CALL TO ORDER – 6:00 PM.

A. APPROVAL OF AGENDA  (No minutes included within this agenda)
B. DISCLOSURE OF CONFLICT OF INTEREST
C. ELECTION OF A CHAIR & VICE-CHAIR  (Members list included in agenda)
D. OLD BUSINESS  (None)
E. NEW BUSINESS

1. Application by Faulk & Foster for Verizon Wireless to obtain a Special Use Permit for a proposed telecommunications tower to be located on a 49.8 +/- acre vacant tract of land located in the northeastern quadrant of the US Hwy 421 Bypass and Rice Road intersection and addressed as 2031/2035 Rice Road on land owned by Gary M. Thomas and Pamela D. Thomas. The site is located within the unincorporated area of Lee County and is zoned Residential Agricultural (RA). Per the Unified Development Ordinance (UDO), Article 4 Zoning District Regulations, Section 4.6 Use Regulations, Table 4.6-1 Permitted Use Matrix, a new telecommunications tower is permitted in the Residential Agricultural (RA) zoning district upon issuance of a Special Use Permit, subject to Article 5 Supplemental Development Regulations, Section 5.33 Telecommunications Towers. The property is the same as depicted on Lee County Tax Maps 9662.02, 9662.01, and 9662.04 as Tax Parcel 9662-55-4654-00, Lee County Land Records.

F. OTHER BUSINESS
G. ADJOURNMENT

** PLEASE REFERENCE THE ADDITIONAL INFORMATION PROVIDED AT THE REAR OF THE AGENDA PACKAGE**
LEE COUNTY BOARD OF ADJUSTMENT
JULY 1, 2019 – JUNE 30, 2020

Five (5) regular members and two (2) alternates. A quorum shall consist of four (4) members. (Updated 2019-07-023 by AJMc)

REGULAR MEMBERS

Charles (Chuck) Baker, Chair
97 Oakleaf Road
Sanford, NC 27332
Cell: 919-356-5860; Work: 919-782-0033
Email: ccbakerj8@gmail.com
Term(s): 2016-2020
Note: Filled unexpired term of William Oberkirsch.

Frank M. Gilliam, Jr.
317 Foggy Bottom
Sanford, NC 27330
Home: 919-292-0402
Email: fiftyfifty1953@yahoo.com
Term(s): 2010-2022

Kay Coles
177C Traceway
Sanford, NC 27332
Home: 919-499-9139
Email: kayc1218@yahoo.com
Term(s): 2016-2022
Note: Regular PB Member longer than DT.

Herman Morris
201 E. Main Street (business address)
Sanford, NC 27330
Work: 919-708-5999; Cell: 919-478-1240
Email: mannabooks@windstream.net
Term(s): 2008-2022

Walter Ferguson, Jr., Vice-Chair
1231 First Pointe
Sanford, NC 27330
Home: 919-770-0390; Cell: 919-478-0107
Email: fergieferg1969@gmail.com
Term(s): 2015-2022
Note: Temporary address during construction of a new house.

ALTERNATE MEMBERS

Oscar Roberto
586 Spyglass Lane
Sanford, NC 27332
Home: 248-987-8587
Email: oscarrob@gmail.com
Term(s): 2019*-2020
*Moved from Alt to Reg PB membe

Charles “Dave” Turner
1746 Daiquiri Turn
Sanford, NC 27332
Home: 919-489-6285; Cell: 919-902-1218
Email: cdturner@windstream.net
Term(s): 2016-2020

SANFORD / LEE COUNTY COMMUNITY DEVELOPMENT STAFF
115 Chatham Street, Suite 1 (First Floor) Sanford, NC 27330

----------Staff to this Board----------

Angela Baker, Administrative Assistant II
and Clerk to the Board
Community Development
919-718-4657, ext. 5394
angela.baker@sanfordnc.net

Amy J. McNeill, Zoning Administrator
Zoning & Design Review Department
919-718-4656 ext. 5397
amy.mcneill@sanfordnc.net

Marshall Downey, Director
Community Development
919-718-4657 ext. 5390
marshall.downey@sanfordnc.net

----------Additional Staff----------

Alexandria Rye, Planner II
Zoning & Design Review Department
919-718-4656 ext. 5399
alexandria.rye@sanfordnc.net

Thomas Mierisch, Planner I
Zoning & Design Review Department
919-718-4656 ext. 5396
Thomas.mierisch@sanfordnc.net

Bill Morgan, Planning Technician
Zoning & Design Review Department
919-718-4656 ext. 5398
bill.morgan@sanfordnc.net
LEE COUNTY BOARD OF ADJUSTMENT

ESTABLISHMENT
Pursuant to NCGS §§ 153A-345 and 160A-388, the County of Lee, Town of Broadway and City of Sanford shall each maintain a separate Board of Adjustment (BOA) that shall execute all powers and duties as set forth in the North Carolina General Statutes (NCGS) and the Sanford/Lee County/Broadway Unified Development Ordinance (UDO).

POWERS AND DUTIES
The BOA shall adopt all rules and procedures necessary or convenient for the conduct of its business, consistent with the powers granted by the NCGS and the UDO. The Board of Adjustment shall hear and decide the following:

• appeals from the decisions of the Community Development Department in which it is alleged there is an error in an order, requirement, decision or determination made by the staff in the enforcement of the UDO;
• appeals for variances from the terms of the UDO;
• interpretations of the Official Zoning Map; and
• shall pass upon disputed questions of lot lines or district boundary lines and similar questions that may arise in the administration of the UDO.

A member of the BOA shall not participate in or vote on any quasi-judicial matter in a manner that would violate affected persons’ constitutional rights to an impartial decision maker. Impermisssible conflicts include, but are not limited to, a member having a fixed opinion prior to hearing the matter that is not susceptible to change, undisclosed ex parte communications, a close familial, business, or other associational relationship with an affected person, or a financial interest in the outcome of the matter. If an objection is raised to a member's participation and that member does not recuse himself or herself, the remaining members shall by majority vote rule on the objection.

APPOINTMENT AND MEMBERSHIP FOR LEE COUNTY
The Lee County Commissioners appoint the Lee County Planning Board to serve as the BOA. As a matter of policy, the five regular Planning Board members with the most tenure also serve as the regular members of the BOA. The two regular Planning Board members with the least tenure also serve as the alternate members of the BOA. The alternate members will sit as a member of the BOA if needed to establish a quorum, or if needed to have four-fifths of the board present to hear a request for a Variance. Each alternate member, while attending any regular or special meeting of the BOA and serving in the absence of any regular member, shall have and may exercise all of the powers and duties of a regular member. Vacancies occurring for reasons other than expiration of terms shall be filled as they occur for the period of the unexpired term. The Board shall elect such officers and adopt such rules and regulations for its own government as it deems necessary to carry out the provisions of this article. Per the UDO, a quorum shall consist of four members in attendance. No case shall be heard unless a quorum is present.

MEETING INFORMATION
The Lee County BOA shall meet on the second Monday of each month as needed at 6:00pm in the Buggy Conference Room located on the first floor of the historic Buggy Company Building at 115 Chatham Street.

Updated 2018-10-16, intended as a general guide, please reference the UDO for specific language.
## LEE COUNTY BOARD OF ADJUSTMENT
### JULY 1, 2019 – JUNE 30, 2020

Five (5) regular members and two (2) alternates.

The Five (5) Lee County Planning Board regular members with the most tenure also serve as the Lee County BOA regular members and the two (2) Lee County Planning Board regular members with the least amount of tenure serve as the Lee County BOA alternate members.

### REGULAR MEMBERS

<table>
<thead>
<tr>
<th>NAME / ADDRESS</th>
<th>INITIAL APPT.</th>
<th>RE-APPT.</th>
<th>TERM EXPIRES</th>
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<tbody>
<tr>
<td><strong>Charles Baker</strong></td>
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<tr>
<td>97 Oakleaf Road</td>
<td>June 2016</td>
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<td>Sanford, NC 27332</td>
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<td>Note: Filled unexpired term of William Oberkirsch.</td>
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<td><strong>Roy Cox</strong></td>
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<tr>
<td>1624 Avents Ferry Road</td>
<td>January 2009</td>
<td>June 2010</td>
<td>June 2019</td>
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<td>Sanford, NC 27330</td>
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<td>June 2013</td>
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<td><strong>Walter Ferguson, Jr.</strong></td>
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<td>1231 First Pointe,</td>
<td>September 2015</td>
<td>June 2016</td>
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<td>Sanford, NC 27330</td>
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<td>Replaced Frank Hayes. Note: Moved from Alternate to Regular Member.</td>
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<td><strong>Frank M. Gilliam, Jr.</strong></td>
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<td>317 Foggy Bottom</td>
<td>June 2010</td>
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<tr>
<td><strong>Rev. Herman Morris</strong></td>
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<tr>
<td>201 E. Main Street</td>
<td>January 2008</td>
<td>June 2010</td>
<td>June 2019</td>
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<td>Sanford, NC 27330</td>
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<td>June 2016</td>
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<td>Note: Replaced Reuben Dowdy</td>
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### ALTERNATE MEMBERS

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<tr>
<th>NAME / ADDRESS</th>
<th>INITIAL APPT.</th>
<th>RE-APPT.</th>
<th>TERM EXPIRES</th>
</tr>
</thead>
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<tr>
<td><strong>Kay Coles</strong></td>
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<td>N/A</td>
<td>June 2019</td>
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<tr>
<td>177C Traceway North</td>
<td>June 2016</td>
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<tr>
<td>Sanford, NC 27332</td>
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<td><strong>Charles “Dave” Turner</strong></td>
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<tr>
<td>1746 Daiquiri Turn</td>
<td>June 2016</td>
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<tr>
<td>Sanford, NC 27332</td>
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SUP Application

INSERT

Reference the SUP Application and civil drawing set provided at the rear of the agenda package, which includes the site plan & additional information.
LEE COUNTY BOARD OF ADJUSTMENT  
PUBLIC HEARING INFORMATION FOR A SPECIAL USE PERMIT  
JULY 8, 2019

APPLICANT: Faulk & Foster for Verizon Wireless

PROPERTY OWNERS: Gary M. Thomas and Pamela D. Thomas

LOCATION: 2031/2035 Rice Road, Sanford, NC 27330

TOWNSHIP: Jonesboro

TAX PARCEL: 9662-55-4654-00

REQUEST
Faulk & Foster, a real estate consulting firm, is requesting a Special Use Permit (SUP) for Verizon Wireless to construct a new telecommunications tower due to the growth in usage and exhaustion of capacity at existing locations that serve the area of Lee County located south of the City of Sanford and east of US Hwy 421.

AREA AND SITE DESCRIPTION:
The subject property is a 49.81 acre ± vacant tract of land located in southeastern Lee County at the eastern terminus of Rice Road and the US 421 Bypass. It has approximately 330ft of road frontage on Rice Road (SR1523), which is an NCDOT maintained public street with a 60ft right-of-way. The entire tract is within a Voluntary Agricultural District (VAD), which was established in 2013 to promote agricultural values, protect family farms, encourage the economic and financial health of agriculture, horticulture and forestry, and increase protection from non-farm development. The area is zoned Residential Agricultural (RA) and is developed in a residential, horticultural, and agricultural manner.

Land uses surrounding the subject parcel include:
North: Vacant and wooded.
South: Opposite Rice Road, three single-family dwellings.
East: US 421 Bypass, a NCDOT maintained controlled access roadway, with a varying right-of-way width that is 280ft in the area of the subject property.
West: Single-family dwellings and Watson’s Nursery.

STAFF COMMENTS
The Special Use Permit request is for a 195ft tall monopole wireless telecommunications tower that will be constructed within a 100ft x 100ft = 10,000sf lease area (see Sheet 3 of the civil drawing set). There is a proposed 4ft tall lightening rod that will increase the total height to 199ft (see Sheet C13 of the civil drawing set). The tower facility will consist of a lighting arrester and an associated 12ft x 30ft = 360sf equipment pad, within a fenced compound. The design of the tower will allow for multiple carriers. The tower will be unmanned and will not require water or sewer service.

Lee County requires that all SUP applications for new telecommunications towers be reviewed by an outside consultant who specializes in verifies compliance with local, state, and federal regulations for this unique use. Please reference the CityScape Consultants, Inc. report included within this agenda for information regarding the review of this SUP request, including the
recommendation that the application be approved with the conditions noted on page 6 of the CityScape report. Please be mindful that this is a recommendation regarding the technical and design standards of the proposed use and that the four findings required for any SUP to be approved are must still be taken into consideration by the board.

Regarding existing environmental conditions, the site is not located within an established flood hazard area/floodplain, but does have Lick Creek Tributary, an intermittent water feature, crossing the site.

The subject property is located within a Watershed Conservation Overlay District, specifically the Cape Fear River Watershed Protected Area. A watershed is a basin-like landform delineated by ridgelines that descend into lower elevations that carries rain water from the land into soils, ground waters, creeks, and streams, eventually making its way to larger rivers and the ocean. Development within this area is allowed, but there are maximum density and built upon area requirements designed to ensure the health of the watershed. This project appears to comply with the UDO watershed regulations.

The property is zoned Residential Agricultural (RA), which is established to provide areas for low density single family uses, low intensity agricultural operations as well as agri-business and supportive industrial and commercial uses. Industrial operations are not permitted unless they clearly support an agricultural use. RA zoning protects and preserves valuable agricultural areas, implements agricultural protection zoning, establishes performance standards for rural businesses, preserves rural areas, preserves pasture land and agriculture, sets maximum permissible densities or new zoning districts, defines specific areas for rural commercial uses, and identifies areas appropriate for agricultural preservation.

Adjacent Zoning - North: RA, Residential Agricultural
South: RA, Residential Agricultural, opposite Rice Road
East: RA, Residential Agricultural
West: RA, Residential Agricultural

The Plan SanLee Land Use Plan identifies the future land use place type for this tract of land as “countryside”, which has the following characteristics:
  o agricultural and undeveloped lands outside the Urban Service Area
  o preservation of the country’s agricultural heritage encouraged
  o conservation and maintenance of rural lifestyle supported
  o limited residential density

Land use designations include schools, churches, single-family attached dwellings, farmland, forests, and conservation land. Forms of transportation include automobiles that share the roads with agricultural activity (with vehicular connectivity encouraged in new development) and pedestrians walking & bicycling on off-street trails. The zoning districts are RA-Residential Agricultural and RR-Residential Restricted. The maximum development density is one dwelling unit per two acres with deep building setbacks and a 35ft height limit. Utility infrastructure is well water and on-site wastewater disposal. The features character is two-lane rural highways, dispersed development pattern, and agricultural fields & forests.

