

**Agenda Item:           Zoning Text Change for Stealth Towers in R/I District**

**DATE:**     **July 1, 2013**  
**RE:**       **Zoning Application 2013-598**  
**FROM:**    **Kathi Ingrish**

**Background/Issue:**

The current zoning requirements regarding type and height of supporting structures for communications equipment were initially adopted in 1997. At that time, the telecommunications focus was on “coverage” – providing seamless transmission for mobile phones as users traveled around the community so their calls wouldn’t get dropped. Telecommunications providers often wanted very tall towers on which to place their antennas, in order to provide as wide a service area as possible for each tower location.

This desire from the industry to have their equipment high in the air often conflicted with nearby homeowners and community residents who objected to the view of towers well above the treeline. Matthews designed its provisions to allow higher towers in the commercial areas where there was less concern about their visibility. Matthews has had a handful of tall towers in nonresidential areas since the regulations went into effect.

The primary way the Matthews’ code allowed communications equipment in predominately residential areas was to either install them on existing taller structures – water tanks, Duke Energy transmission towers, etc. – or by using “stealth” structures on institutional sites that visually masked the impact of them. The most well-known version of a stealth tower is a fake pine tree. Other possible stealth structures might include a church steeple, a clock tower, an elevated water tank, a ballfield lightpole, a scoreboard, or similar facilities.

In the years since the zoning regulations went into effect, the industry has significantly changed. Residents now use cell phones to make and receive calls inside their homes and businesses, but also use the same radio wavelengths for wireless connections for laptops, tablets, smart phones, and other devices. The amount of bandwidth needed to download movies, be on the Internet, and other daily activities is exponentially greater than simply making phone calls. This results in a huge consumer demand for “capacity” at each antenna equipment installation. What was once a sufficient height of an antenna placement to service an area of several hundred yards in all directions might now be a reduced coverage area due to the greater demand for capacity. The telecommunications industry therefore is starting to look seriously in Matthews for more antenna placement locations.

Each service provider has been issued a certain bandwidth, and these may have different needs. One section of bandwidth may be ideal for providing very strong signals in its service area (per antenna location), but the distance of the service area from antenna to edge of reliable signal strength boundary is more limited than another provider that may not have as strong a signal closest to the antenna but it can be dispersed reliably for a larger area. The combination of “coverage” and “capacity” require different criteria be met for each telecommunications provider.

The options on how to provide adequate antennas has also undergone significant changes since Matthews first adopted its regulations. While high towers are still necessary for some applications, there are many other antenna placements that may also provide reliable signal coverage and capacity at various locations. DAS, or Distributed Antenna Systems, is a method of placing smaller equipment on utility poles, on and within buildings, and on similar structures relatively close to the projected customers. Their service area is limited but they often boost signal strength where it is difficult to penetrate. DAS cannot be the entire transmission system, so some larger and taller equipment placements will still be necessary.

Because Matthews is predominately a single- to 2-story community with treelines reaching 50 to 80 feet in the air, telecommunications companies continue to want their antenna placements at a height that will be easily seen from adjacent neighborhoods. Communications “towers” are not currently allowed in residential areas, but stealth structures are allowed up to 80’ in the R/I Residential/Institutional district. The R/I district designations in Matthews

are primarily for larger churches and schools, as well as the YMCA, the hospital, proposed Continuing Care Retirement Communities, and the tennis-swim club on Pleasant Plains Rd. The attached map highlights the existing R/I districts. As Matthews adds new zoning districts and provisions to allow and encourage taller buildings in selected mixed use developments, rooftop applications may become easier to locate.

**Proposal/Solution:**

One immediate change proposed here is to revise the height limitations for stealth applications in the R/I district. Currently a stealth structure with its attached antennas cannot exceed 80' in height in any R/I district. This text amendment proposes to allow up to an extra 40' in height. Town Board of Commissioners would receive the request for additional height and could act on it as a site plan review, which is an established approval process in Matthews for details on development plans. The criteria Council would use to make a decision are proposed as simulated visuals from adjacent property lines, and some explanation of need from the initiating telecommunications service provider. Also, the initial requesting service provider would commit to allowing other providers to use their stealth structure, if it suited their needs.

Planning staff feels this is an appropriate concept for incorporation into the development codes. Some further changes which would complement this are anticipated with the UDO.

**Financial Impact:**

None for the Town. Any contractual arrangement between a telecommunications service provider and the owner of the R/I zoned land would be a private agreement.

