

**APPLICATION FOR ZONING APPROVAL BY CELLCO
PARTNERSHIP D/B/A VERIZON WIRELESS FOR THE
CONSTRUCTION OF A WIRELESS COMMUNICATIONS
TOWER AND RELATED APPURTENANCES**

(MOUNT HOPE SITE)

**(SITE ADDRESS: 280 RIMER ROAD, SALISBURY, NORTH CAROLINA
28146)**

**Submitted by:
Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
W. Lee Taylor, III, Esquire
Attorney to Verizon Wireless
1600 West End Avenue, Suite 2000
Nashville, Tennessee 37203
615.726.5757
ltaylor@bakerdonelson.com**

December 15, 2021

VIA FEDERAL EXPRESS AND EMAIL

Rowan County Planning & Development
ATTN: Ed Muire, Planning & Development Director
402 N. Main Street, Room 204
Salisbury, NC 28144

Re: APPLICATION FOR ZONING APPROVAL BY CELLCO PARTNERSHIP D/B/A VERIZON
WIRELESS FOR THE CONSTRUCTION OF A WIRELESS COMMUNICATIONS TOWER
AND RELATED APPURTENANCES

(MOUNT HOPE SITE / 3000001. 103001)
(SITE ADDRESS: 280 RIMER ROAD, SALISBURY, NORTH CAROLINA 28146)

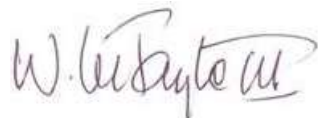
Dear Mr. Muire:

I hope this letter finds you well. Please find enclosed Verizon Wireless' Conditional Use Permit application (the "Application") for the proposed wireless communications facility in Rowan County, North Carolina at the above-referenced location. Also enclosed are an additional copy of the zoning application and two additional copies of the site plans. An electronic version of the Application, site plan, and supporting documents will be sent to you as well. Please advise at your first convenience whether any additional information is needed for the Application to be deemed complete. We will assume it is sufficiently complete unless we hear from you otherwise.

Please also find enclosed a check for \$5,000.00 representing the New Telecommunications Tower application fee and a check for \$200.00 representing the Conditional Use Permit application fee made payable to Rowan County.

Thank you for your time and attention to this matter. If you have any questions or comments, or need any additional information, please do not hesitate to contact me. I look forward to hearing from you soon.

Best regards,



**APPLICATION FOR ZONING APPROVAL BY CELLCO PARTNERSHIP D/B/A
VERIZON WIRELESS FOR THE CONSTRUCTION OF A WIRELESS
COMMUNICATIONS TOWER AND RELATED APPURTENANCES**

MOUNT HOPE SITE

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STATEMENT OF COMPLIANCE WITH THE ROWAN COUNTY ZONING ORDINANCE

Verizon Wireless is required to obtain a Conditional Use Permit from the Rowan County Board of Commissioners for a new 165' monopole wireless communications tower with a four foot lightning rod and associated equipment structures pursuant to Sections 21-60(3), 21-52, 21-58(a-e), and 21-59 of the Rowan County Zoning Ordinance. The proposed tower is located on property owned by Debbie L. Craddock and Patricia L. Moore. The proposed tower will be located at 280 Rimer Road on a property that is zoned RA. Verizon Wireless fully complies with the Conditional Use Permit standards set forth in the Ordinance and respectfully requests that the proposed tower be approved.

I. Section 21-60(3) - Transportation, communications, electric, gas and sanitary services group: Communications and Wireless support structures. Verizon Wireless fully complies with the applicable standards set forth in the Ordinance as follows:

- a. *New wireless support structures.* For all new wireless support structures, the county encourages the applicant to investigate preferred sites and those locations that minimize the impact to the North Carolina Scenic Byway corridor. In the event the new wireless support structure cannot be located at a preferred site, evidence that the applicant has investigated the possibilities for co-location on an existing wireless support structure shall be presented with its application. At a minimum the evidence should contain:
 1. Copies and responses of certified letters sent to owners/operators of all existing towers and structures with telecommunications facilities within the search ring of the proposed site, requesting the following information:
 - i. Height above ground and sea level.
 - ii. Existing tenants, including any telecommunication service providers and planned tower use.
 - iii. Whether the existing site could accommodate the addition of their wireless facilities.
 - iv. If the addition of their wireless facilities cannot be accommodated, an assessment of whether the existing site could be upgraded and a general description of the means and projected costs of shared use of the tower.
 - Acknowledged and agreed. There are no preferred sites, existing towers or alternative buildings or structures upon which to collocate within the search area in which Verizon Wireless' equipment must be located to function as intended. Therefore, co-location is not possible and construction of the new Mount Hope tower is necessary. Please refer to the Inability to Collocate Statement and

Facility Siting Certification signed by John Yeagley, Site Acquisitions Manager for Chase Real Estate Services, attached hereto as Exhibit 8. Please also refer to the Search Area Map, attached hereto as Exhibit 5. Lastly, please refer to the Network Objective Statement signed by Ashutosh Pandey, Radio Frequency Engineer for Verizon Wireless, attached hereto as Exhibit 4.

2. Inventory of all preferred sites, and alternative tower structures considered within the search ring, including specific analysis of each preferred site and alternative tower structure outlining positive and negative aspects for utilizing.
 - Acknowledged and agreed. There are no preferred sites or alternative tower structures within Verizon Wireless' search area. Therefore, co-location is not possible and construction of the new Mount Hope tower is necessary. Please refer to the Inability to Collocate Statement and Facility Siting Certification signed by John Yeagley, Site Acquisitions Manager for Chase Real Estate Services, attached hereto as Exhibit 8. Please also refer to the Search Area Map, attached hereto as Exhibit 5. Lastly, please refer to the Network Objective Statement signed by Ashutosh Pandey, Radio Frequency Engineer for Verizon Wireless, attached hereto as Exhibit 4.
3. A completed application for a new wireless support structure shall include:
 - i. Two copies of a site plan registered professional engineer or a professional land surveyor as provided in section 21-52.
 - Acknowledged and agreed. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
 - ii. Topography information for the equipment compound and fall zone including base elevation of wireless support structure or alternative tower structure.
 - Acknowledged and agreed. Please refer to Sheet 3 of the Site Survey and Pages C8 through C8.5 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
 - iii. Tower height and height of antenna location (if different).
 - Acknowledged and agreed. The proposed tower height is 165 feet and the proposed height of the antennas is 160 feet. Please refer to Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- iv. Setbacks including ingress and egress easements, fall zone, fencing and screening requirements found in section 21-215(1)b.1.-3.
 - Please refer to Pages C0, C1, C2, and C7 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6, demonstrating the setbacks, fall zone, and fencing for the facility. Section 21-219 of the Ordinance states that the landscaping requirements of Section 21-215 shall not apply if an existing adjacent principal or accessory structures and the proposed structure are separated by a distance of 200 feet or more. Because the proposed tower will be separated from existing structures by a distance greater than 200 feet, landscaping is not required. Additionally, the facility will be surrounded by existing dense vegetation that will be retained to the maximum extent possible that will provide a screen meeting the requirements in Section 21-215(1)b.1-3. Please also refer to the Site Images, attached hereto as Exhibit 7.
- v. Adjacent land uses and the separation distance from antenna facility to the nearest occupied residential dwelling.
 - Acknowledged and agreed. Please refer to Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
4. Using the latitude and longitude of the proposed wireless support structure location as a fixed point, obtain actual photographs of the site that present a 0 degree (north); 90 degree (east); 180 degree (south); 270 degree (west) perspective toward the fixed point from the nearest North Carolina DOT maintained roads in relation to the site.
 - Acknowledged and agreed. Please refer to the Balloon Test Report prepared by Michael Gould, Owner and Operator of Gould Digital Imaging, attached hereto as Exhibit 14.
5. Utilizing each of the photographs from item 4 above, create a simulated photographic image of the proposed wireless support structure or antenna addition to an alternative tower structure from each of the perspectives referenced above depicting the tower at a scale relative to its surroundings with specific regard to height and width.
 - Acknowledged and agreed. Please refer to the Photo Simulations, prepared by Michael Gould, Owner and Operator of Gould Digital Imaging, attached hereto as Exhibit 15.
6. Engineering report certifying the tower is compatible for co-location with a

minimum of five (5) compatible users including the primary user and copy of co-location policy.

- As shown on Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6, the proposed tower will be designed to accommodate five users. Please also refer to the Future Collocation Certification, signed by Michael Haven, Real Estate Manager for Verizon Wireless, attached hereto as Exhibit 9. An engineering report certifying the tower is compatible for co-location cannot be provided until the tower is ordered from the manufacturer, which is typically done after zoning approval. Verizon Wireless respectfully requests that this documentation be made a condition of zoning approval to be submitted before the issuance of a building permit.
- b. *Tower heights and types.* To maintain the character of the rural areas of the county and allow for placement in the commercial and industrial areas of the county, new wireless support structures will be regulated in the following manner:
1. Rural Agricultural (RA), Rural Residential and Neighborhood Business (NB) districts. Monopole not to exceed one hundred ninety-nine (199) feet based on five (5) co-located antenna arrays.
 - Acknowledged and agreed. The subject property is zoned RA. As shown on Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6, the proposed tower will be a 165-foot monopole tower and will be designed to accommodate five (5) users. Please also refer to the Future Collocation Certification, signed by Michael Haven, Real Estate Manager for Verizon Wireless, attached hereto as Exhibit 9.
 2. Commercial, business, industrial (CBI), Industrial (IND), 85-ED-1, 85-ED-2, 85-ED-3, and 85-ED-4. Monopole or lattice tower not to exceed two hundred fifty (250) feet based on six (6) co-located antenna arrays.
 - Because the proposed tower is zoned RA, this subsection does not apply.
 3. Requirements 1. and 2. of this subsection may be modified by the board of commissioners based upon:
 - i. Evidence presented by the applicant that demonstrates a height increase is in the interest of public safety or is necessary to provide the applicant's designed service.
 - ii. An alternative design would better blend into the surrounding environment regardless of zoning district.

- Because the proposed tower meets the requirements of subsection 1 regulating towers in the RA district, these subsections do not apply.
- c. *Provisions for tower safety.* New towers must either be so designed as to land upon its own property or lease area in the event of a fall as certified by a North Carolina registered professional engineer or have a minimum lot size or lease area no less than ten thousand (10,000) square feet and have an accompanying fall zone easement equal to the tower height plus ten (10) feet. New composite tower shall, at a minimum, fully loaded, comply with TIA/EIA-222F.
 - Verizon Wireless' proposed lease area is 10,000 square feet. The tower will have a 50-foot engineered fall zone radius such that, in the unlikely event of tower failure, the tower will fall within Verizon Wireless' lease area. Please refer to Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6 and Exhibit 17 – Engineering Fall Zone Certification.
- d. *Retention of consultant.* The county may elect to retain a consultant or professional services to review the application and make determinations and recommendations on relevant issues including, but not limited to, verification of the applicant's due diligence, analysis of alternatives and compliance with state and federal rules and regulations. The applicant shall pay any expense for consulting or professional services in excess of the application fee. The county shall require any consultants to disclose any potential conflicts of interest and to hold confidential any proprietary information supplied by the applicant. At the request of the applicant, the zoning administrator shall arrange an informal consultation with the applicant to review the consultant's report prior to any public hearing on the application. All determination costs not excluded by NCGS 153A- 349.52(f) are reimbursable by applicant.
 - Acknowledged and agreed.
- e. *Obstruction lighting and marking.* Wireless support structures located within the county's airport zone overlay may exhibit obstruction lighting and marking in accordance with the Federal Aviation Administration standards. All other towers shall be of galvanized finish, or painted with a rust protective paint of an appropriate color to harmonize with the surroundings as approved by the board of commissioners. Requirements of this subsection may be modified by the board of commissioners based upon an increase in tower height or location in another jurisdiction's regulated air space or in the interest of public safety.
 - Acknowledged and agreed. The proposed tower will not be located within the county's airport zone overlay. As shown on Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6, the proposed tower will be constructed of galvanized steel, gray in color, in order to blend with the changing color of the sky. As demonstrated by the Airspace Study, prepared by Federal Airways & Airspace, attached hereto as Exhibit 10,

notice to the FAA is not required and the tower will not be lighted.

- f. *FCC license required.* The applicant for a new wireless telecommunication facility must be currently licensed by the FCC to provide fixed or mobile wireless communication services, or if the applicant is not such an FCC licensee, must demonstrate that it has binding commitments from one (1) or more FCC licensees to utilize the wireless telecommunication site once constructed.

- Acknowledged and agreed. Please refer to the FCC Licenses for Rowan County, NC, attached hereto as Exhibit 11.

II. Section 21-52 - Site Plan Required. Verizon Wireless fully complies with the applicable standards set forth in the Ordinance as follows:

Site plans are necessary to demonstrate the proposed use of land and / or structures will comply with the specifications set forth in this chapter prior to the issuance of a zoning permit. All non-residential uses shall submit a site plan containing the following information in addition to other standards required by this chapter:

- (1) Zone lot with dimensions and development setbacks;

- Acknowledged and agreed. Please refer to Sheets 1 through 3 of the Site Survey and Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- (2) Tax parcel number;

- Acknowledged and agreed. The tax parcel number of the subject property is 422 179. Please refer to Page T1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- (3) Property address;

- Acknowledged and agreed. The property address is 280 Rimer Road, Salisbury, North Carolina 28146. Please refer to Page T1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- (4) Adjoining deeded properties and their uses;

- Acknowledged and agreed. Please refer to Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- (5) Existing structures;

- Acknowledged and agreed. Please refer to Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (6) Proposed structure with size;
- Acknowledged and agreed. The proposed structure is a 165-foot monopole wireless communication tower with a four-foot lightning rod. Please refer to Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (7) Proposed use;
- Acknowledged and agreed. The proposed use is a wireless communication tower. Please refer to Pages T1 and C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (8) Number of employees, if applicable;
- The proposed facility will be unmanned with only periodic maintenance on average one time per month by one employee. Please refer to Page T1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (9) Hours of operation, if applicable;
- The proposed facility will be unmanned with only periodic maintenance on average one time per month by one employee. The facility will operate 24 hours a day, seven days a week. Please refer to Page T1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (10) Off-street parking, loading and unloading, access to existing streets;
- Acknowledged and agreed. The proposed facility will have an access road and a 30' x 60' parking area and vehicle turnaround area at the entrance to the facility. Access to the site will be from the Rimer Road public right-of-way via a 12-foot wide road to be installed by Verizon Wireless to the entrance of the facility. Please refer to Pages C1 and C2 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (11) Easements and rights-of-way;

- Acknowledged and agreed. Access to the site will be from the Rimer Road public right-of-way. Verizon Wireless will have a 30-foot wide access and utilities easement from Rimer Road to the facility. Please refer to Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (12) All pertinent development requirements of this chapter;
- Acknowledged and agreed. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (13) Any additional information required by the zoning administrator to assess the merits of the application, including but not limited to traffic impact analysis, environmental impact statements;
- To-date, the zoning administrator has not requested any additional information.
- (14) Floodplains;
- The proposed facility is not located within a 100-year floodplain. Please refer to the NEPA Summary, attached hereto as Exhibit 16.
- (15) Name, location and dimension of any proposed streets, drainage facilities, parking areas, recreation areas, required yards, required turnarounds as applicable;
- The proposed facility will have a 30' x 60' parking area and vehicle turnaround area at the entrance to the facility. Please refer to Page C2 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (16) Screening & Buffering, if applicable;
- Section 21-219 of the Ordinance states that the landscaping requirements of Section 21-215 shall not apply if an existing adjacent principal or accessory structures and the proposed structure are separated by a distance of 200 feet or more. Because the proposed tower will be separated from existing structures by a distance greater than 200 feet, landscaping is not required. Additionally, the facility will be surrounded by existing dense vegetation that will be retained to the maximum extent possible that will provide a screen meeting the requirements in Section 21-215(1)b.1-3. Please refer to Pages C8 through C8.5 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6. Please also refer to the Site Images, attached hereto as Exhibit 7.

(17) Zoning District;

- Acknowledged and agreed. The zoning district of the proposed subject property is RA. Please refer to Page T1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

(18) Proposed phasing, if applicable;

- Not applicable.

(19) This required site plan shall be in sufficient detail to allow the zoning administrator to reasonably understand the proposed development. The scale shall be one (1) inch equals one hundred (100) feet or greater for zone lots three (3) acres or less in size, or one (1) inch equals two hundred (200) feet for zone lots more than three (3) acres in size.

- Acknowledged and agreed. Please refer to Sheets 1 through 3 of the Site Survey and Page C1 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

III. Section 21-58 - Review Procedures. Verizon Wireless fully complies with the applicable standards set forth in the Ordinance as follows:

(a) *Submission.* Applications for conditional use permits shall be submitted to the county planning department accompanied by a nonrefundable fee set by the county board of commissioners. Once received, the Planning Director shall review the request and, if deemed complete, submit a recommendation to the Board of Commissioners to schedule a public hearing regarding the request. Incomplete applications will be returned to the applicant with the deficiencies noted.

- Acknowledged and agreed. A check in the amount of \$5,000.00 and a check in the amount of \$200.0 made payable to Rowan County is enclosed with this application.

(b) *Conditional use review.* Planning staff shall prepare and present a report on the application to the board(s) reviewing the application. The board shall evaluate the application with reference to applicable conditions contained in this section as well as general criteria contained in this chapter. When deciding conditional use permits, the board of commissioners shall follow quasi-judicial procedures. The board of commissioners may impose reasonable and appropriate conditions upon the conditional use permit that support the findings found in this article.

- Because these standards refer to the responsibilities of the County, this subsection is not applicable.

(c) *Site plan required.* Application for conditional use permit review shall require a site plan as provided in section 21-52 of this article. The planning director may also require additional information reasonably required to review the development proposal.

- Acknowledged and agreed. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

(d) *Oath.* All evidence presented at the public hearing with regard to applications for conditional use permits shall be under oath.

- Acknowledged and agreed.

(e) *Required findings.* All decisions regarding a conditional use permit application shall not be approved or denied unless each of the following findings has been made:

(1) The development of the property in accordance with the proposed conditions will not materially endanger the public health or safety;

- Acknowledged and agreed. The proposed tower, if located, developed, and operated according to the plans submitted herewith, will not materially endanger the public health or safety. The proposed facility will be constructed and operated in accordance with all applicable Federal, state, and local laws and ordinances including, but not limited to the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) rules and guidelines. The facility will be secured by an 8-foot tall locked fence, topped with three strands of barbed wire. The tower will have a 50-foot engineered fall zone radius such that in the unlikely event of tower failure, the tower will fall within Verizon Wireless' lease area. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6. Please also refer to the Airspace Study prepared by Federal Airways & Airspace, attached hereto as Exhibit 10. Please also refer to the NIER Statement signed by Ashutosh Pandey, Radio Frequency Engineer for Verizon Wireless, attached hereto as Exhibit 12. Please refer to the NEPA Summary prepared by S&ME, attached hereto as Exhibit 16.

(2) That the development of the property in accordance with the proposed conditions will not substantially injure the value of adjoining or abutting property, or that the development is a public necessity; and

- Acknowledged and agreed. The proposed tower will not substantially injure the value of adjoining or abutting property. Michael Berkowitz, Certified Real Estate Appraiser, performed a real estate impact study for the proposed tower and concluded that, in his expert opinion, the proposed tower would not substantially injure the value of adjoining or abutting

property. Please refer to the Real Estate Impact Study prepared by Michael Berkowitz, attached hereto as Exhibit 13.

Additionally, the proposed tower is a public necessity. The proposed tower will provide necessary wireless telecommunication capacity and coverage in the area. Improved wireless capacity and coverage will promote public welfare as it will aid the citizens of Rowan County in contacting 911 from mobile devices in emergencies. Furthermore, a growing number of Americans live in wireless-only households. According to the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, as of late 2016, the majority of American homes only have wireless telephones.¹ Additionally, more than 70% of all adults between the ages of 25-34 and of adults renting homes live in wireless-only households.² Thus, wireless service has become a necessity to the majority of Americans in order to communicate in emergencies and on a day-to-day basis. Please refer to the Network Objective Statement signed by Ashutosh Pandey, Radio Frequency Engineer for Verizon Wireless, attached hereto as Exhibit 4.

- (3) That the location and character of the development in accordance with the proposed conditions will be in general harmony with the area in which it is located and in general conformity with any adopted county plans.
- Acknowledged and agreed. The property is zoned RA, as are all adjacent properties and the majority of properties in the general vicinity. Communication towers are permitted as a conditional use in the RA zoning district, which is *prima facie* evidence that the use will be in harmony with the area. In addition, the proposed tower will be located at the rear of an approximately 23.98-acre property that has dense vegetation that will remain to the maximum extent possible to screen the facility from adjacent properties. The proposed tower will be setback approximately one quarter of a mile from the nearest Rimer Road public right-of-way to the south. The closest existing residences are over 750 feet from the proposed tower location. The existing surrounding land uses are forest, agricultural and rural residential in nature such that the proposed facility will be in conformity with the character of the area. The proposed tower will be a monopole-type design without lattice or guy wires in order to be the least visually and physically intrusive facility. The tower will not be lighted. The tower will be galvanized steel to blend with the changing color of the sky. Other than the visibility of the top of the tower, the facility will have a negligible, if any, impact on neighboring properties. The facility will be

¹ Stephen J. Blumberg, Ph.D., U.S. Department of Health and Hum. Services, Center for Disease Control and Prevention, Nat'l Center for Health Stat., Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July-December 2016 (2017), <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf>.

² *Id.*

an innocuous use that will not produce any vibration, fumes, odors, or loud noises. The facility will be unmanned with only periodic maintenance approximately one time per month such that there would be no increase in traffic to the area after construction. The facility will have a very small footprint on the overall subject property as the facility will be located on a 100' x 100' lease area with a 60' x 60' compound. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6. Please also refer to the Site Images, attached hereto as Exhibit 7. Please also refer to the Balloon Test Report and Photo Simulations prepared by Michael Gould, Owner and Operator of Gould Digital Imaging, attached hereto as Exhibits 14 and 15, respectively.

Additionally, the proposed tower will be in general conformity with the Rowan County Land Use Plan: Areas East of I-85. The subject property is within Planning Area Two of this plan, which generally consists of lands adjacent to municipalities and areas surrounding High Rock Lake. This area is the most developed of the three identified planning areas and has low-density residential uses with pockets of medium density residential uses as well as highway corridor commercial and industrial uses with some agricultural uses. The NC 152 commercial/industrial corridor is within one mile of the proposed site. The future land use recommendations for the area include a mix of uses and service oriented development, which may include commercial components with residential development to serve proposed and surrounding neighborhoods. The plan also contemplates medium density residential development and the expansion of existing businesses. The plan recognizes the highway businesses along NC 152 east as well as rural businesses along Old Concord Road. The proposed tower will be in general conformity with the contemplated developments and future land use recommendations as it will provide increased wireless capacity and coverage to serve the residences, commercial, and industrial uses in the area. The facility will specifically provide improved service along NC 152 between Old Concord Road and Faith Road and along Old Concord Road to support the commercial businesses along these roadways. Wireless service is now a highly demanded service for both residents and businesses for day-to-day communication and for communication with 911 during emergencies, thus, the proposed facility will support the contemplated development in Planning Area Two and be in general conformity with the Plan.

IV. Section 21-59 - Evaluation Criteria. Verizon Wireless fully complies with the applicable standards set forth in the Ordinance as follows:

In addition to meeting special standards for a particular use, the applicant must illustrate that he/she can comply with the following criteria when any conditional use is proposed.

- (1) Adequate transportation access to the site exists;
 - Acknowledged and agreed. The proposed facility will have an access road and a 30' x 60' parking area and vehicle turnaround area at the entrance to the facility. Access to the site will be from the Rimer Road public right-of-way via a 12-foot wide road to be installed by Verizon Wireless to the entrance of the facility. Please refer to Pages C1 and C2 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.
- (2) The use will not significantly detract from the character of the surrounding area;
 - Acknowledged and agreed. The proposed tower will not significantly detract from the character of the surrounding area. The property is zoned RA, as are all adjacent properties and the majority of properties in the general vicinity. Communication towers are permitted as a conditional use in the RA zoning district, which is *prima facie* evidence that the use will be in harmony with the area. In addition, the proposed tower will be located at the rear of an approximately 23.98-acre property that has dense vegetation to remain to the maximum extent possible to screen the facility from adjacent properties. The proposed tower will be setback approximately one quarter of a mile from the nearest Rimer Road public right-of-way to the south. The closest existing residences are over 750 feet from the proposed tower location. The existing surrounding land uses are forest, agricultural and rural residential in nature such that the proposed facility will be in conformity with the character of the area. The proposed tower will be a monopole-type design without lattice or guy wires in order to be the least visually and physically intrusive facility. The tower will not be lighted. The tower will be galvanized steel to blend with the changing color of the sky. Other than the visibility of the top of the tower, the facility will have a negligible, if any, impact on neighboring properties. The facility will be an innocuous use that will not produce any vibration, fumes, odors, or loud noises. The facility will be unmanned with only periodic maintenance approximately one time per month such that there would be no increase in traffic to the area after construction. The facility will have a very small footprint on the overall subject property as the facility will be located on a 100' x 100' lease area with a 60' x 60' compound. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6. Please also refer to the Site Images, attached hereto as Exhibit 7. Please also refer to the Balloon Test Report and Photo Simulations prepared by Michael Gould, Owner and Operator of Gould Digital Imaging, attached hereto as Exhibits 14 and 15, respectively.

Additionally, Michael Berkowitz, Certified Real Estate Appraiser, performed a real estate impact study for the proposed tower and concluded

that, in his expert opinion, the proposed tower would not substantially injure the value of adjoining or abutting property. Please refer to the Real Estate Impact Study prepared by Michael Berkowitz, attached hereto as Exhibit 13.

(3) Hazardous safety conditions will not result;

- Acknowledged and agreed. The proposed tower, if located, developed, and operated according to the plans submitted herewith, will not materially endanger the public health or safety. The proposed facility will be constructed and operated in accordance with all applicable Federal, state, and local laws and ordinances including, but not limited to the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) rules and guidelines. The facility will be secured by an 8-foot tall locked fence, topped with three strands of barbed wire. The tower will have a 50-foot engineered fall zone radius such that in the unlikely event of tower failure, the tower will fall within Verizon Wireless' lease area. Please refer to the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6 and Exhibit 17 - Engineering Fall Zone Certification. Please also refer to the Airspace Study prepared by Federal Airways & Airspace, attached hereto as Exhibit 10. Please also refer to the NIER Statement signed by Ashutosh Pandey, Radio Frequency Engineer for Verizon Wireless, attached hereto as Exhibit 12. Please refer to the NEPA Summary prepared by S&ME, attached hereto as Exhibit 16.

(4) The use will not generate significant noise, odor, glare, or dust;

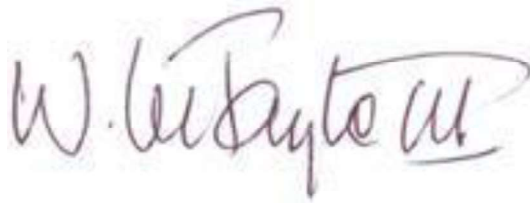
- Acknowledged and agreed. The tower will not be lighted. The tower will be galvanized steel to blend with the changing color of the sky. The facility will be an innocuous use that will not produce any vibration, fumes, odors, or loud noises. Please refer to Page C13 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6. Please also refer to the Airspace Study prepared by Federal Airways & Airspace, attached hereto as Exhibit 10.

(5) Excessive traffic or parking problems will not result; and

- Acknowledged and agreed. The facility will be unmanned with only periodic maintenance approximately one time per month such that there would be no increase in traffic to the area after construction. Additionally, the facility will have a 30' x 60' parking and turnaround area at the entrance to the facility that will provide the necessary parking space for periodic maintenance. Please refer to Page C2 of the Site Survey and Drawings prepared by Kimley-Horn and Associates, Inc., attached hereto as Exhibit 6.

- (6) Use will not create significant visual impacts for adjoining properties or passersby.
- Acknowledged and agreed. The proposed tower will not create significant visual impacts for adjoining properties or passersby and will not substantially injure the value of adjoining or abutting property. The proposed tower will be located at the rear of an approximately 23.98-acre property that has dense vegetation that is to remain to the maximum extent possible to screen the majority of the facility from adjacent properties. The proposed tower will be setback approximately one quarter of a mile from the nearest Rimer Road public right-of-way to the south. The closest existing residences are over 750 feet from the proposed tower location. The proposed tower will be a monopole-type design without lattice or guy wires in order to be the least visually and physically intrusive facility. The tower will not be lighted. The tower will be galvanized steel to blend with the changing color of the sky. Please also refer to the Balloon Test Report and Photo Simulations prepared by Michael Gould, Owner and Operator of Gould Digital Imaging, attached hereto as Exhibits 14 and 15, respectively.

Respectfully submitted on December 6, 2021.

A handwritten signature in dark ink, appearing to read "W. Lee Taylor, III". The signature is fluid and cursive, with the last name "Taylor" being the most prominent part.

W. Lee Taylor, III, Esq.
Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
1600 West End Avenue, Suite 2000
Nashville, Tennessee 37203
Phone: (615) 726-5757
Email: ltaylor@bakerdonelson.com
Attorney for Verizon Wireless



Rowan County Department of
Planning & Development
402 N. Main Street Ste 204
Salisbury, NC 28144
Phone (704) 216-8588
Fax (704) 638-3130
www.rowancountync.gov

Case # CUP
Date Filed _____
Received By _____
Amount Paid _____

Office Use Only

CONDITIONAL USE PERMIT APPLICATION

OWNERSHIP INFORMATION:

Name: Debbie L. Craddock and Patricia L. Moore

Signature: Debbie L. Craddock, Patricia L. Moore

Phone: 704-798-2266 Email: N/A

Address: 725 Parks Road, Salisbury, North Carolina 28146

APPLICANT / AGENT INFORMATION:

Name: Baker, Donelson, Bearman, Caldwell & Berkowitz, PC on behalf of Cellco Partnership d/b/a Verizon Wireless

Signature: W. Taylor

Phone: 615-726-5757 Email: ltaylor@bakerdonelson.com

Address: 1600 West End Avenue, Suite 2000, Nashville, Tennessee 37203

PROPERTY DETAILS:

Tax Parcel: 422 179 (PIN 5656-04-83-5790) Zoning District: RA

Date Acquired: 2015 Deed Reference: Book 1261 Page 471

Property Location: 280 Rimer Road, Salisbury, North Carolina 28146

Size (sq. ft. or acres): 23.98 Street Frontage: 30'

Current Land Use: Forested and garage

Surrounding Land Use: North Vacant/Wooded
South Residential and Agricultural
East Residential, Vacant/Wooded and Agricultural
West Residential, Forested and Agricultural

PURPOSE & SECTION:

State purpose of conditional use permit:

Construction of a new 165' wireless telecommunication tower (with 4'
lightning rod).

Cite section(s) of Zoning Ordinance which permit is being requested:

21-60(3) - Transportation, communications, electric, gas, and sanitary
services group: Communications and Wireless Support Structures

ATTACHED DOCUMENTS:

Applicant must attach a response to the evaluation criteria from Section 21-59 and an accompanying site plan based on information required in Section 21-52 and 21-60.