**UDO DEVELOPMENT REGULATIONS FOR TELECOMMUNICATIONS TOWERS**

**ARTICLE 5 SUPPLEMENTAL DEVELOPMENT REGULATIONS, SECTION 5.33 TELECOMMUNICATIONS TOWERS**

It is the intent of the County of Lee to allow telecommunication towers for mobile telephone services and other radio and television information services which provide for the needs of its citizens while minimizing adverse visual and operational effects of such towers through careful
design, placement, and screening; to avoid potential damage to adjacent properties from tower failure and falling ice; and to maximize the use of any existing towers and to reduce the number of new towers which are needed. Additionally, it is the intent of this subsection to encourage the co-location of antennas on existing towers in the County of Lee’s planning jurisdiction where possible in order to reduce the amount of visual clutter created by new towers in the community.

The purpose of this Section is to provide a uniform procedure for the prompt issuance of permits to place, construct, or modify personal wireless service facilities which comply with Article 4 of the UDO, in order to ensure compliance with the Telecommunications Act of 1996 ("TCA"), 47 U.S.C. § 151 et seq.

APPLICABILITY: This section applies to any structure designed to support antennas used for transmitting or receiving commercial telephone communications and/or commercial telecommunications, except for the following:
(a) Amateur or ham radio towers; and
(b) wireless broadband or other fixed-wireless systems operating at frequencies that require line of sight (i.e., antennae that are visible to each other), including microwave links, spread spectrum, 38-GHz carrier services, local multipoint distribution service (LMDS), multi-channel multipoint distribution service (MMDS), satellite systems, laser, Unlicensed National Information Infrastructure (UNII Band), or high-altitude long endurance systems.

MINOR AND SUBSTANTIAL MODIFICATIONS: A request for modification of an existing wireless tower or base station that involves collocation of new transmission equipment or replacement of transmission equipment shall be considered a minor modification so long as it does not include a substantial modification. A “substantial modification” shall be defined as the mounting of a proposed wireless facility on a wireless support structure that substantially changes the physical dimensions of the support structure. A mounting is presumed to be a substantial modification if it meets any one or more of the criteria listed below.

- Increasing the existing vertical height of the structure by the greater of (a) more than ten percent (10%) or (b) the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet.
- Except where necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable, adding an appurtenance to the body of a wireless support structure that protrudes horizontally from the edge of the wireless support structure the greater of (a) more than 20 feet or (b) more than the width of the wireless support structure at the level of the appurtenance.
- Increasing the square footage of the existing equipment compound by more than 2,500 square feet.
- Minor modifications shall be reviewed and approved administratively subject to the submittal and review procedures as set forth in the UDO. Applications for new towers or those deemed as substantial modifications shall require approval via a Special Use Permit.

STANDARDS

GENERALLY:
- Towers shall not interfere with normal radio and television reception in the vicinity. No tower shall display any sign, banner or any message. Violations shall be considered zoning violations and shall be corrected under the enforcement provisions of the UDO.
- Telecommunication antennas may be permitted in any zoning district as a use by right when co-located on existing towers or public elevated water supply storage tanks.
- Towers shall be constructed and maintained in conformance with all applicable building code requirements.
• Towers greater than 75 feet in height shall be located a minimum distance of 1000 feet from another tower greater than 75 feet in height measured in a straight line between tower centers.
• (e) The tower shall be designed and constructed to accommodate one additional user if the tower is between 125 feet and 180 feet from the finished grade elevation. If the height of the tower exceeds 180 feet in height the tower shall be designed and constructed to accommodate a minimum of two additional users.
• (f) The tower site shall include adequate area to accommodate the accessory buildings and equipment of all intended users.

MINIMUM LOT AREA: Minimum lot size shall comply with the minimum requirements of the zoning regulations, Article 4 of the UDO. This provision is not intended to apply to ground leases or licenses solely for the use of telecommunication towers, antennas, or equipment.

MINIMUM SETBACK REQUIREMENTS: Towers shall conform to the following dimensional requirements:
• For towers located on the roof of a Structures, other than the base or supporting elements of the tower, the tower shall not be more than 30% of the building height above the building, or 75 feet above the building, whichever is less. The building or structure shall maintain the normal setbacks of the zoning district.
• For towers mounted on the ground surface: (a) The minimum setback from all property boundaries shall be equal to the maximum height of the proposed tower. (b) A fall zone shall also be established for each tower. The fall zone is defined as an area within the subject property, which shall be maintained so as to be clear of any buildings within an area equal to the maximum height of the proposed tower as measured by a circle around the base of the tower. Buildings that are constructed for the purpose of housing equipment in support of the communications equipment as located on the tower shall be permitted within the fall zone.

LIGHTING REQUIREMENT: Lighting shall not be permitted unless required by the Federal Aviation Administration (FAA). If lighting is required it shall not exceed the FAA minimum. Strobes shall not be used for nighttime lighting unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding residential property, consistent with FAA requirements. Prior to issuance of a building permit, the applicant shall be required to submit documentation from the FAA that the lighting is the minimum lighting required by the FAA.

FENCING AND LANDSCAPING REQUIREMENTS:
• Fencing shall be required for each site around the base of the tower, any structures or guy wires. The composition of the fencing shall consist of durable materials including wood, brick, or metal or other similar material as may be determined by the Board.
• The base of the tower, any guy wires, and any structures, walls, or fences shall be surrounded by a single row of large evergreen shrubs spaced at an interval of 5 feet on center. The minimum height of shrubs at the time of planting shall be 3 feet.
• The site developer may have the option of: (a) providing the landscape buffer around the tower base, guy wires and accessory structures; or (b) providing a buffer around the perimeter of the entire site.

CO-LOCATION REQUIREMENTS: To encourage shared use of towers, applicants may apply for reduction in setbacks. Applications for towers, which will operate with more than one user immediately upon completion, may reduce setbacks from adjacent nonresidential property. The approving authority may reduce the setback from adjacent nonresidential property by 25% when two users commit to occupy the tower immediately upon its completion or may reduce the
setback by 50% when three or more users commit to occupy the tower immediately upon its completion. However, the setback distance may not be reduced to less than 50 feet. To further encourage co-location, additional antennas and associated equipment, which do not add to the tower height, may be added to existing towers with administrative approval by the Community Development Department. Applicants need only provide the information required by the UDO and construction drawings.

**CONCEALED TOWERS:** Concealed towers are permitted in all zoning districts, subject to the issuance of a permit by the Community Development Department. For additions to existing structures and for architectural features that are exempt from the height requirements of this ordinance, the Community Development Department shall consider whether the addition or feature containing the antenna is architecturally harmonious in such aspects as material, height, bulk, scale, and design with the building or complex of which it is a part, and if it is a stand-alone structure, whether or not such structure is harmonious with the surrounding area. If the Community Development Department denies approval of the concealed tower, the applicant may appeal the decision to the Board of Adjustment as an appeal of an administrative decision. A Board of Adjustment review shall only consider the architectural aspects of the Community Development Department’s decision listed above. In addition, such structures associated with the communication antenna and equipment shall:

(a) Meet all other applicable requirements of the UDO.
(b) Not interfere with normal radio and television reception in the vicinity.
(c) Be constructed and maintained in conformance with all applicable building requirements.

5.33.5 ABANDONMENT, OBsolescence, AND FINANCIAL RESPONSIBILITY REQUIREMENTS: A tower that is not used for a period of at least six (6) months shall be determined to be abandoned and shall be removed, by the owner, within 90 days after notice by the Community Development Department. The owner of the tower shall remove any abandoned, obsolete, unused, or structurally unsound tower within 90 days after notice by the Community Development Department or Building Inspector when said tower is detrimental to the health and safety of the public. When said tower is structurally unsound, the Building Inspector may establish a shorter period of time for the removal of a tower. To assure the removal of towers which do not meet requirements for use or maintenance:

- 5.33.5.4 A statement of financial responsibility, meeting the standards of the County, shall be submitted for each tower over 100 feet.
- 5.33.5.5 A performance bond in an amount fixed by the Planning Board equal to 110% of the cost for removal of the tower shall be posted for each tower. The bond shall be renewed annually and a certificate of renewal submitted for as long as the tower remains in place.
- 5.33.5.6 Removal costs shall be charged to the tower owner. In the instance of the financial insolvency of the tower owner, removal cost shall be assessed as a lien and collected as unpaid taxes.
- 5.33.5.7 Government-owned wireless communication facilities shall be exempt from Sections 5.33.5.3 through 5.33.5. of the UDO. Such government-owned wireless towers shall not be required to submit a performance bond as specified in the aforementioned subsections.
- 5.33.5.8 Government-owned wireless towers shall not be required to submit a performance bond as specified in the aforementioned subsections.
5.33.6 SUBMITTAL REQUIREMENTS

The following information must be supplied with any application for development approval for all telecommunication towers as defined by this Section, in addition to any information required for the applicable permit by Appendix B.

5.33.6.1 Site, elevation, and landscape plans drawn to scale showing all setbacks, buffers, easements, buildings, fences, height of the tower (including antennas, lightning rods and paraphernalia), and accessory structures as well as any additional information deemed appropriate by the Community Development Department or Board.

5.33.6.2 Identification, address, and telephone number of the intended user(s) of the tower.

5.33.6.3 Proof of ownership and/or easement agreement(s) for the land where the tower is located, including means of ingress and egress.

5.33.6.4 Proof of authorization to use the site if the land is not owned.

5.33.6.5 A report including a description of the tower with technical reasons for its design.

5.33.6.6 Documentation provided by a registered engineer indicating the number of additional users that the tower has sufficient structural integrity to accommodate.

5.33.6.7 Documentation by the applicant that demonstrates the reasonable feasibility (or unfeasibility) of collocating new antennas and equipment on existing wireless support structure or other structures. For proposed new towers, such documentation shall demonstrate the feasibility of collocating is unreasonable.

5.33.6.8 Documentation that the tower lighting will not exceed the Federal Aviation Administration’s (FAA) minimum standards and the standards of this ordinance.

5.33.6.9 Copy of completed FAA Form 7460-1, Notice of Proposed Construction or Alteration and any FAA responses thereto. Failure on the part of the applicant to ultimately obtain a finding by the FAA that the tower will not pose a hazard to air navigation shall result in revocation of the Special Use Permit.

Evidence that the Sanford-Lee County Regional Airport Authority has been notified of the proposed tower, that the tower will not exceed the standards of the Sanford-Lee County Airport Hazard Ordinance, and that the tower will not pose a hazard to any private airport.

5.33.6.10 Evidence that owners of residentially zoned or used property located within 300 feet of the base of the tower have been notified of the proposal.

5.33.6.11 A statement indicating the owner’s intent to allow shared use of the tower and how many additional users may be accommodated.

5.33.6.12 An analysis of the area containing existing topographical contours. Include a copy of the USGS topographic quadrangle with the tower site identified including latitudinal and longitudinal coordinates.

5.33.6.13 A visual depiction and summary of locations within a three mile radius where any portion of the proposed tower is visible.
5.33.6.14 A computer simulation or an artist’s rendering of the proposed tower and site or a photograph of a tethered balloon floated to the height of the proposed tower in order to assess potential safety and visual impacts. The applicant shall take the photograph or view from one (1) of the following locations:

- any point along the boundary of the nearest residential zoning district to the proposed tower lying within a three mile radius, or
- any point along the boundary of a three mile radius from the proposed tower.

5.33.7 APPROVAL PROCEDURES
Approval of a telecommunications towers shall be in accordance with the review and approval procedures as set forth in Article 3 of the UDO for Administrative Permits and/or Special Use Permits (as applicable).

5.33.8 RETENTION OF CONSULTANTS
The County shall retain a consultant or professional services to review applications for new towers. The consultant will review all such applications 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 a fee as part of the special use permit application for the costs of the consulting services as incurred by the County. 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 Department of Community Development shall arrange an informal consultation with the applicant to review the consultant’s report prior to any public hearing on the application.

ATTACHMENTS
- CityScape Consultants, Inc. report
- Maps of property – GIS tax map, aerial map, and zoning map
- Unified Development Ordinance (UDO) references
- Legal Notice for Special Use Permit Application
- Adjoining Property Owner Notification of Public Hearing
- Certification of Adjacent Property Owner Notification
- List of Adjoining Property Owners
- Special Use Permit Hearing Procedures

REQUIRED FINDINGS FOR A SPECIAL USE PERMIT
Special Use Permits provide a form of discretionary approval for certain uses which are generally compatible with the land uses permitted by right in a zoning district, but which require individual review of their location, design and configuration. Special Use Permits ensure the appropriateness of the use at a particular location within a given zoning district. The Board of Adjustment shall consider the application, supporting documents, the site plan and examine factual evidence presented at the hearing before ruling on the following four findings of facts.
In granting the Special Use Permit, the board shall find:

1. That the use will not materially endanger the public health or safety if located where proposed and developed according to the application and plan as submitted and approved.
2. That the use meets all required conditions and specifications.
3. That the use will not substantially injure the value of the adjoining or the abutting property, or that the use is a public necessity.
4. That the location and character of the use, if developed according to the application and plan submitted and approved, will be in harmony with the area in which site is located and in general conformity with all adopted land use plans.

Please reference the application for specific information regarding how the applicant has addressed the criteria for the Special Use Permit request.

Please note that, if the Board grants the Special Use Permit, Cityscape Consultants, Inc. has recommended the following conditions:

1. All feed lines shall be installed within the support structure and the antenna posts shall be sealed in a manner to prevent access by birds and other wildlife.
2. For the proposed emergency power backup generator, its noise level shall not exceed 65dBA at the nearest edge of the 100’ x 100’ lease area. Testing shall be limited to the hours between 9:00 A.M. and 4:00 P.M. (Monday through Friday).
3. The proposed structure shall not be lighted.

