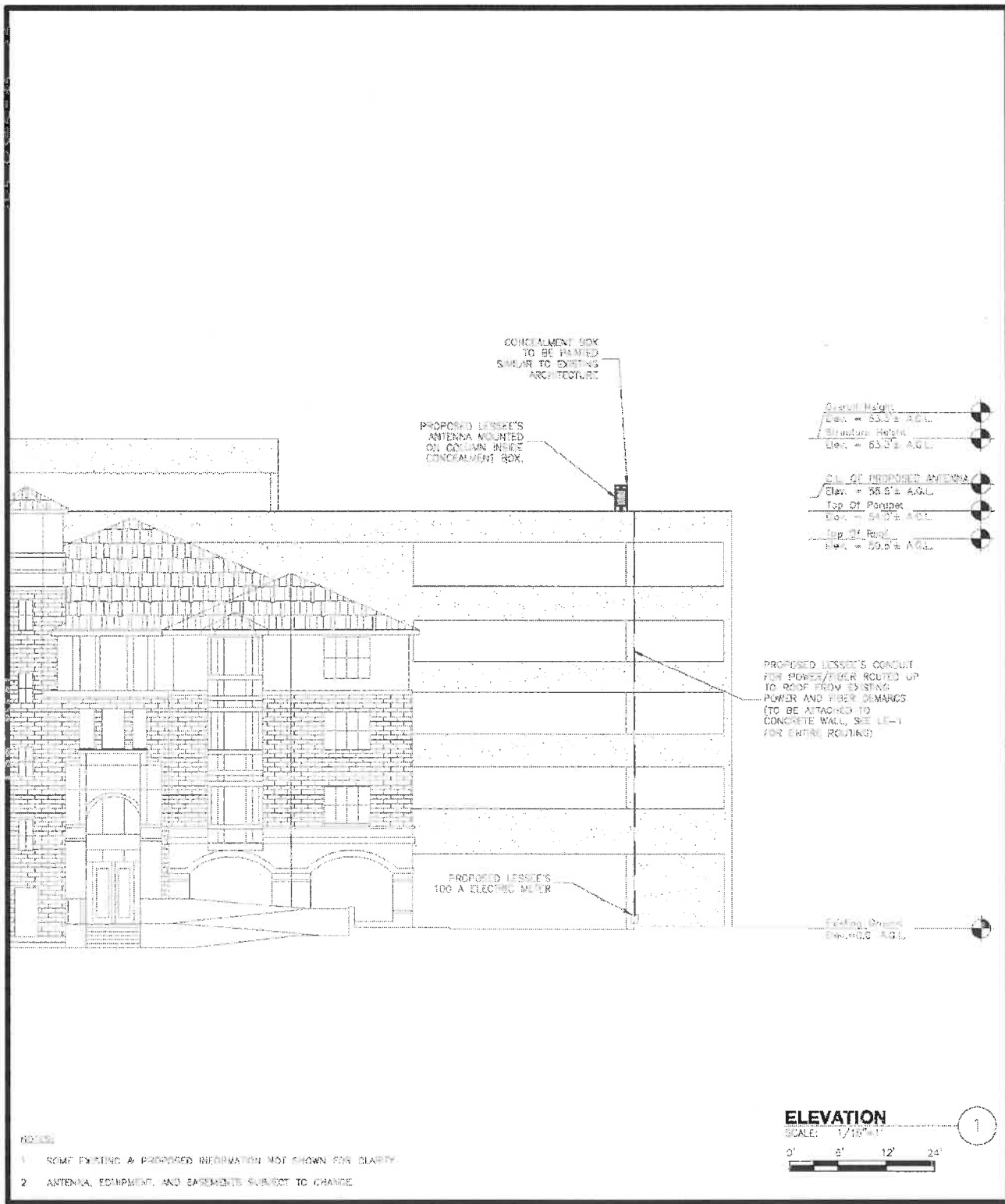
SUBMITTALS			
REV	DATE	BY	
A	08/25/15	STD	
B	07/08/15	DFM	
C	09/11/15	KKB	
FINAL	08/03/16	RJR	

PROJECT:
 UVA MC N009
ADDRESS:
 301 15TH STREET NW
 CHARLOTTESVILLE, VA 22803

SITE INFORMATION
 GOOGLE EARTH
 DAD 83
 LAT.: 38° 02' 15.75" N
 LONG.: 78° 23' 53.85" W
 ELEV.: 508' AMSL
 PROJECT NO. 50074505

SHEET NO.
LE-2

Figure 6. Rooftop Plan of 310 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia.



- NOTES:
1. SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
 2. ANTENNA, EQUIPMENT, AND CEASEMENTS SUBJECT TO CHANGE.

Dewberry
 Dewberry Engineers, Inc.
 4806 Lake Brook Drive, Suite 200
 Glen Allen, VA 22060
 Phone: 804.290.7567
 Fax: 804.290.7568
 www.dewberry.com

SUBMITTALS		
REV	DATE	BY
A	08/25/15	STD
B	07/30/16	DRM
C	09/11/15	KKB
FINAL	05/03/16	RJR

PROJECT:
 UVA MC N009

ADDRESS:
 301 16TH STREET NW
 CHARLOTTESVILLE, VA 22903

SITE INFORMATION

GOOGLE EARTH
 (NAD 83)
 LAT.: 38° 02' 15.75" N
 LONG.: 78° 29' 56.05" W
 ELEV.: 508' AMSL

PROJECT NO. 50074665

SHEET NO.
 LE-3

Figure 7. Elevation of 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia.



Figure 8. Views from Roof Level of 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia, Looking South.



Figure 9. Views from Roof Level 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia, Looking West.



Figure 10. Views from Roof Level 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia, Looking North.



Figure 11. Views from Roof Level 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia, Looking East.

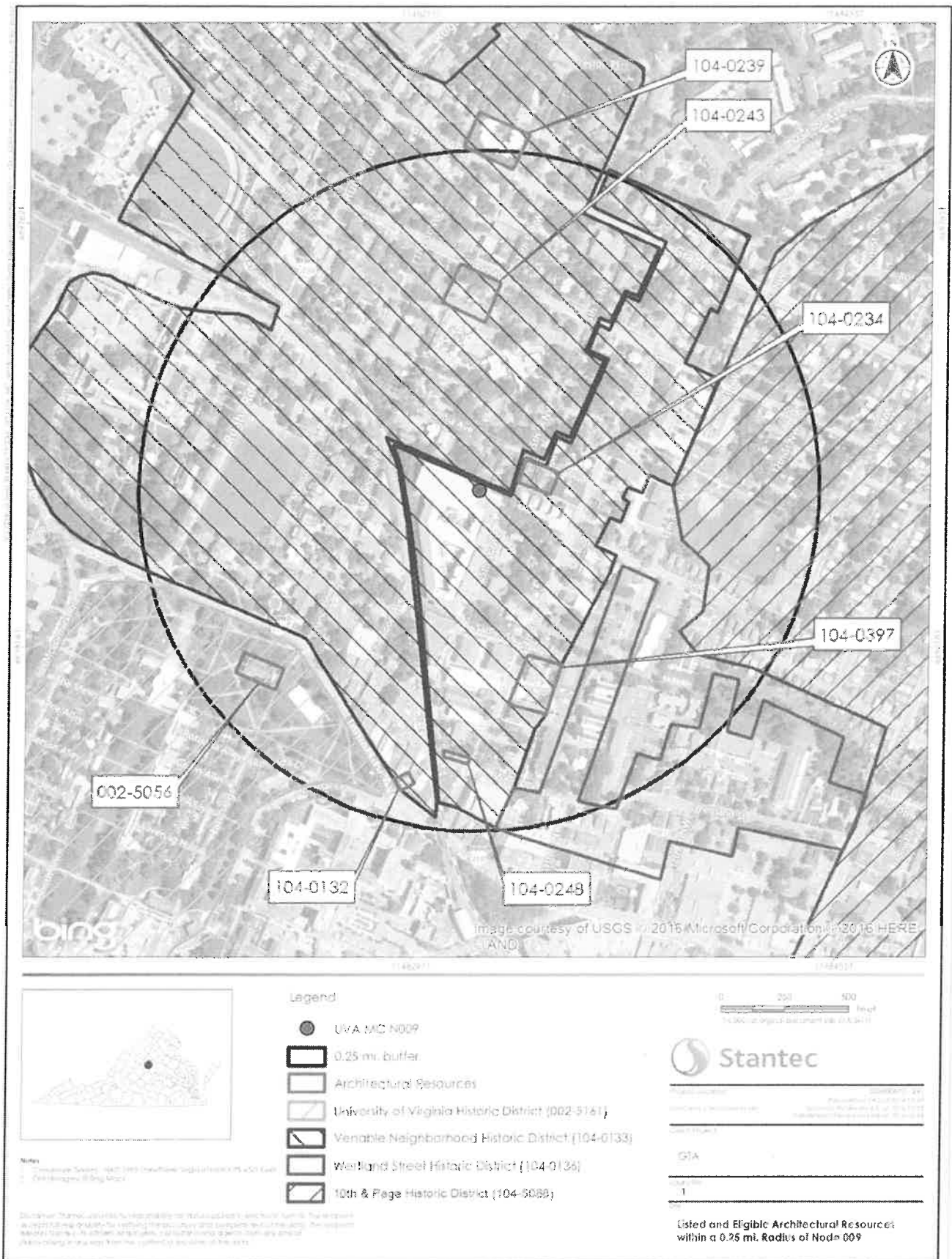


Figure 12. Architectural Resources under Consideration Within a 0.25-Mile Radius of 301 15th Street NW Collocation Site (UVA MC N009), Charlottesville, Virginia.

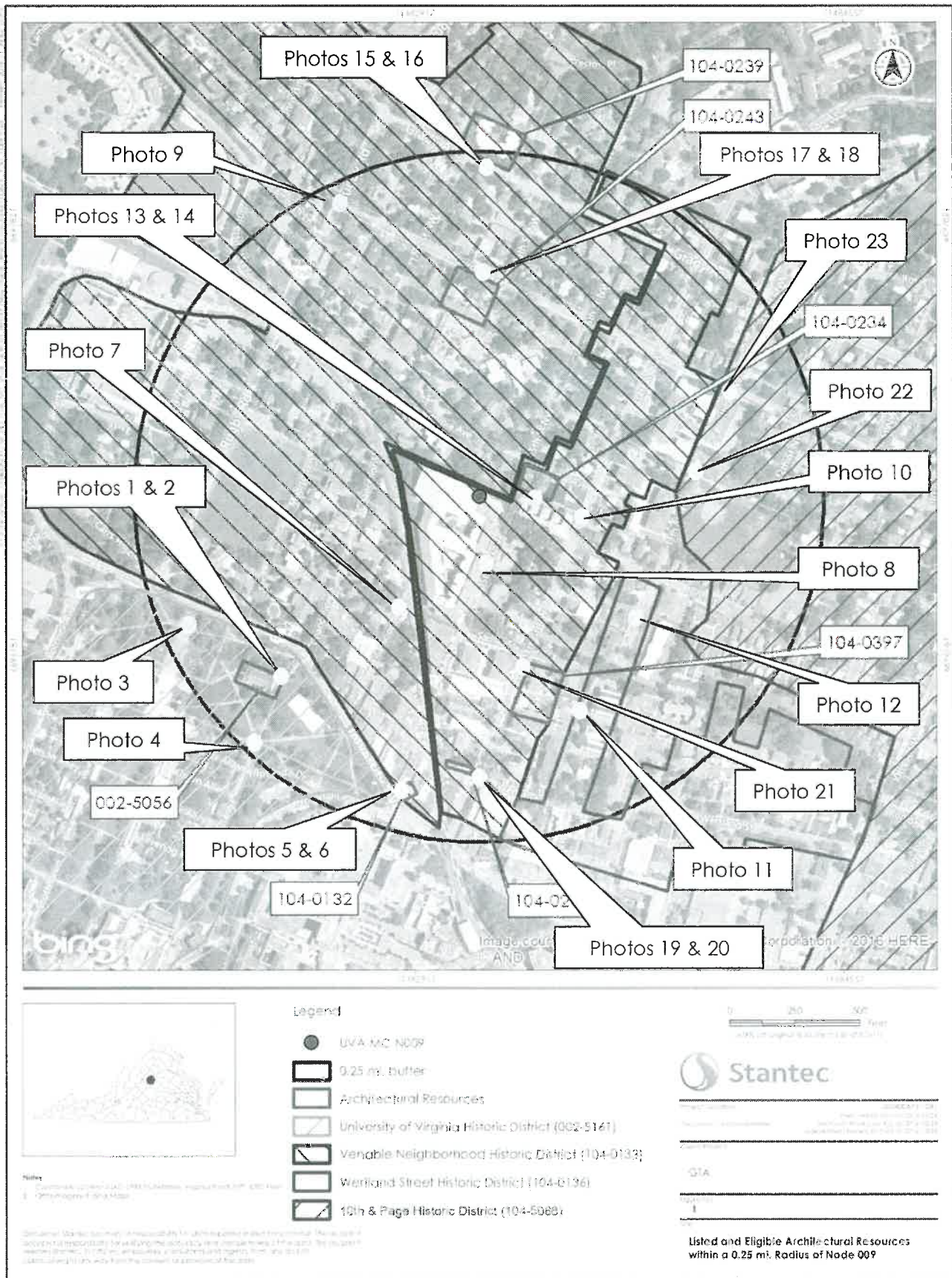


Figure 13. Key to Photographs for UVA MC N009 , Charlottesville, Virginia.

