



**DINWIDDIE COUNTY, VA  
TECHNICAL REVIEW**

**PROPOSED NEW 199' MONOPOLE TOWER**

**WIRELESS TELECOMMUNICATIONS  
FACILITY**

To be developed and owned by

**Verizon Wireless**

**Site Name: Grubby**

Located at  
**Wilson Road  
Wilsons, VA 23894**

**Submitted by:**

**ATLANTIC TECHNOLOGY CONSULTANTS, INC.**

A Member of The Atlantic Group of Companies

**ATC PROJECT #: 1041-126**

**February 20, 2019**



THE ATLANTIC GROUP  
OF COMPANIES, INC.

## EXECUTIVE SUMMARY

Verizon Wireless (Verizon) has made application to the County for the issuance of a Conditional Use Permit to allow construction of a new 199' self-supported monopole style telecommunications tower (195' monopole plus 4' lightning rod). This property is owned by Tamara R. Anderson, 2120 Stavemill Estates Drive, Powhatan, VA 23139.

Verizon is an FCC licensed telecommunications provider authorized and mandated to provide coverage to the Dinwiddie County area, and proposes the addition of a 199' self-supported monopole style transmission tower to support 4-G service delivery in an area of documented lack of system coverage along the Rt. 460 and Wilson Road east-west corridor of Dinwiddie County.

Supporting and clarifying evidence regarding the suitability of the proposed design in meeting the specified coverage goals is also included.

It is the opinion of this Consultant that this application demonstrates intent to conform to all Federal, State, and County regulations regarding the construction of telecommunications support structures, represents a sound design, and should therefore be granted approval as proposed.



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George N. Condyles, IV CPM  
President and COO  
Atlantic Technology Consultants, Inc.

## 1.0 TECHNICAL

### 1.1 Siting

The proposed tower site is a 100' x 100' square area of land located on a 249.25 acre tract owned by Tamara R. Anderson. The tract is located on County tax parcel map #25-31 and zoned A-2 for Agricultural. The majority of the surrounding tracts are zoned A-2. The 80'x 80' chain-link fenced compound will provide sufficient ground space for location of the tower, tower foundation, shelter, and future co-locations. Verizon proposes the addition initially of twelve (12) panel antennas, 1 5/8 cable of 270'± length, an ice bridge, a 4' x 10' concrete pad for equipment cabinets, a 4' x 8' concrete pad and standby generator, and utility cabinets and grounding system.

The physical site is located in Dinwiddie County at 0 Wilson Road with the center of the proposed tower located at coordinates N 37° 07' 41.25" and W 77° 51' 42.26". Ground elevation is 378'.

This tower which will be owned by Verizon is designed to accommodate six (6) co-locators (four (4) LMR and two (2) Static wireless broadband providers) and their equipment.

As per the County's Zoning Ordinance, Article IX, Section 22-274 (2) for Setback requirements, "Towers must be set back a distance equal to 200% of the height of the antenna or tower to the nearest residential structure and in no case less than 400 feet."

As the Applicant's Site Plan indicates, the setback from the proposed tower to the nearest property line is 230.0' and 435.0' of setback to the nearest residential structure.

#### Co-location

While co-location is preferable to construction of a new site, with such co-location minimizing visual impact of telecommunications equipment on the surrounding area, no additional sites are available in the area which would meet the applicant's coverage objectives. Our findings were as follows: There are no co-location sites in the immediate area within 5 mile radius.

## 1.2 Structural

The Applicant has included sample tower drawings for a 195' monopole tower with a four (4) foot lightning rod for an AGL of 199' designed for six (6) co-locations (four (4) LMR and two (2) Static wireless providers) and demonstrating Structural and Tower Specifications.

The proposed 195' monopole tower design is constructed of high strength steel, and represents a highly stable structural design not known by this consultant to have failed at any installation in this region.

This structure, as proposed, should be within compliance of EIA/TIA-222-G guidelines (the accepted industry standard) for structures which is mandated to withstand the structural loading of all appurtenances.

Verizon will submit this data upon the request of a Building Permit.

Furthermore, in conformance with County ordinance, work at this site shall remain in compliance with ALL federal, state, and local building codes and regulations if work proceeds as outlined in the application.