If granted, the Special Use Permit shall include approval of the preliminary site plan submitted with the application and any conditions as deemed necessary by the Board. The applicant may then submit a final site plan to Planning staff for review/approval and issuance of a Zoning Clearance Permit. All conditions shall run with the land and shall be binding on the original applicants, their heirs, successors and assigns.

This decision is effective upon filing the written decision with the Clerk to the Board. Decisions of the Board of Adjustment shall be appealed to the Lee County Superior Court within 30 days of the final decision.
SPECIAL USE PERMIT APPLICATION
Application by Faulk & Foster for Verizon Wireless to obtain a SUP for a new telecommunications tower to be located on a 49.8+/- acre tract of land addressed as 2031/2035 Rice Road. PIN 9662-55-4654-00.

This is a graphic illustration and not a legal document.
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Article 4

Key: "P" means permitted as of right, "S" means permitted as a special use, "D" means development regulations apply (see Article 5), "A" means permitted only as an accessory use, "-" means prohibited. Section numbers as provided in the use column (i.e. § 5.1) provide additional reference regarding the supplemental design standards as found within other sections of this Ordinance. Refer to Appendix A or the sources referred to under "Land Use Coding" for specific definitions of uses.

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Agriculture

| Animal Production and Support Services, (unincorporated Lee County) | 9300-9380     | 8200         | P                           | P                               | P                               | P                      | P                     | P                     | P                | P                      | -                                 | -                           | -                               | P       | P                       |
| Animal Production and Support Services, (Sanford and Broadway)      | 9300-9380     | 8200         | S                           | -                               | -                               | -                      | -                     | -                     | -                | -                      | -                                 | -                           | -                               | P       | P                       |
| Crop Production and Support Functions, (unincorporated Lee County)   | 9100-9240     | 8100         | P                           | P                               | P                               | P                      | P                     | P                     | P                | P                      | -                                 | -                           | -                               | P       | P                       |
| Crop Production and Support Functions, (Sanford and Broadway)        | 9100-9240     | 8100         | P                           | S                               | S                               | S                      | S                     | S                     | S                | S                      | -                                 | -                           | -                               | P       | P                       |
| Forestry and Logging and Support Services, (unincorporated Lee County) | 9400-9430 |                | P                           | P                               | P                               | P                      | P                     | P                     | P                | P                      | -                                 | -                           | -                               | P       | P                       |
| Forestry and Logging and Support Services, (Sanford and Broadway)    | 9400-9430     | 8100         | S                           | -                               | -                               | -                      | -                     | -                     | -                | -                      | -                                 | -                           | -                               | P       | P                       |

Unified Development Ordinance 4-27
It is the intent of the County of Lee to allow telecommunication towers for mobile telephone services and other radio and television information services which provide for the needs of its citizens while minimizing adverse visual and operational effects of such towers through careful design, placement, and screening; to avoid potential damage to adjacent properties from tower failure and falling ice; and to maximize the use of any existing towers and to reduce the number of new towers which are needed. Additionally, it is the intent of this subsection to encourage the co-location of antennas on existing towers in the County of Lee’s planning jurisdiction where possible in order to reduce the amount of visual clutter created by new towers in the community.

The purpose of this Section is to provide a uniform procedure for the prompt issuance of permits to place, construct, or modify personal wireless service facilities which comply with Article 4 (Zoning) of this Ordinance, in order to ensure compliance with the Telecommunications Act of 1996 (“TCA”), 47 U.S.C. § 151 et seq.

5.33.1 APPLICABILITY

5.33.1.1 This section applies to any structure designed to support antennas used for transmitting or receiving commercial telephone communications and/or commercial telecommunications, except for the following:

(a) Amateur or ham radio towers; and
(b) wireless broadband or other fixed-wireless systems operating at frequencies that require line of sight (i.e., antennae that are visible to each other), including microwave links, spread spectrum, 38-GHz carrier services, local multipoint distribution service (LMDS), multi-channel multipoint distribution service (MMDS), satellite systems, laser, Unlicensed National Information Infrastructure (UNII Band), or high-altitude long endurance systems.

5.33.1.2 MINOR AND SUBSTANTIAL MODIFICATIONS.

A request for modification of an existing wireless tower or base station that involves collocation of new transmission equipment or replacement of transmission equipment shall be considered a minor modification so long as it does not include a substantial modification as defined §5.33.1.2.1 below.

5.33.1.2.1 A “Substantial Modification” shall be defined as the mounting of a proposed wireless facility on a wireless support structure that substantially changes the physical dimensions of the support structure. A mounting is presumed to be a substantial modification if it meets any one or more of the criteria listed below.

(a) Increasing the existing vertical height of the structure by the greater of (i) more than ten percent (10%) or (ii) the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet.
(b) Except where necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable, adding an appurtenance to the body of a wireless support structure that protrudes horizontally from the edge of the wireless support structure the greater of (i) more than 20 feet or (ii) more than the width of the wireless support structure at the level of the appurtenance.
(c) Increasing the square footage of the existing equipment compound by more than 2,500 square feet.

5.33.1.2.2 Minor modifications shall be reviewed and approved administratively subject to the submittal and review procedures as set forth in this Ordinance. Applications for new towers or those deemed as substantial modifications shall require approval via a Special Use Permit as set forth in this Ordinance.

5.33.2 STANDARDS

5.33.2.1 GENERALLY

(a) Towers shall not interfere with normal radio and television reception in the vicinity. No tower shall display any sign,
banner or any message. Violations shall be considered zoning violations and shall be corrected under the enforcement provisions of § 1.6 of this ordinance.

(b) Telecommunication antennas may be permitted in any zoning district as a use by right when co-located on existing towers or public elevated water supply storage tanks.

(c) Towers shall be constructed and maintained in conformance with all applicable building code requirements.

(d) Towers greater than 75 feet in height shall be located a minimum distance of 1000 feet from another tower greater than 75 feet in height measured in a straight line between tower centers.

(e) The tower shall be designed and constructed to accommodate one additional user if the tower is between 125 feet and 180 feet from the finished grade elevation. If the height of the tower exceeds 180 feet in height the tower shall be designed and constructed to accommodate a minimum of two additional users.

(f) The tower site shall include adequate area to accommodate the accessory buildings and equipment of all intended users.

5.33.2.2 MINIMUM LOT AREA.

Minimum Lot size shall comply with the minimum requirements of the zoning regulations, Article 4, § 4.7 of this Ordinance. This provision is not intended to apply to ground leases or licenses solely for the use of telecommunication towers, antennas, or equipment.

5.33.2.3 MINIMUM SETBACK REQUIREMENTS.

Towers shall conform to the following dimensional requirements:

(a) For towers located on the roof of a Structures, other than the base or supporting elements of the tower, the tower shall not be more than 30% of the building height above the building, or 75 feet above the building, whichever is less. The building or structure shall maintain the normal setbacks of the zoning district.

(b) For towers mounted on the ground surface:

- The minimum setback from all property boundaries shall be equal to the maximum height of the proposed tower.
- A fall zone shall also be established for each tower. The fall zone is defined as an area within the subject property, which shall be maintained so as to be clear of any buildings within an area equal to the maximum height of the proposed tower as measured by a circle around the base of the tower. Buildings that are constructed for the purpose of housing equipment in support of the communications equipment as located on the tower shall be permitted within the fall zone.

5.33.2.4 LIGHTING REQUIREMENT.

Lighting shall not be permitted unless required by the Federal Aviation Administration (FAA). If lighting is required it shall not exceed the FAA minimum. Strobes shall not be used for nighttime lighting unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding residential property, consistent with FAA requirements. Prior to issuance of a building permit, the applicant shall be required to submit documentation from the FAA that the lighting is the minimum lighting required by the FAA.

5.33.2.5 FENCING AND LANDSCAPING REQUIREMENTS.

(a) Fencing shall be required for each site around the base of the tower, any structures or guy wires. The composition of the fencing shall consist of durable materials including wood, brick, or metal or other similar material as may be determined by the Planning Board.

(b) The base of the tower, any guy wires, and any structures, walls, or fences shall be surrounded by a single row of large evergreen shrubs spaced at an interval of 5 feet on center. The minimum height of shrubs at the time of planting shall be 3 feet.

(c) The site developer may have the option of:
(1) providing the landscape buffer around the tower base, guy wires and accessory structures; or

(2) providing a buffer around the perimeter of the entire site.

5.33.3 CO-LOCATION REQUIREMENTS.

5.33.3.1 To encourage shared use of towers, applicants may apply for reduction in setbacks. Applications for towers, which will operate with more than one user immediately upon completion, may reduce setbacks from adjacent nonresidential property. The approving authority may reduce the setback from adjacent nonresidential property by 25% when two users commit to occupy the tower immediately upon its completion or may reduce the setback by 50% when three or more users commit to occupy the tower immediately upon its completion. However, the setback distance may not be reduced to less than 50 feet.

5.33.3.2 To further encourage co-location, additional antennas and associated equipment, which do not add to the tower height, may be added to existing towers with administrative approval by the Community Development Department. Applicants need only provide the information required by §§ 5.33.6.2, 5.33.6.4, 5.33.6.5, 5.33.6.6, 5.33.6.8, 5.33.6.10, and construction drawings.

5.33.4 CONCEALED TOWERS.

Concealed towers are permitted in all zoning districts, subject to the issuance of a permit by the Community Development Department. For additions to existing structures and for architectural features that are exempt from the height requirements of this ordinance, the Community Development Department shall consider whether the addition or feature containing the antenna is architecturally harmonious in such aspects as material, height, bulk, scale, and design with the building or complex of which it is a part, and if it is a stand-alone structure, whether or not such structure is harmonious with the surrounding area. If the Community Development Department denies approval of the concealed tower, the applicant may appeal the decision to the Board of Adjustment as an appeal of an administrative decision. A Board of Adjustment review shall only consider the architectural aspects of the Community Development Department’s decision listed above. In addition, such structures associated with the communication antenna and equipment shall:

(a) Meet all other applicable requirements of this Ordinance.

(b) Not interfere with normal radio and television reception in the vicinity.

(c) Be constructed and maintained in conformance with all applicable building requirements.

5.33.5 ABANDONMENT, OBSOLESCENCE, AND FINANCIAL RESPONSIBILITY REQUIREMENTS.

5.33.5.1 A tower that is not used for a period of at least six (6) months shall be determined to be abandoned and shall be removed, by the owner, within 90 days after notice by the Community Development Department.

5.33.5.2 The owner of the tower shall remove any abandoned, obsolete, unused, or structurally unsound tower within 90 days after notice by the Community Development Department or Building Inspector when said tower is detrimental to the health and safety of the public. When said tower is structurally unsound, the Building Inspector may establish a shorter period of time for the removal of a tower.

5.33.5.3 To assure the removal of towers which do not meet requirements for use or maintenance:

5.33.5.4 A statement of financial responsibility, meeting the standards of the County, shall be submitted for each tower over 100 feet.

5.33.5.5 A performance bond in an amount fixed by the Planning Board equal to 110% of the cost for removal of the tower shall be posted for each tower. The bond shall be renewed annually and a certificate of renewal submitted for as long as the tower remains in place.
5.33.5.6 Removal costs shall be charged to the tower owner. In the instance of the financial insolvency of the tower owner, removal cost shall be assessed as a lien and collected as unpaid taxes.

5.33.5.7 Government-owned wireless communication facilities shall be exempt from Sections 5.33.5.3 through 5.33.5.6 of this Ordinance. Such government-owned wireless towers shall not be required to submit a performance bond as specified in the aforementioned subsections.

5.33.5.6 Such government-owned wireless towers shall not be required to submit a performance bond as specified in the aforementioned subsections.

5.33.6 SUBMITTAL REQUIREMENTS

The following information must be supplied with any application for development approval for all telecommunication towers as defined by this Section, in addition to any information required for the applicable permit by Appendix B.

5.33.6.1 Site, elevation, and landscape plans drawn to scale showing all setbacks, buffers, easements, buildings, fences, height of the tower (including antennas, lightning rods and paraphernalia), and accessory structures as well as any additional information deemed appropriate by the Community Development Department or Planning Board.

5.33.6.2 Identification, address, and telephone number of the intended user(s) of the tower.

5.33.6.3 Proof of ownership and/or easement agreement(s) for the land where the tower is located, including means of ingress and egress.

5.33.6.4 Proof of authorization to use the site if the land is not owned.

5.33.6.5 A report including a description of the tower with technical reasons for its design.

5.33.6.6 Documentation provided by a registered engineer indicating the number of additional users that the tower has sufficient structural integrity to accommodate.

5.33.6.7 Documentation by the applicant that demonstrates the reasonable feasibility (or unfeasibility) of collocating new antennas and equipment on existing wireless support structure or other structures. For proposed new towers, such documentation shall demonstrate the feasibility of collocating is unreasonable.

5.33.6.8 Documentation that the tower lighting will not exceed the Federal Aviation Administration’s (FAA) minimum standards and the standards of this ordinance.

5.33.6.9 Copy of completed FAA Form 7460-1, Notice of Proposed Construction or Alteration and any FAA responses thereto. Failure on the part of the applicant to ultimately obtain a finding by the FAA that the tower will not pose a hazard to air navigation shall result in revocation of the Special Use Permit.

5.33.6.10 Evidence that the Sanford-Lee County Regional Airport Authority has been notified of the proposed tower, that the tower will not exceed the standards of the Sanford-Lee County Airport Hazard Ordinance, and that the tower will not pose a hazard to any private airport.

5.33.6.11 Evidence that owners of residentially zoned or used property located within 300 feet of the base of the tower have been notified of the proposal.

5.33.6.12 A statement indicating the owner’s intent to allow shared use of the tower and how many additional users may be accommodated.

5.33.6.13 An analysis of the area containing existing topographical contours. Include a copy of the USGS topographic quadrangle with the tower site identified including latitudinal and longitudinal coordinates.

5.33.6.14 A visual depiction and summary of locations within a three mile radius where any portion of the proposed tower is visible.

5.33.6.15 A computer simulation or an artist’s rendering of the proposed tower and site or a photograph of a tethered balloon floated to the
height of the proposed tower in order to assess potential safety and visual impacts. The applicant shall take the photograph or view from one (1) of the following locations:

- any point along the boundary of the nearest residential zoning district to the proposed tower lying within a three mile radius, or
- any point along the boundary of a three mile radius from the proposed tower.

