



AGENDA
LAURENS COUNTY PLANNING COMMISSION
July 19th, 2022
LAURENS COUNTY HISTORIC COURTHOUSE

Jim Royer, Chairman, and Ed Burns, Vice-Chairman
Commission Members: Sylvester Grant,
Casey Robinson, Bobby Smith, Abney Smith, Michael Floyd

July 19th, 2022

1. Call to Order – Chairman Jim Royer
2. Invocation- Commissioner Sylvester Grant
3. Pledge of Allegiance-Chairman Jim Royer
4. Approval of Agenda – July 19th, 2022
5. Approval of Minutes – May 17th, 2022
6. New Business-
 - a. Duncan Creek Verizon Wireless Tower-Project Description: Verizon proposes to place a 210' self-support tower with a 9' lightning arrester and associated 12' x 30' equipment pad, with outdoor equipment, within a 75' x 75' fenced compound. The leased area includes a circle, 115' in diameter from the center of the tower, to allow for control of the setback area. (See enclosed drawings for details (Exhibit A). This tower will have provisions on the tower for multiple carriers.

Parcel Address: Highway 308, Laurens SC 29360

Property Owner: Curtis Childress, 1420 Fleming Mill Road, Laurens, SC 29360
7. Adjournment- Commissioner Jim Royer



MINUTES
LAURENS COUNTY PLANNING COMMISSION
May 17th, 2022
LAURENS COUNTY HISTORIC COURTHOUSE

Jim Royer, Chairman, and Ed Burns, Vice-Chairman
Commission Members: Sylvester Grant,
Casey Robinson, Bobby Smith, Abney Smith, Michael Floyd

May 17th, 2022

Commissioners Present: Chairman Jim Royer, Vice-Chairman Ed Burns, Bobby Smith, Casey Robinson, Sylvester Grant

Commissioners Absent: Abney Smith, Michael Floyd

Call to Order – Chairman Royer called the meeting to order at 5:30 PM

Invocation- Commissioner Sylvester Grant

Pledge of Allegiance- Commissioner Jim Royer lead the Pledge of Allegiance

Approval of Agenda – May 17th, 2022- The approval of the agenda for May 17th, 2022, was first motioned by Commissioner Bobby Smith with a second motion by Commissioner Casey Robinson.

5-0 to approve.

Approval of Minutes – April 19th, 2022- The approval of the minutes from April 19th, 2022, was first motioned by Commissioner Casey Robinson and a second motion from Commissioner Bobby Smith.

5-0 to approve.

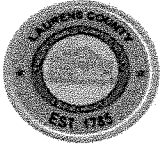
Training- Laurens County Planner Lisa Wargo and Laurens County Attorney Sandy Cruickshanks held a training session for the Laurens County Planning Commission.

Adjournment- The meeting was adjourned at 6:37 pm with a motion from Commissioner Bobby Smith and seconded by Commissioner Casey Robinson.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Cortni Motes".

Cortni Motes, Clerk 3
Laurens County Public Works



PLANNING COMMISSION
LAURENS COUNTY
AGENDA ITEM – REQUEST FORM

ALL REQUESTS should be submitted by 1:00 P.M. on the Wednesday 14 days prior to the Tuesday meeting of the Commission (3rd Tuesday each Month). All other requests not submitted by the deadline will be retained and scheduled for the next meeting of Council. Please email word document to dalesatterfield@co.laurens.sc.us

Agenda Item #: _____ **XX** _____ (to be filled in by Staff)

Tax Map # of parcel(s) (if applicable): _____

COMMISSION ACTION REQUESTED (if variance(s) is requested please list specific part of the ordinance that variance is requested from, the reasoning behind the variance request, and the specifics of what variance(s) are being requested:

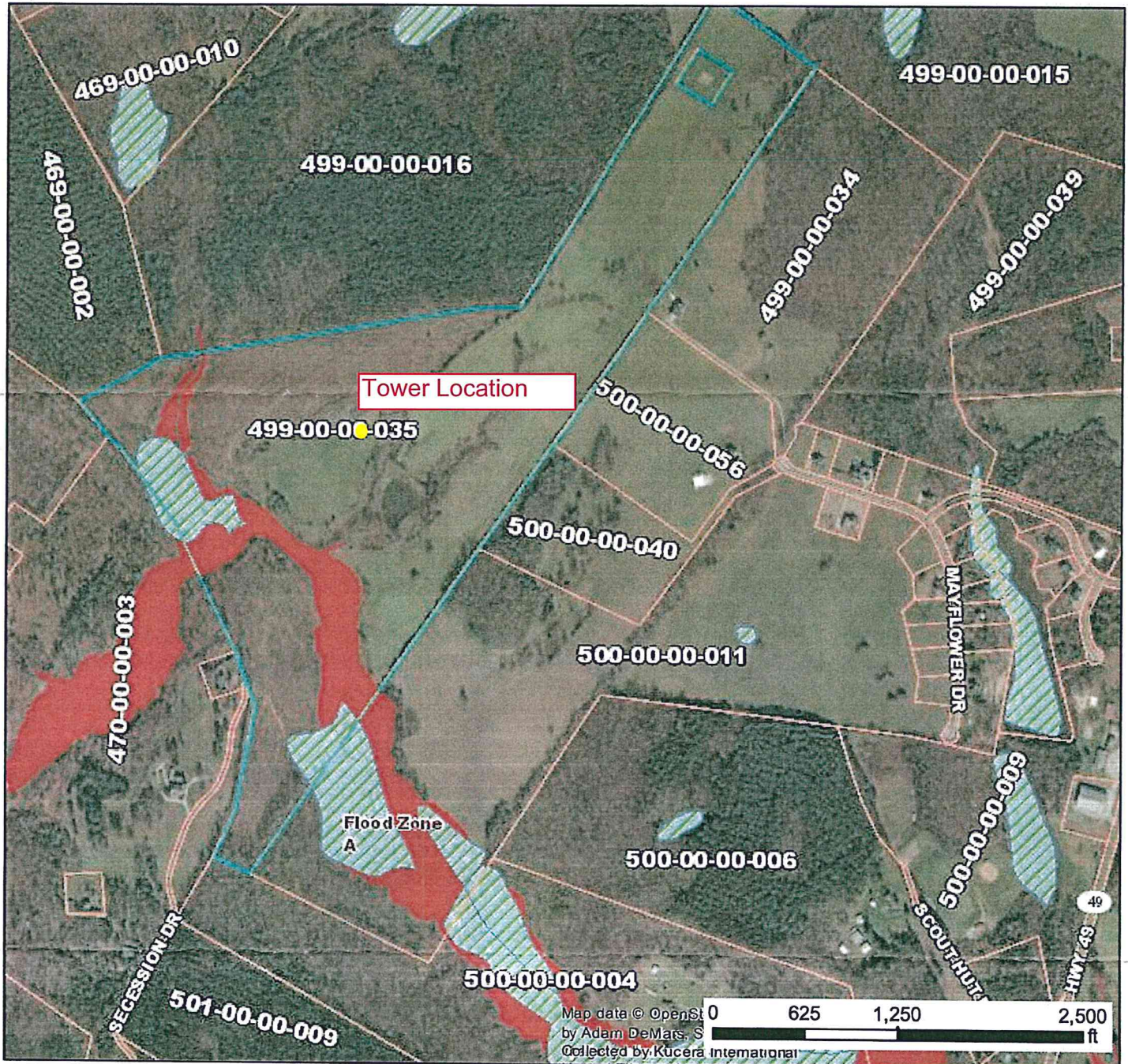
Request to place the Verizon Wireless project for Telecommunications Permit onto the July 21 2022 agenda.

More Detailed Description:

(PLEASE – attach subject matter document pages as necessary)

Laurens County GIS

Parcel Number: 499-00-00-035



OWNER INFORMATION	
Name:	CHILDRESS CURTIS
Mailing Address:	1420 FLEMING MILL ROAD
Mailing City, State, ZIP:	LAURENS S C 29360

LEGAL	
Sale Price:	\$1
Sale Date:	19911025
Deed Book:	258
Deed Page:	200
Plat Book:	A-3
Plat Page:	2

PROPERTY INFORMATION	
Parcel TMS:	499-00-00-035
Property Address:	n/a
Neighborhood:	n/a
School District:	55
Town Code:	n/a
Fire Code:	D201
Acres / Lots:	127.51 / 0

THIS MAP IS PREPARED FOR THE INVENTORY OF REAL PROPERTY FOUND WITHIN THIS JURISDICTION, AND IS COMPILED FROM RECORDED DEEDS, PLATS, AND OTHER PUBLIC RECORDS AND DATA. USERS OF THIS MAP ARE HEREBY NOTIFIED THAT THE AFORMENTIONED PUBLIC PRIMARY INFORMATION SOURCES SHOULD BE CONSULTED FOR VERIFICATION OF THE INFORMATION CONTAINED ON THIS MAP. THE COUNTY AND MAPPING COMPANY ASSUME NO RESPONSIBILITY FOR THE INFORMATION CONTAINED ON THIS MAP.

Printed On: 6/8/2022

* THIS MAP IS NOT TO BE USED AS A PLAT *

ORDINANCE COMPLIANCE STATEMENT AND NARRATIVE

Application: Land Use Review for proposed Verizon Wireless Communication Tower Site

Verizon Site Name: **Duncan Creek SC**

Project Description: Verizon proposes to place a 210' self-support tower with a 9' lightning arrester and associated 12' x 30' equipment pad, with outdoor equipment, within a 75' x 75' fenced compound. The leased area includes a circle, 115' in diameter from the center of the tower, to allow for control of the setback area. (See enclosed drawings for details (Exhibit A). This tower will have provisions on the tower for multiple carriers.

Parcel Address: Highway 308, Laurens SC 29360

Property Owner: Curtis Childress, 1420 Fleming Mill Road, Laurens, SC 29360

Zoning: No Zoning in County

NARRATIVE

Verizon Wireless is continually improving its network to best meet the needs of the community. In the present case, the growth in usage and the exhaustion of capacity at existing locations requires a new location. The purpose of this proposed tower will be to improve coverage to the area of Laurens County that is north of the City of Laurens, and north of interstate 385, the major highway that crosses the county in an east/west direction.

This proposal would place a tall tower there in the rural area that would greatly improve the wireless service for a large area of Interstate 385. The tower will be 210 feet tall and it would be a self-supporting tower, without any guy lines.

One of the factors that Verizon has taken into consideration in designing this proposed site is the potential impact that the tower will have on the aesthetics of the area. The attached aerial photograph (Exhibit B) and the drawings (Exhibit A) show that there is a large wooded area that surrounds the proposed tower. The applicant will control a circle around the tower with a radius of 115 feet. The base of the tower and the equipment, as well as room for three additional co-locating carriers, will be shielded from view by thick forest. The trees that surround the proposed site, will not shield the full 210 feet of the tower, but they will cover the fenced-in compound, equipment shelters, chain link fencing and all other equipment from view. These surrounding trees will also cover the lower part of the tower.

Consideration of this application should not, however, be limited to examining how successfully Verizon Wireless has mitigated any negative impact through design and location. The positive impact of the site should be given full weight as well. We live in a society where the phone has become an essential tool for daily living. Furthermore, the benefits of this site to the community go beyond just convenience for residents and businesses. Quality wireless service is part of the critical infrastructure necessary for public safety in emergency situations such as accidents, crimes, health events and storms. Given the design, location and benefits provided by this proposed site, the lack of significant impacts, and compliance with the requirements of the ordinance as more fully demonstrated below, approval of this application is respectfully requested.

ORDINANCE COMPLIANCE STATEMENT

Verizon Wireless offers this Ordinance Compliance Statement in support of its application for permission pursuant to the Article VIII Telecommunications Towers

Article VIII. – Telecommunications Towers

Sec. 8-745. - General requirements.



- (a) General requirements for all structures are applicable to towers. All applicable health, nuisance, noise, fire, building, and safety code requirements shall apply in addition to the conditions of this article. Regulations covering visibility, fencing, screening, landscaping, parking, access, lot size, exterior illumination, sign, storage, and all other general development standards regulations except those specifically superseded by this section shall apply to the use.
- (b) No antenna or tower shall be erected, constructed, maintained, or operated except in conformance with the regulations set forth in this article.

(Ord. No. 836, § 2, 7-25-2017.)

The notes contained in the plans and specifications ensure that all applicable health, nuisance, fire, building and safety codes requirements are accounted for throughout the life of the project.

Sec. 8-746. - Standards for approval of towers.

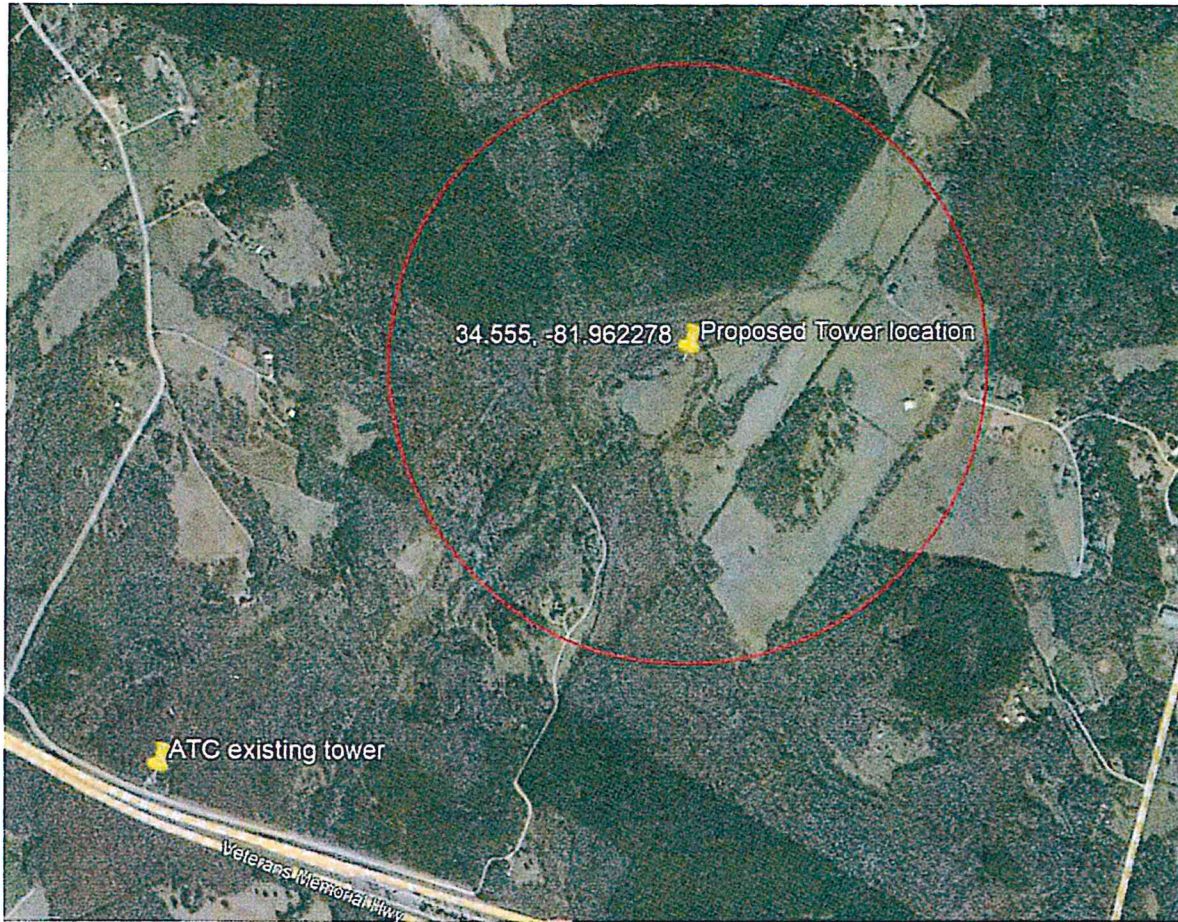


- (a) A tower shall be reviewed by the Laurens County Planning Commission upon determination that all of the applicable conditions in this section are met.
- (b) Structures less than 60 feet in height shall comply with the applicable portions of [section 8-747](#) of this article.
- (c) If the applicant proposes to establish a new tower within 2,500 feet of an existing tower the applicant shall submit a statement and technical data to support that each such tower does not meet applicant's structural specifications or technical design requirements, or that space on such other tower is not available at fair market value.

There are no towers within 2,500 feet of this proposed tower.

The screenshot shows the FCC's Antenna Structure Registration (ASR) search results. The search criteria include a latitude of 34-33-18.0 N, a longitude of -81-57-44.2 W, and a radius of 2 kilometers. The results table shows two towers: one constructed by American Towers LLC in Watsville, SC, and another granted to Celco Partnership in Laurens, SC.

Registration Number	Status	File Number	Owner Name	Latitude/Longitude	Structure City/State	Overall Height Above Ground (AGL)
1162502	Constructed	A1038973	American Towers LLC	34-32-43.9N 081-58-35.8W	WATSVILLE, SC	79.2
1296549	Granted	A1081281	Celco Partnership	34-33-18.0N 081-57-44.2W	Laurens, SC	66.7



The red circle in the above aerial image has a 2,500 foot radius. The closest tower is outside of that ring.

- (d) The location for a new tower to be established at a site on which the communications provider has no existing facilities shall not be placed in a residential area/district until the applicant has demonstrated that higher priority locations, are unsuitable for operation of the facility under FCC regulations or applicant requirements (including timing, leasing or valid technical requirements) or are not available at fair market value.

The proposed site is not in a residential area. This proposed site is in a privately owned site in a non/residential area.

- (e) The applicant shall design any new tower to accommodate its own present and projected future needs as well as a reasonable projection of two other comparable user's needs. Any unused tower space, not reserved for the applicants own use, shall be made available at fair market value. Unused tower space does not have to be offered to other parties whose proposed use is likely to technically or mechanically interfere with the existing users of said tower.

The tower is designed for additional carriers and Verizon Wireless routinely allows third parties to collocate onto its towers. See attached letter for reference.

- (f) Towers shall be a blending color such as light gray, unless required to be painted otherwise by the Federal Aviation Administration. Properly maintained unpainted galvanized steel color shall meet this condition.

The tower is proposed unpainted galvanized steel.

- (g) All newly constructed towers must meet the seismic and wind load standards as prescribed in the latest adopted International Building Code. The designs shall be stamped drawings submitted by a licensed South Carolina design professional in accordance with ANSI/EIA/TIA-222 (latest revision).

An engineering certification letter is included with this package. The letter is signed by an engineer licensed in the State of South Carolina which states that the tower will meet the seismic and wind load standards.

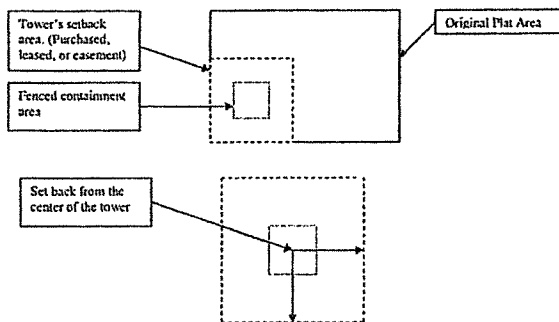
- (h) The proposed installation shall meet all applicable FCC and FAA rules and shall be operated in accordance therewith. No equipment using a tower subject to this article shall interfere with operation of any radio equipment operated at a fixed site by the county or any other entity so long as the county or any such entity is operating within the proper frequency range.

The proposed tower and installation shall meet all applicable FCC rules and will be in full compliance with the provisions of this paragraph.

- (i) The planning commission may consider the visual impact of a tower on those properties which are officially designated as scenic, historic, or architecturally significant in making its decisions.

This is not an area officially designated as scenic, historic or architecturally significant. The visual impact of this tower is minimal to the surrounding areas because of the existing vegetation buffer surrounding the tower on this property.

- (j) Setbacks. In order to provide and maintain all setback requirements, all of the required setback area must be purchased leased or be recorded as an easement by the tower owner. The minimum setback shall be equal to half of the tower's height or the height from the ground to the first-to-yield point of the tower. The longer of the two setbacks must be used.
 - (1) For the purpose of measuring the applicable setback, distance measurements on monopole and guyed towers will be made from the center point of the tower footprint. Distance measurements on lattice towers will be made from the legs of the lattice tower.
 - (2) The height of the tower shall be the distance from the base of the tower to the top of the tower structure.



The setback area for this tower has been leased by Verizon. The setback area is equal to a 115' radius area. This area is noted on Sheet C2 of the plans and specs.

- (k) A single sign, approximately two square feet in size, shall be placed in a visible location on or near the tower identifying the owner, the street address and owners identification code of the tower and an all-hours emergency telephone number. The sign shall also identify other users of the tower.

Sheet C-11 contains the signage details. These are the signs required by the FCC. These signs meet the code standard.

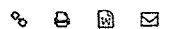
- (l) Towers and associated buildings shall be secured from unauthorized access.

Sheet C-6 illustrates the security functions of the fence and locked gate. This code section is met.

- (m) Screening. The purpose of this subsection is to establish control for the visual quality of towers from the ground level. A tower, as pertains to this subsection, includes the tower and the land and everything within the required security fencing including any other building and equipment.
- (1) The screen shall be a minimum radius of ten feet of land surrounding the tower, which shall support an appropriate plant material screen continuously around the tower except for one service access.
 - (2) An appropriate plant material screen shall be evergreen plants of a quality and planted in accordance with the standards of the planning commission latest approved list from Clemson Extension or South Carolina State Forestry Commission that are indigenous or native to the county area. Such plantings shall be appropriately spaced and of such a size so as to achieve a dense screen with a minimum height of six feet within a three-year period from erection of a tower. These are the minimum standards. Additional screening with deciduous or evergreen trees is desirable and encouraged.
 - (3) Existing trees shall be preserved in the maximum degree possible.
 - (4) If in extreme or unusual situations where it is proven impossible to properly construct the plant material screen, the county building official may grant permission to construct the security fence as a solid masonry wall, either brick or stucco-type finish with a minimum height of six feet above ground level and constructed in accordance with applicable construction codes.

Most of the base of the tower is shielded from view by at least the 115 feet of woods that will be controlled by the applicant. The lowest depth of wooded buffer is approximately 45 feet of dense woods, where the tower site is adjacent to a pasture area. Due to this natural buffer, and due to the provisions of the ordinance above that demands that "...Existing trees shall be preserved in the maximum degree possible..." The applicant will retain the wooded area within the leased circle (115' in diameter) as screening for this proposed tower. Additional screening is not necessary nor would it be effective.

Sec. 8-747. - Application required.



Any person desiring to obtain a permit for construction of a tower shall file an application and fee with the county building codes office. Said application shall include the following information and/or documents:

- (1) A copy of FCC form 854, Application for Antenna Structure Registration, or the same information in a similar format if the tower is not subject to FCC registration. Any information on said form may be referenced on other documents.

The ASR has already been completed. This tower is already registered and the data is below.

ASR Registration Search
Registration 1296549
[Map Registration](#)

Registration Detail			
Reg Number	1296549	Status	Granted
File Number	A1081281	Constructed	
ENI	No	Dismantled	
NEPA			
Antenna Structure			
Structure Type	TOWER - Lattice Tower		
Location (in NAD83 Coordinates)			
Lat/Long	34-33-18.0 N 081-57-44.2 W	Address	Highway 108
City, State	Laurens, SC	County	LAURENS
Zip	29360	Position of Tower in Array	
Center of AM Array			
Heights (meters)			
Elevation of Site Above Mean Sea Level		Overall Height Above Ground (AGL)	
192.0		66.7	
Overall Height Above Mean Sea Level		Overall Height Above Ground w/o Appurtenances	
258.7		64.0	
Painting and Lighting Specifications			
FAA Chapters 4, R, 12 Paint and Light in Accordance with FAA Circular Number 70/7460-1K			
FAA Notification			
FAA Study	2015-ASO-8607-0E	FAA Issue Date	07/07/2015
Owner & Contact Information			
FRN	0003290673	Owner Entity Type	General Partnership
Owner		P: (770)797-1070	
Celco Partnership		F:	
Attention To: Network Regulatory		E: Network.Regulatory@venzonwireless.com	
5055 North Point Pkwy			
NP2NE Network Engineering			
Alpharetta, GA 30022			
Contact			
Manager, Regulatory		P: (770)797-1070	
Attention To: Network Regulatory		F:	
5055 North Point Pkwy		E: Network.Regulatory@venzonwireless.com	
NP2NE Network Engineering			
Alpharetta, GA 30022			
Last Action Status			
Status	Granted	Received	06/14/2017
Purpose	Admin Update	Entered	06/14/2017
Mode	Interactive		
Related Applications			
06/14/2017	A1081281 - Admin Update (AU)		
01/04/2016	A0987139 - Admin Update (AU)		
07/30/2015	A0972651 - Amendment (AM)		
Comments			
Comments			
None			
History			
Date	Event		
06/19/2018	Construction Reminder Letter Sent		
06/15/2017	Registration Printed		
06/14/2017	Administrative Update Received		
All History (6)			
Pleadings			
Pleading Type	File Name	Description	Date Entered
None			
Automated Letters			
06/19/2018	Construction Reminder, Reference 993722		
01/10/2017	Construction Reminder, Reference 937627		

- (2) The application fees for construction of a tower or adding an antenna to an existing tower, not including building and other permit fees, shall be set and adjusted from time to time by county council.
- (3) Complete plans and specifications for the proposed tower including foundation, wind and ice loading, antennae and appurtenances and any accessory buildings as required by the building code. The designs shall be stamped drawings submitted by a licensed South Carolina design professional in accordance with ANSI/EIA/TIA-222 (latest revision).
- (4) A site plan showing property boundaries, required setbacks, existing structures, latitude and longitude, and adjacent property. The site plan shall also indicate the proposed tower location, site elevation, tower height, guy anchors, driveway and parking, fencing and landscaping.

The appropriate fees are included as are the site plans, construction drawings and surveys.

- (5) A list of other users of the proposed tower.
- (6) Written, notarized authorization or contract from the owner of the site, if the applicant is not the property owner.
- (7) A copy of the FCC license or other evidence of FCC approval of the proposed installation. If applicant has not applied for FCC license(s), applicant shall indicate what service(s) are to be provided by reference to FCC designations. If no FCC license is required, applicant shall indicate the purpose of the tower.
- (8) Prior to county site inspection, the site location of the tower must be clearly identified at the road entrance. The tower construction site shall be marked for setback verification. Proper access to the site shall be provided.
- (9) A checklist covering applicable conditions in section 8-746 above, including documentation.

1. No. 836, § 4, 7-25-2017)

Currently, Verizon Wireless is the only proposed user of the tower. Should additional users come forward, Verizon Wireless will work with the County to ensure that they obtain proper building permits and be identified prior to their collocation.

The remainder of the materials are included with this package.

Verizon Wireless, through their agent, Faulk & Foster submits the information and exhibits attached hereto as an application for permission to construct and operate a cellular transmission tower at the site set forth in the documents.

Dated: May 27, 2022

Benjamin S. Herrick

Benjamin S. Herrick, Zoning Specialist, Faulk & Foster



9221 Lyndon B. Johnson Freeway, #204, Dallas, TX 75243 * PHONE 972-231-8893 * FAX 1-866-364-8375
www.allprocgi.com * e-mail: info@allprocgi.com

June 07, 2017

Laurens County Building Codes and Inspections Department
100 Hillcrest Square – Suite C
Laurens, South Carolina 29360

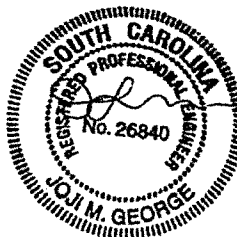
Ref: *Site Name –Duncan Creek– 210' Monopole Tower*
ACGI# 17-2470
Jurisdiction: Laurens County, SC
Site Address: Highway 308, Laurens, SC 29360
Scope of Work: Engineering Specification Letter
Applicable Code:
IBC 2015 & ASCE 7-10, ANSI/TIA-222-G, Risk Category II
Wind Speed: IBC2015(115 mph ultimate wind speed), ANSI/TIA-222-G (Equivalent 89 mph
nominal wind speed), Exposure "C"

This letter is provided in reference to the above mentioned site for the following specifications:

1. The purpose of this tower is to support telecommunication antenna equipment for cellular coverage of the affected area.
2. Above reference tower to be designed to meet or exceed industry standards defined by ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas" (ANSI/TIA-222-G Standard).
3. The total height of tower is 210' with highest appurtenance to 219'. All site location data to be re-verified by survey.
4. Above reference tower shall be constructed and contain only equipment meeting standards of the Federal Communication Commission (FCC) regulations; and comply with all other applicable federal, state, and local regulations.
5. The tower must be designed and certified by an Engineer to be structurally sound and as a minimum in conformance with the adopted Building code. This tower to be designed using the following minimum wind speed criteria as defined by ANSI/TIA-222-G for Laurens County, SC:
 - i) 115 mph ultimate wind speed equivalent to 89 mph 3-second-gust nominal wind speed with no ice.
 - ii) 30 mph 3-second-gust wind speed with 0.75" ice.The "3-second-gust wind speed refers to a wind measured at 33 ft. above the ground. Equations in ANSI/TIA-222-G Standard take into account that the wind speed escalates with the increasing height of the tower.
6. The tower to be designed using the following seismic design criteria as defined by 2015 International Building Code (IBC 2015) and ANSI/TIA-222-G for Laurens County, SC:
 - i) $S_s=0.296 g$
 - ii) $S_1=0.111 g$

If you have any other questions or concerns regarding our recommendations, please contact us.

Sincerely,
Nasib Pandey, EIT
06/07/2017



Approved by:
Joji M. George, P.E.
SC PE # 26840

Network Operations



Verizon Wireless
8921 Research Drive
Charlotte, North Carolina 28262

Phone 704 510-8500

Laurens County
Chuck Bobo, Codes Officer
100 Hillcrest Square – Suite C
P.O. Box 815
Laurens, SC 29360

Re: Proposed Verizon Wireless Telecommunications Tower
Highway 308, Laurens County SC
Tax/Pin # 499-00-00-035
Verizon Site Name: **Duncan Creek**

To whom it may concern:

I am providing this Letter to comply with Laurens County Zoning Code Article VIII, Section 8-746 (4).

Verizon Wireless agrees to allow future collocations (including combined antennas) at the above referenced facilities, where reasonable and structurally feasible. However, Verizon will only accept collocations if they are at reasonable charges for shared use, which shall be defined as the market lease rates.

Very truly yours,

A handwritten signature in black ink that reads "Michael Haven".

Michael Haven
Verizon Wireless Manager
RE/ Regulatory

SITE NAME: Duncan Creek
SITE NUMBER: 301034

LAND LEASE AGREEMENT

This Land Lease Agreement (the "Agreement"), made this day of _____, 20__, is between Curtis Childress ("LESSOR"), with a mailing address of 1420 Fleming Mill Road, Laurens, South Carolina 29360, and Cellco Partnership d/b/a Verizon Wireless ("LESSEE"), with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404). LESSOR and LESSEE are at times collectively referred to in this Agreement as the "Parties" or individually as the "Party."

In consideration of the mutual covenants in this Agreement and intending to be legally bound by this Agreement, the Parties agree as follows:

1. GRANT. As documented by the Parties' execution and delivery of this Agreement, LESSOR grants to LESSEE the right to install, maintain, and operate communications equipment ("Use") upon the Premises (as defined in this Agreement), which Premises are a part of the real property owned, leased, or controlled by LESSOR on Hwy 308, Laurens, Laurens County, South Carolina 29360 (the "Property"). The Property is legally described on Exhibit A to this Agreement. The Premises are a portion of the Property and are approximately 45,404 sq. ft., as shown in detail on Exhibit B to this Agreement. LESSEE may survey the Premises at any time. Upon completion of a survey prepared after the Effective Date (as defined in this Agreement), the Parties shall amend this Agreement to replace Exhibit B in its entirety with the new survey.

2. INITIAL TERM. This Agreement shall be effective as of the date of execution by both Parties ("Effective Date"). The initial term of the Agreement shall be for 5 years, commencing on the first day of the month after LESSEE begins installation of LESSEE's communications equipment (the "Commencement Date").

3. EXTENSIONS. This Agreement shall automatically be extended for 4 additional 5 year terms, unless Lessee terminates this Agreement at the end of the then-current term by giving LESSOR written notice of the intent to terminate at least 3 months prior to the end of the then-current term. The initial term and all extension terms are collectively referred to in this Agreement as the "Term".

4. RENTAL.

(a) Rental payments shall begin on the Commencement Date and be due at a total annual rental of [REDACTED], to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR at 1420 Fleming Mill Road, Laurens, South Carolina 29360, or to such other person, firm, or place as LESSOR may, from time to time, designate in writing at least 30 days in advance of any rental payment date, by notice given in accordance with this Agreement. The initial rental payment may not be delivered by LESSEE until 90 days after the Commencement Date. Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer, and in that event, LESSOR shall provide to LESSEE bank routing information for that purpose upon request of LESSEE.

(b) For any party to whom rental payments are to be made, LESSOR, or

SITE NAME: Duncan Creek
SITE NUMBER: 301034

any successor-in-interest of LESSOR, shall provide to LESSEE: (i) a completed, current version of Internal Revenue Service Form W-9, or equivalent; (ii) completed and fully-executed state and local withholding forms, if required; and (iii) any other documentation required to verify LESSOR's, or any other Party's, right to receive rental, as is reasonably requested by LESSEE. Rental shall accrue in accordance with this Agreement, but LESSEE shall have no obligation to deliver rental payments until the requested documentation has been received by LESSEE. Upon receipt of the requested documentation, LESSEE shall deliver the accrued rental payments, as directed by LESSOR.

(c) As additional consideration for this Agreement, LESSEE shall pay LESSOR a onetime, non-refundable, lump-sum signing bonus of [REDACTED], which shall be considered additional rent for the Premises for the period from the Effective Date until the Commencement Date. The signing bonus shall be paid by LESSEE to LESSOR within 90 days of the Effective Date. LESSOR agrees the payment to be made by LESSEE under this Paragraph 4(c) is fair and adequate payment in exchange for LESSEE intentionally delaying installation of LESSEE's communications equipment, and LESSOR recognizes that Paragraph 2 of this Agreement governs the Commencement Date. This Paragraph 4(c) does not impact whether or not LESSEE chooses to install LESSEE's communications equipment and commence the Term.

(d) The annual rental for each five (5) year extension term shall be increased by [REDACTED] of the annual rental paid for the immediately preceding five (5) year term.

5. ACCESS. LESSEE shall have the non-exclusive right of ingress and egress from a public right-of-way, 7 days a week, 24 hours a day, over the Property to and from the Premises for the purpose of installation, operation, and maintenance of LESSEE's communications equipment over or along a 30 ft. wide right-of-way ("Easement"). The Easement is depicted on Exhibit B to this Agreement. LESSEE may use the Easement for the installation, operation and maintenance of wires, cables, conduits, and pipes for all necessary electrical, telephone, fiber, and other similar support services. If necessary, LESSOR shall grant LESSEE, or the provider, the right to install the services on, through, over, and under the Property, provided the location of the services shall be as reasonably approved by LESSOR. Notwithstanding anything to the contrary, the Premises shall include such additional space as is sufficient for LESSEE's radio frequency signage, and barricades, as are necessary to ensure LESSEE's compliance with Laws (as defined in Paragraph 27).

6. CONDITION OF PROPERTY. LESSOR shall deliver the Premises to LESSEE in a condition ready for LESSEE's Use, and clean and free of debris. LESSOR represents and warrants to LESSEE that as of the Effective Date, the Premises are in compliance with all Laws and EH&S Laws (as defined in this Agreement).

7. IMPROVEMENTS. The communications equipment, including, without limitation, the tower structure, antennas, conduits, fiber, fencing, screening, and other improvements shall be at LESSEE's expense, and installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add, or otherwise modify its communications equipment, tower structure, antennas, conduits, fiber, fencing, and other screening, or other improvements, or any portion thereof, and the frequencies over which the communications equipment operates, whether or not any of the communications equipment,

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antennas, conduits, or other improvements are listed on any exhibit to this Agreement.

8. GOVERNMENT APPROVALS. LESSEE's Use is contingent upon LESSEE obtaining all of the certificates, permits, and other approvals (collectively, the "**Government Approvals**"), that may be required by any federal, state, or local authorities (collectively, "**Government Entities**"), and a satisfactory soil boring test, environmental studies, or any other due diligence LESSEE chooses that will permit LESSEE's Use. LESSOR shall cooperate with LESSEE in its effort to obtain the Government Approvals, and LESSOR shall take no action that would adversely affect the status of the Property with respect to LESSEE's Use.

9. TERMINATION. LESSEE may immediately terminate this Agreement upon written notice to LESSOR if: (i) any applications for the Government Approvals are finally rejected; (ii) any Government Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by any Government Entity; (iii) LESSEE determines that the Government Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any structural analysis is unsatisfactory; or (v) LESSEE, in its sole discretion, determines the Use of the Premises is obsolete or unnecessary. In addition, LESSEE may terminate this Agreement for any reason or no reason in LESSEE's sole discretion with 3 months prior notice to LESSOR upon the annual anniversary of the Commencement Date, or at any time before the Commencement Date.

10. INDEMNIFICATION. Subject to Paragraph 11 of this Agreement, each Party shall indemnify, and hold harmless the other Party against any claim of liability or loss from personal injury or property damage resulting from, or arising out of, the negligence or willful misconduct of the indemnifying Party, its employees, contractors, or agents, except to the extent such claims or damages may be due to, or caused by, the negligence or willful misconduct of the other Party, or its employees, contractors, or agents. The indemnified Party will provide the indemnifying Party with prompt, written notice of any claim covered by this indemnification; provided that any failure of the indemnified Party to provide any such notice, or to provide it promptly, shall not relieve the indemnifying Party from its indemnification obligation in respect of such claim, except to the extent the indemnifying Party can establish actual prejudice and direct damages as a result of that failure. The indemnified Party will cooperate appropriately with the indemnifying Party in connection with the indemnifying Party's defense of such claim. At the indemnified Party's request, the indemnifying Party shall defend any indemnified Party against any claim, with counsel reasonably satisfactory to the indemnified Party. The indemnifying Party shall not settle or compromise any such claim, or consent to the entry of any judgment, without the prior written consent of each indemnified Party, and without an unconditional release of all claims by each claimant or plaintiff in favor of each indemnified Party.

