



Sam Averna
Land Use Manager
Network Towers
120 Eastshore Drive, Suite 300
Glen Allen, VA 23059

January 31, 2024

Corey Liles, Zoning Administrator
Town of Chapel Hill
405 Martin Luther King Jr Blvd
Chapel Hill, NC 27514

RE: Special Use Permit (SUP) Application for New Wireless Telecommunication Facility
Parcel Address: 1721 E Franklin St. Chapel Hill, NC 27514
Parcel #: 9799261213

Dear Mr. Liles:

Attached you will find the following materials filed on behalf of the applicant, Network Towers II, LLC., with respect to its proposed telecommunications facility (monopole tower) on the above referenced property:

- Application;
- Applicant narrative and associated filing materials;
- One (1) digital copy of the plan; and
- SUP Application Fee for New Wireless Telecommunication Facility.

If you have any questions or require any additional information, please contact me at (571) 340-5493.

Sincerely,

Sam Averna

Land Use Manager
Network Towers

Network Towers II, LLC.
Site Name: Dobbins
SPECIAL USE PERMIT – APPLICANT NARRATIVE

Request

Network Towers II, LLC. (the “Applicant”) proposes to construct and operate a 199-foot monopole telecommunications tower on a 4.26-acre parcel located at 1721 E Franklin Street, Chapel Hill, NC 27514 (“Property”). The Property is owned by Demoss Lands, LLC. Cellco Partnership d/b/a Verizon Wireless (“Verizon Wireless”) has a need for improved coverage in this area and will be the anchor tenant on the tower.

Design and Compatibility

The proposed tower will have an overall structure height of 199 feet (195-foot monopole with a 4-foot lightning rod), which will accommodate Verizon Wireless and at least three (3) other collocators. The overall lease area will be 45’ x 110’ and the fenced compound will be 35’ x 75’. The tower and associated ground equipment will be compatible with the surrounding area for the following reasons:

- Adding a third tower aligns visually with the existing two towers, ensuring consistency and minimizing aesthetic disruption.
- The tower will be strategically sited as far back from the public right-of-way and adjacent properties as possible to reduce visibility;
- The tower will be 301’ away from Milton Avenue and 369’ from East Franklin Street;
- The tower will be 117.3’ from the nearest residential property line;
- The tower will be made of galvanized steel to match the backdrop of the sky, therefore, reducing visibility;
- The ground equipment will be enclosed by a security fence;
- The facility will be unmanned and will only be visited approximately once a month by technicians;
- The facility will not be lit and will not emit any odor, fumes or glare;
- The noises emitted from the ground equipment are not louder than normal residential HVAC equipment.

Purpose of Tower

In today’s society, reliable wireless service is a necessity for residents, students, businesses and emergency personnel. The proposed tower will provide the infrastructure needed for Verizon Wireless, as well as multiple other wireless carriers, to expand and improve their networks in this area of Orange County and the Town of Chapel Hill. This reliable wireless service will enhance and protect the local economy and complement economic development by (1) providing citizens the opportunity to work and shop from home (2) allowing students the ability to utilize the latest online educational opportunities while at home (3) helping nearby businesses to be more effective and efficient in their everyday operations and (4) providing dependable wireless service to citizens travelling and emergency services operating in the area. This tower will specifically provide the latest wireless technologies to the following:

- Those living in the greater Chapel Hill area;
- Those travelling on Route 501, E Franklin St, and Estes Drive;

- Those visiting stores in the many nearby shopping malls such as: Eastgate Shopping Mall, Village Plaza, Rams Plaza;
- Those living in numerous nearby apartments and condominiums, including: Franklin Woods, Salon Lofts, Berkshire, and Willow Terrace Condominiums;
- Those serving in the Chapel Hill Fire Department Station 3

ORDINANCE REQUIREMENTS

The subject property is zoned OI-2, Office and Institutional 2. In accordance with the Zoning Ordinance, telecommunications towers are permitted in the OI-2, Office and Institutional 2 with an approved Special Use Permit “SUP”. New non-concealed Wireless Telecommunication Facilities are governed within the Zoning Ordinance, Section 5.20.10 (b) Macrocell Facilities. The applicable requirements in these sections are as follows:

§ 5.20.10 (b) Macrocell Facilities

(1) Development Standards – New Concealed Dual Purpose Tower, New Non-Concealed Tower, and Replacement Tower

i. Visibility

a) Concealed:

1. New concealed wireless communication facility (WCF) towers shall match adjacent structures and landscapes, considering architectural design, height, scale, color, and texture.
2. New antenna mounts must be concealed and blend with the WCF tower design.
3. In residential zoning districts, concealed WCF towers are permitted only on lots where the primary use is not single-family residential (e.g., schools, churches, parks, and public property).