5.33.7 APPROVAL PROCEDURES

Approval of a telecommunications towers shall be in accordance with the review and approval procedures as set forth in Article 3 of this Ordinance for Administrative Permits and/or Special Use Permits (as applicable).

5.33.8 RETENTION OF CONSULTANTS

The County shall retain a consultant or professional services to review applications for new towers. The consultant will review all such applications 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 a fee as part of the special use permit application for the costs of the consulting services as incurred by the County. 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 Department of Community Development shall arrange an informal consultation with the applicant to review the consultant’s report prior to any public hearing on the application.
June 19, 2019

Ms. Amy McNeil  
Zoning Administrator  
900 Woodland Avenue  
Sanford, NC 27330

RE:    Lee County  
       Verizon Wireless / Watsons Nursery

Dear Ms. McNeil,

At your request, on behalf of Lee County, North Carolina ("County"), CityScape Consultants, Inc. ("CityScape") in its capacity as telecommunications consultant for the County, has considered the merits of the above referenced application submitted by Faulk & Foster on behalf of Verizon Wireless ("Applicant"), to construct a new wireless communications structure and associated ground compound at 2031 Rice Road in Sanford, North Carolina, see Figure 1.

Wireless Informational Tutorial

Cellular, PCS and EMSR wireless communications systems depend on the concept of resource re-use to achieve their network goals and objectives. With some technologies, the individual channel frequencies are reused every few cells, but not too closely, since interference would result. Wireless service is achieved through ground equipment and antennas mounted on towers, buildings or other elevated structures. The height and location of the elevated antenna platform is critical to provide sufficient wireless network coverage. Generally, the higher the antenna is mounted on the support structure, the farther the wireless signal penetrates a geographic area.

In the wireless system evolution, a provider would initially provide service with facilities spaced further apart with relatively tall antenna elevations to maximize the "footprint" at minimal cost. As the subscriber density increases, network capacity for these facilities increases, resulting in frequent busy signals or "no service" messages for end users. To remedy this situation, the antennas are mounted at lower heights to reduce the coverage area, thus reducing subscriber count per facility. When coverage areas are reduced a new facility is needed to fill in the previously served area.

The Search Ring is a vital part of the submittal for any new personal wireless facility. The Ring identifies the optimum location for the facility and will control the operating parameters needed to meet the facility objectives. Of primary interest to a community are the location and the height of a structure all which is dictated by the Ring. Cellular search areas are usually circles of
approximately one-quarter the radius of the proposed cell. In practice it is fairly simple to determine whether the search area radius is reasonable. The distance from the closest existing site is determined, halved, and a handoff "overlap" of about 20 percent is added. One fourth of this distance is the search area radius. *Sample 1* illustrates this graphically.

![Sample 1](image)

**Sample 1** - The hexagonal search ring radius is \( \frac{1}{4} \) of the radius of the cell’s coverage less a 20% handoff overlap

A reasonable search ring location is a key element in assuring that a site is justified. Generally, new wireless communication facilities are equally spaced with respect to existing sites. However, terrain, network capacity and other issues may necessitate a facility that is *not* equally spaced with respect to existing sites. Typically, the wireless provider is asked to provide coverage prediction maps to indicate that a site is properly located.

An important part of any wireless communication facility application is the verification of the provider's proposed height requirements with generally accepted engineering. The Applicant utilizes LTE (700 MHz), Cellular (850 MHz), AWS (1,700/2,100 MHz) and PCS (1,900 MHz) services within Lee County. These spectrum groups are modeled.

In addition to the minimum height and power needed for effective signal coverage, as more wireless devices are deployed, user capacity issues become the limiting factor. Technology is improving which allows towers to handle more devices, but it is not keeping up with the speed that such devices are connecting. As the industry heads for 5G in the next 3-4 years, more *localized* cellular sites will be needed. This will involve shorter towers that are closer together to limit their “reach”. This practice has already begun in urbanized areas for the past few years and will continue in rural and urban residential areas. The future will also involve what are known as “small cells” which are antennas places on streetlamps, shorter buildings, etc.
The Applicant did not specifically state the areas this facility is intended to improve, but did provide a search ring and coverage map depicting the improvement areas. The improvements will be for in-vehicle coverage along US 421 as well as better service in rural areas along Thomas, Poplar Springs Church and Pumping Station Roads.

The proposal has been evaluated from the following perspectives:

- Whether the proposed facility, as specified, is justified due to technological reasons and is essential for the Applicant to provide its telecommunications service; and,

- Whether the proposed facility will follow the guidelines of the Telecommunications Act of 1996, the Lee County Ordinance and all other pertinent rules and regulations.

### Lee County Ordinance Requirements

**§5.33.2.1** Generally
- (a) - Shall not interfere with radio/TV reception and no signage: need certification
- (b) – Co-located antennas: N/A
- (c) – Towers comply with building codes complies
- (d) – 1000-foot separation for Towers greater than 75 feet: complies
- (e) – Minimum users: complies
- (f) – adequate room for accessory buildings: complies

**§5.33.2.2** Minimum Lot Area: 49.81 Acres, complies (40,000 sq. ft. for RA)

**§5.33.2.3** Minimum Setback
- (a) – Towers on roof: N/A
- (b) – Towers on ground: setback is tower height, complies

**§5.33.2.4** Lighting Requirement: None proposed

**§5.33.2.5** Fencing and Landscaping Requirements
- (a) – Fencing required: 8-foot fence proposed (complies)
- (b) – Tower base/guy wires: complies

**§5.33.3** Co-location Requirements
- (1) – Shared Use: N/A
- (2) – Co-location: N/A

**§5.33.4** Concealed Towers
- (a) – N/A
- (b) – N/A
§5.33.5 Abandonment
(1) – unused removal: will comply
(2) - structurally

§5.33.6 Submittal Requirements
(1) – Plans: provided
(2) – Address and phone contact: provided
(3) – Proof of Ownership: provided
(4) – Proof of Authorization: provided
(5) – Technical Needs Report: provided (from a structural standpoint, but not from an overall needs standpoint)
(6) – Number of Additional Users: provided
(7) – Feasibility of Co-locating antennas: provided
(8) - Lighting meets FAA requirements: N/A
(9) – Copy of FAA 7460-1 Form: provided
(10) – Complies with Sanford-Lee Airport Authority standards: provided
(11) – Notification to nearby residential owners: provided
(12) – Intent to share tower for co-location: provided
(13) – Topographic Analysis: provided
(14) – Location summary where tower is visible: provided
(15) – Balloon Test/Photo Simulations: provided

Site Justification and Coverage

In order for the wireless communications facility to be justified, its need, location and height have to be addressed. The application proposes to construct a new one hundred ninety-five (195) foot (199 feet top of lightning rod) monopole tower, see Appendix, Exhibit B. There are no other existing towers greater than 75 feet in height within 1000 feet of the proposed site, as required by the Ordinance. The Applicant provided a search ring and coverage maps depicting the proposed improvement the new site will provide for Verizon customers. This information was used in determining if the proposed location and height are justified.

The proposed height will allow for contiguous service between the existing sites to the south and west with improved indoor service in areas 1 to 1-1/2 miles from the tower. It will also alleviate capacity issues that may arise during peak usage times from nearby overloaded sites.
Finally, the tower is designed to accommodate three (3) future users with adequate height which should reduce the need for additional towers in the area.

The Applicant has received a Determination of No Hazard from the FAA indicating that the proposed structure will not require obstruction lighting.

Ground Equipment

The Applicant proposes to utilize a 12’6” X 21’ lease area within a proposed 60’ X 60’ fenced compound. The fenced area will accommodate room for three future provider’s equipment, see Appendix, Exhibit B.

Landscape Buffering

The ground compound will be surrounded by 46 Carolina Cherry Laurels, spaced 5 feet apart and 7 taller Southern Magnolias at larger spaced locations, per Ordinance requirements, see Appendix, Exhibit C.

Colocation

The Applicant has provided drawings and a structural analysis that includes three future arrays of like design (12 antennas, 6 RRUs and 3 surge suppressors). All vertical feed lines were noted to be inside the pole shaft.

In conclusion, it is the opinion of the undersigned that the Applicant has justified the need for a new one hundred ninety-nine (199) foot support structure at the proposed location and has complied with Federal guidelines for personal wireless facility deployment. CityScape Consultants, as the wireless expert for the County, recommends the application be approved with the following conditions:
1. All feed lines shall be installed within the support structure and antenna ports shall be sealed in a manner to prevent access by birds and any other wildlife; and,

2. For the proposed emergency power backup generator, its noise level shall not exceed 65 dBA at the nearest edge of the 100’ X 100’ lease area. Testing shall be limited to the hours between 9:00 A.M. and 4:00 P.M., (Monday through Friday); and,

3. The proposed structure shall not be lighted

I certify that to the best of my knowledge all of the information included herein is accurate at the time of this report. CityScape only works for local governments and has an unbiased opinion; all recommendations are based on technical merits without prejudice and according to prevailing laws and codes.

Respectfully submitted,

Jonathan N. Edwards, P.E.
CityScape Consultants, Inc.
Figure 1 – Site Location
Appendix
Exhibit B – Proposed Ground Compound
Exhibit C – Proposed Ground Compound
June 18, 2019

Amy J. McNeill, Zoning Administrator
115 Chatham Street, Suite 1, Sanford, NC 27330

Re: Letter for Verizon Wireless site: Watsons Nursery

Dear Ms. McNeill:

I submit this letter in support of Verizon Wireless’s application for a Special Use Permit to construct and operate a cell tower. Specifically, this letter addresses the first sentence of the Ordinance Section 5.33.2 Standards – 5.33.2.1 Generally (a) which states:

(a) Towers shall not interfere with normal radio and television reception in the vicinity.

Verizon Wireless certifies that it will comply with all FCC rules regarding interference to other radio services

I trust that this letter satisfies the concerns stated by your consultant. Please let me know if anything further is required.

Very truly yours,

Michael Haven
Real Estate Manager
Verizon Wireless
ADJACENT PROPERTY OWNER NOTIFICATION CERTIFICATION

I, Thomas Mierisch, hereby certify that the property owners and adjacent property owners of the following Special Use Permit Application, as indicated on the Lee County Tax Maps, were notified by First Class U.S. Mail on Friday, June 28, 2019.

1. Application by Faulk & Foster for Verizon Wireless to obtain a Special Use Permit for a proposed telecommunications tower to be located on a 49.8 +/- acre vacant tract of land located in the northeastern quadrant of the US Hwy 421 Bypass and Rice Road intersection and addressed as 2031/2035 Rice Road on land owned by Gary M. Thomas and Pamela D. Thomas. The site is located within the unincorporated area of Lee County and is zoned Residential Agricultural (RA). Per the Unified Development Ordinance (UDO), Article 4 Zoning District Regulations, Section 4.6 Use Regulations, Table 4.6-1 Permitted Use Matrix, a new telecommunications tower is permitted in the Residential Agricultural (RA) zoning district upon issuance of a Special Use Permit, subject to Article 5 Supplemental Development Regulations, Section 5.33 Telecommunications Towers. The property is the same as depicted on Lee County Tax Maps 9662.02, 9662.01, and 9662.04 as Tax Parcel 9662-55-4654-00, Lee County Land Records.

Signature: [Signature] Date: 7/12/19
Title: PLANNER I

Lee County, North Carolina

I, AMY JO NEILL, a Notary Public for Lee County and State of North Carolina do hereby certify that THOMAS MIERISCH personally appeared before me on this day and acknowledged the due execution of the foregoing Instrument. Witness my hand and official seal, this the 2nd day of July, 2019.

AMY JO NEILL
Notary Public Signature

My Commission expires 7/1/2020 (SEAL)
June 28, 2019

Dear Adjacent Property Owner:

The Zoning Ordinance of Lee County, North Carolina requires that adjacent property owners be notified when a request for a Special Use Permit has been scheduled for a public hearing before the Lee County Board of Adjustment. The action prompting this notice is listed below.

Notice is hereby given that the Lee County Board of Adjustment will conduct public hearings on Monday, July 8, 2019 in the Buggy Conference Room of the Historic Buggy Company Building at 115 Chatham Street, Sanford, NC. The public hearing will begin at 6:00p.m. or as soon thereafter as deemed practical by the Board to consider the following application:

1. Application by Faulk & Foster for Verizon Wireless to obtain a Special Use Permit for a proposed telecommunications tower to be located on a 49.8 +/- acre vacant tract of land located in the northeastern quadrant of the US Hwy 421 Bypass and Rice Road intersection and addressed as 2031/2035 Rice Road on land owned by Gary M. Thomas and Pamela D. Thomas. The site is located within the unincorporated area of Lee County and is zoned Residential Agricultural (RA). Per the Unified Development Ordinance (UDO), Article 4 Zoning District Regulations, Section 4.6 Use Regulations, Table 4.6-1 Permitted Use Matrix, a new telecommunications tower is permitted in the Residential Agricultural (RA) zoning district upon issuance of a Special Use Permit, subject to Article 5 Supplemental Development Regulations, Section 5.33 Telecommunications Towers. The property is the same as depicted on Lee County Tax Maps 9662.02, 9662.01, and 9662.04 as Tax Parcel 9662-55-4654-00, Lee County Land Records.

The public is cordially invited to attend this quasi-judicial hearing. Due process requirements for quasi-judicial decisions mandate that certain standards be observed when these decisions are made. This includes the right of parties for or against the proposal to offer evidence, have sworn testimony, and have findings of fact supported by competent, substantial and material evidence. All interested parties have the right to be represented by an attorney. Further information may be obtained from the Sanford/Lee County Zoning & Design Review Department, 115 Chatham Street, Suite 1, Sanford, NC 27330 or by contacting Amy J. McNeill, Zoning Administrator at 919-718-4656, Ext. 5397 or amy.mcneill@sanfordnc.net. Upon request and with 24-hour notice, the City will provide an interpreter for the hearing impaired or any other auxiliary aid.

If attending the meeting, please access the building via the ground level entrance from the large public parking area at the rear of the building located between Charlotte Avenue & McIver Street and take the elevator to the Buggy Conference Room on the first floor.
Cualquier ciudadano que tenga preguntas o comentarios de las cosas al referido, puede comunicarse a el departamento de desarrollo para Sanford/Condado de Lee, llame al (919) 718-4656.