11. INSURANCE. LESSEE will maintain commercial general liability insurance, with limits of \$4,000,000 per occurrence for bodily injury (including death) and for damage or destruction to property.

LESSOR hereby acknowledges that all portions of the Property within three hundred feet (300') of the Premises (hereinafter referred to as the "Insurance Buffer") are currently being used solely for agricultural, forestry or non-commercial purposes. In the event that the current use of the Insurance Buffer changes during the Term, LESSOR agrees that at such time and in the future, and at its own cost and expense, LESSOR will maintain

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commercial general liability insurance with limits not less than \$2,000,000 for injury to, or death of, one or more persons in any one occurrence, and \$2,000,000 for damage or destruction in any one occurrence. LESSOR will include LESSEE as an additional insured as their interest may appear under this Agreement on the commercial general liability policy

Each Party shall include the other Party as an additional insured as an additional insured as their interest may appear under this Agreement .

Each Party hereby waives and releases all rights of action for negligence against the other Party that may hereafter arise on account of damage to the Premises or the Property, resulting from any fire or other casualty that is insurable under "Causes of Loss - Special Form" property damage insurance, or for the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, that insurance is now or hereafter carried by the Parties, even if the fire or other casualty was caused by the fault or negligence of the other Party. These waivers and releases shall apply between the Parties, and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

12. LIMITATION OF LIABILITY. Except for indemnification pursuant to Paragraphs 10 and 24 of this Agreement, a violation of Paragraph 29 of this Agreement, or a violation of law, neither Party shall be liable to the other, or any of their respective agents, representatives, or employees, for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability, or otherwise.

13. INTERFERENCE.

(a) LESSEE will not cause interference to LESSOR's equipment that is measurable in accordance with industry standards. LESSOR and other occupants of the Property will not cause interference to the then existing equipment of LESSEE that is measurable in accordance with then-existing industry standards.

(b) Without limiting any other rights or remedies, if interference occurs and continues for a period in excess of 48 hours following notice to the interfering party via telephone to LESSEE's Network Operations Center [REDACTED] or to LESSOR [REDACTED] the interfering party shall, or shall require any other user to, reduce power or cease operations of the interfering equipment until the interference is cured.

(c) The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph, and therefore, the Parties shall have the right to equitable remedies including, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. Upon expiration of the Term or within 90 days of earlier termination of this Agreement, LESSEE shall remove LESSEE's communications equipment (except footings) and restore the Premises to its original

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condition, reasonable wear and tear and casualty damage excepted. The communications equipment shall remain the personal property of LESSEE, and LESSEE shall have the right to remove all or any portion of its communications equipment at any time during the Term, whether or not any items of communications equipment are considered fixtures or attachments to real property under applicable laws. If the time required for removal causes LESSEE to remain on the Premises after termination of the Agreement, LESSEE shall pay rent at the then-existing monthly rate, or on the existing monthly pro-rata basis if based upon a longer payment term, until the removal of the communications equipment is completed.

15. HOLDOVER. Upon expiration of the Term, if the Parties are negotiating a new lease or a lease extension, then this Agreement shall continue during such negotiations on a month-to-month basis at the rental in effect upon expiration of the Term. If the Parties are not in the process of negotiating a new lease or lease extension, and LESSEE holds over after the expiration or earlier termination of the Term, then Lessee shall pay rent at the then-existing monthly rate, or on the existing monthly pro-rata basis if based upon a longer payment term, until the removal of the communications equipment is completed.

16. RIGHT OF FIRST REFUSAL. At any time after the Effective Date, if LESSOR receives an offer or letter of intent, for the acquisition of fee title, an easement, a lease, a license, or any other interest in the Premises or any portion of the Premises, or for the acquisition of any interest in this Agreement, or an option for any of the foregoing, from any person or entity that is in the business of owning, managing, or operating communications facilities, or that is in the business of acquiring landlord interests in agreements relating to communications facilities, then LESSOR shall provide written notice to LESSEE of the offer ("**LESSOR's Notice**"). LESSOR's Notice shall include the prospective buyer's name, the purchase price being offered, any other consideration being offered, the other terms and conditions of the offer, a description of the portion of, and interest in, the Premises and/or this Agreement that will be conveyed in the proposed transaction, and a copy of any letters of intent or form agreements presented to LESSOR by the third-party offeror. LESSEE shall have a right of first refusal to meet any third-party offer of sale or transfer on the terms and conditions of the offer, or by effectuating a transaction with substantially-equivalent financial terms. If LESSEE fails to provide written notice to LESSOR that LESSEE intends to meet the third-party offer within thirty (30) days after receipt of LESSOR's Notice, then LESSOR may proceed with the proposed transaction in accordance with the terms and conditions of the third-party offer, in which event this Agreement shall continue in full force and effect, and the right of first refusal described in this Paragraph shall survive the conveyance to the third party. If LESSEE provides LESSOR with notice of LESSEE's intention to meet the third-party offer within thirty (30) days after receipt of LESSOR's Notice, then if LESSOR's Notice describes a transaction involving greater space than the Premises, LESSEE may elect to proceed with a transaction covering only the Premises, and the purchase price shall be pro-rated on a square-footage basis. Further, if LESSEE exercises this right of first refusal, LESSEE may require a reasonable period of time to conduct due diligence and effectuate the closing of a transaction on substantially-equivalent financial terms of the third-party offer. LESSEE may elect to amend this Agreement to effectuate the proposed financial terms of the third-party offer rather than acquiring fee simple title, or an easement interest, in the Premises. For purposes of this Paragraph, any transfer, bequest, or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance, or by conveyance to a trust for the benefit of family members, shall not be considered a sale for

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which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. At any time during the Term, if LESSOR decides to sell or otherwise transfer all or any part of the Property, or to grant to a third party by easement or other legal instrument an interest in any portion of the Premises, such sale, transfer, or grant of an easement or interest therein shall be under and subject to this Agreement, and any such purchaser or transferee shall recognize LESSEE's rights under this Agreement. If LESSOR completes any sale, transfer, or grant described in this Paragraph, without executing an assignment of the Agreement, whereby the third party agrees in writing to assume all obligations of LESSOR under this Agreement, then LESSOR shall not be released from its obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of the Agreement.

18. LESSOR's TITLE. Upon paying the rent and performing the covenants in this Agreement, LESSEE shall peaceably and quietly have, hold, and enjoy the Premises. LESSOR represents and warrants to LESSEE as of the Effective Date and during the Term, that LESSOR has full authority to enter into and execute this Agreement, and that there are no liens, judgments, covenants, easements, restrictions, or other impediments of title that will adversely affect LESSEE's Use.

19. ASSIGNMENT. Without any approval or consent of the other Party, this Agreement may be sold, assigned, or transferred by either Party to: (i) any entity in which the Party directly or indirectly holds an equity or similar interest; (ii) any entity that directly or indirectly holds an equity or similar interest in the Party; or (iii) any entity directly or indirectly under common control with the Party. LESSEE may assign this Agreement to any entity that acquires all or substantially all of LESSEE's assets in the market defined by the FCC in which the Property is located by reason of a merger, acquisition, or other business reorganization, without approval or consent of LESSOR. As to other parties, this Agreement may not be sold, assigned, or transferred, without the written consent of the other Party, which consent may not be unreasonably denied, delayed, or conditioned. No change of stock ownership, partnership interest, or control of LESSEE or transfer upon partnership or corporate dissolution of either Party shall constitute an assignment under this Agreement. LESSEE may sublet the Premises in LESSEE's sole discretion.

20. NOTICES. Except for notices permitted via telephone in accordance with Paragraph 13 of this Agreement, all notices under this Agreement must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested, or by commercial courier, provided the courier's regular business is delivery service, and provided further that the courier guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or to any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Curtis Childress
1420 Fleming Mill Road
Laurens, South Carolina 29360

LESSEE: Cellco Partnership
d/b/a Verizon Wireless
Attention: Network Real Estate
180 Washington Valley Road

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Bedminster, New Jersey 07921

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

21. SUBORDINATION AND NON-DISTURBANCE. Within 15 days after the Effective Date, LESSOR shall obtain a Non-Disturbance Agreement, as defined in this Agreement, from its existing mortgagee(s), ground lessors, and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust, or other security interest (a "Mortgage") by LESSOR, which from time to time may encumber all or part of the Property. However, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement, in a form reasonably satisfactory to LESSEE, and containing the terms described in this paragraph (the "Non-Disturbance Agreement"), and shall recognize LESSEE's rights under this Agreement. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest, or any purchaser of Lender's or its successor's interest (a "Purchaser"), acquires an ownership interest in the Property, then Lender or such successor-in-interest or Purchaser will honor all of the terms of the Agreement. The Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any), and on all successors and assigns of Lender and/or its participants, and on all Purchasers. In return for the Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit, in which LESSEE: (i) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender; (ii) agrees to attorn to Lender if Lender becomes the owner of the Property; and (iii) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. If LESSOR defaults in the payment or other performance of any mortgage or other real property interest encumbering the Property, LESSEE may, at its sole option and without obligation, cure or correct LESSOR's default, and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens, and equities of the holders of the mortgage or other real property interest, and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct those defaults.

22. DEFAULT. It is a "Default" if: (i) either Party fails to comply with this Agreement and does not remedy the failure within 30 days after written notice by the other Party, or if the failure cannot reasonably be remedied in such time, if the failing Party does not commence a remedy within the allotted 30 days and diligently pursue the cure to completion within 90 days after the initial written notice; or (ii) LESSOR fails to comply with this Agreement, the failure interferes with LESSEE's Use, and LESSOR does not remedy the failure within 5 days after written notice from LESSEE, or if the failure cannot reasonably be remedied in such time, if LESSOR does not commence a remedy within the allotted 5 days and diligently pursue the cure to completion within 15 days after the initial written notice. The cure periods set forth in this Paragraph 22 do not extend the period of time within which either Party has to cure interference pursuant to Paragraph 13 of this Agreement.

23. REMEDIES. In the event of a Default, without limiting the non-defaulting

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Party in the exercise of any right or remedy that the non-defaulting Party may have by reason of the default, the non-defaulting Party may terminate this Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Property is located. Further, upon a Default, the non-defaulting Party may, at its option (but without obligation to do so), perform the defaulting Party's duty or obligation. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. If LESSEE undertakes any such performance on LESSOR's behalf, and LESSOR does not pay LESSEE the full undisputed amount within 30 days of its receipt of an invoice setting forth the amount due, then LESSEE may offset the full undisputed amount due against all fees due and owing to LESSOR under this Agreement until the full undisputed amount is fully reimbursed to LESSEE.

24. ENVIRONMENTAL. LESSEE shall conduct its business in compliance with all applicable laws governing the protection of the environment or employee health and safety (collectively, "EH&S Laws"). LESSEE shall indemnify and hold harmless LESSOR from claims to the extent resulting from LESSEE's violation of any applicable EH&S Laws, or to the extent that LESSEE causes a release of any regulated substance to the environment. LESSOR shall indemnify and hold harmless LESSEE from all claims resulting from the violation of any applicable EH&S Laws, or a release of any regulated substance to the environment, except to the extent resulting from the activities of LESSEE. The Parties recognize that LESSEE is only leasing a small portion of LESSOR's property, and that LESSEE shall not be responsible for any environmental condition or issue, except to the extent resulting from LESSEE's specific activities and responsibilities. If LESSEE encounters any hazardous substances that do not result from its activities, LESSEE may relocate its facilities to avoid such hazardous substances to a mutually agreeable location, or if LESSEE desires to remove at its own cost all or some the hazardous substances or materials (such as soil) containing those hazardous substances, LESSOR shall sign any necessary waste manifest associated with the removal, transportation, and/or disposal of those substances.

25. CASUALTY. If a fire or other casualty damages the Property or the Premises and impairs LESSEE's Use, rent shall abate until LESSEE's Use is restored. If LESSEE's Use is not restored within 45 days, LESSEE may terminate this Agreement.

26. CONDEMNATION. If a condemnation of any portion of the Property or Premises impairs LESSEE's Use, Lessee may terminate this Agreement. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to LESSEE's communications equipment, relocation costs, and any other damages LESSEE may incur as a result of any such condemnation, but specifically excluding loss of LESSEE's leasehold interest.

27. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, EH&S Laws, rules, regulations, ordinances, directives, covenants, easements, consent decrees, zoning and land use regulations and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act *and* laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with: all Laws relating solely to

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LESSEE's specific and unique nature of use of the Premises; and all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises. LESSOR shall comply with all Laws relating to the Property, without regard to specific use (including, without limitation, modifications required to enable LESSEE to obtain all necessary building permits).

28. TAXES.

(a) LESSOR shall invoice, and LESSEE shall pay, any applicable transaction tax (including sales, use, gross receipts, or excise tax) imposed on LESSEE and required to be collected by LESSOR, based on any service, rental space, or equipment provided by LESSOR to LESSEE. LESSEE shall pay all personal property taxes, fees, assessments, or other taxes and charges imposed by any Government Entity that are imposed on LESSEE and required to be paid by LESSEE that are directly attributable to LESSEE's equipment or LESSEE's use and occupancy of the Premises. Payment shall be made by LESSEE within 60 days after presentation of a receipted bill or assessment notice that is the basis for the taxes or charges. LESSOR shall pay all ad valorem, personal property, real estate, sales and use taxes, fees, assessments or other taxes or charges that are attributable to LESSOR's Property or any portion thereof imposed by any Government Entity.

(b) LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge, or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting, and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including, but not limited to, executing any consent, appeal, or other similar document. If as a result of any appeal or challenge by LESSEE, there is a reduction, credit, or repayment received by LESSOR for any taxes previously paid by LESSEE, LESSOR shall promptly reimburse to LESSEE the amount of the reduction, credit, or repayment. If LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

29. NON-DISCLOSURE. This Agreement and any information exchanged between the Parties regarding the Agreement are confidential. Neither Party shall provide copies of this Agreement or any other confidential information to any third party, without the prior written consent of the other Party, or as required by law. If a disclosure is required by law, prior to disclosure, the Party shall notify the other Party and cooperate to take lawful steps to resist, narrow, or eliminate the need for that disclosure.

30. MOST FAVORED LESSEE. LESSOR represents and warrants that the rent, benefits, terms, and conditions granted to LESSEE by LESSOR under this Agreement are now, and shall be during the Term, no less favorable than the rent, benefits, terms, and conditions for substantially the same or similar tenancies or licenses granted by LESSOR to other parties. If at any time during the Term, LESSOR shall offer more favorable rent, benefits, terms, or conditions for substantially the same or similar tenancies or licenses as those granted under this Agreement, then LESSOR shall, within 30 days after the effective date of such offering, notify LESSEE of such fact and offer LESSEE the more favorable offering. If LESSEE chooses, the Parties shall then enter into an amendment that shall be

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effective retroactively to the effective date of the more favorable offering, and shall provide the same rent, benefits, terms, and conditions to LESSEE. LESSEE shall have the right to decline to accept the offering. LESSOR's compliance with this requirement shall be subject, at LESSEE's option, to independent verification.

31. MISCELLANEOUS.

(a) This Agreement contains all agreements, promises, and understandings between LESSOR and LESSEE regarding this transaction, and no oral agreement, promises, or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy, or proceeding.

(b) This Agreement may not be amended or varied, except in a writing signed by all Parties. This Agreement shall extend to, and bind the heirs, personal representatives, successors, and assigns of, the Parties.

(c) The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement, or to exercise any of its rights under this Agreement, shall not waive those rights, and that Party shall have the right to enforce those rights at any time.

(d) The performance of this Agreement shall be governed, interpreted, construed, and regulated by the laws of the state in which the Premises is located, without reference to its choice of law rules.

(e) Except as expressly set forth in this Agreement, nothing in this Agreement shall grant, suggest, or imply any authority for one Party to use the name, trademarks, service marks, or trade names of the other Party for any purpose whatsoever.

(f) LESSOR shall execute a Memorandum of this Agreement, in a form reasonably acceptable to LESSEE, which LESSEE may record with the appropriate recording office or officer.

(g) All exhibits referenced in, and attached to, this Agreement are incorporated by this reference in the Agreement.

(h) LESSOR and LESSEE each warrant to the other that the person executing this Agreement on behalf of the warranting Party has the full right, power and authority to enter into, and execute, this Agreement on that Party's behalf, and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

(i) The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement.

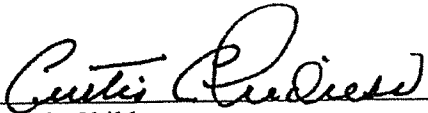
[Signature page follows. The remainder of this page is blank intentionally.]

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IN WITNESS OF THIS AGREEMENT, the Parties have executed this Agreement effective as of the Effective Date.

LESSOR:


Curtis Childress

Date: 4/27/17

LESSEE:

Cellco Partnership
d/b/a Verizon Wireless

By: _____
David M. Greene
Director - Network Field Engineering

Date: _____

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EXHIBIT A

DESCRIPTION OF PROPERTY

Property located in Laurens, SC

All that piece, parcel or tract of land lying, being and situate in the County of Laurens, State of South Carolina, being shown and designated as Tract 3, containing 128.67 acres, more or less, as shown on plat of survey prepared by Teague Engineering Company, dated July 30, 1991 and revised August 29, 1991, recorded in Plat Book A-3 at Page 2 in the Office of the Clerk of Court for Laurens County. For a more complete description as to metes, bounds, courses and distances reference is made to the aforementioned plat.

AND BEING the same property conveyed to Curtis Childress from Joseph David Childress, Jr., Wilton Childress, & Kenneth Childress by Title to Real Estate of record in Deed Book 258, Page 200.

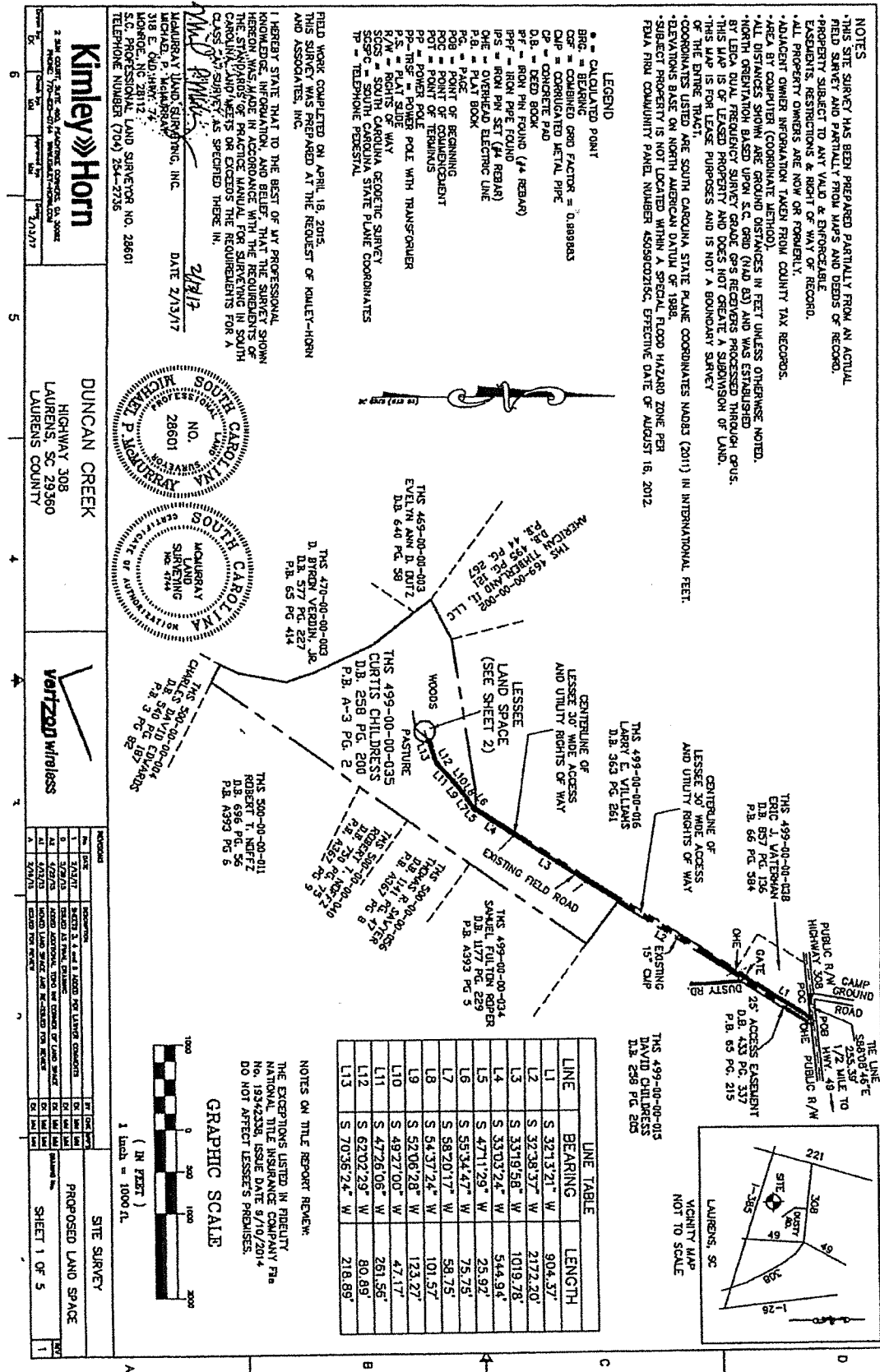
For Information Only: Tax Parcel No. 499-00-00-035

SITE NAME: Duncan Creek
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EXHIBIT B
SURVEY OF THE PREMISES

See attached 5-page survey with legal descriptions

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NOTES
 THIS SITE SURVEY HAS BEEN PREPARED PARTIALLY FROM AN ACTUAL FIELD SURVEY AND PARTIALLY FROM MAPS AND DEEDS OF RECORD. EASEMENTS, RESTRICTIONS & RIGHT OF WAY OF RECORD.
 ALL PROPERTY OWNERS ARE NOW OR FORMERLY.
 ADJACENT OWNER INFORMATION TAKEN FROM COUNTY TAX RECORDS.
 AREA BY COMPUTER (COORDINATE METHOD).
 ALL DISTANCES SHOWN ARE GROUND DISTANCES IN FEET UNLESS OTHERWISE NOTED.
 NORTH ORIENTATION BASED UPON S.C. GRID (1104 83) AND WAS ESTABLISHED BY MEANS OF A TRIPLET LEVEL FROM A BENCH MARK (1104 83) WHICH WAS USED TO LOCATE PROPERTY AND DEEDS AND CREATE SUBDIVISION OF LAND.
 THIS MAP IS FOR LEASE PURPOSES AND IS NOT A BOUNDARY SURVEY OF THE ENTIRE TRACT.
 COORDINATES LISTED ARE SOUTH CAROLINA STATE PLANE COORDINATES NAD83 (2011) IN INTERNATIONAL FEET.
 ELEVATIONS BASE ON NORTH AMERICAN DATUM OF 1988.
 SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FIRM COMMUNITY PANEL NUMBER 45089C0215C, EFFECTIVE DATE OF AUGUST 18, 2012.

LEGEND

- CALCULATED POINT
- BRG. = BEARING
- CBF = COMBINED GRID FACTOR = 0.889883
- CP = CORRUGATED METAL PIPE
- CP = CONCRETE PAD
- DB = DEED BOOK
- DB = DEED PAGE
- DB = DEED PAGE (4+ REBAR)
- DP = DEED PAGE (1+ REBAR)
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FIELD WORK COMPLETED ON APRIL 18, 2015.
 THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN AND ASSOCIATES, INC.
 I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF THAT THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS 'A' SURVEY AS SPECIFIED THERE IN.
 MURRAY LAND SURVEYING, INC.
 MICHAEL P. MURRAY
 318 E. 4th Street, 7th
 Columbia, SC 29201
 TELEPHONE NUMBER (704) 254-2735
 DATE 2/13/17
 2/13/17

Kimley-Horn
 216 COURT, STATE ST., FAYETTEVILLE, SC 29505
 PHONE: (803) 785-1100
 FAX: (803) 785-1101
 WWW.KIMLEY-HORN.COM

DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29350
 LAURENS COUNTY

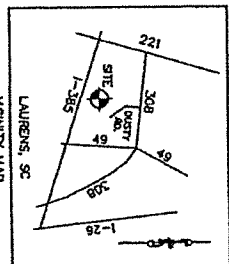
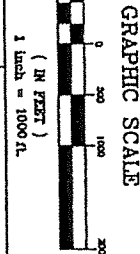
Verizon Wireless

NO.	REVISION	DATE
1	ISSUE	2/13/17
2	REVISION	2/13/17
3	REVISION	2/13/17
4	REVISION	2/13/17
5	REVISION	2/13/17

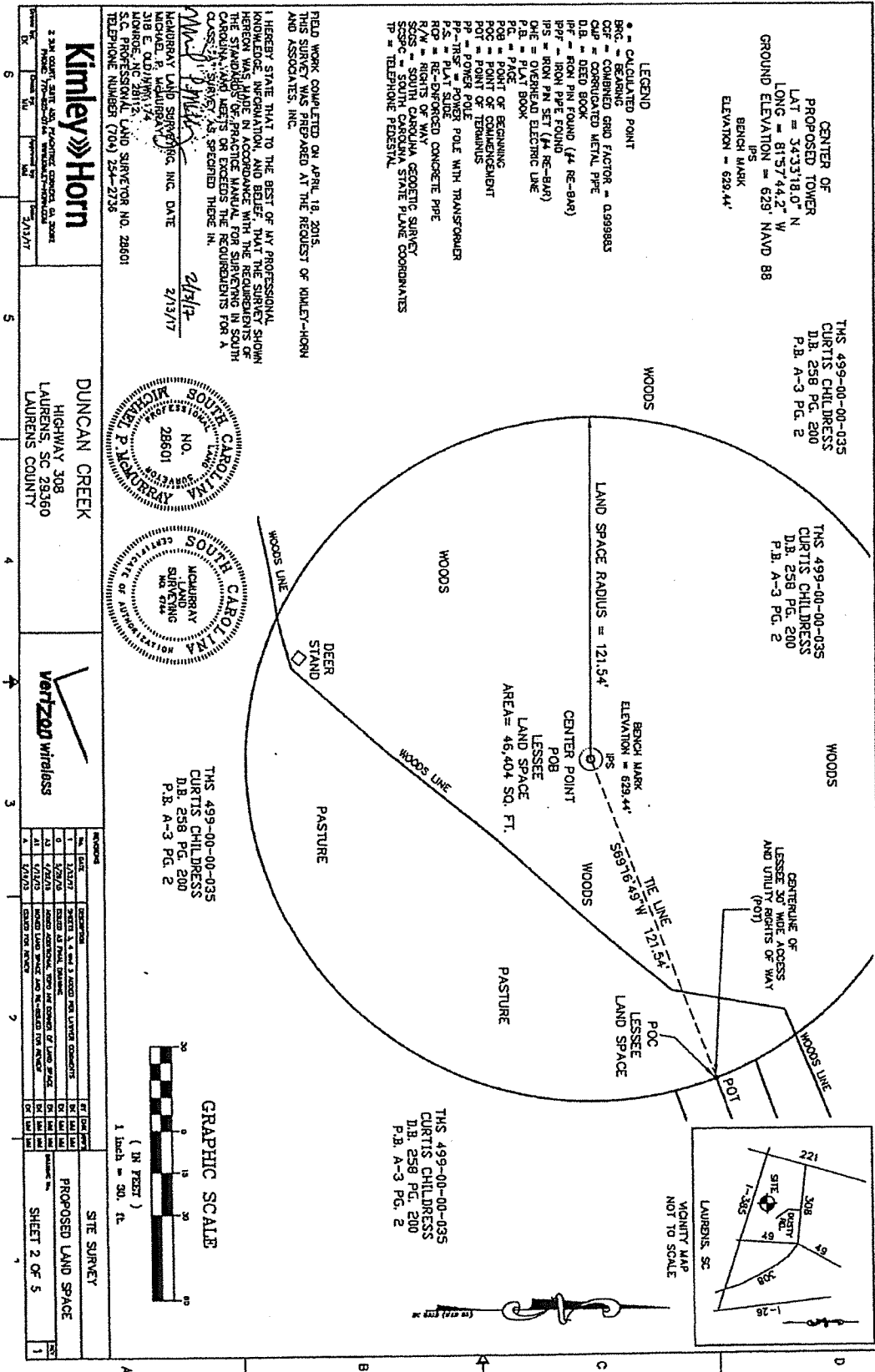
NO.	REVISION	DATE
1	ISSUE	2/13/17
2	REVISION	2/13/17
3	REVISION	2/13/17
4	REVISION	2/13/17
5	REVISION	2/13/17

LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
L2	S 32°38'37" W	2172.20'
L3	S 33°18'58" W	1019.78'
L4	S 33°03'24" W	544.94'
L5	S 47°11'29" W	25.92'
L6	S 55°34'47" W	75.75'
L7	S 58°20'17" W	58.75'
L8	S 54°37'24" W	101.57'
L9	S 52°06'28" W	123.27'
L10	S 49°27'00" W	47.17'
L11	S 47°26'06" W	261.56'
L12	S 62°02'29" W	80.89'
L13	S 70°35'24" W	218.89'

NOTES ON TITLE REPORT REVIEW:
 THE EXCEPTIONS LISTED IN PRELIMINARY NATIONAL TITLE INSURANCE COMPANY FILE NO. 15944338, ISSUE DATE 8/10/2014 DO NOT AFFECT LESSEE'S PREMISES.



SITE NAME: Duncan Creek
 SITE NUMBER: 301034



Kimley-Horn
 2340 QUARTER, SUITE 200, FLORENCE, SOUTH CAROLINA 29502
 PHONE: 770-520-2010 FAX: 770-520-2011
 WWW.KIMLEY-HORN.COM

DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29360
 LAURENS COUNTY

Vertzoo wireless

FIELD WORK COMPLETED ON APRIL 18, 2015.
 THIS SURVEY WAS PERFORMED AT THE REQUEST OF KIMLEY-HORN AND ASSOCIATES, INC.

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THAT THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYORS IN SOUTH CAROLINA. ANY SURVEY AS SPECIFIED THEREIN.

2/13/17
 2/13/17

HEADQUARTERS LAND SURVEYING, INC. DATE DATE
 MICHAEL P. McQUARRY
 MICHAEL P. McQUARRY
 318 E. QUINN ST., SUITE 104
 MONROE, NC 28112
 S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
 TELEPHONE NUMBER (704) 224-2735

SOUTH CAROLINA
 MICHAEL P. McQUARRY
 NO. 28601
 REGISTERED LAND SURVEYOR

SOUTH CAROLINA
 MICHAEL P. McQUARRY
 NO. 28601
 REGISTERED LAND SURVEYOR

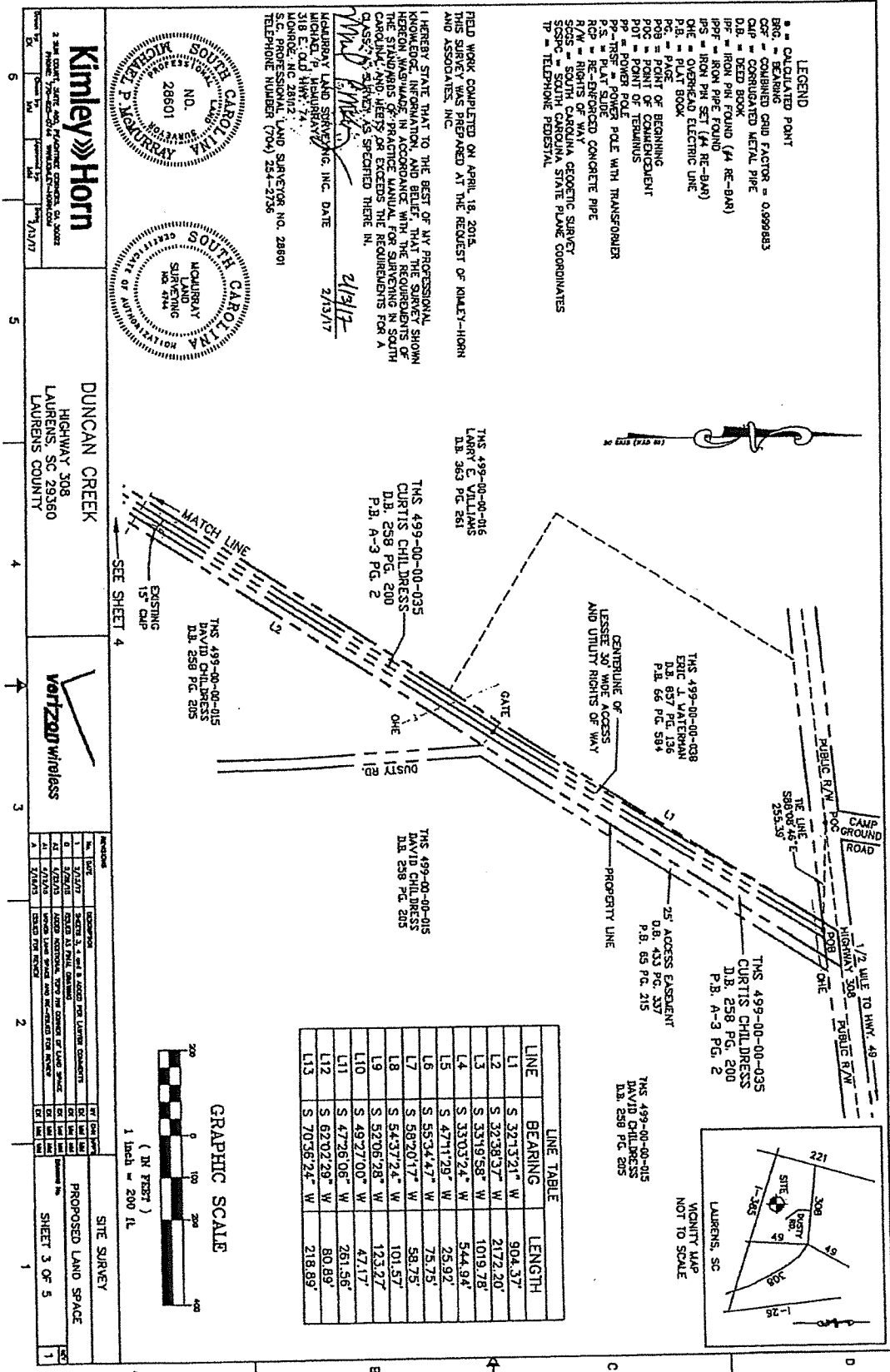
THIS 499-00-00-035
CURTIS CHILDRESS
 D.B. 258 PG. 200
 P.B. A-3 PG. 2

NO.	DATE	DESCRIPTION	BY	CHKD
1	1/13/17	FIELD SURVEY	MM	MM
2	1/23/17	FIELD SURVEY	MM	MM
3	1/23/17	FIELD SURVEY	MM	MM
4	1/23/17	FIELD SURVEY	MM	MM

PROPOSED LAND SPACE
 SHEET 2 OF 5

NO.	DATE	DESCRIPTION	BY	CHKD
1	1/13/17	FIELD SURVEY	MM	MM

SITE NAME: Duncan Creek
 SITE NUMBER: 301034



- LEGEND**
- CALCULATED POINT
 - BEARING
 - COMBINED GRID FACTOR = 0.9999833
 - CORRUGATED METAL PIPE
 - DEED BOOK
 - IRON PIPE FOUND (4" RE-BAR)
 - IRON PIPE FOUND (4" RE-BAR)
 - OVERHEAD ELECTRIC LINE
 - PLAT BOOK
 - PAGE
 - POINT OF BEGINNING
 - POINT OF COMMENCEMENT
 - POWER POLE
 - POWER POLE WITH TRANSFORMER
 - PLAT SLIDE
 - RE-ENFORCED CONCRETE PIPE
 - RIGHTS OF WAY
 - SOUTH CAROLINA STATE PLANE COORDINATES
 - TELEPHONE PEDESTAL

FIELD WORK COMPLETED ON APRIL 18, 2014.
 THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN AND ASSOCIATES, INC.

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF THAT THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND METS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THERE IN.