Attached: Yes ☒ No ☐

Applicant shall, at the time the application is made, present all the necessary evidence (maps, drawings, statements, certifications, etc.) showing how the requirements of the applicable sections of the Zoning Ordinance will be met.

OFFICIAL USE ONLY

1. Signature of Coordinator: _____ 2. Board of Commissioners
Public Hearing: ____/____/____ 3. Notifications Mailed: ____/____/____ 4. Property Posted:
____/____/____ 5. BOC Action: Approved _____ Denied _____ 6. Date Applicant Notified:
____/____/____

NAME OF LANDOWNER: Debbie L. Craddock and Patricia L. Moore
ADDRESS: 725 Parks Road
CITY, STATE, & ZIP: Salisbury, North Carolina, 28146
DATE: November 6, 2017

Rowan County Planning & Development
ATTN: Ed Muire, Planning & Development Director
402 N. Main Street
Salisbury, NC 28144

RE: **CONSTRUCTION OF A NEW WIRELESS SUPPORT STRUCTURE LOCATED
IN ROWAN COUNTY, NORTH CAROLINA**

FOR PROPERTY LOCATED AT: 280 Rimer Road
Salisbury, North Carolina 28146

PARCEL ID: 422 179

To Whom It May Concern:

Please be advised that Debbie L. Craddock and Patricia L. Moore are the owners of record of the property described above, and hereby authorize Baker, Donelson, Bearman, Caldwell & Berkowitz, PC as attorney for Celco Partnership d/b/a Verizon Wireless to act on their behalves in requesting any and all necessary approvals for the above-noted property to allow for construction of a communication tower and all related ancillary structures.

Sincerely,

Debbie L. Craddock

Debbie L. Craddock

Date: 11-5-2017

Patricia L. Moore

Patricia L. Moore

Date: 11-5-2017



November 1, 2017

Rowan County Planning & Development
ATTN: Ed Muire, Planning & Development Director
402 N. Main Street
Salisbury, NC 28144

Re: Verizon Wireless Network Objective Statement - MOUNT HOPE

Dear Mr. Muire:

The purpose of this letter is to address Celco Partnership D/B/A Verizon Wireless' (Verizon Wireless) application for a new telecommunication tower at 280 Rimer Road, Salisbury, North Carolina 28146. The anchor tenant on the proposed new telecommunication tower will be Verizon Wireless. Verizon Wireless' objective in connection with the proposed site is to improve capacity and coverage to the area southwest of Faith, North Carolina, mainly west of Faith Road, north of HWY 152 East, and east of Old Concord Road. The Mount Hope Area is currently served by the existing Verizon Wireless Granite site. However, greater network density – additional network capacity - is needed to meet the growing needs of Verizon Wireless customers in the Mount Hope Area.

The proposed Mount Hope new telecommunication tower will provide the needed capacity offload solution for a sector of the existing Verizon Wireless Granite site, thereby serving the growing demands of its customers and preventing the negative service implications of capacity exhaustion.

Wireless carriers have had a consistent need since the beginning of Cellular Telephony to increase the density of the network as customer demand for wireless services increased, and additional network capacity became more of a necessity. However, since the introduction of 3G data services, and subsequent evolution to 4G LTE technology, the requirement to rapidly advance the process of cell densification has become essential in order to meet the user demand for data services and increased mobility.

In the past, wireless networks primary services were voice and short message service, which were handled by circuit-switched channels over the radio frequency spectrum. In order to increase capacity, the carrier could increase the number of channels up to the point where the carrier's owned spectrum became exhausted. In meeting the demand for high speed data services over the 4G network, and subsequently voice and SMS services over 4G as well, wireless carriers must use all available spectrum from the beginning. As a result, the size of a cell site is no longer defined as coverage, but rather by how many users can be supported and what data rates can be sustained. When a cell site reaches its capacity limit it is realized by the customer in the form of websites taking too long to load or timing out, and emails that are

unable to download or send, as well as issues with voice calls when carried over the 4G network. When the capacity of an existing site is exhausted, a capacity offload solution is required in order to provide the same level of service within a given area.

The proposed Mount Hope new communications tower will provide the needed capacity offload solution for the existing Verizon Wireless Granite site, thereby serving the growing demands of its customers and preventing the negative service implications of capacity exhaustion. The proposed Mount Hope new communications tower will also provide increased coverage to connect with existing nearby Verizon Wireless sites.

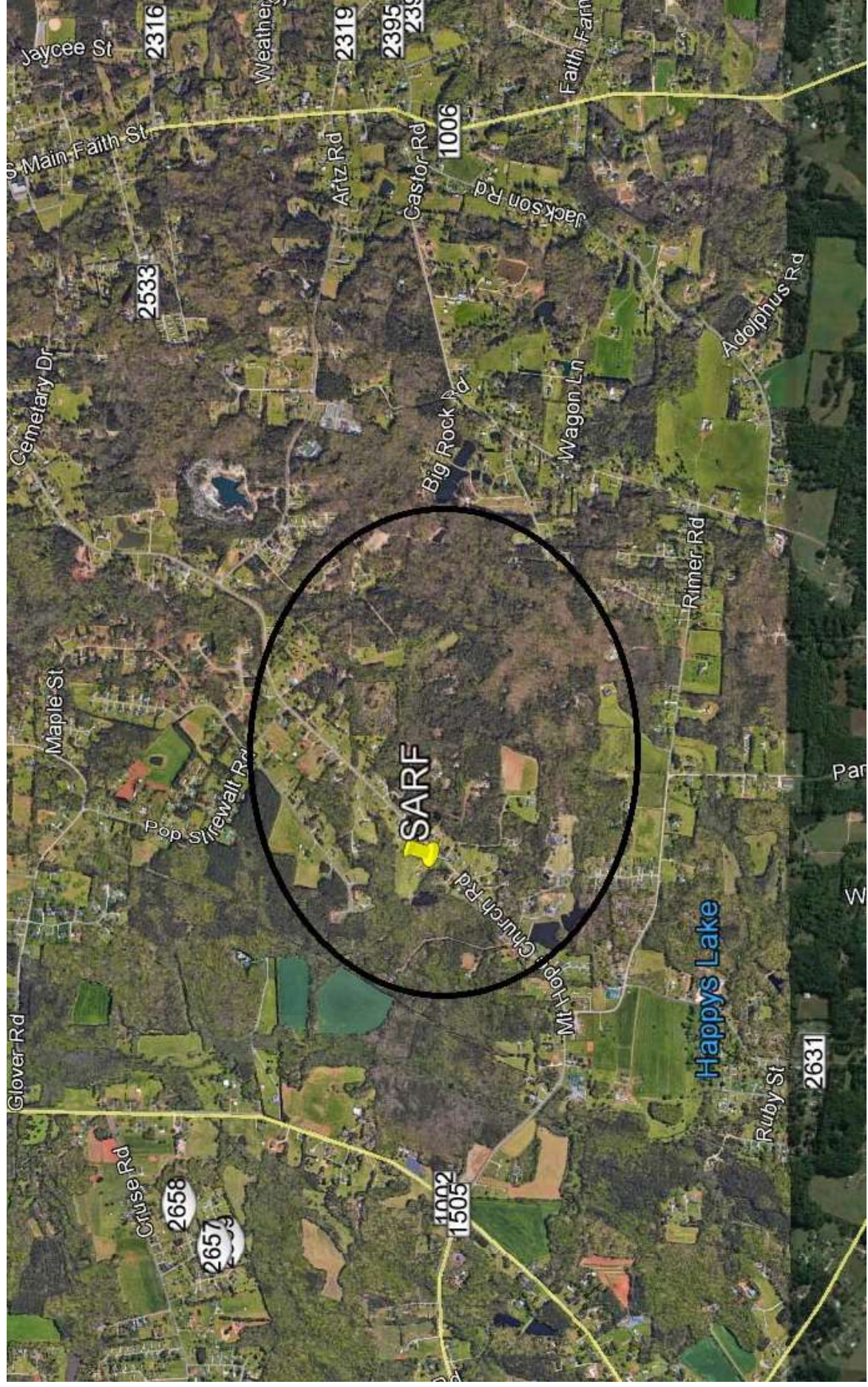
Sincerely,

A handwritten signature in black ink, appearing to read 'Ashutosh Pandey', positioned above a horizontal line.

Ashutosh Pandey

RF Engineer – Verizon Wireless

Mount Hope Search Area Map





8921 RESEARCH DRIVE
CHARLOTTE, NC 28262

MOUNT HOPE

SITE ADDRESS (E-911 TBD)

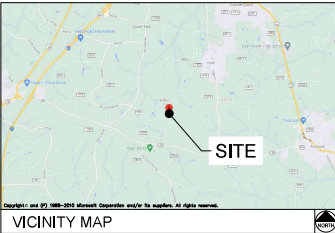
280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY
LATITUDE: 35° 33' 55.5" N
LONGITUDE: 80° 29' 05.8" W
TAX/PIN #: 422 179
ZONING: RA

ROWAN COUNTY SHERIFF'S OFFICE

232 N MAIN ST
SALISBURY, NC 28144
PHONE: (704) 216-8700
ATTN: CUSTOMER SERVICE

BOSTIAN HEIGHTS FIRE DEPARTMENT

8211 OLD CONCORD RD
SALISBURY, NC 28146
PHONE: (704) 857-0208
ATTN: CUSTOMER SERVICE



FROM CHARLOTTE OFFICE: HEAD SOUTH-WEST ON RESEARCH DR 0.4 MI, TURN LEFT ONTO W W F HARRIS BLVD 0.4 MI, TURN LEFT ONTO I-85 N RAMP 0.3 MI, MERGE ONTO I-85N 8.5 MI, TAKE EXIT 54 FOR GEORGE W LILES PARKWAY TOWARD KANNAPOLIS PARKWAY 0.4 MI, USE THE LEFT 2 LANES TO TURN LEFT ONTO GEORGE W LILES PKWY 0.1 MI, CONTINUE ONTO KANNAPOLIS PKWY 5.5 MI, TURN RIGHT ONTO NC-3 S/MOORESVILLE RD 2.6 MI, TURN LEFT ONTO DALE EARNHARDT BLVD 0.2 MI, CONTINUE ONTO LOOP RD N 0.9 MI, TURN LEFT ONTO N MAIN ST 1.1 MI, TURN RIGHT ONTO E 18TH ST 0.1 MI, TURN LEFT AT THE 2ND CROSS STREET ONTO US-29 N/N CANNON BLVD 4.6 MI, EXIT ONTO NC-152 E 2.9 MI, TURN LEFT ONTO OLD CONCORD RD 0.9 MI, TURN RIGHT ONTO MT HOPE CHURCH RD 0.6 MI, TURN RIGHT ONTO PARKS RD 0.7 MI, CONTINUE STRAIGHT ONTO RIMER RD 121 FT AND ACCESS ROAD WILL BE ON THE LEFT.

DRIVING DIRECTIONS

JURISDICTION:

ROWAN COUNTY

STATE:

NORTH CAROLINA

TOWER TYPE:

MONOPOLE TOWER

TOWER HEIGHT:

165' (169' 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 3710565600J DATED 06/16/2009 WITHIN FLOOD ZONE X.

PROJECT SUMMARY

DEVELOPER

VERIZON WIRELESS
8921 RESEARCH DRIVE
CHARLOTTE, NC 28262
PHONE: (704) 577-8785
ATTN: MICHAEL HAVEN

POWER COMPANY

DUKE ENERGY
PHONE: (800) 777-9898
ATTN: CUSTOMER SERVICE

PROPERTY OWNER

PATRICIA MOORE & DEBBIE CRADDOCK
725 PARKS RD
SALISBURY, NC 28146
PHONE: (704) 798-2266
ATTN: PATRICIA MOORE

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
T2	APPENDIX B - BUILDING CODE SUMMARY
-	SITE SURVEY (SHEET 1 OF 3)
-	SITE SURVEY (SHEET 2 OF 3)
-	SITE SURVEY (SHEET 3 OF 3)
N1	GENERAL NOTES
C0	OVERALL PARCEL PLAN
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 & EROSION CONTROL PLAN
C8.1	GRADING & EROSION CONTROL PLAN 2
C8.2	GRADING & EROSION CONTROL PLAN 3
C8.3	GRADING & EROSION CONTROL PLAN 4
C8.4	GRADING & EROSION CONTROL PLAN 5
C8.5	GRADING & EROSION CONTROL PLAN 6
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

ROWAN COUNTY PLANNING & ZONING

402 N MAIN ST #204
SALISBURY, NC 28144
PHONE: (704) 216-8602
ATTN: SHANE STEWART

PERMIT INFORMATION



PROJECT INFORMATION:

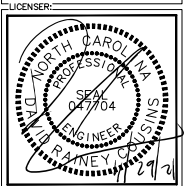
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:



11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-458-4880
WWW.KIMLEY-HORN.COM
NC LICENSE # P-0052

REV.	DATE	ISSUED FOR	BY
8			
7			
6			
5			
4			
3			
2	11/29/21	CONSTRUCTION	DRC
1	10/21/21	CONSTRUCTION	DRC
0	9/20/21	CONSTRUCTION	DRC



KHA PROJECT NUMBER:

018985210

DRAWN BY:

WJW

CHECKED BY:

DMF

SHEET TITLE:

COVER SHEET

SHEET NUMBER:

T1

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(Excerpt 1 and 2-FAMILY DWELLINGS AND TOWNHOMES)
Project: VERIZON WIRELESS - MOUNT HOPE
Address: 280 RIVER ROAD, SALISBURY, NC 28146
Owner: VERIZON WIRELESS
Architect: DAVE FRANKLIN
City: MOUNT HOPE, NC
County: ROWAN
State: NC
Project No.: 16675538
Site No.: 304662
Project Name: VERIZON WIRELESS - MOUNT HOPE

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(Excerpt 1 and 2-FAMILY DWELLINGS AND TOWNHOMES)
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Address: 280 RIVER ROAD, SALISBURY, NC 28146
Owner: VERIZON WIRELESS
Architect: DAVE FRANKLIN
City: MOUNT HOPE, NC
County: ROWAN
State: NC
Project No.: 16675538
Site No.: 304662
Project Name: VERIZON WIRELESS - MOUNT HOPE

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Address: 280 RIVER ROAD, SALISBURY, NC 28146
Owner: VERIZON WIRELESS
Architect: DAVE FRANKLIN
City: MOUNT HOPE, NC
County: ROWAN
State: NC
Project No.: 16675538
Site No.: 304662
Project Name: VERIZON WIRELESS - MOUNT HOPE

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(Excerpt 1 and 2-FAMILY DWELLINGS AND TOWNHOMES)
Project: VERIZON WIRELESS - MOUNT HOPE
Address: 280 RIVER ROAD, SALISBURY, NC 28146
Owner: VERIZON WIRELESS
Architect: DAVE FRANKLIN
City: MOUNT HOPE, NC
County: ROWAN
State: NC
Project No.: 16675538
Site No.: 304662
Project Name: VERIZON WIRELESS - MOUNT HOPE

verizon
280 RIVER ROAD
SALISBURY, NC 28146
PROJECT # 16675538
SITE NO. 304662
KIMLEY-HORN
11722 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-433-4383
WWW.KIMLEY-HORN.COM
NC LICENSE # 0052
REV: DATE: ISSUED FOR: BY:
8/26/21 CONSTRUCTION DRC
KHA PROJECT NUMBER: 018985210
DRAWN BY: CHECKED BY:
SHEET TITLE:
APPENDIX B - BUILDING CODE SUMMARY
SHEET NUMBER: T2

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 UNLESS OTHERWISE NOTED.
- 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.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP NUMBER 3710545600J, EFFECTIVE DATE OF 6/16/2009.

NOTES ON REVIEW OF TITLE REPORT:

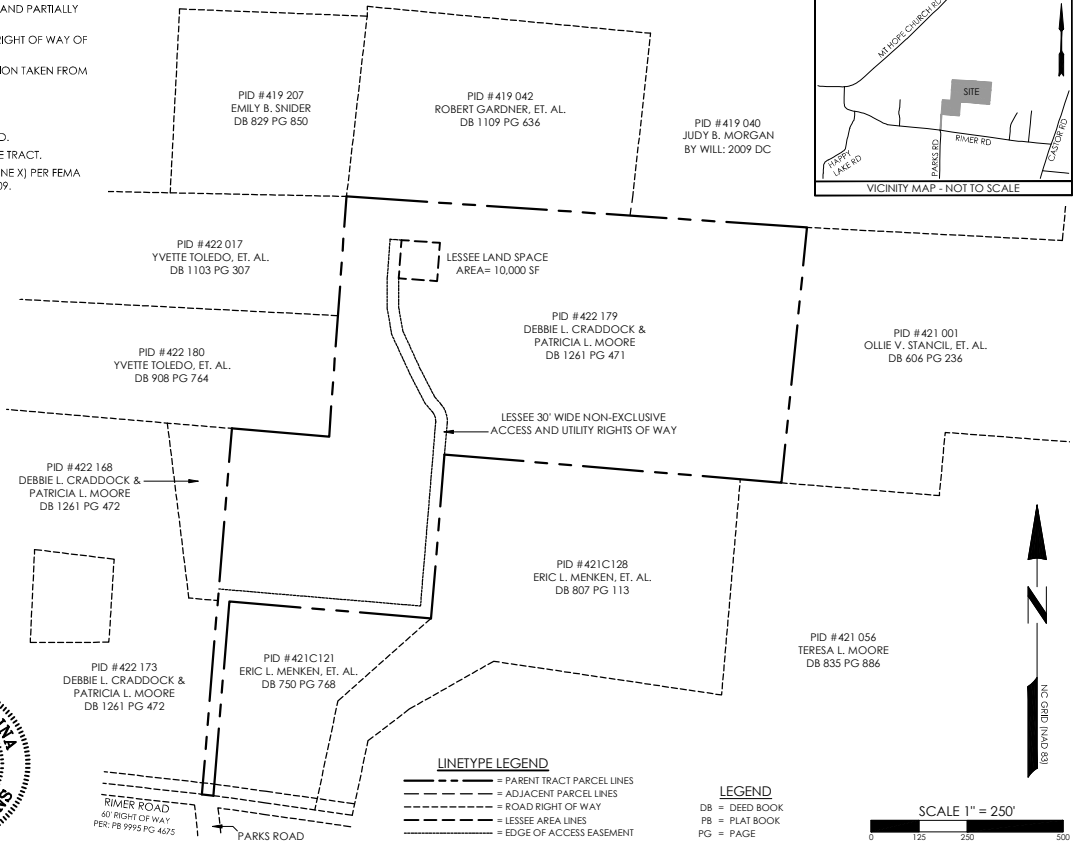
FIDELITY NATIONAL TITLE INSURANCE COMPANY
FIDELITY ORDER NO. 23647844
ISSUE DATE 11/02/2016

FROM A SURVEY STANDPOINT, THE ITEMS LISTED IN THE
TITLE REPORT DO NOT AFFECT THE LESSEE'S PREMISES.

I HEREBY CERTIFY THAT THIS MAP WAS DRAWN FROM AN
ACTUAL SURVEY MADE UNDER MY SUPERVISION AND
ACCURATELY DEPICTS THE LOCATIONS OF THIS SITE AS
SURVEYED IN THE FIELD AND IS NOT INTENDED TO BE A
BOUNDARY SURVEY OF THE PROPERTY SHOWN. I FURTHER
CERTIFY THAT THIS MAP WAS DRAWN BY ME FROM AN ACTUAL
GPS SURVEY MADE BY ME AND THE FOLLOWING
INFORMATION WAS USED TO PERFORM THE SURVEY

- CLASS OF SURVEY: A
- POSITIONAL ACCURACY: <0.10'
- TYPE OF GPS SURVEY PROCEDURE: JAVAD DPOS RAPID
STATIC USING A JAVAD TRIUMPH 2 RECEIVER
- DATES OF SURVEY: OCTOBER 5, 2016
- DATUM/EPOCH: NAD 83(NAD83/2011)
- PUBLISHED/FIXED-CONTROL:
DK4045 NCTR TROY CORS ARP
AK4198 HPT HIGH POINT CORS ARP
DF6318 NC77 I77 WELCOME CNTR CORS ARP
- GEOID MODEL: GEOID12A
- COMBINED GRID FACTOR: 0.99985037
- UNITS: U.S. SURVEY FEET

Daniel D. Evans
DANIEL D. EVANS L-5184 DATE: 2/22/18
DDE LAND SURVEYING & CONSULTING, PA
5103 HAMPTON MEADOWS RD. MONROE, NC 28110
(704) 444-4181



Kimley»Horn
11720 AMHER PARK DRIVE, SUITE 600, ALPHARETTA, GA 30009
PHONE: 770-825-0744 WWW.KIMLEY-HORN.COM

MOUNT HOPE
280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY



REVISIONS			
REV.	DATE	DESCRIPTION	BY
1	2/22/18	REVISED ADJACENT PARCEL LINES	DE
0	2/17/17	FINAL	DE
A2	1/23/17	ISSUED FOR REVIEW/ADDITIONAL TOPO	DE
A1	1/17/17	ISSUED FOR REVIEW/REVISED ACCESS AND LEASE AREA	DE
A	1/13/16	ISSUED FOR REVIEW	DE

SITE SURVEY			
PROPOSED MONOPOLE			
DRAWING NO.			
SHEET 1 OF 3			

APPROVED BY	CHECKED BY	DATE
DE	EK	2/22/18

6

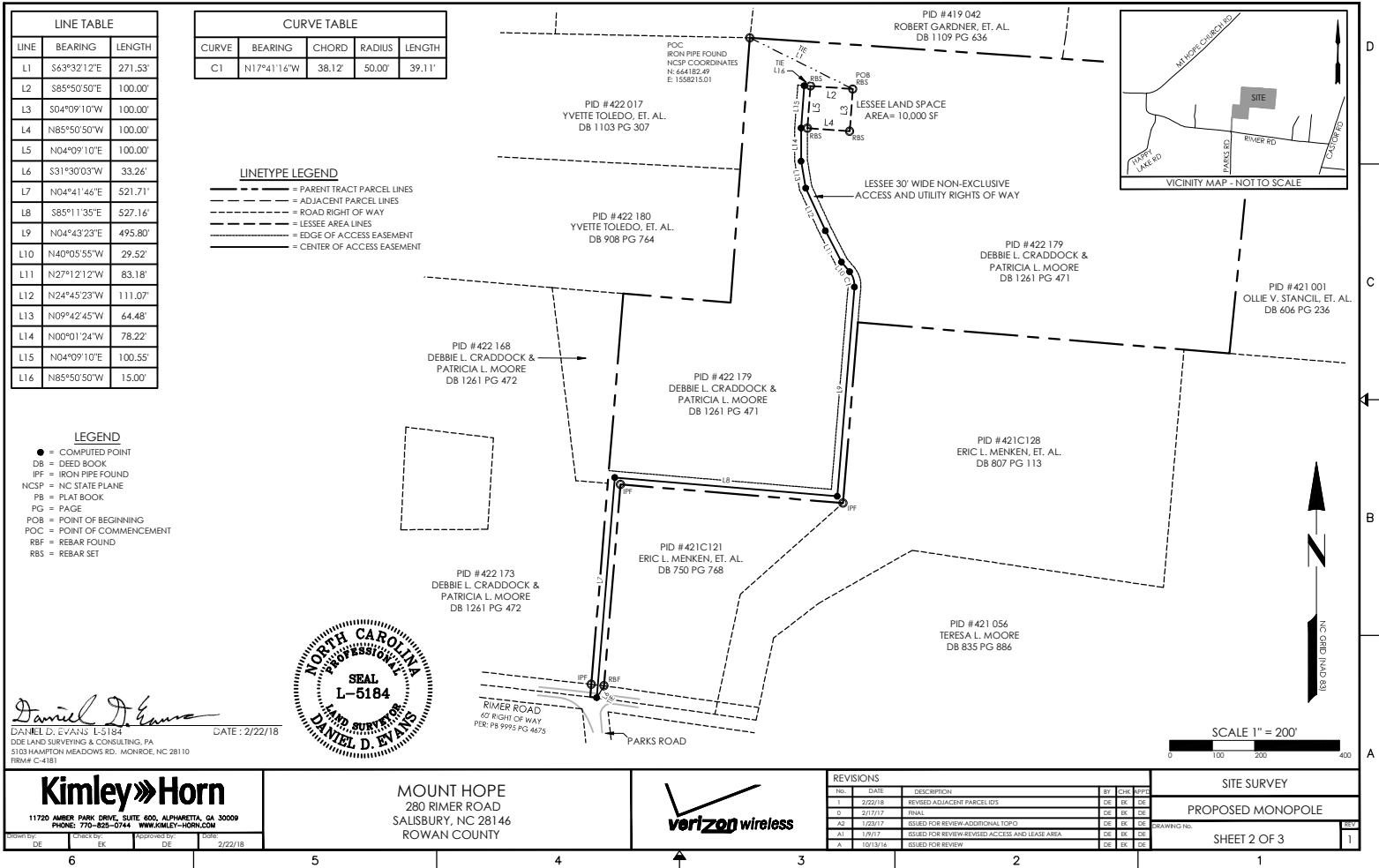
5

4

3

2

1



CENTER OF
PROPOSED MONOPOLE
LAT = 35°33'55.5" N
LONG = 80°29'05.8" W
GROUND ELEVATION = 876.4' NAVD 88

- LINETYPE LEGEND**
- PARENT TRACT PARCEL LINES
 - ADJACENT PARCEL LINES
 - ROAD RIGHT OF WAY
 - LESSEE AREA LINES
 - EDGE OF ACCESS EASEMENT
 - OVERHEAD UTILITY
 - FENCE LINE
 - TREE LINE

- LEGEND**
- CMP = CORRUGATED METAL PIPE
 - DB = DEED BOOK
 - ELEV = ELEVATION
 - PG = PAGE
 - RCP = REINFORCED CONCRETE PIPE
 - RBS = REBAR SET
 - TBM = TEMPORARY BENCHMARK
 - TP = TELEPHONE PEDESTAL
 - TRF = TRANSFORMER
 - UP = UTILITY POLE



Daniel D. Evans
DANIEL D. EVANS L-5184 DATE: 2/22/18
DDE LAND SURVEYING & CONSULTING, PA
5103 HAMPTON MEADOWS RD., MONROE, NC 28110
FIRM# C-4181

Kimley»Horn
11720 AMICK PARK DRIVE, SUITE 600, ALPHARETTA, GA 30009
PHONE: 770-825-0744 WWW.KIMLEY-HORN.COM

MOUNT HOPE
280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY



REVISIONS			
REV.	DATE	DESCRIPTION	BY
1	2/22/18	REVISED ADJACENT PARCEL BOTS	DE
0	2/17/17	FINAL	DE
A2	1/23/17	ISSUED FOR REVIEW-ADDITIONAL TOPO	DE
A1	1/17/17	ISSUED FOR REVIEW-REVISED ACCESS AND LEASE AREA	DE
A	1/13/16	ISSUED FOR REVIEW	DE

SITE SURVEY	
PROPOSED MONOPOLE	
DRAWING NO.	1
SHEET 3 OF 3	

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 CONFLICT WITH 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 AS 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 PROPOSED TOWER AND TOWER 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 REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES 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 AT THE CONSTRUCTION SITE OF THE LOCATIONS OF THEIR UNDERGROUND UTILITIES AND 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 "NORTH CAROLINA 811" 48 HOURS IN ADVANCE OF PERFORMING ANY WORK BY CALLING THE TOLL FREE NUMBER (800) 632-4949 (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 STYMIE 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 C11.

2.00 EQUIPMENT FOUNDATION NOTES

2.01 FOUNDATIONS ARE DESIGNED FOR A PRESUMPTIVE ALLOWABLE SOIL 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 SUBSOIL 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 698. ALL TESTS MUST MEET THE MINIMUM SPECIFIED SOIL BEARING CAPACITY. COMPACTION TESTING IS BY THE GEOTECHNICAL TESTING COMPANY DESIGNATED FOR THE PROJECT. SCHEDULING AND COORDINATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. REPORTS OF ALL TESTING ARE TO BE PROMPTLY DELIVERED OR FAXED TO THE VERIZON WIRELESS PROJECT MANAGER.

2.05 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 ACI-318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

2.06 CONCRETE SHALL HAVE A SLUMP BETWEEN 3" AND 6".

2.07 FIBERS FOR CONCRETE SHALL BE FIBERMESH 650, 100 PERCENT VIRGIN POLYPROPYLENE FIBRILLATED FIBERS, #3 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.

2.08 THE FIBERS SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED MANUFACTURING FACILITY. UNLESS OTHERWISE STATED, FIBERMESH 650 MACRO-SYNTHETIC FIBERS SHALL BE ADDED TO THE CONCRETE AT THE BATCHING PLANT AT THE RECOMMENDED APPLICATION RATE OF 3 LBS/YD³ 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

2.09 AT THE REQUEST OF THE VERIZON WIRELESS PROJECT MANAGER, TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE CYLINDERS SHALL BE TAKEN FOR EACH DAY'S CONCRETE PLACEMENT. CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH THE LATEST REVISION TO ASTM C39.

2.10 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4" x 45° CHAMFER, UNLESS OTHERWISE NOTED.

2.11 CONCRETE FORMWORK IS TO BE STRIPPED WITHIN 48 HOURS. VIBRATION OF THE CONCRETE MUST ASSURE THAT HONEYCOMBING WILL BE AT A MINIMUM. MECHANICAL VIBRATION OF ALL CONCRETE IS REQUIRED 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.

2.12 TOPS OF CONCRETE FOUNDATION MUST BE WITHIN 0.02' OF ELEVATION REQUIRED.

2.13 TOP OF FOUNDATION FINISH TO BE LEVEL ±1/8" IN 10'.

2.14 TOP OF FOUNDATION TO HAVE MEDIUM BROOM FINISH.

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.

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PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

KimleyHorn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-459-4580
WWW.KIMLEY-HORN.COM
NC LICENSE # 0002

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NORTH CAROLINA

PROFESSIONAL

SEAL

04/7/04

ENGINEER

DAVID R. RAINY, P.E.