VDHR #	Resource	Description	NRHP-Listed	NRHP-Eligible	Effect Assessment	Photo Reference
002-5056	Lewis Brook Hall of Natural History, University Avenue	The building, constructed in 1876, is a three-story, brick building with stone trim. Designed by John R. Thomas in the Second Empire-style, the building, which was one of the first natural history museum in the US, features interior brick chimneys, raised granite basement, elliptical arched two-over-two wood double-hung sash windows, denticulated cornice, and stone belt course. The building was listed on the NRHP in 1977 for its significance in architecture and education. The building is also a contributing resource to the National Historic Landmark (NHL)/NRHP-listed University of Virginia Historic District (VDHR #002-5161)	X		No Effect	Photos 1 & 2
002-5161	University of Virginia Historic District	Construction of the University began following the laying of the cornerstone in 1817; the General Assembly officially chartered the school in 1819. Thomas Jefferson conceived the idea of the institution, he designed all of the original buildings and supervised their construction, selected the first faculty, drew up the curriculum, and served as the first rector of the Board of Visitors. While the University represents a major achievement in the educational history of the country, its architectural concept and design was revolutionary. There are 109 contributing resources.	X (NHL)		No Effect	Photos 3 & 4
104-0075	Charlottesville, Virginia Multiple Resource Area	The multiple resource area comprises approximately 10.4 square miles within the City of Charlottesville and includes a cross section of the City's historic time periods beginning in the 1760s. The resource area was listed in 1981 for its significance in architecture, commerce, industry, religion and transportation. The district comprises 83 structures throughout the city and two districts. The Multiple Resource Area is not mapped in V-CRIS.	X		No Adverse Effect	See Photos 5, 6, 13, 14, & 17-20

VDHR #	Resource	Description	NRHP-Listed	NRHP-Eligible	Effect Assessment	Photo Reference
104-0132	Anderson Brothers Bookstore, 1417 University Avenue	The Anderson Brothers Bookstore building, constructed c. 1848, is one of the largest surviving metal façade buildings in Charlottesville. The building is three stories with seven bays with brick exterior walls in a six-course American bond pattern. The building also features a plain frieze, projecting cornice with ornate modillions and stylized floral bands. Pilasters with tall plinths and Corinthian capitals adorn the second and third floors. The building was listed on the NRHP in 1982 as part of the NRHP-listed Charlottesville, Virginia Multiple Resource Area.	X		No Adverse Effect	Photos 5 & 6
104-0133	Venable Neighborhood Historic District/Rugby Road – University Corner Historic District	The Venable Neighborhood Historic District comprises approximately 84 acres north of the University of Virginia. The buildings within the district include mainly residential, commercial, and institutional buildings associated with the university prior to WWII. Most were constructed between 1890 and 1930 during the University's rapid expansion. The district was listed on the NHRP in 1984 for its significance in architecture, education, and commerce with a period of significance from 1890 to 1940.	X		No Adverse Effect	Photos 7-10
104-0136	Wertland Street Historic District	The Wertland Street Historic District comprises approximately 47 acres of a residential area to the northeast of the University of Virginia. Architectural styles include mainly turn of the twentieth century Queen Anne and Colonial Revival frame and brick dwellings. The oldest house located within the district is the 1830 Wertenbaker House. Wertenbaker was appointed librarian to the University of Virginia by Thomas Jefferson. The district was listed on the NRHP in 1985 for its significance in education and architecture.	X		No Effect	Photos 11 & 12
104-0234	Turner-LaRowe House, 1 University Court	The Turner-LaRowe House was constructed on a five-acre parcel allotted to Mary Turner as her widow's dower in 1890. The house, built in 1892, features brick exterior walls, a hipped roof clad in standing seam metal, a projecting two-story bay window on the front façade, and a full-width, five-bay front porch with hipped roof and Tuscan-style wood columns. The house was converted into sorority housing in 1983. The house was listed on the NRHP in 1983 as part of the NRHP-listed Charlottesville, Virginia Multiple Resource Area.	X		No Adverse Effect	Photos 13 & 14

VDHR #	Resource	Description	NRHP-Listed	NRHP-Eligible	Effect Assessment	Photo Reference
104-0239	Preston Court Apartments, 1600 Grady Avenue	The apartment building were constructed in the 1920s as specified from the architectural drawings of Stanislaw Makielski, a UVA Professor of Architecture. The land on which the apartments sit was part of the larger parcel purchased by Colonial William Preston in 1863. The apartment building is an example of Classical Revival style architecture constructed in the early twentieth century. The building is a U-shaped, three-story structure with brick exterior walls laid in a Flemish bond pattern, cast stone quoins, a concrete foundation, a brick parapet, and two-story porch with full height Ionic columns. The building was listed on the NRHP in 2007 under Criterion C for its architectural merit. The apartment building is also a contributing resource to the NRHP-listed Venable Neighborhood Historic District.	X		No Effect	Photos 15 & 16
104-0243	Dabney-Thompson House, 1602 Gordon Avenue	The Dabney-Thompson House was built for Richard Heath Dabney in 1894. Dabney was a history professor at UVA and later Dean of the Graduate School of Arts and Sciences. The house is a two-story, Queen Anne-style dwelling with a raised brick foundation, weatherboard exterior siding, wrap-around porch, fishscale wood shingles in the gable ends, and two-over-two wood sash windows. The dwelling was listed on the NRHP in 1984 and is a contributing resource to the NRHP-listed Venable Neighborhood Historic District and the NRHP-listed Charlottesville, Virginia Multiple Resource Area (VDHR #104-0075).	X		No Effect	Photos 17 & 18
104-0248	King-Runkle House	The King-Runkle House, constructed c. 1891, is a two-story, Victorian (Queen Anne) style dwelling set on a narrow lot. The exterior walls are clad in weatherboards with decorative wood shingles in the gable ends. A one-story shed-roofed entry porch, located on the southwest side of the building features a turned wood post, ornate brackets, and spindlework. Other features include Queen Anne-style windows with square stained glass lights, a projecting shed-roofed window and decorative scroll work in the front roof gable. The house was listed on the NRHP in 1983 as part of the NRHP-listed Charlottesville, Virginia Multiple Resource Area.	X		No Effect	Photos 19 & 20
104-0397	McConnell-Neve House, 228 Fourteenth Street	Demolished	X		N/A	Photo 21

VDHR #	Resource	Description	NRHP- Listed	NRHP- Eligible	Effect Assessment	Photo Reference
104-5088	10 th & Page Historic District	The 10 th & Page Historic District, located to the east of the University of Virginia, comprises 275.55 acres bounded by W. Main Street to the south, 13 th Street NW to the west, Preston Avenue to the northeast, and Ridge Avenue to the east. The district was determined potentially eligible by VDHR in 2001.		X	No Effect	Photos 22 & 23



Photo 1. View of Lewis Brook Hall of Natural History (VDHR #002-5056), Looking South.



Photo 2. View to Proposed Small Cell Antenna Site from Lewis Brook Hall of Natural History (VDHR #002-5056), Looking Northeast (Not Visible).



Photo 3. View to Proposed Small Cell Antenna Site from the University of Virginia Historic District (VDHR #002-5161), Looking Northeast (Not Visible).



Photo 4. View to Proposed Small Cell Antenna Site from the University of Virginia Historic District (VDHR #002-5161), Looking Northeast (Not Visible).

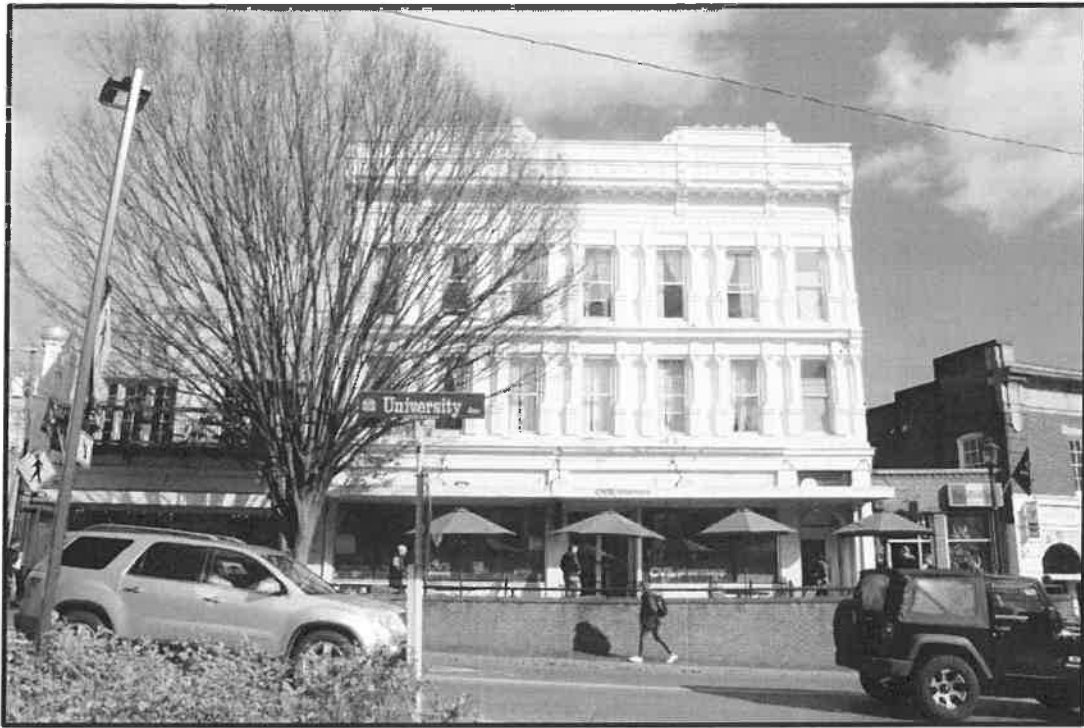


Photo 5. View of Anderson Brothers Bookstore (VDHR #104-0132), Looking Northeast.



Photo 6. View to Proposed Small Cell Antenna Site from the Anderson Brothers Bookstore (VDHR #104-0132), Looking Northeast (Visible).

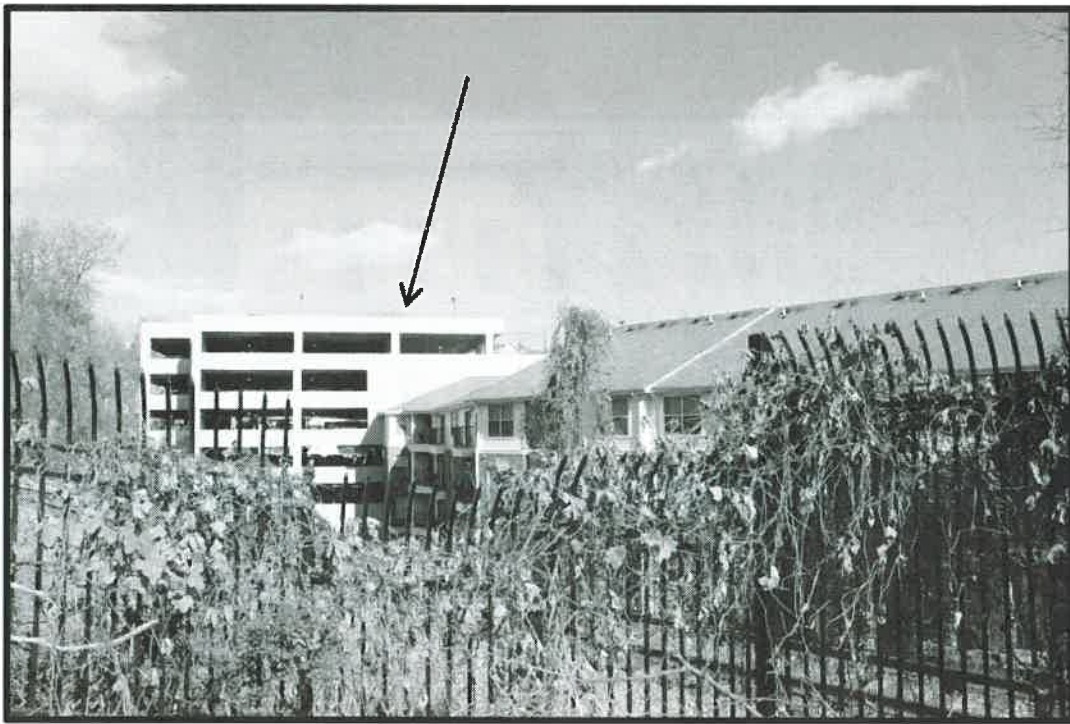


Photo 7. View to Proposed Small Cell Antenna Site from the Venable Neighborhood Historic District (VDHR #104-0133) from Elliwood Avenue, Looking Northeast (Building is Visible).



Photo 8. View to Proposed Small Cell Antenna Site from the Venable Neighborhood Historic District (VDHR #104-0133) from 15th Street NW, Looking Northwest (Not Visible).



Photo 9. View to Proposed Small Cell Antenna Site from the Venable Neighborhood Historic District (VDHR #104-0133) from the Intersection of Rugby Road and Gordon Avenue, Looking Southeast (Not Visible).



Photo 10. View to Proposed Small Cell Antenna Site from the Venable Neighborhood Historic District (VDHR #104-0133) along 14th Street NW North of John Street, Looking Southwest (Not Visible).



Photo 11. View to Proposed Small Cell Antenna Site from the Wertland Street Historic District (VDHR #104-0136) within an Apartment Complex off of Wertland Street, Looking Southeast (Not Visible).

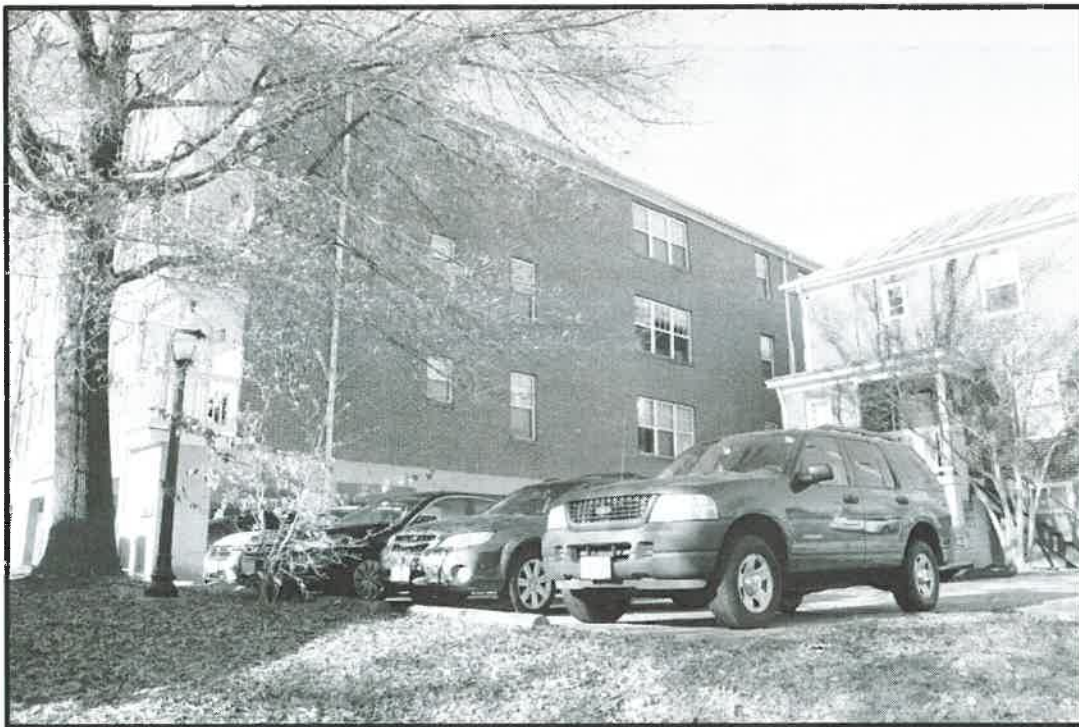


Photo 12. View to Proposed Small Cell Antenna Site from the Wertland Street Historic District (VDHR #104-0136) from Intersection of Gordon Avenue and 13th Street NW South of John Street, Looking Northwest (Not Visible).



Photo 13. View of Turner-LaRowe House (VDHR #104-0234), Looking East.

