



December 17, 2019

**Albemarle County
Department of Community Dev.
401 McIntire Road
North Wing
Charlottesville, VA 22902**

Re: Special Exception Request/CV376_ 527 Woodchuck Lane

Dear Community Development:

Jacobs Telecommunications LLC, contractor for New Cingular Wireless LLC (AT&T) is requesting a Special Exception to Albemarle County code, Section 5.1.40, Development Requirements 2(c) which says, "in no case shall the farthest point of the back of the antenna be more than eighteen (18) inches from the facility, structure, or building". This request is being made regarding our plans to upgrade the wireless communications at 527 Woodchuck Lane, AT&T Site ID, CV376. The main reason for this exception is to provide the new FCC license regarding Band 14 spectrum for the National First Responder Network (FirstNet).

In order to provide FirstNet service to this site, we need to add 3 antennas to this site, bringing the total to 6 antennas, 2 antennas per sector. In order for the communications system to work properly, all 6 antennas must be mounted at the same height above ground level, but each antenna must maintain at least 3 feet separation from each other. We have researched an exhaustive list of mounts and antennas, but we cannot meet the code's requirement of 18 inches standoff from the tower and maintain 3 feet separation between antennas. It is imperative that the antennas have 3 feet separation for the FirstNet service to work properly. The closest we can make the standoff is 5 feet. Please keep in mind that we are not proposing an increase in the antenna size or tower elevation.

It is critical for First Responders to have access to dedicated lines, fast access to voice and data during times of crisis, the basis for FirstNet service. We have carefully devised a plan that will meet the needs of First Responders and provide the best compromise to the standoff requirement. We respectfully request that you consider a special exception in this case.

Thank you very much for your consideration.

Included with this request are the following:

- 1) The Personal Wireless Service Facility Application**
- 2) Application for a Special Exception**



- 3) Two (2) copies of the project drawings
- 4) Two (2) copies of the structural analysis
- 5) Two (2) copies of Spec Sheets (Antennas and Mounts)
- 6) Option and Lease Agreement showing rights to file
- 7) Retainer of Jacobs by AT&T through 2020
- 8) Jacobs Contractor License
- 9) FirstNet Information Sheet

Should you have any questions or need any additional information, please call or email me at any time.

Thank you,

A handwritten signature in black ink, appearing to read "Sharon Weddle", with a large, stylized flourish extending from the end.

Sharon Weddle | Jacobs | 4801 Cox Road, Suite 302 | Glen Allen, VA 23060
Sharon.Weddle@jacobs.com | 804-714-6238 | www.jacobs.com

ADDENDUM TO APPLICATION FOR SPECIAL EXCEPTION

Original Approved Special Use Permit: SP201000032

Tax Map and Parcel Number: 09000-00-00-014B2

New Cingular Wireless LLC (AT&T) is requesting a Special Exception to Albemarle County Code, Section 5.1.40 Development Requirements 2(c) which says, "in no case shall the farthest point of the back of the antenna be more than eighteen (18) inches from the facility, structure, or building". With the new FirstNet technology that needs to be added to this site AT&T is unable to comply with these standoff requirements. The antenna's need a large separation that we can not accomplish with the current flush mounts.

The frequency band licensed to AT&T for the First Responder Network (FirstNet) are in close proximity to frequencies licensed to AT&T for consumer LTE services. Because these frequency bands are in close proximity, they create Passive Intermodulation products (aka PIM) in part of the spectrum that the consumer mobile needs to communicate to the tower and the level of these PIM byproducts are so strong that the receiver in the base station desensitizes – meaning it cannot demodulate the receive frequencies. This makes it impossible to operate both the First Responder Network band and the consumer network band on the same antenna, or even two separate antennas in close proximity. Field trials have validated that AT&T needs a minimum of 3 feet of horizontal separation to achieve the minimum electrical isolation to effectively operate both bands without the harmful effects of PIM and receiver de-sensitivity. Detailed engineering guidelines are attached where Section 7 starting on page 29 describes RF and engineering requirements.

Additional information from the original zoning that could possible answer any questions on the overall impact of this site.

Excerpt from Architectural Board Comments from original Special Use Permit Application SP201000032