KHA PROJECT NUMBER:

018985210

DRAWN BY:

WJW

CHECKED BY:

DMF

SHEET TITLE:

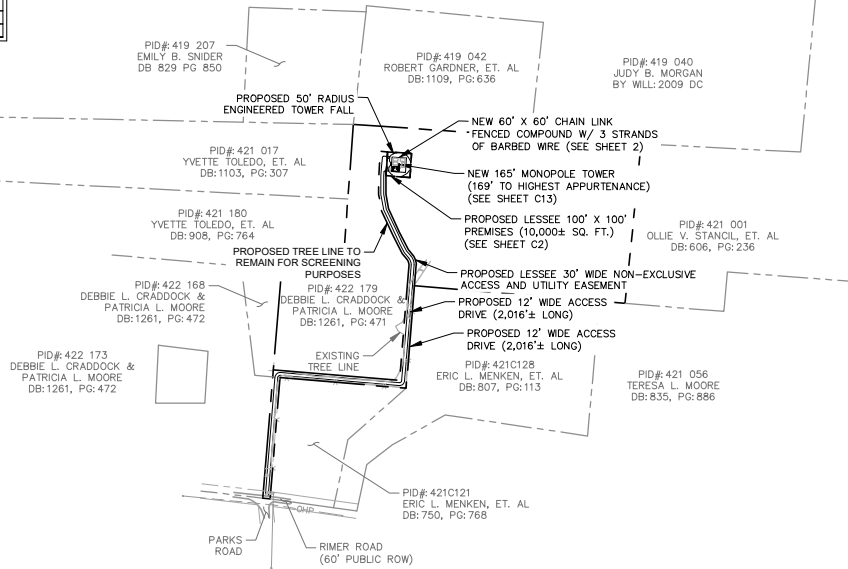
GENERAL NOTES

SHEET NUMBER:

N1

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TOWER SETBACKS TO PROPERTY LINES (FROM TOWER CENTER)	
NORTH	154'-2"
SOUTH	509'-0"
EAST	996'-1"
WEST	201'-3"



TOWER NOTE:
165' TOWER IS DESIGNED WITH A 50' ENGINEERED FALL ZONE IN ORDER TO REMAIN WITHIN DESIGNATED LEASE AREA.

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 DDE LAND SURVEYING & CONSULTING, PA DATED 01/23/17 AND SITE VISIT ON 10/03/16.

1 OVERALL PARCEL PLAN
C0 SCALE: 1" = 400'

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GRAPHIC SCALE: 1" = 400'

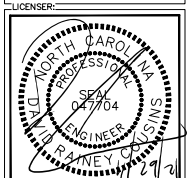


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SITE No.: 304662
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SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-458-4880
WWW.KIMLEY-HORN.COM
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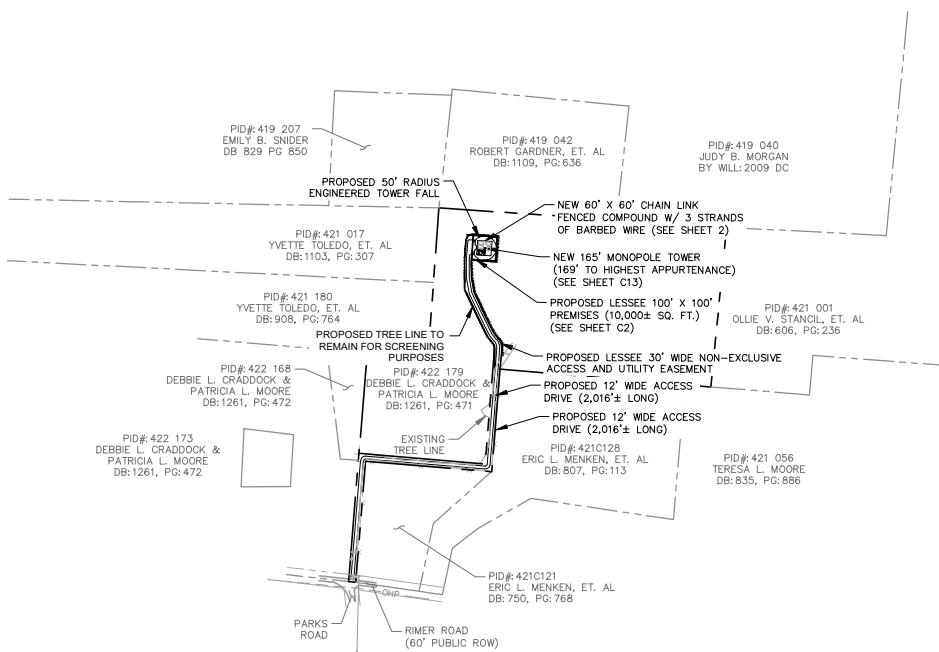
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OVERALL PARCEL PLAN

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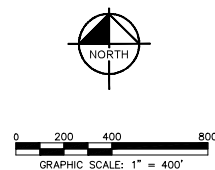
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1 OVERALL SITE PLAN
C1 SCALE: 1" = 400'

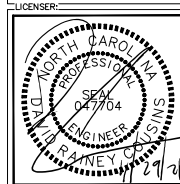


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PLANS PREPARED BY:
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-458-4880
WWW.KIMLEY-HORN.COM
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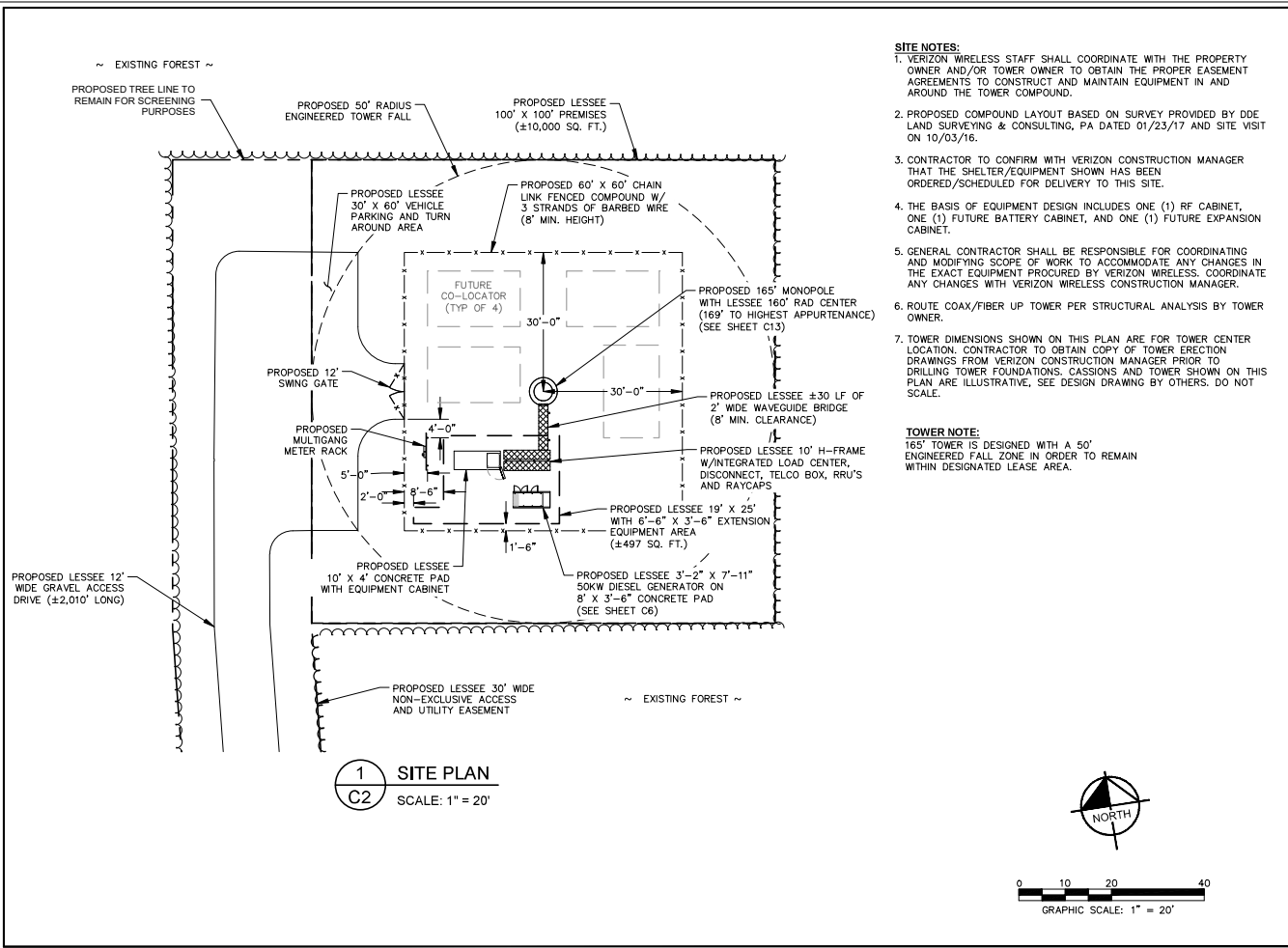
OVERALL SITE PLAN

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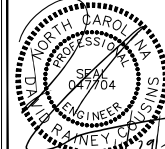
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PHONE: 770-458-4880
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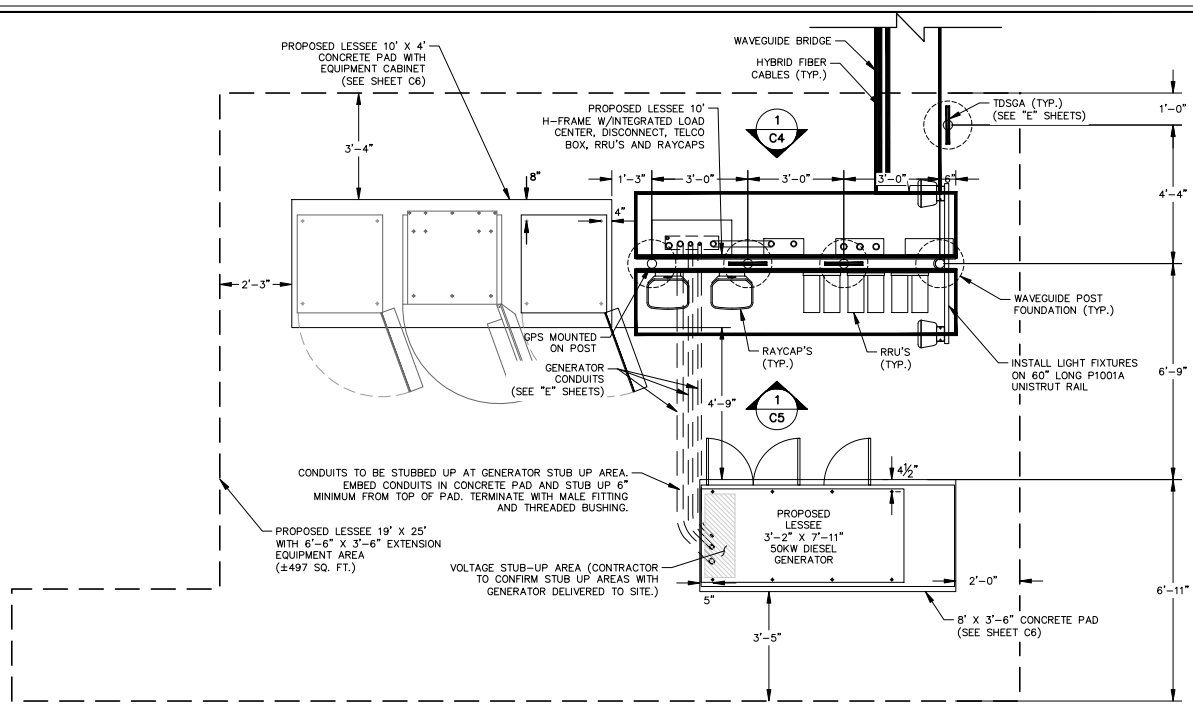
SITE PLAN

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

EQUIPMENT PAD/ROUTING NOTES:

1. REFER TO THE SITE PLAN FOR EQUIPMENT PAD LOCATION AND ORIENTATION.
2. RUN 2" FLEX TELCO CONDUIT FROM BOTTOM OF TELCO BOX TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
3. RUN (2) 2" FLEX POWER CONDUIT AND (1) 1" ALARM CONDUIT FROM BOTTOM OF ILC TO SIDE OF RF CABINET WITH CHASE NIPPLES THROUGH FACTORY KNOCKOUTS.
4. RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
5. 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.
6. SUPPORT FLEX CONDUIT ON HORIZONTAL H-FRAME RAILS OR ON VERTICAL SITE STRUT SNT10 RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.
7. 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 TDSCA GROUND BAR AT BASE OF H-FRAME.
8. RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. TERMINATE COAX ON ICE BRIDGE AND TRANSITION TO JUMPERS JUST BEFORE REACHING H-FRAME. ATTACH GROUND KITS TO COAX CABLE ON TOWER SIDE OF LAST ICE BRIDGE POST AND BOND TO TDSCA GROUND BAR NEAR TOP OF POST.
9. 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 RBAB4 CABINET.
10. BOLT CABINETS AND GENERATOR TO SLAB USING FASTENERS SPECIFIED BY EQUIPMENT MANUFACTURER IN FACTORY PROVIDED MOUNTING HOLES.



0 1.5 3 6
GRAPHIC SCALE: 1" = 3'

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11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
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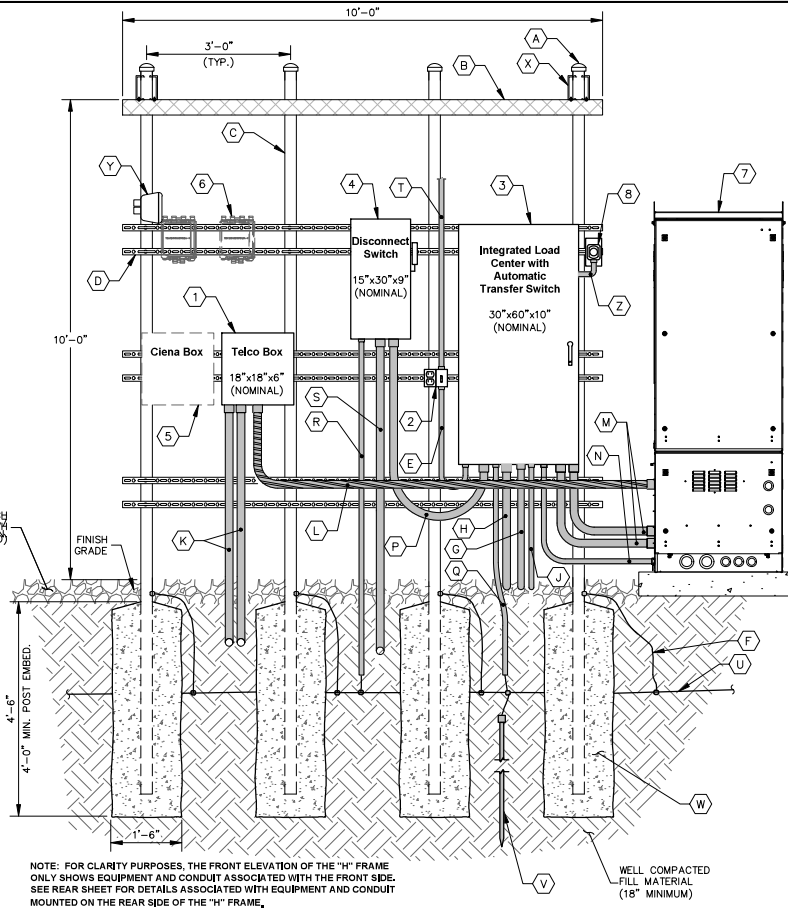
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EQUIPMENT PAD LAYOUT
SHEET NUMBER:
C3
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KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (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 #P1000) WITH PLASTIC END CAP (UNISTRUT #P2860), 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.
- (J) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER.
- (K) TWO (2) 2" PVC TELCO CONDUITS, WITH TWO (2) PULL ROPES EACH.
- (L) 2" FLEX CONDUIT FOR TELCO CABLES TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (M) (2) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (N) 1" PVC CONDUIT FROM INTEGRATED LOAD CENTER (ILC) TO RF CABINET FOR ALARM SIGNAL CABLE. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (P) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE DISCONNECT SWITCH TO THE UTILITY BREAKER IN THE ILC.
- (Q) 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.
- (R) 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.
- (S) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE UTILITY COMPANY METER TO THE DISCONNECT SWITCH.
- (T) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO AREA LIGHTS.
- (U) GROUND RING (SEE "E" SHEETS).
- (V) GROUND ROD, EXOTHERMIC WELD TO GROUND RING (SEE "E" SHEETS).
- (W) CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. AND INCLUDE FIBERMESH 650.
- (X) MB-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET). THRU BOLTS REQUIRED FOR ATTACHMENT IN LIEU OF FACTORY PROVIDED U-BOLTS.
- (Y) 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.
- (Z) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE 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) 200 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) CENIA 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



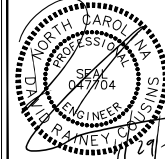
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11720 AMBER PARK DRIVE, SUITE 600
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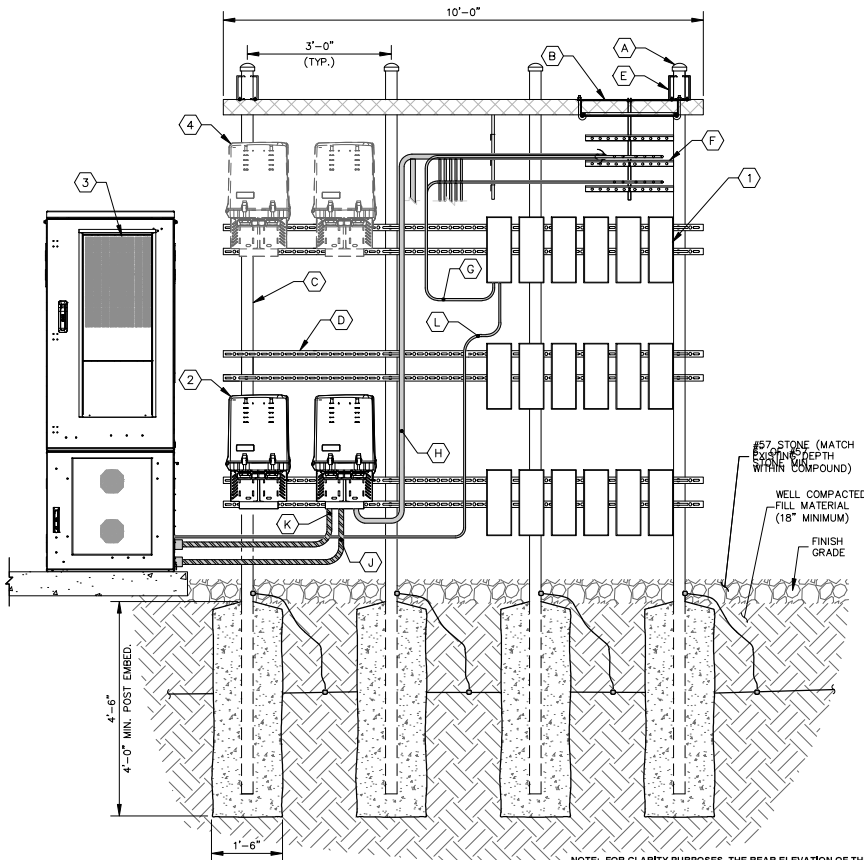
SHEET TITLE:

EQUIPMENT RACK
DETAIL - FRONT

SHEET NUMBER:

C4

K:\ATL_Wireless\000_Verizon\2016_Shell\Mount_Hope\CAD\CD\Equip-28.dwg, 11/29/21 2:05 PM, Rev. Aaron Donahue



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

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 #P1000) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (E) WB-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET). THRU BOLTS REQUIRED FOR ATTACHMENT IN LIEU 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 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.

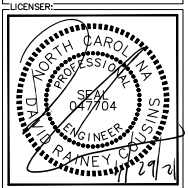


PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0032

REV.	DATE	ISSUED FOR	BY
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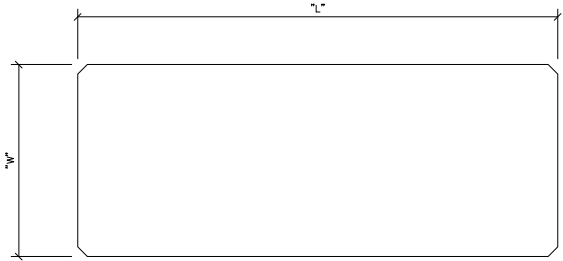
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018985210
DRAWN BY: WJW CHECKED BY: DMF
SHEET TITLE:

EQUIPMENT RACK
DETAIL - REAR

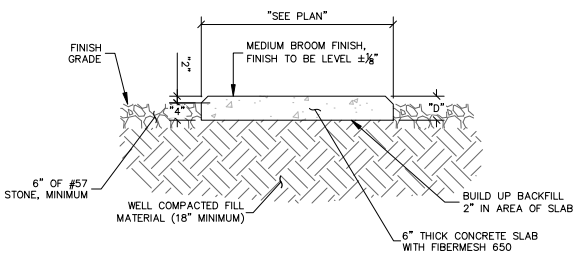
SHEET NUMBER:
C5

K:\ATL_Wireless\2016_Shell\Mount Hope\CAD\CD\ECor-28.dwg, 11/29/21 2:55 PM, Rev. Aaron Donahue

CONCRETE PAD SCHEDULE				
PAD TYPE	"L"	"W"	"D"	REINFORCEMENT
EQUIPMENT PAD	10'-0"	4'-0"	6"	SEE DETAIL 2/C6
GENERATOR PAD	8'-0"	3'-6"	6"	SEE DETAIL 2/C6



1 CONCRETE PAD PLAN
C6 NOT TO SCALE



2 CONCRETE PAD FOUNDATION SECTION
C6 NOT TO SCALE



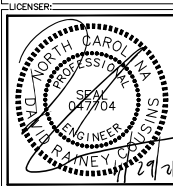
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ROWAN COUNTY

PLANS PREPARED BY:



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ALPHARETTA, GA 30009
PHONE: 770-438-4380
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NC LICENSE #10052

REV.	DATE	ISSUED FOR	BY
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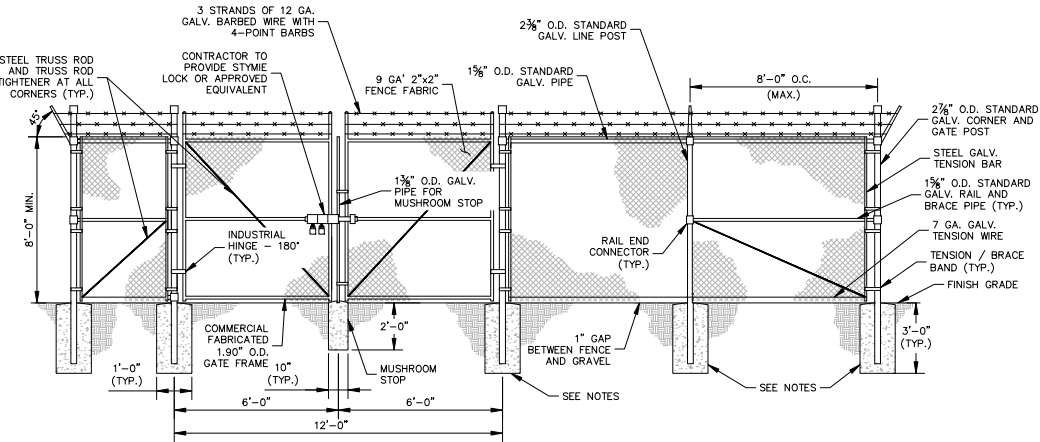


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018985210
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CHECKED BY: DMF
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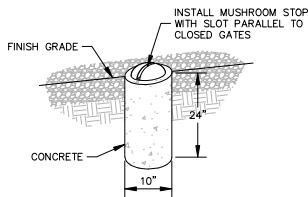
CONCRETE PAD
FOUNDATION
DETAILS

SHEET NUMBER:
C6

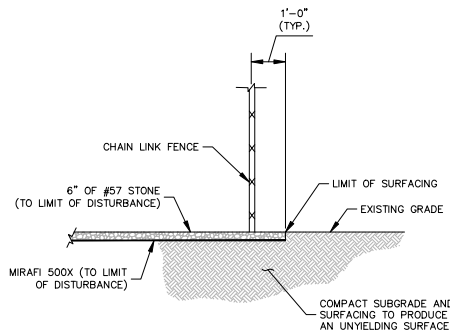
- FENCE NOTES:**
1. USE 3,000-PSI CONCRETE, FULLY CONSOLIDATED AROUND THE POST.
 2. WHERE THE POST IS SET IN ROCK OR CONCRETE, CORE A HOLE 12" DEEP AND 1" LARGER IN DIAMETER THAN THE POST. SET THE POST AND GROUT IN PLACE USING NON-SHRINK GROUT.
 3. ALL POSTS MUST BE PLUMB AND ALIGNED WITH ONE ANOTHER IN BOTH HORIZONTAL AND VERTICAL PLANES.
 4. CORNERS AND GATEPOSTS FOR CHAIN LINK FENCES SHALL EXTEND ABOVE THE TOP STRAND OF BARBED WIRE TO PROVIDE TENSIONING FOR THE BARBED WIRE.
 5. PROVIDE MIDRAILS AND BRACING AT ALL CORNER POSTS WHERE THE FENCE CHANGES DIRECTION BY MORE THAN 30 DEGREES.
 6. 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.
 7. CONTRACTOR SHALL PROVIDE HOLD OPEN DEVICES FOR ALL GATES AT THE SPECIFIED OPEN POSITIONS. DRIVEN PIPE TYPE RECEIVERS ARE NOT AUTHORIZED.
 8. CONTRACTOR SHALL ALSO PROVIDE A MUSHROOM TYPE RECEIVER AT THE CLOSE POSITION.



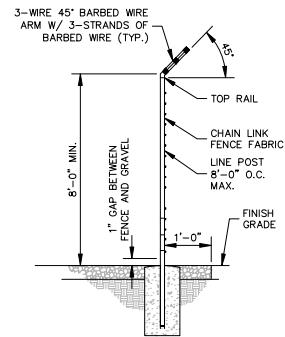
1 CHAIN LINK FENCE AND GATE ELEVATION
C7 NOT TO SCALE



2 MUSHROOM STOP
C7 NOT TO SCALE



3 SITE COMPOUND SURFACE DETAIL
C7 NOT TO SCALE



4 SECTION AT FENCE
C7 NOT TO SCALE

verizon

8827 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

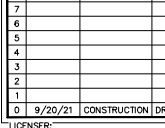
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # P-0052

REV: DATE: ISSUED FOR: BY:

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LICENSER:



KHA PROJECT NUMBER:

018985210

DRAWN BY: CHECKED BY:

WJW DMF

SHEET TITLE:

FENCE, GATE, AND COMPOUND DETAILS

SHEET NUMBER:

C7

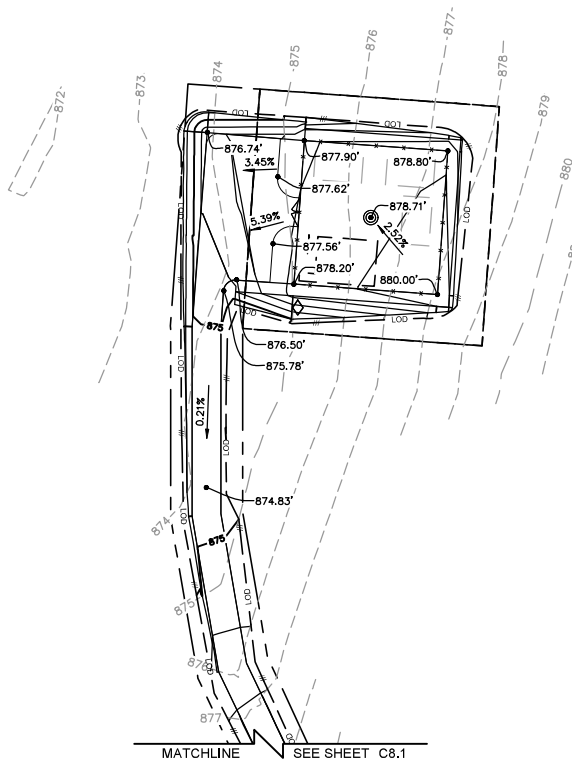
NOTE:
CURRENT DESIGN ANTICIPATES
APPROXIMATELY 42,841± SQ. FT. (0.98
ACRES) OF CLEARING AND GRADING FOR
THE PROPOSED PROJECT. IF ADDITIONAL
CLEARING IS REQUIRED BEYOND WHAT IS
SHOWN IN THE PLANS THE CONTRACTOR
SHALL NOTIFY THE ENGINEER AND/OR
PROJECT MANAGER. IF DURING THE BID
WALK OR CONSTRUCTION IT IS
DETERMINED THAT MORE THAN (1) ACRE
OF LAND IS TO BE DISTURBED FOR
CONSTRUCTION AN EROSION AND
SEDIMENTATION CONTROL PLAN MUST BE
FILED 30 DAYS PRIOR TO
CONSTRUCTION.

GRADING NOTES:

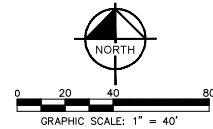
1. THE CONTRACTOR SHALL CLEAR AND GRUB
THE SITE AND PLACE, COMPACT, AND
MOISTURE CONDITION ALL FILL PER THE
PROJECT GEOTECHNICAL ENGINEERS
SPECIFICATIONS. FILL MATERIAL SHALL BE
APPROVED BY THE GEOTECHNICAL
ENGINEER PRIOR TO PLACEMENT.
2. ALL PROPOSED CONTOURS AND SPOT
ELEVATIONS REFLECT FINISHED GRADES.
3. CONTRACTOR SHALL BLEND EARTHWORK
SMOOTHLY TO TRANSITION BACK TO
EXISTING GRADE.
4. PORTIONS OF THE SITE NOT SPECIFICALLY
MENTIONED WITHIN THE GEOTECHNICAL
REPORT SHALL BE COMPACTED TO 95
PERCENT OF THE MATERIALS MAXIMUM DRY
DENSITY WITHIN 3 PERCENT OF OPTIMUM
MOISTURE CONTENT.
5. FILL SHALL BE PLACED IN MAXIMUM 8
INCH LOOSE LIFTS.
6. UNDISTURBED AREAS WITHIN 30'
INGRESS/EGRESS EASEMENT NOT NEEDED
FOR UTILITY ROUTING TO BE LEFT
UNDISTURBED.
7. GROUND WATER SHOULD BE REASONABLY
EXPECTED. ANY DE-WATERING OR
MOISTURE CONDITIONING IS THE
RESPONSIBILITY OF THE CONTRACTOR AND
SHOULD BE INCLUDED IN THE CONTRACT
PRICE.
8. SEED ALL DISTURBED AREAS NOT TOPPED
WITH GRAVEL PER SEEDING SCHEDULE ON
DETAIL ON SHEET C9.
9. MAXIMUM CUT SLOPE = 2H:1V UNLESS
OTHERWISE NOTED.
10. MAXIMUM FILL SLOPE = 3H:1V UNLESS
OTHERWISE NOTED.