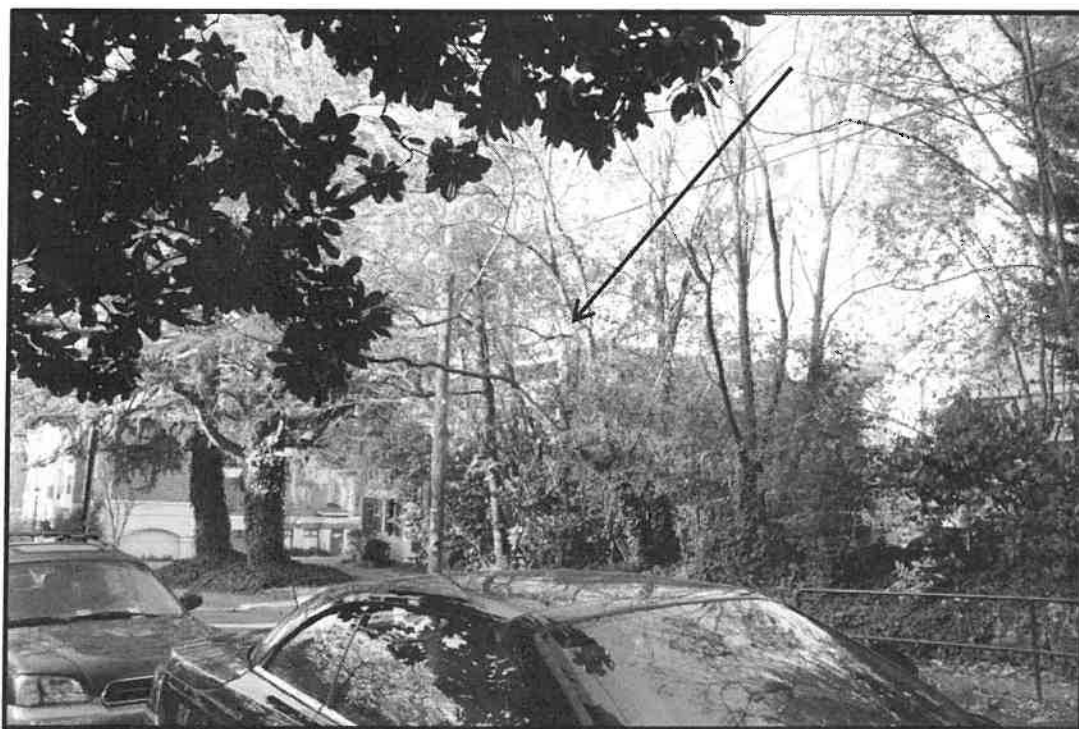


Photo 14. View to Proposed Small Cell Antenna Site from Turner-LaRowe House (VDHR #104-0234), Looking Southwest (Building is Slightly Visible).

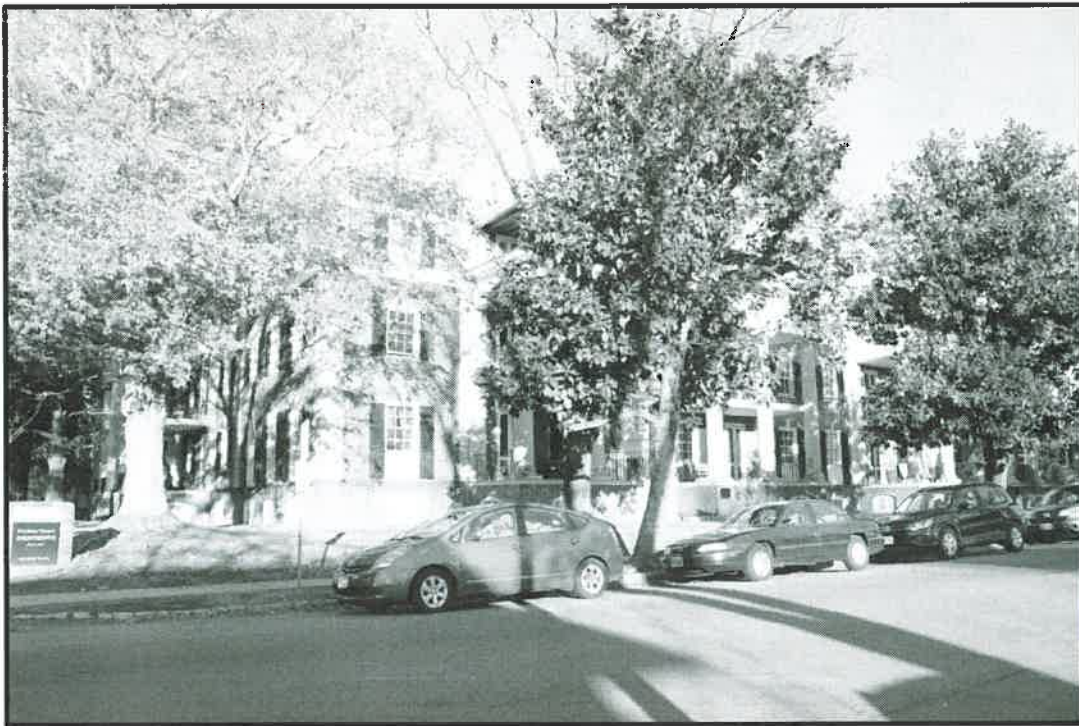


Photo 15. View of Preston Court Apartments (VDHR #104-0239), Looking Northeast.



Photo 16. View to Proposed Small Cell Antenna Site from Preston Court Apartments (VDHR #104-0239), Looking South (Not Visible).



Photo 17. View of Dabney-Thompson House (VDHR #104-0243), Looking Southwest.

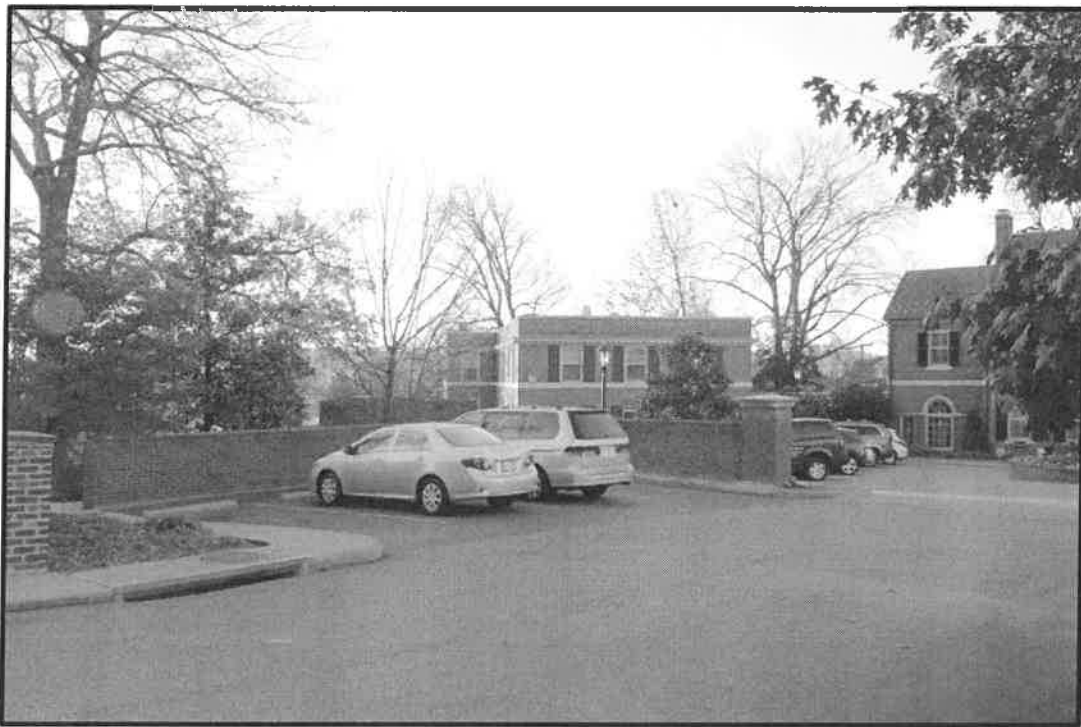


Photo 18. View to Proposed Small Cell Antenna Site from the Dabney-Thompson House (VDHR #104-0243), Looking South (Not Visible).



Photo 19. View of King-Runkle House (VDHR #104-0248), Looking West.

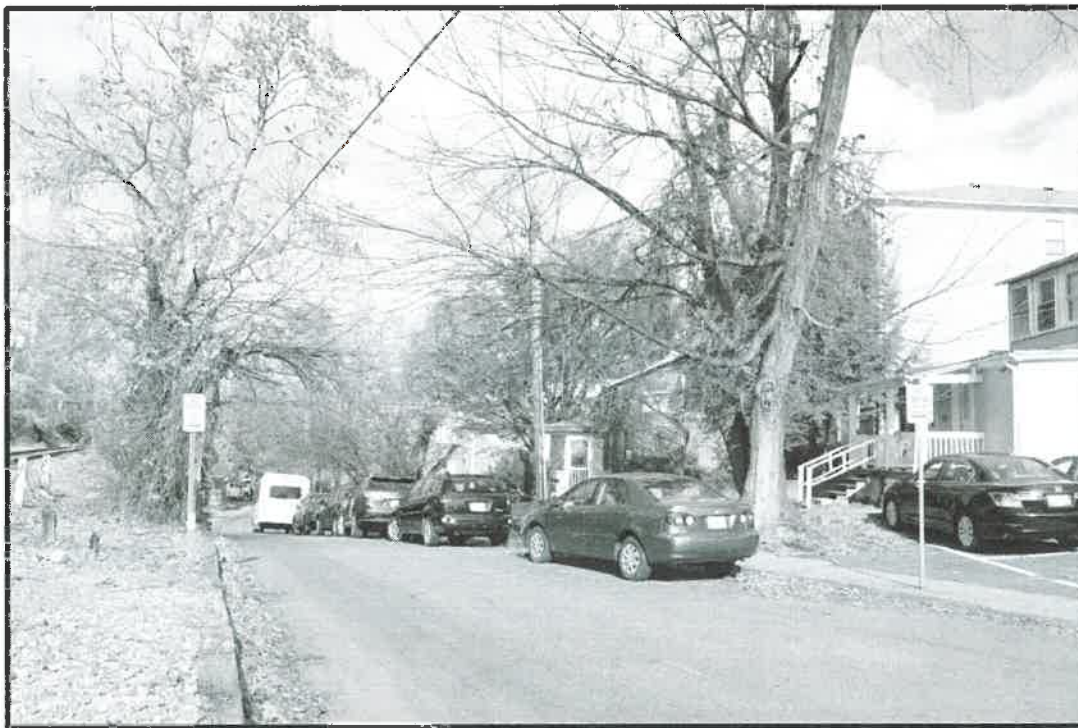


Photo 20. View to Proposed Small Cell Antenna Site from the King-Runkle House (VDHR #104-0248), Looking North (Not Visible).



Photo 21. View of Modern Apartment Building, Former Location of McConnell-Neve House (VDHR #104-0397), Looking Southeast (Resource as Plotted in VCRIS Appears to have been Demolished).



Photo 22. View to Proposed Small Cell Antenna Site from the 10th & Page Historic District (VDHR #104-5088) along 13th Street NW, Looking West (Not Visible).



Photo 23. View to Proposed Small Cell Antenna Site from the 10th & Page Historic District (VDHR #104-5088) from Intersection of Gordon Avenue and 13th Street NW, Looking West (Not Visible).



UVA MC N009

301 15TH STREET NW

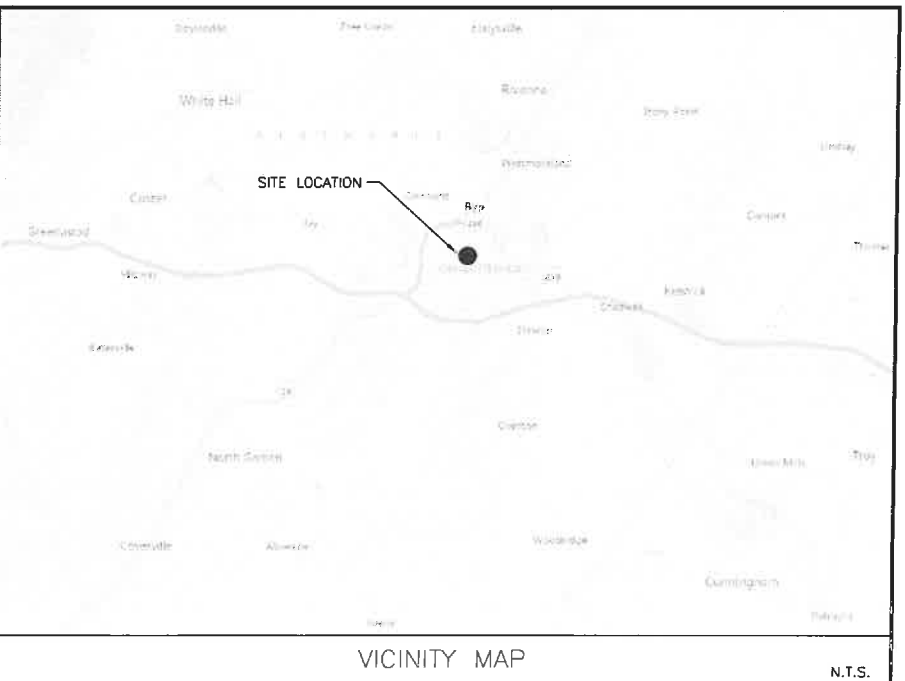
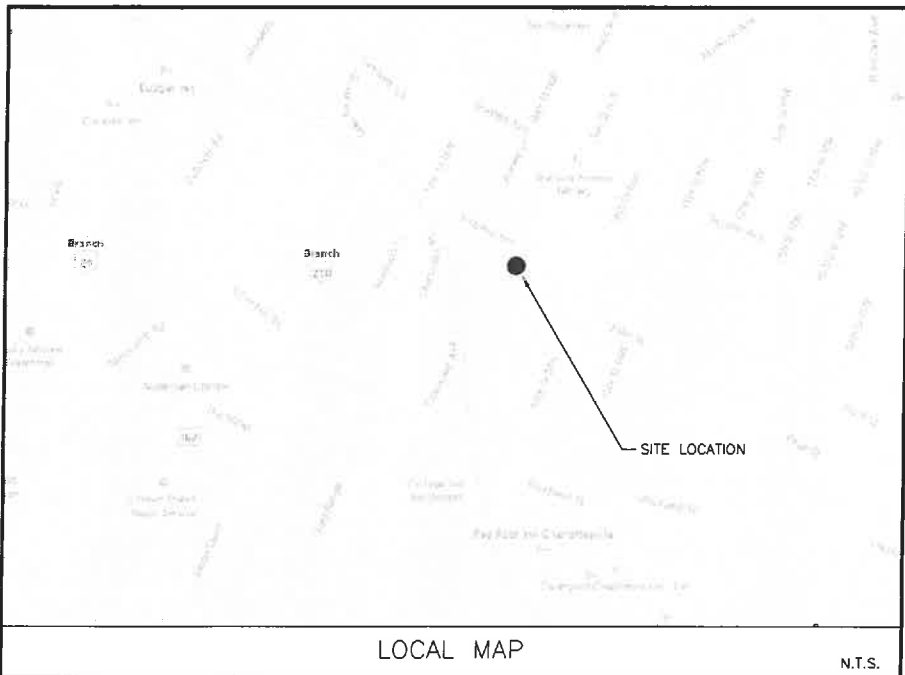
CHARLOTTEVILLE, VA 22903

E911 ADDRESS YES NO

PROJECT DESCRIPTION
 INSTALLATION AND OPERATION OF A SMALL CELL NODE AND
 ASSOCIATED EQUIPMENT ON AN EXISTING BUILDING

DIRECTIONS FROM SHOCKOE SWITCH (1831 RADY CT., RICHMOND, VA 23222):
 TURN LEFT ONTO RADY ST., 0.1 MILES. TURN LEFT ONTO MAGNOLIA ST., 0.6 MILES. TURN RIGHT ONTO MECHANICSVILLE TURNPIKE, 171 FEET. MERGE ONTO I-64 RAMP, 4.9 MILES. MERGE ONTO I-64 W VIA EXIT 79 TOWARD POWHITE PKWY/CHARLOTTEVILLE, 65.2 MILES. TAKE THE VA-20 EXIT, EXIT 121 TOWARD CHARLOTTEVILLE/SCOTTSDALE, 0.2 MILES. TURN RIGHT ONTO MONTICELLO AVE/VA-20, 0.4 MILES. TURN LEFT ONTO ELLIOTT AVE., 0.9 MILES. ELLIOTT AVE BECOMES CHERRY AVE., 0.4 MILES. TURN RIGHT ONTO ROOSEVELT BROWN BLVD, 0.3 MILES. TURN LEFT ONTO W MAIN ST/US-250 BUS W, 0.3 MILES. TURN RIGHT ONTO 14TH ST NW, 0.05 MILES. TAKE FIRST LEFT ONTO WERTLAND ST, 0.03 MILES. TAKE FIRST RIGHT ONTO 15TH ST NW, 0.1 MILES. DESTINATION IS ON THE LEFT.

