

# COUNTY OF ALBEMARLE

## EXECUTIVE SUMMARY

**AGENDA TITLE:**

ZTA 2015-06 Wireless Amendment – Antenna size and mounting standards

**SUBJECT/PROPOSAL/REQUEST:**

ZTA 2015-00006 Wireless – Antenna size and mounting standards. This ordinance would amend Sec. 18-5.1.40 by increasing the maximum antenna size allowed from 1152 to 1400 square inches, and by increasing the maximum distance an antenna may project from the structure to which it is attached from 12 inches, measured from the face of the antenna, to 12 inches for the closest point and 18 inches for the farthest point, measured from the back of the antenna

**STAFF CONTACT(S):**

Mr. Fritz, Ms. Baldwin, Mr. Kamptner

**PRESENTER (S):**

Mr. Fritz

**AGENDA DATE:**

June 2, 2015

**ACTION:** X  
**INFORMATION:**

**CONSENT AGENDA:**  
**ACTION:**  
**INFORMATION:**

**ATTACHMENTS:** Yes

**REVIEWED BY:**

**BACKGROUND:**

An application has been filed to increase the by-right permitted size of antenna from 1,152 square inches to 1,400 square inches and to modify the way standoff for the antenna is measured. Currently the by-right permitted standoff is 12 from the face of the tower to the face of the antenna. The applicant's proposal is 12 inches from the face of the tower to the back of the antenna. The Planning Commission had previously discussed potentially adopting a resolution of intent for these changes. However, prior to the Planning Commission adopting a resolution of intent an application from the public was received.

**STRATEGIC PLAN:**

Development Areas: Attract quality employment, commercial, and high density residential uses into development areas by providing services and infrastructure that encourage redevelopment and private investment while protecting the quality of neighborhoods

Educational Opportunities: Provide lifelong learning opportunities for all our citizens.

**DISCUSSION:**

The applicant has submitted a justification for this request which is included as Attachment A. The current by-right permitted size for antenna and the standoff were generated during the original development of the County's Personal Wireless Services Facilities Plan in the late 1990s. The standard was based on the equipment and mounting standards used at that time and projected to be used in the future. In the 15 years since the adoption of the standard there have been substantial changes in technology and in the demands of the system. Everyone is familiar with the pattern of miniaturization of electronics. The wireless industry is no exception to this pattern of miniaturization. The natural assumption would be that this process would result in smaller and smaller antennas. This has not been the case. Modern antennas perform many more tasks than older equipment is able to accommodate. The miniaturization process has slowed the rate that equipment size has increased. In other words, a significant increase in capability is possible with a smaller increase in size than would occur without miniaturization. This need for increased capability is driven by several factors. One factor is the increased demand that users have. The public demands ever greater coverage and functionality from wireless services. Another factor is the legal requirement that service providers have to maintain and serve "legacy systems". Not all wireless phones work on the same frequency or even the same type of operating system. The wireless providers must continue to cover all types of users. They must continue to serve older phones while expanding service to cover newer phones. The changing technology and demand for service are generating the need to increase antenna size. Currently, approval of antenna more than 1,152 square inches requires a special exception. Multiple requests have been approved and staff is unaware of any requests that have been denied.

The increase standoff requested by the applicant allows for downtilt of the antenna and accommodation of the increased antenna depth. Previously in this report it has been discussed that the antenna sizes are increasing. This is not only an increase in the overall surface area of the antenna but also in the thickness of the antenna. Currently the standoff permitted is 12 inches and is measured from the face of the tower to the face of the antenna. With the

increased thickness of the antenna there is insufficient room to adequately mount and route cabling to the antenna. The increased antenna depth also does not allow for angling of the antenna to focus the antenna to the desired coverage area or to provide for downtilt. Both of these are shown on Attachment D. By titling the antenna downward a significant improvement in the coverage provided may be achieved. This titling allows the signal to be targeted to a focused area instead of being more diffused which results in lessened performance and potential interference with other sites. When the original standards for antenna standoff were developed downtilt was not used by any service providers. This is another example of how the County ordinance has not addressed changing technological requirements. Staff has clarified with the applicant that the request submitted is intended to change the measurement so that as long as any portion of the antenna is within 12 inches of the face of the tower the requirement has been met. Staff is concerned that this does not establish any maximum standoff. Without maximum standoff the depth and downtilt angle of the antenna would be unlimited. Staff is recommending a maximum standoff of 18 inches measured from the face of the tower to the face of the antenna. This is graphically shown on Attachment D. As with antenna size, the current by-right permitted standoff distances may be modified with the approval of a special exception. Multiple requests have been approved and staff is unaware of any requests that have been denied.

Staff has also analyzed this request for consistency with the 1996 Telecommunications Act. The relevant provisions of The Act are included as Attachment B. Staff does not believe that the current ordinance is in violation of The Act. A complete limit in the size and mounting standards for equipment without the allowance for a special exception would likely be in violation of The Act. However, if a special exception request were denied it would have to be evaluated to determine if the County had:

- unreasonably discriminated among providers of functionally equivalent services, or
- prohibited or had the effect of prohibiting the provision of personal wireless services

One intent of the County's Wireless Policy and Ordinance was to make a reasonable accommodation of existing and foreseen technology. It has not been updated in 15 years to reflect changes in technology. Staff opinion is that the proposed amendments would reasonably allow all technologies to be deployed throughout the County without sacrificing the primary goal of the Wireless Policy which is to minimize visibility. Staff opinion is that the proposed amendment is consistent with the goals of the Wireless Policy.

**BUDGET IMPACT:**

This amendment has no negative budget impacts.

**RECOMMENDATIONS:**

Staff recommends approval of the applicant's proposed amendment with the inclusion of a maximum standoff.

**ATTACHMENTS:**

Attachment A – [Applicant's justification](#)

Attachment B – [1996 Telecommunications Act](#)

Attachment C – [Proposed ordinance](#)

Attachment D – [Diagram showing the impact of the proposed ordinance](#)

Attachment E – [Photographs showing impact of the proposed ordinance](#)

Attachment F – [Resolution of Intent](#)