LEGEND

EXISTING CONTOURS — — — — —
PROPOSED CONTOURS — — — — —
LOD/SILT FENCE — LOD — — —
TPF — — — — — TPF — — — — —
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



1 GRADING & EROSION CONTROL PLAN
C8 SCALE: 1" = 40'



PROJECT INFORMATION:

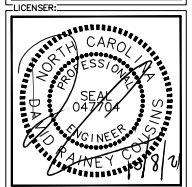
SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SAUSPORT, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-818-4380
WWW.KIMLEY-HORN.COM
NC License F-2102

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RHA PROJECT NUMBER:

018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:

GRADING &
EROSION
CONTROL PLAN

SHEET NUMBER:

C8

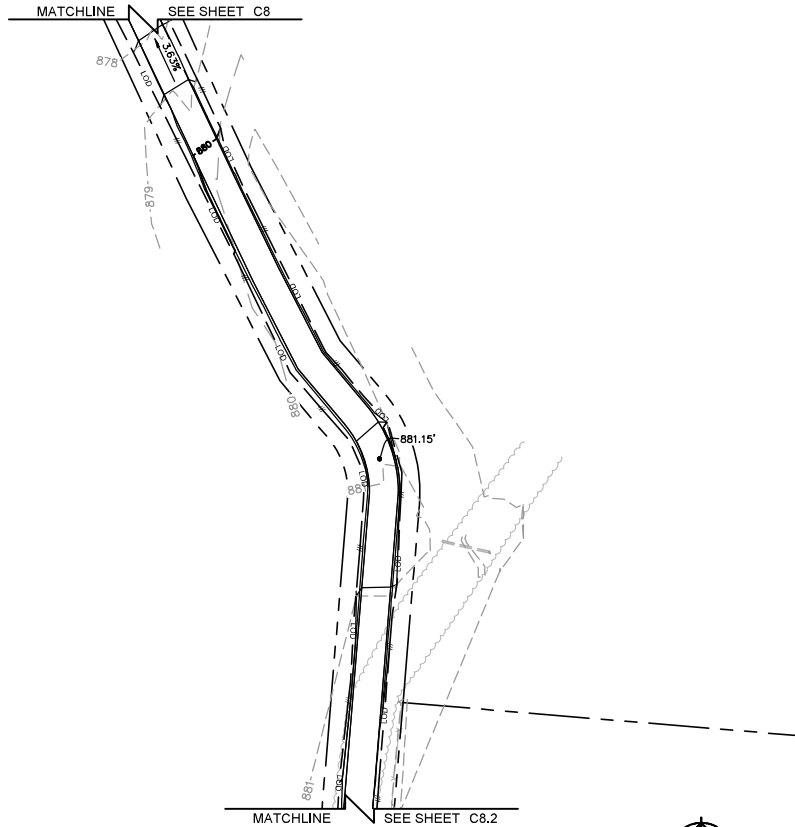
NOTE:
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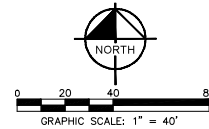
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LEGEND

EXISTING CONTOURS ————
PROPOSED CONTOURS ————
LOD/SILT FENCE ——— LOD ———
TPF ——— TPF ———
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



1
C8.1 GRADING & EROSION CONTROL PLAN 2
SCALE: 1" = 40'



verizon
4801 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SAUSBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

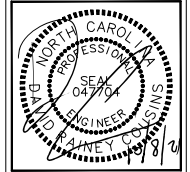
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-818-4280
WWW.KIMLEY-HORN.COM
NC License F-2102

REV. DATE: ISSUED FOR: BY:

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LICENSER:



RHA PROJECT NUMBER:

018985210

DRAWN BY: CHECKED BY:

WJW DMF

SHEET TITLE:

GRADING &
EROSION
CONTROL PLAN 2

SHEET NUMBER:

C8.1

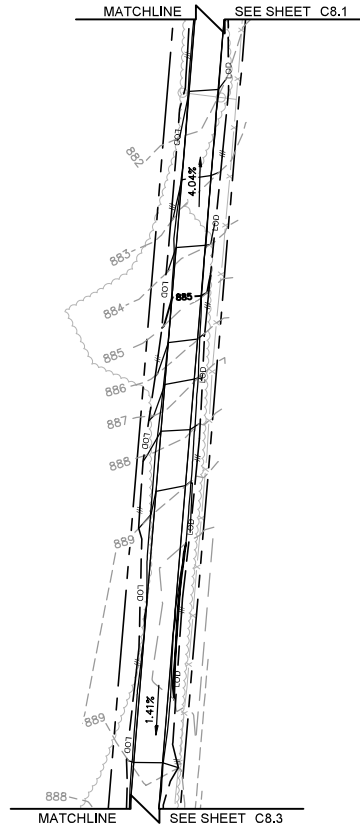
NOTE:
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GRADING NOTES:

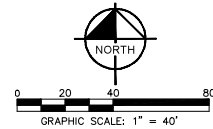
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3. CONTRACTOR SHALL BLEND EARTHWORK
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LEGEND

EXISTING CONTOURS — — — — —
PROPOSED CONTOURS — — — — —
LOD/SILT FENCE — LOD — — — — —
TPF — — — — — TPF — — — — —
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



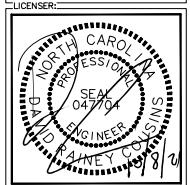
1
C8.2 GRADING & EROSION CONTROL PLAN 3
SCALE: 1" = 40'



PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SAUSBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-818-4280
WWW.KIMLEY-HORN.COM
NC License F-2102

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0	09/20/21	CONSTRUCTION	DRG



RHA PROJECT NUMBER:
018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:
**GRADING &
EROSION
CONTROL PLAN 3**

SHEET NUMBER:
C8.2

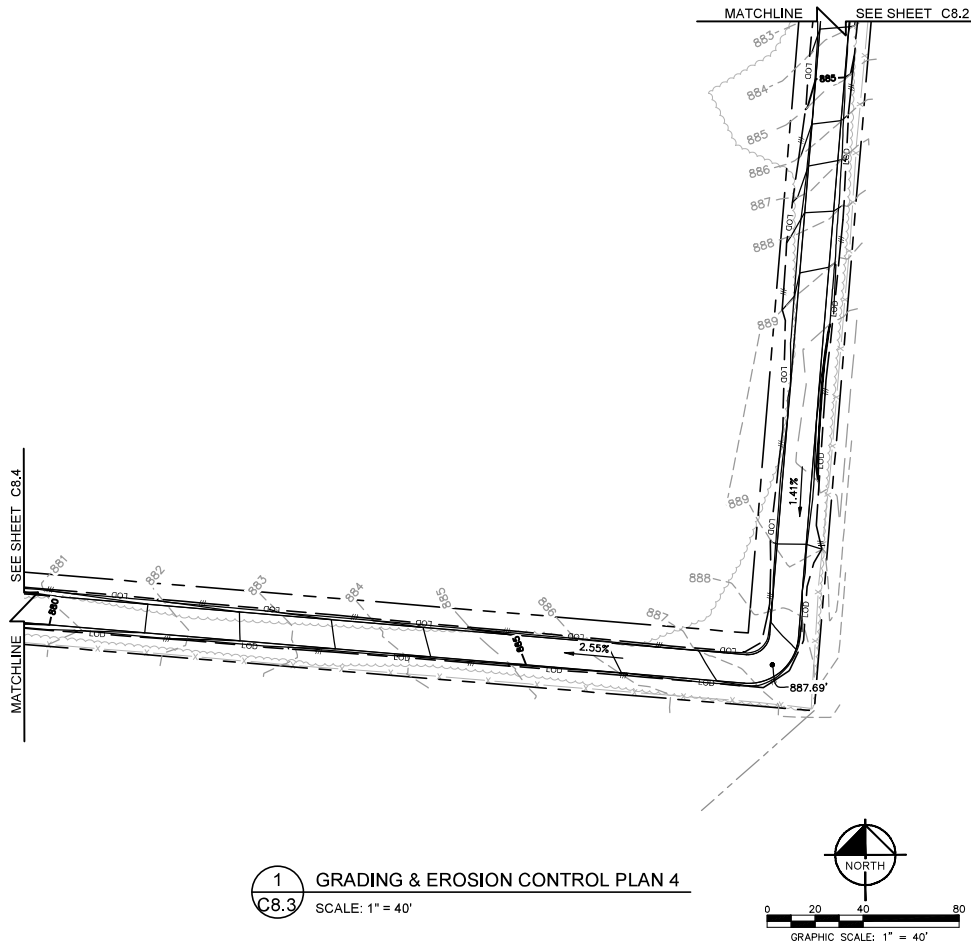
NOTE:
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APPROXIMATELY 42,841± SQ. FT. (0.98
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OTHERWISE NOTED.

LEGEND

EXISTING CONTOURS ———
PROPOSED CONTOURS ———
LOD/SILT FENCE — LOD ———
TPF ——— TPF ———
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



verizon
8801 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

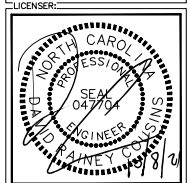
PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SAUSURRY, NC 28146
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PLANS PREPARED BY:

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KHA PROJECT NUMBER:
018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:

**GRADING &
EROSION
CONTROL PLAN 4**

SHEET NUMBER:

C8.3

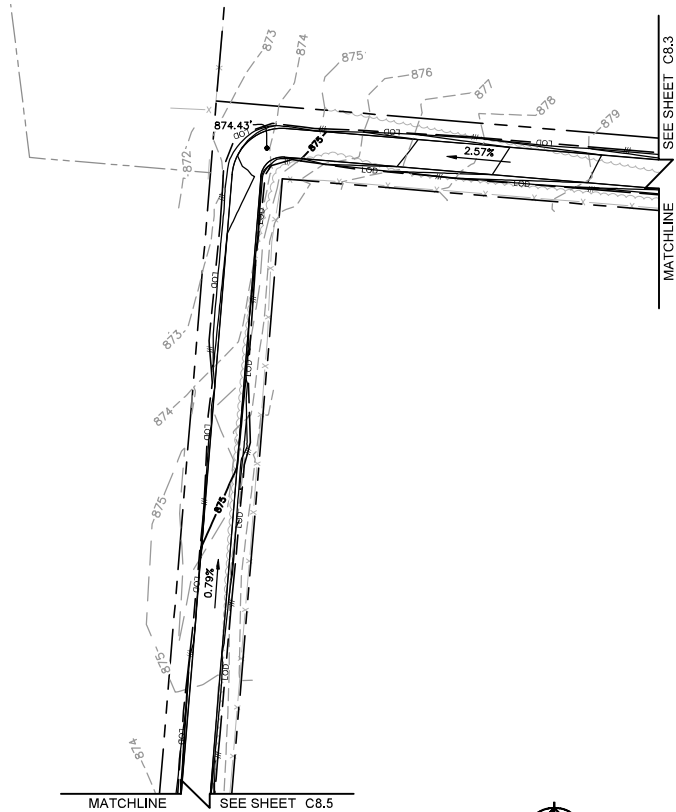
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SHOWN IN THE PLANS THE CONTRACTOR
SHALL NOTIFY THE ENGINEER AND/OR
PROJECT MANAGER. IF DURING THE BID
WALK OR CONSTRUCTION IT IS
DETERMINED THAT MORE THAN (1) ACRE
OF LAND IS TO BE DISTURBED FOR
CONSTRUCTION AN EROSION AND
SEDIMENTATION CONTROL PLAN MUST BE
FILED 30 DAYS PRIOR TO
CONSTRUCTION.

GRADING NOTES:

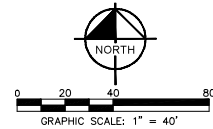
1. THE CONTRACTOR SHALL CLEAR AND GRUB
THE SITE AND PLACE, COMPACT, AND
MOISTURE CONDITION ALL FILL PER THE
PROJECT GEOTECHNICAL ENGINEERS
SPECIFICATIONS. FILL MATERIAL SHALL BE
APPROVED BY THE GEOTECHNICAL
ENGINEER PRIOR TO PLACEMENT.
2. ALL PROPOSED CONTOURS AND SPOT
ELEVATIONS REFLECT FINISHED GRADES.
3. CONTRACTOR SHALL BLEND EARTHWORK
SMOOTHLY TO TRANSITION BACK TO
EXISTING GRADE.
4. PORTIONS OF THE SITE NOT SPECIFICALLY
MENTIONED WITHIN THE GEOTECHNICAL
REPORT SHALL BE COMPACTED TO 95
PERCENT OF THE MATERIALS MAXIMUM DRY
DENSITY WITHIN 3 PERCENT OF OPTIMUM
MOISTURE CONTENT.
5. FILL SHALL BE PLACED IN MAXIMUM 8
INCH LOOSE LIFTS.
6. UNDISTURBED AREAS WITHIN 30'
INGRESS/EGRESS EASEMENT NOT NEEDED
FOR UTILITY ROUTING TO BE LEFT
UNDISTURBED.
7. GROUND WATER SHOULD BE REASONABLY
EXPECTED. ANY DE-WATERING OR
MOISTURE CONDITIONING IS THE
RESPONSIBILITY OF THE CONTRACTOR AND
SHOULD BE INCLUDED IN THE CONTRACT
PRICE.
8. SEED ALL DISTURBED AREAS NOT TOPPED
WITH GRAVEL PER SEEDING SCHEDULE ON
DETAIL ON SHEET C9.
9. MAXIMUM CUT SLOPE = 2H:1V UNLESS
OTHERWISE NOTED.
10. MAXIMUM FILL SLOPE = 3H:1V UNLESS
OTHERWISE NOTED.

LEGEND

EXISTING CONTOURS ————
PROPOSED CONTOURS ————
LOD/SILT FENCE ——— LOD ———
TPF ——— TPF ———
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



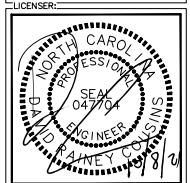
1
C8.4 GRADING & EROSION CONTROL PLAN 5
SCALE: 1" = 40'



PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-818-4280
WWW.KIMLEY-HORN.COM
NC License F-2102

REV.	DATE	ISSUED FOR	BY
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0	09/20/21	CONSTRUCTION	DRG



KHA PROJECT NUMBER:
018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:
**GRADING &
EROSION
CONTROL PLAN 5**

SHEET NUMBER:
C8.4

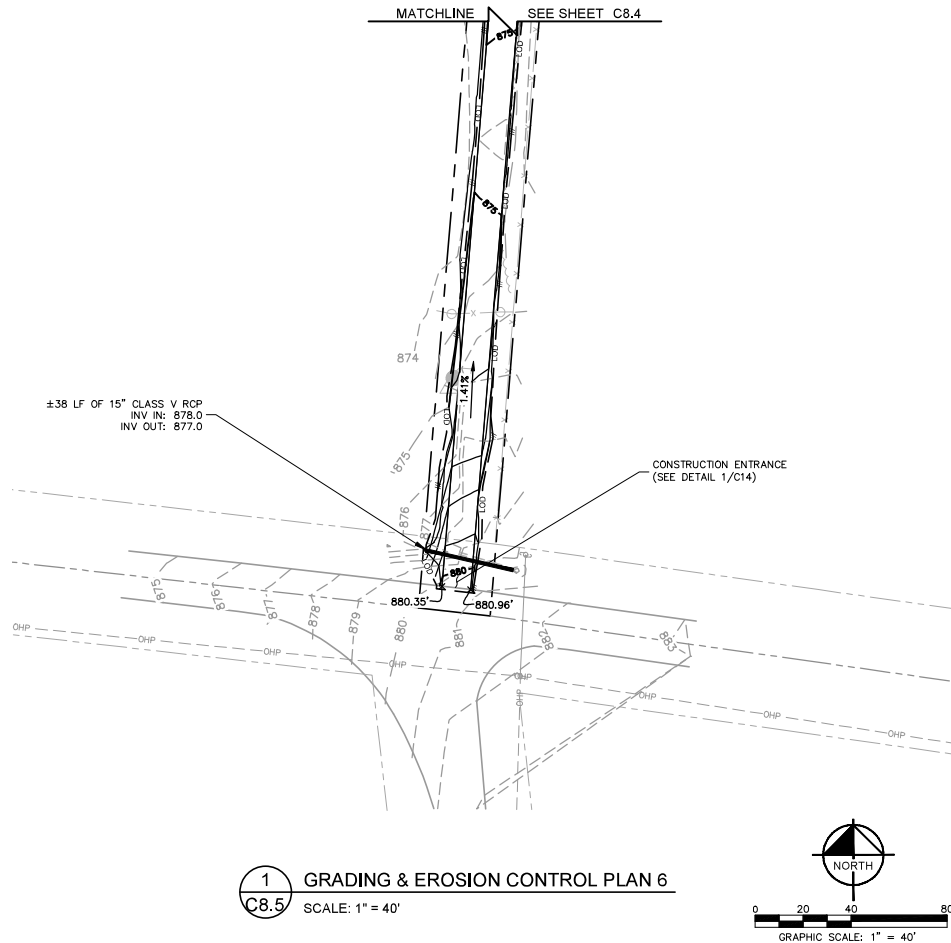
NOTE:
CURRENT DESIGN ANTICIPATES
APPROXIMATELY 42,841± SQ. FT. (0.98
ACRES) OF CLEARING AND GRADING FOR
THE PROPOSED PROJECT. IF ADDITIONAL
CLEARING IS REQUIRED BEYOND WHAT IS
SHOWN IN THE PLANS THE CONTRACTOR
SHALL NOTIFY THE ENGINEER AND/OR
PROJECT MANAGER. IF DURING THE BID
WALK OR CONSTRUCTION IT IS
DETERMINED THAT MORE THAN (1) ACRE
OF LAND IS TO BE DISTURBED FOR
CONSTRUCTION AN EROSION AND
SEDIMENTATION CONTROL PLAN MUST BE
FILED 30 DAYS PRIOR TO
CONSTRUCTION.

GRADING NOTES:

1. THE CONTRACTOR SHALL CLEAR AND GRUB
THE SITE AND PLACE, COMPACT, AND
MOISTURE CONDITION ALL FILL PER THE
PROJECT GEOTECHNICAL ENGINEERS
SPECIFICATIONS. FILL MATERIAL SHALL BE
APPROVED BY THE GEOTECHNICAL
ENGINEER PRIOR TO PLACEMENT.
2. ALL PROPOSED CONTOURS AND SPOT
ELEVATIONS REFLECT FINISHED GRADES.
3. CONTRACTOR SHALL BLEND EARTHWORK
SMOOTHLY TO TRANSITION BACK TO
EXISTING GRADE.
4. PORTIONS OF THE SITE NOT SPECIFICALLY
MENTIONED WITHIN THE GEOTECHNICAL
REPORT SHALL BE COMPACTED TO 95
PERCENT OF THE MATERIALS MAXIMUM DRY
DENSITY WITHIN 3 PERCENT OF OPTIMUM
MOISTURE CONTENT.
5. FILL SHALL BE PLACED IN MAXIMUM 8
INCH LOOSE LIFTS.
6. UNDISTURBED AREAS WITHIN 30'
INGRESS/EGRESS EASEMENT NOT NEEDED
FOR UTILITY ROUTING TO BE LEFT
UNDISTURBED.
7. GROUND WATER SHOULD BE REASONABLY
EXPECTED. ANY DE-WATERING OR
MOISTURE CONDITIONING IS THE
RESPONSIBILITY OF THE CONTRACTOR AND
SHOULD BE INCLUDED IN THE CONTRACT
PRICE.
8. SEED ALL DISTURBED AREAS NOT TOPPED
WITH GRAVEL PER SEEDING SCHEDULE ON
DETAIL ON SHEET C9.
9. MAXIMUM CUT SLOPE = 2H:1V UNLESS
OTHERWISE NOTED.
10. MAXIMUM FILL SLOPE = 3H:1V UNLESS
OTHERWISE NOTED.

LEGEND

EXISTING CONTOURS ———
PROPOSED CONTOURS ———
LOD/SILT FENCE — LOD ———
TPF ——— TPF ———
EXISTING SPOT ELEVATION x XXX
PROPOSED SPOT ELEVATION ● XXX



PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304962
PROJECT #: 16675538
280 RIVER ROAD
SAUSBURY, NC 28146
ROWAN COUNTY

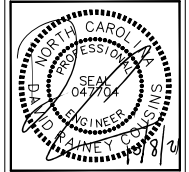
PLANS PREPARED BY:

Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-818-4280
WWW.KIMLEY-HORN.COM
NC License F-2102

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LICENSER:



RHA PROJECT NUMBER:

018985210

DRAWN BY: CHECKED BY:

WJW DMF

SHEET TITLE:

**GRADING &
EROSION
CONTROL PLAN 6**

SHEET NUMBER:

C8.5

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 FOR BACKFILL OPERATIONS SHALL BECOME PROPERTY OF THE CONTRACTOR 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.

SEEDING SCHEDULE FOR WINTER / SPRING CONSTRUCTION ACTIVITIES

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

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

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
Follow recommendations 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.

SEEDING SCHEDULE FOR SUMMER CONSTRUCTION ACTIVITIES

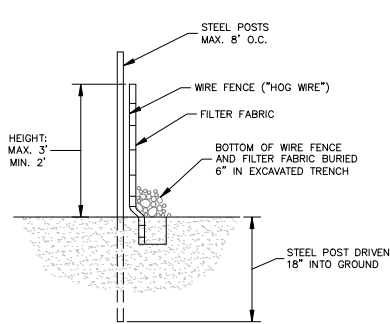
SEEDING MIXTURE		
Species	Rate (lb/acre)	
Common Bermudagrass	40-80 (1-2 lb/1,000 sq.ft.)	

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.

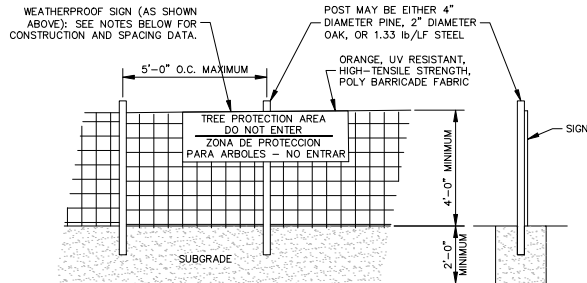
MULCH
Use jute, excelsior matting, or other effective channel lining material to cover the bottom of channels and ditches. The lining should extend above the highest calculated depth of flow. On channel side slopes above this height, and in drainages not requiring temporary lining, apply 4,000 lb/acre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



SECTION

1 SEDIMENT FENCE (SILT 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.

2 TREE PROTECTION FENCE
C9 NOT TO SCALE

verizon

800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

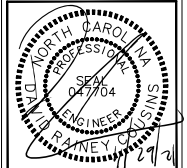
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0052

REV. DATE: ISSUED FOR: BY:

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LICENSER:



KHA PROJECT NUMBER:

018985210

DRAWN BY: CHECKED BY:

WJW DMF

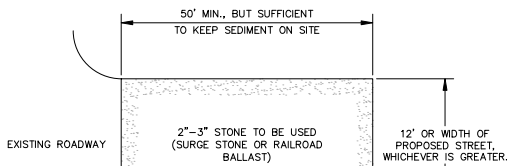
SHEET TITLE:

GRADING AND
EROSION
CONTROL DETAILS

SHEET NUMBER:

C9

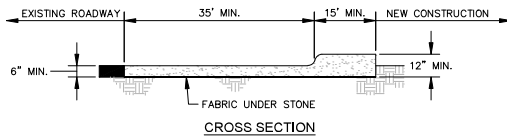
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PLAN

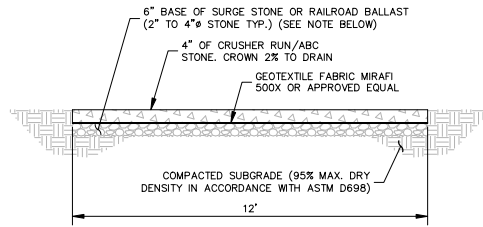
NOTES:

1. PUT 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 AUTHORITY WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PERSON AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM.



CROSS SECTION

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

verizon

8827 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

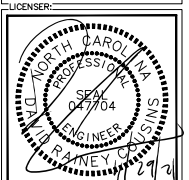
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

Kimley-Horn

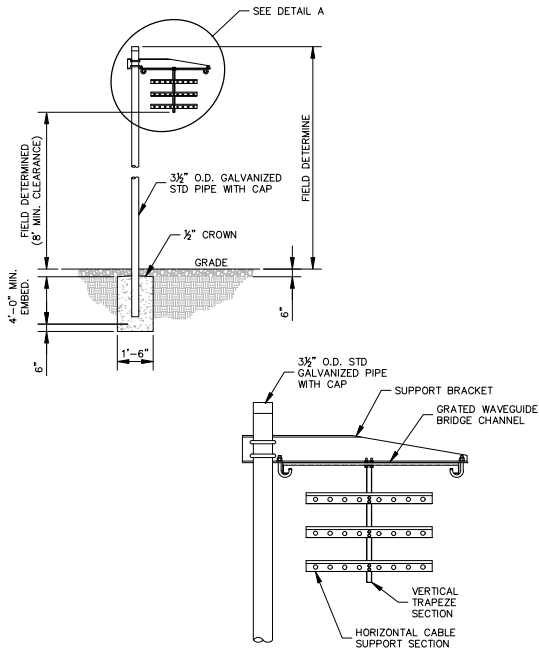
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

REV.	DATE	ISSUED FOR	BY
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KHA PROJECT NUMBER: 018985210
DRAWN BY: WJW CHECKED BY: DMF
SHEET TITLE: ACCESS ROAD DETAILS
SHEET NUMBER: C10

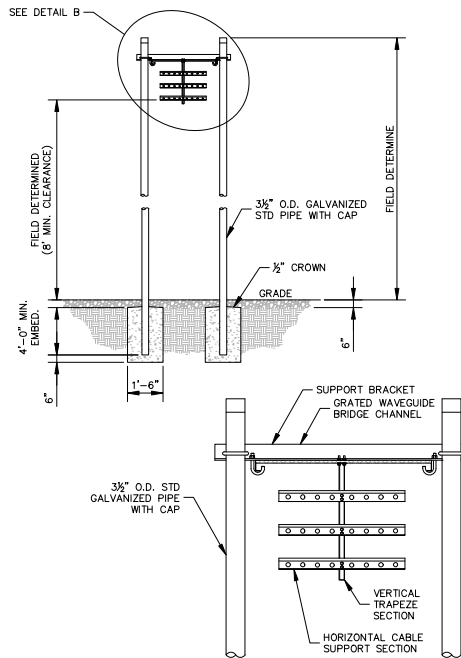
K:\ATL_Wireless\000_Verizon\2016_Shell_Mount_Horn\CA01\CA01.dwg -- 11/29/21 2:53 PM -- Rev. Aaron Dunlap



DETAIL A
ANDREW 1 POST WAVEGUIDE BRIDGE
KIT (PART #WB-K210-B15, OR
APPROVED EQUIVALENT)

NOTE:
1. ALL MATERIALS FURNISHED BY CONTRACTOR
UNLESS OTHERWISE NOTED.

1 WAVEGUIDE BRIDGE DETAIL
C12 NOT TO SCALE



DETAIL B
ANDREW 2 POST WAVEGUIDE BRIDGE
KIT (PART #WB-K410-B15, OR
APPROVED EQUIVALENT)

NOTE:
1. ALL MATERIALS FURNISHED BY CONTRACTOR
UNLESS OTHERWISE NOTED.

2 WAVEGUIDE BRIDGE DETAIL (ALT DESIGN - 2 PIPE COLUMNS)
C12 NOT TO SCALE

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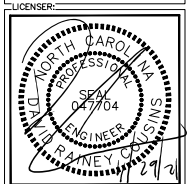
verizon
800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0052

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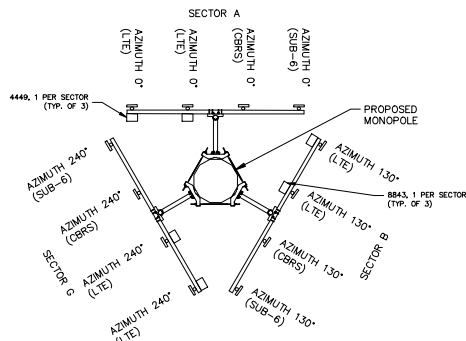


KHA PROJECT NUMBER:
018985210
DRAWN BY: WJW **CHECKED BY:** DMF
SHEET TITLE:

**WAVEGUIDE
BRIDGE DETAILS**

SHEET NUMBER:
C12

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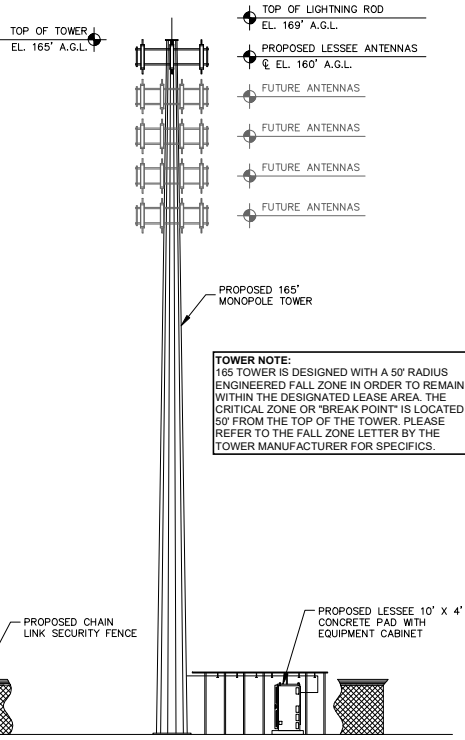


1 ANTENNA ORIENTATION PLAN
(NOT TO SCALE, FOR ILLUSTRATIVE PURPOSES ONLY. SEE STRUCTURAL ANALYSIS BY OTHERS TO CONFIRM ANTENNA MOUNT TYPE)

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, DESIGNS, 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 OVP, NUMBER
AND TYPE PER VERIZON
CONSTRUCTION MANAGER.



2 MONOPOLE TOWER ELEVATION
(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.



PROJECT INFORMATION:
SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-458-4880
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0052

REV.	DATE	ISSUED FOR	BY
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LICENSER:

FOR ILLUSTRATIVE
PURPOSES ONLY-
NO SIGNATURE
REQUIRED

KHA PROJECT NUMBER:
018985210
DRAWN BY: _____ CHECKED BY: _____
WJW DMF
SHEET TITLE:
ANTENNA AND
TOWER ELEVATION
DETAILS
SHEET NUMBER:
C13

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 FOR 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 FRONT OF ALL ELECTRICAL EQUIPMENT AS REQUIRED BY NEC. 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 PERIMETER 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 TOWER OWNER OF THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLATION.
- 3.05 ALL CONDUCTORS SHALL BE COPPER WITH THWN 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 RADII SHALL BE PER NEC.
- 3.10 CONTRACTOR SHALL PROVIDE TWO (2) 200 POUND TEST 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 A METALLIC ENCLOSURE WITH A #8 MIN AWG INSULATED COPPER BONDING JUMPER PER NEC. CONTRACTOR 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 WITH VERTICAL CONDUIT EXTENSIONS TO EXTEND 3" ABOVE FINISHED CRUSHED AGGREGATE GRADE. 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 RECTIFIERS AND EQUIPMENT ON THE LOAD CENTER CANNOT EXCEED 50KW. IF ADDITIONAL 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 PROTECTING 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 UTILITY REGARDING THE EXACT LOCATION OF THE TRANSFORMER, ALL 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 AMPS. IF 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 ELECTRIC UTILITY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT (AFC) AT THE UTILITY SERVICE POINT. PROVIDE MAX. AFC SIGNAGE AS REQUIRED PER NEC 110.24. 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.