ACQUISITION AND SURVEYING, INC. DATE 2/19/17
 MICHAEL P. KOURRAY
 S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
 MOBILE, NC 28022
 TELEPHONE NUMBER (704) 254-2736

LINE TABLE

LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
L2	S 32°38'37" W	2172.20'
L3	S 33°19'58" W	1019.78'
L4	S 33°03'24" W	544.94'
L5	S 47°11'29" W	28.92'
L6	S 55°34'47" W	75.75'
L7	S 58°20'17" W	58.75'
L8	S 54°37'24" W	101.57'
L9	S 52°06'28" W	123.27'
L10	S 49°27'00" W	47.17'
L11	S 47°26'06" W	261.56'
L12	S 67°02'29" W	80.89'
L13	S 70°35'24" W	218.89'



Kimley-Horn
 2100 EAST 7TH STREET, SUITE 200, FAYETTEVILLE, GEORGIA 30206
 PHONE: (770) 420-1000 FAX: (770) 420-1001 WWW.KIMLEY-HORN.COM

DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29350
 LAURENS COUNTY

Vertzoo Wireless

PROPOSED LAND SPACE SHEET 3 OF 5

NO.	DATE	DESCRIPTION	BY	CHK	APP
1	2/19/17	SURVEY	DK	MC	
2	2/22/17	SCALE AT FINAL DRAWING	DK	MC	
3	2/22/17	SCALE APPROVAL, VERIFY THE CORRECT OF LAND SPACE	DK	MC	
4	2/22/17	VERIFY LINE WIDTH AND RE-CHECKED THE NUMBER	DK	MC	
5	2/22/17	ISSUED FOR REVIEW	DK	MC	

SITE NAME: Duncan Creek
 SITE NUMBER: 301034

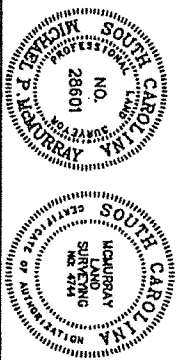
- LEGEND**
- = CALCULATED POINT
 - BRG. = BEARING
 - CP = CONCRETE PILE
 - DB = DEED BOOK
 - IR = IRON PIN FOUND (44 RE-BAR)
 - IPS = IRON PIN SET (44 RE-BAR)
 - OE = OVERHEAD ELECTRIC LINE
 - P.B. = PLAT BOOK
 - PG. = PAGE
 - POB = POINT OF BEGINNING
 - POC = POINT OF COMMENCEMENT
 - PP = POINT OF PERMANENCE
 - PP = POWER POLE
 - PP-TSF = POWER POLE WITH TRANSFORMER
 - P.S. = PLAT SLIDE
 - RF = REINFORCED CONCRETE PIPE
 - R/W = RIGHTS OF WAY
 - SC9C = SOUTH CAROLINA STATE PLANE COORDINATES
 - TP = TELEPHONE PESTIVAL

LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
L2	S 32°38'37" W	2172.20'
L3	S 33°19'58" W	1019.78'
L4	S 33°03'24" W	544.94'
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L10	S 49°27'00" W	47.17'
L11	S 47°26'06" W	261.56'
L12	S 62°02'29" W	80.89'
L13	S 70°36'24" W	218.89'

FIELD WORK COMPLETED ON APRIL 18, 2015.
 THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN
 AND ASSOCIATES, INC.

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL
 KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED
 HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF
 THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH
 CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A
 CLASS "A" SURVEY AS SPECIFIED THERE IN.

MICHAEL R. HARRIS, INC. DATE 2/11/17
 MICHAEL R. HARRIS, INC. DATE 2/13/17
 LAND SURVEYOR NO. 28601
 TELEPHONE NUMBER (704) 251-2726



Kimley-Horn

2340 GARDNER DRIVE, SUITE 200, FORT WORTH, TEXAS 76102
 (817) 335-1100
 WWW.KIMLEY-HORN.COM

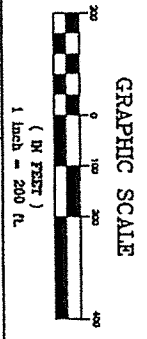
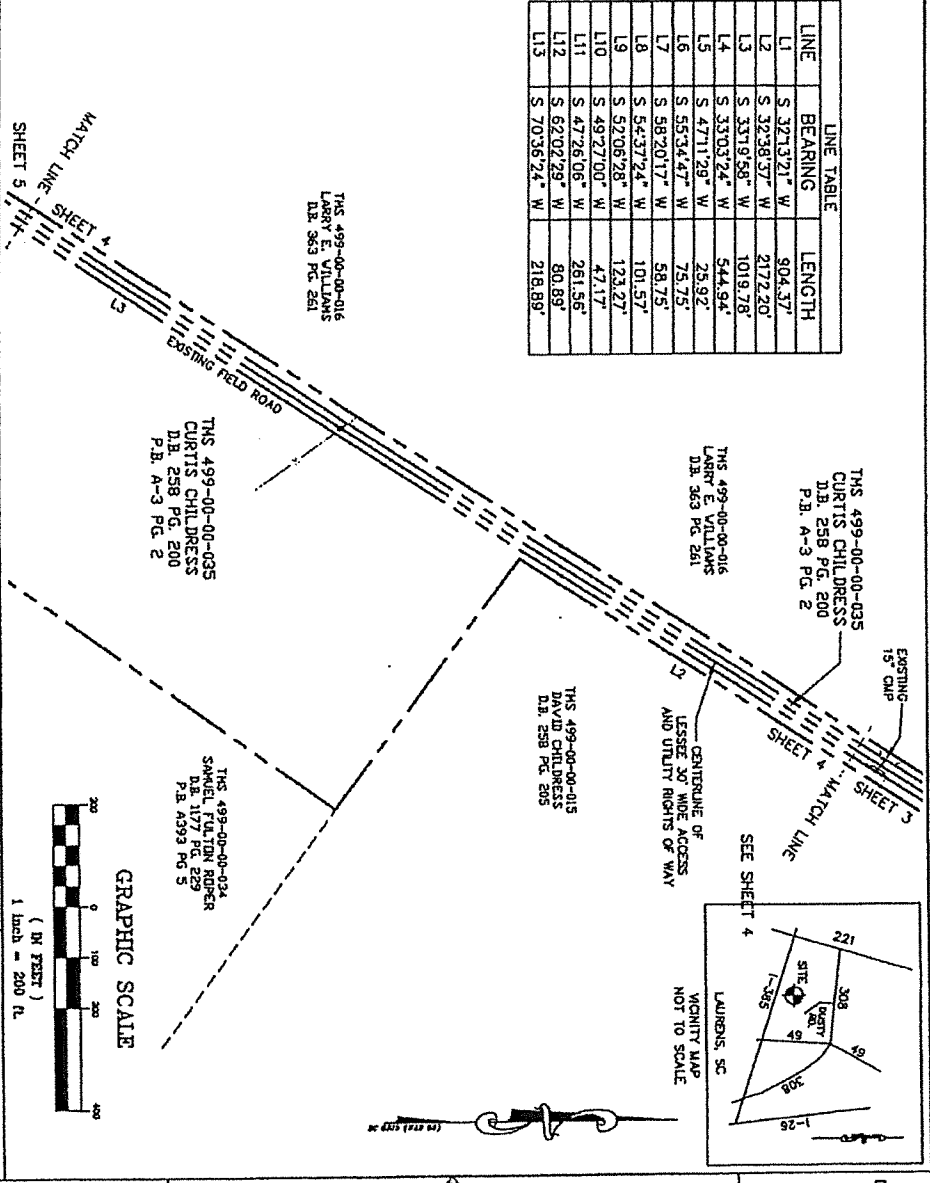
DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29360
 LAURENS COUNTY

Verizon Wireless

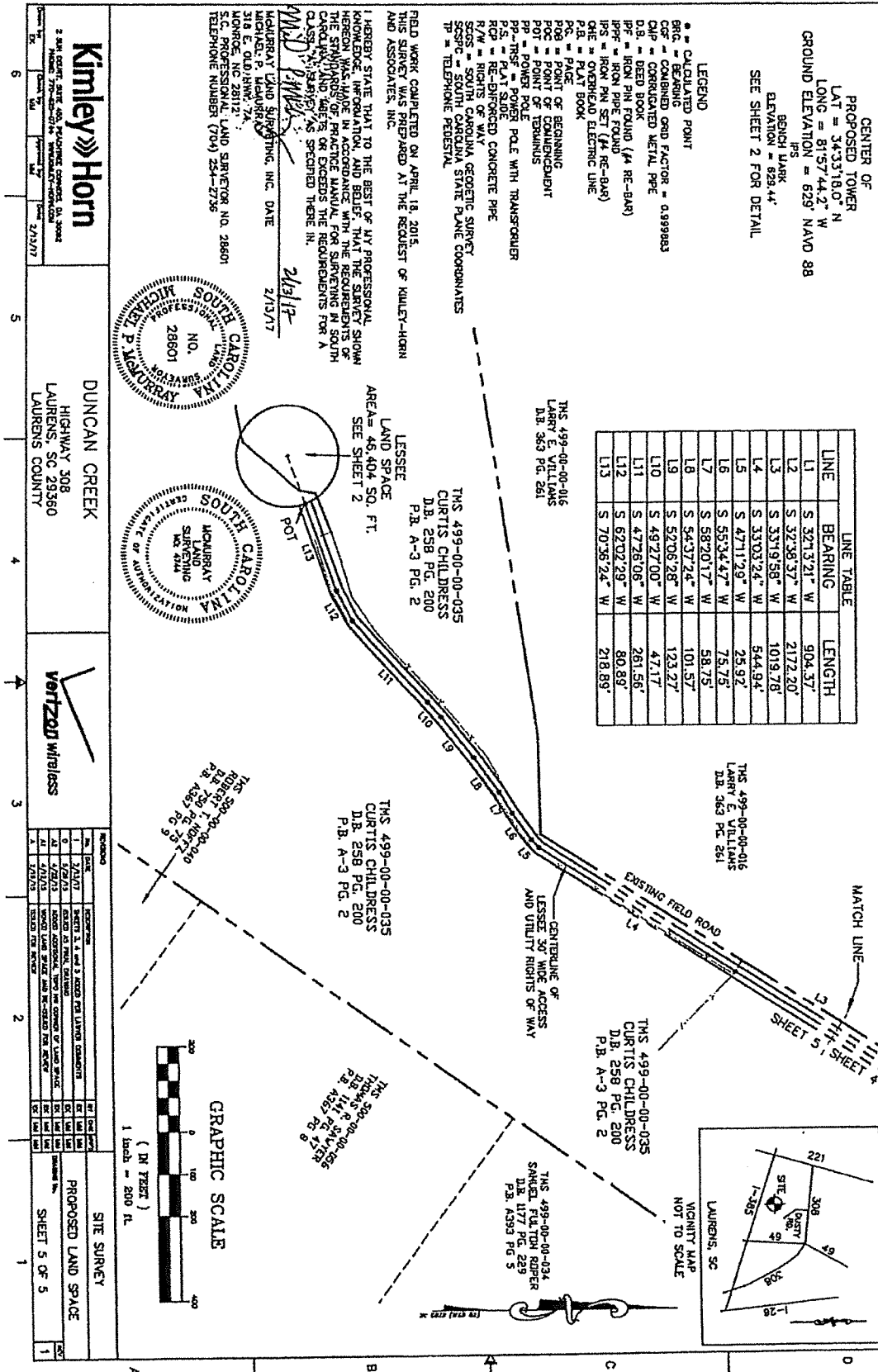
PROPOSED LAND SPACE

SHEET 4 OF 5

NO.	DATE	DESCRIPTION	BY	CHKD.
1	02/11/17	PREPARED AT THE REQUEST OF THE CLIENT	MHR	MHR
2	02/13/17	ADDED ADDITIONAL DATA FOR CLARITY OF LAND SPACE	MHR	MHR
3	02/13/17	ADDED ADDITIONAL DATA FOR CLARITY OF LAND SPACE	MHR	MHR
4	02/13/17	ADDED ADDITIONAL DATA FOR CLARITY OF LAND SPACE	MHR	MHR
5	02/13/17	ADDED ADDITIONAL DATA FOR CLARITY OF LAND SPACE	MHR	MHR



SITE NAME: Duncan Creek
 SITE NUMBER: 301034



SITE NAME: Duncan Creek
SITE NUMBER: 301034

Lessee 30 foot wide Access and Utility Rights of Way

COMMENCE at the center of the intersection of Camp Ground Road and Highway 308, said intersection being approximately ¼ mile West of the intersection of Highway 308 and Highway 49; thence S88°08'46"E 255.39 feet to a point in the southerly margin of Highway 308 right of way, the **POINT OF BEGINNING**; thence with the centerline of the **Lessee 30 foot wide Access and Utility Rights of Way** the following thirteen (13) calls: (1) S32°13'21"W 904.37 feet; (2) S32°38'37"W 2,172.20 feet; (3) S33°19'58"W 1,019.78 feet; (4) S33°03'24"W 544.94 feet; (5) S47°11'29"W 25.92; (6) S55°34'47"W 75.75 feet; (7) S58°20'17"W 58.75 feet; (8) S54°37'24"W 101.57 feet; (9) S52°06'28"W 123.27 feet; (10) S49°27'00"W 47.17; (11) S47°26'06"W 261.56 feet; (12) S62°02'29"W 80.89 feet; (13) S70°36'24"W 218.89 feet to a point in the easterly margin of the **Lessee Land Space**, the **POINT OF TERMINUS**, said point being located N69°16'49"E 121.54 feet from an iron pin set (#4 rebar) marking the center of the Lessee Land Space, said iron pin set also being located at Latitude 34°33'18.0" N and Longitude 81°57'44.2" W as shown on a survey prepared by McMurray Land Surveying, Inc. (COA # 4744) and signed by Michael P. McMurray, SCPLS No. 28601 dated May 27, 2015, last revised February 13, 2017.

Lessee Land Space

COMMENCE at the center of the intersection of Camp Ground Road and Highway 308, said intersection being approximately ¼ mile West of the intersection of Highway 308 and Highway 49; thence S88°08'46"E 255.39 feet to a point in the southerly margin of Highway 308 right of way, the **POINT OF BEGINNING**; thence with the centerline of the **Lessee 30 foot wide Access and Utility Rights of Way** the following thirteen (13) calls: (1) S32°13'21"W 904.37 feet; (2) S32°38'37"W 2,172.20 feet; (3) S33°19'58"W 1,019.78 feet; (4) S33°03'24"W 544.94 feet; (5) S47°11'29"W 25.92; (6) S55°34'47"W 75.75 feet; (7) S58°20'17"W 58.75 feet; (8) S54°37'24"W 101.57 feet; (9) S52°06'28"W 123.27 feet; (10) S49°27'00"W 47.17; (11) S47°26'06"W 261.56 feet; (12) S62°02'29"W 80.89 feet; (13) S70°36'24"W 218.89 feet to a point in the easterly margin of the **Lessee Land Space**, the **POINT OF TERMINUS** of the **Lessee 30 foot wide Access and Utility Rights of Way**; thence S69°16'49"W 121.54 feet to an iron pin set (#4 rebar), said iron pin set also being located at Latitude 34°33'18.0" N and Longitude 81°57'44.2" W, marking the center of the **Lessee Land Space**, the **POINT OF BEGINNING**, said **Lessee Land Space** being a circular area having a radius of 121.54 feet and containing 46,404 square feet as shown on a survey prepared by McMurray Land Surveying, Inc. (COA # 4744) and signed by Michael P. McMurray, SCPLS No. 28601 dated May 27, 2015, last revised February 13, 2017.

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
 CELLCO PARTNERSHIP
 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
 ALPHARETTA, GA 30022

Call Sign WQVN945	File Number
Radio Service AT - AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date 04-08-2015	Effective Date 11-01-2016	Expiration Date 04-08-2027	Print Date
Market Number BEA041	Channel Block H	Sub-Market Designator 0	
Market Name Greenville-Spartanburg-Anderso			
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

REFERENCE COPY

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**Federal Communications Commission
Wireless Telecommunications Bureau
RADIO STATION AUTHORIZATION**

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign WQVN946	File Number
Radio Service AT - AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date 04-08-2015	Effective Date 11-01-2016	Expiration Date 04-08-2027	Print Date
Market Number BEA041	Channel Block 1	Sub-Market Designator 0	
Market Name Greenville-Spartanburg-Anderso			
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:
NONE

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign KNKN778	File Number
Radio Service CL - Cellular	
Market Numer CMA626	Channel Block A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003290673

Market Name South Carolina 2 - Laurens

Grant Date 08-31-2010	Effective Date 11-01-2016	Expiration Date 10-01-2020	Five Yr Build-Out Date	Print Date
--------------------------	------------------------------	-------------------------------	------------------------	------------

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	34-16-57.4 N	082-22-10.4 W	210.0	150.8	1047271

Address: 3180 Highway 20

City: Abbeville County: GREENVILLE State: SC Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	143.900	170.900	167.800	194.600	184.900	186.600	174.000	166.100
Transmitting ERP (watts)	65.640	65.640	65.640	65.640	65.640	65.640	65.640	65.640

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	33-55-05.5 N	082-19-04.9 W	167.0	124.6	1062729

Address: 33-62 Hwy 62

City: MCCORMICK County: MCCORMICK State: SC Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	139.800	142.800	153.800	159.700	171.900	172.200	165.500	153.100
Transmitting ERP (watts)	65.330	65.330	65.330	65.330	65.330	65.330	65.330	65.330

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	33-50-44.2 N	081-46-19.3 W	199.6	150.9	1062748

Address: HIGHWAY 23 & LONE CONE ROAD

City: JOHNSTON County: SALUDA State: SC Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	187.200	166.500	145.000	178.000	166.100	147.600	177.600	178.800
Transmitting ERP (watts)	285.620	199.890	50.210	41.760	53.800	199.890	285.620	288.920

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	33-43-30.0 N	082-12-18.0 W	113.3	131.0	1047350

Address: 11688 SC Highway 28 South

City: Modoc County: MCCORMICK State: SC Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.100	136.500	119.400	164.300	152.100	131.200	129.000	134.700
Transmitting ERP (watts)	96.450	96.450	96.450	96.450	96.450	96.450	96.450	96.450

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	34-14-52.3 N	081-26-14.4 W	139.3	106.6	1059386

Address: (Pomaria) 618 BERLY ROAD

City: POMARIA County: NEWBERRY State: SC Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	124.500	128.300	142.400	98.200	97.500	81.300	93.900	98.300
Transmitting ERP (watts)	178.180	253.710	38.840	1.100	0.820	0.820	0.820	13.400
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	124.500	128.300	142.400	98.200	97.500	81.300	93.900	98.300
Transmitting ERP (watts)	0.820	13.260	142.520	191.750	36.610	1.080	0.820	0.820

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	34-14-52.3 N	081-26-14.4 W	139.3	106.6	1059386

Address: (Pomaria) 618 BERLY ROAD

City: POMARIA County: NEWBERRY State: SC Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	124.500	128.300	142.400	98.200	97.500	81.300	93.900	98.300
Transmitting ERP (watts)	0.730	0.730	0.730	0.730	34.620	226.120	148.200	12.790

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	34-26-40.8 N	081-46-44.2 W	178.3	115.8	1055908

Address: 3213 Shady Grove Church Road

City: JOANNA County: LAURENS State: SC Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	123.200	138.900	130.300	133.300	112.200	104.400	91.900	109.600
Transmitting ERP (watts)	94.020	32.600	3.340	0.380	0.200	1.460	10.550	63.560
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	123.200	138.900	130.300	133.300	112.200	104.400	91.900	109.600
Transmitting ERP (watts)	2.200	22.040	85.740	74.680	16.720	1.600	0.200	0.350
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	123.200	138.900	130.300	133.300	112.200	104.400	91.900	109.600
Transmitting ERP (watts)	0.800	0.200	0.960	4.600	41.040	98.450	52.870	8.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	34-34-57.0 N	082-06-27.0 W	243.5	112.8	1220649

Address: 204 Sawmill Road

City: Gray Court County: LAURENS State: SC Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	137.000	151.300	144.300	148.800	158.600	148.200	132.400	112.100
Transmitting ERP (watts)	49.050	60.340	18.220	1.780	0.200	0.140	1.120	9.350
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	137.000	151.300	144.300	148.800	158.600	148.200	132.400	112.100
Transmitting ERP (watts)	0.360	1.910	19.080	63.190	46.840	9.130	0.870	0.140

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location Latitude Longitude Ground Elevation Structure Hgt to Tip Antenna Structure
9 34-34-57.0 N 082-06-27.0 W 243.5 112.8 1220649
Address: 204 Sawmill Road
City: Gray Court County: LAURENS State: SC Construction Deadline:

Antenna: 6 Azimuth (from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 137.000 151.300 144.300 148.800 158.600 148.200 132.400 112.100
Transmitting ERP (watts) 4.080 0.430 0.140 0.780 4.170 33.160 67.710 31.670

Location Latitude Longitude Ground Elevation Structure Hgt to Tip Antenna Structure
10 34-12-18.4 N 082-39-34.5 W 178.0 60.0
Address: Rt. 3, Box 429
City: Iva County: ABBEVILLE State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 36.300 53.300 71.000 85.900 89.300 76.200 77.400 67.900
Transmitting ERP (watts) 99.620 99.620 99.620 99.620 99.620 99.620 99.620 99.620

Location Latitude Longitude Ground Elevation Structure Hgt to Tip Antenna Structure
11 34-11-51.1 N 081-49-27.9 W 148.4 105.1 1047412
Address: 30146 HWY 34
City: SILVERSTREET County: LAURENS State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 106.800 98.800 108.000 108.700 99.200 106.000 98.600 89.600
Transmitting ERP (watts) 189.550 189.550 189.550 189.550 189.550 189.550 189.550 189.550

Location Latitude Longitude Ground Elevation Structure Hgt to Tip Antenna Structure
12 34-06-06.0 N 082-35-06.0 W 176.1 42.3 1047413
Address: (Calhoun Falls) 666 EAST PEACH ORCHARD RD
City: CALHOUN FALLS County: ABBEVILLE State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 42.200 63.700 65.000 71.500 81.100 75.200 66.800 51.500
Transmitting ERP (watts) 110.480 117.930 20.240 0.580 0.310 0.310 0.550 12.780
Antenna: 2 Azimuth (from true north) 0 45 90 135 180 225 270 315
Antenna Height AAT (meters) 42.200 63.700 65.000 71.500 81.100 75.200 66.800 51.500
Transmitting ERP (watts) 0.490 2.670 55.330 207.830 134.700 7.990 1.270 0.490

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	34-06-06.0 N	082-35-06.0 W	176.1	42.3	1047413

Address: (Calhoun Falls) 666 EAST PEACH ORCHARD RD

City: CALHOUN FALLS County: ABBEVILLE State: SC Construction Deadline:

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	42.200	63.700	65.000	71.500	81.100	75.200	66.800	51.500
Transmitting ERP (watts)	1.070	0.310	0.310	0.460	2.680	74.460	134.130	50.340

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
13	34-02-43.0 N	081-32-41.0 W	147.5	109.7	1063477

Address: (Clouds) 116 Cheyenne Drive

City: LEESVILLE County: SALUDA State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	118.400	136.900	135.600	110.800	105.600	107.500	132.700	128.700
Transmitting ERP (watts)	86.550	29.990	1.570	0.500	0.170	0.240	1.650	27.350
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	118.400	136.900	135.600	110.800	105.600	107.500	132.700	128.700
Transmitting ERP (watts)	0.260	4.240	49.770	77.090	13.710	0.810	0.170	0.170
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	118.400	136.900	135.600	110.800	105.600	107.500	132.700	128.700
Transmitting ERP (watts)	0.590	0.170	0.170	0.950	9.390	36.670	31.570	5.280

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	34-22-32.3 N	081-26-29.1 W	121.6	93.3	1247004

Address: (Dawkins) 262 BLOUNT ROAD

City: POMARIA County: NEWBERRY State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	96.300	84.200	114.500	92.100	76.200	78.700	100.500
Transmitting ERP (watts)	48.100	219.870	235.600	57.830	6.490	0.550	0.550	4.590
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	96.300	84.200	114.500	92.100	76.200	78.700	100.500
Transmitting ERP (watts)	0.550	1.290	9.380	93.790	264.340	174.650	27.680	4.290

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	34-22-32.3 N	081-26-29.1 W	121.6	93.3	1247004

Address: (Dawkins) 262 BLOUNT ROAD

City: POMARIA County: NEWBERRY State: SC Construction Deadline:

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	96.300	84.200	114.500	92.100	76.200	78.700	100.500
Transmitting ERP (watts)	107.690	12.950	2.250	0.550	2.640	22.500	155.660	276.800

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	34-07-07.0 N	082-03-44.0 W	165.5	64.0	1012429

Address: (Epworth) 813 WALLER ROAD

City: NINETY SIX County: GREENWOOD State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.300	83.400	78.000	66.600	77.300	56.800	56.000	48.800
Transmitting ERP (watts)	180.900	229.690	58.340	0.760	0.760	0.760	0.760	20.430
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.300	83.400	78.000	66.600	77.300	56.800	56.000	48.800
Transmitting ERP (watts)	0.760	0.760	62.560	219.350	189.580	17.370	0.760	0.760
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.300	83.400	78.000	66.600	77.300	56.800	56.000	48.800
Transmitting ERP (watts)	1.390	0.760	0.760	0.760	5.390	103.940	182.780	103.940

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	34-24-10.0 N	081-56-28.0 W	173.4	112.7	1000279

Address: (Mountville) RT 1 BOX 1547 MILAM RD

City: CLINTON County: LAURENS State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.000	97.300	102.800	126.700	109.300	107.700	96.400	94.500
Transmitting ERP (watts)	38.080	44.380	21.230	2.930	0.540	0.200	1.300	11.910
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.000	97.300	102.800	126.700	109.300	107.700	96.400	94.500
Transmitting ERP (watts)	0.270	2.410	19.190	40.120	36.040	11.270	1.610	0.190

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN778

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	34-24-10.0 N	081-56-28.0 W	173.4	112.7	1000279

Address: (Mountville) RT 1 BOX 1547 MILAM RD

City: CLINTON County: LAURENS State: SC Construction Deadline:

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.000	97.300	102.800	126.700	109.300	107.700	96.400	94.500
Transmitting ERP (watts)	6.160	1.140	0.200	0.670	6.020	30.180	45.660	30.880

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	33-47-31.3 N	081-57-55.1 W	156.3	127.4	1047411

Address: (West Edgefield) 35 Walker Road

City: EDGEFIELD County: EDGEFIELD State: SC Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	154.000	127.000	95.500	119.400	164.300	162.900	153.200	162.900
Transmitting ERP (watts)	114.030	149.050	33.740	0.410	0.410	0.410	0.410	11.160
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	154.000	127.000	95.500	119.400	164.300	162.900	153.200	162.900
Transmitting ERP (watts)	0.410	0.410	36.160	142.340	119.450	9.490	0.410	0.410
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	154.000	127.000	95.500	119.400	164.300	162.900	153.200	162.900
Transmitting ERP (watts)	0.740	0.410	0.410	0.410	2.870	72.340	157.960	72.340

Control Points:

Control Pt. No. 3

Address: 500 West Dove Rd.

City: Southlake County: TARRANT State: TX Telephone Number: (800)264-6620

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

PARAGRAPH A MODIFIED TO REQUIRE US OF L-865 MEDIUM INTENSITY LIGHTS IN LIEU OF L-856.
PARAGRAPH A, B, & E MODIFIED TO REQUIRE A PEAK INTENSITY OF APPROX. 2000 CANDELAS AT NIGHT IN LIEU OF 4000

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign WPUD536	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date 02-06-2008	Effective Date 11-01-2016	Expiration Date 12-29-2017	Print Date
Market Number BTA177	Channel Block C	Sub-Market Designator 6	
Market Name Greenville-Spartanburg, SC			
1st Build-out Date 12-29-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:
NONE

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
 CELLCO PARTNERSHIP
 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
 ALPHARETTA, GA 30022

Call Sign WQGA716	File Number
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date 11-29-2006	Effective Date 11-01-2016	Expiration Date 11-29-2021	Print Date
Market Number REA002	Channel Block F	Sub-Market Designator 19	
Market Name Southeast			
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign WQJQ690	File Number
Radio Service WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date 11-26-2008	Effective Date 11-01-2016	Expiration Date 06-13-2019	Print Date
Market Number REA002	Channel Block C	Sub-Market Designator 0	
Market Name Southeast			
1st Build-out Date 06-13-2013	2nd Build-out Date 06-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ690

File Number:

Print Date:

This authorization is subject to the condition that the station license limits the effective radiated power relative to a dipole (ERPd) antenna to 1238 watts per 10 MHz bandwidth at 333.7 degrees true azimuth bearing for all antennas associated with location no.1 (Lexington, VA) with coordinates of 37-47-19.5 N, 79-29-15.1 W. See Quiet Zone Notification authorized with grant of FN 0004834212.

This authorization is subject to the condition that the station license limits the effective radiated power to 196 watts per 10 MHz bandwidth at 7 degrees true azimuth bearing for all antennas associated with location no. 5 (Covington, VA) with coordinates of 37-47-35.1 N, 79-55-58.4 W. See Quiet Zone Notification authorized with grant of FN 0004880708.

This authorization is subject to the condition that the station license limits the effective radiated power to 856 watts per 10 MHz bandwidth at 320 degrees true azimuth bearing for all antennas associated with location no. 6 (Fairfield, VA) with coordinates of 37-53-48.4 N, 79-15-59.1 W. See Quiet Zone Notification authorized with grant of FN 0004880708.

This authorization is subject to the condition that the station license limits the effective radiated power to 9.8 watts per 10 MHz bandwidth at 359 degrees true azimuth bearing for all antennas associated with location no. 12 (Eagle Rock, VA) with coordinates of 37-37-55.8 N, 79-49-50.0 W. See Quiet Zone Notification authorized with grant of FN 0004880708.

This authorization is subject to the condition that the station license limits the effective radiated power relative to a dipole (ERPd) antenna to 918 watts per 10 MHz unit bandwidth at 29.6 degrees true azimuth bearing for all antennas associated with location no. 17 (White Sulphur Spring, WV) with coordinates of 37-47-19.6 N, 80-18-22.7 W. See Quiet Zone Notification authorized with grant of FN 0004880708.

This authorization is subject to the condition that the station license limits the effective radiated power relative to a dipole (ERPd) antenna to 264 watts per 10 MHz unit bandwidth at 352.4 degrees true azimuth bearing for all antennas associated with location no. 19 (Buchanan, VA) with coordinates of 37-33-45.0 N, 79-41-21.9 W. See Quiet Zone Notification authorized with grant of FN 0004908392.

This authorization is subject to the condition that the station license limits the effective radiated power relative to a dipole (ERPd) to 781 watts per 10 MHz unit bandwidth at 293.93 degrees true azimuth bearing for all antennas associated with location no. 21 (Waynesboro, VA) with coordinates of 38-06-55.6 N, 78-54-55.5 W. See Quiet Zone Notification authorized with grant of FN 0004970422.

This authorization is subject to the condition that the station license limits the effective radiated power to 20.23 dBW per 10 MHz bandwidth at 297.4 degrees true azimuth bearing for all antennas associated with location no. 24 (Waynesboro, VA) with coordinates of 38-02-29.4 N, 78-52-11.6 W. See Quiet Zone Notification authorized with grant of FN 0005104523.

This authorization is subject to the condition that the station license limits the effective radiated power (ERP) to 12.9 watts per 10 MHz bandwidth at 9.1 degrees true azimuth bearing for all antennas associated with location no. 31 (Covington, VA) with coordinates of 37-51-51.4 N, 79-57-22.4 W. See Quiet Zone Notification authorized with grant of FN 0005178701.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ690

File Number:

Print Date:

This authorization is subject to the condition that the station license limits the effective radiated power to 1327 watts per 10 MHz bandwidth at 291.8 degrees true azimuth bearing for all antennas associated with location no. 30 (Staunton, VA) with coordinates of 38-09-23.7 N, 78-57-02.9 W. See Quiet Zone Notification authorized with grant of FN 0005168812.

This authorization is subject to the condition that the station license limits the effective radiated power to 712 watts per 10 MHz bandwidth at 37.5 degrees true azimuth bearing for all antennas associated with location no. 28 (Lewisburg, WV) with coordinates of 37-48-42.7 N, 80-26-54.5 W. See Quiet Zone Notification authorized with grant of FN 0005223750.

This authorization is subject to the condition that the station license limits the effective radiated power to 877 watts per 10 MHz bandwidth at 296.22 degrees true azimuth bearing for all antennas associated with location no. 29 (Waynesboro, VA) with coordinates of 38-05-37.6 N, 78-57-05.3 W. See Quiet Zone Notification authorized with grant of FN 0005223750.

This authorization is subject to the condition that the station license limits the effective radiated power to 126 watts per 10 MHz bandwidth at 29.7 degrees true azimuth bearing for all antennas associated with location no. 53 (White Sulphur Spring, WV) with coordinates of 37-48-05.7 N, 80-17-54.5 W. See Quiet Zone Notification authorized with grant of FN 0005271165.

This authorization is subject to the condition that the station license limits the effective radiated power to 1129 watts per 10 MHz bandwidth at 35 degrees true azimuth bearing for all antennas associated with location no. 52 (Lewisburg, WV) with coordinates of 37-48-47.3 N, 80-23-33.9 W. See Quiet Zone Notification authorized with grant of FN 0005272906.

This authorization is subject to the condition that the station license limits the effective radiated power to 763 watts per 10 MHz bandwidth at 36.99 degrees true azimuth bearing for all antennas associated with location no. 52 (Fairlea, WV) with coordinates of 37-47-03.0 N, 80-27-55.6 W. See Quiet Zone Notification authorized with grant of FN 0005287264.

This authorization is subject to the condition that the station license limits the effective radiated power to 83 watts per 10 MHz bandwidth at 27.85 degrees true azimuth bearing for all antennas associated with location no. 53 (White Sulphur Springs, WV) with coordinates of 37-47-29.0 N, 80-16-23.30 W. See Quiet Zone Notification authorized with grant of FN 0005287264.

This authorization is subject to the condition that the station license limits the effective radiated power to 592 watts per 10 MHz bandwidth at 284.9 degrees true azimuth bearing for all antennas associated with location no. 62 (Mount Sidney, VA) with coordinates of 38-15-18.1 N, 78-58-22.3 W. See Quiet Zone Notification authorized with grant of FN 0005690131.

This authorization is subject to the condition that the station license limits the effective radiated power to 87 watts 700LTE at 298.03 degrees true azimuth bearing for all antennas associated with location no. 62 (Afton, VA) with coordinates of 38-01-43.5 N, 78-51-37.8 W. See Quiet Zone Notification authorized with grant of FN 0005669760.

verizon
 8921 RESEARCH DRIVE
 CHARLOTTE, NC 28262

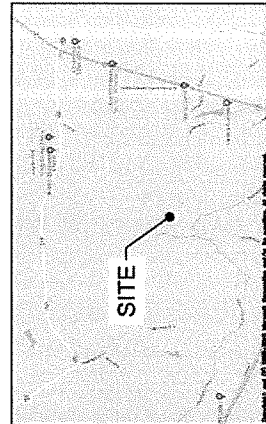
DUNCAN CREEK

SITE ADDRESS (E-911 TBD)

HWY 308
 LAURENS, SC 29360
 LAURENS COUNTY
 LATITUDE: 34° 33' 18.00" N
 LONGITUDE: 81° 57' 44.20" W
 TAX/PIN #: 499-00-00-035
 ZONING: N/A

LAURENS COUNTY SHERIFF DEPARTMENT
 216 W MAIN ST
 LAURENS, SC 29360
 PHONE: (864) 964-2523
 ATTN: CUSTOMER SERVICE

LAURENS COUNTY FIRE DEPARTMENT
 94 RANCH RD
 LAURENS, SC 29360
 PHONE: (864) 964-4547
 ATTN: CUSTOMER SERVICE



VICINITY MAP

FROM CHARLOTTE OFFICE: GET ON I-85 S FROM RESEARCH DR AND W. WY HARRIS BLVD FOR 1.1 MI, FOLLOW I-85 S AND I-26 E TO KNOXLEE, TAKE EXIT 44 FROM I-26 E FOR 107 MI, CONTINUE ON SC-49 S, TAKE SC-308 N TO SECESSION DR IN LAURENS COUNTY FOR 0.7 MI, THEN THE DESTINATION WILL BE ON THE LEFT.

DRIVING DIRECTIONS

JURISDICTION:
 LAURENS COUNTY

STATE:
 SOUTH CAROLINA

TOWER TYPE:
 MONOPOLE TOWER

TOWER HEIGHT:
 195' (199' TO HIGHEST APPURTENANCE)

NUMBER OF CARRIERS:
 0 EXISTING, 1 PROPOSED

USE:
 PROPOSED TELECOMMUNICATIONS TOWER AND UNMANNED EQUIPMENT

FLOOD INFO
 SITE IS LOCATED WITHIN FEMA FLOOD MAP AREA 45089C0215C DATED 08/16/2012 WITHIN FLOOD ZONE X.