DIRECTIONS



UTILITIES INFO:
 POWER: DOMINION
 888.667.3000
 TELEPHONE: EMBARQ
 800.672.6242

2 WORKING DAYS
 BEFORE YOU DIG
 811
 TOLL FREE
 MISS UTILITY

EMERGENCY INFO:
 JURISDICTION:
 CITY OF CHARLOTTEVILLE
 LOCAL FIRE AND RESCUE:
 434.970.3245
 LOCAL POLICE:
 434.970.3280

PROJECT TEAM	
REAL ESTATE: CHAD FRECKMANN	PHONE NUMBER: 434.996.4473
ZONING: JOSIE LODDER	PHONE NUMBER: 704.560.1422
CONSTRUCTION: RICHARD ROSS	PHONE NUMBER: 504.903.0212
UTILITIES: RICHARD ROSS	PHONE NUMBER: 504.903.0212

REV. NO.	DESCRIPTION	BY	DATE	REV. NO.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KKB	06/23/16				

A & E CONSULTING TEAM

ARCHITECTURE AND ENGINEERING:
 DEWBERRY ENGINEERS INC.
 4805 LAKE BROOK DRIVE, SUITE 200
 GLEN ALLEN, VA 23060
 PHONE # 804.205.3337
 CONTACT: DEREK MARSHALL, PE, LEED AP

PROJECT SUMMARY

PROPERTY OWNER:
 PAVILION, LLC
 2075 MADISON AVE
 MEMPHIS, TN 38104

PROJECT INFO:
 LOCATION NAME: UVA MC N009

APPLICANT INFO:
 VERIZON WIRELESS
 1831 RADY COURT
 RICHMOND, VA 23222
 PHONE: 704.560.1422
 CONTACT: JOSIE LODDER

PROJECT DATA:
 ZONING: UH0H
 PARCEL ID: D90094000
 ACREAGE: 3.59
 JURISDICTION: CITY OF CHARLOTTEVILLE
 SITE TYPE: ROOFTOP
 SITE TYPE: SMALL CELL
 BUILDING HEIGHT: 54'-0"±
 LEASE AREA: 80 SF
 AREA OF DISTURBANCE: 366± SF

CENTER OF PROPOSED ANTENNA*:
 LATITUDE: 38° 02' 15.75" N
 LONGITUDE: 78° 29' 56.95" W
 ELEVATION: 508' AMSL
 *PER GOOGLE EARTH

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

A.D.A. COMPLIANCE:
 FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

INDEX OF DRAWINGS

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C-1	SITE PLAN
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C-4	CONSTRUCTION DETAILS
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E-1	ELECTRICAL NOTES AND ONE LINE DIAGRAM
E-2	GROUNDING PLAN
E-3	GROUNDING DETAILS

verizon wireless

VERIZON WIRELESS
 1831 RADY COURT
 RICHMOND, VA 23222

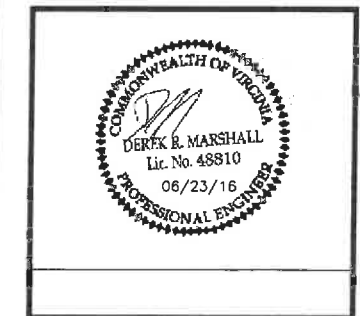
UVA MC N009

CONSTRUCTION DRAWINGS

NO.	DATE	DESCRIPTION
0	06/23/16	FOR CONSTRUCTION

Dewberry

Dewberry Engineers Inc.
 4805 Lake Brook Drive, Suite 200
 Glen Allen, VA 23060
 Phone: 804.295.7957
 Fax: 804.290.7925
 www.dewberry.com



DRAWN BY: KKB
 REVIEWED BY: BAR
 CHECKED BY: DRM
 PROJECT NUMBER: 50074595
 SITE ADDRESS:
 301 15TH STREET NW
 CHARLOTTEVILLE, VA 22903
 SHEET TITLE
 TITLE SHEET
 SHEET NUMBER

T-1

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK IN ORDER TO BECOME FAMILIAR WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL CONTACT "MISS UTILITY" (1-800-552-7001) FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR WILL NOTIFY ENGINEER, CONSTRUCTION MANAGER, AND LANDLORD IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. ALL ROOF WORK SHALL BE DONE BY A QUALIFIED AND EXPERIENCED ROOFING CONTRACTOR IN COORDINATION WITH ANY CONTRACTOR WARRANTING THE ROOF TO ENSURE THAT THE WARRANTY IS MAINTAINED.
17. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
18. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
19. CONTRACTOR SHALL FURNISH THE CARRIER WITH THREE AS-BUILT SETS OF DRAWINGS UPON COMPLETION OF WORK.
20. ANTENNAS AND CABLES ARE TYPICALLY PROVIDED BY VERIZON WIRELESS. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS PROJECT MANAGER TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED BY VERIZON WIRELESS. ALL ITEMS NOT PROVIDED BY VERIZON WIRELESS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED BY VERIZON WIRELESS.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR WILL COORDINATE WITH VERIZON WIRELESS PROJECT MANAGER TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY VERIZON WIRELESS. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
22. IF APPLICABLE, THE GENERAL CONTRACTOR SHALL HAVE A LICENSED HVAC CONTRACTOR START THE HVAC UNITS, SYNCHRONIZE THE THERMOSTATS, ADJUST ALL SETTINGS ON EACH UNIT ACCORDING TO VERIZON WIRELESS CONSTRUCTION MANAGER'S SPECIFICATIONS, AND THOROUGHLY TEST AND BALANCE EACH UNIT TO ENSURE PROPER OPERATION PRIOR TO TURNING THE SITE OVER TO OWNER.
23. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
24. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
25. CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE PRIOR TO CONSTRUCTION START, MORE SPECIFICALLY BEFORE SEALING ANY FLOOR, WALL OR ROOF PENETRATION, FINAL UTILITY CONNECTIONS, POURING CONCRETE, BACKFILLING UTILITY TRENCHES AND STRUCTURAL POST OR MOUNTING CONNECTIONS, FOR ENGINEERING REVIEW AND INSPECTION.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. DETECTION WIRE SHALL BE BURIED DIRECTLY ABOVE NON-METALLIC PIPING AT A DISTANCE NOT TO EXCEED TWELVE (12) INCHES ABOVE THE TOP OF PIPE. THE WIRE SHALL EXTEND CONTINUOUSLY AND UNBROKEN FROM POINT OF ACCESS TO POINT OF ACCESS. THE ENDS OF THE WIRE SHALL TERMINATE WITH A MINIMUM OF THREE (3) FEET OF WIRE, COILED, REMAINING ACCESSIBLE AT TERMINATION POINTS. DETECTION WIRE SHALL BE 12 GAUGE FOR A BURIED DEPTH OF LESS THAN 4 FEET AND 4 GAUGE FOR A BURIED DEPTH GREATER THAN OR EQUAL TO 4 FEET.
28. THE CONTRACTOR SHALL GIVE ALL NOTICES AND 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.
29. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
30. 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.
31. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
32. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDORS SPECIFICATIONS UNLESS OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
33. 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

34. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
35. 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.
36. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, 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.
37. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS 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.
38. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
39. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER 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 CONSTRUCTION MANAGER.
40. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
41. ALL CONSTRUCTION AND DESIGN FOR THE PROPOSED ANTENNA MOUNTS SHALL CONFORM IN ACCORDANCE WITH THE CURRENT STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
42. CONTRACTOR TO VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
43. THE CONTRACTOR SHALL POST ALL SIGNS REQUIRED BY THE LATEST VERSION OF THE VERIZON WIRELESS "RADIO FREQUENCY COMPLIANCE SIGNAGE & DEMARCATION POLICY" THIS MAY INCLUDE BUT ARE NOT LIMITED TO:
 - A. NOTICE SIGNS TO DISTINGUISH THE BOUNDARY BETWEEN GENERAL POPULATION/UNCONTROLLED AREAS AND OCCUPATIONAL AREAS
 - B. CAUTION SIGNS TO DISTINGUISH THE CONTROLLED AREAS WHERE RADIO FREQUENCY (RF) EXPOSURE CAN EXCEED THE OCCUPATIONAL/CONTROLLED MAXIMUM PERMISSIBLE EXPOSURE (MPE) LIMIT.
 - C. WARNING SIGNS TO DISTINGUISH THE BOUNDARY OF AREAS WITH RF LEVELS SUBSTANTIALLY ABOVE THE FCC LIMITS, GREATER THAN TEN (10) TIMES THE OCCUPATIONAL/CONTROLLED MPE LIMIT.
 - D. NOTICE-GUIDELINES FOR WORKING IN RADIOFREQUENCY ENVIRONMENTS: THIS SIGN IS TO BE POSTED ANYTIME SIGNAGE IS REQUIRED TO ACHIEVE FCC COMPLIANCE. IT MUST BE POSTED ON EVERY ACCESS POINT WHERE VERIZON IS EXPECTED TO EXCEED THE FCC GENERAL POPULATION EXPOSURE LIMIT AND ON EVERY ANTENNA ARRAY IN ACCESSIBLE AREAS.



VERIZON WIRELESS
1831 RADY COURT
RICHMOND, VA 23222

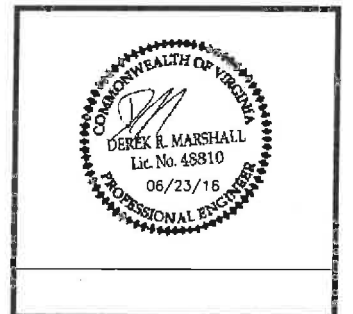
UVA MC N009

CONSTRUCTION DRAWINGS

0	06/23/16	FOR CONSTRUCTION



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Blair Allen, VA 23062
Phone: 804.290.7557
Fax: 804.290.7528
www.dewberry.com



DRAWN BY: **KKB**

REVIEWED BY: **BAR**

CHECKED BY: **DRM**

PROJECT NUMBER: **50074595**

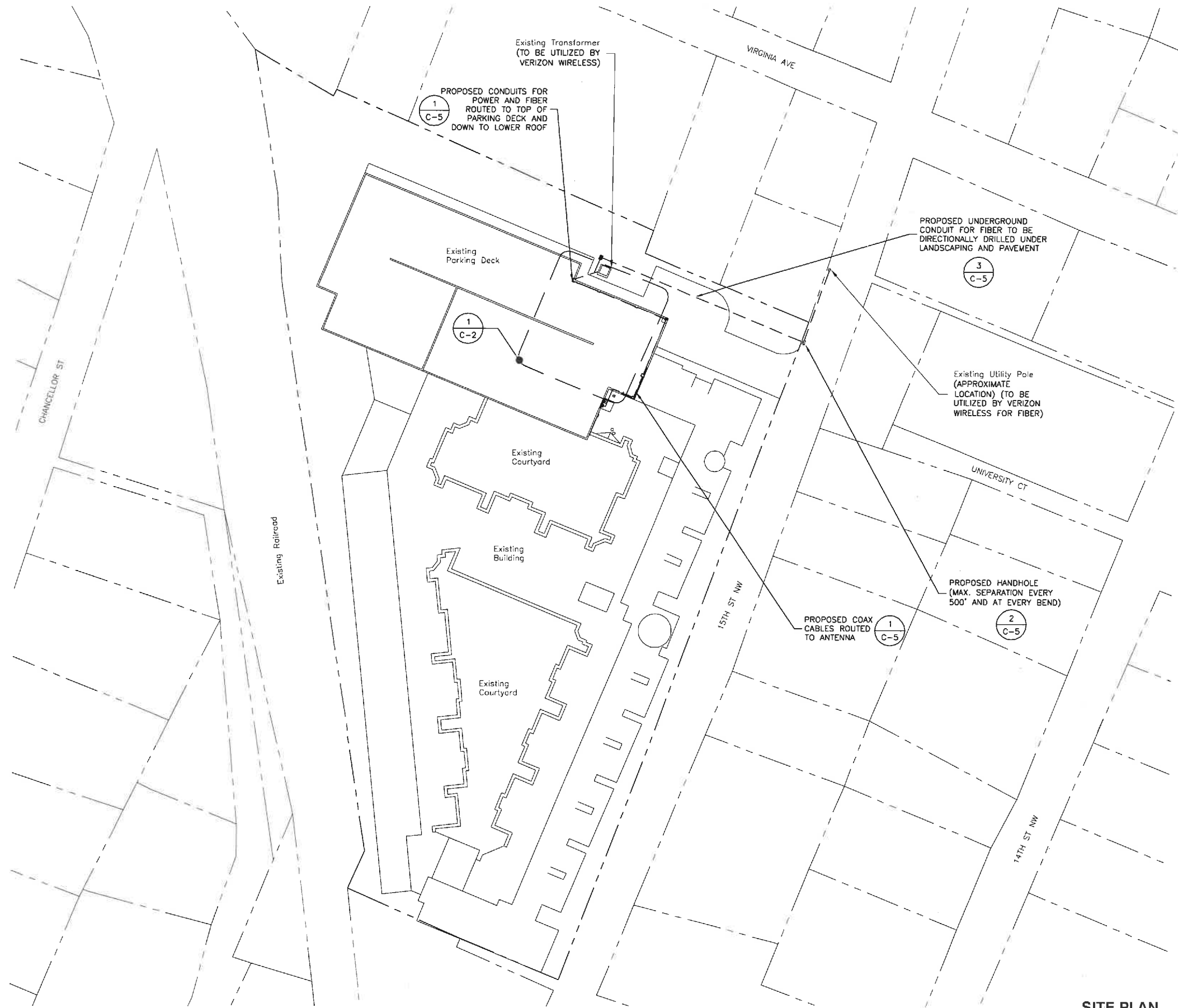
SITE ADDRESS:

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

GENERAL NOTES

SHEET NUMBER



VERIZON WIRELESS
1831 RADY COURT
RICHMOND, VA 23222

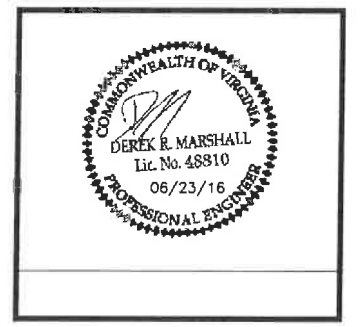
UVA MC N009

CONSTRUCTION DRAWINGS

0	06/23/16	FOR CONSTRUCTION
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DRAWN BY: KKB
REVIEWED BY: BAR
CHECKED BY: DRM
PROJECT NUMBER: 50074595
SITE ADDRESS:

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

SITE PLAN

SHEET NUMBER

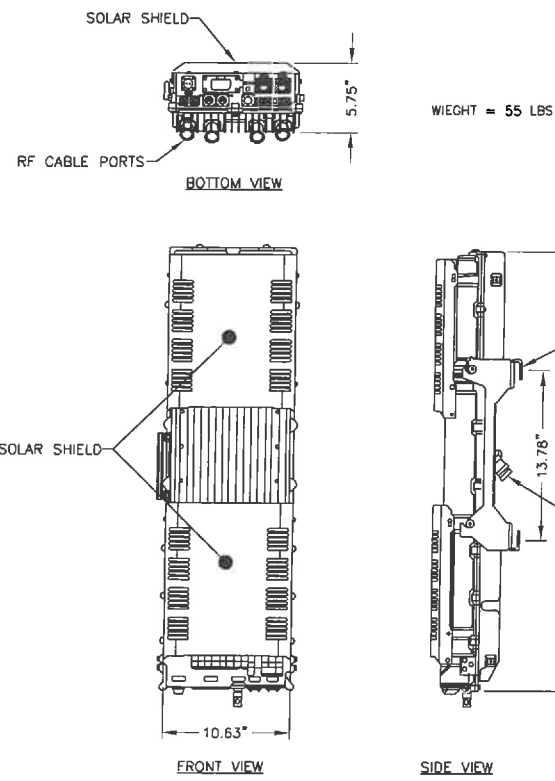
- NOTES:
- SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
 - ANTENNA EQUIPMENT AND EASEMENTS SUBJECT TO CHANGE

SITE PLAN

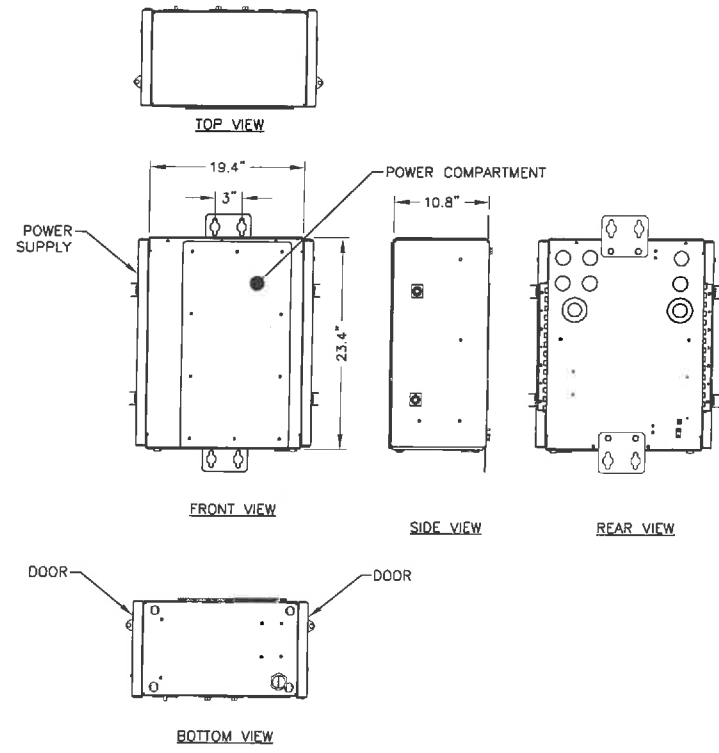
SCALE: 1"=80' FOR 11x17
1"=40' FOR 22x34

0' 40' 80'

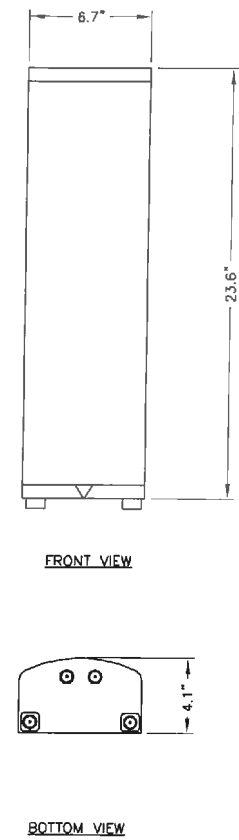
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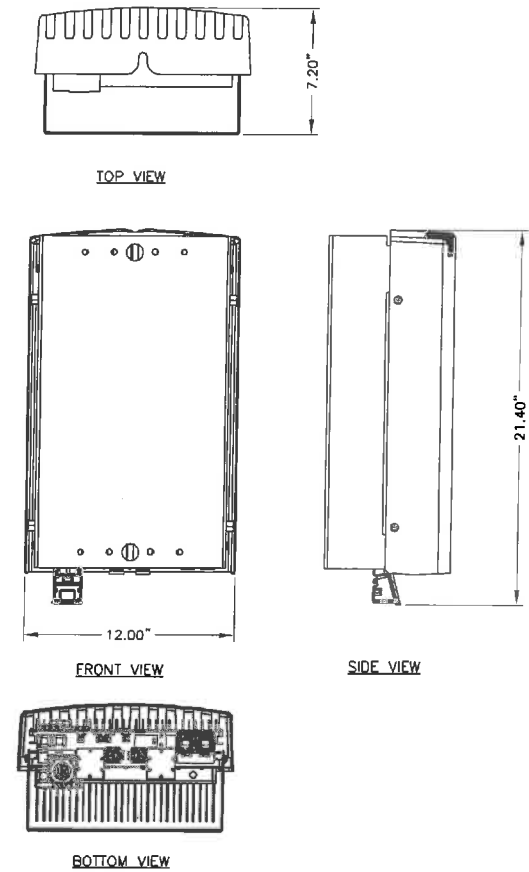
AWS RRH 2x60 (REMOTE RADIO HEAD)
SCALE: N.T.S. ①



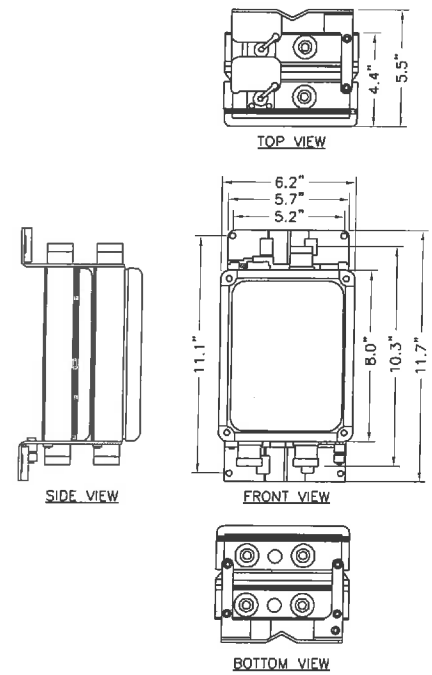
CUBE-SC1041NNE EQUIPMENT CABINET
SCALE: N.T.S. ②



ANDREW-V65S-1XR (PANEL ANTENNA)
SCALE: N.T.S. ③



PCS RRH4x30-B25 (REMOTE RADIO HEAD)
SCALE: N.T.S. ④



DIPLEXER DETAIL
SCALE: N.T.S. ⑤

RF SYSTEM SCHEDULE								
ANTENNA SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	RAD CENTER	ANTENNA AZIMUTH	DOWN TILT	RRH QUANTITY & MODEL	CABLE SIZE AND QUANTITY
ALPHA	PROPOSED	ANDREW	V65S-1XR	55.7'	80°	0°	(1) PCS RRH4x30-B25 (1) AWS RRH2x40	(2) - 7/8"φ

NOTE: 1. ALL CHANGES TO THIS SCHEDULE SHOULD BE APPROVED BY VERIZON RF ENGINEERING.

- NOTES:**
- CONTRACTOR TO VERIFY ANTENNA INFORMATION WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO VERIFY PROPOSED ANTENNA INFORMATION IS THE MOST CURRENT DATA AT TIME OF CONSTRUCTION.
 - CONTRACTOR TO CONFIRM CABLE LENGTHS PRIOR TO CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE TO BUILD FROM THE LATEST RF SHEET.

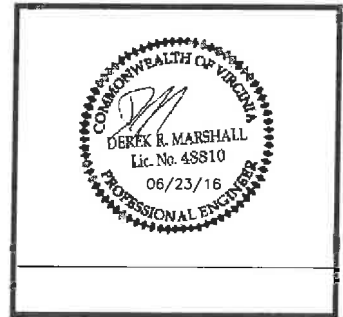
verizon wireless
VERIZON WIRELESS
1831 RADY COURT
RICHMOND, VA 23222

UVA MC N009

CONSTRUCTION DRAWINGS

0	06/23/16	FOR CONSTRUCTION
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DRAWN BY: KKB

REVIEWED BY: BAR

CHECKED BY: DRM

PROJECT NUMBER: 50074595

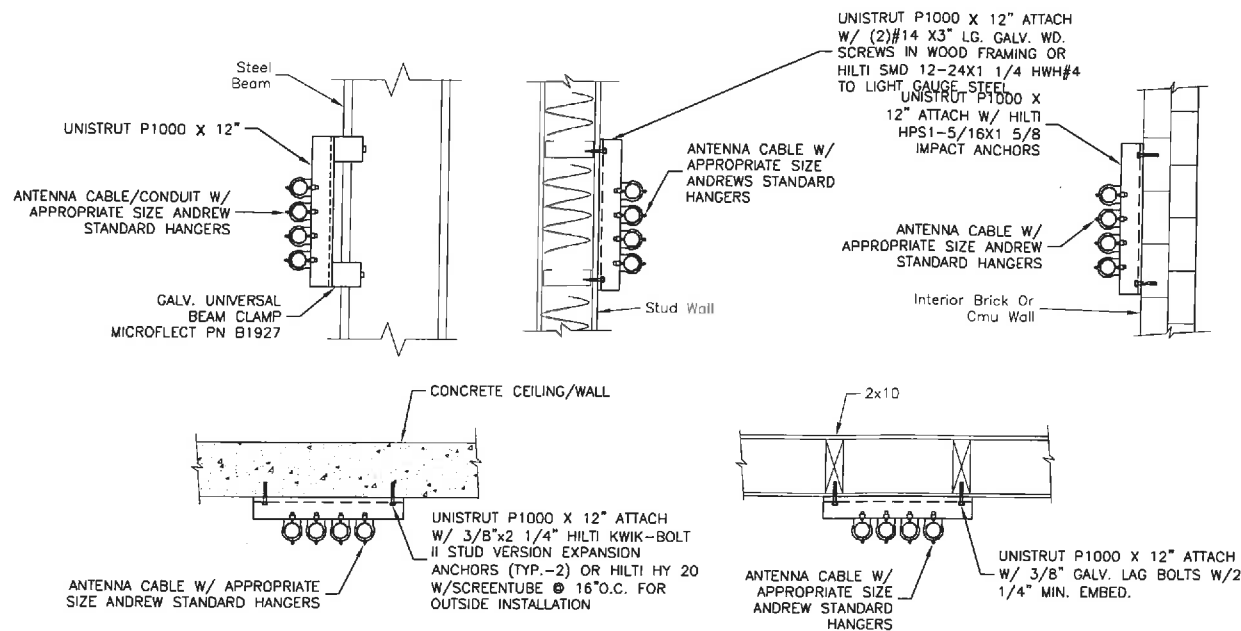
SITE ADDRESS:

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER



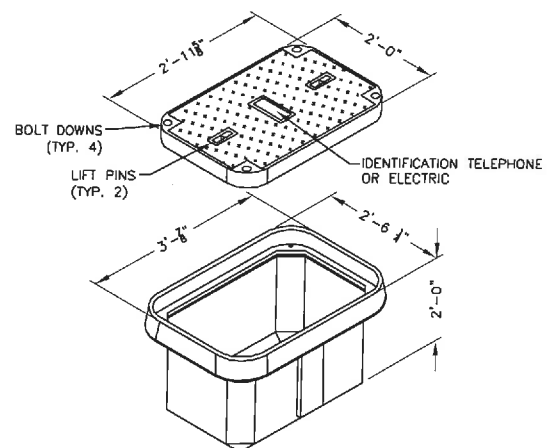
NOTES:

1. ALL COAX CABLE SUPPORT SPACING: 4'-0" MAX.
2. ALL CONDUIT SUPPORT SPACING: 10' MAX.

CABLE CONDUIT SUPPORT

SCALE: N.T.S.

1



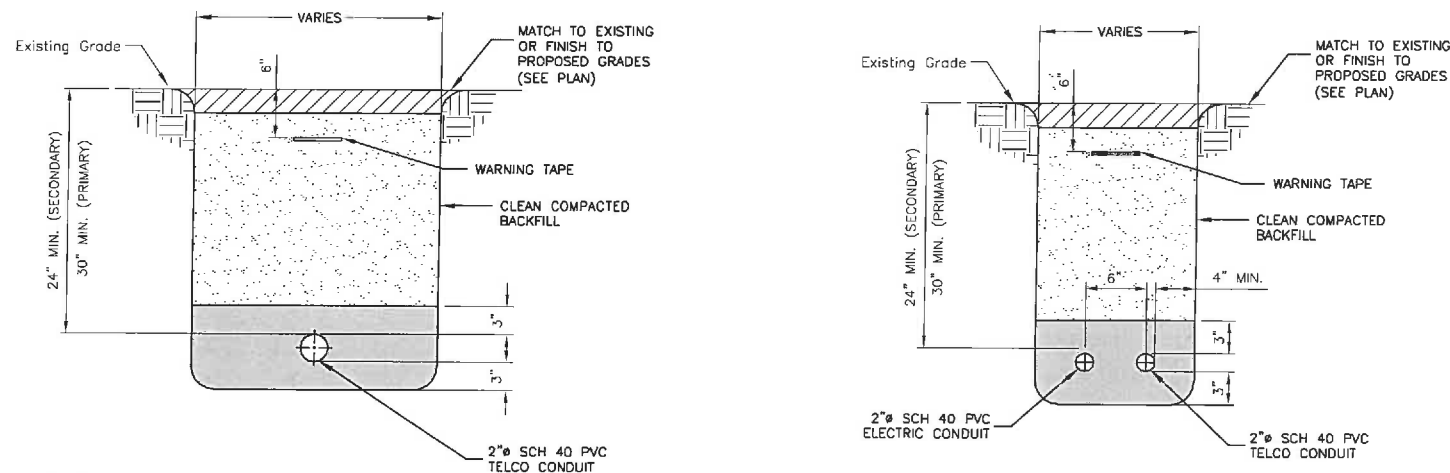
NOTE:

1. ALL STUB-UP CONDUITS INSIDE PULL BOXES WILL BE 6" FROM TOP OF BOX AND HAVE PULL STRING AND CAPS.

**HAND HOLE/
PULL BOX DETAIL**

SCALE: N.T.S.

2



NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. SUBCONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE SUBCONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. DETECTION WIRE SHALL BE BURIED DIRECTLY ABOVE NON-METALLIC PIPING AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND AS DIRECTED BY THE CONSTRUCTION MANAGER.

TELCO/FIBER SERVICE TRENCH CONDUIT

SCALE: N.T.S.

3

NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. SUBCONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE SUBCONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. DETECTION WIRE SHALL BE BURIED DIRECTLY ABOVE NON-METALLIC PIPING AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND AS DIRECTED BY THE CONSTRUCTION MANAGER.

JOINT SERVICE TRENCH

SCALE: N.T.S.