800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-459-4580
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

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KHA PROJECT NUMBER:

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WJW DMF

SHEET TITLE:

**ELECTRICAL
NOTES**

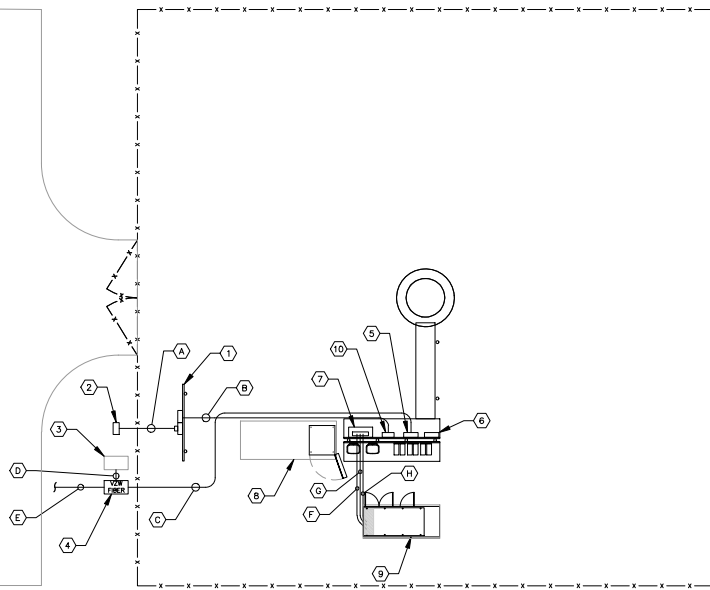
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E1

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

KEY NOTES - ELECTRICAL EQUIPMENT

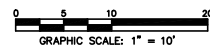
- ① UTILITY METER H-FRAME (SEE DETAIL 1/E4).
- ② POWER STUB UP (SEE NOTE 4.04 ON SHEET E1).
- ③ EXISTING LIT FIBER HANDHOLE/PEDESTAL. (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION).
- ④ TRAFFIC RATED TELCO VAULT LABELED "VZW FIBER". (SEE NOTE 4.05 ON SHEET E1)
- ⑤ TELCO BOX (SEE SHEET C4).
- ⑥ CIENA 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 DISCONNECT SWITCH (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.



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280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:



11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

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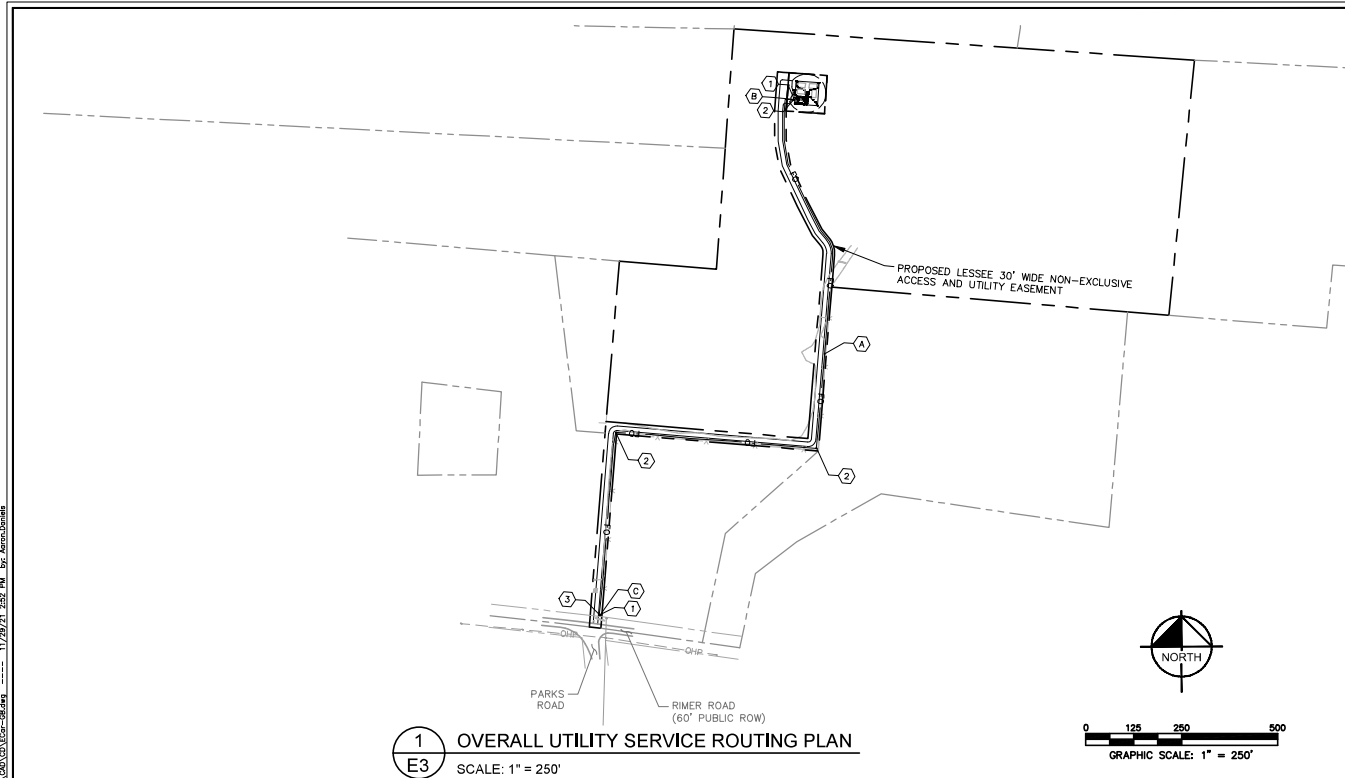
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SHEET TITLE:

UTILITY SERVICE
ROUTING PLAN

SHEET NUMBER:

E2



1
E3 **OVERALL UTILITY SERVICE ROUTING PLAN**
SCALE: 1" = 250'

KEY NOTES - ELECTRICAL EQUIPMENT

- ① EXISTING LIT-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)

KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

- (A) TWO (2) 2" PVC CONDUIT FOR "VZW FIBER" WITH TWO (2) PULL ROPES. (SEE DETAIL 2/ES); (APPROXIMATELY 1.952± LF); GENERAL CONTRACTOR TO CONFIRM NEED FOR CONDUITS TO RIGHT OF WAY AND HANDHOLE AT RIGHT OF WAY WITH VERIZON CONSTRUCTION MANAGER.
- (B) 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING LIT FIBER HANDHOLE/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDER A 5' LONG CAPPED STUB BRIDGE CONDUIT).
- (C) 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING ONE FIBER HANDHOLE IS PRESENT, BRIDGE CONDUIT WILL BE BY OTHERS)

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 35° 33' 41.9"N, 80° 29' 12.0"W BASED ON GOOGLE EARTH IMAGERY.

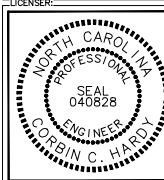


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280 RIMER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:
Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

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**OVERALL UTILITY
ROUTING PLAN**

SHEET NUMBER:
E3

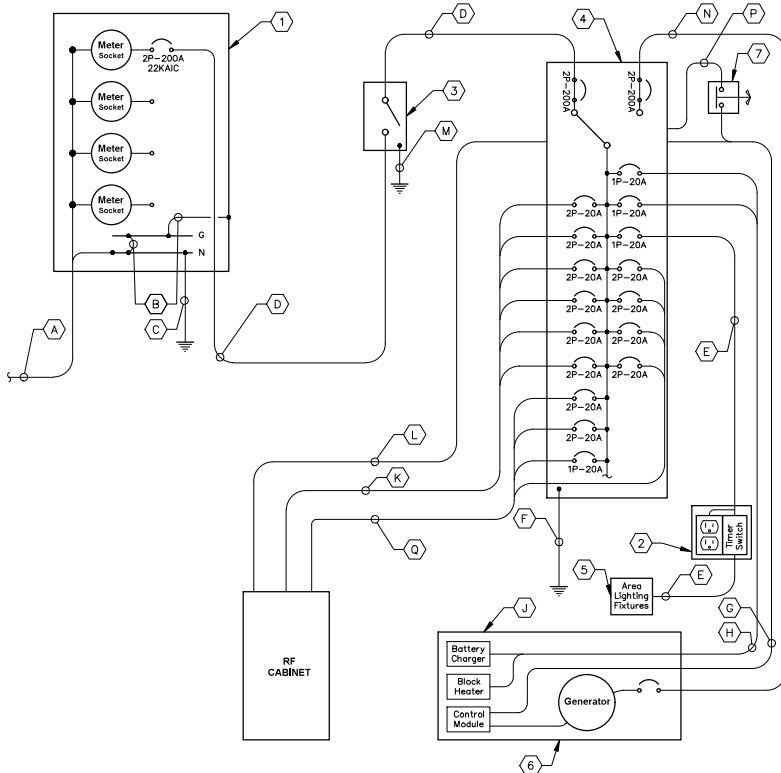


- ① 200 AMP METER SOCKET IN NEMA 3R ENCLOSURE, TYPICAL OF 4. ONLY TOP SOCKET WILL RECEIVE METER UNDER THIS CONTRACT.
- ② 800 AMP, 22KAIC, 4 GANG, SERVICE ENTRANCE RATED METER CENTER IN NEMA 3R ENCLOSURE. BOND TO RACK PER NEC.
- ③ 200 AMP, 2 POLE (22KAIC) DISCONNECT CIRCUIT BREAKER FOR TOP METER ONLY.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

SHEET NUMBER:

E4

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REQUIRED SIGNAGE PER NEC 702 AT SERVICE DISCONNECT

"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."

REQUIRED SIGNAGE PER NEC 702 AT SERVICE DISCONNECT & INTEGRATED LOAD CENTER

"NOTE: Emergency power is supplied by a stand-by generator located behind Verizon equipment rack."

1 ELECTRICAL SINGLE LINE DIAGRAM
E5 NOT TO SCALE

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.
- J 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.
- K TWELVE (12) #10 AWG THHN CONDUCTORS AND THREE (3) #10 AWG EG IN 2" PVC CONDUIT.
- L ALARM CABLES IN 1" PVC CONDUIT.
- M ONE (1) #2 BARE TINNED COPPER FROM GROUNDING LUG IN DISCONNECT SWITCH TO GROUND RING, EXOTHERMIC WELD TO GROUND RING.
- N THREE (3) 3/0 AWG CONDUCTORS AND ONE (1) #4 AWG EG IN 2" CONDUIT. VERIFY GENERATOR BREAKER DOES NOT EXCEED 200 AMPS.
- P 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE EMERGENCY GENERATOR STOP SWITCH.
- Q TWELVE (12) #10 AWG THHN CONDUCTORS AND THREE (3) #10 AWG FOR RECTIFIERS AND TWO (2) #10 THHN 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, 22KAIC, FOUR-SPACE MULTI-GANG METER CENTER WITH 200 AMP RATED METER SOCKETS IN NEMA 3R ENCLOSURE, SE RATED. CONTRACTOR 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 HET06 SERIES (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-TA120-DNA-LPI), (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.

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800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

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280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0032

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SHEET TITLE:

ELECTRICAL
SINGLE LINE
DIAGRAM
SHEET NUMBER:
E5

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PANEL SCHEDULE - VERIZON INTEGRATED LOAD CENTER												
Voltage: 240/120 Volts Phase Wires: 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		2P-20	1			2	1P-20	0.58		AREA LIGHTS/GFCI	
		1.78		3			4	1P-20		1.50	GEN BLOCK HEATER	
RECTIFIER 2	1.78		2P-20	5			6	1P-20	0.30		GEN BATTERY CHARGER	
		1.78		7			8	----		0.00	SPACE	
RECTIFIER 3	1.78		2P-20	9			10	1P-20	0.18		CAB DUPLEX OUTLET	
		1.78		11			12	----		0.00	SPACE	
RECTIFIER 4	1.78		2P-20	13			14	2P-20	1.78		RECTIFIER 9	
		1.78		15			16		1.78			
RECTIFIER 5	1.78		2P-20	17			18	2P-20	1.78		RECTIFIER 10	
		1.78		19			20		1.78			
RECTIFIER 6	1.78		2P-20	21			22	2P-20	0.00		RECTIFIER 11 (SPARE)	
		1.78		23			24		0.00			
RECTIFIER 7	1.78		2P-20	25			26	2P-20	0.00		RECTIFIER 12 (SPARE)	
		1.78		27			28		0.00			
RECTIFIER 8	1.78		2P-20	29			30	----	0.00		SPACE	
		1.78		31			32	----	0.00		SPACE	
SPACE	0.00		----	33			34	----	0.00		SPACE	
SPACE		0.00	----	35			36	----	0.00		SPACE	
SPACE	0.00		----	37			38	----	0.00		SPACE	
TVSS (INTERNAL TO ILC)		0.00	2P-30	39			40	----		0.00	SPACE	
	0.00			41			42	----	0.00		SPACE	
Sub-Total (kVA)	14.24	14.24							4.62	5.06	Sub-Total (kVA)	
						A B						
						18.86 19.30						
						38.16		Total Connected (kVA)				
LOAD SUMMARY												
		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			kVA		
Total Demand Current per Phase						158.00	161.00			Amps		
Total Demand Power							38.26			kVA		

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

1
E6 PANEL SCHEDULE
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SITE NAME:
MOUNT HOPE
PROJECT #: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

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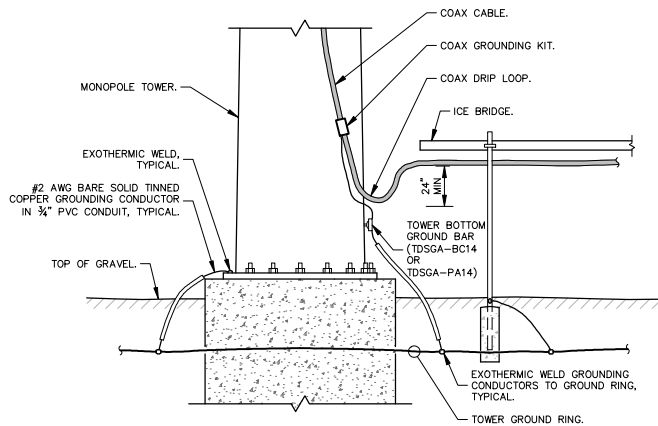
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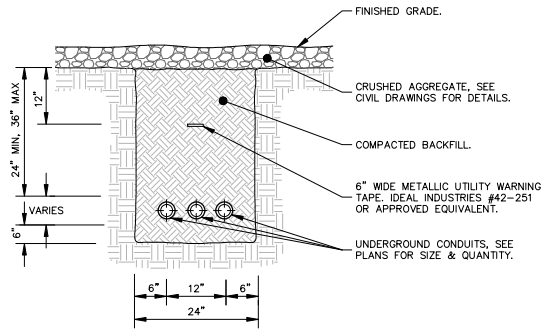
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1 DRIP LOOP DETAIL
E7 NOT TO SCALE



- NOTES:
1. IF 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

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CHARLOTTE, NORTH CAROLINA 28262

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ALPHARETTA, GA 30009
PHONE: 770-438-4380
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PROFESSIONAL
SEAL
040828
ENGINEER
GORDIN C. HARDY

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DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:
ELECTRICAL
DETAILS

SHEET NUMBER:
E7

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, INSTALLED AT THE CORNERS OF THE GROUND RING PLUS ADDITIONAL 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 GUYED TOWERS SHALL HAVE GROUND LEADS EQUALLY SPACED AROUND TOWER. EXOTHERMICALLY WELD GROUND LEADS TO TOP OF BASE PLATES, OR 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 RADIAL GOING 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 BARE BRIGHT METAL PRIOR TO MAKING GROUND CONNECTIONS. APPLY 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 TDSGA-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 AUGERED FOOTING, USE POST WITH 10" SQUARE GALVANIZED STEEL FLANGE PLATE WELDED TO BOTTOM AND BOLT FLANGE TO TOP OF CONCRETE TOWER FOOTING.
- 10B. AT MONOPOLE TOWERS CLAMP TDSGA-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 Banded TO TOWER. BOND TDSGA-BC14 TO TOWER GROUND RING WITH TWO #2 STC LEADS LUGGED TO GROUND BAR AND EXOTHERMICALLY WELDED TO GROUND RING.
11. AT EQUIPMENT AREA, INSTALL TDSGA-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 6FT ABOVE GRAVEL.
12. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPERED TOGETHER WITH #2 WIRE. EITHER BARE TINNED COPPER OR GREEN INSULATED STRANDED. ICE BRIDGE SHALL BE GROUNDED AT EACH END 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 TINNED SOLID BARE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. LUG TO CABINET BODY USING LOCATION AT 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 BARE 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 DIAGONALLY OPPOSITE LOCATIONS BY DRILLING AND BOLTING 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 AND TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING. IF PROPANE TANK FUEL 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 MOUNT TO TDSGA 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 #14/0 COPPER STRAP. EXOTHERMICALLY WELD STRAP TO BOTH GATE AND GATE POSTS.
22. ANY METAL FENCE POST WITHIN 6FT OF A GROUNDING METAL OBJECT SHALL BE BONDED TO THE NEAREST GROUND RING. ANY METAL FENCE WITHIN 6FT 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 RRV'S, RAYCAP OVP'S OR DIPLEXERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TDSGA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRANDED GROUND WIRE. SINGLE HOLE LUG OR RING TYPE CONNECTOR IS SUITABLE FOR CONNECTION TO GROUNDING STUD ON EACH COMPONENT.
24. NOTIFY VZW CM TO INSPECT GROUND RING BEFORE BACKFILLING. CONTRACTOR SHALL HIRE A 3RD PARTY TO PERFORM AN IEEE81 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
800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

PROJECT INFORMATION:

SITE NAME:
MOUNT HOPE
SITE No.: 304662
PROJECT #: 16675538
280 RIVER ROAD
SALISBURY, NC 28146
ROWAN COUNTY

PLANS PREPARED BY:

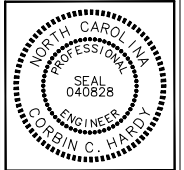
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ALPHARETTA, GA 30009
PHONE: 770-418-4880
WWW.KIMLEY-HORN.COM
NC LICENSE #C-0052

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LICENSOR:



KHA PROJECT NUMBER:

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DRAWN BY: CHECKED BY:

WJW DMF

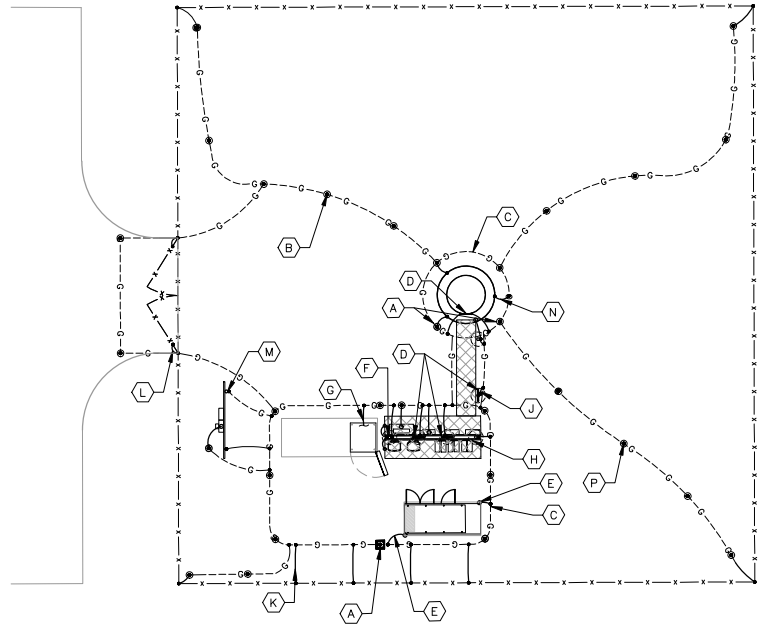
SHEET TITLE:

**GROUNDING
NOTES**

SHEET NUMBER:

E8

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1
E9
GROUNDING PLAN
SCALE: 1" = 10'



0 5 10 20
GRAPHIC SCALE: 1" = 10'

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 E8).
- (C) TOWER AND EQUIPMENT GROUND RING (SEE NOTES 1, 3, 4, 5, 6 AND 7 ON E8).
- (D) TDGGA-PA14 OR TDGGA-BC14 WHERE APPLICABLE (SEE NOTES 10 AND 11 ON E8).
- (E) GENERATOR GROUNDING (SEE NOTE 16 ON E8).
- (F) GPS ANTENNA GROUNDING (SEE NOTE 18 ON E8).
- (G) RF CABINET GROUNDING (SEE NOTE 14 ON E8).
- (H) RRU'S AND OVP'S GROUNDING (SEE NOTE 23 ON E8).
- (J) ICE BRIDGE POST BOND TO GROUND RING, TYPICAL (SEE NOTES 12 AND 13 ON E8).
- (K) FENCE POST GROUNDING, TYPICAL (SEE NOTE 22 ON E8).
- (L) GATE GROUNDING, TYPICAL (SEE NOTES 19, 20 & 21 ON E8).
- (M) UTILITY H-FRAME GROUNDING, TYPICAL (SEE SHEET E3 AND NOTE 13 ON E8).
- (N) TOWER GROUNDING, TYPICAL (SEE NOTES 5, 6 & 25 ON E8).
- (P) GROUND RADIALS, TYPICAL (SEE NOTE 6 ON E8).
- (Q) REFER TO SHEETS E8, E10, E11 & E12 FOR GROUNDING NOTES, DETAILS, AND SPECIFICATIONS.

LEGEND:

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



800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

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ROWAN COUNTY

PLANS PREPARED BY:



11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
NC LICENSE # E-0052

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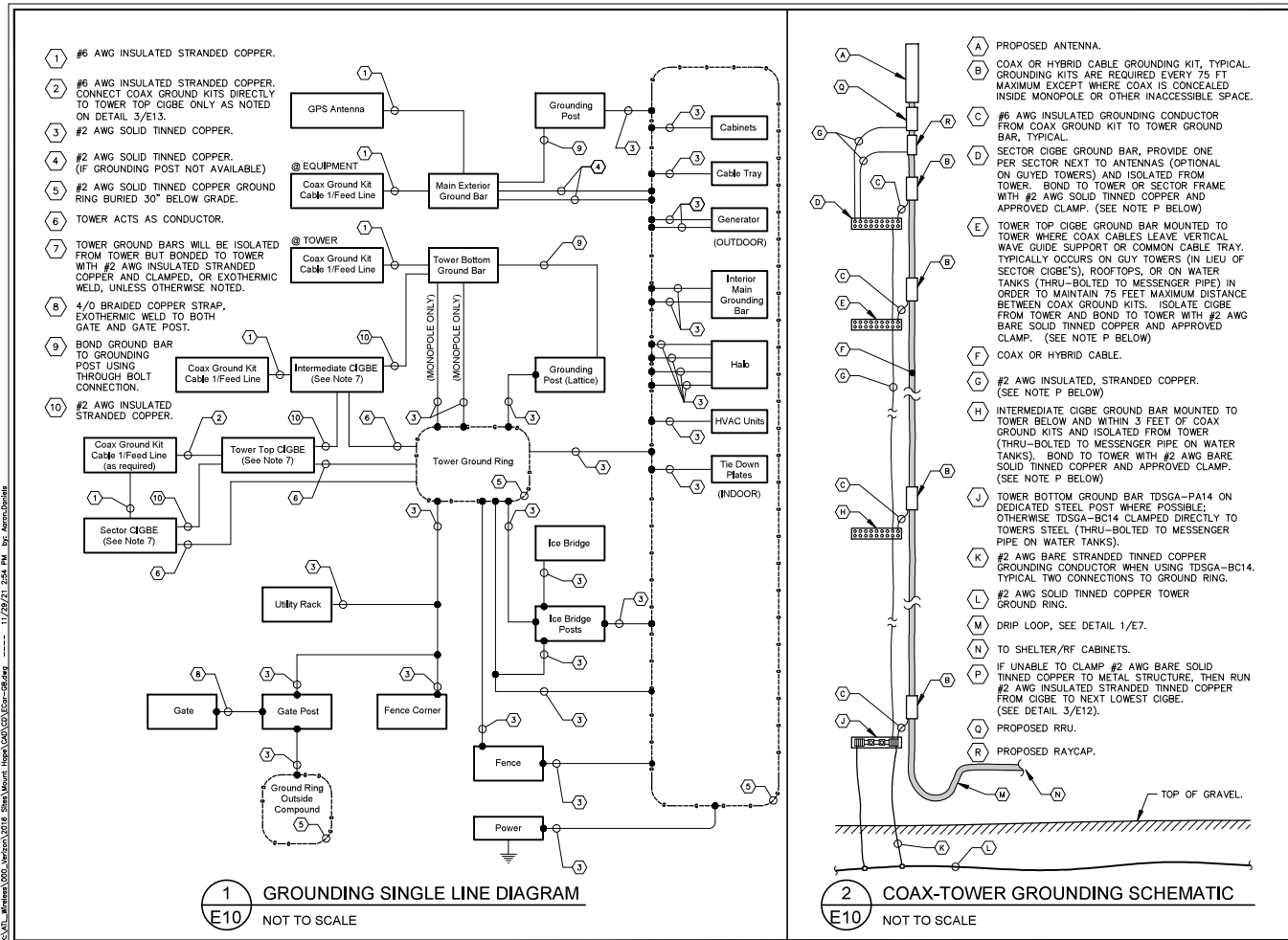


KHA PROJECT NUMBER:
018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:
GROUNDING PLAN

SHEET NUMBER:
E9



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800 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28202

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LICENSER:

NORTH CAROLINA
PROFESSIONAL
SEAL
040828
ENGINEER
CORBIN C. HARDY

KHA PROJECT NUMBER:
018985210

DRAWN BY: WJW CHECKED BY: DMF

SHEET TITLE:
GROUNDING SINGLE LINE DIAGRAM

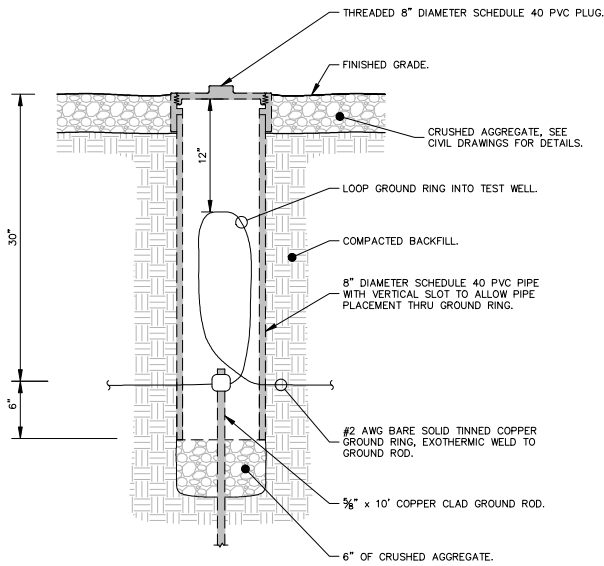
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E10

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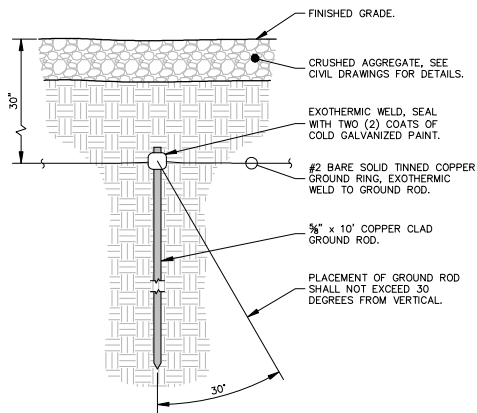
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This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

K:\ATL_Wireless\2016_Verizon\2016_Shirt\Mount_Hope\CAD\CD E11.dwg 11/29/21 2:55 PM By: Aaron Dunlap



1 GROUND ROD TEST WELL DETAIL
E11 NOT TO SCALE



2 GROUND ROD INSTALLATION DETAIL
E11 NOT TO SCALE

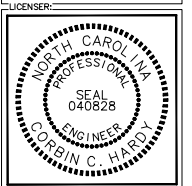


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Kimley-Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-438-4380
WWW.KIMLEY-HORN.COM
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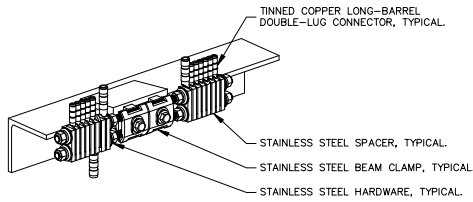
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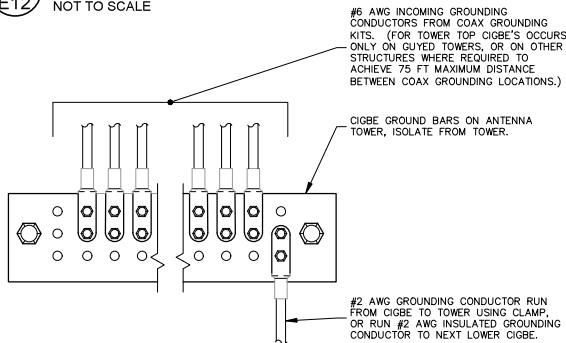
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018985210
DRAWN BY: WJW CHECKED BY: DMF
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GROUNDING
DETAILS

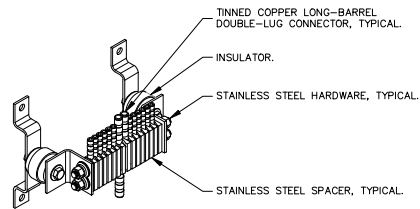
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E11



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



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



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, VIA CLAMP 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.