Please be aware that staff has been instructed to provide the following general information to adjacent property owners for future reference if/when the site associated with this Special Use Permit is developed. The City of Sanford, Lee County and the Town of Broadway do not have local grading permits and rely on the North Carolina Department of Environmental Quality to regulate land disturbing activities. For questions or concerns regarding land disturbing activities, please contact the North Carolina Division of Energy, Mineral, and Land Resources Sediment Program at 1612 Mail Service Center, Raleigh, NC 27699-1612 or call 919-707-9220 or visit the NCDEQ website at http://deq.nc.gov.

Attachment: GIS Map of Site
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**ADJOINING PROPERTY OWNERS LIST**

**PETITION BY:** Faulk & Foster for Verizon Wireless  
**REQUEST:** SUP for a Telecommunications Tower in the RA, Residential Agricultural Zoning District  
**LOCATION:** 2031/2035 Rice Road, Sanford, NC 27330  
**PIN:** 9662-55-4654-00

(o) = No address assigned to this parcel. Typically, it is vacant
Notice is hereby given that the Lee County Board of Adjustment will conduct public hearings on Monday, July 8, 2019 in the Buggy Conference Room of the Historic Buggy Company Building at 115 Chatham Street, Sanford, NC. The public hearing will begin at 6:00 p.m. or as soon thereafter as deemed practical by the Board to consider the following application:

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Cualquier cuidadano que tenga preguntas o comentarios de las cosas al referido, puede comunicarse a el departamento de desarrollo para Sanford/Condado de Lee, llame al (919) 718-4656.

Thank you.
By Whitney Parrish, Deputy Clerk
Lee County Board of Commissioners

Please publish in the Legal Notice Section of the Sanford Herald on Friday, June 28, 2019 and Friday, July 5, 2019. If you have any questions regarding this notice, please contact Amy J. McNeill at 919-718-4656, Ext. 5397 or amy.mcneill@sanfordnc.net. Charge to Account 300031885 and refer to as Lee County Board of Adjustment Notice.

Please send publisher’s affidavit to the Sanford/Lee County Community Development Dept., P.O. Box 3729, Sanford, NC, and attention: Angela Baker. Thank you.
Board of Adjustment
Special Use Hearing Procedures

1. PRELIMINARY MATTERS

1) Note for the record the presence of a quorum.

2) Chairman calls the meeting to order.

3) Approval of agenda. (Board members may add or delete items upon a majority vote.)

4) Approval of minutes of previous meeting.

5) Disclosure of conflict of interest and ex-parte communication by Board Members.

   Conflict of Interest (Defined under new law) - A member of the board or any other body exercising quasi-judicial functions pursuant to this Ordinance shall not participate in or vote on any quasi-judicial matter in a manner that would violate affected persons' constitutional rights to an impartial decision maker. Impermissible conflicts include, but are not limited to, a member having a fixed opinion prior to hearing the matter that is not susceptible to change, undisclosed ex parte communications, a close familial, business, or other associational relationship with an affected person, or a financial interest in the outcome of the matter. If an objection is raised to a member's participation and that member does not recuse himself or herself, the remaining members shall by majority vote rule on the objection.

6) Old Business.

7) New Business.

2. SPECIAL USE HEARING

1) Chairman to announce the case:

   “We will now hold a public hearing to consider the next matter on the agenda, which is the application of: Mr. /Mrs. XXXXXXXX, seeking a Special Use permit for “______________________________.”

2) Chairman to read statement:

   A Special Use hearing is a quasi-judicial hearing which means that all parties have the right to offer evidence, cross-examine adverse witnesses, inspect documents, have sworn testimony, have the decision based only on evidence that is properly in the hearing record, and have written findings of fact supported by competent, substantial and material evidence.
Since this is a quasi-judicial hearing, it is improper for a member of the Board of Adjustment to discuss this case or to independently gather evidence outside of this hearing.

3) Chairman then ask:

   Does any board member have a conflict that they need to disclose?

4) Chairman then states:

   Those wishing to testify must be sworn; however, anyone in attendance may ask questions of the person testifying.

5) Chairman then ask the following questions:

   A. Are the applicant(s) Mr./Mrs. ____________________ present?
   B. Are you ready to proceed?
   C. Are you represented by counsel?

6) Chairman calls for all witnesses who will testify in favor of the application to come forward to be sworn.

7) Chairman then calls for all witnesses who will testify in opposition to the petition to come forward and be sworn.

8) Chairman then call on the applicant or his counsel to present their case in favor of granting the Special Use Permit.

The PROCEDURE with applicant will be as follows:

A) Applicant/counsel testifies

B) Those in opposition cross-examine the applicant/counsel

C) Questions from the Board of Adjustment

D) Redirect examination of applicant/counsel

E) Re-cross examination of applicant/counsel by those in opposition

F) Further questions by Board of Adjustment

G) Questions by public (Must give name and address for the record)

9) Chairman then call on witnesses in favor of application to speak, and observe the same procedure as noted above.

10) After the applicant has completed presenting his/her case, Chairman then call upon those in opposition to the application to present their witnesses.
The PROCEDURE with witnesses will be as follows:

A) Witness/counsel in opposition testifies

B) Applicant or his counsel cross-examines witness in opposition

C) Questions from the Board of Adjustment

D) Redirect examination by witness in opposition

E) Re-cross examination of witness in opposition by applicant

F) Further questions by Board of Adjustment

G) Questions by public (Must give name and address for the record)

11) Chairman to call the next and each succeeding witness in opposition to speak, and observe the same procedure as noted above)

12) After all witnesses for the applicant and those that are in opposition have testified, call upon the applicant to present whatever evidence he/she has in rebuttal. (Note: This is not an invitation to rehash everything the applicant/counsel or those in opposition has gone over in their direct testimony, but is the opportunity to present new evidence that the applicant/council or those in opposition has in rebuttal to what the other has stated.)

The REBUTTAL process:

A) Applicant/counsel can present any new evidence they have for rebuttal.

B) After the applicant/counsel rebuttal has been presented, then the opponents have the opportunity to present any new evidence in rebuttal.

13) This would complete the hearing of evidence in the matter unless either party should ask for a chance to present further evidence. This would be a matter within the discretion of the Board.

14) Chairman to call on the applicant/counsel to present their summation or argument to the Board in favor of granting the Special Use Permit.

15) Chairman to call on those in opposition to present their summation or argument to the Board as to why the Special Use Permit should be denied.

Finally, after all evidence and the rebuttals have been presented,

16) The Chairman should summarize the evidence. (The secretary should write this summary down for inclusion in the minutes.)
17) The Chairman should tell the parties that the summary is intended to be the record of what has been presented and that they may offer any objections, corrections, or additions that will more accurately present their case.

This concludes the hearing and the Board shall then deliberate and make a decision.

18) The Chairman should state for the Board and those in attendance, that the granting of the Special Use Permit is based upon four findings of fact. Each finding requires a majority vote by the Board to be approved. When voting, the Board must render a decision on each of the required findings and *must state a reason for approval or denial of each finding of fact. (*The Board members should indicate for each required finding the evidence on which the finding was based. On the basis of these findings, a Board member should offer a motion either to grant or deny the Special Use Permit. This motion should be discussed and any suitable conditions appended to it.)

19) Chairman should also state that if one of the required finding fail, they all fail.

In granting the Special Use Permit, the Board of Adjustment shall find:

1. That the use will not materially endanger the public health or safety if located where proposed and developed according to the application and plan as submitted and approved;

2. That the use meets all required conditions and specifications;

3. That the use will not substantially injure the value of the adjoining or abutting property, or that the use is a public necessity; and

4. That the location and character of the use, if developed according to the application and plan submitted and approved, will be in harmony with the area in which it is to be located and in general conformity with the Land Use Plan for Sanford and Lee County.

Note: Reasonable and appropriate conditions may be imposed upon these permits.

After the Board’s decision has been rendered,

This decision is effective upon filing the written decision with the clerk to the board. This decision shall be subject to review by the superior court. If anyone is dissatisfied with the decision of the Board, an appeal may be taken to the Lee County Superior Court within 30 days after the decision has been filed in the clerk to the board in the Planning Department.
## Appendix B - Building Code Summary

### For All Commercial Projects

### Exterior Landscaping

**General Notes**
- All landscaping must be in accordance with local and state regulations.
- Any variance from the standard landscaping requirements shall be approved by the building official.

### Electrical System and Equipment

**Methods of Completion**
- For new construction, the electrical system shall comply with the National Electrical Code (NEC) and all local codes.

**Lighting Schedule**
- Outdoor lighting shall be installed in accordance with local regulations and shall be designed to minimize glare and ensure safety.

**Installation of Cast-in-Place Concrete Pad**
- The concrete pad shall be cast in accordance with the specifications provided in the project documents. The size and thickness of the concrete pad shall be confirmed prior to the start of construction.

**Prefabricated Equipment**
- Prefabricated equipment shall be installed in accordance with the manufacturer's instructions and local codes.

### Special Approvals
- Special approvals (e.g., fire department, electrical inspector) shall be obtained for any non-standard materials or systems.

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**Note:** Scope of work includes installation of cast-in-place concrete pad, precast elements, fire protection system, and electrical system. No new building being constructed.
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 AS SUCH WITHDRAWAL BEFORE PROCEEDING WITH WORK. WHERE THERE IS A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS ARE TO BE FOLLOWED. THE 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 ARE TO 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 GRADING 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 ACCESS DECK.

1.07 THE PROPOSED TOWER AND TOWER FOUNDATIONS WERE DESIGNED BY OTHERS. TOWER INFORMATION PROVIDED ON THESE PLANS ARE FOR REFERENCE PURPOSES ONLY. NOTIFIY PROJECT MANAGER OR PROJECT MANAGER OF ANY CONFLICTS OR DISCREPANCIES.

1.08 THE CONTRACTOR SHALL PROVIDE ADDITIONAL EXCAVATION SLOPING, SHAPING, BRAZING, AND GUARD 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 DECK AND COMPUND 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 REQUESTING WRITTEN 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 SHALL NOTIFY "OILANA 8121 48 HOURS IN ADVANCE OF PERFORMING ANY WORK BY CALLING THE TOLL FREE NUMBER (800) 633-4949 (OIL 8121). 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 STYKE LOCK OR EQUIVALENT AS APPROVED BY VERZON PROJECT MANAGER.

1.13 CONTRACTOR TO PROVIDE ANY NECESSARY SIGNAGE PER VERZON 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 OTHER UNACCEPTABLE MATERIAL AND REPLACE WITH WELL-COMPACTED MATERIAL ACCEPTABLE TO VERZON.

2.03 CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELocATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VICEITY OF THE WORK SITE. ALL EXCAVATIONS NEAR THESE LINES TO BE CARRIED OUT WITH EXTREME Caution, coordinaTE ALL RELOCATIONS WITH THE PROPERTY OWNERS.

2.04 CONTRACTOR TO CUT/FILL EXISTING COMPAQ SUBSOIL TO PROVIDE AN AREA AS LEVEL AS POSSIBLE FOR THE EQUIPMENT FOUNDATIONS, ALL FILL AREAS TO BE FILLED WITH SUITABLE MATERIALS, ALL MATERIALS TO BE PLACED, COMPACTED, AND TESTED IN MAXIMUM LAYERS OF 8". COMPAQTION OF ALL FILL MATERIAL SHALL ACHIEVE 95 PERCENT OF MAXIMUM DRY COMPAQTION AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D 696. 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 TO THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. REPORTS OF ALL TESTING TO BE PROMPTLY DELIVERED OR FAXED TO THE VERZON WIRELESS PROJECT MANAGER.

2.05 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSF 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 8".

2.07 FIBERS FOR CONCRETE SHALL BE FIBREMESH 550, 100 PERCENT VIRGIN POLYPROPYLENE FIBRILLATED FIBERS, E43 PATENTED TECHNOLOGY PATENTED TECHNOLOGY, CONTAINING NO REPROCESSED OILEIN MATERIALS. THE FIBERS SHALL CONFORM TO ASTM C1161 TYPE E 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 directed by the project manager, macro-synthetic fibers shall be added to the concrete at the batching plant at the recommended application rate of 5 lbs/yd³ and mixed for a sufficient time (minimum 5 minutes at full mixing speed) to ensure uniform distribution of the fibers through and after the concrete. the fibrous concrete reinforcement shall be manufactured by fibremesh, 403 industry drive, chattanooga, tn 37446 usa, tel: 800 821 1273, website: www.fibremesh.com

2.09 AT THE REQUEST OF THE VERZON WIRELESS PROJECT MANAGER, TEST CYLINDERS SHALL BE LABORATORY CURIED IN ACCORDANCE, WITH ASTM C39. THREE CYLINDERS SHALL BE TAKEN FOR EACH DAYS 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 8"X45" CHAMFER, UNLESS OTHERWISE NOTED.

2.11 CONCRETE FORMWORK TO BE STRIPPED WITHIN 48 HOURS. VIBRATION OF THE CONCRETE MUST ASSURE THAT HOMOGENEOUSITY WILL BE AT A MINIMUM. MECHANICAL VIBRATION OF ALL CONCRETE IS REQUIRED UNLESS OTHERWISE DIRECTED BY VERZON 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 TO THE SURFACE OF THE EQUIPMENT FOUNDATION UNLESS OTHERWISE DIRECTED BY VERZON CALLING THE TOLL FREE NUMBER (800) 633-4949 (OIL 8121).

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

2.13 TOP OF FOUNDATION TO BE LEVEL, ±3" 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 RECESSOS NOT SHOWN ON THE STRUCTURAL DRAWINGS. CONTRACTOR SHALL VERIFY PLACEMENT OF EQUIPMENT AND LOCATION OF CONCER FOR MANUFACTURERS AND VENDORS SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SEATS FOR PROPER DISTRIBUTION OF ALL UTILITIES.
PROPOSED LEASEE
100' X 100' PREMISES
(110,000 SQ. FT.)
(SEE SHEETS C1.1 & C2.1)

PROPOSED 195° MONOPOLE
WITH LESSEE 190° RAD CENTER
(190' TO HIGHEST APPURTENANCE)
(SEE SHEET C1.3)

PROPOSED LEASEE 30' WIDE
NON-EXCLUSIVE ACCESS
AND UTILITY EASEMENT

SPECIAL ASSESSMENTS
Any other special assessments or fees may apply. Please consult with your local government for specific requirements.