The tower will be a monopole design with a full array and will have a galvanized steel finish. . A full array is consistent with the majority of other towers in the Town of Chapel Hill. Furthermore, there are two (2) 200' guyed towers on the subject property; therefore, the proposed tower will be more visually compatible with the area than the existing towers. A stealth or flush-mount antenna design does not provide the same functionality as a full antenna array. Specifically, with a stealth or flush-mount design, only three antennas can be located at each rad center; therefore, each carrier would likely need two rad centers to fit their needed antennas. This could limit the ability of future collocators to reach their desired height and achieve their coverage objective and could result in more towers being needed in the same area to achieve the same objective. Furthermore, a stealth or flush-mount design reduces antenna effectiveness by limiting the ability to tilt antennas and install radio heads behind the antennas. To achieve Verizon Wireless's current and future coverage objective in this dense area of the Town, a full antenna array is required.

ii. Height

- a) In single-family districts, new towers are limited to 70 feet.

Not applicable.

- b) In non-single-family districts, new towers are limited to 120 feet.

The proposed monopole tower will be 195' with a 4' lighting rod (199' total). The requested height is necessary for Verizon Wireless to achieve their coverage objectives in this area. The proposed height is also needed to allow space for 3 future carriers to collocate their equipment on the tower and achieve their coverage objective. Please see the submitted propagation maps showing the improved coverage for Verizon Wireless with the proposed 199' monopole tower.

iii. Setbacks

- a) With Breakpoint Technology:

The minimum setback equals 110% of the distance from the top of the tower to the breakpoint or the zoning district's minimum side and rear yard requirements, whichever is greater. Certification from a licensed professional engineer must be provided.

Example: For a 100-foot tower with a breakpoint at 80 feet, the setback is 22 feet (110% of 20 feet from the top to the breakpoint) plus the zoning district's yard requirements.

The proposed tower will incorporate breakpoint technology, ensuring a fall zone limited to a maximum of 55 feet. Specifically, the tower will be 195 feet, and it will be designed with a breakpoint at 149 feet. Therefore, 110% of the distance from the top of the tower to the breakpoint will be 55 feet. The closest setback is located 57.3 feet from the western property line, meeting all applicable safety requirements. For additional details, please refer to the submitted letter from the Professional Engineer (P.E.).

Setback	Required	Proposed
Front	55'	337.3'
Right Side	55'	371.1'
Left Side	55'	57.3'
Rear	55'	173.9'
Nearest Residential Property Line	N/A	117.3

- b) Without Breakpoint Technology:

The minimum setback equals the full height of the tower.

Not applicable.

iv. Equipment Cabinets and Shelters. Electronic equipment must be stored in either cabinets or shelters, which should not be visible from pedestrian or right-of-way views. Cabinets may be located inside principal buildings, on screened rooftops, or within fenced equipment compounds.

All Verizon equipment, and future carrier equipment, will be located in cabinets inside the fenced-in compound. The proposed compound is designed to have adequate space for four (4) carrier equipment areas. Please see sheet C-1 of the submitted zoning drawings.

v. Fencing. Equipment compounds must be enclosed with an opaque fence or masonry wall in residential zones or near public rights-of-way. Alternative screening can be approved through the site plan process.

The proposed compound will be enclosed in a 7' tall board-on-board fence that will screen all ground equipment from pedestrians and right-of-way views. Please see sheet S-1 of the submitted zoning drawings.

vi. Equipment Compound. The fenced-in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower equipment compound. The compound shall not be used as habitable space.

Duly noted. The proposed tower and compound is an unmanned facility.

vii. Non-Concealed Towers. New antenna mounts shall extend no more than 10 feet from the tower structure unless it is demonstrated through RF propagation analysis that compliance with this limitation will not meet the network objectives of the desired coverage area.

Duly noted.

a) New concealed wireless communication facility towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties.

Not applicable. The proposed tower will not be a concealed design.

b) A balloon test shall be required subsequent to the receipt of the photo simulations in order to demonstrate the proposed height and concealment solution of the WCF. The applicant shall arrange to raise a colored balloon no less than three (3) feet in diameter at the maximum height of the proposed tower, and within twenty-five (25) horizontal feet of the center of the proposed tower. The applicant shall meet the following for the balloon test:

1. Notify the Planning Department and abutting property owners at least 14 days in advance.

Duly noted.

2. Place a visible sign near the site announcing the test.

Duly noted.

3. Advertise the test in a local newspaper at least seven days in advance.

Duly noted.

4. Conduct the test for at least four consecutive daylight hours, recording weather conditions.

Duly noted.

5. Re-advertising will not be required if inclement weather occurs.

Duly noted.

viii. Wireless communication facility towers shall be engineered and constructed for collocation as follows: 2 tenants between 80 and 100 feet in height and for 3 tenants between 101 and 120 feet in height.

Verizon Wireless will be the anchor tenant; however, the tower will be constructed to support at least three additional carriers. A height of 199' is required to allow enough height for all four carriers to achieve their coverage objective.

ix. Grading shall be minimized and limited only to the area necessary for the new WCF and equipment compound.

The proposed grading will not exceed outside the proposed compound or lease area.

x. Simulated photographic evidence of the proposed tower and antenna appearance from any and all residential areas within 1,500 feet and vantage points approved by the [Planning Department] including the facility types the applicant has considered and the impact on adjacent properties including: Height

- o Configuration
- o Physical location
- o Mass and scale
- o Materials and color
- o Illumination
- o Architectural design.