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



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SALISBURY, NC 28146
ROWAN COUNTY

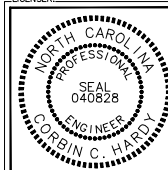
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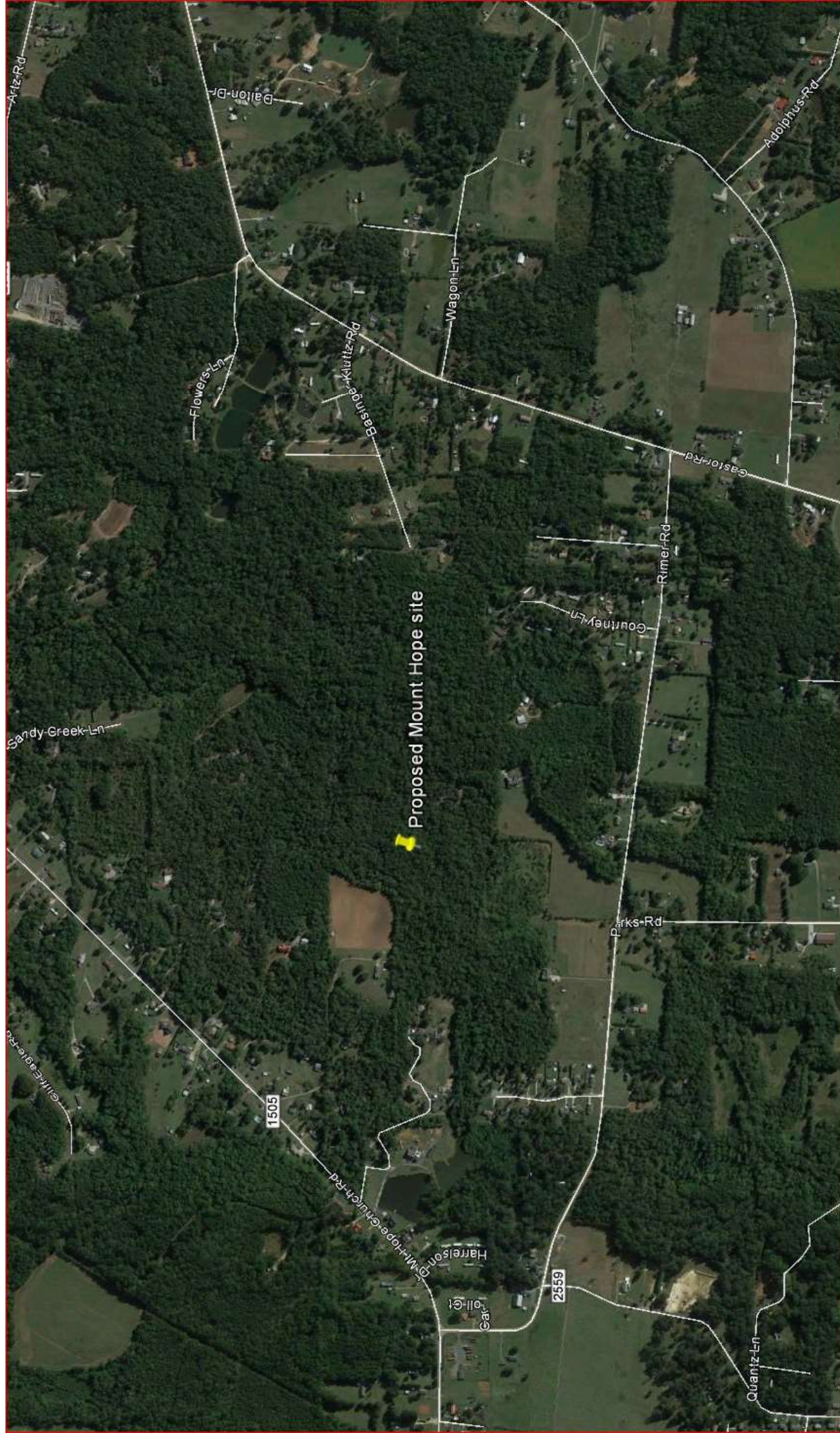
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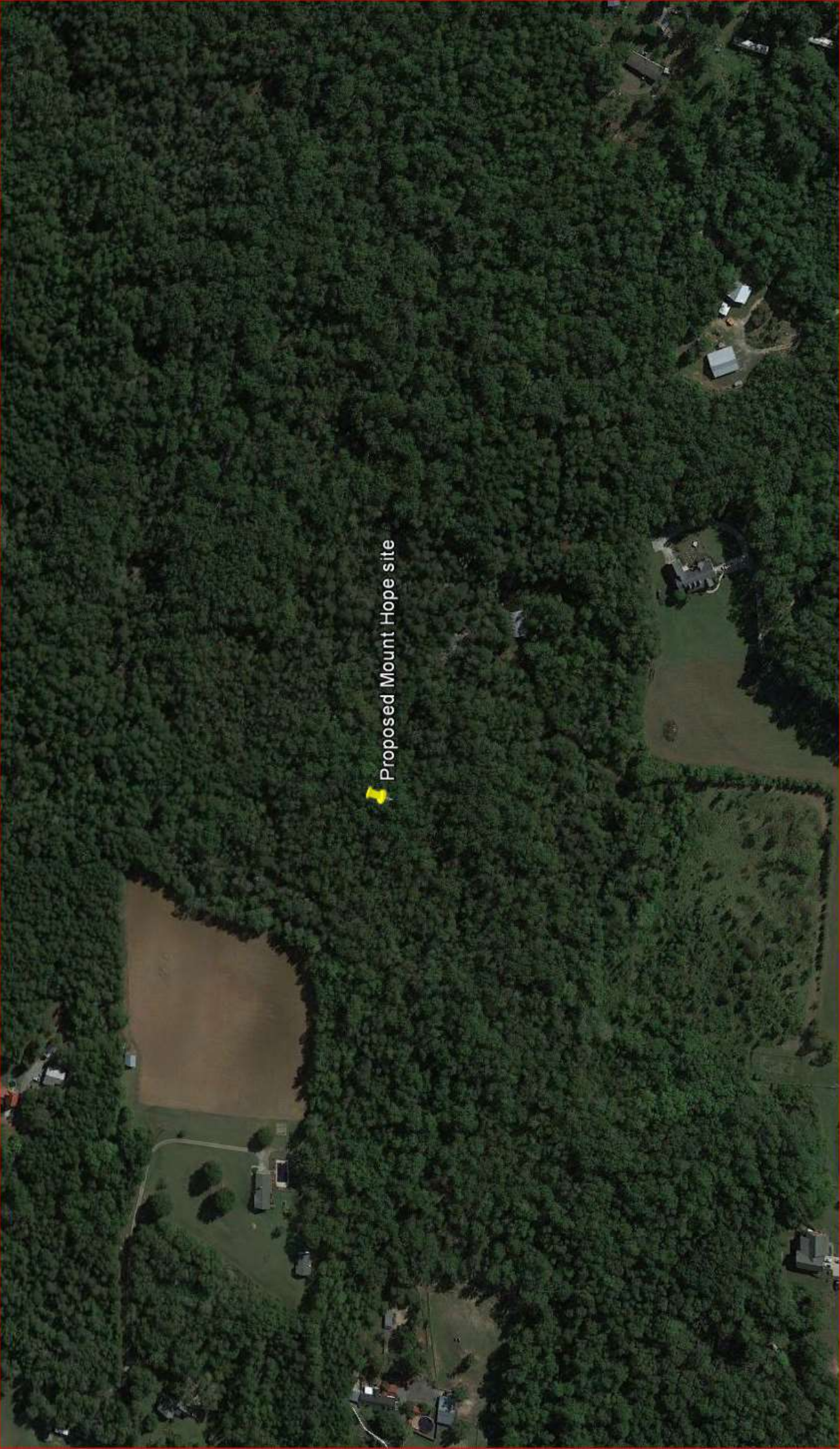


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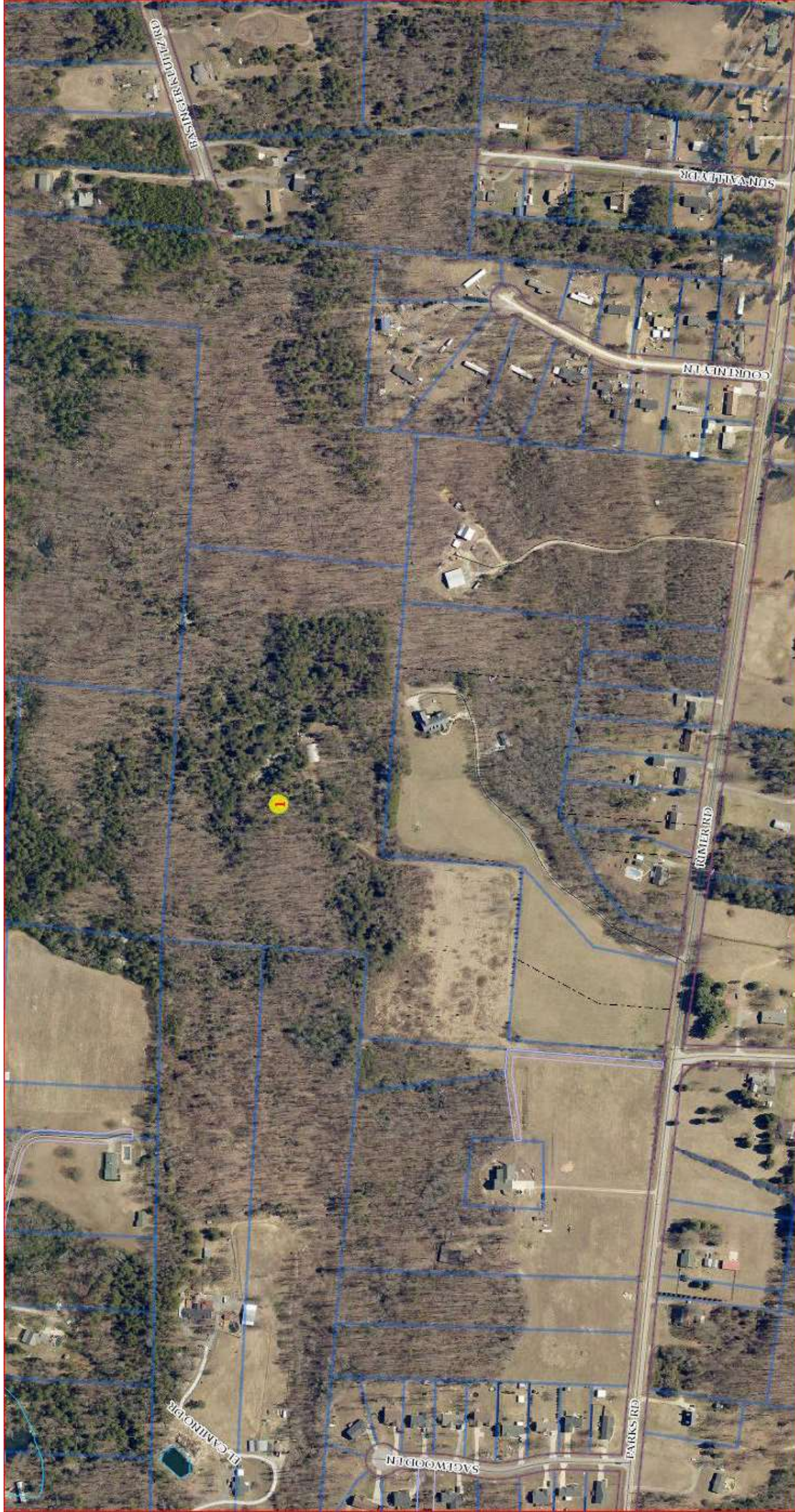
GROUNDING
DETAILS

SHEET NUMBER:
E12





Proposed Mount Hope site















September 22, 2021

Shane Stewart, Assistant Planning Director
Rowan County Planning & Development
402 N. Main Street, Suite 204
Salisbury, North Carolina 28144

Subject: Mount Hope Inability to Collocate and Facility Siting Certification

Dear Mr. Stewart,

Per the Rowan County Zoning Ordinance **Sections 21-60(3)(a.1-2)**:

- a. *New wireless support structures.* For all new wireless support structures, the county encourages the applicant to investigate preferred sites and those locations that minimize the impact to the North Carolina Scenic Byway corridor. In the event the new wireless support structure cannot be located at a preferred site, evidence that the applicant has investigated the possibilities for co-location on an existing wireless support structure shall be presented with its application. At a minimum the evidence should contain:
 1. Copies and responses of certified letters sent to owners/operators of all existing towers and structures with telecommunications facilities within the search ring of the proposed site, requesting the following information:
 - i. Height above ground and sea level.
 - ii. Existing tenants, including any telecommunication service providers and planned tower use.
 - iii. Whether the existing site could accommodate the addition of their wireless facilities.
 - iv. If the addition of their wireless facilities cannot be accommodated, an assessment of whether the existing site could be upgraded and a general description of the means and projected costs of shared use of the tower
 2. Inventory of all preferred sites, and alternative tower structures considered within the search ring, including specific analysis of each preferred site and alternative tower structure outlining positive and negative aspects for utilizing.



Please let this letter serve as certification that there are no preferred sites, existing towers, or alternative buildings or structures upon which to collocate within the search area in which Verizon Wireless' proposed equipment must be located in order to meet the network objective. Therefore, collocation is not possible and construction of the new "Mount Hope" communication tower is necessary.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Yeagley".

John Yeagley
Site Acquisitions Manager
Chase Real Estate Services



**APPLICATION FOR ZONING APPROVAL BY CELLCO PARTNERSHIP D/B/A
VERIZON WIRELESS FOR THE CONSTRUCTION OF A WIRELESS
TELECOMMUNICATION TOWER AND RELATED APPURTENANCES**

MOUNT HOPE SITE

FUTURE COLLOCATION CERTIFICATION

Cellco Partnership d/b/a Verizon Wireless ("Verizon Wireless") agrees to comply with Section 21-60(3)(a)(6) of the Rowan County Zoning Ordinance (the "Ordinance"), and certifies that the proposed "Mount Hope" telecommunication tower located at 280 Rimer Road, Rowan County, North Carolina will be designed and constructed to accommodate at least five total users.

**CELLCO PARTNERSHIP D/B/A
VERIZON WIRELESS**

By: Michael Haven

Printed Name: Michael Haven

Title: Manager - RE/Regulatory

```

*****
*                               Federal Airways & Airspace
*
*                               Summary Report: New Construction
*
*                               Antenna Structure
*
*****

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Airspace User: Your Name

File: MOUNTHOPE

Location:  Faith, NC

Latitude:  35°-33'-55.5"           Longitude:
80°-29'-05.8"

SITE ELEVATION AMSL.....877 ft.
STRUCTURE HEIGHT.....169 ft.
OVERALL HEIGHT AMSL.....1046 ft.

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NOTICE CRITERIA

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FAR 77.9(a): NNR (DNE 200 ft AGL)
FAR 77.9(b): NNR (DNE Notice Slope)
FAR 77.9(c): NNR (Not a Traverse Way)
FAR 77.9:    NNR FAR 77.9 IFR Straight-In Notice Criteria
for RUQ
FAR 77.9:    NNR (No Expected TERPS® impact JQF)
FAR 77.9(d): NNR (Off Airport Construction)

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NR  = Notice Required
NNR = Notice Not Required
PNR = Possible Notice Required (depends upon actual IFR
procedure)

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For new construction review Air Navigation
Facilities at bottom
of this report.

Notice to the FAA is not required at the analyzed location
and height for
slope, height or Straight-In procedures. Please review the
'Air Navigation'
section for notice requirements for offset IFR procedures
and EMI.

OBSTRUCTION STANDARDS

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FAR 77.17(a) (1): DNE 499 ft AGL
FAR 77.17(a) (2): DNE - Airport Surface

```


FAR 77.19(a): DNE - Horizontal Surface
 FAR 77.19(b): DNE - Conical Surface
 FAR 77.19(c): DNE - Primary Surface
 FAR 77.19(d): DNE - Approach Surface
 FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: RUQ: ROWAN COUNTY

Type: A RD: 28931.11 RE: 769.5

FAR 77.17(a) (1): DNE

FAR 77.17(a) (2): DNE - Height No Greater Than 200 feet AGL.

VFR Horizontal Surface: DNE

VFR Conical Surface: DNE

VFR Approach Slope: DNE

VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: JQF: CONCORD RGNL

Type: A RD: 89950.65 RE: 704.7

FAR 77.17(a) (1): DNE

FAR 77.17(a) (2): DNE - Greater Than 5.99 NM.

VFR Horizontal Surface: DNE

VFR Conical Surface: DNE

VFR Approach Slope: DNE

VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)

FAR 77.17(a) (3) Departure Surface Criteria (40:1)

DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)

FAR 77.17(a) (4) MOCA Altitude Enroute Criteria

The Maximum Height Permitted is 1700 ft AMSL

PRIVATE LANDING FACILITIES

FACIL	BEARING	RANGE
DELTA ARP FAA		
IDENT TYP NAME	To FACIL	IN NM
ELEVATION IFR		

41NC AIR SLOOP	214.64	3.19
----------------	--------	------

+252

Possible Impact to Private Landing Facility
 Exceeds 219 ft VFR Transitional Surface (N/A Private Airport).

6NC2 AIR WILHELM	227.72	4.84
------------------	--------	------

+296

No Impact to VFR Transitional Surface.
 Below surface height of 384 ft above ARP.

02NC HEL RACE CITY	255.2	5.71
--------------------	-------	------

+237

No Impact to Private Landing Facility
Structure is beyond notice limit by 29695 feet.

AIR NAVIGATION ELECTRONIC FACILITIES									
FAC		ST		DIST		DELTA			
GRND	APCH	IDNT	TYPE	AT	FREQ	VECTOR	(ft)	ELEVA	ST LOCATION
ANGLE	BEAR								
-----		-----		--	-----	-----	-----	-----	-----
	RUQ	LOCALIZER		I	109.9	336.68	28673	+281	NC RWY 20
ROWAN	COUN	.56	202						
	RUQ	LOM		I		358.72	61057	+346	NC RWY 20
ROWAN	COUN	.32							
	RU	NDB		I	27	358.7	61067	+347	NC
ROVDY				.33					
	CLT	RADAR		ON		227.04	188049	+245	NC
CHARLOTTE/DOUGLAS				.07					
	CLT	VOR/DME		I	115.0	225.41	194966	+314	NC
CHARLOTTE				.09					
	QRM	RADAR ARSR		Y	1277.4	274.45	224605	+77	NC
Maiden				.02					

CFR Title 47, §1.30000-§1.30004

AM STUDY NOT REQUIRED: Structure is not near a FCC
licensed AM station.

Movement Method Proof as specified in §73.151(c) is not
required.

Please review 'AM Station Report' for details.

Nearest AM Station: WRNA @ 9456 meters.

Airspace® Summary Version 17.1.429

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02-23-2017
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FCC MARKET NAME	FCC Radio Service Code	FCC Market Number	FCC Channel Block
Charlotte-Gastonia-Rock Hill, NC-SC	AW	BEA023	B
Southeast	AW	REA002	F
North Carolina 15 - Cabarrus	CL	CMA579	B
North Carolina 15 - Cabarrus	CL	CMA579	B
North Carolina 15 - Cabarrus	CL	CMA579	A
Charlotte-Gastonia, NC	CW	BTA074	C
Charlotte-Gastonia, NC	CW	BTA074	C
Salisbury, NC	PM	PEA208	A1
Salisbury, NC	PM	PEA208	A2
Salisbury, NC	PM	PEA208	A3
Salisbury, NC	PM	PEA208	A4
Salisbury, NC	PM	PEA208	A5
Salisbury, NC	PM	PEA208	B1
Salisbury, NC	PM	PEA208	B2
Salisbury, NC	PM	PEA208	B3
Salisbury, NC	PM	PEA208	B4
Salisbury, NC	PM	PEA208	B5
Charlotte-Gastonia, NC	UU	BTA074	L1
Charlotte-Gastonia, NC	UU	BTA074	L2
Salisbury, NC	UU	PEA208	M1
Salisbury, NC	UU	PEA208	M10
Salisbury, NC	UU	PEA208	M2
Salisbury, NC	UU	PEA208	M3
Salisbury, NC	UU	PEA208	M4
Salisbury, NC	UU	PEA208	M5
Salisbury, NC	UU	PEA208	M6
Salisbury, NC	UU	PEA208	M7
Salisbury, NC	UU	PEA208	M8
Salisbury, NC	UU	PEA208	M9
Southeast	WU	REA002	C

FCC Call Sign	Licensee Name	FRN	Expired Date	State of Market	County	State
WQGA918	Cellco Partnership	0003290673	Nov 29, 2021	NC		NC
WQGA716	Cellco Partnership	0003290673	Nov 29, 2021			NC
KNKN868	Alltel Corporation	0002942159	Oct 1, 2030	NC		NC
KNKN952	Alltel Corporation	0002942159	Oct 1, 2030	NC		NC
KNKQ443	Cellco Partnership	0003290673	Nov 6, 2027	NC		NC
WQEM932	Cellco Partnership	0003290673	Mar 8, 2026	NC		NC
WQCS421	Cellco Partnership	0003290673	May 13, 2025	NC		NC
WRNG698	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG699	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG700	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG701	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG702	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG703	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG704	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG705	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG706	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRNG707	Cellco Partnership	0003290673	Jul 23, 2036	NC		NC
WRBA824	Cellco Partnership	0003290673	Oct 6, 2028	NC		NC
WRBA825	Cellco Partnership	0003290673	Oct 6, 2028	NC		NC
WRHG555	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG556	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG557	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG558	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG559	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG560	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG561	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG562	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG563	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WRHG564	Straight Path Spectrum, LLC	0012576435	Jun 4, 2030	NC		NC
WQJQ690	Cellco Partnership	0003290673	Jun 13, 2029			NC

County Name	Frequencies(1)	Frequencies(2)	Frequencies(3)	Frequencies(4)
Rowan	1720-1730 / 2120-2130	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	1745-1755 / 2145-2155	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	835-845 / 880-890	846.5-849 / 891.5-894	0-0 / 0-0	0-0 / 0-0
Rowan	835-845 / 880-890	846.5-849 / 891.5-894	0-0 / 0-0	0-0 / 0-0
Rowan	824-835 / 869-880	845-846.5 / 890-891.5	0-0 / 0-0	0-0 / 0-0
Rowan	1900-1905 / 1980-1985	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	1905-1910 / 1985-1990	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3700-3720 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3720-3740 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3740-3760 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3760-3780 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3780-3800 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3800-3820 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3820-3840 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3840-3860 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3860-3880 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	3880-3900 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	27500-27925 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	27925-28350 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	37600-37700 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38500-38600 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	37700-37800 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	37800-37900 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	37900-38000 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38000-38100 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38100-38200 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38200-38300 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38300-38400 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	38400-38500 / 0-0	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0
Rowan	746-757 / 776-787	0-0 / 0-0	0-0 / 0-0	0-0 / 0-0



November 1, 2017

Rowan County Planning & Development
ATTN: Ed Muire, Planning & Development Director
402 N. Main Street
Salisbury, NC 28144

RE: Verizon Wireless Non-Interference Statement for Mount Hope

Dear Mr. Muire:

Verizon Wireless operates a Wireless Network authorized by the Federal Communications Commission (FCC) to provide wireless communication throughout the nation, including Rowan County, North Carolina. Verizon Wireless' operation and network are licensed and regulated by the FCC. The FCC rules governing the operation of wireless telecommunications facilities are designed to protect co-channel and adjacent licenses against harmful interference. The FCC has exclusive jurisdiction over these requirements.

The proposed "Mount Hope" Verizon Wireless facility is in compliance with all applicable FCC requirements. Verizon Wireless' engages in the following practices pertinent to complying with FCC requirements:

1. Verizon Wireless locates its transmitting antenna(s) in order to maximize vertical and horizontal separation from other operator's systems to minimize interference potential;
2. All operating hardware at the site is type-accepted by the FCC as far as emission levels within Verizon Wireless' licensed frequency band in addition to spurious emissions outside of Verizon Wireless frequency band;
3. The power levels generated by the base station hardware and corresponding effective radiated power (ERP) from the transmit antenna(s) are within the limitations specified by Part 22 of the Commission's Rules; and
4. Intermodulation studies are prepared and analyzed considering all carriers on the tower to ensure no mixing of frequencies will create harmful interference to/from Verizon Wireless' wireless system.

Verizon Wireless is committed to providing state of the art wireless services that benefits your community. If you have any questions please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ashutosh Pandey', written in a cursive style.

Ashutosh Pandey

RF Engineer – Verizon Wireless

IMPACT STUDY

*Impact Study - Cell Tower
280 Rimer Road
Salisbury, Rowan County, North
Carolina 28146*

Type Report: Impact Study

*Effective Date
November 14, 2017*

Client's Project ID n/a



November 27, 2017

Ms. Laura D. Goode
Attorney
Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
1501 Main St., Suite 600
Columbia, SC 29201

**RE: Impact Study for Proposed Telecommunications Facility located at 280 Rimer Road,
Salisbury, Rowan County, North Carolina.**

Dear Ms. Goode:

I have completed a study of the proposed tower. The scope of the assignment is to provide an analysis and conclusions addressing whether the proposed development will substantially injure the values of adjacent or abutting properties.

The impact study is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute. The impact study is not an appraisal as it does not report a value of any property; however, the study employs appraisal methodology to reach our conclusions of the impact of the proposed development.

The proposed development is a dedicated communication tower to be located on a property owned by Debbie Craddock and Patricia Moore. They are the owners of other parcels adjacent to the site of the proposed tower. The siting of the proposed tower is in the northwest corner of the site. The siting of the proposed tower minimizes the visual impact in concert with the existing tree canopy. The surrounding land uses include low density residential and vacant land. The surrounding land uses are a contributing factor in the development of a conclusion regarding the potential impact of the tower.

The conclusions of this study are supported by the data and reasoning set forth in the attached narrative. Your attention is invited to the Assumptions and Limiting Conditions section of this report. The analysts certify that we have no present or contemplated future interest in the proposed development, and that our fee for this assignment is in no way contingent upon the conclusions of this study.

EXTRAORDINARY ASSUMPTIONS AND HYPOTHETICAL CONDITIONS:


It is an extraordinary assumption of this report that the proposed development will be constructed as detailed in the report. Further, it is an assumption of the study that the existing access will be used to access the proposed wireless facility.

The content and conclusions of this report are intended for our client and for the specified intended uses only. They are also subject to the assumptions and limiting conditions as well as the specific extraordinary assumption set forth in this report.

It is our opinion that the proposed development will not substantially injure the values of adjacent or abutting properties and that it is located in an area where it does not substantially detract from the aesthetics and neighborhood character.

Thank you for the opportunity to be of service. If you have any questions or comments, please contact our office.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Michael P. Berkowitz", with a stylized flourish at the end.

MICHAEL P. BERKOWITZ
MPB REAL ESTATE, LLC

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SCOPE OF THE ASSIGNMENT

In accordance with our agreement with the client, this impact study is specific to the needs of our client as part of an application for a conditional use permit to be considered by Rowan County Officials. Our study and the reporting of our study is in agreement with our client as follows:

The proposed development requires a Conditional Use Permit. The report is intended to address Article III Section 21-58 (e)(2) which states:

“That the development of the property in accordance with the proposed conditions will not substantially injure the value of adjoining or abutting property.”

The scope of the assignment includes research of existing towers in the neighborhood. The neighborhoods and their surrounding developments are researched to determine whether the proposed development, referred to as the “Mount Hope Site”, is consistent with the location of other towers in this section of Rowan County and their impact, if any, on neighborhood development patterns and property values.

The impact study provides an analysis of the surrounding properties. The analysis includes existing improvements, zoning designations and likely development patterns. The existing uses as of the effective date of this report in concert with the market data provided are contributing factors to the conclusions of this study.

PREMISES OF THE STUDY

Identification of Subject

Mount Hope Site

280 Rimer Road
Salisbury, Rowan County, NC 28146
Tax Parcel ID: 422-179

Client, Purpose, and Intended Use and Intended Users

Ms. Laura D. Goode
Attorney
Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
1501 Main St., Suite 600

Columbia, SC 29201

The client and intended user is Ms. Laura Goode. The intended use is as an aid to assist Rowan County officials in rendering a decision regarding the issuance of a conditional use permit for the proposed development. The study is not intended for any other use or users.

Analyst

Michael P. Berkowitz

MPB Real Estate, LLC
1100 Sundance Drive
Concord, NC 28027

Property Inspection

Michael Berkowitz inspected the property and neighborhood surrounding the proposed development. Details of surrounding land uses and observations are provided throughout the report. I also performed off site visual inspections of several towers located in Rowan County. I consider my observations in the context of the market data. They are a contributing factor to my conclusions. Photographs of the property were taken during Mr. Berkowitz's inspection.

**Extraordinary
Assumptions of Report**

It is an extraordinary assumption of this report that the improvements as described within this report are compliant with the appropriate ordinance regarding items including but not necessarily limited to setbacks, landscaping, access and other items outside our field of expertise for this assignment. These items will be addressed as part of the application by others with expertise within the respective fields.

Should the extraordinary assumptions not exist, we reserve the right to amend this study.

Effective Date of Study

November 14, 2017

Date of Report

November 27, 2017

Type Report

Impact Study Report

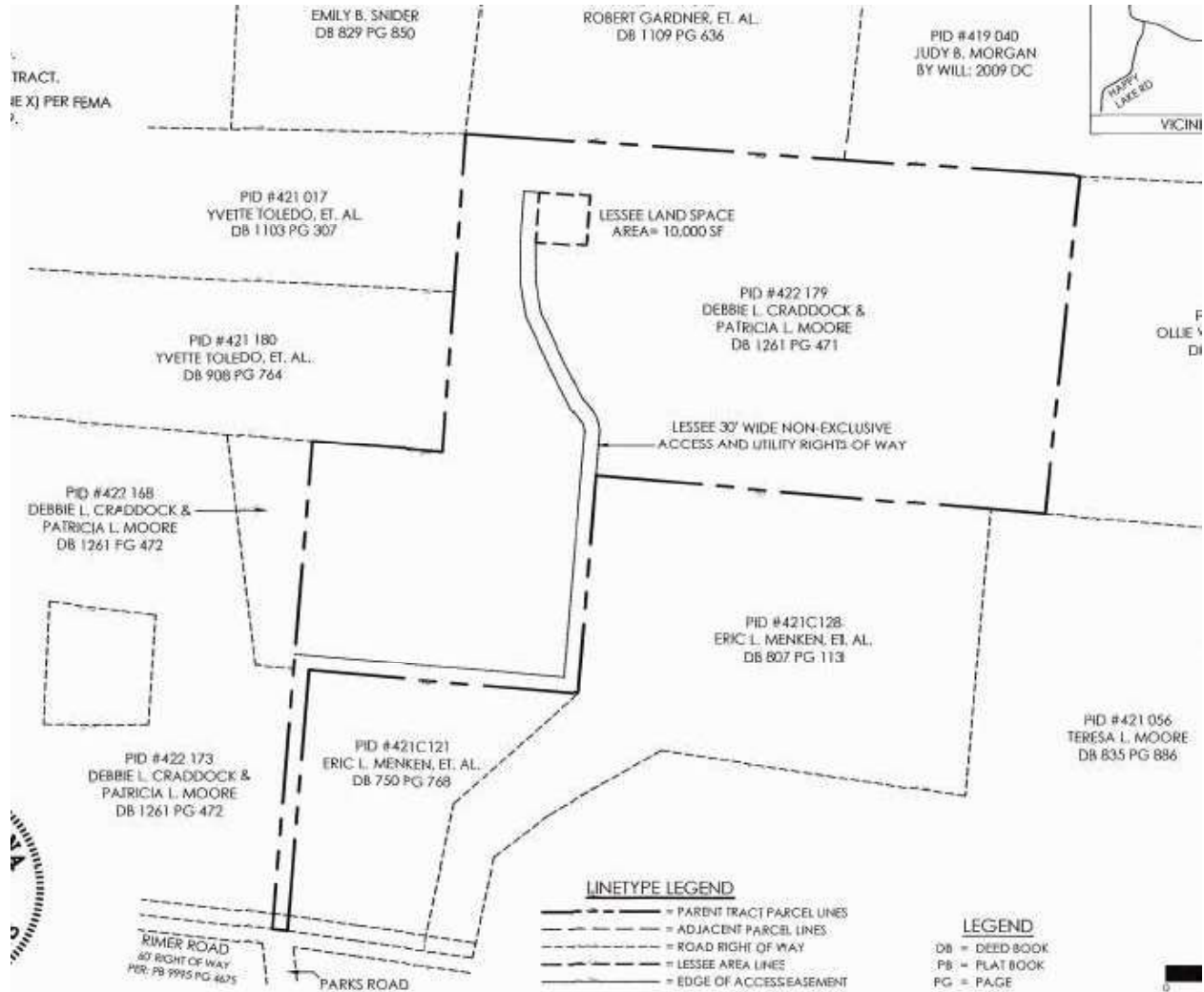
Study Development and Reporting Process

In preparing this study, the analyst:

- Analyzes physical affects, if any, of the proposed construction on properties in the immediate area as well as the neighborhood;
- Reviews plans for the proposed development to determine whether it is in compliance with the Rowan County Commercial Communications Tower Ordinance with respect to items within my field of expertise;
- Reviews site plan provided by our client with respect to the physical characteristics of the proposed development;
- Reviews Section 21.60.3 of the Rowan County Zoning Ordinance regarding the development of Communication and Wireless support structures;
- Researches market data around existing cell towers in Rowan County to determine whether the proposed development is in accordance with the other similar developments in the area.