PROJECT SUMMARY

DEVELOPER
 VERIZON WIRELESS
 8921 RESEARCH DRIVE
 CHARLOTTE, NC 28262
 PHONE: (704) 577-9785
 ATTN: MICHAEL HAVEN

POWER COMPANY
 LAURENS COOPERATIVE
 PHONE: (800) 942-3141
 ATTN: CUSTOMER SERVICE

PROPERTY OWNER
 CURTIS CHILDRESS
 1420 FLEMING MILL RD
 LAURENS, SC 29360
 PHONE: (864) 682-2843
 ATTN: STEPHEN LOUIE

CONSULTANT
 KIMLEY-HORN AND ASSOCIATES, INC.
 11720 AMBER PARK DRIVE, SUITE 600
 ALPHARETTA, GEORGIA 30009
 PHONE: (770) 545-6105
 ATTN: DAVID FRANKLIN

CONTACTS

SHEET NO.	SHEET TITLE
T1	COVER SHEET
--	SITE SURVEY (1 OF 5)
--	SITE SURVEY (2 OF 5)
--	SITE SURVEY (3 OF 5)
--	SITE SURVEY (4 OF 5)
--	SITE SURVEY (5 OF 5)
N1	GENERAL NOTES
C1	OVERALL SITE PLAN
C2	SITE PLAN
C3	EQUIPMENT PAD LAYOUT
C4	EQUIPMENT RACK DETAIL - FRONT
C5	EQUIPMENT RACK DETAIL - REAR
C6	CONCRETE PAD FOUNDATION DETAILS
C7	FENCE, GATE, AND COMPOUND DETAILS
C8	GRADING AND EROSION CONTROL PLAN
C9	GRADING AND EROSION CONTROL DETAILS
C10	ACCESS ROAD DETAILS
C11	SITE SIGNAGE DETAILS
C12	WAVEGUIDE BRIDGE DETAILS
C13	ANTENNA AND TOWER ELEVATION DETAILS
E1	ELECTRICAL NOTES
E2	UTILITY SERVICE ROUTING PLAN
E3	OVERALL UTILITY ROUTING PLAN
E4	METER RACK DETAILS
E5	ELECTRICAL SINGLE LINE DIAGRAM
E6	PANEL SCHEDULE
E7	ELECTRICAL DETAILS
E8	GROUNDING NOTES
E9	GROUNDING PLAN
E10	GROUNDING SINGLE LINE DIAGRAM
E11	GROUNDING DETAILS
E12	GROUNDING DETAILS

SHEET INDEX

LAURENS COUNTY BUILDING CODES AND INSPECTIONS DEPARTMENT
 100 HILLCREST SQUARE SUITE C
 LAURENS, SC 29360
 PHONE: (864) 984-6659
 ATTN: CHUCK BOBO

PERMIT INFORMATION

8921 RESEARCH DRIVE
 CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

SITE NAME:
 DUNCAN CREEK
 SITE NO.: 301034
 PROJECT #: 2014-1063209
 HWY 308
 LAURENS COUNTY
 LAURENS COUNTY

PLANS PREPARED BY:

11720 AMBER PARK DRIVE, SUITE 600
 ALPHARETTA, GEORGIA 30009
 PHONE: (770) 545-6105
 ATTN: DAVID FRANKLIN

REV. DATE: ISSUED FOR: BY:

8		
7		
6		
5		
4		
3		
2		
1		
0	04/12/22	CONSTRUCTION [DMF]

104 PROJECT NUMBER: 013541031
 DRAWN BY: YTB
 CHECKED BY: [Signature]
 SHEET TITLE: COVER SHEET
 SHEET NUMBER: T1

NOTES

- *THIS SITE SURVEY HAS BEEN PREPARED PARTIALLY FROM AN ACTUAL FIELD SURVEY AND PARTIALLY FROM MAPS AND DEEDS OF RECORD.
- *PROPERTY SUBJECT TO ANY VALID & ENFORCEABLE EASEMENTS, RESTRICTIONS & RIGHT OF WAY OF RECORD.
- *ALL PROPERTY OWNERS ARE NOW OR FORMERLY.
- *ADJACENT OWNER INFORMATION TAKEN FROM COUNTY TAX RECORDS.
- *AREA BY COMPUTER (COORDINATE METHOD).
- *ALL DISTANCES SHOWN ARE GROUND DISTANCES IN FEET UNLESS OTHERWISE NOTED.
- *NORTH ORIENTATION BASED UPON S.C. GRID (NAD 83) AND WAS ESTABLISHED BY LEICA DUAL FREQUENCY SURVEY GRADE GPS RECEIVERS PROCESSED THROUGH OPUS.
- *THIS MAP IS OF LEASED PROPERTY AND DOES NOT CREATE A SUBDIVISION OF LAND.
- *THIS MAP IS FOR LEASE PURPOSES AND IS NOT A BOUNDARY SURVEY OF THE ENTIRE TRACT.
- *COORDINATES LISTED ARE SOUTH CAROLINA STATE PLANE COORDINATES NAD83 (2011) IN INTERNATIONAL FEET.
- *ELEVATIONS BASE ON NORTH AMERICAN DATUM OF 1988.
- *SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FIRM COMMUNITY PANEL NUMBER 45059C0215C, EFFECTIVE DATE OF AUGUST 16, 2012.

LEGEND

- = CALCULATED POINT
- BRG. = BEARING
- CGF = COMBINED GRID FACTOR = 0.999883
- CMP = CORRUGATED METAL PIPE
- CP = CONCRETE PAD
- D.B. = DEED BOOK
- IPF = IRON PIN FOUND (#4 REBAR)
- IPPF = IRON PIPE FOUND
- IPS = IRON PIN SET (#4 REBAR)
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- POT = POINT OF TERMINUS
- PP = POWER POLE
- PP-TRSF = POWER POLE WITH TRANSFORMER
- P.S. = PLAT SLIDE
- R/W = RIGHTS OF WAY
- SCGPS = SOUTH CAROLINA GEODETIC SURVEY
- SCSPC = SOUTH CAROLINA STATE PLANE COORDINATES
- TP = TELEPHONE PEDESTAL

FIELD WORK COMPLETED ON APRIL 18, 2015.
THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN AND ASSOCIATES, INC.

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THAT THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY, AS SPECIFIED THERE IN.

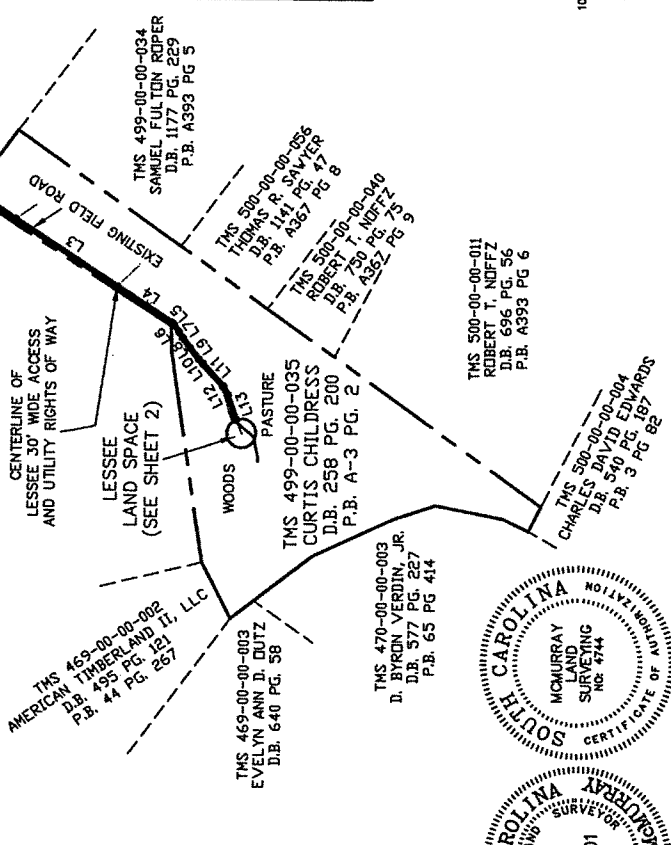
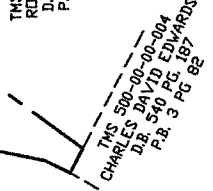
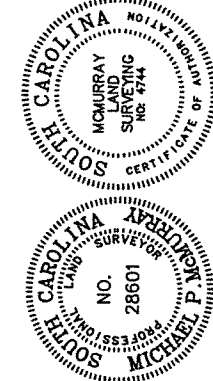
MCMURRAY LAND SURVEYING, INC.
MICHAEL P. MCMURRAY
318 E. CHURCH ST., 7th FLOOR
MONROE, NC 28102
S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
TELEPHONE NUMBER (704) 254-2738

DATE 2/13/17

Kimley Horn
2500 CREEK SUITE 400
PHOENIX, ARIZONA 85008
PHONE 704-829-0744 WWW.KIMLEY-HORN.COM

Drawn by: [Signature] Check by: [Signature] Approved by: [Signature] Date: 2/13/17

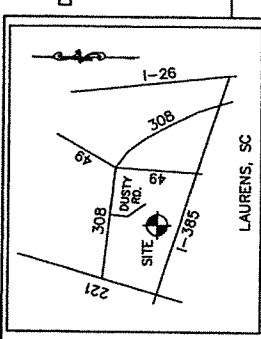
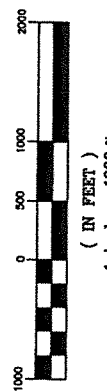
DUNCAN CREEK
HIGHWAY 308
LAURENS, SC 29360
LAURENS COUNTY



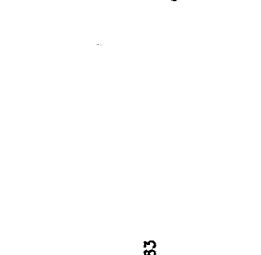
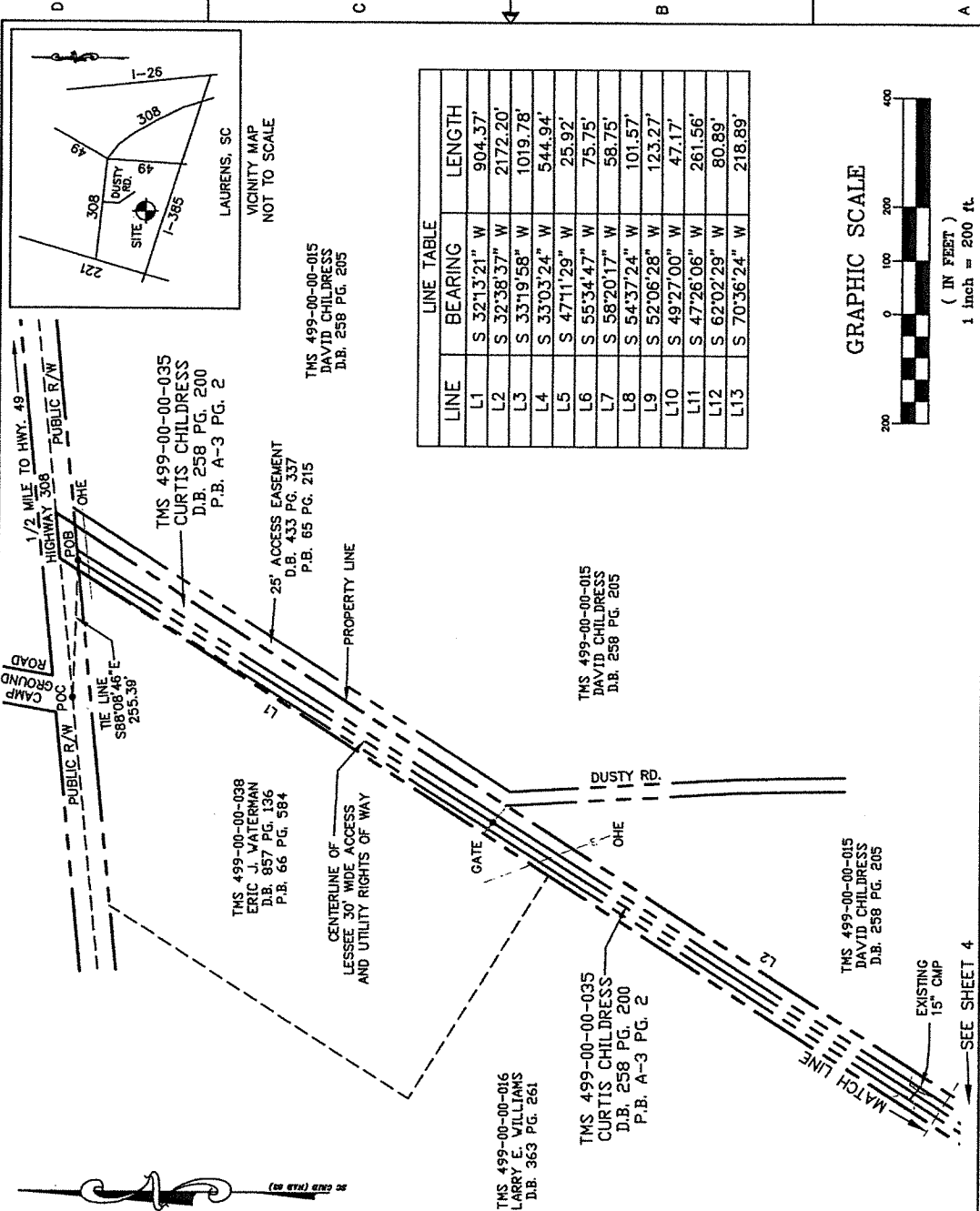
LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
L2	S 32°38'37" W	2172.20'
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L11	S 47°26'06" W	261.56'
L12	S 62°02'29" W	80.89'
L13	S 70°36'24" W	218.89'

NOTES ON TITLE REPORT REVIEW:
THE EXCEPTIONS LISTED IN FIDELITY NATIONAL TITLE INSURANCE COMPANY FILE NO. 19342338, ISSUE DATE 9/10/2014 DO NOT AFFECT LESSEE'S PREMISES.

GRAPHIC SCALE



REVISIONS		BY		DATE		DESCRIPTION		
1	2/13/17	EX	MM	EX	MM	EX	MM	SHEETS 3, 4 and 5 ADDED FOR LAYED COMMENTS
2	9/29/15	EX	MM	EX	MM	EX	MM	ISSUED AS FINAL DRAWING
3	4/22/15	EX	MM	EX	MM	EX	MM	ADDED ADDITIONAL TOPO IN CORNER OF LAND SPACE
4	4/23/15	EX	MM	EX	MM	EX	MM	MOVED LAND SPACE AND RE-ISSUED FOR REVIEW
5	2/13/17	EX	MM	EX	MM	EX	MM	ISSUED FOR REVIEW



LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
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- LEGEND**
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 - P.S. = PLAT SLIDE
 - RCP = RE-ENFORCED CONCRETE PIPE
 - R/W = RIGHTS OF WAY
 - SCGS = SOUTH CAROLINA GEODETIC SURVEY
 - SCSPC = SOUTH CAROLINA STATE PLANE COORDINATES
 - TP = TELEPHONE PEDESTAL

FIELD WORK COMPLETED ON APRIL 18, 2015.
 THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN AND ASSOCIATES, INC.

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Michael P. McMurray
 2/13/17
 2/13/17

McMURRAY LAND SURVEYING, INC. DATE
 MICHAEL P. McMURRAY
 318 E. OLD HWY. 74,
 MONROE, NC 28112
 S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
 TELEPHONE NUMBER (704) 254-2736



Kimley»Horn

200 COURT, SUITE 400, PEACHTREE CORNERS, GA 30092
 PHONE: 770-522-0144 WWW.KIMLEY-HORN.COM

Checked by: *[Signature]* Date: 2/13/17
 Approved by: *[Signature]* Date: 2/13/17

DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29360
 LAURENS COUNTY



REVISIONS

No.	DATE	DESCRIPTION	BY	CHK	APP
1	2/13/17	SHEETS 3, 4 and 5 ADDED PER LANDLORD COMMENTS	DK	DM	DM
2	2/13/17	ISSUED AS FINAL DRAWING	DK	DM	DM
3	2/13/17	ADDED TO THE CORNER OF LAND SPACE	DK	DM	DM
4	2/13/17	MOVED LAND SPACE AND RE-CHECKED FOR REVIEW	DK	DM	DM
5	2/13/17	ISSUED FOR REVIEW	DK	DM	DM

SITE SURVEY
 PROPOSED LAND SPACE
 DRAWING NO.
 SHEET 3 OF 5

LEGEND

- = CALCULATED POINT
- BRG. = BEARING
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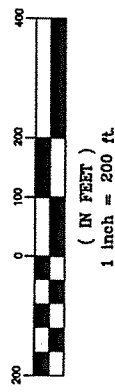
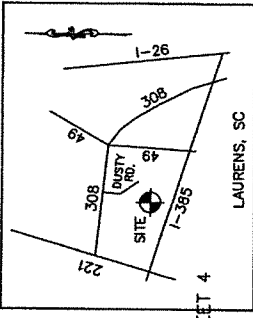
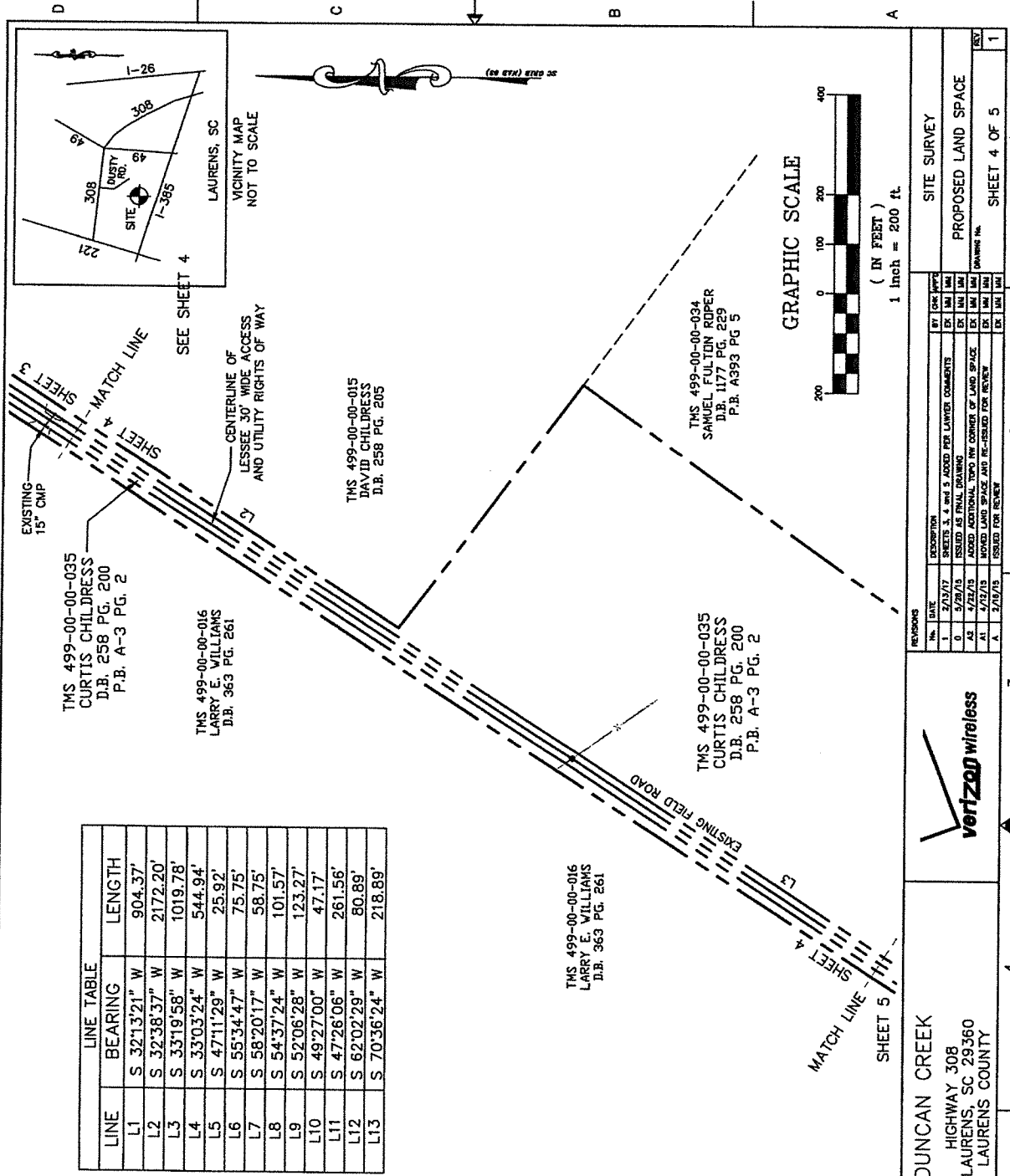
FIELD WORK COMPLETED ON APRIL 18, 2015.
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Michael P. McMurray
MICMURRAY LAND SURVEYING, INC. DATE 2/13/17
MICHAEL P. MCMURRAY
318 E. OLD HWY. 74
MONROE, NC 28112
S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
TELEPHONE NUMBER (704) 284-2736



LINE	BEARING	LENGTH
L1	S 32°13'21" W	904.37'
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L13	S 70°36'24" W	218.89'



McMurray Land Surveying, Inc.
2 SUN COAST BLVD. SUITE 400
PHOTO: 704-284-2736 FAX: 704-284-2736
WWW.KIMLEY-HORN.COM

DATE: 2/13/17
DRAWN BY: MAM
CHECKED BY: MAM

Kimley»Horn

DUNCAN CREEK
HIGHWAY 308
LAURENS, SC 29360
LAURENS COUNTY

SITE SURVEY
PROPOSED LAND SPACE
DRAWING NO. SHEET 4 OF 5

NO.	DATE	DESCRIPTION	BY	CHK.
1	2/13/17	SHEETS 3, 4 and 5 ADDED PER LAWYER COMMENTS	DK	MAM
0	9/29/15	ISSUED AS FINAL DRAWING	DK	MAM
A2	2/25/15	ADDED ADDITIONAL TPO NW CORNER OF LAND SPACE	DK	MAM
A1	2/25/15	ADDED LAND SPACE AND RE-ISOLED FOR REVIEW	DK	MAM
A	2/25/15	ISSUED FOR REVIEW	DK	MAM

CENTER OF PROPOSED TOWER
 LAT = 34°33'18.0" N
 LONG = 81°57'44.2" W
 GROUND ELEVATION = 629' NAVD 88
 IPS
 BENCH MARK
 ELEVATION = 629.44'
 SEE SHEET 2 FOR DETAIL

- LEGEND
- = CALCULATED POINT
 - BRG. = BEARING
 - CGF = COMBINED GRID FACTOR = 0.998883
 - CMP = CORRUGATED METAL PIPE
 - D.B. = DEED BOOK
 - IPF = IRON PIN FOUND (#4 RE-BAR)
 - IPPF = IRON PIPE FOUND
 - IPS = IRON PIN SET (#4 RE-BAR)
 - OHE = OVERHEAD ELECTRIC LINE
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TMS 499-00-00-016
 LARRY E. WILLIAMS
 D.B. 363 PG. 261

TMS 499-00-00-035
 CURTIS CHILDRESS
 D.B. 258 PG. 200
 P.B. A-3 PG. 2

LESSEE
 LAND SPACE
 AREA = 46,404 SQ. FT.
 SEE SHEET 2

TMS 499-00-00-035
 CURTIS CHILDRESS
 D.B. 258 PG. 200
 P.B. A-3 PG. 2



FIELD WORK COMPLETED ON APRIL 18, 2015.
 THIS SURVEY WAS PREPARED AT THE REQUEST OF KIMLEY-HORN
 AND ASSOCIATES, INC.

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL
 KNOWLEDGE, INFORMATION, AND BELIEF, THAT THE SURVEY SHOWN
 HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF
 THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH
 CAROLINA, AND THAT IT DOES NOT EXCEED THE REQUIREMENTS FOR A
 CLASS "A" SURVEY AS SPECIFIED THEREIN.

Michael P. McMurray
 2/13/17
 2/13/17

KIMLEY-HORN AND ASSOCIATES, INC. DATE
 MICHAEL P. MCMURRAY
 318 E. OLD HWY. 7A
 S. CONEE, SC 29112
 S.C. PROFESSIONAL LAND SURVEYOR NO. 28601
 TELEPHONE NUMBER (704) 234-2736

Kimley-Horn

2 SHELBY DRIVE, SUITE 400, WILMINGTON, NORTH CAROLINA 28403
 PHONE: 704-234-2736 FAX: 704-234-2737
 WWW.KIMLEY-HORN.COM

Drawn by: [blank] Checked by: [blank] Approved by: [blank] Date: 2/13/17

DUNCAN CREEK
 HIGHWAY 308
 LAURENS, SC 29360
 LAURENS COUNTY



REVISIONS

No.	DATE	DESCRIPTION	BY	CHK	APP
1	2/13/17	SHEETS 1, 4 and 5, ADDED PER LAYER COMMENTS	EX	LM	MM
0	5/29/15	ISSUED AS FINAL DRAWING	EX	LM	MM
AE	4/22/15	ADDED ADDITIONAL TOPO IN CORNER OF LAND SPACE	EX	LM	MM
AT	4/22/15	MOVED LAND SPACE AND RE-DESIGNED FOR REVIEW	EX	LM	MM
A	2/7/15	ISSUED FOR REVIEW	EX	LM	MM

SITE SURVEY

PROPOSED LAND SPACE

DRAWING NO.

SHEET 5 OF 5

1

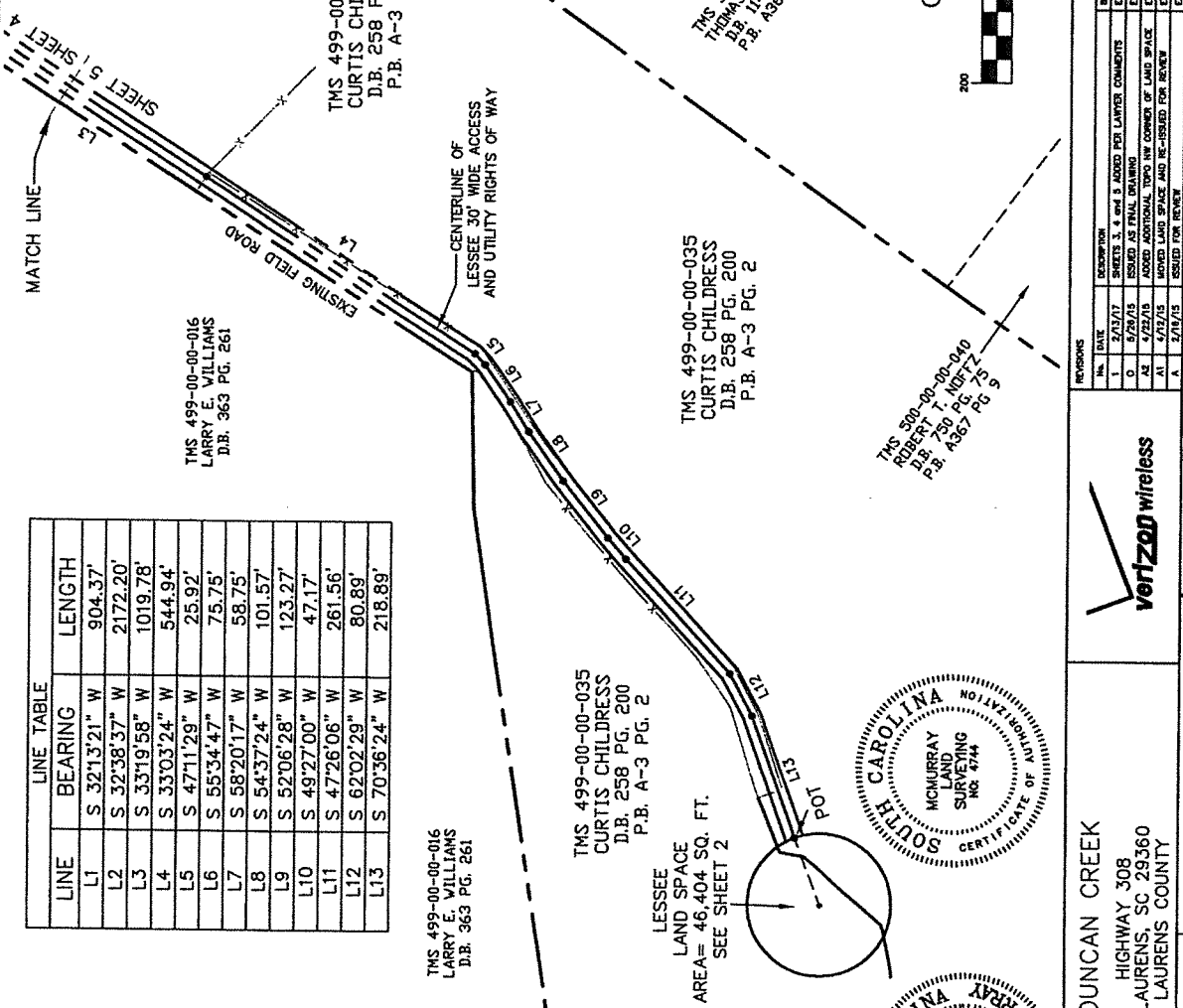
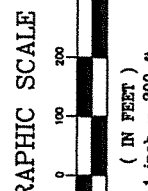
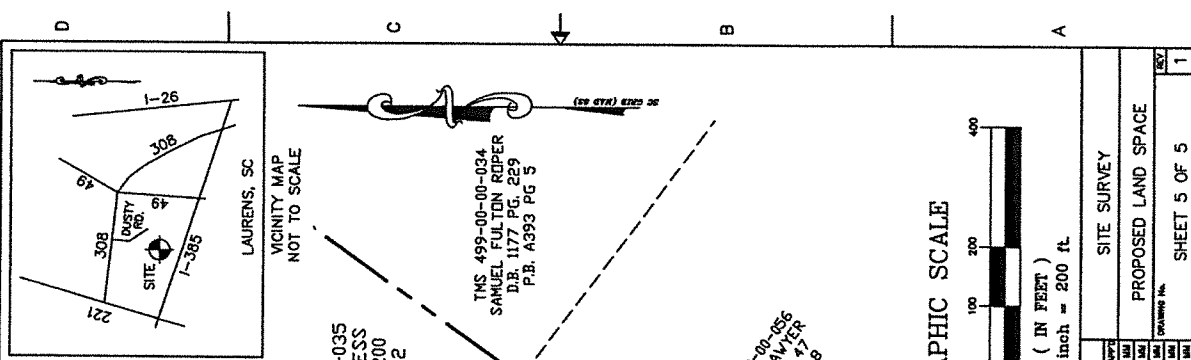
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1.00 GENERAL NOTES

- 1.01 ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE, LOCAL AND NATIONAL CODES, ORDINANCES AND OR REGULATIONS APPLICABLE TO THIS PROJECT.
- 1.02 THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE PROJECT MANAGER AND/OR ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH WORK. WHERE THERE IS A CONFLICT BETWEEN DRAWING AND VERIZON SPECIFICATIONS, THE VERIZON PROJECT ENGINEER SHOULD BE CONTACTED FOR CLARIFICATION.
- 1.03 ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS DIFFER FROM THE DRAWINGS, THEY SHALL BE REPORTED TO THE PROJECT MANAGER AND/OR ENGINEER SO THAT PROPER REVISIONS MAY BE MADE. MODIFICATION OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE PROJECT MANAGER AND/OR ENGINEER.
- 1.04 CONTRACTOR SHALL REVIEW AND BE FAMILIAR WITH SITE CONDITIONS AND SHOWN ON THE ATTACHED SITE PLAN AND/OR SURVEY DRAWINGS.
- 1.05 WAVEGUIDE BRIDGE AND EQUIPMENT CABINETS ARE SHOWN FOR REFERENCE ONLY. REFER TO SEPARATE DRAWINGS FOR SPECIFIC INFORMATION.
- 1.06 ALL FINISHED GRADES SHALL SLOPE MINIMUM 1/4 IN./FT. AWAY FROM EQUIPMENT IN ALL DIRECTIONS. CONTRACTOR SHALL SLOPE SWALES AS REQUIRED ALONG EXISTING TERRAIN TO DRAIN AWAY FROM COMPOUND AND ACCESS DRIVE.
- 1.07 THE CONTRACTOR SHALL PROVIDE FOUNDATIONS WERE DESIGNED BY OTHERS. TOWER INFORMATION PROVIDED ON THESE PLANS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. NOTIFY ENGINEER OR PROJECT MANAGER OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR TO OBTAIN COPY OF TOWER DESIGN DRAWINGS, IF AVAILABLE, FROM VERIZON PROJECT MANAGER TO CONFIRM COAX ROUTING AND ANTENNA MOUNT INFORMATION.
- 1.08 THE CONTRACTOR SHALL PROVIDE ADEQUATE EXCAVATION SLOPING, SHORING, BRACING, AND GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- 1.09 UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR RETURNING TO THE EXISTING ACCESS ROAD AND COMPOUND GRAVEL AREAS. ANY NEW FILL MATERIALS SHALL BE COMPACTED.
- 1.10 THE CONTRACTOR IS HEREBY NOTIFIED THAT PRIOR TO COMMENCING CONSTRUCTION, HE IS RESPONSIBLE FOR CONTACTING THE UTILITY COMPANIES INVOLVED AND SHALL REQUEST A VERIFICATION OF THE CONSTRUCTION WHERE THEY MAY POSSIBLY CONFLICT WITH THE PLACEMENT OF IMPROVEMENTS AS SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT WILL BE REQUIRED TO NOTIFY SOUTH CAROLINA 811 72 HOURS IN ADVANCE OF PERFORMING ANY WORK BY CALLING THE TOLL FREE NUMBER (888) 721-7877 (OR 811). ANY UTILITIES DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR, AT NO EXPENSE TO THE OWNER.
- 1.11 CONTRACTOR TO PROVIDE DUMPSTER AND PORTABLE TOILET FACILITY DURING CONSTRUCTION.
- 1.12 CONTRACTOR TO PROVIDE STYME LOCK OR EQUIVALENT AS APPROVED BY VERIZON PROJECT MANAGER.
- 1.13 CONTRACTOR TO PROVIDE ANY NECESSARY SIGNAGE PER VERIZON PROJECT MANAGER'S INSTRUCTIONS. SEE DETAIL ON SHEET 011.