4



VERIZON WIRELESS
1831 RADY COURT
RICHMOND, VA 23222

UVA MC N009

CONSTRUCTION DRAWINGS

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DRAWN BY:	KKB
REVIEWED BY:	BAR
CHECKED BY:	DRM
PROJECT NUMBER:	50074595
SITE ADDRESS:	

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

CONSTRUCTION DETAILS

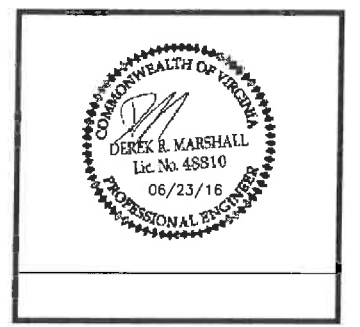
SHEET NUMBER

UVA MC N009

CONSTRUCTION DRAWINGS

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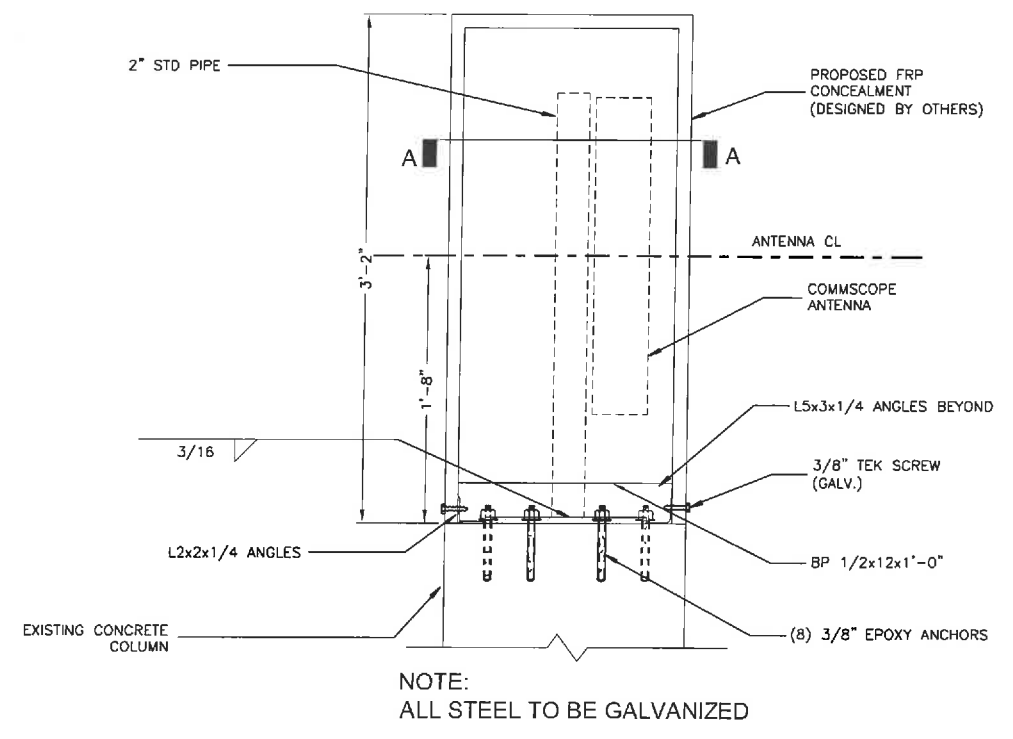
DRAWN BY:	KKB
REVIEWED BY:	BAR
CHECKED BY:	DRM
PROJECT NUMBER:	50074595
SITE ADDRESS:	

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

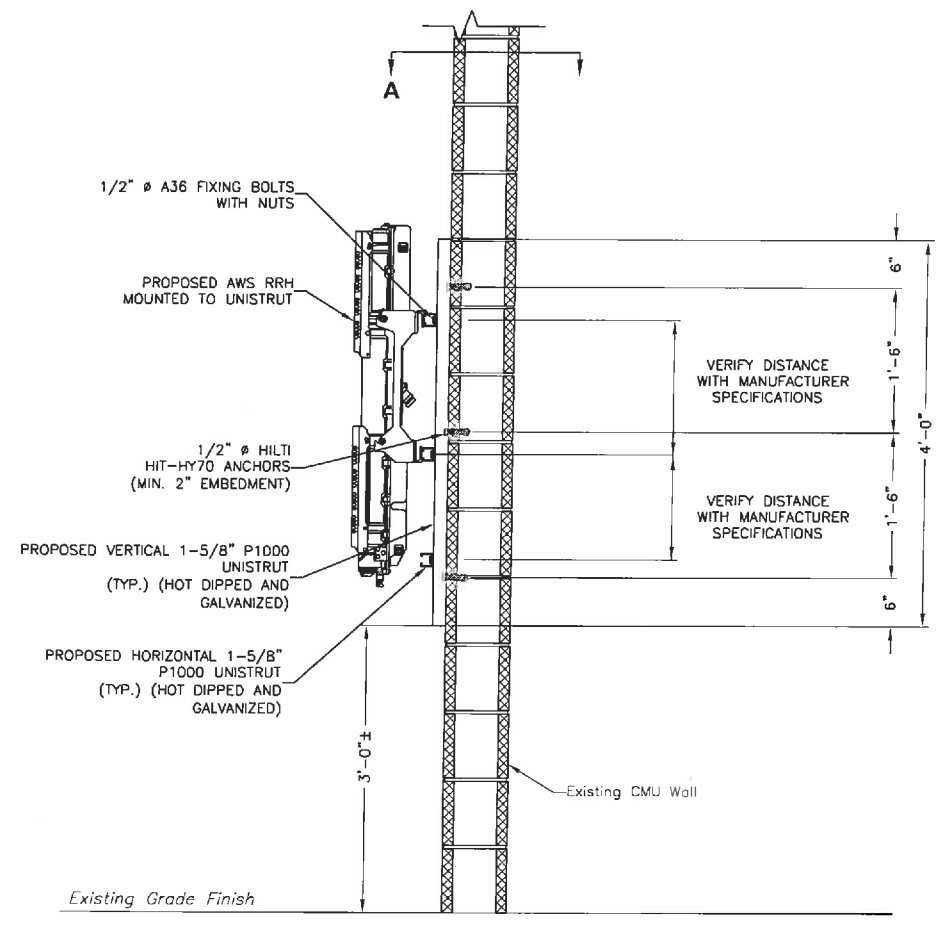
SHEET TITLE

STRUCTURAL DETAILS

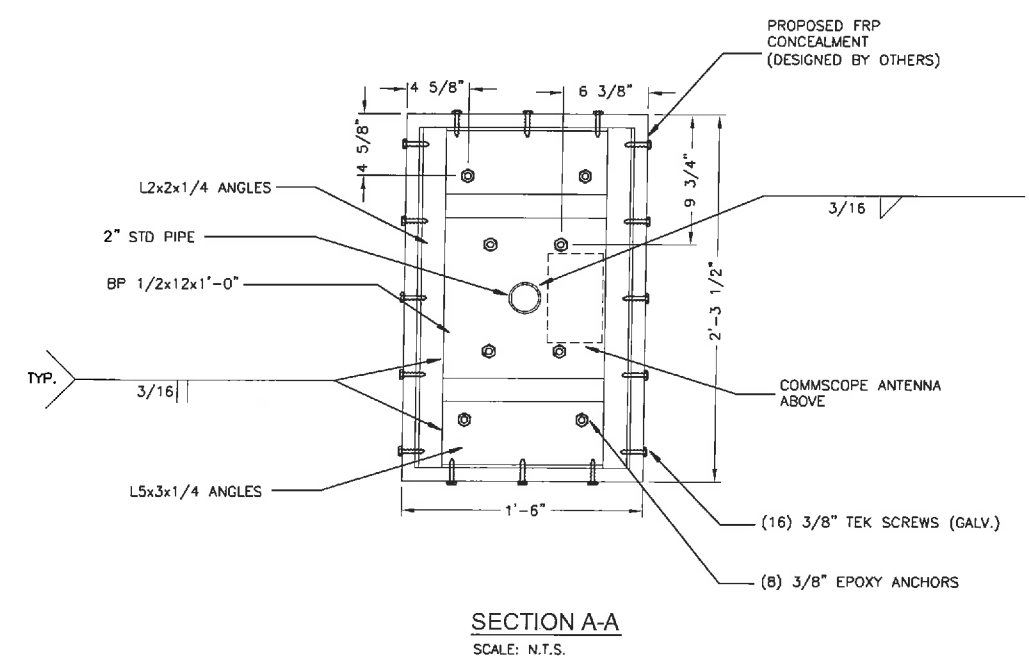
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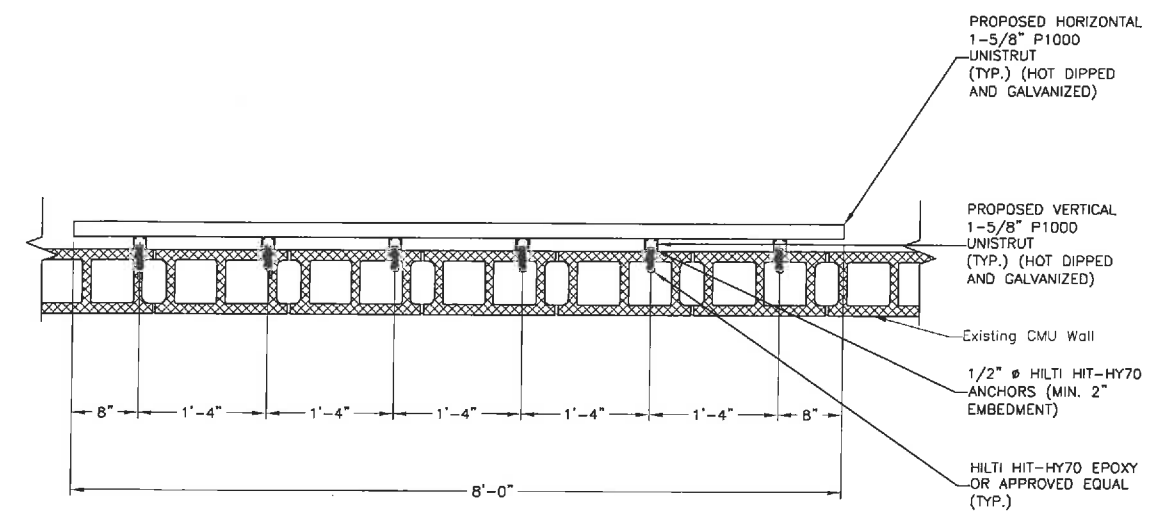
ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



EQUIPMENT WALL MOUNTING DETAIL SECTION 2
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.



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**Structural Analysis Report and Design Calculations
For a Wireless Telecommunications Upgrade**

Site Name: UVA MC N009
Site Address: 301 15th Street NW
Charlottesville, VA 22903

Prepared for:
Verizon Wireless
1831 Rady Court
Richmond, VA 23222

September 9, 2015
Revised: December 28, 2015

Prepared by:
Dewberry Engineers Inc.
4805 Lake Brock Drive, Suite 200
Glen Allen, VA 23060
Dewberry Project Number: 50074595



Prepared by: Brandon M. Buchner

Reviewed by: Derek Marshall

Brandon M. Buchner, P.E.
Project Designer

Derek Marshall, P.E.
Virginia Professional Engineer
License No.: 0402048810

Verizon Wireless
Site Name: UVA MC N009
Revised: December 28, 2015

1.0 INTRODUCTION AND PROJECT SUMMARY

The objective of this report is to assess the installation of an antenna mounted to a column of an existing parking deck.

The existing structure is an approximately 54' tall pre-cast concrete parking deck in Albemarle County, Virginia. The proposed antenna shall be mounted inside of a RF Transparent concealment box. The antenna shall attach to a custom base plate mount which shall be mounted to the top of the pre-cast concrete column. The proposed equipment shall be mounted to a cmu wall near the roof of the structure.

2.0 PROPOSED ANTENNAS

The following antennas and equipment are proposed:

- One (1) RF transparent concealment box measuring approximately 36"Hx18"W x 27.6"D and weighing approximately 50 lb
- One (1) Commscope model V85S-1XR antenna measuring approximately 23.6"H x 6.7"W x 4.1"D and weighing approximately 8.4 lb.
- One (1) B25 RRH4x30-4R remote radio head measuring 21.4"H x 12.0"W x 7.2"D and weighing 51.0 lb.
- One (1) RRH2x60-AWS remote radio head measuring 36.6"H x 10.6"W x 5.7"D and weighing 55.0 lb.
- One (1) Charles Cabinet measuring 25.7"H x 19.4"W x 10.8"D and weighing 50.0 lb.
- One (1) Electrical Panel measuring 20.9"H x 14.3"W x 3.8"D and weighing 22.4 lb.
- One (1) Diplexer measuring 6.3"H x 4.4"W x 3.0"D and weighing 5.5 lb.

3.0 CODES, STANDARDS, AND REFERENCES

The structure was analyzed and the proposed installation designed per the provisions of the following Codes and standards:

- *International Building Code (IBC) 2012*, International Code Council
- *American Society of Civil Engineers ASCE 7-10 Minimum Design Loads for Buildings and Other Structures*
- *American Institute of Steel Construction AISC 360-14, Specifications for Structural Steel Buildings*

4.0 LOADING AND PERFORMANCE CRITERIA

The following Code-specified strength limit state (ASD) load combinations were considered in the analysis of the antenna mounts (ASCE7-10):

1. 1.0D+0.6W
2. 0.6D+0.6W

Where:
D = dead load of structure, steel, and new equipment.
W = design wind load for site location on steel and new equipment

Verizon Wireless
Site Name: UVA MC N009
Revised: December 28, 2015

The following site-specific design parameters were considered in this analysis per the provisions of ASCE7-10:

- Risk Category: II Table 1.5-1
- Exposure: B Figure 26.5-1A
- Basic Wind Speed: 115 mph

This assessment is founded on the premise that pursuant to 2012 *International Building Code* Sections "3403.3 Existing structural elements carrying gravity load" and "3403.4 Existing structural elements carrying lateral load," if the proposed installation causes an increase in design gravity loads by more than 5% and or increases the demand-capacity ratio by more than 10% in the lateral load-carrying structural elements then those elements shall be strengthened, supplemented, replaced, or otherwise altered as needed to carry the increase in load as required by the Code for new structures.

5.0 CALCULATIONS

Calculations for this analysis and the design of the installation are included in Appendices of this report.

6.0 CONCLUSIONS, COMMENTARY, AND RECOMMENDATIONS

Antenna Mount

The antenna shall be mounted to the top of the existing parking deck column at a RAD center of 65'-6". The antenna shall have a FRP concealment that shall be made to match the existing dimensions of the parking deck column. From field measurements the existing column dimensions are 27.5 inches long by 18 inches wide. The connection of the antenna to the concrete column shall be as follows. The antenna shall be mounted to a 2" std pipe with a 1/2x12x1'-0" base plate. The baseplate shall be anchored to the top of the column with four (4) 3/8" Hilti HILTI-HY200 HIT-Z anchors with 2-3/8" embedment spaced as shown in the appendix. The FRP concealment shall be connected to the column as follows. The concealment shall be attached to an angle base frame with sixteen (16) 3/8" TEK screws. The angle base frame shall be made of two (2) L2x2x1/4 angles and two (2) L5x3x1/4 angles. The angles shall be welded together in a rectangle and anchored to the top of the column with four (4) 3/8" Hilti HILTI-HY200 HIT-Z anchors with 2-3/8" embedment spaced as shown in the appendix. The pipe mast shall be centered on the column. Refer to Appendix C for more information on the connection details.

Based on our analysis, the proposed mast installation is adequate to support the antenna mounted to the proposed location as shown in the construction documents.

Equipment Mount

The proposed equipment shall be mounted to unistrut channel directly anchored to the cmu wall of the existing parking deck. The unistrut channels are to be mounted to the cmu wall with 1/2" diameter Hilti HIT-HY 70 anchors with 2" embedment. Anchors shall not be located closer than 12" from the edge of the cmu wall and spaced at least 4" apart. No two anchors shall occupy the same cell.