PROPOSED FACILITY**Tower**

Based on information provided to the analyst, the proposed tower will consist of a 165-foot “monopole” communications tower. The following site plan shows the proposed site.



SITE PLAN

Site Improvements

The site improvements include an eight-foot chain link fence with three strands of barbed wire. As we will detail throughout this report, the existing vegetation provides a strong buffer that will obscure a significant portion of the proposed development. The base of the proposed tower will be totally obscured from neighboring properties.

Access

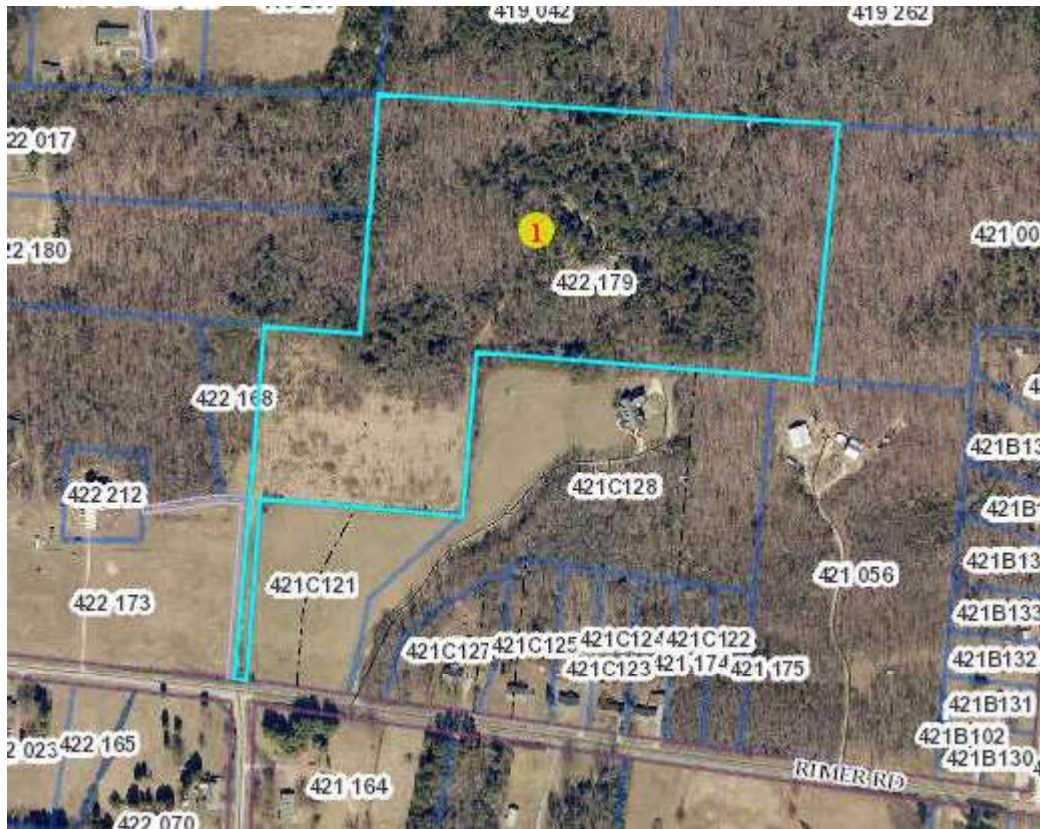
The shape of the site and limited frontage of the property instigated the improvement and/or new installation of an access road to the northwestern corner of the site. The road will parallel the eastern boundary of the site. This appears consistent with the existing access to the property. The scope

of the work for the access driveway is included in the plans that are part of the application. We assume that the access for the proposed development is in accordance with all local and state regulations. Given the use of the current access, we consider the assumption reasonable.

Location

The proposed tower is located in a heavily wooded area off the Rimer Road corridor. As we will detail later in the report, the majority of property in the area is used for low density residential and agricultural purposes.

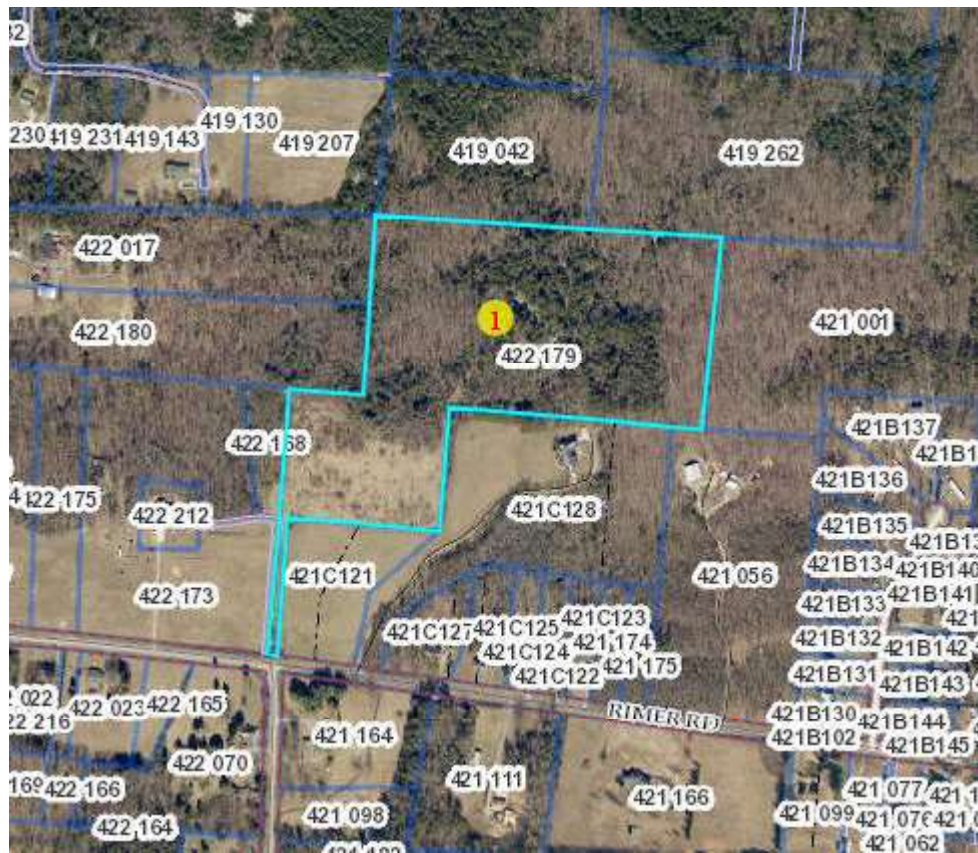
The subject has a zoning designation of RA, Residential/Agricultural District. The developments along the Rimer Road corridor are consistent with this designation.



SURROUNDING LAND USES

The proposed development is located on a 23.98-acre tract of land off of Rimer Road. Many of the parcels in the immediate area are vacant or used for agricultural purposes. The remaining parcels are improved with low density residential improvements. The following chart provides a list of the adjacent properties Followed by an aerial of the properties.

Adjacent Properties Summary					
Tax Parcel	Address/Location	Owner	Acres	Improvements	Use
422 173	725 Parks Road	D. Craddock & P. Moore	12.57	None	Vacant Land
422 168	Parks Road	D. Craddock & P. Moore	1.26	None	Vacant Land
422 180	310 El Camino Dr.	Yvette Toledo et al	11.61	Mobile Home	SFD
422 017	425 El Camino Dr.	Yvette Toledo et al	13.71	SFD	SFD
419 207	Mt. Hope Church Rd.	Emily Snider	5.12	Shed	Agricultural
419 042	Mt. Hope Church Rd.	Robert Gardner et al	8.29	None	Vacant Land
419 262	Sandy Creek Ln.	Judy Morgan	15	None	Agricultural
421 001	Basinger Klutz Rd.	Virginia Stancil	24.5	None	Vacant Land
421 056	390 Rimer Rd.	Teresa Moore	12.13	SFD	SFD
421C128	170 Rimer Rd.	Eric & Madelyn Menken	11.19	SFD	SFD
421C121	Rimer Rd	Eric & Madelyn Menken	4.08	None	Vacant Land



For the purposes of the analysis, we do not include the two properties under the same ownership as the proposed site. We have segregated the remaining adjacent properties into two categories. The segmentation of the properties is based on the location and potential visual impact of the proposed tower. The categories are the properties closer to the tower that are accessed from other streets and the properties along Rimer Road.

Properties Off Rimer Road – This group of properties have access from streets other than Rimer Road. There are two properties to the west that are improved with single family dwellings. Both of these properties have a long thin shape and consist of over 10 acres. The area abutting the proposed tower is heavily wooded. The potential visual impact on these properties is nominal if visible at all.

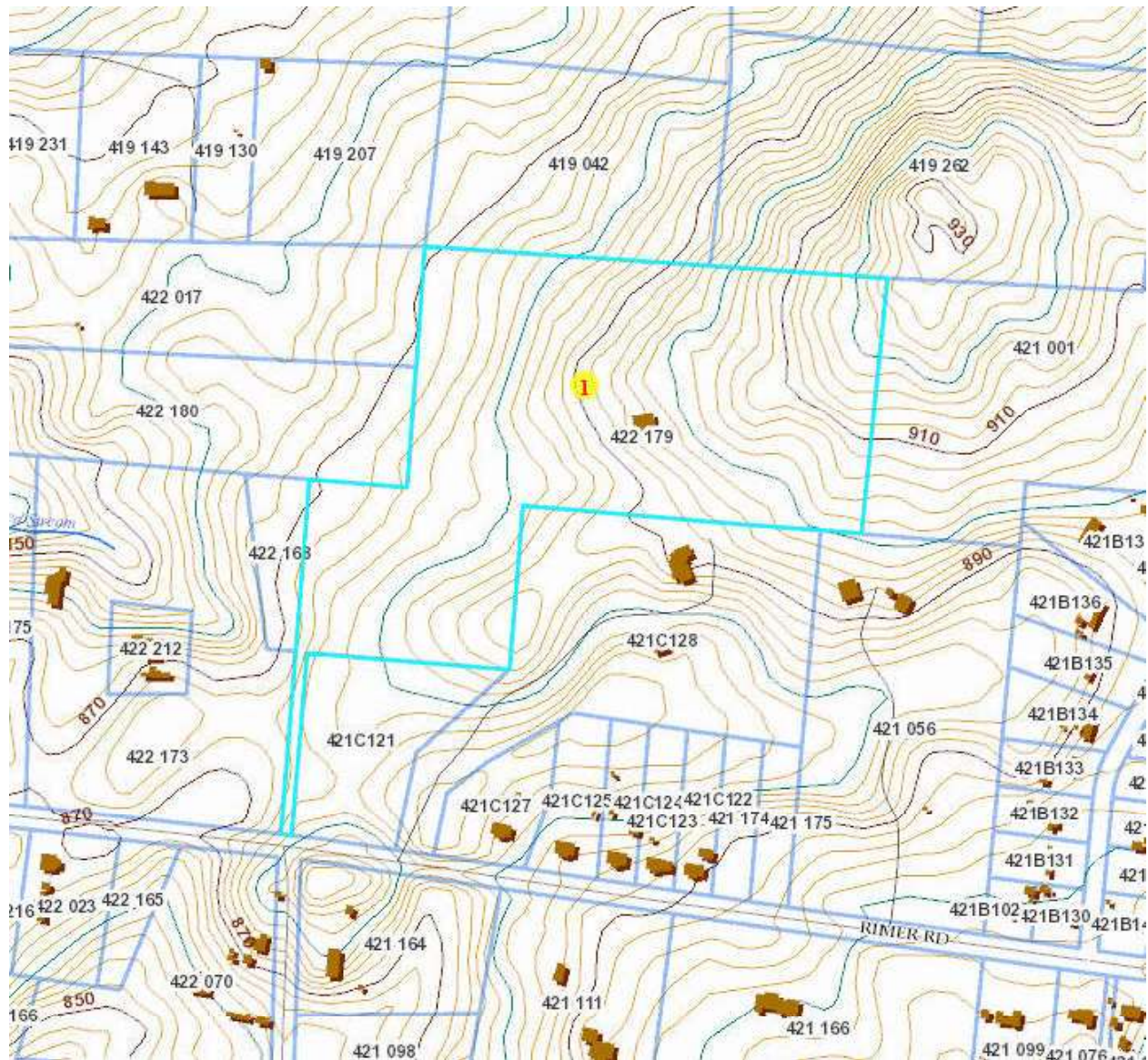
The three properties along the northern boundary of the proposed development are vacant tracts of land. Again, all of these parcels include significant trees that in conjunction with

the trees around the proposed development will minimize the visual impact of the proposed tower.

The last parcel in this category is the heavily wooded tract immediately to the east of the proposed tower. As with the other parcels in this category, the trees on the subject property and the adjacent property will minimize the visual impact of the proposed tower.

Properties Along Rimer Road – There are three parcels located south of the proposed tower that are adjacent to the subject parcel. Two of the parcels are improved with single family dwellings. The third parcel is under the same ownership as the adjacent parcel. The siting of the proposed tower minimizes the visual impact because of its location within a heavily wooded area on the subject property. Further, development patterns in the immediate area include the preservation of trees to provide screening and buffers with adjacent properties.

The following exhibits provide topographical maps of the proposed development as well as surrounding properties. The proposed tower will be located in the northwestern corner of the site. The elevations are considered in the analysis of potential visual impact of the tower on surrounding properties.



As we will discuss in the following section, the scope of the assignment is to determine whether the proposed development is in accordance with the Rowan County zoning ordinance regarding the issuance of a conditional use permit and the development of wireless communications support structures. The items within our field of expertise are detailed in the following section.

ROWAN COUNTY ZONING ORDINANCE

As part of the assignment, I reviewed Article III Section 21-58 (e)(2) of the Rowan County Zoning Ordinance. This section details the review procedures for development of a

wireless support structure and the conditional use permit requirements. The following was extracted from the ordinance.

(e) *Required findings.* All decisions regarding a conditional use permit application shall not be approved or denied unless each of the following findings has been made:

- (1) The development of the property in accordance with the proposed conditions will not materially endanger the public health or safety;
- (2) That the development of the property in accordance with the proposed conditions will not substantially injure the value of adjoining or abutting property, or that the development is a public necessity; and
- (3) That the location and character of the development in accordance with the proposed conditions will be in general harmony with the area in which it is located and in general conformity with any adopted county plans.

The items within this section are mentioned in the study, but surveys and other physical features will be addressed in the application for the conditional use permit.

Based on our review of the ordinance, the remainder of the study focuses on the relation to surrounding property and potentially injurious effect of the conditional use on adjoining properties and the character of the neighborhood. Please note, we have segregated the properties as detailed earlier in the report. The potential impact on these properties is the visual impact of the proposed tower.

Properties Off Rimer Road – This group of properties are heavily wooded. The elevations are lower than the proposed development. Based on the existing tree cover on the subject as well as these properties, we consider it unlikely that the proposed tower will be visible.

Properties Along Rimer Road – There are three parcels located south of the proposed tower that are adjacent to the subject parcel. The proposed tower is on the opposite side of a slope that puts the base of the proposed tower below the elevations of one of the single family dwellings. Again, the improvements for these properties are surrounded by trees. Further, the orientation of the single family dwelling closest

to the proposed tower would place the tower on the side of the dwelling.

Again, we will discuss property values later in the report. We acknowledge that the proposed 165-foot tower will have a height in excess of any structure in the immediate area. The infrastructure in the area includes above ground utilities along Rimer Road. The power lines observed represent a larger visual footprint than the proposed tower. All of the residential properties along the corridor have trees that provide screening, which is the most significant factor in the analysis.

Summary

The items within our field of expertise focus on the aesthetic impact of the proposed development and whether the proposed facility will substantially injure values of adjacent or abutting properties. This is based on the existing developments as detailed earlier in the study.

MARKET RESEARCH

A potential issue associated with the impact of the proposed development is on property values in the immediate vicinity and the neighborhood. We researched towers in Rowan County and identify the development patterns around these towers. After analyzing the market data, we compare this information to the proposed site and the physical characteristics and development patterns surrounding the proposed development.

Rowan County Towers

During our research, we observed several towers in Rowan County. The cell towers selected for direct comparison were chosen for a variety of reasons including but not necessarily limited to:

- *Location* – The proposed location is in a rural area of Rowan County and includes low density residential developments.

- *Surrounding Developments* – The surrounding developments along Rimer Road include agricultural, vacant land and low density residential uses.
- *Construction Type/Height* – The proposed tower is a monopole that poses a smaller visual footprint than lattice and guyed towers.

For the research of towers, we rely on information from antennasearch.com, which we consider a reliable source of information. We considered nine towers in the area for comparison. Some towers were not visible from the public right-of-way and were excluded. Some of the towers were located in areas that are inconsistent with the neighborhood of the proposed tower. The following chart provides a summary of the towers considered with the most comparable towers highlighted in yellow.

Tower Summary			
Construction	Year Built	Address	Tower Height (FT)
Lattice	1999	8670 Red Road	305
Monopole	2003	205 St Paul Church Rd	164
Guyed	1984	ENE Shuping Mill & Rock Grove Church Rds	300
Monopole	1999	4645 Cook Road	225
Unknown	2016	415 Balfour Quarry Road	155
Guyed	1988	310 Hill Street	481
Lattice	2013	1090 Corporate Center Drive	100
Lattice	2015	Faith Mtn Tr, 3rd St & Stoney Heights Dr.	300
Monopole	2003	700 E Ritchie Rd	125

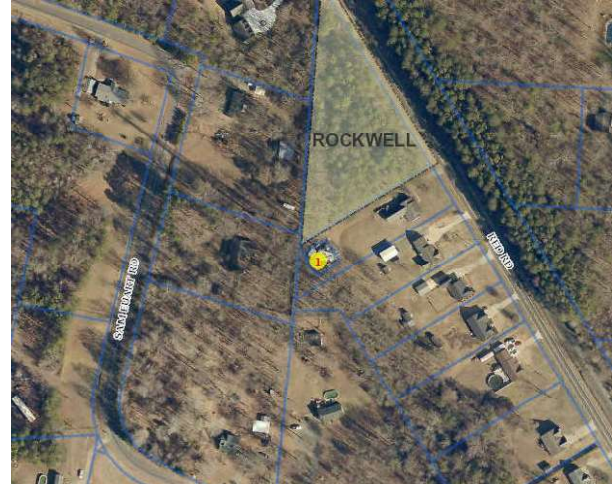
Consistent with the ordinance for Rowan County, most of the towers in the area are either located on or adjacent to commercial and industrial areas. Influence from major transportation corridors was also considered in the selection of towers. In many cases there are several factors that contributed to the development patterns and values around the towers. The towers selected are intended to provide evidence in support for my conclusions.

Each tower has some visual influence from residential development. While the market rarely provides an exact

match for a proposed development, the analysis of the market data around the following towers coupled with their similar locations provides information regarding residential sales around telecommunication towers.



8670 Red Road



This tower was researched because of its similar location. The lattice construction and tower height propose a significantly higher visual impact on adjacent properties. The market data for adjacent and abutting properties is limited. However, the house shown on the previous photograph that is directly in front of the tower was sold in May 2010 for \$114,000. Other sales of single family dwellings ranged from \$112,500 to \$115,000. Despite the location adjacent to the tower, the sales price appears consistent with other older homes in the area.

205 St. Paul Church Road

We considered this tower a comparable example to the proposed development. However, upon inspection of this area, the tower is embedded in a large tree area and is not visible from the residential developments along Mill Wheel Drive.

4645 Cook Road

This tower has similar surrounding development patterns to the proposed tower. We found the sale of two of the adjacent properties that were purchased as an assemblage for \$80,000. One of the parcels included a single family dwelling constructed in 1941. Another sale down the street included a smaller lot and was heavily wooded. This property sold for \$85,000. The dwelling on this site was constructed in 1967

and is superior to the previous sale. The larger lot size of the property adjacent to the tower offsets the superior condition of the improvements on the property with no visibility. Regardless, the variance of \$5,000 between the two sales is not considered substantial. The following exhibits show an aerial and street scene of the tower.



Summary

Based on the analysis of the data and development patterns around the towers, we conclude that the presence of a wireless support structure does not impede the orderly development of the area. Further, the market does not recognize a substantial injury to property values for adjacent/abutting properties of such a development.

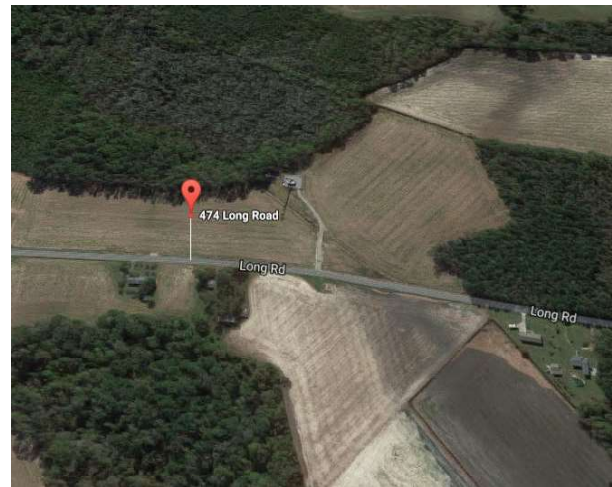
Other Considerations

Other potential impacts to the surrounding area include noise, traffic and lighting. The operation of a cell tower is essentially silent and would not influence the surrounding developments. The additional traffic caused by the proposed development is nominal and would likely occur for routine maintenance. Any increases in traffic are considered nominal and does not impact the adjacent or abutting properties.

Given the scarcity of market data in the neighborhood, we provide the results from a study for a proposed tower in Robeson County. The scope of the impact study addressed the potential impact of value on properties in the neighborhood. The following provides market data for the towers found in

Robeson County that are a similar market to the proposed development.

The following data is segregated into two categories: single family homes and vacant land. For all of the data sets, the properties highlighted in yellow are those properties along the same corridor as the tower. These properties are compared to properties highlighted in green, which are along similar streets without a tower. We include additional market data as background for the paired sales analyses.



474 Long Road

This tower is the most comparable to the proposed tower at 180 feet. As with the surrounding developments for the other towers selected for comparison in this study, the land uses in the area are primarily agricultural. The low density residential developments include homes constructed over a wide time span including some estate style homes. The market data for single family dwellings are summarized in the following chart.

SFD SALES						
Address	Sale Date	Sales Price	Year Built	SF	Acres	\$/SF
46 SURRY	5/25/2005	\$68,000	1986	1,152	2.34	\$ 59.03
121 SURRY	10/29/2007	\$93,000	1978	1,443	1	\$ 64.45
285 JUNE	5/15/2009	\$41,000	2000	1,632	1	\$ 25.12
992 LONG RD	8/20/2007	\$57,500	1978	972	1	\$ 59.16
867 LONG RD	11/5/2009	\$27,000	1962	800	1.52	\$ 33.75
719 LONG RD	6/8/2015	\$87,000	1989	1,437	4.37	\$ 60.54
1148 LONG RD	8/14/2015	\$227,500	2005	2,029	1.8	\$ 112.12

The analysis of these sales as well as other sales presented later in this section includes several factors including but not necessarily limited to size, age and lot size. The most compelling market data is the consistency in the prices paid per square foot for the highlighted properties. The comparison of the data shows some offsetting characteristics, but does provide evidence that the cell tower located along Long Road does not injure property values in the area.

The second data set is for land sales found in the area. The highlighted properties are for residential lots consistent with the low density development patterns in the neighborhood.

LAND SALES				
Address	Sale Date	Sales Price	Acres	\$/Acre
181 TROY DR	6/11/2010	\$150,000	19.63	\$ 7,641
WILKES RD	5/1/2013	\$20,000	7.39	\$ 2,706
859 LONG RD	8/22/2012	\$15,000	1.24	\$ 12,097
OFF LONG RD	3/24/2015	\$22,000	3.43	\$ 6,414

Contrary to the market data for single family dwellings, the most compelling information from this data set is the price point for the residential lots. The size of the lots is the most influential factor on price point. Again, the market data indicates that the tower has not impeded demand for land along the Long Road corridor nor has it injured land values in the area.



7746 E Hwy 211



This tower as well as all of the remaining tower have heights of 300-feet or higher. I have applied the same methodology with the previous analyses and segregated the data into single

family dwellings and vacant land. The sales for single family dwellings are summarized in the following chart.

SFD SALES						
Address	Sale Date	Sales Price	Year Built	SF	Acres	\$/SF
913 HARRIS RD	1/31/2017	\$65,000	2005	1,443	1	\$ 45.05
4642 OLD ALLENTON	12/7/2015	\$64,000	1950	912	1	\$ 70.18
146 BEAR BAY	11/13/2014	\$48,000	1980	1,456	2.69	\$ 32.97
877 OLD ALLENTON	6/25/2013	\$46,500	1969	1,506	1.5	\$ 30.88
9697 NC 211	6/26/2012	\$61,000	1955	1,170	1.24	\$ 52.14
8355 E NC HWY 211	6/3/2015	\$75,000	1988	1,152	4.22	\$ 65.10

The physical variance in this data set would require a higher level of adjustment. Notwithstanding this fact, the sales along the 211 corridor provide a similar price point and price paid per square foot. The offsetting nature of the variances is reflected in the similar price point for the majority of sales with the property closest to the tower having the highest price point. The analysis of this data set provides further evidence to our conclusion.

The following chart provides a summary of land sales for the area. Again applying the same methodology as the previous analyses.

LAND SALES				
Address	Sale Date	Sales Price	Acres	\$/Acre
NC HWY 211	12/17/2014	\$17,500	0.59	\$ 29,661
699 BAY BEAR	6/18/2015	\$17,000	8.13	\$ 2,091
HARRIS RD	5/14/2015	\$8,500	1	\$ 8,500
HARRIS RD	8/17/2015	\$9,000	1.27	\$ 7,087
3 PITTMAN	4/4/2014	\$250,000	93.22	\$ 2,682
WILKES	5/1/2013	\$20,000	7.39	\$ 2,706
481 HARRIS RD	2/8/2013	\$25,500	0.92	\$ 27,717
538 DERWOOD	9/17/2012	\$45,000	17.74	\$ 2,537
DERWOOD	7/19/2012	\$80,000	24.84	\$ 3,221
PITTMAN	5/21/2012	\$15,000	14.08	\$ 1,065

The best matched pair in this data set is from the sales of two mobile home lots. While the price point was higher for the sale on Harris Road, the price per acre was higher for the lot on Highway 211. This indicates that size was a significant factor in the price paid. The size variance would be the most significant factor. The only other sale found lies on the lower end of the range of the data set, which is considered

reasonable given its physical characteristics including some areas that appear to be undevelopable.



Kinlaw Road

The land sales in the area provide the most compelling evidence in the neighborhood for this tower. The following chart provides a summary of land sales in the area.

LAND SALES				
Address	Sale Date	Sales Price	Acres	\$/Acre
HOWELL RD	5/25/2012	\$98,000	47	\$ 2,085
TARHEEL RD	12/12/2012	\$13,000	3.37	\$ 3,858
346 BARNHILL	9/3/2013	\$28,500	8	\$ 3,563
5168 TARHEEL	1/3/2014	\$30,000	9.15	\$ 3,279
KINLAW RD	9/4/2014	\$27,000	6.87	\$ 3,930

The sale closest to the tower sold for the highest price per acre. Again, the market data for land around this cell tower indicates that the tower does not injure the prices paid for land in the neighborhood.

The following is a summary of single family dwelling sales found in the neighborhood.

SFD SALES						
Address	Sale Date	Sales Price	Year Built	SF	Acres	\$/SF
88 BARNHILL	4/30/2012	\$76,000	1995	1,458	2.01	\$ 52.13
6876 HOWELL	5/22/2012	\$55,000	1988	1,344	1.98	\$ 40.92
7889 HOWELL	12/17/2012	\$37,500	1950	1,454	1.86	\$ 19.23
5168 TARHEEL	5/9/2013	\$125,000	1958	1,980	5	\$ 63.84
6225 HOWELL	8/10/2016	\$200,000	1999	2,837	1.01	\$ 100.05
6257 HOWELL	2/10/2017	\$225,000	2007	3,303	1	\$ 112.11
306 TARHEEL	10/17/2013	\$177,500	1953	3,087	5.03	\$ 90.89
3647 TARHEEL	9/5/2014	\$46,000	1992	1,296	0.92	\$ 23.09
5478 TARHEEL	10/3/2014	\$125,000	2002	1,920	8.4	\$ 62.44
8191 HOWELL	11/10/2014	\$71,000	1980	1,032	1.02	\$ 35.86
470 KINLAW RD	12/31/2014	\$42,500	1982	1,338	1.5	\$ 21.44
KINLAW RD	6/15/2015	\$73,500	1962	1,485	0.89	\$ 37.46

The review of sales of single family dwellings reveals that age and condition of the improvements is the most significant factor in the prices paid. Development in the area is sparse and supply side pressures in the market and low number of transactions indicates that the neighborhood is in the stable phase of its economic development. This is similar to the subject's neighborhood. The sales price paid for the properties along the corridor of the tower and other corridors is consistent.



Gaston Drive



This tower is located in Bladen County. The surrounding developments are comparable to the subject and is included in this analysis. The tower is located off Gaston Drive. The single family dwelling sales in the neighborhood were insufficient quantity (two sales found), to provide a credible analysis. However, the sales of land as shown on the following chart provide a reflection of the market. The following chart

is a summary of the sales. Note the two first sales in the chart are for mobile home lots.

LAND SALES				
Address	Sale Date	Sales Price	Acres	\$/Acre
2392 GUYTON	7/19/2012	\$10,000	1	\$ 10,000
300 GASTON DR	2/23/2015	\$19,000	1.7	\$ 11,176
MASSEY RD	10/16/2012	\$25,000	15.35	\$ 1,629
GUYTON ROAD	5/31/2013	\$9,000	0.98	\$ 9,184
GUYTON RD	10/18/2013	\$20,000	5.57	\$ 3,591
MASSEY RD	12/3/2013	\$6,000	0.9	\$ 6,667
MASSEY RD	4/23/2014	\$31,500	12.37	\$ 2,546
1023 STORMS RD	3/20/2015	\$9,000	2	\$ 4,500
303 GASTON DR	8/29/2015	\$11,000	0.89	\$ 12,360

The land sales for lots near the tower are consistent with other lot sales found with no visual influence from the tower. The two lots highlighted in yellow reflect the upper end of the range for vacant land. The market data indicates that development near the tower has not influenced the normal course of development for the immediate area. Further, the market data indicates that buyers are paying similar prices for lots within the visual sphere of influence of a cell tower.

The recent studies I have performed provide no empirical evidence that the proposed tower will injure property values for adjacent or abutting properties. The studies provided are for larger areas of potential influence than adjacent or abutting properties.