2.00 EQUIPMENT FOUNDATION NOTES

- 2.01 FOUNDATIONS ARE DESIGNED FOR A PRESUMPTIVE ALLOWABLE SOL BEARING CAPACITY OF 2,000 PSF. CONTRACTOR SHALL VERIFY SOIL CONDITIONS AND BEARING CAPACITY PRIOR TO CONSTRUCTION.
- 2.02 EXCAVATE A MINIMUM 18" BELOW PROPOSED EQUIPMENT FOUNDATIONS OF EXPANSIVE, ORGANIC, UNCONSOLIDATED OR OTHERWISE UNACCEPTABLE MATERIAL AND REPLACE WITH WELL-COMPACTED MATERIAL ACCEPTABLE TO VERIZON.
- 2.03 CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VICINITY OF THE WORK SITE. ALL EXCAVATIONS NEAR THESE LINES TO BE CARRIED OUT WITH EXTREME CAUTION. COORDINATE ALL RELOCATIONS WITH THE PROPERTY OWNER.
- 2.04 CONTRACTOR TO CUT/FILL EXISTING COMPOUND SUBSOL TO PROVIDE AN AREA AS LEVEL AS POSSIBLE FOR THE EQUIPMENT FOUNDATIONS. ALL FILL AREAS ARE TO BE FILLED WITH SUITABLE MATERIALS. FILL MATERIALS ARE TO BE PLACED, COMPACTED, AND TESTED IN MAXIMUM LAYERS OF 8". COMPACTION OF ALL FILL MATERIAL SHALL ACHIEVE 95 PERCENT OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D 1557.
- 2.05 ALL TESTS MUST MEET THE MINIMUM SPECIFIED SOL BEARING CAPACITY. COMPACTION TESTING IS BY THE GEOTECHNICAL TESTING COMPANY DESIGNATED ON THE DRAWINGS. ALL TESTS TO BE PROMPTLY REPORTED TO THE GENERAL CONTRACTOR. REPORTS OF ALL TESTING ARE TO BE PROMPTLY DELIVERED OR FAXED TO THE VERIZON WIRELESS PROJECT MANAGER.
- 2.06 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION TO AC-318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- 2.07 CONCRETE SHALL HAVE A SLUMP BETWEEN 3" AND 6".
- 2.08 FIBERS FOR CONCRETE SHALL BE FIBERMESH 650, 100 PERCENT VIRGIN POLYPROPYLENE FIBRILLATED FIBERS, 63 PATENTED TECHNOLOGY PATENTED TECHNOLOGY, CONTAINING NO REPROCESSED OLEFIN MATERIALS. THE FIBERS SHALL CONFORM TO ASTM C1116 TYPE III AND MANUFACTURED SPECIFICALLY FOR THE SECONDARY REINFORCEMENT OF CONCRETE.
- 2.09 THE FIBERS SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED MANUFACTURING FACILITY. ALL FIBERS SHALL BE ADDED TO THE CONCRETE AT THE BATCHING PLANT AT THE RECOMMENDED APPLICATION RATE OF 3 LBS/70' AND MIXED FOR A SUFFICIENT TIME (MINIMUM 5 MINUTES AT FULL MIXING SPEED) TO ENSURE UNIFORM DISTRIBUTION OF THE FIBERS THROUGHOUT THE CONCRETE. FIBROUS CONCRETE REINFORCEMENT SHALL BE MANUFACTURED BY FIBERMESH, 4019 INDUSTRY DRIVE, CHATTANOOGA, TN 37416 USA, TEL: 800 621-1273, WEBSITE: WWW.FIBERMESH.COM
- 2.10 AT THE REQUEST OF THE VERIZON WIRELESS PROJECT MANAGER, TEST JUNCTIONS SHALL BE PERFORMED AND LADDER CYLINDERS FOR EACH DAY'S CONCRETE PLACEMENT. CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH THE LATEST REVISION TO ASTM C39.
- 2.11 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4" x 45° CHAMFER, UNLESS OTHERWISE NOTED.
- 2.12 CONCRETE FORMWORK IS TO BE STRIPPED WITHIN 48 HOURS. VIBRATION OF THE CONCRETE MUST ASSURE THAT CONCRETE IS FULLY CONSOLIDATED. UNLESS OTHERWISE DIRECTED BY VERIZON WIRELESS' PROJECT MANAGER, ABOVE GRADE CONCRETE IS TO BE RUBBED AND PATCHED TO ASSURE SMOOTH FINISH AT TIME OF FORMS REMOVAL. CONTRACTOR SHALL PROVIDE A BROOM FINISH ON THE TOP SURFACE OF THE EQUIPMENT FOUNDATION UNLESS OTHERWISE DIRECTED BY VERIZON WIRELESS' PROJECT MANAGER.
- 2.13 TOPS OF CONCRETE FOUNDATION MUST BE WITHIN 0.02' OF ELEVATION REQUIRED.
- 2.14 TOP OF FOUNDATION FINISH TO BE LEVEL ± 1/8" IN 10'.
- 2.15 CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS. CONTRACTOR SHALL VERIFY PLACEMENT OF EQUIPMENT AND LOCATION OF CONDUIT FOR MANUFACTURER'S AND VENDORS SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION OF ALL UTILITIES.

verizon
 1851 RICHMOND DRIVE
 CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:
 SITE NAME:
 DUNCAN CREEK
 SITE NO.: 2011038
 PROJECT NO.: 20141083209
 COUNTY: LAURENS
 LAURENS COUNTY

Kimley-Horn
 11770 JAMES EARL RYAN DRIVE, SUITE 600
 ALPHARETTA, GA 30208
 PHONE: 770-614-3300
 FAX: 770-614-3300
 50 Lowmyer Court SE
 Atlanta, GA 30316

SOUTH CAROLINA
 REGISTERED PROFESSIONAL ENGINEER
 KIMLEY-HORN AND ASSOCIATES, INC.
 NO. 000166

REV. DATE ISSUED FOR:

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2	
1	01/12/22 CONSTRUCTION DMF

SOUTH CAROLINA
 REGISTERED PROFESSIONAL ENGINEER
 No. 33270
 R. A. ID FRA...
 4/12/22

RHA PROJECT NUMBER:
 013541031
 DRAWN BY: WTB
 CHECKED BY: DMF
 SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:
 N1

505 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28208

PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 20141083209
HWY 308
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:

11720 AMBER PARK DRIVE, SUITE 600
LAURENS, SOUTH CAROLINA 29553
PHONE: 770-418-4380
WWW.KH-CORP.COM
SOUTH CAROLINA
KIMLEY-HORN
AND
ASSOCIATES
INC.
NO. 006106
CERTIFICATE OF
QUALIFICATION

REV. DATE: ISSUED FOR: BY:

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0	04/12/12	CONSTRUCTION DMF

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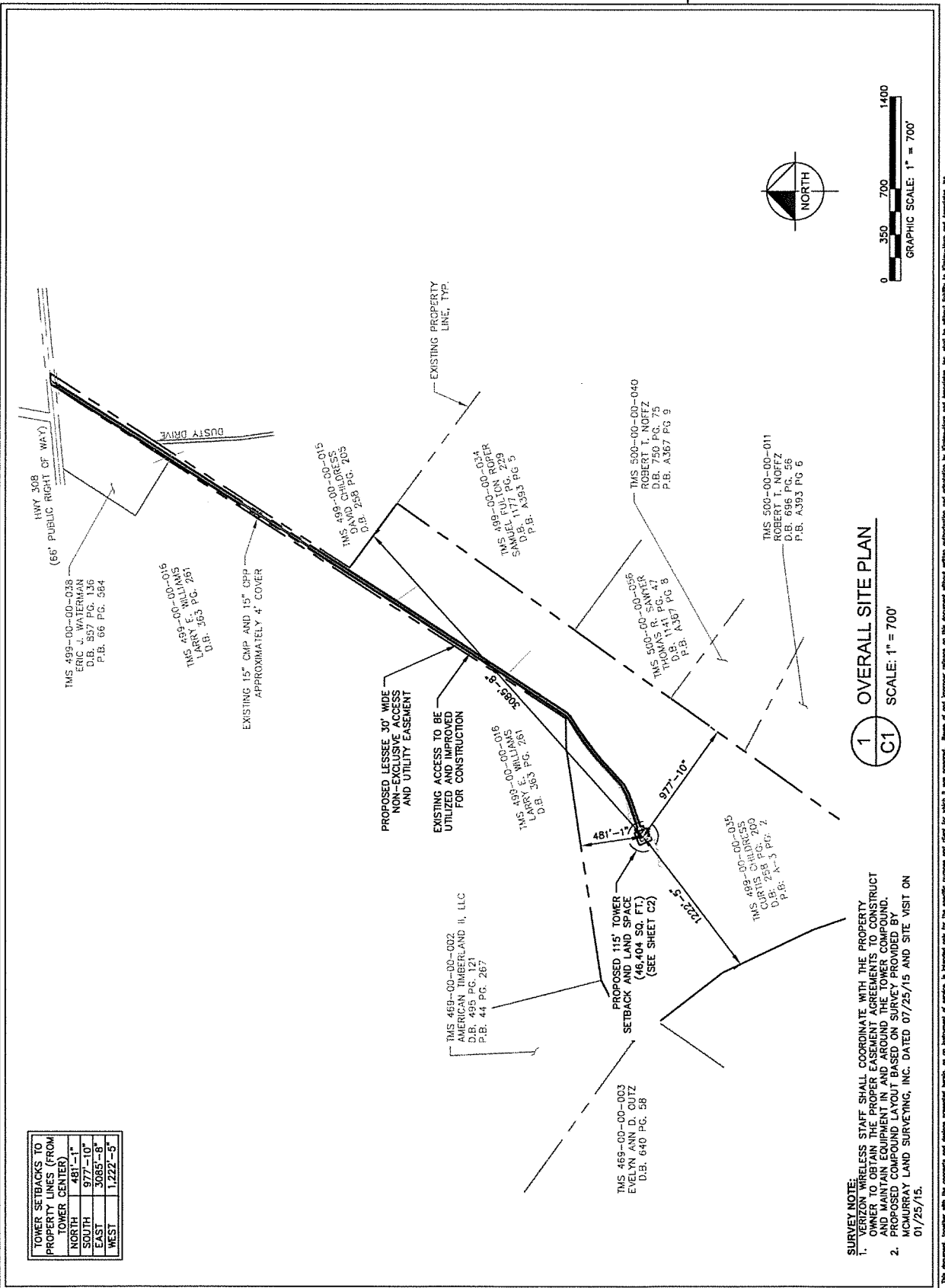
SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 33920
DAVID FRANKLIN

KHA PROJECT NUMBER: 013841031

DRAWN BY: WTB
CHECKED BY: DMF
SHEET TITLE: OVERALL SITE PLAN

OVERALL SITE PLAN

SHEET NUMBER: C1



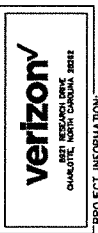
TOWER SETBACKS TO PROPERTY LINES (FROM TOWER CENTER)	
NORTH	481'-1"
SOUTH	977'-10"
EAST	3065'-8"
WEST	1,222'-9"

SURVEY NOTE:

1. VERIZON WIRELESS STAFF SHALL COORDINATE WITH THE PROPERTY OWNER TO OBTAIN THE PROPER EASEMENT AGREEMENTS TO CONSTRUCT AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.
2. PROPOSED COMPOUND LAYOUT BASED ON SURVEY PROVIDED BY MCMURRAY LAND SURVEYING, INC. DATED 07/25/15 AND SITE VISIT ON 07/25/15.

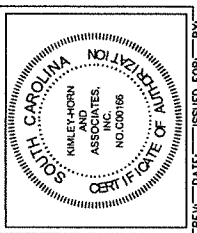
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PROJECT INFORMATION:
 SITE NAME:
 DUNCAN CREEK
 SITE NO.: 001030
 PROJECT NO.: 14-1083209
 LAURENS, SC 29369
 LAURENS COUNTY

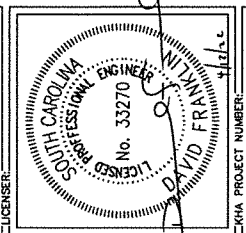
PLANS PREPARED BY:
Kimley-Horn
 1175 AUSTIN PARK DRIVE, SUITE 600
 ASPENHURST, GA 30009
 PHONE 770-998-0300
 FAX 770-998-0301
 www.kimley-horn.com



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1	04/12/22	CONSTRUCTION DMF

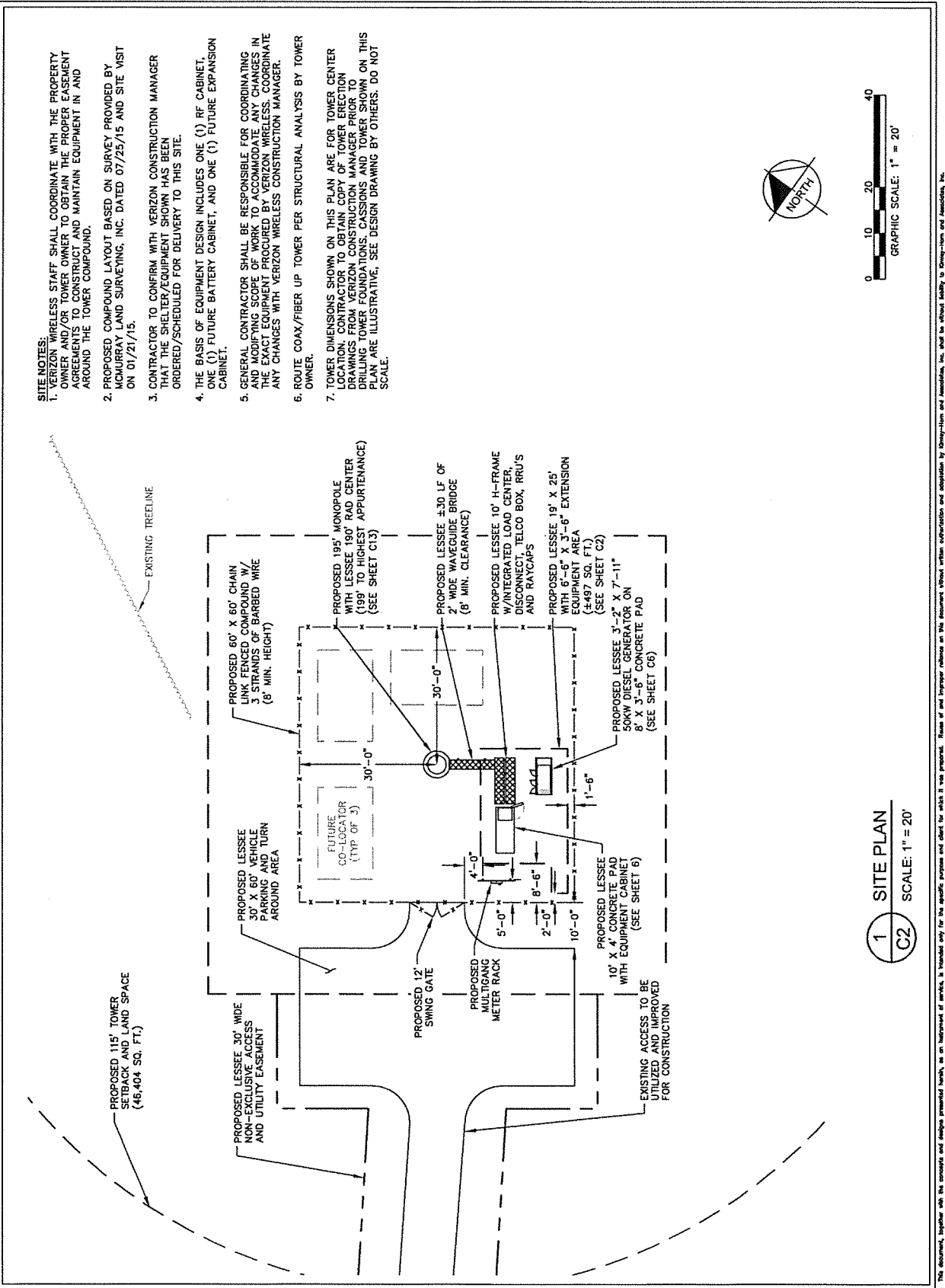
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KHA PROJECT NUMBER: 013541031
 DRAWN BY: WTB
 CHECKED BY: DMF
 SHEET TITLE: DMF

SITE PLAN

SHEET NUMBER: C2



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8801 Research Drive
Charlotte, North Carolina 28263

PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE No.: 301034
PROJECT #: 20141083209
HWY 250
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:

11750 AUBER PARK DRIVE, SUITE 600
LAURENS, SC 29555
PHONE: 770-518-4280
WWW.KIMLEY-HORN.COM

REV. DATE: ISSUED FOR: BY:

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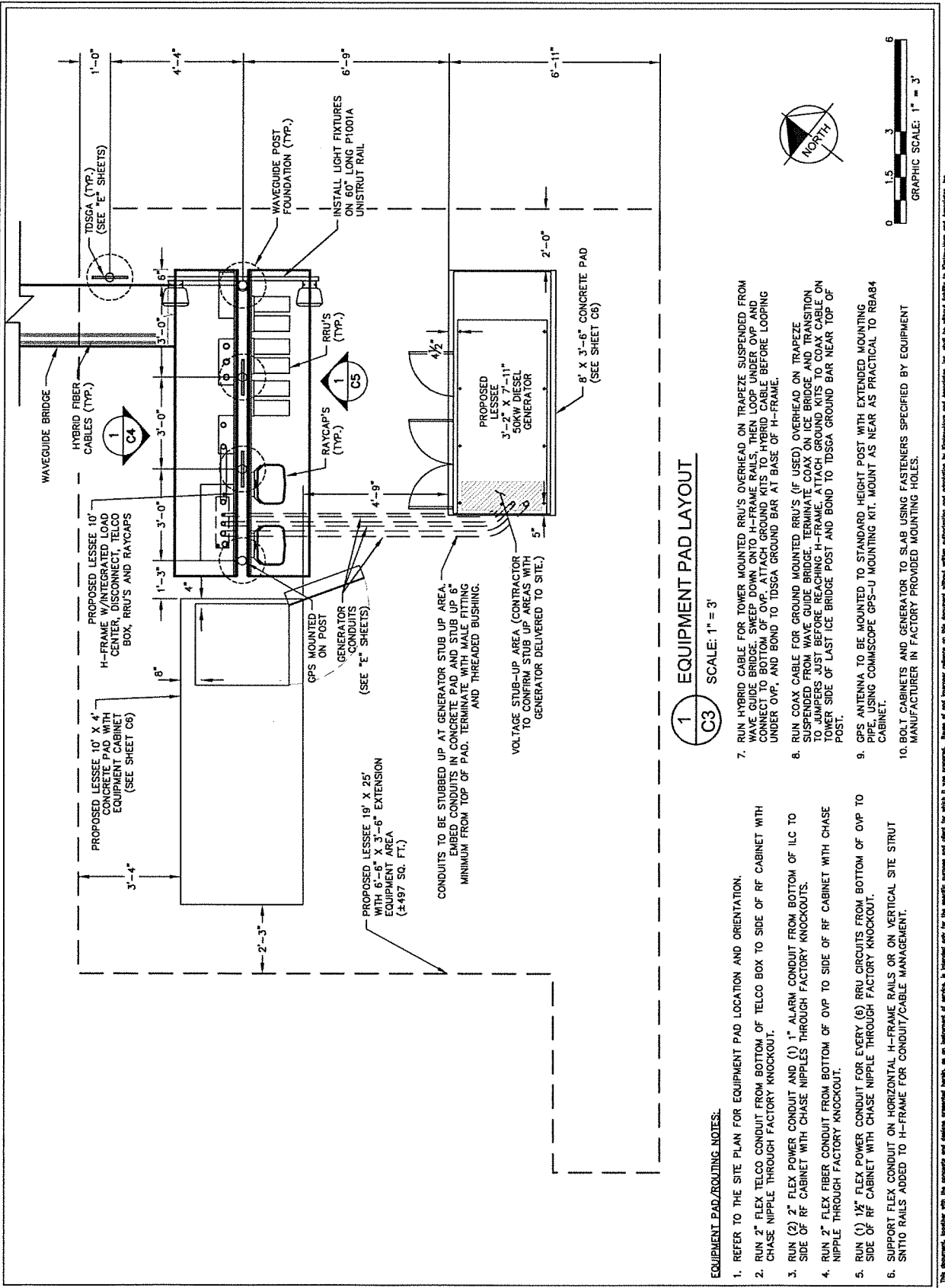
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DRAWN BY: WTB

CHECKED BY: DAF

SHEET TITLE: EQUIPMENT PAD LAYOUT

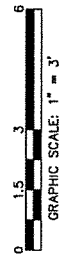
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1 C3 EQUIPMENT PAD LAYOUT
SCALE: 1" = 3'

EQUIPMENT PAD/ROUTING NOTES:

- REFER TO THE SITE PLAN FOR EQUIPMENT PAD LOCATION AND ORIENTATION.
- RUN 2" FLEX TELCO CONDUIT FROM BOTTOM OF TELCO BOX TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- RUN (2) 2" FLEX POWER CONDUIT AND (1) 1" ALARM CONDUIT FROM BOTTOM OF LC TO SIDE OF RF CABINET WITH CHASE NIPPLES THROUGH FACTORY KNOCKOUTS.
- RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- RUN (1) 1/2" FLEX POWER CONDUIT FOR EVERY (6) RRU CIRCUITS FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- SUPPORT FLEX CONDUIT ON HORIZONTAL H-FRAME RAILS OR ON VERTICAL SITE STRUT SNTIO RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.
- RUN HYBRID CABLE FOR TOWER MOUNTED RRU'S OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. SWEEP DOWN ONTO H-FRAME RAILS, THEN LOOP UNDER OVP AND CONNECT TO BOTTOM OF OVP. ATTACH GROUND KITS TO HYBRID CABLE BEFORE LOOPING UNDER OVP, AND BOND TO TDSGA GROUND BAR AT BASE OF H-FRAME.
- RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. SWEEP DOWN ONTO H-FRAME RAILS, THEN LOOP UNDER OVP, AND BOND TO TDSGA GROUND BAR AT BASE OF H-FRAME. ATTACH GROUND KITS TO COAX CABLE ON TOWER SIDE OF LAST ICE BRIDGE POST AND BOND TO TDSGA GROUND BAR NEAR TOP OF POST.
- GPS ANTENNA TO BE MOUNTED TO STANDARD HEIGHT POST WITH EXTENDED MOUNTING PIPE, USING COMMSCOPE GPS-U MOUNTING KIT. MOUNT AS NEAR AS PRACTICAL TO RB84 CABINET.
- RF CABINETS AND GENERATOR TO SLAB USING FASTENERS SPECIFIED BY EQUIPMENT MANUFACTURER IN FACTORY PROVIDED MOUNTING HOLES.

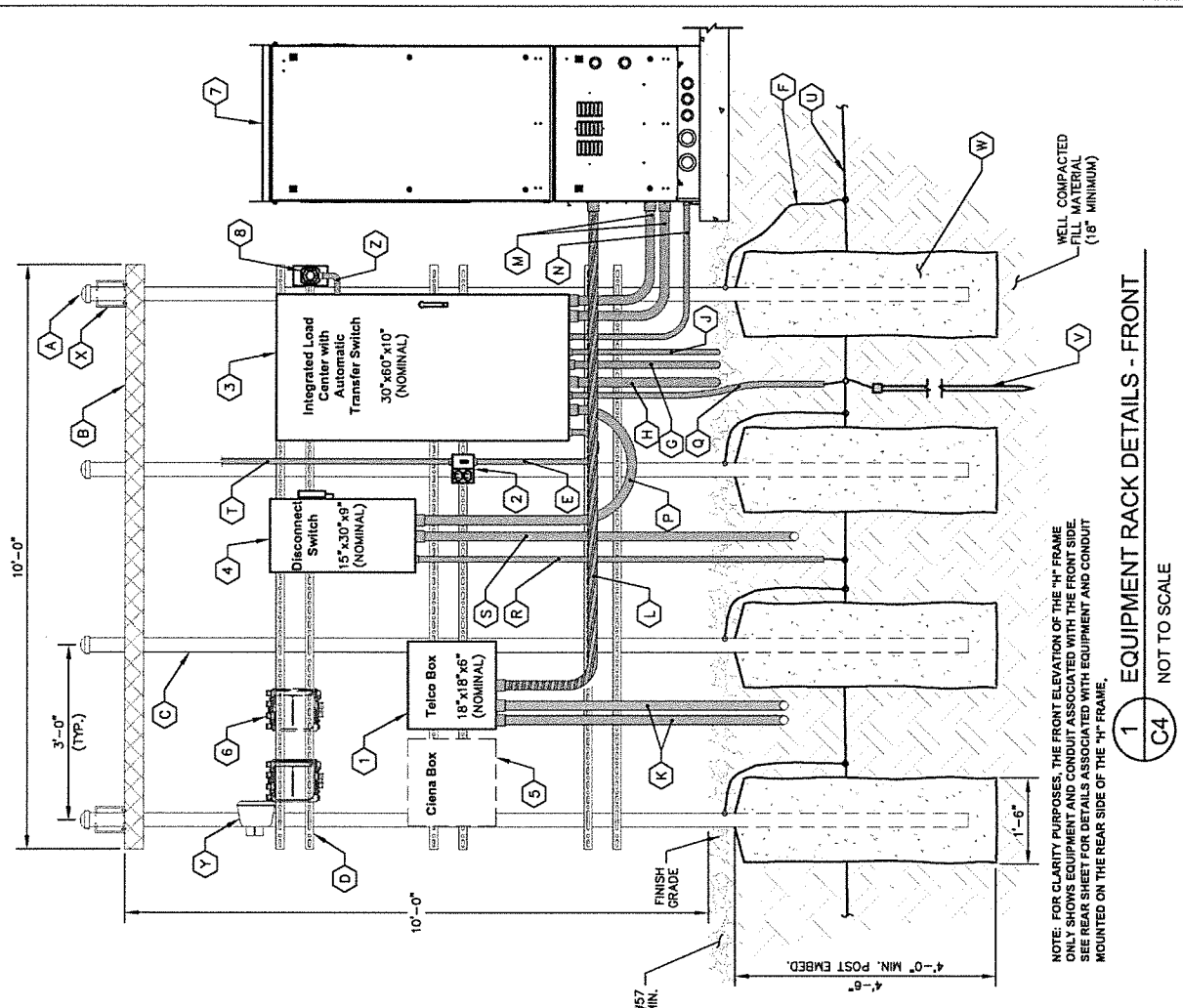


KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- A GALVANIZED RIGID STEEL CAP, TYPICAL.
- B ICE BRIDGE, SEE CIVIL SHEETS FOR ADDITIONAL DETAILS.
- C 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- D 1 1/2" x 1 1/2" GALVANIZED STEEL CHANNEL (UNISTRUT #1000) WITH PLASTIC END CAP (UNISTRUT #22860), TYPICAL.
- E 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO LIGHTS/DUPLEX OUTLET.
- F ONE (1) #2 AWG BARE SOLID TINNED COPPER BONDING CONDUCTOR (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING. EXOTHERMIC WELD, BOTH ENDS.
- G 1" PVC CONDUIT FOR ROUTING GENERATOR CONTROL AND ALARM SIGNAL CABLES TO THE GENERATOR.
- H 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO THE GENERATOR.
- I 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER.
- J TWO (2) 2" PVC TELCO CONDUITS, WITH TWO (2) PULL ROPES EACH.
- K 2" FLEX CONDUIT FOR TELCO CABLES TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- L (2) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- M 1" PVC CONDUIT FROM INTEGRATED LOAD CENTER (ILC) TO RF CABINET FOR ALARM SIGNAL CABLE. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- N 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE DISCONNECT SWITCH TO THE UTILITY BREAKER IN THE ILC.
- O 3/4" PVC CONDUIT WITH ONE (1) - #2 AWG BARE TINNED COPPER FROM GROUNDING LUG IN ILC TO GROUND ROD. EXOTHERMIC WELD TO GROUND ROD.
- P 3/4" PVC CONDUIT WITH ONE (1) - #2 AWG BARE TINNED COPPER FROM GROUNDING LUG IN DISCONNECT SWITCH TO GROUND RING. EXOTHERMIC WELD TO GROUND RING.
- Q 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE UTILITY COMPANY METER TO THE DISCONNECT SWITCH.
- R 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO AREA LIGHTS.
- S GROUND RING (SEE "E" SHEETS).
- T GROUND ROD, EXOTHERMIC WELD TO GROUND RING (SEE "E" SHEETS).
- U CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, AND INCLUDE FIBERESH 650.
- V WB-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET). THRU BOLTS REQUIRED FOR ATTACHMENT IN LIEU OF FACTORY PROVIDED U-BOLTS.
- W INSTALL LIGHT FIXTURES ON 60" LONG P1001A UNISTRUT RAIL (SEE "EQUIPMENT PAD LAYOUT" SHEET). ATTACH P1001A TO H-FRAME POST USING TWO (2) UB3 UNISTRUT CLAMPS. LIGHTS TO BE INSTALLED 7'-6" ABOVE GRADE.
- X 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE ENCLOSURE.
- Y EMERGENCY GENERATOR STOP SWITCH.

KEY NOTES - ELECTRICAL EQUIPMENT

- 1 NEMA 3R ENCLOSURE TELCO BOX WITH REMOVABLE FRONT PANEL, PVC, (18" X 18" X 6" NOMINAL).
- 2 20 AMP GFCI DUPLEX RECEPTACLE AND TIMER SWITCH, ENERLITES HET06 SERIES (OR APPROVED EQUIVALENT) IN LOCKABLE NEMA 3R ENCLOSURE, 2 GANG BOX WITH RED DOT 20KPM-W COVER.
- 3 200 AMP, 120/240 VOLT, INTEGRATED LOAD CENTER WITH 42 SPACE PANEL AND AUTOMATIC TRANSFER SWITCH (30" X 60" X 10" NOMINAL).
- 4 SE RATED, 240 V, 200 AMP, 2-POLE, NON-FUSED DISCONNECT IN NEMA 3R ENCLOSURE.
- 5 CIENA ETHERNET IF REQUIRED (COORDINATE WITH VERIZON CONSTRUCTION MANAGER FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS).
- 6 DIPLEXERS *AS NEEDED*.
- 7 VERIZON RF CABINET - REAR VIEW.
- 8 EMERGENCY SHUTOFF SWITCH FOR GENERATOR MOUNTED ON 4" X 7" GALVANIZED J-BOX COVER PLATE.



1 EQUIPMENT RACK DETAILS - FRONT
C4 NOT TO SCALE

verizon
801 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:
SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 2014-1083209
LAURENS COUNTY
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:
Kimley-Horn
11725 ARBORVIEW DRIVE, SUITE 600
GREENSBORO, NC 27409
PHONE: 770-618-4300
WWW.KIMLEY-HORN.COM
NC LICENSE # 00118

REV. DATE. ISSUED FOR: BY:
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0 04/12/22 CONSTRUCTION DMF

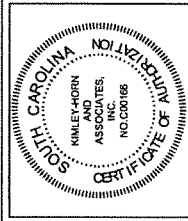
LICENSER:
SOUTH CAROLINA PROFESSIONAL ENGINEER
NO. 33270
DAVID FRANKLIN

KHA PROJECT NUMBER:
013541031
DRAWN BY: WTB
CHECKED BY: DMF
SHEET TITLE:
EQUIPMENT RACK
DETAIL - FRONT
SHEET NUMBER:
C4

PROJECT INFORMATION:

SITE NAME:
 DUNCAN CREEK
 PROJECT #: 20141083209
 HWY 309
 LAURENS COUNTY

PLANS PREPARED BY:
Kimley-Horn
 1170 JAGER PARK DRIVE, SUITE 600
 CHARLOTTE, NC 28216
 PHONE: 770-819-1200
 FAX: 770-819-1201
 WWW.KHINC.COM



REV. DATE ISSUED FOR BY:

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1	04/12/22	CONSTRUCTION (DMF)

LICENSER:

KHA PROJECT NUMBER: 013541031
DRAWN BY: WTB
CHECKED BY: DMF
SHEET TITLE:

**EQUIPMENT RACK
 DETAIL - REAR**

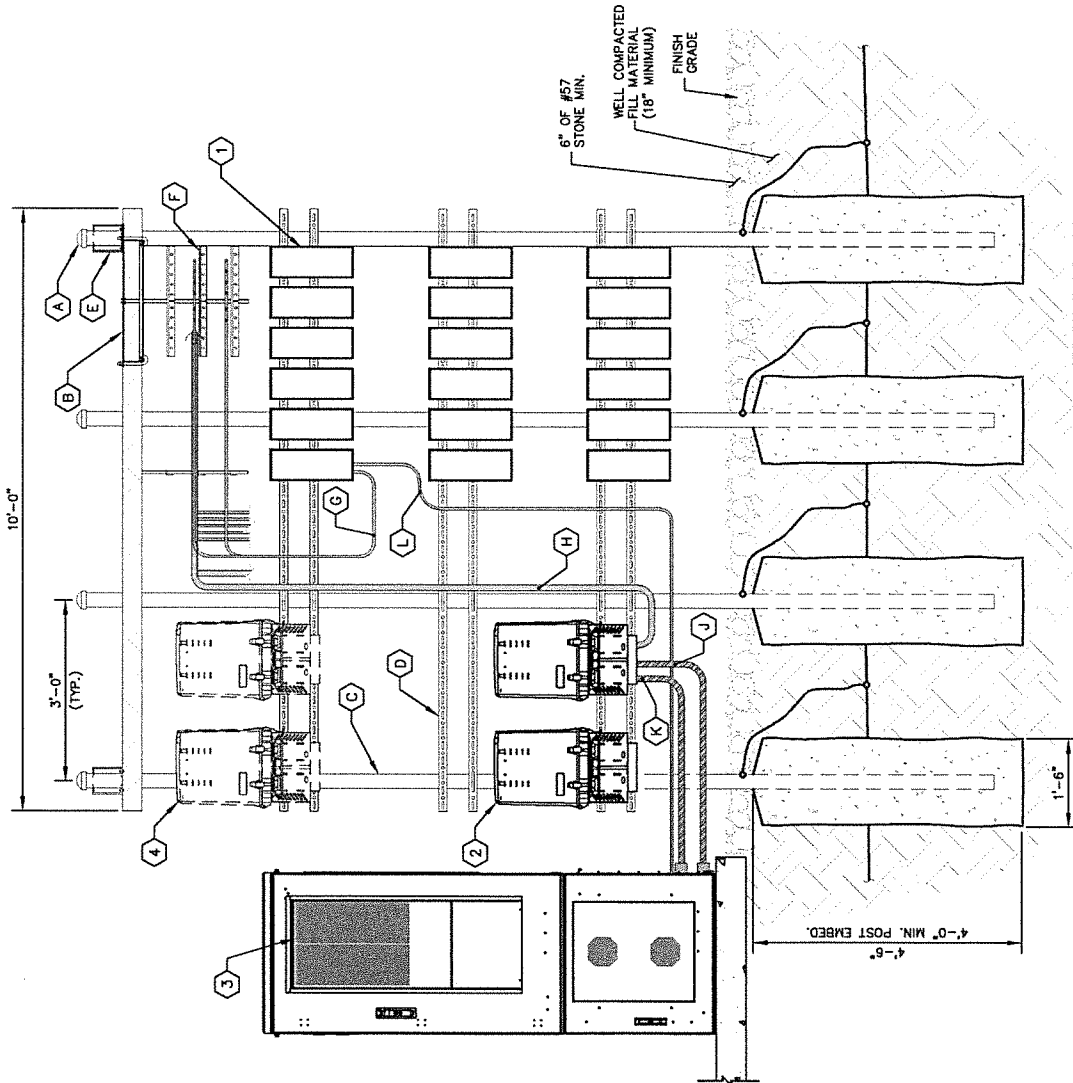
SHEET NUMBER: C5

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) ICE BRIDGE, SEE CIVIL SHEETS FOR ADDITIONAL DETAILS.
- (C) 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- (D) 1/2" X 1/2" GALVANIZED STEEL CHANNEL (UNISTRUT #F1000) WITH PLASTIC END CAP (UNISTRUT #P2660), TYPICAL.
- (E) W8-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET), THRU BOLTS REQUIRED FOR ATTACHMENT IN LEU OF FACTORY PROVIDED U-BOLTS.
- (F) ICE BRIDGE RUNNING TOWARDS TOWER (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (G) COAX JUMPER CABLES INTO BOTTOM OF RRU'S, TYPICAL.
- (H) HYBRID CABLES RUNNING INTO BOTTOM OF RAYCAPS, TYPICAL (SEE NOTE 7 ON "EQUIPMENT PAD LAYOUT" SHEET).
- (J) 1/2" POWER FLEX CONDUIT RUNNING FROM BOTTOM OF RAYCAPS TO CABINET, TYPICAL (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (K) 2" FIBER FLEX CONDUIT RUNNING FROM BOTTOM OF RAYCAPS TO CABINET, TYPICAL (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (L) FIBER/POWER JUMPER TO RRU (TYP. FOR EACH RRU).

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) VERIZON RF RRU'S (MODEL, QUANTITY OF, AND CONFIGURATION DETERMINED BY RF DESIGN).
- (2) VERIZON RAYCAPS (MODEL, QUANTITY OF, AND CONFIGURATION DETERMINED BY RF DESIGN).
- (3) VERIZON RF CABINET - FRONT VIEW.
- (4) FUTURE VERIZON RAYCAPS.



NOTE: FOR CLARITY PURPOSES, THE REAR ELEVATION OF THE "H" FRAME ONLY SHOWS EQUIPMENT AND CONDUIT ASSOCIATED WITH THE REAR SIDE. SEE FRONT SHEET FOR DETAILS ASSOCIATED WITH EQUIPMENT AND CONDUIT MOUNTED ON THE FRONT SIDE OF THE "H" FRAME.

1 EQUIPMENT RACK DETAILS - REAR
 C5 NOT TO SCALE



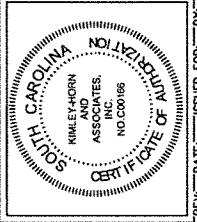
VERIZON RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28207

PROJECT INFORMATION:

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DUNCAN CREEK
SITE NO.: 20141063209
PROJECT #: 20141063209
LAURENS, SC 29360
LAURENS COUNTY

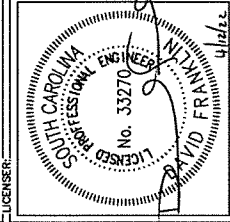


PLANS PREPARED BY:
11729 AUSTIN AVE. SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-914-4300
WWW.KHENGINEERS.COM
SC License # C20184



REV. DATE. ISSUED FOR. BY:

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0	04/12/22	CONSTRUCTION	DMF



KHA PROJECT NUMBER:
013541031

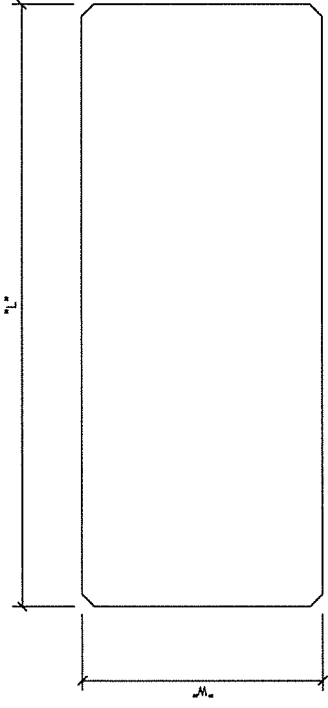
DRAWN BY:
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CHECKED BY:
DMF

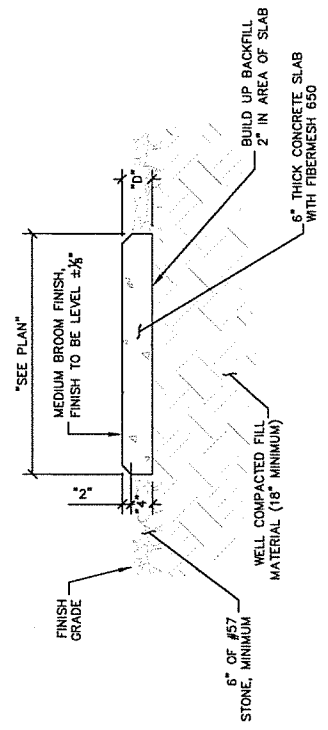
SHEET TITLE:
CONCRETE PAD FOUNDATION DETAILS

SHEET NUMBER:
C6

CONCRETE PAD SCHEDULE			
PAD TYPE	"L"	"W"	REINFORCEMENT
EQUIPMENT PAD	10'-0"	4'-0"	SEE DETAIL 2/06
GENERATOR PAD	8'-0"	3'-6"	SEE DETAIL 2/06



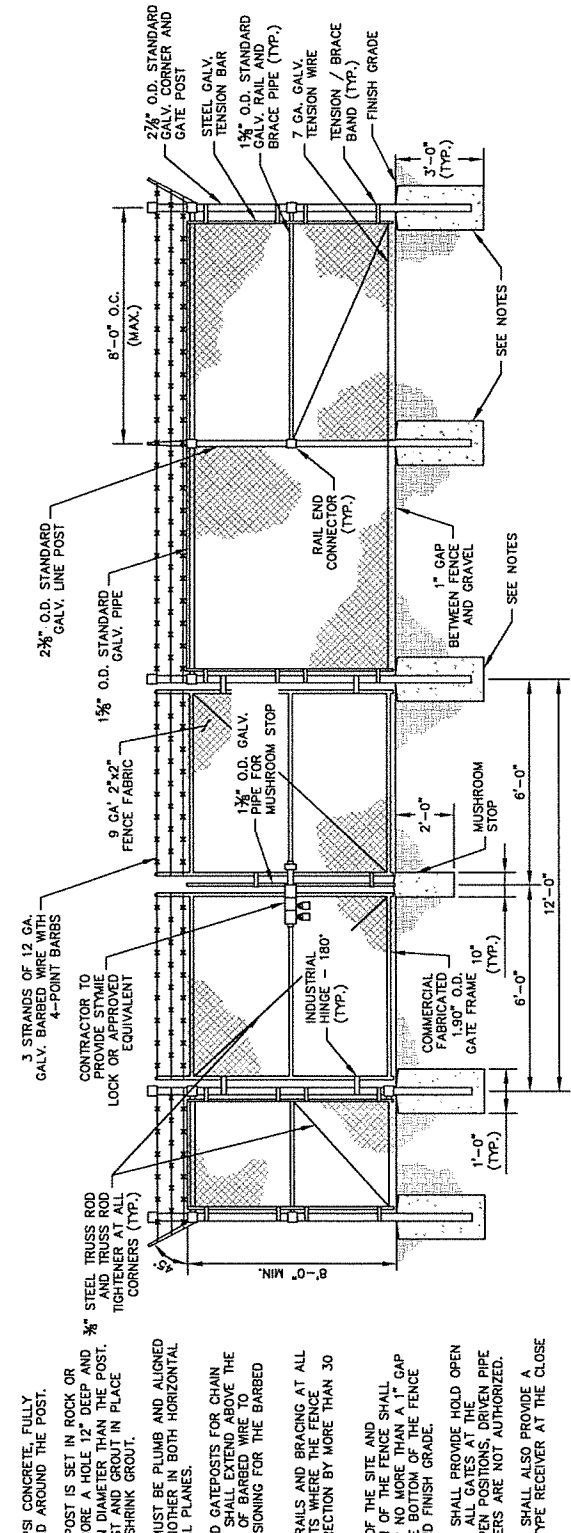
1 CONCRETE PAD PLAN
C6 NOT TO SCALE



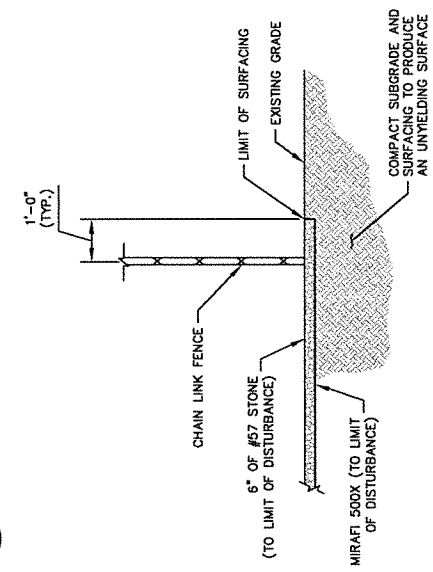
2 CONCRETE PAD FOUNDATION SECTION
C6 NOT TO SCALE

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- FENCE NOTES:**
- USE 3,000-PSI CONCRETE, FULLY CONSOLIDATED AROUND THE POST.
 - WHERE THE POST IS SET IN ROCK OR CONCRETE, CORE A HOLE 12" DEEP AND LARGER DIAMETER THAN THE POST. SET THE POST AND GROUT IN PLACE USING NON-SHRINK GROUT.
 - ALL POSTS MUST BE PLUMB AND ALIGNED WITH ONE ANOTHER IN BOTH HORIZONTAL AND VERTICAL PLANES.
 - CORNERS AND GATEPOSTS FOR CHAIN LINK FENCES SHALL PROVIDE THE TOP STRANDS OF BARBED WIRE TO PROVIDE TENSIONING FOR THE BARBED WIRE.
 - PROVIDE MIDRAILS AND BRACING AT ALL CORNER POSTS WHERE THE FENCE CHANGES DIRECTION BY MORE THAN 30 DEGREES.
 - THE GRADE OF THE SITE AND INSTALLATION OF THE FENCE SHALL PROVIDE FOR NO MORE THAN A 1" GAP BETWEEN THE BOTTOM OF THE FENCE MATERIAL AND FINISH GRADE.
 - CONTRACTOR SHALL PROVIDE HOLD OPEN DEVICES FOR ALL GATES AT MUSHROOM PIPE TYPE RECEIVERS ARE NOT AUTHORIZED.
 - CONTRACTOR SHALL ALSO PROVIDE A MUSHROOM TYPE RECEIVER AT THE CLOSE POSITION.