Entrance Corridor

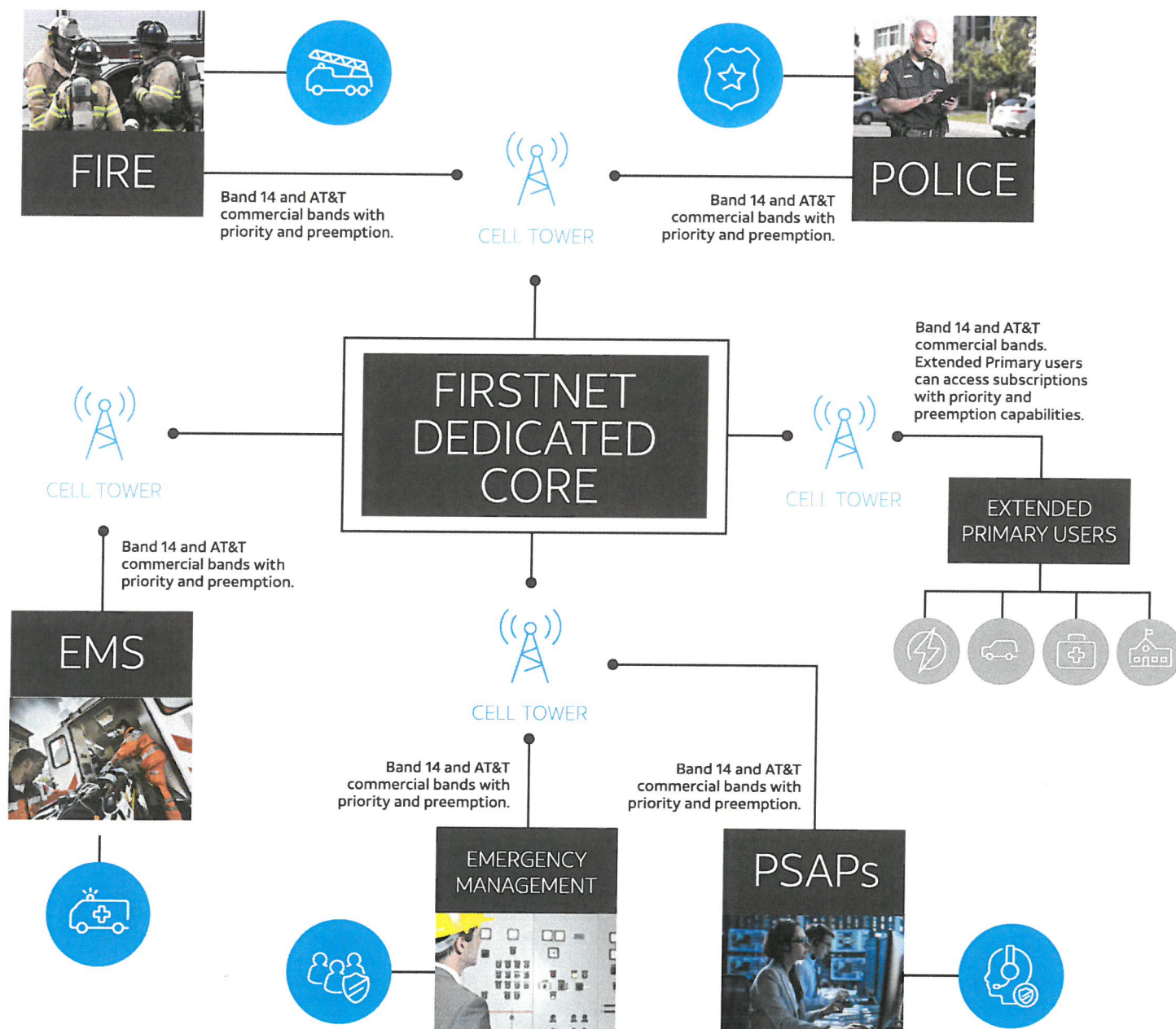
The balloon was only slightly visible from the EC at the entrance to Woodchuck Lane. It is anticipated that during the months when the trees are in full-leaf, the balloon will not be visible from the EC. Due to the heavily wooded site on which the tower is proposed, the distance of the site from the EC, and the mountainous area, the balloon was not visible from any other part of the EC. The proposed pole color (SW Java #6090) will help the pole blend with the surrounding trees, and the accessory equipment associated with the facility is not anticipated to be visible from the EC.

Historic Resources

The proposed site for the facility is located in the Southern Albemarle Rural Historic District, and the residential structure located on the property is identified as a contributing resource to the district. The facility is proposed approximately 150 feet southeast of the residence, and would be easily visible from the residence. This degree of visibility would have a negative impact on the resource. However, the balloon was not visible from other locations visited within the district, and the heavily wooded site and wooded, mountainous surroundings sufficiently reduce visibility of the facility from important public views and adjacent properties in the district. Although the individual property would be impacted, the proposal is not expected to have a detrimental impact on the historic district in general. .

FIRSTNET

FirstNet is the nationwide public safety broadband platform dedicated to first responders and those that support them. It is more than a network, including advanced services, applications and purpose-built devices. The FirstNet core serves as the brain and nervous system of the nationwide network – it separates public safety traffic from commercial traffic and supports current FirstNet functions, like Quality of Service (QoS), priority and preemption.





February 8, 2018

To Whom It May Concern:

The purpose of this letter is to provide verification pertaining to a Federal Communication Commission (FCC) license regarding Band 14 spectrum and in support of the New Cingular Wireless PCS, LLC's (hereinafter "AT&T") application to install or upgrade a wireless communications facility in your community. Per information from AT&T, your application requires that an applicant submit a copy of its FCC license. In lieu of a FCC license which lists AT&T as the license holder, this letter explains why the attached FCC license lists the First Responder Network Authority (hereinafter "FirstNet") as the license holder.