Conclusions

The sparse market activity in Rowan County indicates that the market is stable. The rural land uses for agriculture and low density residential are likely to continue for the foreseeable future. These uses are not impeded by the development of a cell tower. The results of studies including those included in this report show consistency between prices paid for land and single family dwellings in rural areas where cell towers are present. Therefore, I conclude that the proposed development of a cell tower will not substantially injure the value of adjacent or abutting properties.

Subject Neighborhood

In addition to the market activity for existing towers, we also consider the surrounding developments for the subject. The question posed for this study is “would the development of the telecommunications support structure warrant a downward adjustment to adjacent properties?”

When considering an adjustment in an appraisal, the appraiser must consider all factors that could contribute to an adjustment. The aesthetics and location of the proposed development as well as the existing developments are a factor in developing our opinion. The factors considered in developing our opinion include but are not necessarily limited to:

- The market has not shown a detrimental impact on development patterns in areas with visual influence from a tower.
- The existing infrastructure along Rimer Road includes above ground electrical transmission lines that pose a higher level of visual impact than the proposed tower despite its proposed height.
- The proposed development is located in a heavily wooded area that will screen a significant portion of the tower in all directions.

All of these factors would contribute to the aesthetic appeal and a hypothetical valuation of properties in the neighborhood. The multitude of factors would indicate that multicollinearity for aesthetics exists along the Rimer Road corridor. Multicollinearity arises when multiple items correlate with each other. The multiple factors can cause a distortion of the impact of any of the factors individually without consideration for all of the factors that contribute to the common issue.

In the case of the proposed development, all of the properties along the Rimer Road corridor have visual impact from other

existing infrastructure. These factors contribute to our conclusion that the proposed developed is in harmony with development patterns along Rimer Road. To attribute any adjustment to the proposed development would be misleading and not result in a credible adjustment. In other words, any adjustment for the development of a tower in a wooded area along the Rimer Road corridor without consideration of the numerous other aesthetic influences would not be credible.

Therefore, it is our opinion that the proposed development in accordance with the proposed conditions will not substantially injure the value of adjoining or abutting property. We recognize that the aesthetics of the area certainly contribute to the overall appeal, the proposed development has siting and existing buffers to minimize to the extent possible the visual impact of the proposed tower. It is my opinion that the proposed development will not substantially detract from the aesthetics or character of the neighborhood because of its location and existing above ground infrastructure.

A handwritten signature in black ink, appearing to read "Michael P. Berkowitz". The signature is fluid and cursive, with the first name "Michael" and last name "Berkowitz" clearly distinguishable.

Michael P. Berkowitz

ADDENDA

Certifications

CERTIFICATION OF THE ANALYST

I, Michael P. Berkowitz, certify that, to the best of my knowledge and belief,

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this study.
8. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice*.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. I have made a personal inspection of the property that is the subject of this report.
11. No one provided significant real property appraisal assistance to the person(s) signing this certification other than those individuals having signed the attached report.



A handwritten signature in black ink, appearing to read "Michael P. Berkowitz", written over a horizontal line.

Michael P. Berkowitz
(NC State Certified General Real Estate Appraiser #A6169)
(SC State Certified General Real Estate Appraiser #CG6277)

November 27, 2017

Date

(Rev: 06/18/12)

ASSUMPTIONS AND LIMITING CONDITIONS

ASSUMPTIONS AND LIMITING CONDITIONS

Limit of Liability

The liability of MPB REAL ESTATE, LLC and employees is limited to the client only **and to the fee actually received by our firm**. Further, there is no accountability, obligation, or liability to any third party. If this report is placed in the hands of anyone other than client, the client shall make such party aware of all limiting conditions and assumptions of the assignment and related discussions. Further, client will forever indemnify and hold MPB REAL ESTATE, LLC, its officers, and employees harmless from any claims by third parties related in any way to the appraisal or study which is the subject of the report. Third parties shall include limited partners of client if client is a partnership and stockholders of client if client is a corporation, and all lenders, tenants, past owners, successors, assigns, transferees, and spouses of client. MPB REAL ESTATE, LLC will not be responsible for any costs incurred to discover or correct any deficiencies of any type present in the property, physically, financially, and/or legally.

Copies, Distribution, Use of Report

Possession of this report or any copy of this report does not carry with it the right of publication, nor may it be used for other than its intended use; the physical report remains the property of MPB REAL ESTATE, LLC for the use of the client, the fee being for the analytical services only.

The bylaws and regulations of the Appraisal Institute require each member and candidate to control the use and distribution of each report signed by such member or candidate; except, however, the client may distribute copies of this report in its entirety to such third parties as he may select; however, selected portions of this report shall not be given to third parties without the prior written consent of the signatories of this report. Neither all nor any part of this report shall be disseminated to the general public by the use of advertising media, public relations, news, sales or other media for public communication without the prior written consent of MPB REAL ESTATE, LLC.

Confidentiality

This report is to be used only in its entirety and no part is to be used without the whole report. All conclusions and opinions concerning the analysis as set forth in the report were prepared by MPB REAL ESTATE, LLC whose signatures appear on the report. No change of any item in the report shall be made by anyone other than MPB REAL ESTATE, LLC. MPB REAL ESTATE, LLC shall have no responsibility if any such unauthorized change is made.

MPB REAL ESTATE, LLC may not divulge the material contents of the report, analytical findings or conclusions, or give a copy of the report to anyone other than the client or his designee as specified in writing except as may be required by the Appraisal Institute as they may request in confidence for ethics enforcement, or by a court of law or body with the power of subpoena.

Trade Secrets

This report was obtained from MPB REAL ESTATE, LLC and consists of “trade secrets and commercial or financial information” which is privileged and confidential and exempted from disclosure under 5 U.S.C. 552 (b) (4) of the Uniform Commercial Code. MPB REAL ESTATE, LLC shall be notified of any request to reproduce this report in whole or in part.

Information Used

No responsibility is assumed for accuracy of information furnished by or work of others, the client, his designee, or public records. We are not liable for such information or the work of subcontractors. The comparable data relied upon in this report has been confirmed with one or more parties familiar with the transaction or from affidavit or other sources thought reasonable; all are considered appropriate for inclusion to the best of our factual judgment and knowledge. An impractical and uneconomic expenditure of time would be required in attempting to furnish unimpeachable verification in all instances, particularly as to engineering and market-related information. It is suggested that the client consider independent verification as a prerequisite to any transaction involving sale, lease, or other significant commitment of funds for the subject property.

Financial Information

Our value opinion(s) have been based on unaudited financials, and other data provided to us by management and/or owners. If these reports are found to be inaccurate, we reserve the right to revise our value opinion(s). It is noted we are depending on these accounting statements as being accurate and our interpretation of these statements as being accurate as well. If these assumptions later prove to be false, we reserve the right to amend our opinions of value.

Testimony, Consultation, Completion of Contract for Report Services

The contract for report, consultation, or analytical service is fulfilled and the total fee payable upon completion of the report, unless otherwise specified. MPB REAL ESTATE, LLC or those assisting in preparation of the report will not be asked or required to give testimony in court or hearing because of having made the report, in full or in part, nor engage in post report consultation with client or third parties except under separate and special arrangement and at an additional fee. If testimony or deposition is required because of any subpoena, the client shall be responsible for any additional time, fees, and charges, regardless of issuing party.

Exhibits

The illustrations and maps in this report are included to assist the reader in visualizing the property and are not necessarily to scale. Various photographs, if any, are included for the same purpose as of the date of the photographs. Site plans are not surveys unless so designated.

Legal, Engineering, Financial, Structural or Mechanical Nature, Hidden Components, Soil

No responsibility is assumed for matters legal in character or nature, nor matters of survey, nor of any architectural, structural, mechanical, or engineering nature. No opinion is rendered as to the title, which is presumed to be good and marketable. The property is appraised as if free and clear, unless otherwise stated in particular parts of the report. The legal description is assumed to be correct as used in this report as furnished by the client, his designee, or as derived by MPB REAL ESTATE, LLC.

MPB REAL ESTATE, LLC has inspected as far as possible, by observation, the land and the improvements; however, it was not possible to personally observe conditions beneath the soil, or hidden structural, mechanical or other components, and MPB REAL ESTATE, LLC shall not be responsible for defects in the property which may be related.

The report is based on there being no hidden, unapparent, or apparent conditions of the property site, subsoil or structures or toxic materials which would render it more or less valuable. No

responsibility is assumed for any such conditions or for any expertise or engineering to discover them. All mechanical components are assumed to be in operable condition and status standard for properties of the subject type. Conditions of heating, cooling, ventilation, electrical, and plumbing equipment are considered to be commensurate with the condition of the balance of the improvements unless otherwise stated. We are not experts in this area, and it is recommended, if appropriate, the client obtain an inspection of this equipment by a qualified professional.

If MPB REAL ESTATE, LLC has not been supplied with a termite inspection, survey or occupancy permit, no responsibility or representation is assumed or made for any costs associated with obtaining same or for any deficiencies discovered before or after they are obtained. No representation or warranties are made concerning obtaining the above mentioned items.

MPB REAL ESTATE, LLC assumes no responsibility for any costs or consequences arising due to the need, or the lack of need, for flood hazard insurance. An agent for The Federal Flood Insurance Program should be contacted to determine the actual need for Flood Hazard Insurance.

Legality of Use

The report is based on the premise that there is full compliance with all applicable federal, state and local environmental regulations and laws unless otherwise stated in the report; further, that all applicable zoning, building and use regulations, and restrictions of all types have been complied with unless otherwise stated in the report. Further, it is assumed that all required licenses, consents, permits, or other legislative or administrative authority, local, state, federal and/or private entity or organization have been or may be obtained or renewed for any use considered in the value estimate.

Component Values

The distribution of the total valuation in this report between land and improvements applies only under the existing program of utilization. The separate valuations for land and building must not be used in conjunction with any other report and are invalid if so used.

Auxiliary and Related Studies

No environmental or impact studies, special market study or analysis, highest and best use analysis, study or feasibility study has been required or made unless otherwise specified in an agreement for services or in the report.

Dollar Values, Purchasing Power

The market value estimated and the costs used are as of the date of the estimate of value, unless otherwise indicated. All dollar amounts are based on the purchasing power and price of the dollar as of the date of the value estimate.

Inclusions

Furnishings and equipment or personal property or business operations, except as specifically indicated and typically considered as a part of real estate, have been disregarded with only the real estate being considered in the value estimate, unless otherwise stated. In some property types, business and real estate interests and values are combined.

Proposed Improvements, Conditional Value

Improvements proposed, if any, onsite or offsite, as well as any repairs required, are considered for purposes of this report to be completed in a timely, good and workmanlike manner, according to information submitted and/or considered by MPB REAL ESTATE, LLC. In cases of proposed construction, the report is subject to change upon inspection of property after construction is completed.

Value Change, Dynamic Market, Influences, Alteration of Estimate

The estimated value, which is defined in the report, is subject to change with market changes over time. Value is highly related to exposure, time, promotional effort, terms, motivation, and conditions surrounding the offering. The value estimate considers the productivity and relative attractiveness of the property physically and economically in the marketplace.

In cases of reports involving the capitalization of income benefits, the estimate of market value or investment value or value in use is a reflection of such benefits and MPB REAL ESTATE, LLC' interpretation of income and yields and other factors derived from general and specific client and market information. Such estimates are as of the date of the estimate of value; thus, they are subject to change as the market and value is naturally dynamic.

The “estimate of market value” in the report is not based in whole or in part upon the race, color, or national origin of the present owners or occupants of the properties in the vicinity of the property appraised.

Report and Value Estimate

Report and value estimate are subject to change if physical or legal entity or financing differ from that envisioned in this report.

Management of the Property

It is assumed that the property which is the subject of this report will be under prudent and competent ownership and management.

Hazardous Materials

Unless otherwise stated in this report, the existence of hazardous substances, including without limitation, asbestos, polychlorinated biphenyls, petroleum leakage, or agricultural chemicals, which may or may not be present on the property, or other environmental conditions, were not called to the attention of nor did MPB REAL ESTATE, LLC become aware of such during their inspection. MPB REAL ESTATE, LLC had no knowledge of the existence of such materials on or in the property unless otherwise stated. MPB REAL ESTATE, LLC, however, is not qualified to test such substances or conditions. If the presence of such substances such as asbestos, urea formaldehyde foam insulation, or other hazardous substances or environmental conditions, may affect the value of the property, the value estimate is predicated on the assumption that there is no such condition on or in the property or in the proximity that it would cause a loss in value. No responsibility is assumed for any such conditions, nor for any expertise or engineering knowledge required to discover them.

Soil and Subsoil Conditions

Unless otherwise stated in this report, MPB REAL ESTATE, LLC does not warrant the soil or subsoil conditions for toxic or hazardous waste materials. Where any suspected materials might

be present, we have indicated in the report; however, MPB REAL ESTATE, LLC are not experts in this field and recommend appropriate engineering studies to monitor the presence or absence of these materials.

Americans with Disabilities Act (ADA)

“MPB REAL ESTATE, LLC has not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the Americans with Disabilities Act (ADA), which became effective January 26, 1992. It is possible that a compliance survey of the property together with a detailed analysis of the requirements of the ADA could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since MPB REAL ESTATE, LLC has no direct evidence relating to this issue, we did not consider possible non-compliance with the requirements of ADA in estimating the value of the property.”

Qualifications of the Analyst

QUALIFICATIONS OF THE ANALYST

Michael P. Berkowitz
MPB Real Estate, LLC, Inc.
1430 South Mint Street, Suite 102
Charlotte, North Carolina 28203
(704) 334-4686
FAX (704) 334-2759

EDUCATION AND CREDENTIALS

- **Duke University**
Major: Economics 1985-1989
- **Central Piedmont Community College**
 - R-1 - Introduction to Real Estate Appraisal, 2002
 - R-2 - Valuation Principles and Procedures, 2002
 - R-3 - Applied Residential Property Valuation, 2002
 - G-1 - Introduction to Income Property Appraisal, 2003
- **Bob Ipock and Associates**
 - G-2 - Advanced Income Capitalization Procedures, 2003
 - G-3 - Applied Property Income Valuation 2004
- **Appraisal Institute**
 - 520 Highest and Best Use and Market Analysis, 2004
 - Seminar Rates, Multipliers and Ratios 2005
 - 530 Advanced Sales Comparison and Cost Approaches 2006
 - Seminar Apartment Appraisal, Concepts & Applications 2009
 - Seminar Appraising Distresses Commercial Real Estate 2009
 - Seminar Appraising Convenience Stores 2011
 - Seminar Analyzing Operating Expenses 2011

AFFILIATIONS AND ACTIVITIES

- **Association Memberships**
North Carolina State Certified General Real Estate Appraiser, October 2006, Certificate No. A6169

RELATED EXPERIENCE

- Provided real estate consulting services for a variety of clients including real estate brokers, property owners and financial planners
- Performed financial feasibility studies for multiple property types including golf communities, and renovation projects.
- Developed plan for self-contained communities.
- Race Track expertise

APPRAISAL EXPERIENCE

A partial list of types of properties appraised include:
Retail Properties, Single and Multi-Tenant, Proposed and Existing
Office Single and Multi-Tenant Proposed and Existing
Mixed-Use Properties, Proposed and Existing
Industrial Properties, Warehouse, Flex and Manufacturing
Vacant Land
Condemnation
C-Stores
Race Tracks

CLIENTELE

Bank of America
Transylvania County
Cabarrus County
Mecklenburg County
City of Statesville
NC Department of Transportation
Henry County, GA
Town of Loudon, NH
First Citizens Bank
RBC Centura Bank
City of Charlotte
City of Concord
Union County
BB & T
Aegon USA Realty Advisors
Sun Trust Bank
First Charter Bank
Regions Bank
Charlotte Housing Authority
Alliance Bank and Trust
Broadway Bank
Duke Energy Corporation
Jim R. Funderburk, PLLC
Hamilton, Fay, Moon, Stephens, Steele & Martin
Senator Marshall A. Rauch
Perry, Bundy, Plyler & Long, LLP
Robinson, Bradshaw & Hinson
CSX Real Property
Baucom, Clayton, Burton, Morgan & Wood, PA
City of Mount Holly
Our Towns Habitat for Humanity
Parker, Poe, Adams & Bernstein, LLP
Central Carolina Bank

Southern Community Bank and Trust

Gould Digital Imaging

November 16, 2017

Mr. Keith Markland
Kimley-Horn and Associates, Inc.
2 Sun Court, Suite 450
Peachtree Corners GA 30092

Re: Mount Hope Site
Gould Digital Imaging 165' Balloon Test Report

My name is Michael Gould, and I am owner and operator of Gould Digital Imaging. Kimley-Horn and Associates hired Gould Digital Imaging to perform various aspects of photographic imaging work in connection with the development of Verizon Wireless' telecommunications services network in the Rowan County, NC area.

I have over eighteen years' experience working specifically with telecommunications companies including T-Mobile, Inc., AT&T Wireless, Verizon Wireless, Nextel, Alltel, Cricket, Sprint PCS, COMPASS Technology Services, Inc., Crown Castle International, Vertical Bridge, and American Tower Corporation in preparing photographic simulations of telecommunications towers. I have a Bachelors Degree in Art from St. Mary's College of Maryland; over twenty years of professional experience in the field of digital photographic enhancement and I have produced approximately 6,000 photographic simulations for Verizon Wireless, AT&T, T-Mobile, Inc., American Tower Corp., and other telecommunications services companies.

Kimley-Horn and Associates hired Gould Digital Imaging to perform a "165 foot Balloon Test" at Verizon Wireless' Mount Hope site on Rimer Road, in Salisbury, North Carolina. A balloon test is a visual reference of how tall a proposed structure would appear if constructed.

A ten foot long red blimp shaped helium balloon is filled and raised above the proposed site on a measured line to the height of the proposed structure and anchored to the ground at the proposed site.

At approximately 2:00pm on Wednesday, November 15th, 2017, the balloon was raised to a height of 165 feet to the bottom of the blimp and anchored in the leased area approximately 25 feet from the center due to the tree canopy.

The wind was calm and the balloon was flying directly above anchor throughout the entire test. The balloon was left aloft until 2:45pm.

I drove around the surrounding "area of affect" and took photographs from several adjoining properties and other points of potential visual impact. I deployed the use of a hand held GPS unit that indicated the bearing and distance I was from the balloon as I canvassed the area for any possible views of the balloon.

This report includes a site photography map denoting the location of the proposed tower and the locations of all photographs that were taken of the site as well as copies of the photographs.

In my professional opinion, these photographs reflect to a reasonable certainty the anticipated projection of the height of the tower if constructed at the Mount Hope site. If you need any additional information, please do not hesitate to call me at (770) 617-2958 or e-mail at michael@goulddigitalimaging.com.

Sincerely,

A handwritten signature in blue ink, reading "Michael D. Gould". The signature is fluid and cursive, with the first name "Michael" and last name "Gould" being more prominent than the middle initial "D.".

Gould Digital Imaging
Michael D. Gould/Owner

MOUNT HOPE 165ft. BALLOON TEST SITE PHOTOGRAPHY MAP







5



6



165ft. Balloon Test



verizon✓

MOUNT HOPE

280 Rimer Road, Salisbury, NC 28146

**165ft. MONOPOLE
SIMULATION**

View from Rimer Road
approximately 1,475ft. south of site



verizon✓

MOUNT HOPE

280 Rimer Road, Salisbury, NC 28146

165ft. MONOPOLE

Not Visible

View from Castor Road
approximately 3,390ft. east of site





verizon✓

MOUNT HOPE

280 Rimer Road, Salisbury, NC 28146

165ft. MONOPOLE
Not Visible

View from Mount Hope Church Road
approximately 3,300ft. west of site



verizon✓

MOUNT HOPE

280 Rimer Road, Salisbury, NC 28146

**165ft. MONOPOLE
SIMULATION**

View from Rimer Road
approx. 3,470ft. west-southwest of site

165ft. Balloon Test



verizon

MOUNT HOPE

280 Rimer Road, Salisbury, NC 28146

**165ft. MONOPOLE
SIMULATION**

View from Rimer Road
approx. 1,500ft. south-southwest of site

Cellco Partnership and its controlled affiliates doing business as Verizon Wireless

Federal Communications Commission

NEPA Review

May 18, 2017

S&ME, Inc. (S&ME)

Site Name:	Mount Hope (Site 3417357)
Site Type:	Raw Land-New Build, 169-foot Monopole Communications Tower Site
Site Address:	280 Rimer Road, Salisbury, Rowan County, NC 28146
Latitude / Longitude (NAD83):	N 35° 33' 55.5" / W 80° 29' 5.8"
TCNS Number:	153551
E106 Filing Number:	0007706473
<i>FCC Topics</i>	<i>Findings</i>
Will the facility be located in an officially designated wilderness area?	No
Will the facility be located in an officially designated wildlife preserve?	No
Will the facility affect listed or proposed threatened or endangered species or designated critical habitats?	No
Will the facility affect districts, sites, buildings, structures or objects significant in American history, architecture, archeology, engineering or culture, that are listed, or eligible for listing, in the National Register of Historic Places?	No
Will the facility affect an Indian religious site?	No
Will the facility be located in a 100-year floodplain?	No
Will construction of the facility involve significant change in surface features (e.g. wetland fill, water diversion or deforestation)?	No
Will the preparation and filing of an Environmental Assessment (EA) be required?	No

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C	NEPA Supporting Documents
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	Correspondence
	Other Related Natural Resource Agency Documentation
	Complete NPA Form 620 Submittal
	Related Follow-up Consulting Party Correspondence
	State Historic Preservation Office
	SHPO Reply Letter
	E106 Filing Confirmation
	Other Related Documentation
	Tribal Coordination
	Tribal Summary Table
	Tribal Replies
	Tribal Coordination Certification Letter
	Federal Emergency Management Agency
	Flood Insurance Rate Map
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1.0 NEPA SCOPE SERVICES

1.1 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 established provisions to ensure that all federal agencies evaluate the potential impacts to the environment of projects under their jurisdiction. The Council on Environmental Quality (CEQ) oversees the implementation of NEPA through the authorities of Title 40 CFR, Parts 1500-1508 which requires all federal agencies to develop rules for implementing NEPA and defines “major federal actions”. Major federal actions are defined in Title 40 CFR, Part 1508.18 as actions that include new or continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies.

The Federal Communications Commission (FCC) rules for implementing NEPA are found in Title 47 CFR, Part 1, Subpart I, rule sections 1.1301 to 1.1319. In addition, Section 106 of the National Historic Preservation Act of 1966, 36 CFR Part 800, regulates assessment of cultural resources for all federal undertakings. The Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (47 CFR Part 1, Appendix B) and the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (47 CFR Part 1, Appendix C) further stipulate the review process for cultural resources and amend 47 CFR, Part 1, Subpart I, rule section 1.1307(a)(4) for projects under FCC jurisdiction.

1.2 BACKGROUND AND PURPOSE

This NEPA Review was conducted pursuant to 47 CFR 1.1301-1.1319, as amended. The report includes the evaluation of project impacts to prehistoric and historic resources (archaeological sites, historic structures, and Indian religious sites), threatened or endangered species (protected listed, candidate, and critical habitat), migratory birds, wilderness areas, wildlife preserves, floodplains, and surface features (wetlands, water bodies and forested land).

The FCC rules and regulations also address project impacts to humans from tower lighting and radiofrequency radiation which are evaluated by Verizon Wireless, the FCC applicant, and are not part of this scope of work.

1.3 SCOPE OF WORK

This NEPA Review has been completed based upon Verizon Wireless-provided site information, the review of readily available information obtained from commercial services, government agencies, and/or other sources as described herein. Throughout this report, the term “the Site” will be used to refer to the proposed site location and associated facilities, access, and easements.

This NEPA Review identifies whether a proposed project will require the preparation and filing of an Environmental Assessment (EA) in accordance with FCC rules and

regulations. If any of the questions in Section 2.0 of this Review are found to be in the affirmative, an EA must be filed with the FCC to further evaluate the identified potential environmental impacts. In the event that this Review results in the preparation and filing of an EA, the FCC must issue a finding of no significant impact (FONSI) prior to proceeding with the proposed project.

1.4 LIMITATIONS

1.4.1 Scope of Activity

This NEPA Review is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based on the facts currently available within the limits of the existing data, scope of work, budget and schedule. To the extent that more definitive conclusions are desired by Verizon Wireless than are warranted by the currently available facts, it is specifically S&ME (further referenced in this report as “the Consultant”) intent that the conclusions and recommendations stated herein will be intended as guidance and not necessarily a firm course of action except where explicitly stated as such. The Consultant makes no warranties, expressed or implied, including, without limitation, warranties as to merchantability or fitness for a particular purpose. In addition, the information provided to Verizon Wireless in this report is not to be construed as legal advice.

1.4.2 Use of This Report

The Consultant is not engaged in environmental assessing and reporting for the purpose of advertising, sales promotion, or endorsement of any Verizon Wireless interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Verizon Wireless acknowledges this report has been prepared for the exclusive use of Verizon Wireless and agrees that the Consultant’s reports or correspondence will not be used or reproduced in full or in part for such purposes, and may not be used or relied upon in any prospectus or offering circular. Verizon Wireless also agrees that none of its advertising, sales promotion, or other publicity matter containing information obtained from this report will mention or imply the name of the Consultant.

Nothing contained in this report shall be construed as a warranty or affirmation by the Consultant that the Site and property described in the report are suitable collateral for any loan or that acquisition of such property by any lender through foreclosure proceedings or otherwise will not expose the lender to potential environmental liability.

2.0 NEPA REVIEW

2.1 SITE LOCATION AND PROJECT DESCRIPTION

The specific Site location information and project description are provided within the report cover page and in the Executive Summary. The Site is currently undeveloped land comprised of woodlands and surrounding residential properties. The areas surrounding the Site are currently residential and undeveloped land comprised of woodlands and agricultural lands. A Site Topographic Map and Site Plans are presented in Appendix A. The Consultant conducted a Site visit, and Site photographs are provided in Appendix B.

2.2 NEPA TOPICS

2.2.1 Wilderness Areas

Will the facility be located in an officially designated wilderness area?

No

Source: Site observations, U.S. Geological Survey (USGS) 7.5-Minute Series Topographic Quadrangle, review of U.S. Department of Interior (DOI) National Map (www.nationalmap.gov) and www.wilderness.net (results of National Atlas Map and wilderness lands website reviews included in Appendix C).

Finding(s): The proposed Site is not located in an officially designated wilderness area.

2.2.2 Wildlife Preserves

Will the facility be located in an officially designated wildlife preserve?

No

Source: Site observations, USGS 7.5-Minute Series Topographic Quadrangle, review of U.S. DOI National Map (www.nationalmap.gov) and the U.S. Fish and Wildlife Service (USFWS) (results of National Atlas map review and USFWS correspondence included in Appendix C).

Finding(s): The proposed Site is not located in an officially designated wildlife preserve.

2.2.3 Protected Species

Will the facility affect listed or proposed threatened or endangered species or designated critical habitats?

No

Source: Site observations and consultation with or project clearance from the USFWS and applicable state agency(s) (Appendix C).

Source: Site observations and consultation with or project clearance from the USFWS and applicable state agency(s) (Appendix C).

Finding(s): There are no federal or state listed threatened or endangered species or critical habitat present at the Site that would be adversely affected by the proposed project. See agency consultation or clearance documentation for additional details.

Verizon Wireless has included all feasible mitigating factors recommended by the USFWS in the Revised Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning (2013). Additionally, Verizon Wireless adheres to all current regulations regarding tower lighting as required by the Federal Aviation Administration (FAA).

2.2.4 *Archaeological and Historical Resources*

Will the facility affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed, or are eligible for listing, in the National Register of Historic Places?

No

Source: Review of State Historic Preservation Office (SHPO) files, archaeological testing, public involvement, and Local Government and SHPO consultation (Appendix C).

Finding(s): Based on the information provided, there are no sites, structures or objects listed on, or determined eligible for listing on the National Register of Historic Places that will be adversely affected. See SHPO documentation for additional details.

In the event that archaeological materials are encountered prior to or during construction of the facilities, SHPO, tribes and other consulting parties must be contacted. Archaeological materials consist of any items, fifty years or older, which were made or used by man. These items include stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal remains. These materials may be present on the ground surface and/or under the ground.

2.2.5 *Indian Religious Sites*

Will the facility affect Indian religious sites?

No

Source: Map location review, Indian Reservations in the Continental United States, Bureau of Indian Affairs Map, and consultation with federally recognized tribes (Appendix C).

Finding(s): Due to the nature of this undertaking little potential exists for effects to Indian Religious sites. Current land use in the surrounding area was considered. It was determined through this review and tribal consultation, as outlined in the NPA, that the above referenced project is unlikely to affect Indian religious sites.

In the event that archaeological materials are encountered prior to or during construction of the facilities, SHPO, tribes and other consulting parties must be contacted. Archaeological materials consist of any items, fifty years or older, which were made or used by man. These items include stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal remains. These materials may be present on the ground surface and/or under the ground.

2.2.6 Floodplains

Will the facility be located in a 100-year floodplain?

No

Source: Site observations and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Panel 3710565600J, June 16, 2009 (Appendix C).

Finding(s): No 100-year flood hazards are identified on the FIRM map for the proposed Site.

2.2.7 Surface Features

Will construction of the facility involve a significant change in surface features (e.g. wetland fill, water diversion, or deforestation)?

No

Source: Site observations, USGS 7.5-Minute Series Topographic Quadrangle, and USFWS National Wetland Inventory (NWI) map (Appendix C).

Finding(s): Due to the scope of the proposed project activities, the current Site conditions and review of applicable source data, significant changes in surface features such as wetland fill, water diversion or deforestation will not be required at the Site.

3.0 CONCLUSIONS

A NEPA Review of the proposed Mount Hope communications tower was performed by S&ME in conformance with the FCC rules and regulations for implementing NEPA; 47 CFR 1.1301-1.1319.

Based on the data obtained during the Site visit, the review of readily available information from commercial services, government agencies and/or other sources, the preparation and filing of an EA will not be required.

4.0 *QUALIFICATIONS OF PERSONNEL*

The professional qualifications of S&ME personnel listed below are presented in Appendix D.

Name	Discipline
Joseph Deangelis	Site Assessor
Darrin Peine	Natural Resources Specialist
Kimberly Nagle – Principal Investigator Joseph Deangelis – Field Director	Cultural Resources Specialist
Kimberly Nagle Kristy Smedley	Quality Assurance

November 19, 2021

J. Nick Beim
Verizon Wireless
3651 Junction Blvd
Raleigh, NC 27603

RE: Proposed 165' Sabre Monopole for Mount Hope, NC

Dear Mr. Beim,

Upon receipt of order, we propose to design and supply the above-referenced Sabre monopole for a Basic Wind Speed of 111 mph without ice and 30 mph with 1.5" ice, Structure Classification II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA 222-G "Structural Standards for Steel Antenna Towers and Antenna-Supporting Structures".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft, which can be placed at 50' or less from the top of the structure. This is likely to result in the portion above the highest stress leaning over and remaining in a permanently deformed condition. This would effectively result in a 50' fall radius. *Please note that this letter only applies to the above-referenced monopole designed and manufactured by Sabre Industries.*

Sincerely,

David Hill, P.E.
Design Engineer II