The equipment is considered to be shielded by the wall; therefore, no additional wind load will be applied to the existing wall. The weights of the equipment and support channel are considered negligible compared to the capacities of the wall and the supporting anchors. Because the loading on the existing wall is negligible, the existing structure and proposed anchors are judged to be adequate to resist the proposed load.

Based on our analysis, the proposed unistrut installation is adequate to support the equipment mounted to the proposed location as installed in the following sketches and as shown in the construction documents.

Verizon Wireless
Site Name: UVA MC N009
Revised: December 28, 2015

The global impact of the antenna mounts on the existing structure as a whole is negligible. Existing structural members other than the primary supporting members explicitly checked need not be investigated. Therefore, after field verification, the proposed installation may be installed as planned. Please see details for the proposed installation included in the final construction drawings.

Dewberry Engineers Inc. reserves the right to add to or modify this report if more information becomes available. The conclusions reached by Dewberry Engineers Inc. in this report are only applicable to the previously mentioned existing structural elements supporting the proposed wireless telecommunications installation. The results of this report are based on the assumption that existing structural elements have been installed per the original design documents, have been well maintained, and are uncompromised. This report does not imply that a thorough inspection of the existing structure has been performed. Any deviation of the support condition, loading, location, placement, equipment configuration, etc., will require Dewberry Engineers Inc. to generate an additional structural analysis. Further, no structural qualification is made or implied by this report of any existing structural elements.



VERIZON WIRELESS
1831 RADY COURT
RICHMOND, VA 23222

UVA MC N009

CONSTRUCTION DRAWINGS

0	06/23/16	FOR CONSTRUCTION
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DRAWN BY:	KKB
REVIEWED BY:	BAR
CHECKED BY:	DRM
PROJECT NUMBER:	50074595
SITE ADDRESS:	

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

STRUCTURAL LETTERS

SHEET NUMBER

ELECTRICAL GENERAL NOTES

A. GENERAL

- SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD VERIFICATION.
- THESE PLANS ARE DIAGRAMMATIC ONLY, AND NOT TO BE SCALED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NBFU.
- COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF NO LESS THAN ONE YEAR AFTER THE DATE OF JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION AT THE EXPENSE OF THE CONTRACTOR.
- PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, INSURANCE AND SERVICES TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PRESENT IT AS FULLY OPERATIONAL TO THE SATISFACTION OF THE OWNER.
- THE CONSTRUCTION MANAGER WILL COORDINATE POWER AND TELCO WORK WITH THE LOCAL UTILITY COMPANY AS IT MAY APPLY TO THIS SITE. ALL WORK IS TO COMPLY WITH THE RULES AND REGULATIONS OF THE UTILITIES INVOLVED.
- FABRICATION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE WITH FIRST CLASS WORKMANSHIP PER NECA STANDARD 1-2000 BY QUALIFIED PERSONNEL, LICENSED AND EXPERIENCED IN SUCH WORK AND SHALL SCHEDULE THE WORK IN AN ORDERLY MANNER SO AS TO NOT IMPEDE THE PROGRESS OF THE PROJECT.
- DURING PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF THE ELECTRIC SYSTEMS, LOCATING EACH CIRCUIT PRECISELY AND DIMENSIONING EQUIPMENT, CONDUIT AND CABLE LOCATIONS. UPON COMPLETION OF THE INSTALLATION, TRANSFER ALL RECORD DATA TO RED LINE PRINTS OF THE ORIGINAL DRAWINGS AND SUBMIT THESE DRAWINGS AS RECORD DRAWINGS TO THE CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR SHALL ALSO NOTIFY A PRIVATE UTILITY CONTRACTOR FOR ALL ON-SITE UTILITY LOCATIONS.
- COORDINATE ALL METER WORK WITH LOCAL UTILITY COMPANY.

B. BASIC MATERIALS AND METHODS

- ALL ELECTRICAL WORK SHALL CONFORM TO THE EDITION OF THE NEC ACCEPTED BY THE LOCAL JURISDICTION AND TO THE APPLICABLE LOCAL CODES AND REGULATIONS.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW. MATERIALS AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S CURRENT DESIGN. ANY FIRST-CLASS PRODUCT MADE BY A REPUTABLE MANUFACTURER MAY BE USED PROVIDING IT CONFORMS TO THE CONTRACT REQUIREMENTS AND MEET THE APPROVAL OF THE CONSULTANT AND OWNER.
- ARRANGE CONDUIT, WIRING, EQUIPMENT, AND OTHER WORK GENERALLY AS SHOWN, PROVIDING ALL APPROPRIATE CLEARANCE AND ACCESS. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS AND FIT THE WORK IN EACH LOCATION WITHOUT SUBSTANTIAL ALTERATION. WHERE DEPARTURES ARE PROPOSED BECAUSE OF FIELD CONDITIONS OR OTHER CAUSES PREPARE AND SUBMIT DETAILED DRAWINGS FOR ACCEPTANCE.
- THE CONTRACT DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ALL OFFSETS, BENDS, FITTINGS, AND ACCESSORIES ARE NOT SHOWN. PROVIDE ALL SUCH ITEMS AS MAY BE REQUIRED TO FIT THE WORK TO THE CONDITIONS.
- MAINTAIN ALL CLEARANCES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).

C. CONDUCTORS AND CONNECTORS

- UNLESS NOTED OTHERWISE, ALL CONDUCTORS SHALL BE COPPER, MINIMUM SIZE #12 AWG WITH THERMOPLASTIC INSULATION CONFORMING TO NEMA WC5 OR CROSS-LINKED POLYETHYLENE INSULATION CONFORMING TO NEMA WC7 (TYPES THHN OR THWN). INSULATION SHALL BE RATED FOR 90°C. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH THE NEC.
- ALL CONDUCTORS USED FOR CIRCUIT GROUNDING SHALL BE COPPER AND SHALL HAVE GREEN INSULATION.
- FOR COPPER CONDUCTORS #6 AWG AND SMALLER, USE 3M SCOTCH LOK OR T&B STA-KON COMPRESSION TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATION CAPS. FOR COPPER CONDUCTORS LARGER THAN #6 AWG, USE SOLDERLESS IDENT HEX SCREW OR BOLT TYPE PRESSURE CONNECTORS OR DOUBLE COMPRESSION C-CLAMP CONNECTORS, UNLESS NOTED OTHERWISE ON DRAWINGS.
- UNLESS NOTED OTHERWISE ALL LUGS SHALL BE TIN PLATED COPPER, TWO-HOLE LONG BARREL COMPRESSION TYPE.
- CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES. SPLICES ARE NOT ACCEPTABLE. IF SPLICES ARE UNAVOIDABLE, PRIOR APPROVAL FROM CONSULTANT'S REPRESENTATIVE MUST BE OBTAINED.

D. RACEWAYS AND BOXES

- ALL CONDUIT SHALL BE UL LABELED.
- ALL EMPTY CONDUITS INSTALLED FOR FUTURE USE SHALL HAVE A PULL CORD.
- SHEET METAL BOXES SHALL BE NEMA 3R AND CONFORM TO NEMA OSI. CAST-METAL BOXES SHALL BE NEMA 3R AND CONFORM TO NEMA 81 AND SHALL BE SIZED IN ACCORDANCE WITH NEC UNLESS OTHERWISE NOTED.

E. CONDUIT

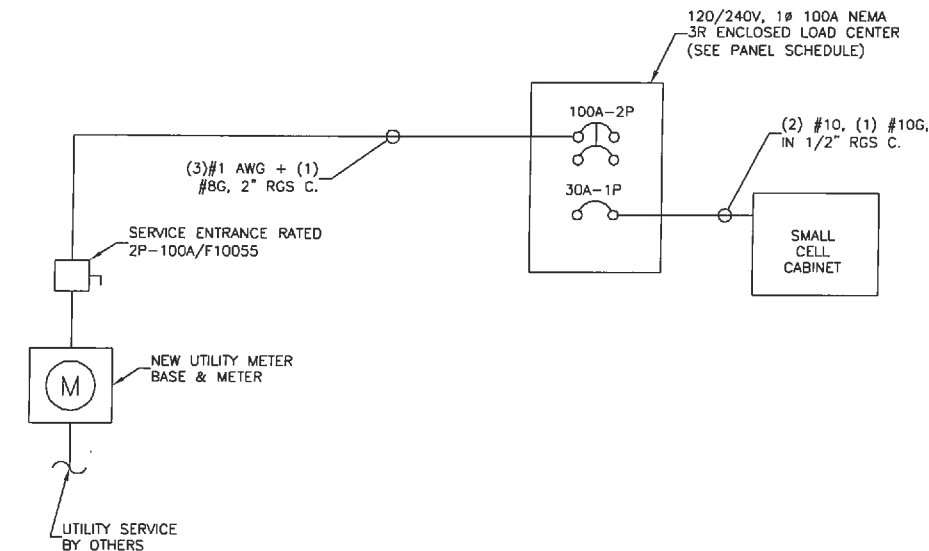
- RIGID CONDUIT SHALL BE U.L. LABEL, GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH THE EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
- ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS TO BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
- LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZED GROUND CONDUCTOR.
- CONDUIT RUNS SHALL BE SURFACE MOUNTED ON WALLS AND CEILINGS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
- PVC CONDUIT MAY ONLY BE PROVIDED WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.

F. GROUNDING

- ALL SAFETY GROUNDING OF THE ELECTRICAL EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE NEC.
- GROUND LUGS ARE SPECIFIED UNDER SECTION "C. CONDUCTORS AND CONNECTORS"
- ALL GROUND LUG AND COMPRESSION CONNECTIONS SHALL BE COATED WITH AN ANTI-OXIDANT AGENT SUCH AS NO-OX, NOALOX, PENETROZ, OR KOPRSHIELD.
- PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
- DO NOT INSTALL GROUND RING (IF REQUIRED) OUTSIDE OF PROPERTY LINE.
- REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS. REPAINT TO MATCH AFTER CONNECTIONS ARE MADE TO MAINTAIN CORROSION RESISTANCE.
- ALL EXTERIOR GROUNDING CONDUCTORS INCLUDING EXTERIOR GROUND RING (IF REQUIRED) SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID ANY SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE ANGLE OF ANY BEND SHALL BE EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
- ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE METALS BEING CONNECTED.
- ALL EXTERNAL GROUND CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO THE EXTERIOR GROUND RING SHALL BE TEE TYPE LOCATED ON TOP OF GROUND RODS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING USING SPRAY CONTAINING 95% ZINC (Z.R.C. "GALVANITE OR EQUIVALENT).
- IF A NEW GROUND RING IS REQUIRED, CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE BURIED RING IS INSTALLED SO THE MANAGER CAN INSPECT THE GROUND RING BEFORE IT IS BACKFILLED WITH SOIL.
- WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF AN ANTI-OXIDANT COMPOUND SUCH AS "NO OXIDE A" BY DEARBORN CHEMICAL COMPANY ON ALL CONNECTORS.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY REPRESENTATIVE AT THE SITE TO DISCONNECT THE UTILITY NEUTRAL FROM GROUNDING SYSTEM DURING FINAL INSPECTION SO THE REQUIRED TESTING ON THE GROUND SYSTEM CAN BE PERFORMED. IF THE CONTRACTOR FAILS TO HAVE THE UTILITY REPRESENTATIVE PRESENT DURING FINAL RESISTANCE TESTING, THE CONTRACTOR SHALL PAY THE COST FOR AN INDEPENDENT GROUNDING CONSULTANT TO PERFORM THE GROUND RESISTANCE TEST. GROUNDING CONSULTANT TO BE SELECTED BY THE CONSTRUCTION MANAGER. IF THE UTILITY REPRESENTATIVE FAILS TO APPEAR AT NO FAULT OF THE CONTRACTOR, NO PENALTY SHALL APPLY.
- PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
- CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL THAT IS PART OF THE ATTACHMENT DEVICE. ONLY ATTACHMENT DEVICES LISTED AND APPROVED FOR DISSIMILAR METALS MAY BE USED.

LOAD CENTER						
WATTS		CIRCUIT DESCRIPTION	CONDUCTOR	POLES	BRK	CKT
A	B					
2000		EQUIPMENT CABINET	#10	1	30	1
		SPACE	-	1		2
		SPACE	-	1		3
		SPACE	-	1		4
		SPACE	-	1		5
		SPACE	-	1		6

PANEL SCHEDULE



ELECTRICAL ONE LINE DIAGRAM
SCALE: N.T.S.



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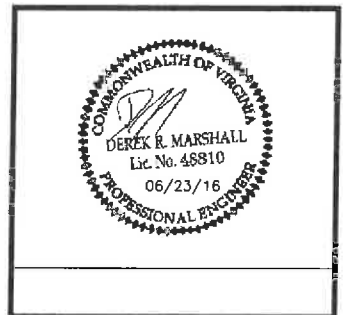
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CONSTRUCTION DRAWINGS

0 06/23/16 FOR CONSTRUCTION



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DRAWN BY: **KKB**
REVIEWED BY: **BAR**
CHECKED BY: **DRM**
PROJECT NUMBER: **50074595**
SITE ADDRESS:

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

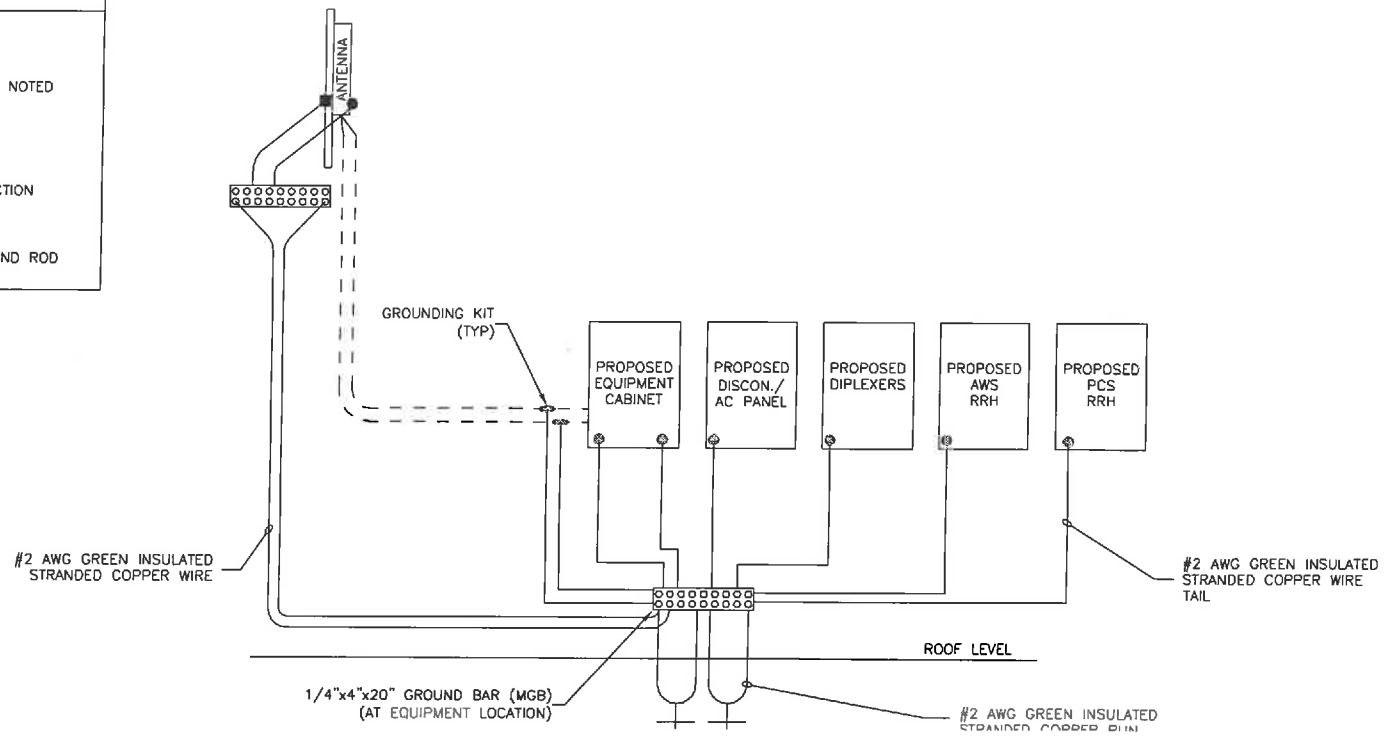
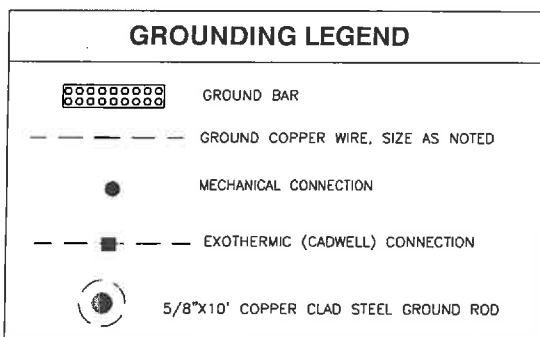
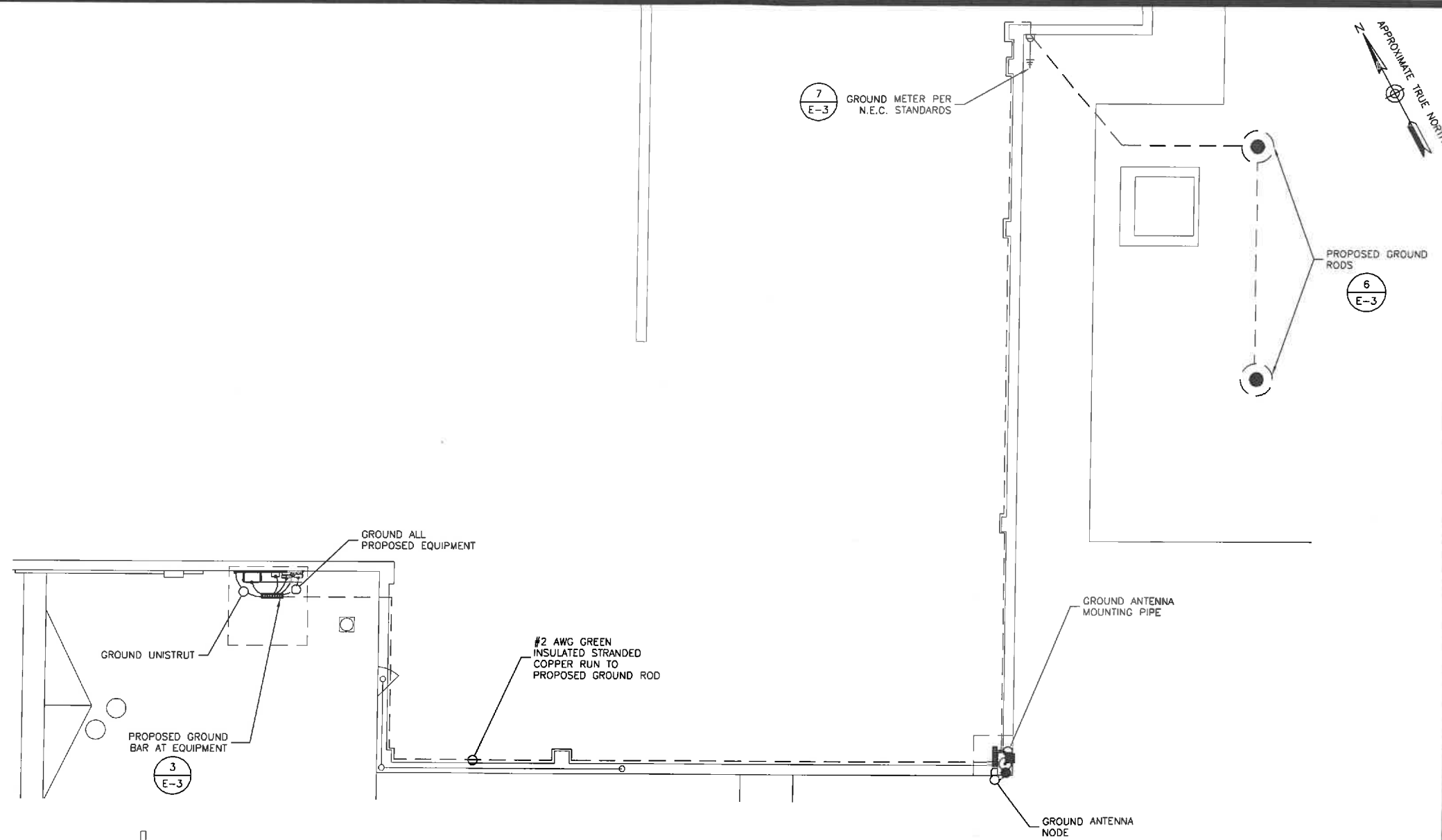
SHEET TITLE

**ELECTRICAL NOTES
AND ONE LINE DIAGRAM**

SHEET NUMBER

GROUNDING NOTES

- WHERE MECHANICAL CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE, CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
- INSTALL GROUNDING KITS AT ANTENNA CENTERLINE. GROUND COAX LINES. EXOTHERMICALLY WELD #2 DOWN CONDUCTOR TO PLATES, RUN DOWN BUILDING AND TIE INTO GROUNDING SYSTEM.
- PRIOR TO THE START OF GROUNDING WORK, THE CONTRACTOR SHALL OBTAIN THE LATEST COPY OF THE VERIZON SOUTHERN VIRGINIA REGION GROUNDING STANDARDS. ANY OMISSION OF INFORMATION ON THIS DOCUMENT DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. ALL VERIZON GROUNDING REQUIREMENTS SHALL BE MET AS OUTLINED IN VERIZON'S GROUNDING STANDARDS. ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS SPECIFICATIONS AND STANDARDS. FOLLOWING COMPLETION OF WORK, GROUND SYSTEM MUST BE TESTED AND SHALL HAVE A RESISTANCE OF 5 OHMS OR LESS (SUBMIT AN INDEPENDENT "FALL POTENTIAL" TESTING REPORT).
- NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
- GROUNDING RING IS SHOWN AS SCHEMATIC ONLY. IT IS DESIGNED WITHOUT BENEFIT OF RESISTIVITY TESTING AND DOES NOT NECESSARILY REPRESENT A GROUNDING SYSTEM TO MEET ANY SPECIFIC GROUND RESISTANCE.
- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
- ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
- INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 TINNED SOLID COPPER WIRE FOR BELOW GRADE GROUNDING, UNLESS OTHERWISE NOTED.
- THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITIONED ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"x10"-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 TINNED SOLID COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART AND A MINIMUM OF 10' APART.
- WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1" BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.



GROUNDING PLAN
SCALE: N.T.S.

GROUNDING RISER DIAGRAM



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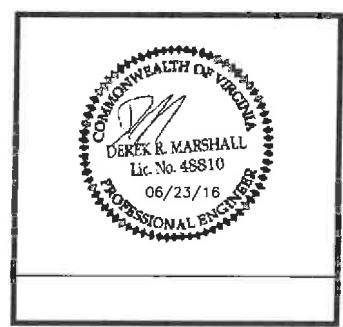
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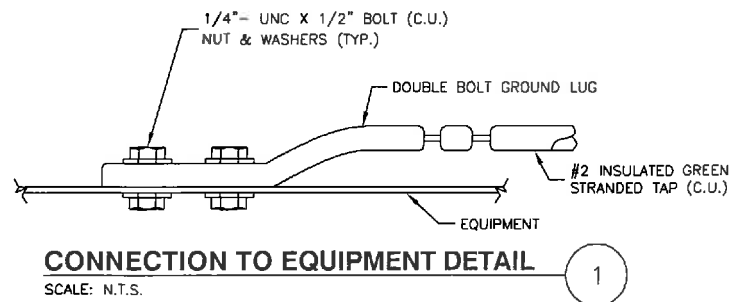
DRAWN BY:	KKB
REVIEWED BY:	BAR
CHECKED BY:	DRM
PROJECT NUMBER:	50074595
SITE ADDRESS:	

301 15TH STREET NW
CHARLOTTESVILLE, VA 22903

SHEET TITLE

GROUNDING PLAN

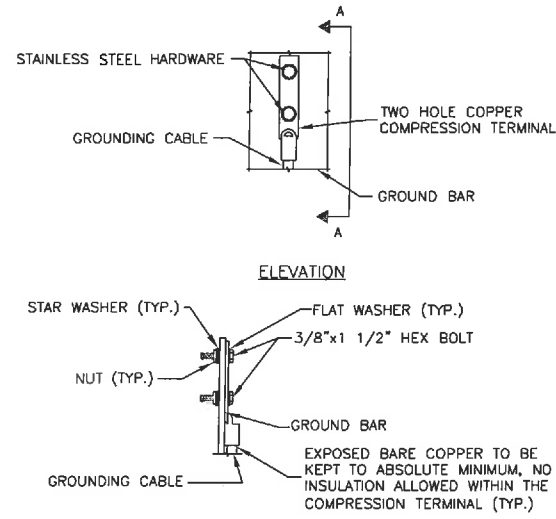
SHEET NUMBER



CONNECTION TO EQUIPMENT DETAIL

SCALE: N.T.S.

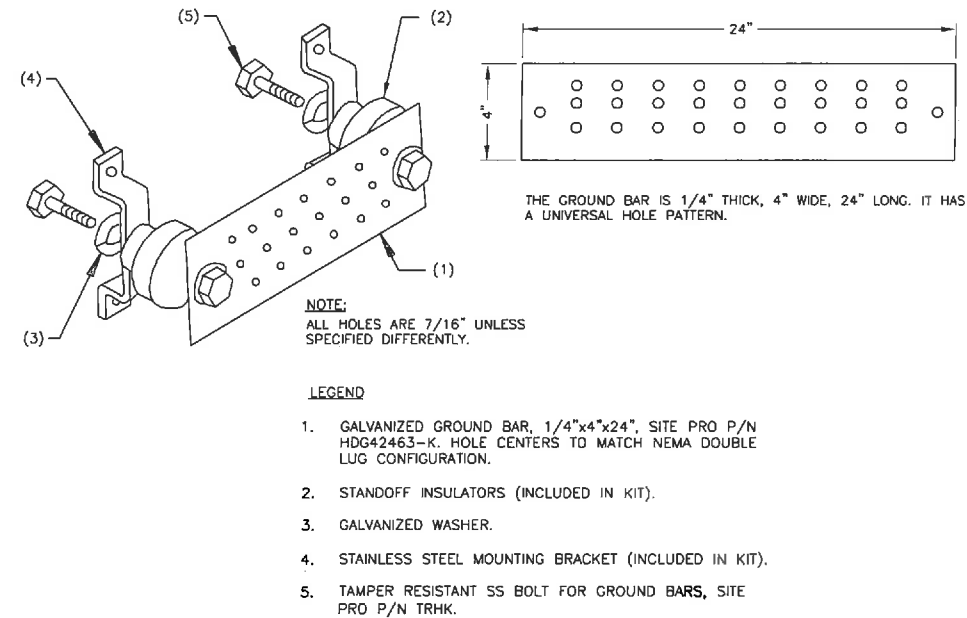
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TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL

SCALE: N.T.S.

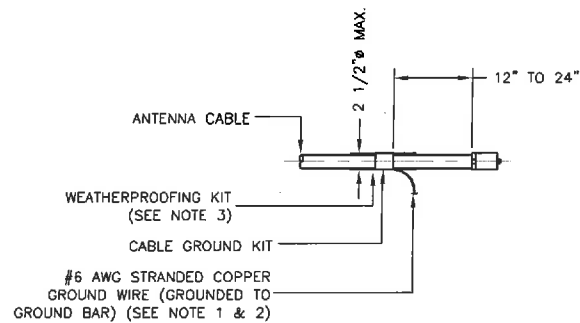
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GROUND BAR DETAIL

SCALE: N.T.S.

3

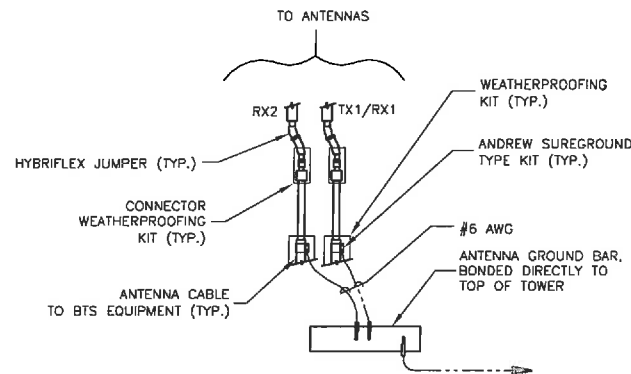


- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE ANDREW SUREGROUND TYPE KIT WITH TWO-HOLE LUG.
 - WEATHER PROOFING SHALL BE ANDREW TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE DETAIL

SCALE: N.T.S.

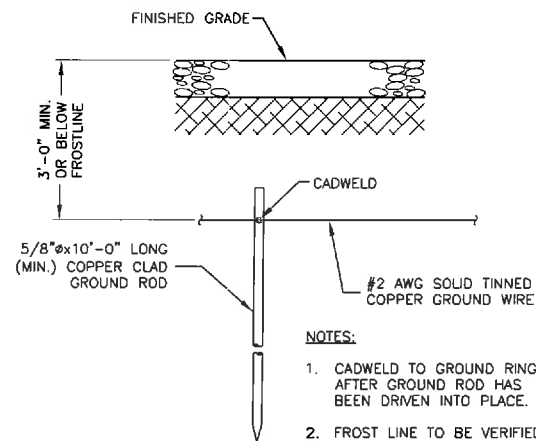
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CONNECTION OF GROUND WIRE TO GROUNDING BAR DETAIL

SCALE: N.T.S.

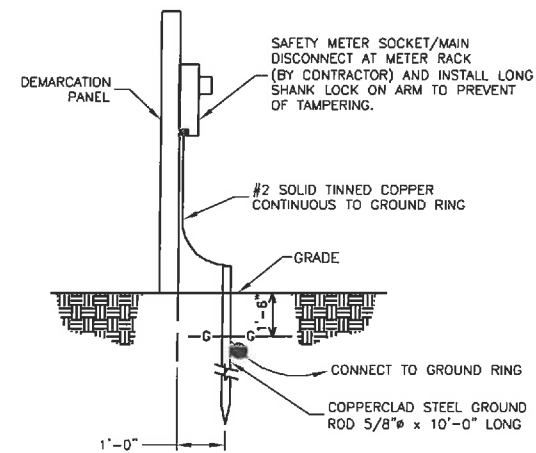
5



GROUND ROD

SCALE: N.T.S.

6



METER SOCKET GROUNDING

SCALE: N.T.S.

7



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RICHMOND, VA 23222

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SHEET TITLE

GROUNDING DETAILS

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