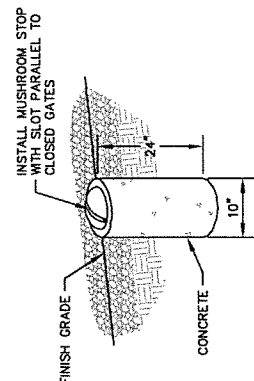


1 CHAIN LINK FENCE AND GATE ELEVATION
C7 NOT TO SCALE

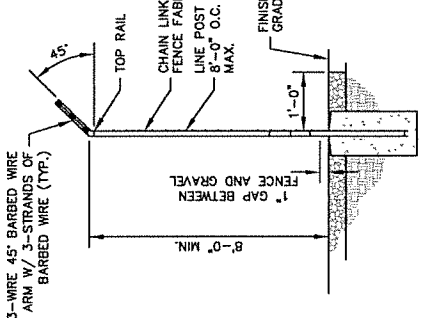


3 SITE COMPOUND SURFACE DETAIL
C7 NOT TO SCALE

2 MUSHROOM STOP
C7 NOT TO SCALE



4 SECTION AT FENCE
C7 NOT TO SCALE



verizon
801 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28268

PROJECT INFORMATION:
SITE NAME: DUNCAN CREEK
SITE No.: 301034
PROJECT #: 20141083209
HWY 292
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:
Kimley-Horn
11725 AMERIS PARK DRIVE, SUITE 800
GREENSBORO, NC 27409
PHONE: 770-614-1240
WWW.KHAFIRM.COM

SOUTH CAROLINA
KIMLEY-HORN AND ASSOCIATES, INC.
NO. 000188
CERTIFICATE OF REGISTERED PROFESSIONAL ENGINEER

REV. DATE ISSUED FOR BY:

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0	04/12/22	CONSTRUCTION	DAE

LICENSER:

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
NO. 33270
DAVID FRANKLIN

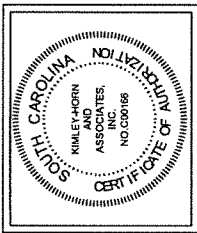
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DRAWN BY: DNF
CHECKED BY: DNF

SHEET TITLE:
FENCE, GATE, AND COMPOUND DETAILS

SHEET NUMBER:
C7



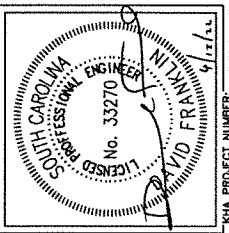
PROJECT INFORMATION:
 SITE NAME:
 DUNCAN CREEK
 SITE No.: 301034
 PROJECT #: 2014.1083209
 HWY 309
 LAURENS COUNTY
 PLANS PREPARED BY:



REV. DATE. ISSUED FOR. BY.

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1	04/13/22	CONSTRUCTION	DMF

LICENSER:



KHA PROJECT NUMBER: 013541031
 DRAWN BY: WTB
 CHECKED BY: DMF

SHEET TITLE:
 GRADING AND EROSION CONTROL DETAILS

SHEET NUMBER:
 C9

SEEDING SCHEDULE FOR WINTER / SPRING CONSTRUCTION ACTIVITIES

SEEDING MIXTURE

Species	Rate (lb/acre)
Common Bermudagrass	40-60 (1-2 lb./1,000 sq.ft.)

SEEDING DATES
 Coastal Plain--Apr. 1 - July
 Piedmont--Apr. 15 - June 30

SOIL AMENDMENTS
 Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.

MULCH
 Use lime, escudator matting, or other effective channel lining material to cover the bottom of channels and ditches. The lining should extend above the highest calculated depth of flow. On channel side slopes above this height, and in drainages not requiring temporary lining, apply 4,000 lb/acre grain straw and anchor straw by stepping matting over the top.

MAINTENANCE
 A minimum of 3 weeks is required for establishment. Inspect and repair mulch frequently. Refertilize the following Apr. with 50 lb/acre nitrogen.

SEEDING SCHEDULE FOR SUMMER CONSTRUCTION ACTIVITIES

SEEDING MIXTURE

Species	Rate (lb/acre)
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	120
Rye (grain)	50

SEEDING DATES
 Mountains-- Above 2500 ft.: Feb. 15 - May 15
 Below 2500 ft.: Feb. 1 - May 1
 Piedmont--Jan. 1 - May 1
 Coastal Plain--Dec. 1 - Apr. 15

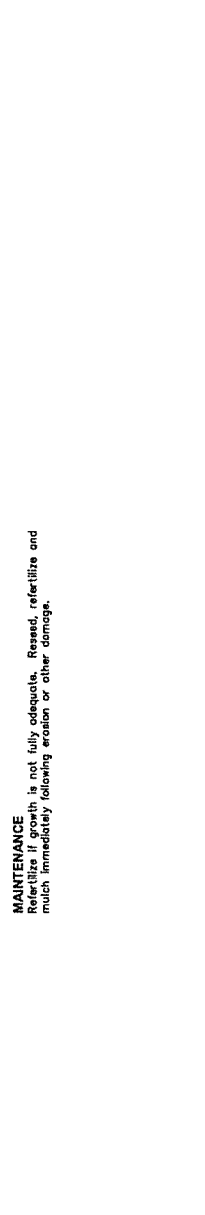
SOIL AMENDMENTS
 For soil amendments of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

MULCH
 Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

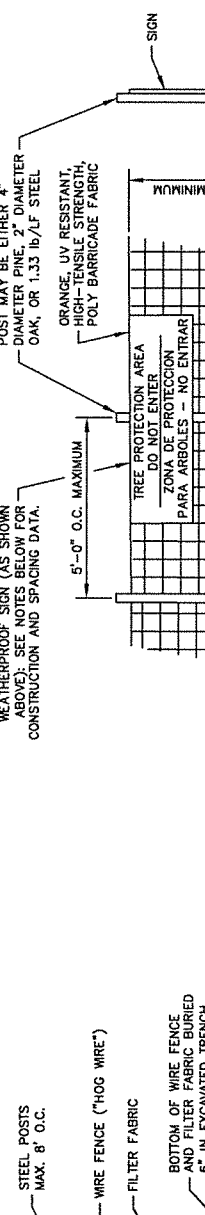
MAINTENANCE
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

EROSION CONTROL NOTES:

1. EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE.
2. ALL EXCAVATED SOILS NOT NEEDED ON SITE OR PAVED ARE TO BE STORED IN A LEGAL MANNER AND SHALL BE TAKEN OFF SITE AND LEGALLY DISPOSED OF.
3. SOIL REMAINING ON SITE SHALL HAVE SILT FENCE TIGHTLY PLACED AROUND THE ENTIRE CIRCUMFERENCE OF THE PILE.
4. PROVIDE EROSION CONTROLS AS NECESSARY TO PREVENT EXISTING SOILS FROM DRAINING OFF SITE OR INTO EXISTING DRAINAGE STRUCTURES.
5. ERECTION OF EROSION CONTROLS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL EROSION CONTROL REGULATIONS.




SECTION
 1 SEDIMENT FENCE (SILT FENCE)
 C9 NOT TO SCALE



SECTION
 2 TREE PROTECTION FENCE
 C9 NOT TO SCALE

NOTES
 INSTALL TREE PROTECTION FENCE AND SIGNAGE PRIOR TO CALLING FOR SITE INSPECTION. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT. ADDITIONAL SIGNS MAY BE REQUIRED BASED ON ACTUAL FIELD CONDITIONS.




VERIZON
COMMUNICATIONS INC.
CHARLOTTE, NORTH CAROLINA, 28203

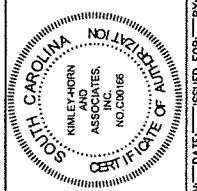
PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 20141063209
DATE: 04/12/22
LAURENS, SC 29360
LAURENS COUNTY

PLANS PREPARED BY:



11729 AUSTIN RD. SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-661-0300
WWW.KHENGINEERING.COM
LIC. NO. SC License: 020189



SOUTH CAROLINA
KIMLEY-HORN
AND
ASSOCIATES
REGISTERED PROFESSIONAL ENGINEER
NO. 000166
DAVID FRANKLIN
4/12/22

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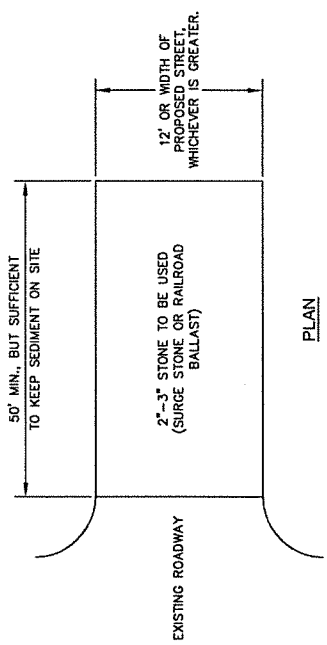
REVISIONS: DATE: ISSUED FOR: BY:

KHA PROJECT NUMBER:
013541031

DRAWN BY: YWB
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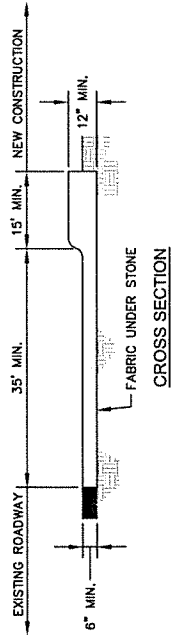
SHEET TITLE:
ACCESS ROAD
DETAILS

SHEET NUMBER:
C10



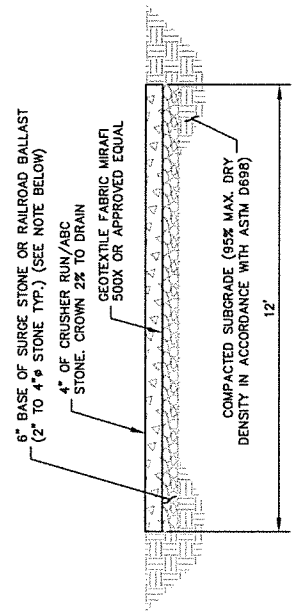
PLAN

- NOTES:**
1. BUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
 2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
 3. IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE GOVERNING AUTHORITIES WILL CLEAN UP THE MUD AND DEBRIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERSON AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM.



1 CONSTRUCTION ENTRANCE

C10 NOT TO SCALE



NOTE:
IF DETERMINED NECESSARY DURING GRADING AND CONSTRUCTION OF THE ACCESS ROAD BY THE VERIZON WIRELESS PROJECT MANAGER, THE CONTRACTOR SHALL INSTALL 6" BASE OF SURGE STONE OR RAILROAD BALLAST (2" TO 4" STONE TYP.)

2 STANDARD ACCESS ROAD AND TURN-AROUND DETAIL

C10 NOT TO SCALE

REI BISHOU DRINK
CHARLOTTE, NORTH CAROLINA 28282

PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 2014108209
REV: 209
LAURENS COUNTY

PLANS PREPARED BY:

Kimley-Horn
11720 JAGER PARK DRIVE, SUITE 600
CHARLOTTE, NORTH CAROLINA 28217
PHONE: 770-418-4300
FAX: 770-418-4301
WWW.KH.COM

REV. DATE: ISSUED FOR: BY:

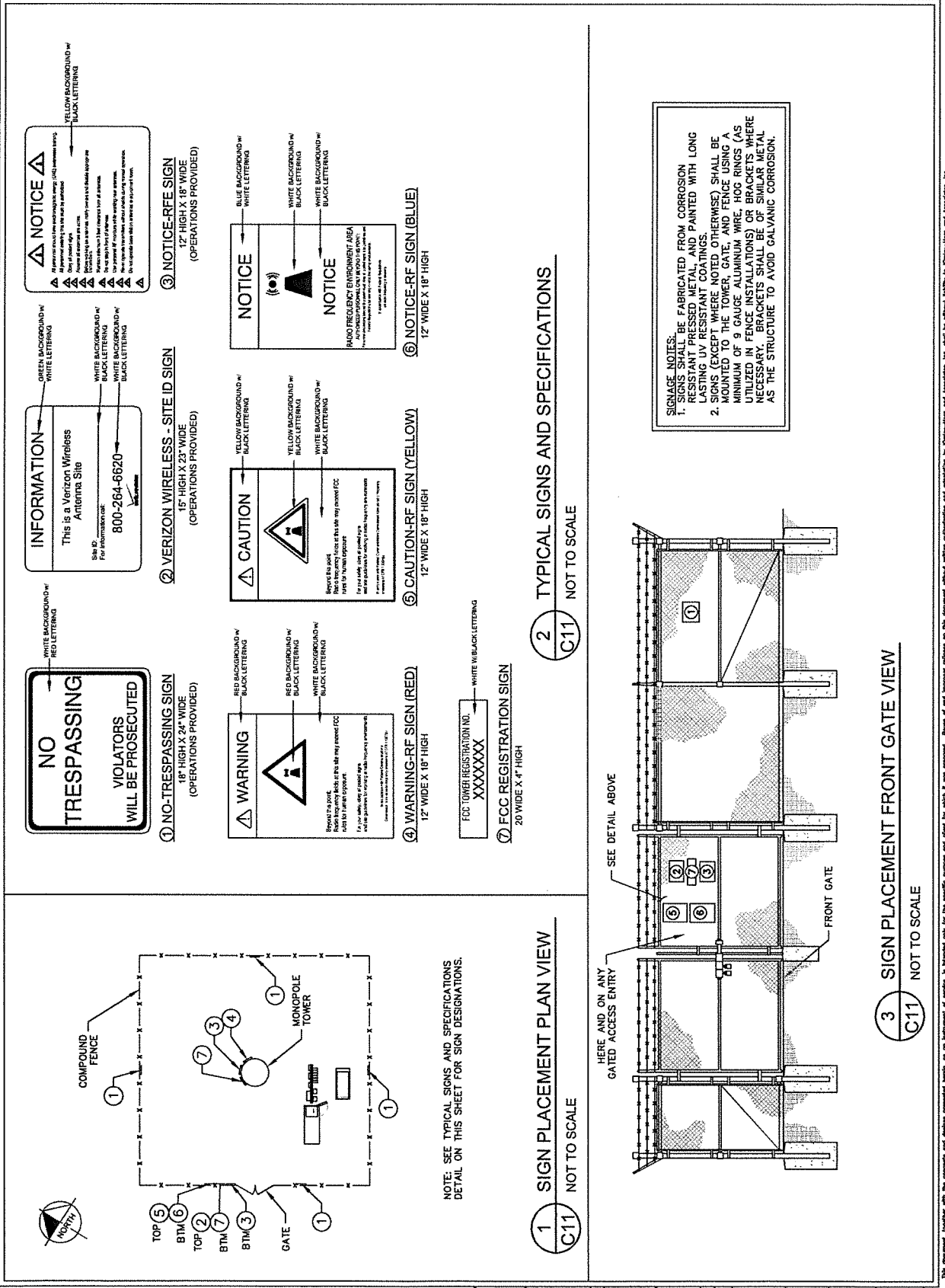
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1	04/12/22	CONSTRUCTION DWF

PROJECT NUMBER:
013541031

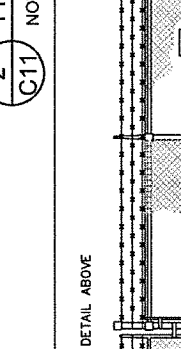
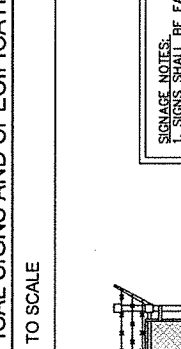
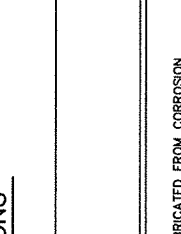
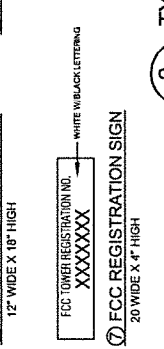
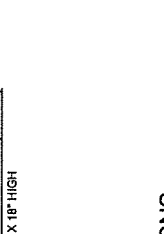
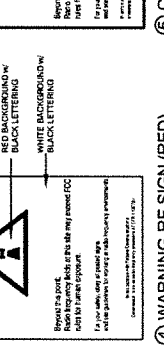
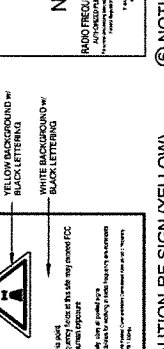
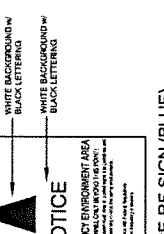
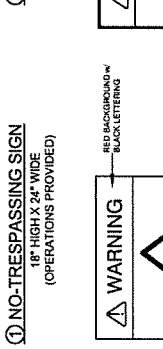
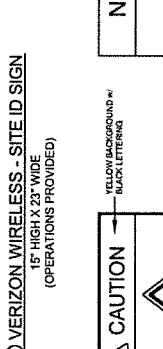
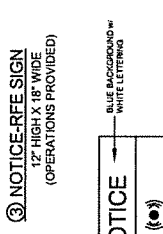
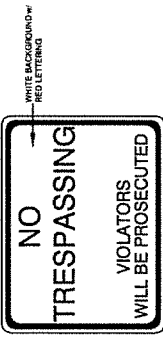
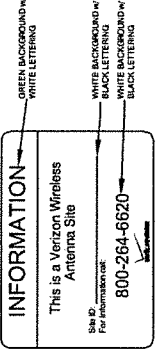
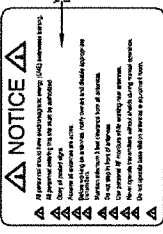
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CHECKED BY: DWF

SHEET TITLE:
SITE SIGNAGE
DETAILS

SHEET NUMBER:
C11



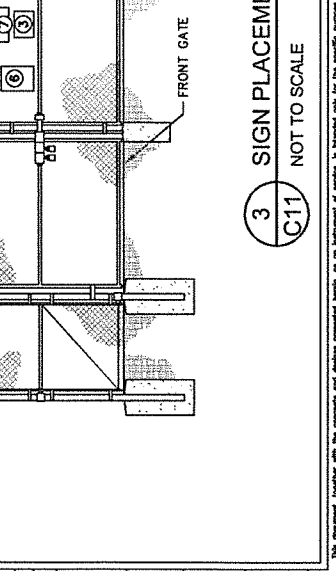
NOTE: SEE TYPICAL SIGNS AND SPECIFICATIONS
DETAIL ON THIS SHEET FOR SIGN DESIGNATIONS.



2 TYPICAL SIGNS AND SPECIFICATIONS
C11 NOT TO SCALE

1 SIGN PLACEMENT PLAN VIEW
C11 NOT TO SCALE

3 SIGN PLACEMENT FRONT GATE VIEW
C11 NOT TO SCALE



NOTE: SEE TYPICAL SIGNS AND SPECIFICATIONS
DETAIL ON THIS SHEET FOR SIGN DESIGNATIONS.

verizon
8811 RESCAROL DRIVE
CHARLOTTE, NORTH CAROLINA 28263

PROJECT INFORMATION:
SITE NAME:
DUNCAN CREEK
SITE No.: 301034
PROJECT #: 2014-1083209
HWY 300
LAURENS COUNTY
LAURENS COUNTY

Kimley-Horn
11720 AUBURN PARK DRIVE, SUITE 800
FARMERSVILLE, NORTH CAROLINA 27834
PHONE: 770-814-2280
WWW.KIMLEY-HORN.COM
LIC. ENGINEER NO. 33270

SOUTH CAROLINA
KIMLEY-HORN
AND
ASSOCIATES
INC. 001088
CERTIFICATE OF
QUALIFICATION

REV. DATE ISSUED FOR BY

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1	04/12/22	CONSTRUCTION	DMF

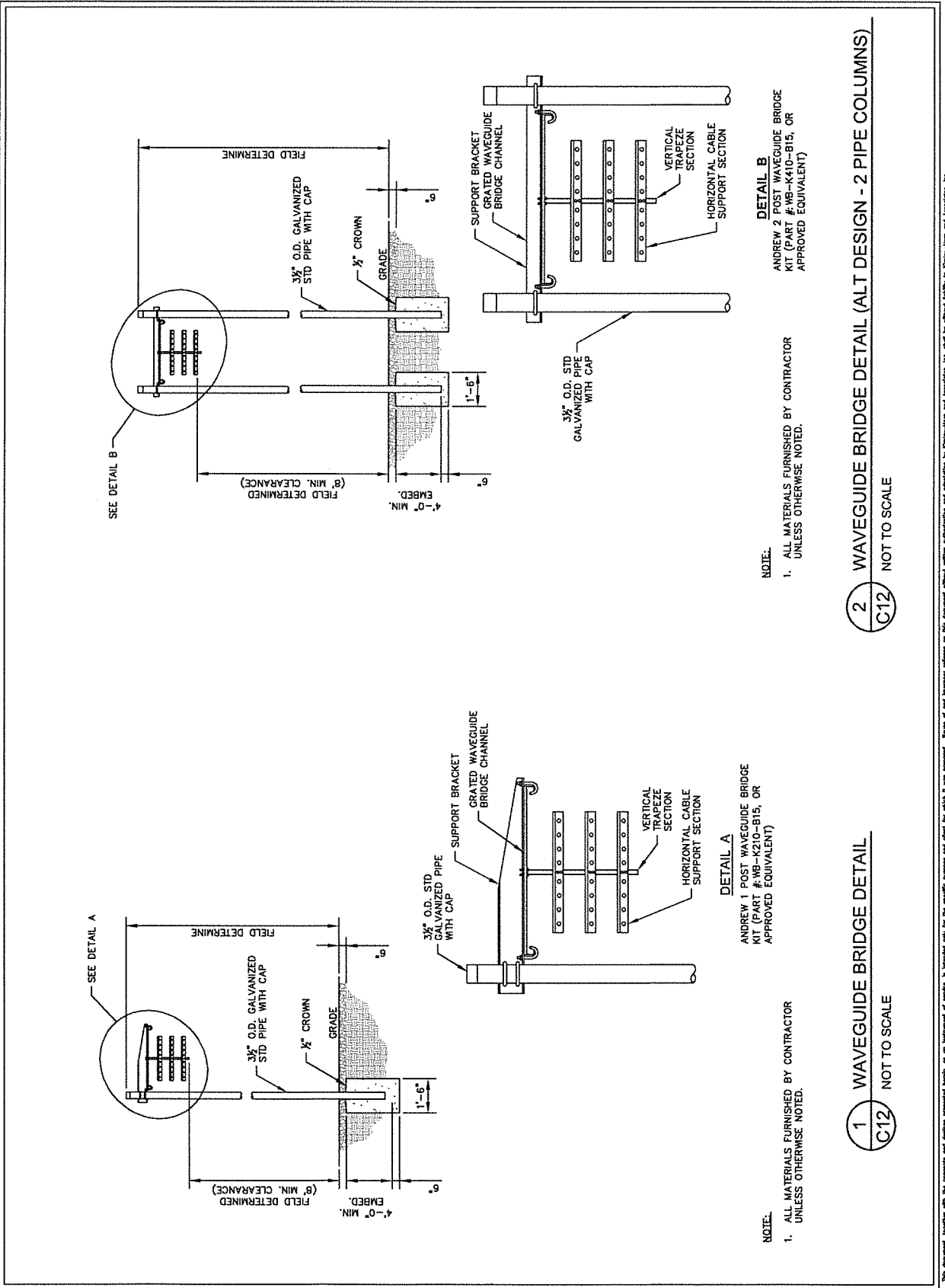
LICENSER:

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 33270
DAVID FRANKLIN

KHA PROJECT NUMBER: 41874.1
DRAWN BY: 013541031
CHECKED BY:
WTB
DMF
SHEET TITLE:

**WAVEGUIDE
BRIDGE DETAILS**

SHEET NUMBER:
C12

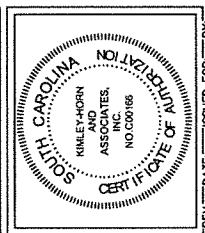


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PROJECT INFORMATION:
 SITE NAME: DUNCAN CREEK
 SITE NO.: 301034
 PROJECT #: 20141083209
 ADDRESS: 1000 W. LAURENS RD
 LAURENS, SC 29340
 LAURENS COUNTY



REV. DATE: ISSUED FOR: BY:

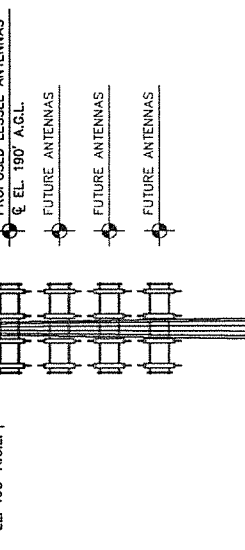
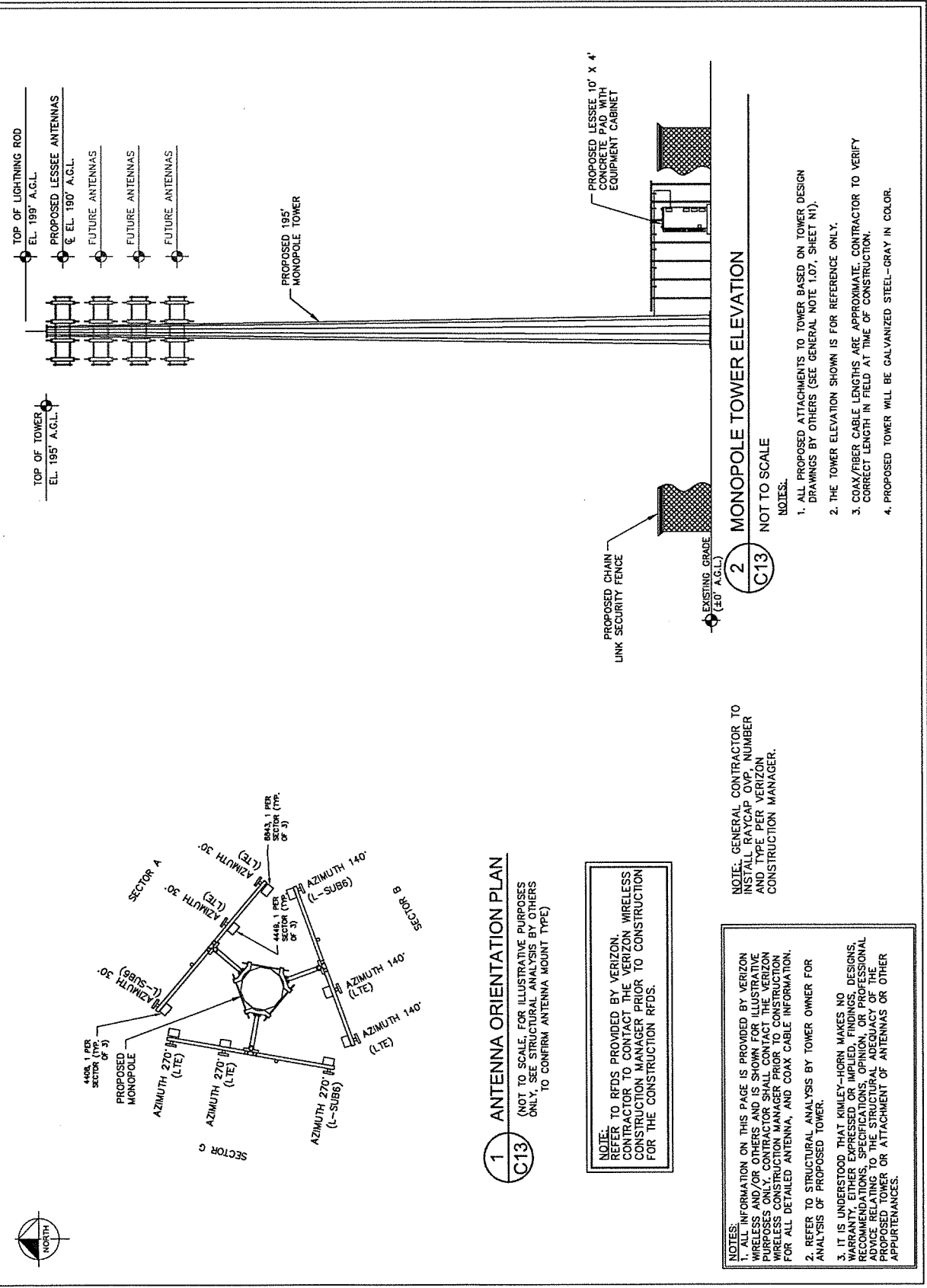
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FOR ILLUSTRATIVE PURPOSES ONLY - NO SIGNATURE REQUIRED

KHA PROJECT NUMBER: 013541031
 DRAWN BY: WTB
 CHECKED BY: DMF

ANTENNA AND TOWER ELEVATION DETAILS

SHEET NUMBER: C13



1 ANTENNA ORIENTATION PLAN
C13

(NOT TO SCALE, FOR ILLUSTRATIVE PURPOSES ONLY, SEE STRUCTURAL ANALYSIS BY OTHERS TO CONFIRM ANTENNA MOUNT TYPE)

NOTE: REFER TO RFDS PROVIDED BY VERIZON. CONTRACTOR TO CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR THE CONSTRUCTION RFDS.

NOTES:
 1. ALL INFORMATION ON THIS PAGE IS PROVIDED BY VERIZON WIRELESS AND/OR OTHERS AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR ALL DETAILED ANTENNA, AND COAX CABLE INFORMATION.
 2. REFER TO STRUCTURAL ANALYSIS BY TOWER OWNER FOR ANALYSIS OF PROPOSED TOWER.
 3. IT IS UNDERSTOOD THAT KIMLEY-HORN MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, FINDINGS, DESIGN, RECOMMENDATIONS, SPECIFICATIONS, OPINION, OR PROFESSIONAL ADVICE RELATING TO THE STRUCTURAL ADEQUACY OF THE PROPOSED TOWER OR ATTACHMENT OF ANTENNAS OR OTHER APPURTENANCES.

NOTE: GENERAL CONTRACTOR TO INSTALL RAYCAP CMP, NUMBER AND TYPE PER VERIZON CONSTRUCTION MANAGER.

2 MONOPOLE TOWER ELEVATION
C13

NOT TO SCALE

NOTES:

1. ALL PROPOSED ATTACHMENTS TO TOWER BASED ON TOWER DESIGN DRAWINGS BY OTHERS (SEE GENERAL NOTE 1.07, SHEET N1).
2. THE TOWER ELEVATION SHOWN IS FOR REFERENCE ONLY.
3. COAX/FIBER CABLE LENGTHS ARE APPROXIMATE. CONTRACTOR TO VERIFY CORRECT LENGTH IN FIELD AT TIME OF CONSTRUCTION.
4. PROPOSED TOWER WILL BE GALVANIZED STEEL—GRAY IN COLOR.

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ELECTRICAL NOTES

1.00 CODES, STANDARDS, & SPECIFICATIONS

- 1.01 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND LABOR RELATED DIRECTLY OR INDIRECTLY TO ALL ELECTRICAL WORK DOCUMENTED IN THESE DRAWINGS SHALL BE PROVIDED AND PERFORMED IN CONFORMANCE WITH ALL CURRENT GOVERNING CODES, STANDARDS, AND PROFESSIONAL STANDARD OF CARE TO INCLUDE THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM), UNDERWRITERS LABORATORY (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN STANDARDS ASSOCIATION (ASA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND THE NATIONAL ELECTRICAL CODE (NEC).
- 1.02 MATERIALS SHALL BE NEW AND SHALL CONFORM TO ALL APPLICABLE CURRENT GOVERNING STANDARDS ESTABLISHED FOR EACH ITEM BY ASTM, UL, NEMA, ASA, AND NFPA.
- 1.03 ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY, AND MUNICIPAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT GOVERNING STANDARDS AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND THE LOCAL UTILITY COMPANY.
- 1.04 ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE CURRENT EDITION OF THE NEC.
- 1.05 CONTRACTOR SHALL MAINTAIN UL LISTED FIRE RATINGS AT ALL WALL PENETRATIONS.
- 1.06 CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 36" IN ALL CONDUIT RUNS. MINIMUM CLEARANCE SHALL BE OBSERVED FOR BOTH THE FRONT AND THE REAR OF THE METER H-FRAME RACK AND THE EQUIPMENT H-FRAME RACK.

2.00 GENERAL

- 2.01 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND ASSOCIATED FEES RELATED TO THE PROJECT AND SHALL DELIVER A COPY OF ALL PERMITS TO THE VERIZON REPRESENTATIVE.
- 2.02 CONTRACTOR SHALL SCHEDULE AND SHOULD ATTEND ALL INSPECTIONS REQUIRED BY THE JURISDICTION HAVING AUTHORITY.
- 2.03 CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC., FOR A COMPLETE WORKING ELECTRICAL INSTALLATION.
- 2.04 ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
- 2.05 CONTRACTOR SHALL PROTECT ADJACENT EQUIPMENT AND FINISHES FROM DAMAGE AND SHALL REPAIR TO ORIGINAL CONDITION ANY ITEMS DAMAGED AS A RESULT OF THE WORK.
- 2.06 CONTRACTOR SHALL REPAIR ANY LANDSCAPING DISTURBED DURING CONSTRUCTION.
- 2.07 IF CONDUIT RUNS HAVE MORE THAN THREE (3) CONSECUTIVE 90 DEGREE TURNS, THE CONTRACTOR SHALL INSTALL PULL BOXES AS REQUIRED BY NEC.
- 2.08 CONTRACTOR SHALL INDICATE THE LOCATION OF ALL CAPPED UNDERGROUND SPARE CONDUIT ON THE RECORD DRAWINGS SUBMITTED TO THE OWNER.
- 2.09 CONTRACTOR SHALL COORDINATE EXACT ROUTING OF CONDUIT WITH OWNER. ALL CONDUIT SHALL BE ROUTED WITHIN 3 FEET, EITHER SIDE, OF PERMETER FENCING.