As reflected elsewhere in AT&T's application, it proposes to install equipment to transmit and receive communications signals utilizing Band 14 spectrum. This Band 14 spectrum will be deployed in conjunction with the construction of our country's first nationwide wireless broadband radio access network designed and built for first responders. The Band 14 spectrum is licensed by the FCC to FirstNet. Pursuant to federal law, FirstNet entered into a contract with AT&T. Under that contract, FirstNet authorizes AT&T to use the spectrum to build, deploy, operate, and maintain a radio access network for the benefit of AT&T's end users, which include first responders who will be AT&T FirstNet customers, and AT&T commercial customers.

If you have any questions with regard to this letter and/or the FCC license, please feel free to contact me on 571-665-3995 or via email at Terrie.Callahan@firstnet.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Terrie L. Callahan".

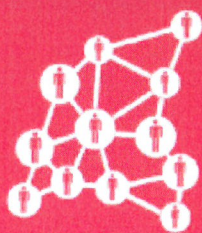
Terrie L. Callahan
Contracting Officer, FirstNet



FirstNet™

10 WAYS FIRSTNET WILL HELP PUBLIC SAFETY SAVE LIVES AND SECURE COMMUNITIES

Across the country, public safety personnel bravely serve their communities every day, answering the call when emergencies strike and risking their lives to secure and protect others. FirstNet is developing the first nationwide public safety broadband network to provide them the advanced communication and collaboration technologies they need. Here are ten ways FirstNet will help public safety save lives and secure communities:



1. Improving communications through an interoperable network

Today, first responders rely on more than 10,000 separate, incompatible, and often proprietary radio networks to communicate with each other during emergencies. Sometimes it's hard, or even impossible, for public safety to communicate and work together to save lives. To help address this challenge, the FirstNet network will be a single, nationwide, interoperable LTE network dedicated to public safety communications.



2. Connecting responders in rural America

Emergencies don't happen only in highly populated areas – which is why reaching rural America is one of FirstNet's top priorities. FirstNet is addressing rural coverage needs in multiple ways to deploy the network in places where coverage may be difficult. High-power towers can cover more rural space with less total infrastructure, as can deployable and satellite solutions.



3. Enhancing situational awareness in emergencies

FirstNet will carry high-speed data, location information, images, and video that can mean all the difference when seconds count. Just as smartphones have created a new era of real-time information and connectedness for individuals, the FirstNet network, devices, and applications will enable the awareness and collaboration the public safety community needs to save lives.



4. Giving public safety true priority

During emergencies, public safety needs to be able to communicate without interruption – lives depend on it. It is vital that our nation's law enforcement officers, firefighters, paramedics, and other responders have true priority for their daily and emergency communications needs. This is why FirstNet is deploying a wireless broadband network dedicated to public safety.



5. Offering vital capacity for planned events, large crowds

Emergencies aren't the only times when public safety needs capacity to communicate and send data. Planned events – like concerts, festivals, and sporting events – draw crowds to a single location, making it difficult for public safety to get the robust network capacity they need to do their jobs. That's where FirstNet will help, by providing needed bandwidth to coordinate public safety resources and respond to any incidents.



10 WAYS FIRSTNET WILL HELP PUBLIC SAFETY SAVE LIVES AND SECURE COMMUNITIES



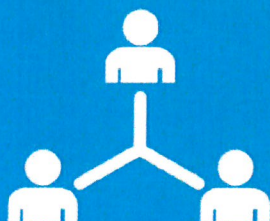
6. Delivering actionable data via innovative apps, devices

Public safety needs data communications in the field and innovative public safety communications technology. That's why the FirstNet network is designed to deliver applications, devices, and services tailored to the needs of public safety. FirstNet will be a resilient, reliable network, enabling everything from smartphones to laptops, tablets, dongles, and specialty devices to work when public safety needs them the most.



7. Providing reliability and security when disaster strikes

First responders in every state face the challenge of preparing for and responding to natural disasters. Having reliable communications is an integral component of any plan or response effort. FirstNet can help public safety save lives and secure communities by ensuring a reliable communication system is in place to assist public safety and rescue crews before, during, and after a natural disaster.



8. Ensuring coordinated response to man-made disasters

In the face of man-made attacks or natural disasters, the ability to communicate is essential to first responders. Incident commanders need to convey vital data to every first responder—fast. They need to know if resources from neighboring jurisdictions can be available. FirstNet is working to deliver a broadband network with interoperability built-in from day one to enhance public safety's ability to protect and serve.



9. Driving innovation in life-saving, public safety communications technology

With the potential for millions of users on a single LTE network, FirstNet hopes to foster creation of a new ecosystem in which entities compete to deliver applications and other services through the FirstNet network. The nationwide scale brought by FirstNet will maximize the value of every public safety dollar spent by allowing public safety end-users to take advantage of an increasingly competitive marketplace.



10. The network first responders need to keep our communities safe

FirstNet is taking a "for public safety, by public safety" approach to planning and deploying the network. Through its consultation and outreach program, FirstNet has worked hand-in-hand with the public safety community to understand the capacity, coverage, service, and other public-safety-grade features they need to communicate and use 21st-century tools on the job.