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 COMPENSATING LAYOUT BASED ON SURVEY PROVIDED BY POINT
TO POINT LAND SURVEYORS DATED 05/04/18 AND SITE VISIT ON
05/18/18.

OVERALL PARCEL PLAN
SCALE: 1' = 400'

C1

0 200 400 600 800
GRAPHIC SCALE: 1' = 400'

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SURVEY NOTE:
1. VERIZON WIRELESS STAFF SHALL COORDINATE WITH THE PROPERTY
   OWNER TO OBTAIN THE APPROPRIATE EASEMENT AGREEMENTS TO CONSTRUCT
   AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.
2. PROPOSED COMPUND LAYOUT BASED ON SURVEY PROVIDED BY POINT
   TO POINT LAND SURVEYSORS DATED 05/04/18 AND SITE VISIT ON
   05/18/18.

C1.1 OVERALL SITE PLAN

SCALE: 1" = 200'

GRAPHIC SCALE: 1" = 200'

EXISTING TREE LINE
EXISTING WELL
EXISTING FENCE
EXISTING GATE
EXISTING PROPERTY LINE

PROPOSED LESSEE 12' WIDE GRAVEL ACCESS
DRIVE (41.6' LONG)
(SEE SHEET C10)

PROPOSED LESSEE 30' WIDE NON-EXCLUSIVE ACCESS
AND UTILITY EASEMENT

EXISTING DIRT DRIVE

PROPOSED LESSEE 195' MONOPOLE
WITH LESSEE 190' RAD CENTER
(190' TO HIGHEST APPURTENANCE)
(SEE SHEET C13)

PROPOSED 80' X 60' CHAIN
LINK FENCED COMPOUND W/
3 STRANDS OF BARBED WIRE
(9' MIN. HEIGHT)
(BBL. 3MB&13 12/7/11 E111)

PROPOSED 100' X 100' PREMISES
(50,000 SQ. FT.)
(SEE SHEET C2)

PROPOSED LESSEE 195' x 195' PREMISES
(56,000 SQ. FT.)

RICE ROAD
S.R. 1523
(60' PUBLIC RIGHT-OF-WAY)
SITE PLAN

SCALE: 1" = 20'

SITE NOTES:
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
   POINT TO POINT LAND SURVEYORS DATED 05/04/18 AND SITE VISIT
   ON 05/18/18.

3. CONTRACTOR TO CONFIRM WITH VERIZON CONSTRUCTION MANAGER
   THAT THE EQUIPMENT SHOWN HAS BEEN ORDERED/SCHEDULED FOR
   DELIVERY TO THIS SITE.

4. THE BASIS OF EQUIPMENT DESIGN INCLUDES ONE (1) RF CABINET,
   ONE (1) FUTURE BATTERY CABINET, AND ONE (1) FUTURE EXPANSION
   CABINET.

5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING
   AND MODIFYING SCOPE OF WORK TO ACCOMMODATE ANY CHANGES
   IN THE EXACT EQUIPMENT PROCURED BY VERIZON WIRELESS. COORDINATE
   ANY CHANGES WITH VERIZON WIRELESS CONSTRUCTION MANAGER.

6. ROUTE COAX/FIBER UPG TOWER PER STRUCTURAL ANALYSIS BY TOWER
   OWNER.

7. TOWER DIMENSIONS SHOWN ON THIS PLAN ARE FOR TOWER CENTER
   LOCATION. CONTRACTOR TO OBTAIN COPY OF TOWER ERECTION
   DRAWINGS FROM VERIZON CONSTRUCTION MANAGER PRIOR TO
   DRILLING TOWER FOUNDATIONS. CASSONS AND TOWER SHOWN ON THIS
   PLAN ARE ILLUSTRATIVE, SEE DESIGN DRAWING BY OTHERS, DO NOT
   SCALE.
1. EQUIPMENT PAD LAYOUT

**C3**

**SCALE:** 1" = 3'

7. RUN HYBRID CABLE FOR TOWER MOUNTED RRU'S OVERHEAD ON TRAPEZOID SUSPENDED FROM WAVEGUIDE BRIDGE, SWEET DOWN ONTO H-FRAME RAILS, THEN LOOP UNDER OVP AND CONNECT TO BOTTOM OF OVP; ATTACH GROUND KITS TO HYBRID CABLE BEFORE LOOPIING UNDER OVP, AND BOND TO TOSCA GROUND BAR AT BASE OF H-FRAME.

8. RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZOID SUSPENDED FROM WAVEGUIDE BRIDGE, TERMINATE COAX ON ICE BRIDGE AND TRANSITION TO JAMPER JUST BEFORE REACHING H-FRAME. ATTACH GROUND KITS TO COAX CABLE ON TOWER SIDE OF LAST ICE BRIDGE POST AND BOND TO TOSCA 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 RBGM CABINET.

10. BOLT CABINETS AND GENERATOR TO SLAB USING FASTENERS SPECIFIED BY EQUIPMENT MANUFACTURER IN FACTORY PROVIDED MOUNTING HOLES.

---

**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" FLEX POWER CONDUIT AND 1" FLEX ALARM CONDUIT FROM BOTTOM OF LC TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

4. RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

5. RUN (1) 18" 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 SITING RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.
CONCRETE PAD SCHEDULE

<table>
<thead>
<tr>
<th>PAD TYPE</th>
<th>&quot;L&quot;</th>
<th>&quot;W&quot;</th>
<th>&quot;D&quot;</th>
<th>REINFORCEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EQUIPMENT PAD</td>
<td>10'-0&quot;</td>
<td>6'</td>
<td>6&quot;</td>
<td>SEE DETAIL 2/C6</td>
</tr>
<tr>
<td>GENERATOR PAD</td>
<td>8'-0&quot;</td>
<td>3'-6&quot;</td>
<td>6&quot;</td>
<td>SEE DETAIL 2/C6</td>
</tr>
</tbody>
</table>

CONCRETE PAD PLAN

CONCRETE PAD FOUNDATION SECTION

1. CONCRETE PAD PLAN
   C6
   NOT TO SCALE

2. CONCRETE PAD FOUNDATION SECTION
   C6
   NOT TO SCALE

NOTES:
- MEDIUM BROOM FINISH, FINISH TO BE LEVEL 1/2".
- "SEE PLAN"
- 6" OF #57 STONE, MINIMUM
- WELL COMPACTED FILL MATERIAL (18" MINIMUM)
- BUILD UP BACKFILL 2" IN AREA OF SLAB
- 6" THICK CONCRETE SLAB WITH FIBERMESH 650
NOTE:
CURRENT DESIGN ANTICIPATES
APPROXIMATELY 30,700 SQ. FT (0.69
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 ON CONSTRUCTION IT IS
DETERMINED THAT MORE THAN 1 ACRE
OF LAND IS TO BE DISTURBED FOR
CONSTRUCTION AN EROSION AND
SEGMENTATION 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 ENGINEER'S
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 MATERIAL'S MAXIMUM DRY
DENSITY WITHIN 3 PERCENT OF OPTIMUM
MOISTURE CONTENT.

5. ALL SPOT ELEVATIONS NOTED IN THE
PROJECT DEFECTION CHART

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 C10.

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 ——— 100 ——— ———
TPF ——— ——— ———
EXISTING SPOT ELEVATION × XXX
PROPOSED SPOT ELEVATION ● XXX

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

MATCHLINE
SEE SHEET C8.1

07/27/18 CONSTRUCTION CMF
07/27/18 CMF

SHEET NUMBER: C8

OKA PROJECT NUMBER: 018985627
DRAWN BY: CMF
CHECKED BY: CMF

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NOTE:
CURRENT DESIGN ANTIPATES APPROXIMATELY 39,730 SQ. FT. (0.93 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 BIG WALK ON 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. CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S 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 MATERIAL'S MAXIMUM DRY DENSITY WITHIN 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
5. ALL FILL SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE LIFTS.
6. UNDISTURBED AREAS WITHIN 50' 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 C8.
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 — — 100 — — — —
TPF — — 100
EXISTING SPOT ELEVATION — — — —
PROPOSED SPOT ELEVATION — — — —

SCALE: 1' = 40'
GRAPHIC SCALE: 1' = 40'

GRADING & EROSION CONTROL PLAN
NOTE:
CURRENT DESIGN ANTICIPATES
APPROXIMATELY 30,703 SQ. FT. (0.69
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 BIG
WALK ON 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 MATERIAL’S 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
DETAL ON SHEET C8.3
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 \n
EXISTING SPOT ELEVATION X XXX
PROPOSED SPOT ELEVATION ● XXX

C8.2

GRADING & EROSION CONTROL PLAN
SCALE: 1" = 40’

MATCHLINE
MATCHLINE
SEE SHEET C8.1
SEE SHEET C8.3

0 20 40 60 80
GRAPHIC SCALE: 1" = 40’

The document, together with the concepts and design presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. None of and no person relying on this document without written authorization and approval by Kimley-Horn and Hanassian, Inc. shall be without liability to Kimley-Horn and Hanassian, Inc. Copyright Kimley-Horn and Hanassian, Inc. 2018.
NOTE:
CURRENT DESIGN ANTIPATES APPROXIMATELY 35,750.92 SQ. FT. (0.89 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 BIO WALK ON 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 C8.6
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 —— LOO —— XXX
TPF —— XXX
EXISTING SPOT ELEVATION × XXX
PROPOSED SPOT ELEVATION ● XXX

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

GRAPHIC SCALE: 1" = 40'
NOTE:
CURRENT DESIRED VARIATIONS
APPROXIMATELY 35,000 SQ. FT (0.89 ACRES) OF CLEARING AND GRAVING 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 BIG
WALK ON 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 C0.
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
TPF
EXISTING SPOT ELEVATION
PROPOSED SPOT ELEVATION

SCALE: 1" = 40'
NO TRESPASSING
VIOLATORS WILL BE PROSECUTED

This is a Verizon Wireless Antenna Site

VERIZON WIRELESS - SITE ID SIGN

WARNING-RF SIGN (RED)
12" WIDE X 18" HIGH

CAUTION-RF SIGN (YELLOW)
12" WIDE X 18" HIGH

NOTICE-RF SIGN (BLUE)
12" WIDE X 18" HIGH

WARNING

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case you would be required to correct the interference at your own expense.

CAUTION

Avoid exposure to RF energy. Exposure to RF energy is potentially harmful. The maximum RF exposure levels for this equipment are 100mW/cm².

NOTICE

INDOOR FREQUENCY ENVIRONMENT IS NOTolation

SIGN PLACEMENT PLAN VIEW
NOT TO SCALE

FCC TOWER REGISTRATION NO.
XXXXXXX WHITE BLACK LETTERING

TYPICAL SIGNS AND SPECIFICATIONS
NOT TO SCALE

SIGNAGE NOTES:
1. SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESERVED METAL AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
2. SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE, AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (AS USED IN FENCE INSTALLATION) OR BRACKETS WHERE NEEDED. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.

SIGN PLACEMENT FRONT GATE VIEW
NOT TO SCALE
**NOTE:**

1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.

**DETAIL A**
ANDREW #1 POST WAVEGUIDE BRIDGE KIT (PART #: NES-K210-B10, OR APPROVED EQUIVALENT)

**DETAIL B**
ANDREW #2 POST WAVEGUIDE BRIDGE KIT (PART #: NES-K410-B10, OR APPROVED EQUIVALENT)
GENERAL LANDSCAPE NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS WORK WITH THAT OF ALL OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES, PRIOR TO COMMENCEMENT OF ANY WORK. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ABOVE-GROUND AND UNDERGROUND UTILITIES.

2. THE QUALITY AND SIZE OF ALL PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT STANDARDS AS SET FORTH IN AND ENG-SRO - AMERICAN STANDARD FOR NURSERY STOCK.

3. ALL DISTURBED AREAS NOT COVERED BY HARDSCAPE OR PLANT MATERIALS SHALL BE COVERED WITH SED AND STRAW.

4. PLANT SUBSTITUTIONS MAY BE PERMITTED ONLY AFTER PROOF THAT SPECIFIED PLANTS ARE UNAVAILABLE AND THE REQUEST HAS BEEN SUBMITTED TO THE OWNER OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL PROVIDE THE NEAREST EQUIVALENT TOLERABLE SIZE AND VARIETY OF THE PLANTS HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE PLANTS SPECIFIED.

5. MINOR PLANT LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD TO ENSURE ACCESS TO UTILITY JUNCTION BOXES, FREE SITE LIGHTING OF FUTURE TREE CANOPY INTERCEPTION, AND ALLOW UNINTERRUPTED PEDESTRIAN / VEHICULAR CIRCULATION ON ALL PAVEMENTS OR FOUNDATIONS.

6. ALL SHRUB MASSES OF TWO OR MORE SHALL BE EDGED INTO A PLANTING BED AND MULCHED PER DETAIL. ALL INDIVIDUAL TREES AND SHRUBS SHALL HAVE A MILLENNIUM SAUCER EQUAL IN DIAMETER TO THE PLANTING PIT DIAMETER AND SHALL BE MULCHED AS SHOWN ON THE DETAILS. UNLESS OTHERWISE INDICATED, ALL BED EDGES SHALL BE A DEEP CUT CLEAN SPADE EDGE.

7. THE CONTRACTOR SHALL VERIFY THAT EACH TREE OR SHRUB PIT WILL DRAIN BEFORE INSTALLING PLANT MATERIAL. HE SHALL FILL THE HOLE WITH SIX INCHES (6") OF WATER THAT SHOULD PERCOLATE OUT WITHIN TWENTY-FOUR HOURS. SHOULD ANY AREA NOT DRAIN PROPERLY, A PERFORATED DRAIN LINE SHALL BE INSTALLED, OR THE PLANTS REPLACED.

8. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF HE ENCOUNTERS ANY UNSATISFACTORY SUBFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PAN, UTILITY LINES, OR OTHER CONDITIONS THAT WOULD JEPARDIZE THE HEALTH AND VIGOR OF THE PLANTS. SHOULD THE CONTRACTOR NOT NOTIFY THE OWNER OF A PROBLEM, HE WARRANTS THAT THE AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF ALL PLANTS INSTALLED.