3.00 MATERIALS

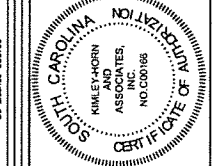
- 3.01 ALL EQUIPMENT AND MATERIALS SHOWN SHALL BE CONSIDERED NEW UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
- 3.02 FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT SUPPLIED BY VERIZON.
- 3.03 CONTRACTOR SHALL PROVIDE AN UPDATED PANELBOARD DIRECTORY FOR THE PANEL FROM WHICH THE NEW VERIZON EQUIPMENT CIRCUIT WILL BE CONNECTED. CONTRACTOR SHALL SUBMIT UPDATED DIRECTORY IN A PLASTIC COVER TO THE BUILDING OWNER FOR APPROVAL PRIOR TO INSTALLATION.
- 3.04 CONTRACTOR SHALL FIELD DETERMINE ACTUAL CONDUIT ROUTING AND SHALL OBTAIN APPROVAL FROM THE WORKER OWNER OF THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLATION.
- 3.05 ALL CONDUCTORS SHALL BE COPPER WITH THIN INSULATION AND ALL TERMINATIONS SHALL BE RATED FOR AT LEAST 75 DEGREES CELSIUS.
- 3.06 ALL NEUTRAL CONDUCTORS SHALL HAVE WHITE INSULATION. ALL GROUND CONDUCTORS SHALL HAVE GREEN INSULATION. COLOR TAPE IDENTIFICATION OF THESE CONDUCTORS IS NOT PERMITTED.
- 3.07 CONTRACTOR SHALL SEAL ALL CONDUITS ENTERING AN ENCLOSURE WITH CONDUIT SEALANT THAT IS COMPATIBLE WITH THE INSULATION OF THE CONDUCTORS IN THE CONDUIT.
- 3.08 CONDUIT RUNS SHALL HAVE A CONTINUOUS DOWNWARD SLOPE AWAY FROM ALL EQUIPMENT TO PREVENT WATER INFILTRATION.
- 3.09 ALL CONDUIT SHALL BE SCHEDULE 40 PVC UNLESS NOTED OTHERWISE ON THE PLANS. WHEN CONDUIT IS ROUTED UNDER A ROADWAY, SCHEDULE 80 PVC CONDUIT SHALL BE UTILIZED. MANUFACTURED BEND RADI SHALL BE PER NEC.
- 3.10 POLYETHYLENE PULL CORDS IN ALL CONDUITS AND ALL INNERDUCTS. PULL CORDS SHALL BE SECURED AT EACH END OF CONDUIT RUNS. ALL SPARE CONDUIT ENDS SHALL BE CAPPED WITH MANUFACTURED PVC FITTINGS.
- 3.11 CONTRACTOR SHALL BOND EACH METALLIC CONDUIT ENTERING AN ENCLOSURE WITH COPPER BONDING JUMPER PER NEC. CONDUCTOR SHALL BOND ALL ELECTRICAL EQUIPMENT TO THE H-FRAME RACK ON WHICH EQUIPMENT IS MOUNTED WITH #8 MIN AWG INSULATED COPPER BONDING JUMPERS PER NEC.
- 3.12 CONTRACTOR SHALL IDENTIFY THE END OF ALL SPARE UNDERGROUND CONDUITS AND PROVIDE AND INSTALL 90 DEGREE ELBOWS AT EACH CONDUIT EXTENSION TO BE CONNECTED TO THE METER H-FRAME RACK. CONTRACTOR SHALL TERMINATE CONDUITS WITH MANUFACTURED CONDUIT CAPS THAT THE CONTRACTOR HAS PAINTED ORANGE.
- 3.13 CONTRACTOR SHALL PROVIDE AND INSTALL AN ENGRAVED PHENOLIC PLATE ON THE FRONT OF THE INTEGRATED LOAD CENTER. THE WORDING ON THE PLATE SHALL READ AS FOLLOWS: "MAXIMUM DRAW OF ALL RECITIFERS AND CAPACITORS ON THIS PANEL SHALL BE LIMITED TO 100% OF THE AVAILABLE POWER IS REQUIRED, THE EXISTING 50KW GENERATOR MUST BE REPLACED."

4.00 PRE-CONSTRUCTION COORDINATION

- 4.01 CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND NOTE EXISTING CONDITIONS THAT MIGHT AFFECT THEIR WORK. ALL SUCH CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO BID.
- 4.02 THE CONTRACTOR SHALL PROVIDE A UTILITY LOCATOR AND SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 4.03 CONTRACTOR SHALL VERIFY, PRIOR TO ROUGH-IN, THAT SITE CONDITIONS ALLOW FOR THE PLACEMENT OF THE ELECTRICAL EQUIPMENT AS SHOWN ON THE PLANS.
- 4.04 CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRICAL JURISDICTION REGARDING LOCAL FROST LINE REQUIREMENTS, TRANSFORMER, METERING REQUIREMENTS, AND CONDUIT ROUTING BETWEEN TRANSFORMER AND METER.
- 4.05 CONTRACTOR SHALL COORDINATE WITH LOCAL TELCO UTILITY REGARDING THE EXACT LOCATION OF THE TELCO SERVICE ENTRY POINT.
- 4.06 CONTRACTOR SHALL COORDINATE WITH AUTHORITY HAVING JURISDICTION REGARDING LOCAL FROST LINE REQUIREMENTS FOR RACEWAY MATERIAL SELECTION AND INSTALLATION.
- 4.07 CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AT THE INTEGRATED LOAD CENTER AND PROVIDE ARC FLASH LABEL PER NEC.
- 4.08 ALL CIRCUIT BREAKERS AND EQUIPMENT SHALL HAVE A MINIMUM AIC RATING OF 10,000 AIPS. THE RATING OF THE UTILITY TRANSFORMER PROVIDING THE ELECTRICAL SERVICE IS GREATER THAN 75 KVA. THE CONTRACTOR SHALL PERFORM A SHORT CIRCUIT ANALYSIS TO DETERMINE THE REQUIRED AIC RATING FOR THE CIRCUIT BREAKERS AND EQUIPMENT. PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRICAL UTILITY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT IN THE LOCATION WHERE THE EQUIPMENT WILL BE OBTAINING AIC SURGE AS REQUIRED PER NEC 241. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT.



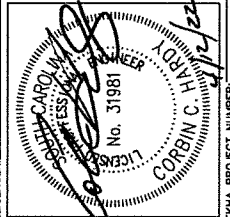
PROJECT INFORMATION:
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 DUNCAN CREEK
 SITE No.: 301034
 PROJECT #: 20141093209
 DATE: 07/23/14
 LAURERS COUNTY
 LAURERS COUNTY



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DESIGNER:



KHA PROJECT NUMBER:
 013541031
 DRAWN BY: _____ CHECKED BY: _____
 WTB DNF

SHEET TITLE:
ELECTRICAL NOTES

SHEET NUMBER:
E1



8817 RESARCO DRIVE
CHARLOTTE, NORTH CAROLINA 28213

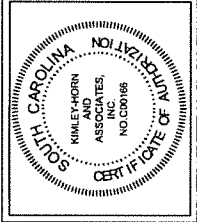
PROJECT INFORMATION:

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DUNCAN CREEK
SITE No.: 301034
PROJECT #: 20141083209
HWY 202
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:



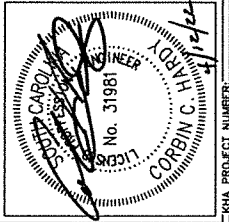
11720 AMBER DAWN DRIVE, SUITE 800
COLUMBIANA, NORTH CAROLINA 28028
PHONE: 770-814-4300
FAX: 770-814-4301
WWW.KHASSOCIATES.COM
NC License # 020102



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LICENSER:



KHA PROJECT NUMBER: 013541031
DRAWN BY: MTB
CHECKED BY: DMF
SHEET TITLE: UTILITY SERVICE ROUTING PLAN

SHEET NUMBER: E2

KEY NOTES - ELECTRICAL EQUIPMENT

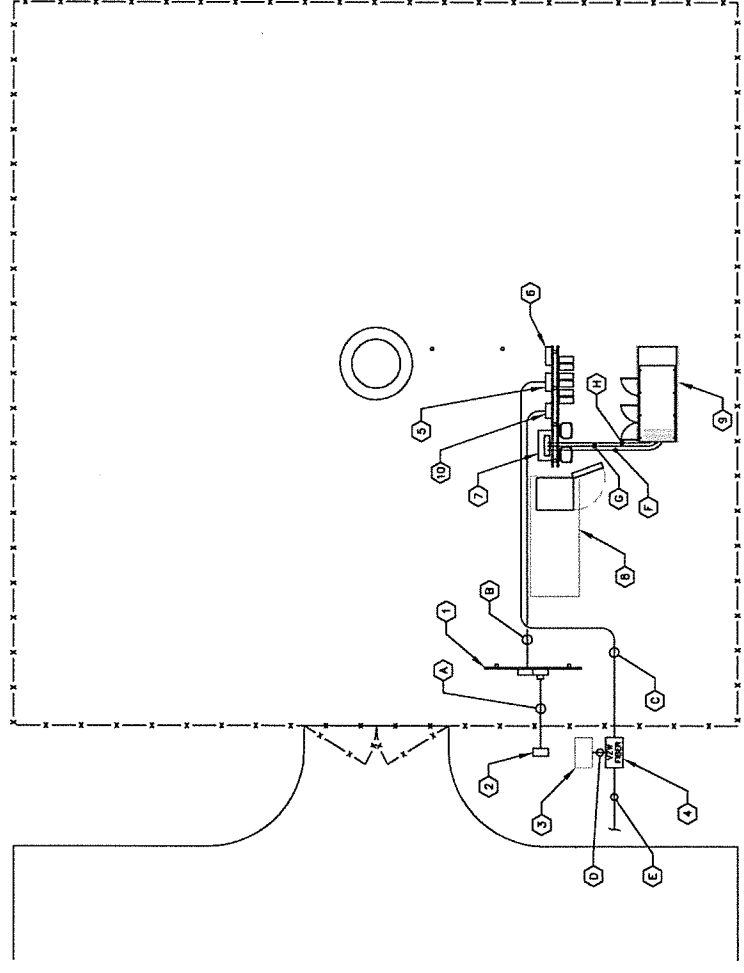
- 1 UTILITY METER H-FRAME (SEE DETAIL 1/E4).
- 2 POWER STUB UP (SEE NOTE 4.04 ON SHEET E1).
- 3 EXISTING LIT FIBER HANDHOLE/PEDESTAL (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION).
- 4 TRAFFIC RATED TELCO VAULT LABELED "VZW FIBER" (SEE NOTE 4.05 ON SHEET E1)
- 5 TELCO BOX (SEE SHEET C4).
- 6 CIENA UNIT, IF NEEDED (SEE SHEET C4).
- 7 INTEGRATED LOAD CENTER (SEE SHEET C4).
- 8 VERIZON CONCRETE EQUIPMENT PAD (SEE SHEET C6).
- 9 VERIZON CONCRETE GENERATOR PAD (SEE SHEET C6).
- 10 DISCONNECT SWITCH (SEE SHEET C4).

KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

- A TWO (2) 4" PVC POWER CONDUITS FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY (SEE TRENCH DETAIL 2/E7).
- B 2" PVC POWER CONDUIT FROM PROPOSED METER RACK TO EQUIPMENT RACK (SEE TRENCH DETAIL 2/E7).
- C TWO (2) 2" PVC TELCO CONDUITS, WITH TWO (2) PULL ROPES EACH (SEE TRENCH DETAIL 2/E7).
- D 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING LIT FIBER HANDHOLE/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDER A 5" LONG CAPPED STUB BRIDGE CONDUIT).
- E TWO (2) 2" PVC CONDUITS FROM RIGHT OF WAY W/TWO (2) PULL ROPES (SEE TRENCH DETAIL 2/E7 AND SHEET E3).
- F 2" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR. (SEE TRENCH DETAIL 2/E7).
- G 1" PVC CONDUIT FOR ROUTING GENERATOR CONTROL AND ALARM SIGNAL CABLES TO THE GENERATOR (SEE TRENCH DETAIL 2/E7).
- H 1" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER (SEE TRENCH DETAIL 2/E7).

NOTES:

GENERAL CONTRACTOR IS TO CONFIRM WITH VERIZON CONSTRUCTION MANAGER WHETHER INSTALLATION OF THE TWO (2) 2" CONDUITS TO THE RIGHT OF WAY WILL BE PART OF THE INITIAL CONSTRUCTION.

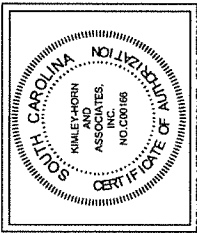


1 UTILITY SERVICE ROUTING PLAN
E2 SCALE: 1" = 10'





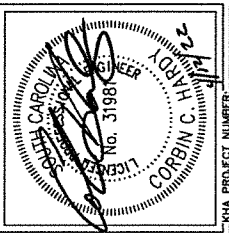
PROJECT INFORMATION:
 SITE NAME: DUNCAN CREEK
 SITE No.: 301034
 PROJECT #: 20141093209
 HWY 30S
 LAURENS COUNTY
 LAURENS COUNTY



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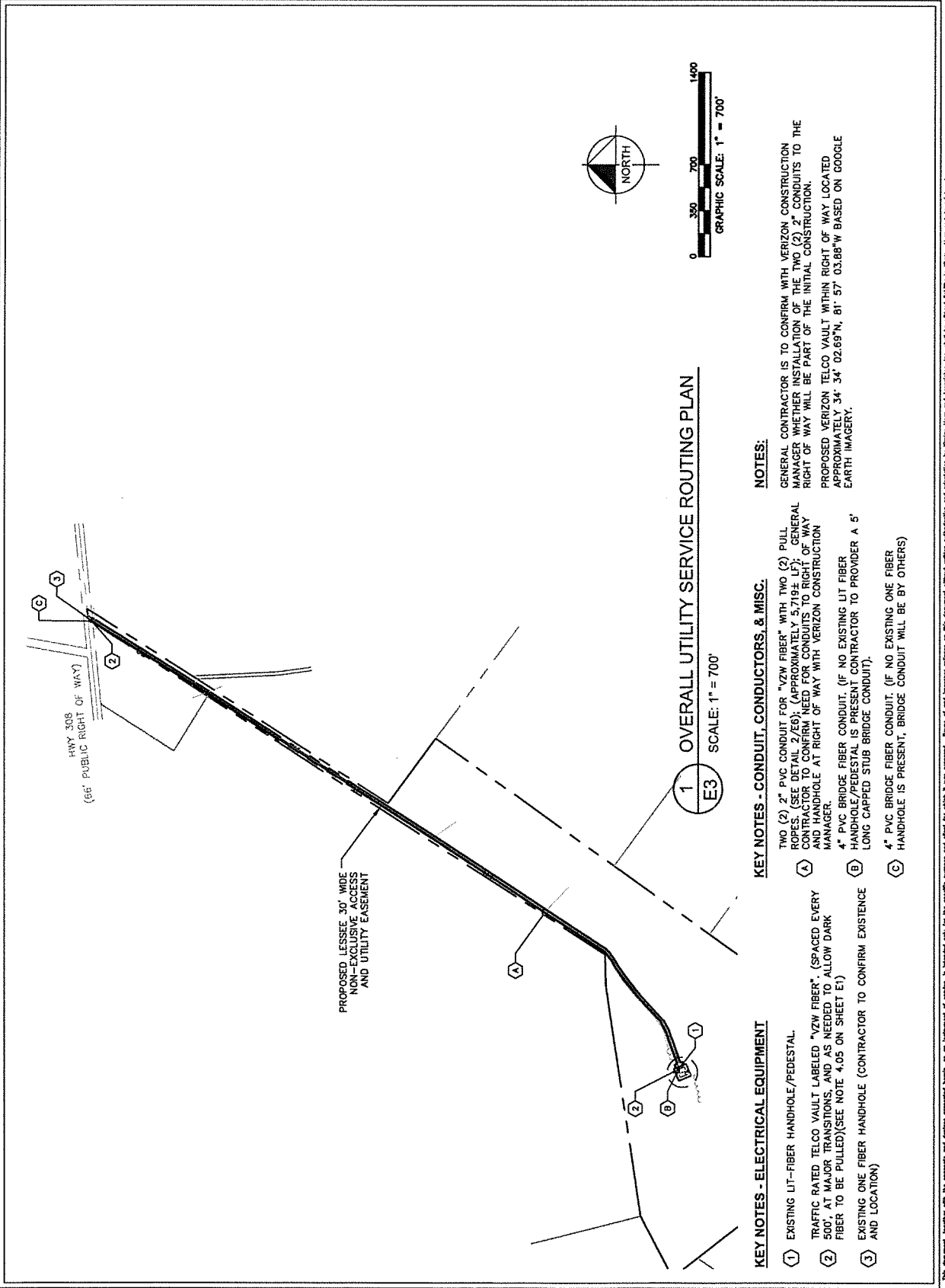
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KHA PROJECT NUMBER: 013541031
 DRAWN BY: _____ CHECKED BY: _____
 WTB _____ DNF _____
 SHEET TITLE: _____

OVERALL UTILITY ROUTING PLAN

SHEET NUMBER: E3



1 OVERALL UTILITY SERVICE ROUTING PLAN
 SCALE: 1" = 700'

NOTES:

GENERAL CONTRACTOR IS TO CONFIRM WITH VERIZON CONSTRUCTION MANAGER WHETHER INSTALLATION OF THE TWO (2) 2" CONDUITS TO THE RIGHT OF WAY WILL BE PART OF THE INITIAL CONSTRUCTION.
 PROPOSED VERIZON TELCO VAULT WITHIN RIGHT OF WAY LOCATED APPROXIMATELY 34' 34" 02.69"N, 81' 57" 03.88"W BASED ON GOOGLE EARTH IMAGERY.

KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

- (1) TWO (2) 2" PVC CONDUIT FOR "VZW FIBER" WITH TWO (2) PULL ROPES (SEE DETAIL 2/58) (APPROXIMATELY 5,719' L^T). GENERAL CONTRACTOR TO CONFIRM NEED FOR CONDUITS TO RIGHT OF WAY AND HANDHOLE AT RIGHT OF WAY WITH VERIZON CONSTRUCTION MANAGER.
- (2) 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING UT FIBER HANDHOLE/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDER A 5' LONG CAPPED STUB BRIDGE CONDUIT).
- (3) 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING ONE FIBER HANDHOLE IS PRESENT, BRIDGE CONDUIT WILL BE BY OTHERS)

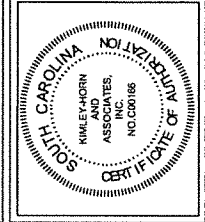
KEY NOTES - ELECTRICAL EQUIPMENT

- (1) EXISTING UT--FIBER HANDHOLE/PEDESTAL.
- (2) TRAFFIC RATED TELCO VAULT LABELED "VZW FIBER", (SPACED EVERY 500', AT MAJOR TRANSITIONS, AND AS NEEDED TO ALLOW DARK FIBER TO BE PULLED)(SEE NOTE 4.05 ON SHEET E1)
- (3) EXISTING ONE FIBER HANDHOLE (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION)

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PROJECT INFORMATION:
 SITE NAME:
 DUNCAN CREEK
 SITE No.: 301034
 PROJECT #: 2014-1083209
 HWY 209, 24360
 LAURENS COUNTY



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KHA PROJECT NUMBER: 013541031
 DRAWN BY: WTB
 CHECKED BY: DMF
 SHEET TITLE: METER RACK DETAILS

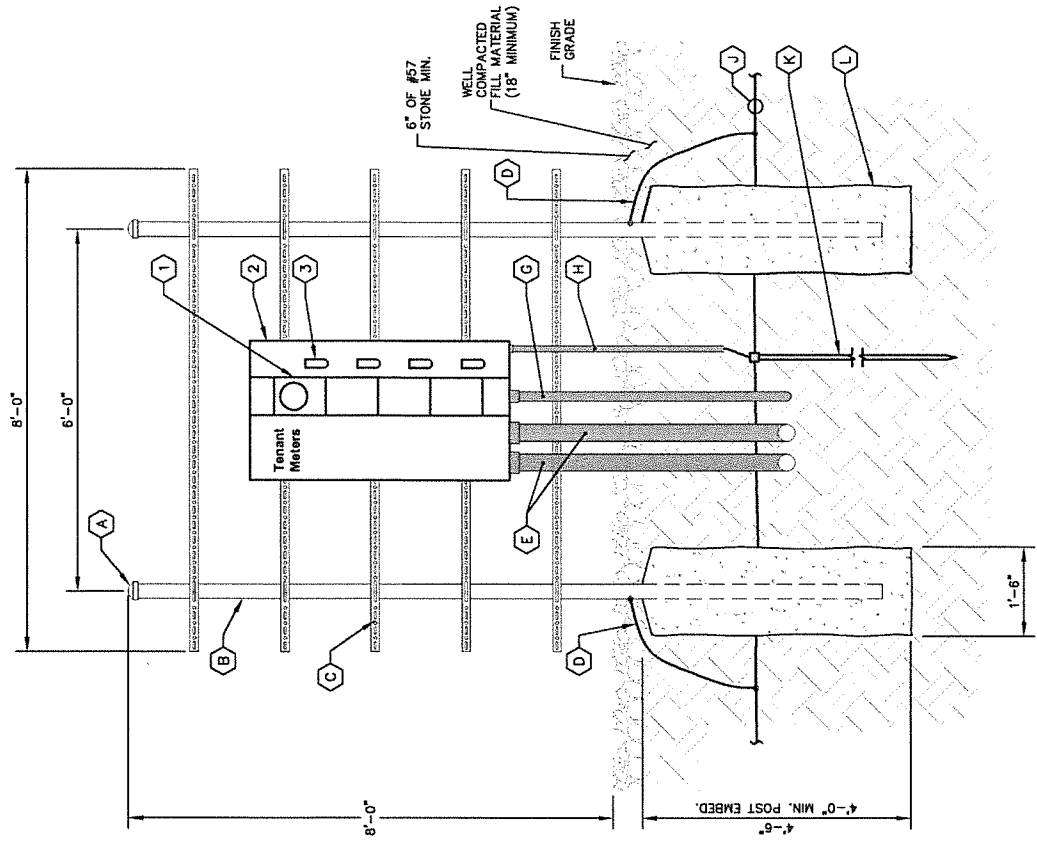
SHEET NUMBER: E4

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- (C) 1 1/2" x 1 1/2" GALVANIZED STEEL CHANNEL (UNISTRUT #F1000 OR APPROVED EQUIVALENT) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (D) ONE (1) #2 AWG BARE SOLID TINNED COPPER BONDING CONDUCTORS (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
- (E) 4" PVC CONDUIT FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY, TYPICAL OF 2.
- (F) KEYNOTE NOT USED.
- (G) 2" PVC CONDUIT FOR ROUTING FEEDERS TO NON-FUSED DISCONNECT SWITCH.
- (H) 3/4" PVC CONDUIT WITH ONE (1) - 2/0 BARE STRANDED TINNED COPPER GROUNDING ELECTRODE CONDUCTOR (GEC) FROM GROUNDING LUG TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
- (J) GROUND RING (SEE "E" SHEETS).
- (K) GROUND ROD, EXOTHERMIC WELD TO GROUND RING. (SEE "E" SHEETS).
- (L) CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. AND INCLUDE FIBERMESH 650-3E.

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) 200 AMP METER SOCKET IN NEMA JR ENCLOSURE, TYPICAL OF 4. ONLY TOP SOCKET WILL RECEIVE METER UNDER THIS CONTRACT.
- (2) 800 AMP, 22KAIC, 4 GANG, SERVICE ENTRANCE RATED METER CENTER IN NEMA JR ENCLOSURE.
- (3) 200 AMP, 2 POLE (22KAIC) DISCONNECT CIRCUIT BREAKER FOR TOP METER ONLY. CONTRACTOR SHALL MOUNT THE METER CENTER SUCH THAT THE TOP CIRCUIT BREAKER IS NO MORE THAN 6" ABOVE GRADE.

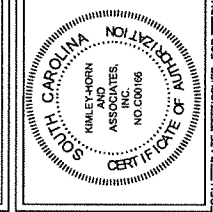


1 METER RACK DETAILS
 E4 NOT TO SCALE

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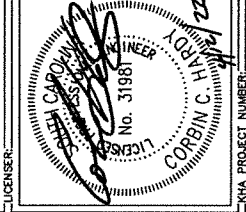
PROJECT INFORMATION:
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 DUNCAN CREEK
 SITE No.: 301034
 PROJECT # : 20141063209
 LAURENS, SC 29360
 LAURENS COUNTY



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KHA PROJECT NUMBER: 01351033
 DRAWN BY: MTB
 CHECKED BY: DMF

ELECTRICAL SINGLE LINE DIAGRAM

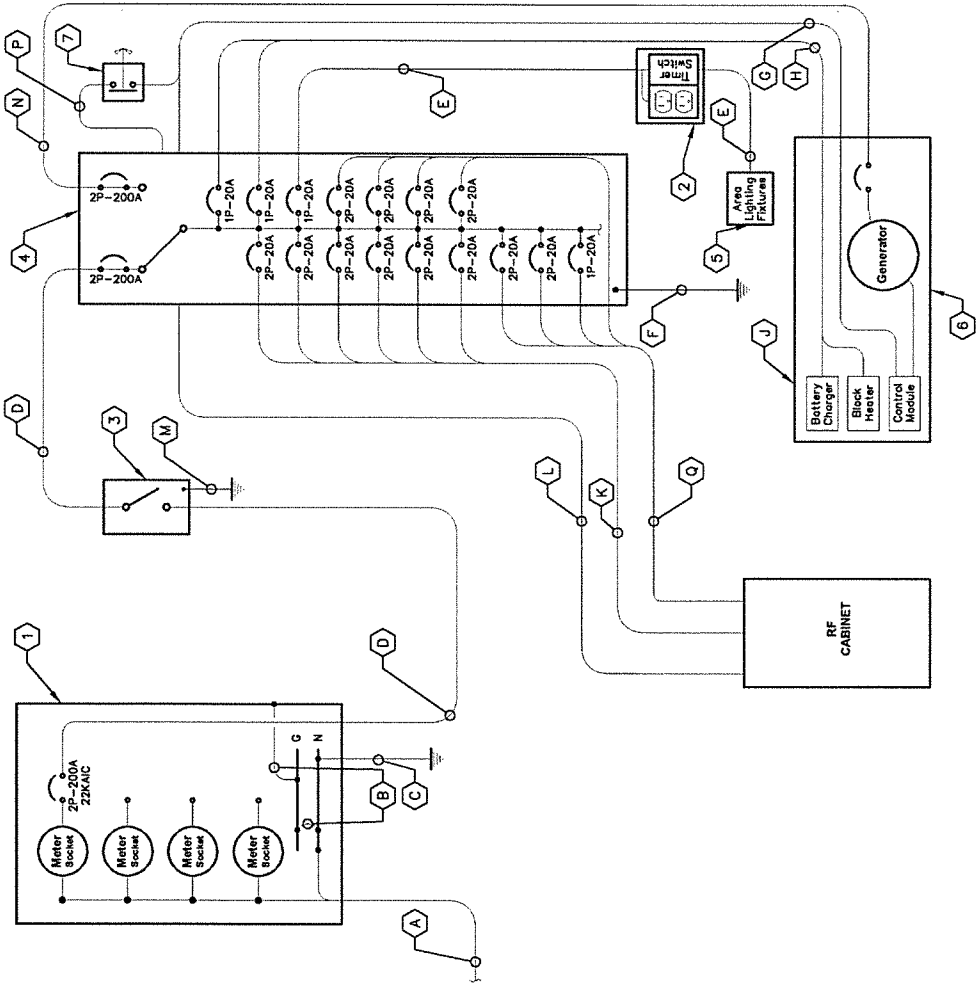
SHEET NUMBER: E5

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) TWO (2) 4" CONDUITS BY CONTRACTOR FOR INCOMING SERVICE LATERALS BY LOCAL UTILITY FOR 800 AMP, 120/240 VOLT SINGLE PHASE SERVICE.
- (B) BOND GROUND BUS TO NEUTRAL BUS AND GROUND BUS TO ENCLOSURE WITH 2/0 BONDING JUMPERS.
- (C) ONE (1) 2/0 BARE STRANDED TINNED COPPER GEC TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
- (D) THREE (3) 3/0 CONDUCTORS AND ONE (1) #6 AWG GROUND IN 2" CONDUIT.
- (E) TWO (2) #12 AWG CONDUCTORS AND ONE (1) #12 AWG GROUND IN 1" CONDUIT.
- (F) ONE (1) #2 BARE TINNED COPPER FROM GROUNDING LUG IN ILC TO GROUND ROD, EXOTHERMIC WELD TO GROUND ROD.
- (G) AUTOMATIC TRANSFER SWITCH ALARM AND GENERATOR CONTROL CABLES IN 1" CONDUIT.
- (H) FOUR (4) #12 CONDUCTORS AND ONE (1) #12 AWG GROUND IN 1" CONDUIT.
- (I) THE GENERATOR, WHEN UTILIZING A TWO POLE ATS WITH A SOLID NEUTRAL, IS NOT A SEPARATELY DERIVED SYSTEM. THEREFORE, DO NOT BOND THE NEUTRAL TO THE GROUND AT THE GENERATOR.
- (J) TWELVE (12) #10 AWG THIN CONDUCTORS AND THREE (3) #10 AWG EG IN 2" PVC CONDUIT.
- (K) ALARM CABLES IN 1" PVC CONDUIT.
- (L) ONE (1) - #2 BARE TINNED COPPER FROM GROUNDING LUG IN DISCONNECT SWITCH TO GROUND RING, EXOTHERMIC WELD TO GROUND RING.
- (M) THREE (3) 3/0 AWG CONDUCTORS AND ONE (1) #4 AWG EG IN 2" CONDUIT. VERIFY GENERATOR BREAKER DOES NOT EXCEED 200 AMPS.
- (N) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE EMERGENCY GENERATOR STOP SWITCH.
- (O) TWELVE (12) #10 AWG THIN CONDUCTORS AND THREE (3) #10 AWG FOR RECTIFIERS AND TWO (2) #10 THIN CONDUCTORS AND ONE (1) #10 AWG FOR CABINET MOUNTED GFI OUTLET, ALL IN ONE 2" PVC CONDUIT.

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) FURNISH AND INSTALL 800 AMP, 3-WIRE, SINGLE PHASE, 120/240 VOLT, 2P/4P FOUR-SPACE 200 AMP METERS WITH 200 AMP BREAKERS. SHALL FURNISH AND INSTALL 200 AMP CIRCUIT BREAKER AT METER BASE IF NOT ALREADY EXISTING.
- (2) 20 AMP GFCI DUPLEX OUTLET RECEPTACLE AND TIMER SWITCH, ENERLITES ENCLOSURE. (OR APPROVED EQUIVALENT) IN LOCKABLE NEMA 3R ENCLOSURE.
- (3) FURNISH AND INSTALL SE RATED 240 V, 200 AMP, 2 POLE, NON-FUSED DISCONNECT IN NEMA 3R ENCLOSURE.
- (4) 200 AMP, 120/240 VOLT, ILC WITH 42 SPACE PANEL AND AUTOMATIC TRANSFER SWITCH. ALL CIRCUIT BREAKERS SHALL BE RATED 10KAIC MINIMUM. ILC IS FURNISHED BY VZW AND INSTALLED BY GENERAL CONTRACTOR.
- (5) FURNISH AND INSTALL TWO (2) AREA LIGHTS, (LITHONIA HFR-250M-1A120-BNA-LP1), (OR APPROVED EQUIVALENT).
- (6) 50 KW DIESEL GENERATOR, CONTRACTOR SHALL COORDINATE SPECIFIC GENERATOR CONFIGURATION WITH OWNER AND INSTALL THE GENERATOR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. GENERATOR BREAKER SIZED AND PROVIDED BY GENERATOR MANUFACTURER.
- (7) EMERGENCY GENERATOR STOP SWITCH IN NEMA 3R ENCLOSURE WILL BE FURNISHED BY VERIZON AND INSTALLED BY GC.



REQUIRED SIGNAGE PER NEC 702 AT SERVICE DISCONNECT & INTEGRATED LOAD CENTER
 "WARNING: Shock hazard exists if grounding electrode conductor or bonding jumper connection in this equipment is removed while alternate source(s) is energized. Opening the equipment disconnect will cause the stand-by generator to start. To remove power entirely from the equipment, the generator must be turned OFF using emergency stop switch."
 "NOTE: Emergency power is supplied by a stand-by generator located behind Verizon equipment rack."

1 ELECTRICAL SINGLE LINE DIAGRAM
 E5 NOT TO SCALE

PANEL SCHEDULE - VERIZON INTEGRATED LOAD CENTER

Voltage: 240/120 Volts
 Phase: Single Phase, 3 Wire
 Mounting Type: Surface
 Enclosure Type: NEMA 3R

MCB Size: 200 Amps
 AIC Rating: 10,000 Amps min
 Bus Rating: 200 Amps
 Neutral Rating: 100%

Load Served	Load (kVA)		Circuit Bkr Size	Ckt Nbr	Phase		Ckt Nbr	Circuit Bkr Size	Load (kVA)		Load Served
	A	B			A	B			A	B	
RECTIFIER 1	1.78	1.78	2P-20	1	A	B	2	1P-20	0.58	0.58	AREA LIGHTS/GFCI
RECTIFIER 2	1.78	1.78	2P-20	3	A	B	4	1P-20	1.50	1.50	GEN BLOCK HEATER
RECTIFIER 3	1.78	1.78	2P-20	5	A	B	6	1P-20	0.30	0.30	GEN BATTERY CHARGER
RECTIFIER 4	1.78	1.78	2P-20	7	A	B	8	----	0.00	0.00	SPACE
RECTIFIER 5	1.78	1.78	2P-20	9	A	B	10	1P-20	0.18	0.00	CAB DUPLEX OUTLET
RECTIFIER 6	1.78	1.78	2P-20	11	A	B	12	----	0.00	0.00	SPACE
RECTIFIER 7	1.78	1.78	2P-20	13	A	B	14	2P-20	1.78	1.78	RECTIFIER 9
RECTIFIER 8	1.78	1.78	2P-20	15	A	B	16	2P-20	1.78	1.78	RECTIFIER 10
SPACE	0.00	0.00	----	17	A	B	18	2P-20	0.00	0.00	RECTIFIER 11 (SPARE)
SPACE	0.00	0.00	----	19	A	B	20	2P-20	0.00	0.00	RECTIFIER 12 (SPARE)
SPACE	0.00	0.00	----	21	A	B	22	2P-20	0.00	0.00	SPACE
TVSS (INTERNAL TO ILC)	0.00	0.00	2P-30	23	A	B	24	----	0.00	0.00	SPACE
Sub-Total (kVA)	14.24	14.24		25	A	B	26	2P-20	0.00	0.00	SPACE
				27	A	B	28	----	0.00	0.00	SPACE
				29	A	B	30	----	0.00	0.00	SPACE
				31	A	B	32	----	0.00	0.00	SPACE
				33	A	B	34	----	0.00	0.00	SPACE
				35	A	B	36	----	0.00	0.00	SPACE
				37	A	B	38	----	0.00	0.00	SPACE
				39	A	B	40	----	0.00	0.00	SPACE
				41	A	B	42	----	0.00	0.00	SPACE
					A	B			4.62	5.06	Sub-Total (kVA)

Load Description	Connected Load (kVA)		Demand Factor	Demand Load (kVA)	
	A	B		A	B
RECTIFIERS/EQUIP	17.80	17.80	1.00	17.80	17.80
LARGEST MOTOR	0.00	0.00	1.00	0.00	0.00
ALL OTHER MOTORS	0.00	0.00	1.00	0.00	0.00
LIGHTING	0.40	0.00	1.25	0.50	0.00
DUPLEX RECEPTACLES	0.36	0.00	1.00	0.36	0.00
TOTAL MISCELLANEOUS	0.30	1.50	1.00	0.30	1.50
Total Power per Phase		18.96	19.30		
Total Demand Current per Phase		158.00	161.00		
Total Demand Power		38.26	38.26		

*NOTE: CIRCUIT LOAD AND DEMAND FACTOR PROVIDED BY VERIZON.

1 PANEL SCHEDULE
 E6 NOT TO SCALE

VERIZON
RESEARCH TRIANGLE PARK
CARRVILLE, NORTH CAROLINA 27513

PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE No.: 2014-1083209
PROJECT #: 2014-1083209
HWY 300 24360
LAURENS COUNTY

PLANS PREPARED BY:

11750 AMBER PLANK DRIVE, SUITE 600
GREENSBORO, NC 27409
PHONE: 770-814-4200
WWW.KHASSOCIATES.COM
NC LICENSE # 020104

SOUTH CAROLINA
KIMLEY-HORN
AND
ASSOCIATES
INC.
NO. 020104

REV. DATE ISSUED FOR:

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0	04/12/22 CONSTRUCTION (CCH)

LICENSER:

STATE OF NORTH CAROLINA
CORBIN C. HILGERT
LICENSED PROFESSIONAL ENGINEER
No. 31981

KVA PROJECT NUMBER: 013541031

DRAWN BY: DAF

CHECKED BY: DAF

PANEL SCHEDULE

SHEET NUMBER: E6



4851 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28212

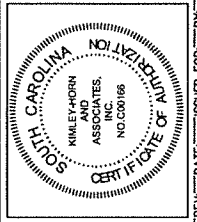
PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 20141083209
DATE: 04/12/22
LAURENS, SC 29360
LAURENS COUNTY

PLANS PREPARED BY:

Kimley-Horn

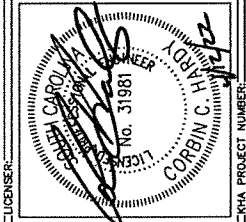
11750 UNIVERSITY DRIVE, SUITE 600
ARUNDEL, NORTH CAROLINA 28409
PHONE: 770-619-4200
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SC License # 001184



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1	04/12/22	CONSTRUCTION (COI)

LICENSOR:



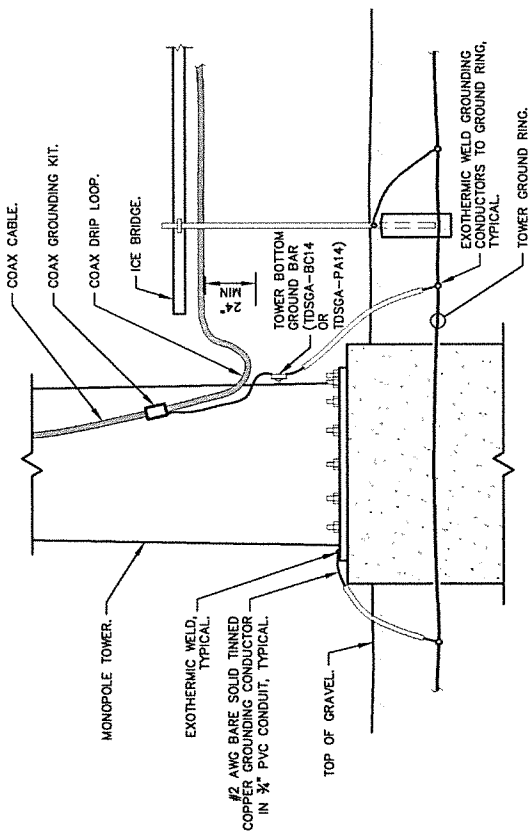
KHA PROJECT NUMBER:
013541031

DRAWN BY: WTB
CHECKED BY: DMF

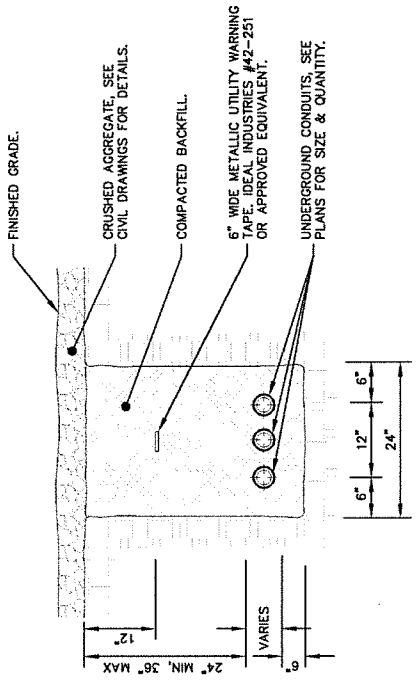
SHEET TITLE:

ELECTRICAL
DETAILS

SHEET NUMBER:
E7



1 DRIP LOOP DETAIL
E7 NOT TO SCALE



- NOTES:
1. GROUND SURFACE IS OTHER THAN NEWLY GRAVELED AREA. CONTRACTOR IS TO RESTORE TO ORIGINAL CONDITION.
 2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
 3. PROVIDE SCHEDULE 40 OR SCHEDULE 80 PVC CONDUIT & ELBOWS AT STUB UP LOCATIONS (I.E. POLES, EQUIPMENT, ETC.)
 4. PROVIDE SCHEDULE 80 PVC CONDUIT BELOW PARKING LOTS AND ROADWAYS.