Please see submitted photo-simulation of the proposed tower. Additional photos can be taken and simulated at the time of the public balloon fly. Per conversations with Corey Liles, this was deemed acceptable.

xi. Compliance Applicant shall provide a written statement of compliance with all applicable FCC rules and regulations.

The tower and related facilities will be located, designed and operated in accordance with all local, state and federal requirements.

xii. A map of the same search ring submitted and used by the applicant's site locator with a statement confirming the same.

Please see the submitted search ring confirmation letter.

xiii. A map indicating applicant's existing RF signal propagation, a map indicating applicant's proposed new radio frequency (RF) signal propagation, and a map indicating the proposed improvements' coverage area, which provides sufficient justification for the requested support structure height.

Please see the submitted propagation maps showing the improved coverage for Verizon Wireless from the proposed tower.

xiv. A statement from the applicant providing information regarding justification for the proposed new WCF facility.

Through complex propagation software and other internal usage systems, Verizon radio-frequency engineers noted a lack of adequate coverage and capacity in this area. All existing structures within the surrounding area were evaluated for collocation potential and none were deemed viable to achieve Verizon's coverage objective. The proposed monopole tower is strategically located on a parcel with two (2) existing 200' towers for the purpose of minimizing visual impact in the area and eliminating the need for additional infrastructure. The determination was made by Network Towers, in consultation with Verizon's radio frequency engineers, that no suitable existing alternative locations existed to meet the coverage objectives of Verizon. Therefore, the proposed tower is necessary in this specific location to achieve Verizon's coverage objective as well as the coverage objective for up to three additional wireless carriers.

xv. An affidavit by a radio frequency engineer demonstrating compliance with the Permitted Use List (Section 5.20.6(c)) of this ordinance and providing the qualifications of affiant. If a lower ranking alternative is proposed the affidavit must address why higher ranked options are not technically feasible, practical, and/or justified given the location of the proposed communications facility.

Verizon provided the submitted propagation maps prepared by a radio frequency engineer demonstrating the need for the tower and the benefits it will have in the area. Verizon also provided the submitted the RF Justification Letter demonstrating the minimum height needed to achieve the coverage objective; The minimum height needed for Verizon's antennas is a centerline of 195', which can only be achieved with a 199' tower. As is the case with all carriers, Verizon first looked for a building or other tall structure within the search ring on which to collocate its antennas. There were no towers, buildings or transmission towers within the search ring that were tall enough, structurally capable, or properly spaced from surrounding existing sites to meet the coverage objective. The nearest tower is located 1.2 miles South of the proposed site and it is only 110' in height and does not have the needed height and above ground elevation to achieve Verizon's coverage objective.

xvi. Statement as to the potential visual and aesthetic impacts of the proposed tower and equipment on all adjacent residential zoning districts.

The proposed tower will have minimal visual impact on adjacent residential districts for the following reasons:

- *The proposed site is strategically sited to blend in with the natural surroundings of the existing parcel and commercial area.*
- *The tower will be located on a parcel with two (2) existing 200' guy wire towers.*
- *The tower will have a galvanized steel finish to blend in with the backdrop of the sky.*
- *The submitted photosimulations depict that there will be minimal visual impact. Specifically, the tower was only visible from 4 of 13 locations and in these 4 locations, the impact was very minimal.*

xvii. Written statement by a registered professional engineer licensed by the State of North Carolina specifying the design structural failure modes of the proposed facility, if applicable.

Please see the submitted P.E. Letter.

xviii. A radio frequency propagation plot indicating the coverage of existing antenna sites, coverage prediction, and design radius, together with a certification from the applicant's radio frequency engineer that the proposed facility's coverage or capacity potential cannot be achieved by any higher ranked alternative such as a concealed facility, attached facility, replacement facility, collocation, or new tower and reasons why such alternative structures are unacceptable.

Please refer to Verizon RF propagation maps and Verizon RF Justification Letter (was this provided? If so, needs to be mentioned in xv above) displaying the need for the proposed site.

xix. All other documentation, evidence, or materials necessary to demonstrate compliance with the applicable approval criteria set forth in this ordinance.

The tower and related facilities will be located, designed and operated in accordance with all local, State and federal requirements.

xx. Prior to issuance of a building permit, proof of FAA compliance with Subpart C of the Federal Aviation Regulations, Part 77, and "Objects Affecting Navigable Airspace," if applicable.

The proposed telecommunications tower will be subject to all FAA requirements and the FAA determination will be submitted prior to the building permit application. Please see submitted Passing Air Safety Analysis showing compliance with the FAA.

xxi. Proof of compliance with National Environmental Policy Act and National Historic Preservation Act.

The Phase 1 has been submitted and the NEPA report will be provided once completed.

Conclusion

The proposed tower is necessary to support the public's increased use of wireless devices for personal, business and safety communications. The proposed tower would benefit the general welfare of the citizens of Orange County and the Town of Chapel Hill by improving wireless communications and broadband infrastructure in compliance with good zoning practices.