9. THE CONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ALL PROBLEMS IMMEDIATELY, AND TAKE PROPER CORRECTIVE ACTION TO ENSURE THE HEALTH AND VIGOR OF THE PLANTS.

10. ALL PLANTS SHALL BE SO PLANTED IN DEVELOPMENT AND APPEARANCES AS TO BE UNOFFICIAL IN FUTURE FORM, COMPACTNESS AND SYMPATHY. THEY SHALL BE SOUND, HEALTHY, VIRGINIC, WELL-BRANCHED AND MATURELY FOLIATED WHEN IN LEAF, AND FREE OF DISEASE AND INSECT ADULT EGGS, PUPAE OR LARVAE. THEY SHALL HAVE HEALTHY, WELL-DISTRIBUTED ROOTS 1/20" IN DIAMETER AND SHALL BE FREE FROM PHYSICAL DAMAGE OR OTHER CONDITIONS THAT WOULD PREVENT THOROUGH GROWTH.

11. THERE SHALL BE NO CIRCLING OR GIRDLING ROOTS. CIRCLING ROOTS SHOULD BE CUT AT A LENGTH AT LEAST ONE INCH.

12. THERE SHOULD BE ONE DOMINANT LEADER TO THE TOP OF THE TREE WITH THE LARGEST BASE PER SIZED AT LEAST 6 INCHES APART. THERE CAN BE TWO LEADERS IN THE TOP 10% OF THE TREE IF THE TREE IS OTHERWISE OF GOOD QUALITY.

13. THE TREE CANOPY SHOULD BE SYMMETRICAL AND FREE OF LARGE VOMIT. CLEAR TRUNKS SHOULD BE NO MORE THAN 40% OF TREE HEIGHT UNLESS OTHERWISE SPECIFIED IN THE PLANTING SPECIFICATIONS. CLEAR TRUNKS SHALL BE OF SUFFICIENT HEIGHT TO CLEAR SURROUNDING USES THAT MAY BE IMPACTED BY THE FUTURE GROWTH OF THE TREE.

14. OPEN TRUNKS AND BRANCH WOUNDS SHALL BE LESS THAN 10% OF THE CIRCUMFERENCE AT THE WOUND AND NO MORE THAN 7 BIRTHS TALL PROPERLY MADE PRUNING CUTS ARE NOT CONSIDERED OPEN TRUNK WOUNDS. THERE SHOULD BE NO MUNCHES OR BLEEDING, AND THERE SHOULD BE NO SIGNS OF INSECT OR DISEASE ON MORE THAN 5% OF THE TREE.

15. IF ANY OF THE ABOVE CONDITIONS ARE NOT MET, TREES MAY BE REJECTED.

16. TREE PROTECTION DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY CLEARING, GRUBBING, OR GRADING OF THE SITE BY THE LOCAL AEROSPORT.

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**PLANTING LIST**

<table>
<thead>
<tr>
<th>SYM</th>
<th>QTY</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>PLANTING HEIGHT</th>
<th>ROOT</th>
<th>SPACING</th>
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<tr>
<td>ASM</td>
<td>7</td>
<td>Magnolia Grandiflora</td>
<td>Southern Magnolia</td>
<td>4&quot;-6&quot; MNL</td>
<td>B&amp;B</td>
<td>SEE PLAN</td>
</tr>
<tr>
<td>CCCL</td>
<td>46</td>
<td>Prunus Caroliniana</td>
<td>Carolina Cherry Laurel</td>
<td>2&quot;-4&quot; MNL</td>
<td>B&amp;B</td>
<td>SEE PLAN</td>
</tr>
</tbody>
</table>

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**LEGEND**

- Southern Magnolia
- Carolina Cherry Laurel

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**NOTES**

- This document, together with the concepts and designs presented herein, is intended only for the specific purpose and shall be final when it is accepted. None of the drawings, plans, specifications, or other documents presented herein shall be altered or amplified in any manner, other than in writing, without the written consent of the architect/owner/owner.

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 CODES, STANDARDS, AND PROFESSIONAL STANDARDS 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 PRAXIS AS REQUIRED BY NRC, NEMA, ANSI, NFPA, URC, UL, IEE, 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 RATING AT ALL WALL PENETRATIONS.

1.06 CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 3" 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 INSTALLATION AND SHALL DELIVER A COPY OF ALL PERMITS TO THE VERIZON REPRESENTATIVE.

2.02 CONTRACTOR SHALL SCHEDULE AND SHOULD ATTEND ALL RELAY TESTING IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.

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 ANY CONDITION ANY ITEMS DAMAGED AS A RESULT OF THE WORK.

2.06 CONTRACTOR SHALL REPAIR ANY LANDSCAPING DISTURBED DURING INSTALLATION.

2.07 IF CONDUIT RUNS HAVE MORE THAN THREE (3) CONSECUTIVE 90 DEGREE TURNS, THE CONTRACTOR SHALL INSTALL FULL 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 CONTRACT.

3.02 FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTALLATION INSTRUCTIONS. UNDERWITERS LABORATORY (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN STANDARDS ASSOCIATION (ASA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND THE NATIONAL ELECTRICAL CODE (NEC).

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 OWNERS FOR THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLATION.

3.05 ALL CONDUCTORS SHALL BE COPPER WITH THICK 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 TAP 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. ALL CONDUIT SEALS SHALL HAVE A CONTINUOUS DOWNWARD SLOPE AWAY FROM ALL EQUIPMENT TO PREVENT WATER INFILTRATION.

3.08 ALL CONDUITS SHALL BE SCHEDULED 4D PVC UNLESS NOTED OTHERWISE ON THE PLAN. CONDUIT SCHEDULED UNDER A ROADWAY SHALL BE IN accordance WITH THE PERTINENT REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. ALL INGROUND CONDUITS SHALL BE SECURED AT EACH END OF CONDUIT RUNS. ALL SPARE CONDUIT ENDS SHALL BE SECURED WITH MANUFACTURED PVC FITTINGS.

3.11 CONTRACTOR SHALL BOND EACH METALLIC CONDUIT ENTERING A METALLIC ENCLOSURE WITH A #8 AWG INSULATED COPPER BONDING JUMPER PER NEC. CONTRACTOR SHALL BOND ALL ELECTRICAL EQUIPMENT TO THE H-FRAME RACK ON WHICH EQUIPMENT IS MOUNTED WITH A #6 AWG INSULATED COPPER BONDING JUMPERS PER NEC.

3.12 CONTRACTOR SHALL IDENTIFY THE END OF ALL SPARE UNDERGROUND CONDUITS AND PROVIDE 90 DEGREE ELBOWS WITH VERTICAL CONDUIT EXTENSIONS TO EXTEND 5" ABOVE FINISHED GRADE LEVEL. CONTRACTOR SHALL TERMINATE CONDUITS WITH MANUFACTURED CONDUIT CAPS THAT THE CONTRACTOR HAS PAINTED ORANGE.

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. TRAFFIC RATED TELCO VAULT FURNISHED AND INSTALLED BY LIT FIBER PROVIDER (SEE NOTE 4.05 ON SHEET E1).
4. TRAFFIC RATED TELCO VAULT FOR DARK FIBER
5. TELCO BOX (SEE SHEET C4).
6. CENIA UNIT IF NEEDED (SEE SHEET C4).
7. INTEGRATED LOAD CENTER (SEE SHEET C4).
8. VERZON CONCRETE EQUIPMENT PAD (SEE SHEET C6).
9. VERZON CONCRETE GENERATOR PAD (SEE SHEET C6).
10. DISCONNECT SWITCH (SEE SHEET C4).

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

A. TWO (2) 4" PVC POWER CONDUITS FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY (SEE TRENCH DETAIL 2/E7).
B. 2" PVC POWER CONDUIT FROM PROPOSED METER RACK TO EQUIPMENT RACK (SEE TRENCH DETAIL 2/E7).
C. TWO (2) 2" PVC TELCO CONDUITS, EACH WITH THREE (3) 3/4" INNERDUCITS AND PULL ROPES (SEE TRENCH DETAIL 2/E7).
D. LIT FIBER CONDUITS FROM RIGHT OF WAY FURNISHED AND INSTALLED BY LIT FIBER PROVIDER.
E. 2" PVC CONDUIT FOR DARK FIBER W/THREE (3) 3/4" INNERDUCITS AND PULL ROPES. (SEE DETAIL 2/E7 AND SHEET E3).
F. 1/2" PVC CONDUIT FOR POWERING BATTERY CHARGER AND ALARM SIGNAL CABLES 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).

UTILITY SERVICE ROUTING PLAN

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

SCALE: 1" = 100'

KEY NOTES - ELECTRICAL EQUIPMENT

1. TRAFFIC RATED TELCO VAULT FURNISHED AND INSTALLED BY ELECTRICAL PROVIDER (SEE NOTE 4.05 ON SHEET E1).

2. TRAFFIC RATED TELCO VAULT FOR DARK FIBER (SPACED EVERY 400' AND AT TURNS AS NEEDED TO ALLOW DARK FIBER TO BE PULLED).

3. 3" X 5" TRAFFIC RATED TELCO HANGHOLE FOR DARK FIBER.

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

A. 2" PVC CONDUIT FOR DARK FIBER WITH THREE (3) 3/4" INNER DUCTS AND PULLropes. (SEE DETAIL 2/E7) (APPROXIMATELY 8,400').

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KEY NOTES - CONDUIT, CONDUCTORS, & MISC

A. GALVANIZED RIGID STEEL CAP, TYPICAL.
B. 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
C. 1½" GALVANIZED STEEL CHANNEL (UNISTRUT #1000 OR APPROVED EQUIVALENT) WITH PLASTIC END CAP (UNISTRUT #229050), TYPICAL.
D. ONE (1) #2 AWG BARE SOLID TANNED COPPER BONDING CONDUCTORS (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
E. 4" PVC CONDUIT FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY, TYPICAL OF 2.
F. KEYNOTE NOT USED.
G. 2" PVC CONDUIT FOR ROUTING FEEDERS TO NON-FUSED DISCONNECT SWITCH.
H. ¾" PVC CONDUIT WITH ONE (1) – 2/0 BARE STRANDED TANNED COPPER GROUNDING ELECTRODE CONDUCTOR (GEC) FROM GROUNDING LUG TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
J. GROUND RING (SEE "E" SHEETS).
K. GROUND ROD, EXOTHERMIC WELD TO GROUND RING. (SEE "E" SHEETS).
L. CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMpressive STRENGTH OF 4,000 PSI, AND INCLUDE FIBERMESH 850-3E.

KEY NOTES - ELECTRICAL EQUIPMENT

1. 200 AMP METER SOCKET IN NEMA 3R ENCLOSURE, TYPICAL OF 4. ONLY TOP SOCKET WILL RECEIVE METER UNDER THIS CONTRACT.
2. 800 AMP, 22K4IC, 4 GANG, SERVICE ENTRANCE RATED METER CENTER IN NEMA 3R ENCLOSURE. BOND TO RACK PER NEC.
3. 200 AMP, 3 POLE (22K4IC) 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.
**ELECTRICAL SINGLE LINE DIAGRAM**

**NOT TO SCALE**

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**ELECTRICAL EQUIPMENT**

1. Furnish and install 800 amp, 3-wire, single phase, 120/240 volt, 20kAIC, 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, energizes meter socket (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, 6 circuit with 42 space panel and automatic transfer switch. All circuit breakers shall be rated 10kAIC minimum. ILC is furnished by Verizon and installed by general contractor.
5. Furnish and install two (2) area lights, (Lithonia HFR-2506-12T2-DNA-LP3), (or approved equivalent).
6. 30 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.

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**KEY NOTES - ELECTRICAL EQUIPMENT**

- Furnish and install 800 amp, 3-wire, single phase, 120/240 volt, 20kAIC, 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.
- 20 amp GFCI duplex outlet receptacle and timer switch, energizes meter socket (or approved equivalent) in lockable NEMA 3R enclosure.
- Furnish and install SE rated 240 V, 200 amp, 2 pole, non-fused disconnect in NEMA 3R enclosure.
- 200 amp, 120/240 volt, 6 circuit with 42 space panel and automatic transfer switch. All circuit breakers shall be rated 10kAIC minimum. ILC is furnished by Verizon and installed by general contractor.
- Furnish and install two (2) area lights, (Lithonia HFR-2506-12T2-DNA-LP3), (or approved equivalent).
- 30 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.

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**KEY NOTES - CONDUIT, CONDUCTORS, & MISC**

- Two (2) 4" conduits by contractor for incoming service laterals by local utility for 800 amp, 120/240 volt, single phase service.
- Bond ground bus to neutral bus and ground bus to enclosure with 20A bonding jumper.
- One (1) 3/0 bare stranded tinned copper GEC to ground rod, exothermic weld GEC to ground rod.
- Three (3) 3/0 conductors and one (1) #6 AWG ground in 2" conduit.
- Two (2) #12 AWG conductors and one (1) #12 AWG ground in 1" conduit.
- One (1) 2/0 bare stranded tinned copper GEC from ground lug in ILC to ground rod, exothermic weld GEC to ground rod.
- Automatic transfer switch alarm and generator control cables in 1" conduit.
- Four (4) #12 conductors and one (1) #12 AWG ground in 1" conduit.
- 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.
- Sixteen (16) #6 AWG conductors and four (4) #6 EG for 30 amp circuits. Two (2) #6 AWG conductors and one (1) #6 EG for 20 amp circuit, all in 2" PVC conduit.
- Alarm cables in 1" PVC conduit.
- One (1) - 2/0 bare stranded tinned copper GEC from ground lug in disconnect switch ground ring, exothermic weld to ground ring.
- Three (3) 1/0 AWG conductors and one (1) #6 AWG EG in 15" conduit. Verify generator breaker does not exceed 150 amps.
### PANEL SCHEDULE - VERIZON INTEGRATED LOAD CENTER

<table>
<thead>
<tr>
<th>Voltage: 240/120 Volts</th>
<th>MCIR Size: 200 Amps</th>
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<tbody>
<tr>
<td>Phase, Wires: Single Phase, 3 Wire</td>
<td>AIC Rating: 10,000 Amps min</td>
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<tr>
<td>Mounting Type: Surface</td>
<td>Bus Rating: 200 Amps</td>
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<tr>
<td>Enclosure Type: NEMA 3R</td>
<td>Neutral Rating: 100%</td>
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**Load Serviced**

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<tr>
<th>Load</th>
<th>Load (kVA)</th>
<th>Circuit Brkr Size</th>
<th>Ch #</th>
<th>Ch #</th>
<th>Circuit Brkr Size</th>
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**LOAD SUMMARY**

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<th>Load Description</th>
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<td>LIGHTING</td>
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*NOTE: CIRCUIT LOAD AND DEMAND FACTOR PROVIDED BY VERIZON.
**NOTE: CHARGER LOAD REMOVED AND HEATER LOAD DEMAND FACTOR REDUCED TO 1.00 DURING GENERATOR OPERATION.*

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1 PANEL SCHEDULE
E6 NOT TO SCALE
1
DRIP LOOP DETAIL
E7
NOT TO SCALE

2
TYPICAL TRENCH DETAIL
E7
NOT TO SCALE

NOTES:
1. IF GROUND SURFACE IS OTHER THAN NEWLY GRAVIEL 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.