2 TYPICAL TRENCH DETAIL
E7 NOT TO SCALE

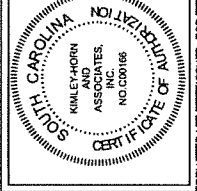
GROUNDING NOTES

1. THE GROUND RING SHALL CONSIST OF #2 AWG BARE SOLID TINNED COPPER (STC) CONDUCTOR, UNLESS NOTED OTHERWISE, BURIED AT 30" BELOW FINISHED GRADE (OR BELOW FROST LINE). LOCATE 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA AND FROM TOWER FOUNDATION. ALL CONNECTIONS SHALL BE MADE USING A PARALLEL TYPE EXOTHERMIC WELD, UNLESS NOTED OTHERWISE.
2. INSTALL GROUND RODS AS SHOWN AND AS REQUIRED. GROUND RODS TO BE COPPER CLAD STEEL 5/8" DIAMETER AND 10FT IN LENGTH. SPACING BETWEEN GROUND RODS SHALL BE 10FT MINIMUM AND 15FT MAXIMUM. TOP OF GROUND ROD TO BE 30" MINIMUM BELOW GRADE (OR BELOW FROST LINE). BOND TOP OF GROUND ROD TO GROUND WIRE WITH EXOTHERMIC WELD. DO NOT EXOTHERMICALLY WELD ANYTHING TO GROUND ROD EXCEPT GROUND WIRE WHICH PASSES OVER TOP OF GROUND ROD (CLAMPED CONNECTIONS TO GROUND ROD PER TOWER MANUFACTURERS DETAILS ARE ACCEPTABLE).
3. EQUIPMENT GROUND RING SHALL HAVE A MINIMUM OF 4 GROUND RODS. ALL GROUND RODS SHALL BE 10FT LONG. ALL GROUND RODS AS REQUIRED TO COMPLY WITH THE SPACING REQUIREMENTS. TOWER GROUND RING SHALL HAVE A MINIMUM OF 3 GROUND RODS, EXCEPT USE 4 RODS AT A MONOPOLE TOWER, WHERE SPREAD TOWER FOOTING WOULD PREVENT GROUND RODS FROM BEING DRIVEN INTO SOIL ADJACENT TO TOWER, PROVIDE VERTICAL 1" DIAMETER PVC SLEEVES EMBEDDED IN FOOTING TO ALLOW INSTALLATION OF GROUND RODS.
4. EQUIPMENT GROUND RING AND TOWER GROUND RING SHALL BE BONDED TOGETHER WITH TWO #2 STC GROUND LEADS, TYPICALLY ONE ON EACH SIDE OF ICE BRIDGE.
5. BOND TOWER TO TOWER GROUND RING AT THREE LOCATIONS WITH #2 STC GROUND LEAD. SELF SUPPORT TOWERS SHALL HAVE EACH LEG BONDED TO GROUND RING. MONOPOLES AND GUXED TOWERS SHALL HAVE GROUND LEADS EQUALLY SPACED AROUND TOWER. EXOTHERMICALLY WELD GROUND LEADS TO TOP OF BASE PLATES. DETAIL ATTACH TO TOWER USING TOWER MANUFACTURER PROVIDED DETAIL.
6. PROVIDE #2 STC RADIALS FROM THE TOWER GROUND RING TO EACH FENCE CORNER POST. RADIALS SHALL HAVE GROUND RODS AS PER THE REQUIRED SPACING. THE GROUND ROD AT THE END OF EACH RADIAL SHALL BE 24" MAXIMUM FROM FENCE CORNER POST. EQUIPMENT AREA GROUND RING AND CONNECTING GROUND LEADS (BETWEEN EQUIPMENT AREA AND TOWER GROUND RINGS) MAY BE USED AS PART OF THE RADIALS COMING TO THE FENCE CORNER POST CLOSEST TO THE EQUIPMENT AREA.
7. MINIMUM BEND RADIUS FOR #2 AWG GROUND WIRE IS 12", EXCEPT USE 24" FOR TOWER GROUND RINGS AND EQUIPMENT PAD GROUND RINGS.
8. GROUND ALL EXTERIOR EXPOSED METAL OBJECTS. USE TWO HOLE LUGS FOR CONNECTION TO FLAT METAL SURFACES. USE ONLY STAINLESS STEEL HARDWARE ON ALL MECHANICAL CONNECTIONS. CLEAN ALL SURFACES (AND STRIP PAINTED SURFACES) TO MAKE SURE CONTACT. USE ANTI-OXIDE COMPOUND TO ALL CONNECTIONS. APPLY ZINC RICH PAINT (COLD GALV.) TO ALL EXOTHERMIC WELDS AND TO ANY METAL EXPOSED BY CLEANING, STRIPPING, GRINDING, CUTTING OR DRILLING.
9. ALL GROUNDING CONDUCTORS ABOVE GRADE SHALL BE RUN IN 3/4" FLEXIBLE PVC CONDUIT. CONDUIT SHALL BEGIN WITHIN 3/4" OF ABOVE GROUND CONNECTION POINT, SHALL EXTEND 24" BELOW GRADE MINIMUM, AND SHALL BE FILLED WITH SEALANT AT ABOVE GROUND CONNECTION POINT. SECURE CONDUIT EVERY 24" ON VERTICAL. RUNS AND EVERY 36" ELSEWHERE WITH NON-METALLIC TIES.
- 10A. AT GUYED AND SELF SUPPORT TOWERS MOUNT TDSSA-PA14 TOWER BOTTOM GROUND BAR ON DEDICATED POST DIRECTLY BELOW COAX CABLES COMING OFF TOWER. POST TO BE 3.5" OD GALVANIZED SCHEDULE 40 PIPE WITH GALVANIZED PIPE CAP. TOP OF POST TO BE 78" ABOVE GRADE. EMBED POST 30" MINIMUM IN 12" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING WITH TOP OF FOOTING 6" BELOW GRADE. IF TOWER FOUNDATION OBSTRUCTS CLAMPED FOOTING, USE POST WITH 10" SQUARE GALVANIZED STEEL PLATE AT THE BOTTOM AND BOLT FLANGE TO TOP OF CONCRETE TOWER FOOTING.
- 10B. AT MONOPOLE TOWERS CLAMP TDSSA-BC14 TOWER BOTTOM GROUND BAR DIRECTLY TO TOWER. IF RUNNING COAX INSIDE MONOPOLE, CLAMP ONTO BOTTOM LIP OF EXIT PORT. IF BANDING COAX TO OUTSIDE OF TOWER, CLAMP ONTO STEEL ANGLE WHICH IS BANGED TO TOWER. BOND TDSSA-BC14 TO TOWER GROUND RING WITH #2 STC LEAD LUGGED TO GROUND BAR AND EXOTHERMICALLY WELDED TO GROUND RING.
11. AT EQUIPMENT AREA, INSTALL TDSSA-PA14 EXTERIOR GROUND BAR (THRU-BOLTED STYLE) AT BASE OF (2) INTERIOR H-FRAME POSTS AND AT TOP OF ICE BRIDGE POST WHICH IS NEAREST TO (BUT CLOSER TO TOWER THAN) THE COAX CABLE TERMINATION. MOUNT GROUND BAR TO H-FRAME POSTS AT 6" ABOVE GRAVEL AND TO ICE BRIDGE POST AT 8FT ABOVE GRAVEL.
12. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPURED TOGETHER WITH #2 WIRE. EITHER BARE TINNED COPPER OR GREEN INSULATED WITH #2 STC WIRE LUGGED TO ICE BRIDGE AND EXOTHERMICALLY WELDED TO UPPER PORTION OF NEAREST ICE BRIDGE POST. ICE BRIDGE SECTIONS ABOVE H-FRAME SHALL BE BONDED TO EACH OTHER WITH JUMPERS AT EACH END - THIS ASSEMBLY WILL BE CONSIDERED AS A SINGLE ICE BRIDGE SECTION FOR GROUNDING PURPOSES.
13. BOND EACH ICE BRIDGE POST, H-FRAME POST OR DEDICATED GROUNDING POST TO BURIED GROUNDING SYSTEM WITH #2 STC LEAD EXOTHERMICALLY WELDED TO POST BELOW TOP OF GRAVEL AND EXOTHERMICALLY WELDED TO GROUND RING. EACH POST TO HAVE SEPARATE GROUND LEAD DIRECTLY TO GROUND RING - DO NOT DAISY CHAIN POSTS TOGETHER.
14. BOND EACH RF CABINET TO EQUIPMENT GROUND RING WITH #2 AWG BARE SOLID TINNED COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO WHICH STUDS ON CABINET CHASSIS HAVE DIRECT GROUND WIRE CONNECTION TO CABINET INTERNAL GROUND BAR. RUN CONDUIT AND CONDUCTOR ACROSS BACK OF CABINET (DO NOT RUN TOWARDS NEAREST CORNER OF CABINET AND THEN BEND GROUND WIRE SHARPLY). ACROSS CONCRETE PAD BELOW CABLE LADDER, THEN DOWN INTO GRAVEL AREA.
15. BOND EACH BATTERY CABINET TO GROUND RING WITH #2 AWG TINNED SOLID BASE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. RUN GROUND LEAD IN FLEX CONDUIT ALONG BACK OF RBA72 CABINET. ACROSS CONCRETE PAD BELOW CABLE LADDER, THEN DOWN INTO GRAVEL AREA. CONNECT TWO HOLE LUG TO BACK OF CABINET AT FACTORY PROVIDED GROUNDING STUDS.
16. BOND GENERATOR TO GROUND RING WITH #2 STC AT TWO SEPARATELY OPPOSITE LOCATIONS BY DRILLING AND POLISHING TWO HOLE LUG TO FINS ON GENERATOR BASE STRUCTURE. GROUND LEADS SHOULD TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING.
17. WHERE PROPANE TANK IS INSTALLED TO FUEL GENERATOR, BOND PROPANE TANK TO GROUND RING WITH A SINGLE #2 STC CLAMPED TO FILLER PIPE OF PROPANE TANK AND EXOTHERMICALLY WELDED TO GROUND RING. GROUND LEAD SHOULD RUN TO TANK SUPPORT AREA. SPACING BETWEEN GROUND RODS TO BE 10 FT MINIMUM. AREA THEN CONTINUE TO GROUND RING. PROPANE TANK VALVE LINE IS METALLIC AND CROSSES EQUIPMENT GROUND RING. BOND FUEL LINE TO EQUIPMENT GROUND RING WHERE THE TWO LINES CROSS WITH A SINGLE #2 STC CLAMPED TO FUEL LINE AND EXOTHERMICALLY WELDED TO GROUND RING.
18. BOND GPS ANTENNA and GPS ANTENNA WIRE TO TDSSA GROUND BAR AT BOTTOM OF H-FRAME POST WITH #2 GREEN INSULATED STRANDED GROUND WIRE.
19. PROVIDE TWO GROUND RODS OUTSIDE GATES OF COMPOUND. DISTANCE BETWEEN GROUND RODS SHALL MATCH WIDTH OF GATE OPENING, AND DISTANCE FROM FENCE SHALL MATCH LENGTH OF LONGEST INDIVIDUAL GATE LEAF. BOND GATE POSTS TOGETHER WITH #2 STC LEAD WHICH RUNS PAST AND CONNECTS TO GROUND RODS OUTSIDE GATES.
20. BOND EACH GATE POST WITH #2 STC TO NEAREST PORTION OF GROUNDING SYSTEM INSIDE COMPOUND.
21. BOND EACH GATE TO GATE POST WITH FLEXIBLE INSULATED OR BRAIDED #4/0 COPPER STRAP. EXOTHERMICALLY WELD STRAP TO BOTH GATE AND GATE POSTS.
22. ANY METAL FENCE POST WITHIN 8FT OF A GROUND METAL OBJECT SHALL BE BONDED TO THE NEAREST GROUND RING. METAL FENCE WITHIN 8FT OF A GROUND RING SHALL HAVE THE LINE POSTS BONDED TO THE GROUND RING AT 20FT MAXIMUM INTERVALS AS MEASURED ALONG THE LENGTH OF THE FENCE.
23. WHERE GROUND BASED RRU'S, RAYCAP OVP'S OR DIPLXERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TDSSA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRANDED GROUND WIRE. SINGLE HOLE LUG OR GROUNDING STUD ON EACH COMPONENT.
24. NOTIFY VZW CM TO INSPECT GROUND RING BEFORE BACKFILLING. CONTRACTOR SHALL HIRE A 3RD PARTY TO PERFORM AN IEEE61 FALL OF POTENTIAL METHOD GROUND TEST. MAXIMUM ALLOWABLE RESISTANCE TO GROUND IS 5 OHMS. PROVIDE ADDITIONAL GROUND SYSTEM COMPONENTS AS REQUIRED TO ACHIEVE THIS VALUE.
25. REFER TO TOWER GROUNDING DIAGRAM AND NOTES FOR GROUND SYSTEM REQUIREMENTS ON THE TOWER.
26. GROUNDING OF ALL ELECTRICAL EQUIPMENT SHALL BE AS PER NEC, MUNICIPAL AND UTILITY COMPANY REQUIREMENTS.

verizon
RESEARCH & DEVELOPMENT
CHARLOTTE, NORTH CAROLINA 28201

PROJECT INFORMATION:
SITE NAME: DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 2014-1083209
LAURENS COUNTY
LAURENS COUNTY

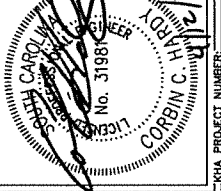
Kimley-Horn
11750 JAMES HORN DR., SUITE 600
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LICENSER: _____



KHA PROJECT NUMBER: 0135-1031
DRAWN BY: _____ CHECKED BY: _____
WTB _____ DMF _____
SHEET TITLE: _____

GROUNDING NOTES

SHEET NUMBER: E8



1821 ESCALOP CREEK
CHARLOTTE, NORTH CAROLINA 28227

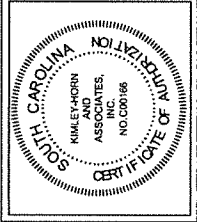
PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 20141083209
LAURENS COUNTY
LAURENS COUNTY

PLANS PREPARED BY:

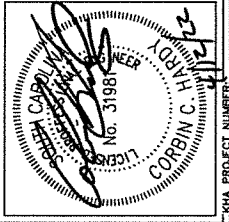


11720 AMBER BARK DRING, SUITE 800
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PHONE: 770-518-2300
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SC License # C00118



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KHA PROJECT NUMBER: 013541031

DRAWN BY: MFB CHECKED BY: DMF

SHEET TITLE: GROUNDING PLAN

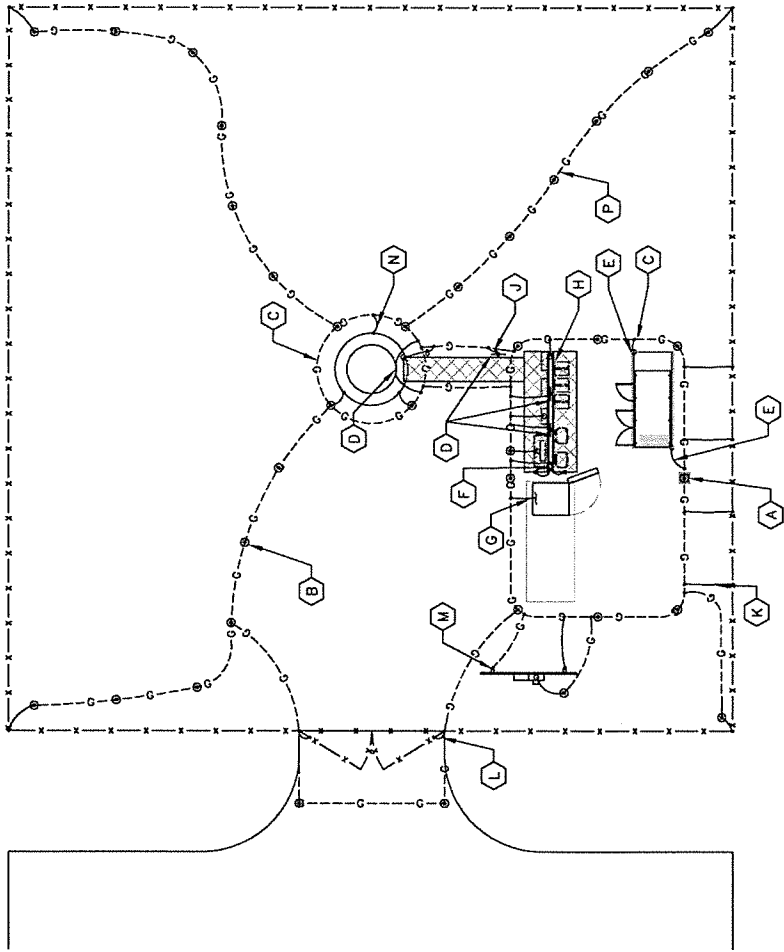
SHEET NUMBER: E9

KEY NOTES - GROUNDING EQUIPMENT

- (A) GROUND ROD TEST WELL (SEE DETAIL 1/E11).
- (B) GROUND ROD, TYPICAL (SEE DETAIL 2/E11 AND NOTES 2 AND 3 ON EB).
- (C) TOWER AND EQUIPMENT GROUND RING (SEE NOTES 1, 3, 4, 5, 6 AND 7 ON EB).
- (D) TOSCA-PA14 OR TOSCA-BC14 WHERE APPLICABLE (SEE NOTES 10 AND 11 ON EB).
- (E) GENERATOR GROUNDING (SEE NOTE 16 ON EB).
- (F) GPS ANTENNA GROUNDING (SEE NOTE 18 ON EB).
- (G) RF CABINET GROUNDING (SEE NOTE 14 ON EB).
- (H) RRU'S AND OVP'S GROUNDING (SEE NOTE 23 ON EB).
- (J) ICE BRIDGE POST BOND TO GROUND RING, TYPICAL (SEE NOTES 12 AND 13 ON EB).
- (K) FENCE POST GROUNDING, TYPICAL (SEE NOTE 22 ON EB).
- (L) GATE GROUNDING, TYPICAL (SEE NOTES 19, 20 & 21 ON EB).
- (M) UTILITY H-FRAME GROUNDING, TYPICAL (SEE SHEET E3 AND NOTE 13 ON EB).
- (N) TOWER GROUNDING, TYPICAL (SEE NOTES 5, 6 & 25 ON EB).
- (P) GROUND RADIALS, TYPICAL (SEE NOTE 6 ON EB).

LEGEND:

- G--- GROUND RING
- G--- GROUND ROD EXOTHERMICALLY WELDED TO GROUND RING
- G--- EXOTHERMIC WELD
- G--- GROUND ROD TEST WELL (SEE DETAIL 1/E11)
- G--- MECHANICAL CONNECTION



1 GROUNDING PLAN
E9 SCALE: 1" = 10'

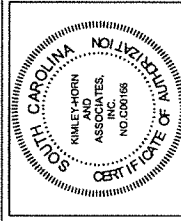
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PROJECT INFORMATION:

SITE NAME:
DUNCAN CREEK
SITE NO.: 301034
PROJECT #: 20141083209
LAURENS, SC 29360
LAURENS COUNTY

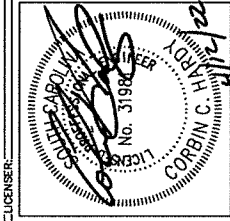
PLANS PREPARED BY:

Kimley-Horn
11720 HORN DRIVE, SUITE 600
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PHONE: 770-314-4300
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22 LAWRENCE DRIVE
SUITE 1000
LAURENS, SC 29360



REV. DATE ISSUED FOR: BY:

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LICENSER: KHA PROJECT NUMBER: 013541031

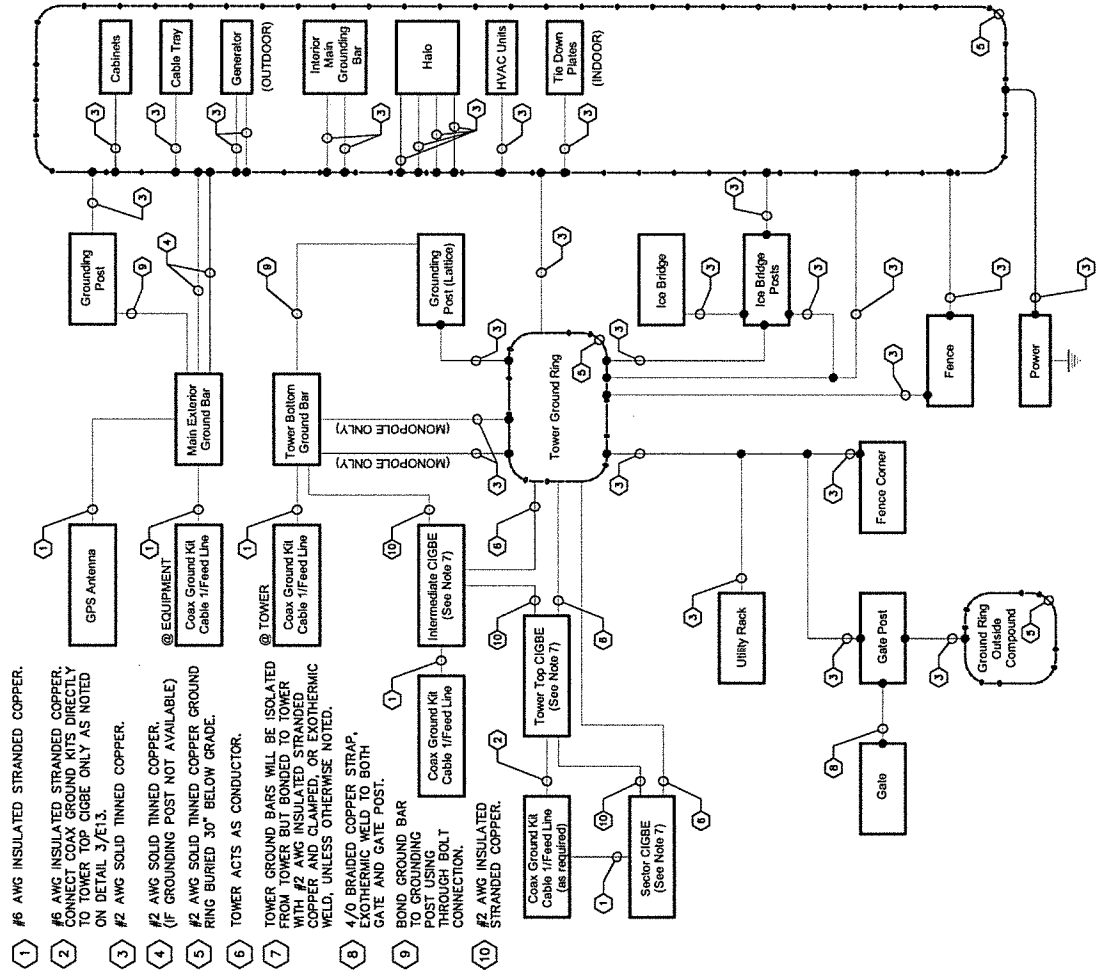
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SHEET TITLE: GROUNDING SINGLE LINE DIAGRAM

SHEET NUMBER: E10

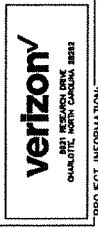
- (A) PROPOSED ANTENNA.
- (B) COAX OR HYBRID CABLE GROUNDING KIT, TYPICAL. GROUNDING KITS ARE REQUIRED EVERY 75 FT MAXIMUM EXCEPT WHERE COAX IS CONCEALED INSIDE MONOPOLE OR OTHER INACCESSIBLE SPACE.
- (C) #6 AWG INSULATED GROUNDING CONDUCTOR FROM COAX GROUND KIT TO TOWER GROUND BAR, TYPICAL.
- (D) SECTOR CIGBE GROUND BAR, PROVIDE ONE PER SECTOR NEXT TO ANTENNAS (OPTIONAL ON GUYED TOWERS) AND ISOLATED FROM TOWER. BOND TO TOWER OR SECTOR FRAME WITH #2 AWG SOLID TINNED COPPER AND APPROVED CLAMP. (SEE NOTE P BELOW)
- (E) TOWER TOP CIGBE GROUND BAR MOUNTED TO TOWER WHERE COAX CABLES LEAVE VERTICAL WAVE GUIDE SUPPORT OR COMMON CABLE TRAY. TYPICALLY OCCURS ON GUY TOWERS (IN LIEU OF SECTOR CIGBE'S), ROOFTOPS, OR ON WATER TANKS (THRU-BOLTED TO MESSENGER PIPE) IN ORDER TO MAINTAIN 75 FEET MAXIMUM DISTANCE BETWEEN COAX GROUND KITS. ISOLATE CIGBE FROM TOWER AND BOND TO TOWER WITH #2 AWG BARE SOLID TINNED COPPER AND APPROVED CLAMP. (SEE NOTE P BELOW)
- (F) COAX OR HYBRID CABLE.
- (G) #2 AWG INSULATED, STRANDED COPPER. (SEE NOTE P BELOW)
- (H) INTERMEDIATE CIGBE GROUND BAR MOUNTED TO TOWER BELOW WITHIN 3 FEET OF COAX GROUND KITS AND ISOLATED FROM TOWER (THRU-BOLTED TO MESSENGER PIPE ON WATER TANKS). BOND TO TOWER WITH #2 AWG BARE SOLID TINNED COPPER AND APPROVED CLAMP. (SEE NOTE P BELOW)
- (I) TOWER BOTTOM GROUND BAR TSSGA-P414 ON TOWER. ISOLATE TSSGA-P414 DIRECTLY TO TOWERS STEEL (THRU-BOLTED TO MESSENGER PIPE ON WATER TANKS).
- (J) #2 AWG BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR WHEN USING TSSGA-BG14. TYPICAL TWO CONNECTIONS TO GROUND RING.
- (K) #2 AWG SOLID TINNED COPPER TOWER GROUND RING.
- (L) DRIP LOOP. SEE DETAIL 1/E7.
- (M) TO SHELTER/RF CABINETS.
- (N) IF UNABLE TO CLAMP #2 AWG BARE SOLID TINNED COPPER TO METAL STRUCTURE, THEN RUN #2 AWG INSULATED STRANDED TINNED COPPER FROM CIGBE TO NEXT LOWEST CIGBE. (SEE DETAIL 3/E12).
- (O) PROPOSED RRU.
- (P) PROPOSED RAYCAP.
- (Q) TOP OF GRAVEL.



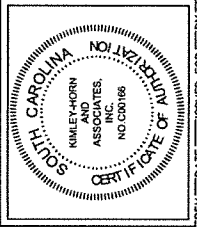
2 COAX-TOWER GROUNDING SCHEMATIC
E10 NOT TO SCALE

1 GROUNDING SINGLE LINE DIAGRAM
E10 NOT TO SCALE

- (1) #6 AWG INSULATED STRANDED COPPER.
- (2) #6 AWG INSULATED STRANDED COPPER. CONNECT COAX GROUND KITS DIRECTLY TO TOWER TOP CIGBE ONLY AS NOTED ON DETAIL 3/E13.
- (3) #2 AWG SOLID TINNED COPPER.
- (4) #2 AWG SOLID TINNED COPPER. (IF GROUNDING POST NOT AVAILABLE)
- (5) #2 AWG SOLID TINNED COPPER GROUND RING BURIED 30" BELOW GRADE.
- (6) TOWER ACTS AS CONDUCTOR.
- (7) TOWER GROUND BARS WILL BE ISOLATED FROM TOWER BUT BONDED TO TOWER WITH #2 AWG INSULATED STRANDED COPPER AND CLAMPED, OR EXOTHERMIC WELD, UNLESS OTHERWISE NOTED.
- (8) 4/0 BRAIDED COPPER STRAP. EXOTHERMIC WELD TO BOTH GATE AND GATE POST.
- (9) BOND GROUND BAR TO GROUNDING POST USING THROUGH BOLT CONNECTION.
- (10) #2 AWG INSULATED STRANDED COPPER.

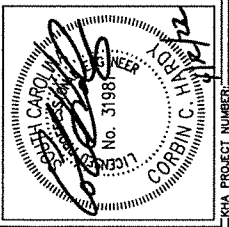


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SITE No.: 307034
PROJECT #: 20141083209
LAURENS, SC 29369
LAURENS COUNTY



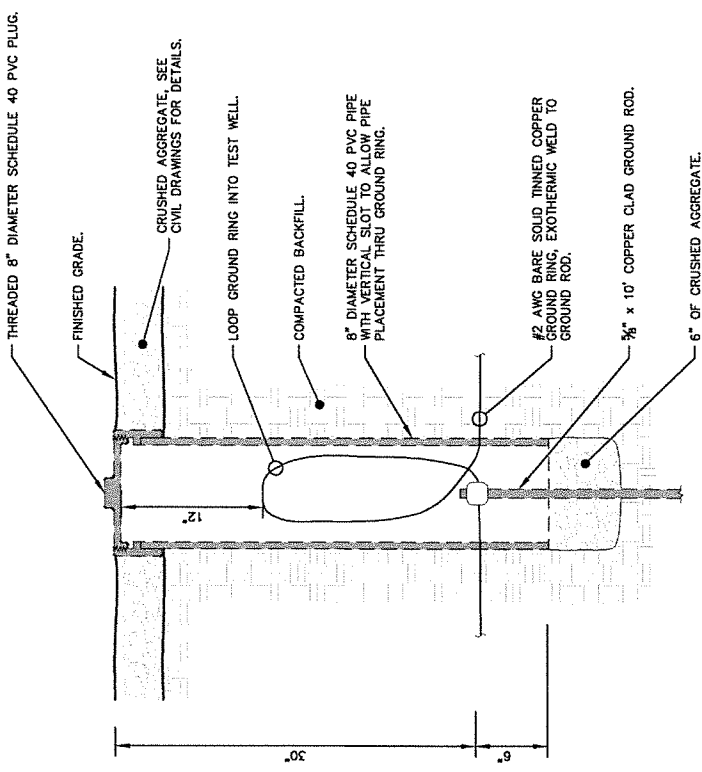
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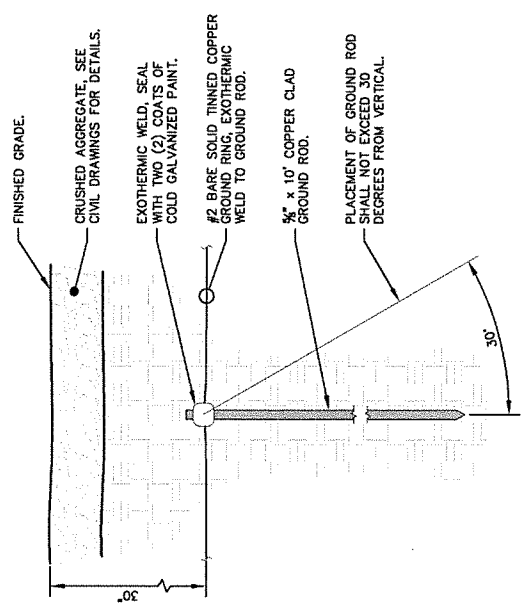


KHA PROJECT NUMBER:
013541031
DRAWN BY: WTB
CHECKED BY: DMF
SHEET TITLE:

GROUNDING DETAILS
SHEET NUMBER:
E11



1 GROUND ROD TEST WELL DETAIL
E11 NOT TO SCALE



2 GROUND ROD INSTALLATION DETAIL
E11 NOT TO SCALE



5851 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28264

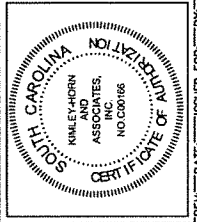
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DATE: 04/12/22
LAURENS, SC 29369
LAURENS COUNTY

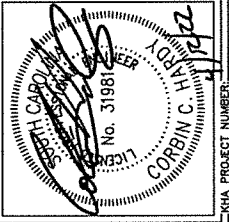
PLANS PREPARED BY:



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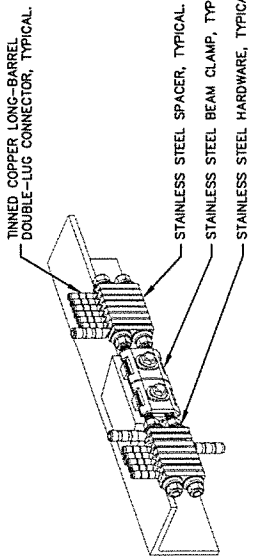
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KHA PROJECT NUMBER: 013541031
DRAWN BY: WTB
CHECKED BY: DMF
SHEET TITLE: GROUNDING DETAILS

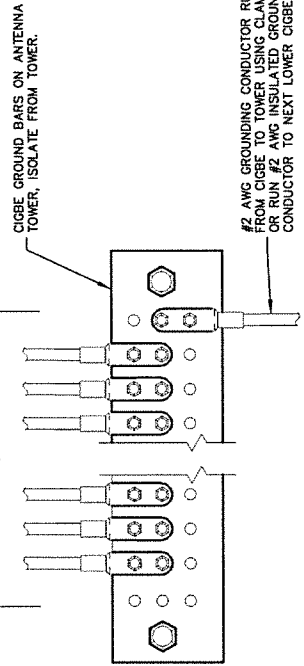
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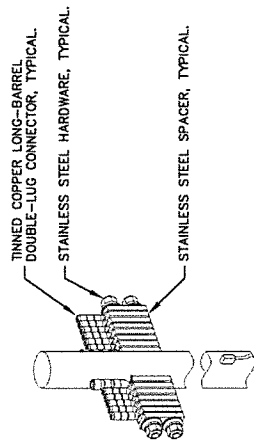
1 BAR NONE GROUNDED BEAM CLAMP (TDSGA-BC14)
E12 NOT TO SCALE

#6 AWG INCOMING GROUNDING CONDUCTORS FROM COAX GROUNDING KITS. (FOR TOWER TOP CIGBE'S OCCURS ONLY ON GUYED TOWERS, OR ON OTHER STRUCTURES WHERE REQUIRED TO STRIKE AT TOWER MOUNTING POINTS BETWEEN COAX GROUNDING LOCATIONS.)

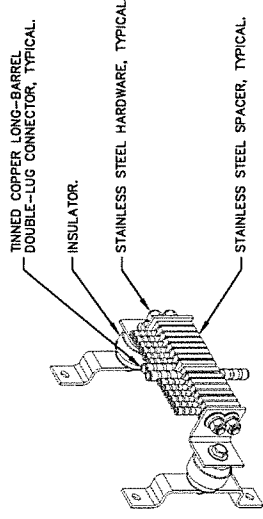


3 ANTENNA GROUND WIRE INSTALLATION DETAIL
E12 NOT TO SCALE

- NOTES:
1. ALL CIGBE GROUND BARS ON TOWER ARE TO BE ERICO TDSCA. TYPICALLY USE TDSCA-WB17 ISOLATED FROM UNISTRUT BRACKET.
 2. IF CIGBE CANNOT BE CONNECTED TO TOWER WITH #2 AWG GROUNDING CONDUCTOR, WELD CLIP OR EXOTHERMIC WELD THEN RUN #2 AWG BLACK GROUND LEAD FROM CIGBE DOWN TO NEXT LOWER CIGBE. SECURE GROUND LEAD WITH NON-METALIC TIES AT SAME SPACING AS COAX SUPPORTS.



2 BAR NONE POST MOUNTED (TDSCA-PA14)
E12 NOT TO SCALE



4 BAR NONE INSULATED (TDSCA-WB17)
E12 NOT TO SCALE