## 1.3 RF Exposure

FCC bulletin OET-65 provides guidance for a licensee proposing to construct a telecommunications support structure in calculation of RF exposure limitations, including analysis of the cumulative effect of all transmitters on the structure. Appropriate steps, including warning signage at the site, must be taken to protect both the general public and site workers from unsafe RF exposure in accordance with federal guidelines.

The applicant will provide a certification from a Licensed Engineer from the Commonwealth of Virginia stating such during the Building Permit Phase.

This Consultant sees no potential in RF Exposure.

RF exposure warning signage should be placed at this site.

## 1.4 Grounding

Grounding of all structures and equipment at an RF site is critically important to the safety of both personnel and equipment at the site. Even a single component not meeting this standard places all other site components at risk for substantial

damage. All structures and equipment at the site should maintain a ground potential difference of less than 5 ohms.

The Applicant will address these concerns in the Building Permit Phase.

### 1.5 General Safety

As clearly indicated in the proposed site plans, this site compound will be surrounded by suitable security fencing. 80' x 80' of the leased area will be enclosed by an 8' chain link security fence with three (3) strands of barbed wire, which will prevent unauthorized access to the tower site.

Additional safety measures to be placed at this site include RF exposure warning signage, site identification information, and routine and emergency contact information and FCC Registration Number.

Furthermore, an OSHA-approved style of fall prevention cable and an anti-climbing device shall be installed.

### 1.6 Interference

An Interference Study, taking into accounts all proximally located transmitters and receivers known to be active in the area, is advisable prior to any new tower construction.

The Consultant sees no potential in Radio Frequency Interference with any Radio System operating in the area.

Should any interference issues be posed with respect to this site, mitigation would nevertheless remain the responsibility of the tower owner and affected carrier(s), and would be regulated by the Federal Communication Commission, having no effect or burden on the County.

## 2.0 PROCEDUREAL

### 2.1 FAA Study

Due to height and location, this site is not mandated to perform an FAA Air Space Study set forth by the FAA. The Applicant did perform one and it was included. No lighting is required.

## 2.2 FCC Antenna Site Registration:

This site should have an antenna site registration number for both routine and emergency identification purposes. This is a County requirement.

All registered sites should have their registration number conspicuously displayed at the site, normally on the security fence surrounding the compound area.

## 2.3 Environmental Impacts

The National Environmental Policy Act of 1969 (NEPA), delineated in Title 47 of the Code of Federal Regulations, Part 1, Subpart I, sections 1.1301-1.1319, requires federal agencies to incorporate environmental considerations into their decision-making process when evaluating new construction proposals. As a licensing agency, the Federal Communication Commission (FCC) requires all licensees to consider the potential environmental effects from their construction of antenna support structures, and to disclose those effects in an Environmental Assessment (EA) that must be filed with the FCC for review.

A Phase I Environmental Site Assessment and NEPA Review should be performed. There are no Adverse Effects.

## 2.4 Historic Impacts

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires that State Historic Preservation Offices (SHPO) and the President's Advisory Council on Historic Preservation be given a reasonable opportunity to comment on all undertakings with the potential to affect historic properties. The licensee is required to submit to the SHPO a detailed description of the project, a listing of local historic resources, and a discussion of any measures being undertaken to mitigate impacts (if any) on historic resources. Upon receipt, the SHPO has thirty (30) days to review and respond to those submissions. All agencies with authority to permit construction are required to consider the SHPO response in its decision making process with respect to new construction applications.

Comments back from the Virginia Department of Historical Resources should be received prior to issuance of a Building Permit.

### **3.0 RECOMMENDATIONS**

This application represents an appreciable intent on the part of the Applicant to conform to all applicable federal, state, and local regulations, accepted industry practices, and specific County ordinances regarding construction of new telecommunications towers.

The design presented in the Applicant's site plans represents sound engineering. Therefore, this Consultant recommends approval of the Conditional Use Permit as proposed contingent upon the following items:

1. Request and display an Antenna Site Registration Number from the FCC.
2. Comments back from the Virginia Department of Historical Resources should be received prior to issuance of a Building Permit.

In closing, this consultant remains available to address any comments or questions that may arise during review of this report. Any interested party with such comments or questions may feel free to contact this firm, which remains committed to delivering independent, objective, unbiased, and thorough consulting services.

Respectfully submitted,



George N. Condyles, IV, CPM  
President & COO