FINISHED GRADE.
CRUSHED AGGREGATE, SEE
CIVIL DRAWINGS FOR DETAILS.
COMPACTED BACKFILL

6" WIDE METALIC UTILITY WARNING
TAPE, RED, INDUSTRIES #432-251
OR APPROVED EQUIVALENT.

UNDERGROUND CONDUCTS, SEE
PLANS FOR SIZE & QUANTITY.

TOP OF GRAVEL.
EXOTHERMIC WELD, TYPICAL.
6" AMG BARE SOLID TINNED
COPPER GROUNDING CONDUCTOR
IN 3/4" PVC CONDUIT, TYPICAL.

TOWER GROUND RING.

EXOTHERMIC WELD GROUNDING
CONDUCTORS TO GROUND RING, TYPICAL.

COAX DRIP LOOP.

COAX GROUNDING KIT.

COAX CABLE.
1. THE GROUND RING SHALL CONSIST OF #2 AWG BARE SOLID TINNED COPPER (STC) CONDUCTOR, UNLESS NOTED OTHERWISE, BURIED AT 24" BELOW THE SURFACE IN NON-FRAME FOOT PRINT FOR THE STRUCTURE. LOCATE 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA AND FROM 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 SHALL BE AT LEAST 5/8" IN DIAMETER, AND 8' IN LENGTH. SPACING BETWEEN GROUND RODS SHALL BE 10' MINIMUM AND 15' 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 WIRE EXCEPT GROUND WIRE WHICH PASSES OVER TOP OF GROUND ROD (CLAMPED CONNECTIONS TO GROUND ROD PER TOWERS MANUFACTURERS DETAILS ARE ACCEPTABLE).

3. GROUNDING RING SHALL HAVE A MINIMUM OF 4 GROUND ROADS AND A MINIMUM OF 2 GROUND ROADS 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 ROADS, EXCEPT USE 4 RODS AT A MONOPOLE TOWER. WHERE SPREAD TOWER FOOTING WOULD PREVENT GROUND ROADS FROM BEING DRIVEN INTO SOIL, ADJACENT TO TOWER, PROVIDE VERTICAL 1" DIAMETER PVC SLEEVES EMBEDDED IN FOOTING TO ALLOW INSTALLATION OF GROUND ROADS.

4. GROUND RING AND TOWER GROUND RING SHALL BE BONDED TOGETHER WITH TWO #2 STC GROUND LEADS, TYPICALLY ONE ON EACH SIDE OF ICE ROLLER.

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. MONOPOLE AND GIYED TOWERS SHALL HAVE EACH LEG BONDED TO GROUND RING BY EXOTHERMICALLY WELDING LEAD TO TOP OF BASE PLATE, OR ATTACH TO TOWER USING TOWER MANUFACTURERS PROVIDED DETAILS.

6. PROVIDE #2 RADIALS FROM THE TOWER GROUND RING TO EACH FENCE CORNER POST. RADIALS SHALL HAVE GROUND ROADS AS PER THE GROUND RING INSTALLATION. THE GROUND BOND LEAD AT EACH TERMINAL SHALL BE 24" MAXIMUM FROM FENCE CORNER POST. EQUIPMENT BONDED TO GROUND RING AND CONNECTIONS BETWEEN GROUND RINGS (BETWEEN EQUIPMENT AREA AND TOWER GROUND RINGS) MAY BE USED AS PART OF THE TOWER GROUND RING INSTALLATION, TO THE CORNER POST CLOSEST TO THE EQUIPMENT AREA.

7. MINIMUM BEND RADIUS FOR #2 AWG GROUND WIRE IS 12", UNLESS USE #24" FOR TOWER GROUND RINGS AND EQUIPMENT PAD GROUND RINGS.

8. GROUND ALL EXTERNAL EXPOSED METAL OBJECTS, USE TWO HOLE LUGS FOR CONNECTION TO FLAT METAL SURFACES, SUCH AS STEEL, ALUMINUM, OR BRASS BARE METAL, PRIOR TO MAKING GROUND CONNECTIONS. APPLY ANTI-OXIDE COUMPOUND TO ALL CONNECTIONS. APPLY 2ND RICH PAINT (COLD GALV.) TO ALL EXOTHERMIC WELDED CONNECTIONS, AND 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 BE BURIED WITHIN 3/4" OF A 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.

10. AT GUYED AND SUPPORT TOWERS MOUNT TSDEGA-PA14 TOP BUCKET BOTTOM ROLLER ON DEDICATED POST DIRECTLY ABOVE GROUND, 24" ABOVE FROST OR ABOVE BASE LINE. LOCATE 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA AND FROM FOUNDATION. ALL CONNECTIONS SHALL BE MADE USING A PARALLEL TYPE EXOTHERMIC WELD, UNLESS NOTED OTHERWISE.

11. AT MONOPOLE TOWERS CLAMP TSDEGA-BC14 TOWER BOTTOM ROLLER BAR DIRECTLY TO TOWER ROLLER BAR. IF BANDING COAX TO OUTSIDE OF TOWER, CLAMP TO COAX TO STEEL ANGLE WHICH IS BONDED TO TOWER. BOND TSDEGA-BC14 TO TOWER ROLLER BAND WITH TWO #2 STC LEADS BURIED TO GROUND BAND AND THEN BOND 12" MINIMUM TO CONCRETE TOPOLOGY.

12. AT GROUNDING RING TO EARTH, INSTALL TSDEGA-PA14 EXTENSI GROUND BAND (THRU-BOLTED STYLE) AT BASE OF (2) INTERIOR H-FRAME POSTS AND (2) EXTERIOR H-FRAME POSTS WHICH IS NEAREST TO THE GROUND RING AND CLOSER TO TOWER THAN THE COAX CABLER CRADLE TERMINATION. MOUNT GROUND BAND TO H-FRAME POSTS AT 8" ABOVE GRAVEL AND TO ICE BRIDGE POST AT 6FT ABOVE GRAVEL.

13. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPERED TOGETHER WITH #2 WIRE. EITHER BARE TINNED COPPER OR GREEN INSULATED STAINED ICE BRIDGE SHALL BE BONDED AT EACH END WITH #2 STC WIRE BURIED 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.

14. BOND EACH ICE BRIDGE POST, H-FRAME POST OR DECORATIVE GROUNDING POST TO BURIED GROUNDING SYSTEM WITH #2 STC LEADS EXOTHERMICALLY WELDED TO CABLER GRADIAL AND EXOTHERMICALLY WELDED TO GROUND RING. EACH POST TO BE BONDED TO GROUND LEAD EXTENSIVELY TO GROUND RING – DO NOT DASHE CHAIN POSTS TOGETHER.

15. BOND EACH BF CABINET TO EQUIPMENT GROUND RING WITH #2 AWG BARE SOLID COPPER CONDUCTOR FIXED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. LUG TO CABINET USING LOCATION AT WHICH STUDS ON CABINET CHASSIS HAVE DIRECT GROUND WIRING CONNECTION TO CABINET INTERNAL GROUND BUS CONDUIT AND CONDUCTOR ACROSS BACK OF CABINET (DO NOT RUN TOWARDS NEAREST CORNER OF CABINET AND THEN BOND GROUND WIRE TO CABINET BASE CONDUIT BARE 2" BELOW CABINET, THEN DOWN INTO GRAVEL AREA.

16. BOND EACH BATTERY CABINET TO GROUND RING WITH #2 AWG BARE SOLID COPPER CONDUCTOR BURIED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND LEAD IN FLEX CONDUIT ALONG BACK OF RB627 CABINET, ACROSS CONCRETE PAD BELOW CABINET LUG, THEN DOWN INTO GRAVEL AREA. CONNECT TWO HOLES LUG TO TOP OF BATTERY CABINET AT FACTORY PROPOSED GROUNDING STUD.

17. WHERE PROPANE TANK IS INSTALLED TO FUEL GENERATOR, BOND PROPANE TANK TO GROUNDING 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 ANTEENA AND GPS ANTEENA MOUNT TO TSDEGA GROUND BAR AT BOTTOM OF H-FRAME POST WITH #2 GREEN INSULATED STRAND 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 GROUND POSTS TOGETHER WITH #2 STC LEAD WHICH RUNS PAST AND CONNECTS TO GROUND RODS AND GROUND RING.

20. BOND EACH GATE TO #2 STC TO NEAREST PORTION OF GROUNDING SYSTEM INSIDE COMPOUND.

21. BOND EACH GATE TO GATE POST WITH FLEXIBLE INSULATED OR BRASSED #2 COPPER STRAP, EXOTHERMICALLY WELDED STRAP TO BOTH GATE AND GATE POSTS.

22. ANY METAL FENCE POST WITHIN 8FT OF A GROUNDED METAL OBJECT SHALL BE BONDED TO THE NEAREST GROUND RING. ANY METAL FENCE POST WITHIN 8FT OF A GROUND RING SHALL HAVE THE LINE POSTS BONDED TO THE GROUND RING AT 20FT maximum INTERVALS AS MEASURED ALONG THE LENGTH OF THE FENCE.

23. WHERE GROUND BASED RUI’S, RAYCAP DVP’S OR DIPLEXERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TSDEGA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRAND GROUND WIRE. SINGLE HOLE LUG OR RING TYPE CONNECTOR IS SUITABLE FOR CONNECTION TO GROUNDING STUD ON EACH COMPONENT.

24. NOTIFY VZW TO INSPECT GROUND RING BEFORE BACKFILLING. GROUNDING STUDS MUST BE DISCONNECTED PRIOR TO TAKING FALL OF POTENTIAL METHOD GROUND TEST. MAXIMUM ALLOWABLE RESISTANCE TO GROUND IS 5 OHMS, ADDITIONAL GROUND SYSTEM COMPONENTS AS REQUIRED TO ACHIEVE THIS VALUE.

25. REFER TO TOWER GROUNDING DIAGRAM AND NOTES FOR GROUNDING SYSTEM REQUIREMENTS ON THE TOWER.

26. GROUNDING OF ALL ELECTRICAL EQUIPMENT SHALL BE AS PER NEC, MUNICIPAL AND UTILITY COMPANY REQUIREMENTS.
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  TOSGA-PA14 OR TOSGA-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  RNU'S AND OVP'S GROUNDING (SEE NOTE 23 ON E8).
I  ICE BRIDGE POST BOND TO GROUND RING, TYPICAL (SEE NOTES 12 AND 13 ON E8).
J  FENCE POST GROUNDING, TYPICAL (SEE NOTE 22 ON E8).
K  GATE GROUNDING, TYPICAL (SEE NOTES 19, 20 & 21 ON E8).
L  UTILITY H-FRAME GROUNDING, TYPICAL (SEE SHEET E3 AND NOTE 13 ON E8).
M  TOWER GROUNDING, TYPICAL (SEE NOTES 9, 10 & 23 ON E8).
N  GROUND RADIALS, TYPICAL (SEE NOTE 6 ON E8).
O  REFER TO SHEETS E10, E11 & E12 FOR GROUNDING NOTES, DETAILS, AND SPECIFICATIONS.
P  PROPANE TANK GROUNDING, IF INSTALLED (SEE NOTE 17 ON E8).
Q  BATTERY CABINET GROUNDING, IF INSTALLED (SEE NOTE 15 ON E8).

LEGEND:

- - - - - - G - G  GROUND RING
- - - - - O - G  GROUND ROD EXOTHERMICALLY WELDED TO GROUND RING
  EXOTHERMIC WELD
  GROUND ROD TEST WELL (SEE DETAIL 1/E11)
  MECHANICAL CONNECTION
1. BAR NONE GROUNDED BEAM CLAMP (TDSGA-BC14)

   TINNED COPPER LONG-BARREL DOUBLE-LUG CONNECTOR, TYPICAL.
   STAINLESS STEEL SPACER, TYPICAL.
   STAINLESS STEEL BEAM CLAMP, TYPICAL.
   STAINLESS STEEL HARDWARE, TYPICAL.

   **E12**
   **NOT TO SCALE**

2. BAR NONE POST MOUNTED (TDSGA-PA14)

   TINNED COPPER LONG-BARREL DOUBLE-LUG CONNECTOR, TYPICAL.
   STAINLESS STEEL SPACER, TYPICAL.
   STAINLESS STEEL HARDWARE, TYPICAL.

   **E12**
   **NOT TO SCALE**

3. ANTENNA GROUND WIRE INSTALLATION DETAIL

   **E12**
   **NOT TO SCALE**

   **NOTES:**
   1. ALL GROUND BARS ON TOWER ARE TO BE ERICO TDSGA,
      TYPICALLY USE TDSGA-AB7 (ISOLATED) FROM URNISTRUT BRACKET.
   2. IF GROUND CANNOT BE CONNECTED TO TOWER WITH **2** AWG Grounding conductor, via clamp or exothermic weld, THEN USE **2** AWG BLACK GROUND LEAD FROM COAX DOWN TO NEXT LOWER COAX.
      SECURITY GROUND LEAD WITH NON-METALIC TIES AT SAME SPACING AS COAX SUPPORTS.

4. BAR NONE INSULATED (TDSGA-WB17)

   **E12**
   **NOT TO SCALE**