**Related Town Strategy:**

Quality of Life  
Communications  
Ec Devt/Land Use

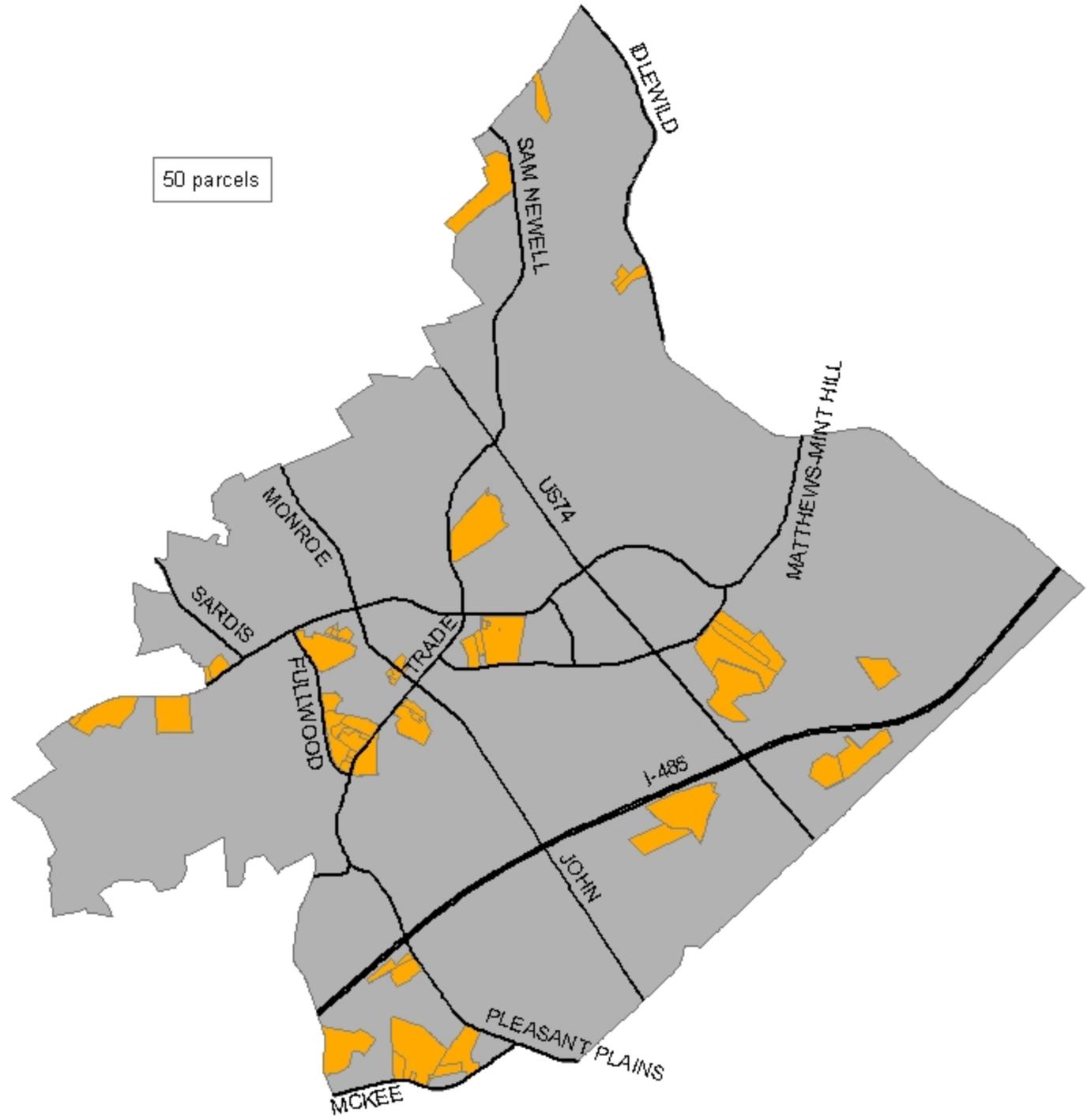
**Recommended Motion:**

**Hold the public hearing for Zoning Application 2013-598 and discuss the types of standards you feel would be adequate to make decisions about placement of individual stealth structures within R/I districts adjacent to residential neighborhoods.**

# Parcels in the Town of Matthews with R/I Zoning\*

\*Either straight R/I or R/I (CD)

50 parcels



**Height Limits in Matthews Zoning Ordinance  
For All Residential and Residential/Institutional Categories  
R-20, R-15, R-12, R-9, R-MH, R-VS, R-15MF, R-12MF and R/I**

Building heights in Single-Family and Multi-Family Districts:

Within any of these districts the maximum height for any detached single-family dwelling, any attached single-family dwellings, and multi-family dwellings is 35'.

*153.054(E)(1), 153.055(E)(1 through 4), 153.057(F)(1) and (G)(9), 153.205(F)(1)(a and b)*

Within any of these districts, except R-MH and R-VS, the maximum height for any allowed institutional use is 35', with allowance to extend up to 40' or 60' "provided that the required side and rear yards are increased one foot for each foot (or fraction thereof) in height over 35 feet."

No additional height is allowed in R-MH or R-VS.

*153.053(A), 153.054(E)(2), 153.055(E)(5)*

Building Heights in Residential/Institutional R/I district:

Within the R/I district, the general building height limit is 60', but can exceed it "provided that the required side and rear yards be increased one foot for each foot (or fraction thereof) in height over 60' and provided the Fire Chief or County Fire Marshal confirms there is adequate firefighting equipment available (locally or through mutual aid)."

*153.056(D)(1 through 3)*

Various structural elements that may exceed the given height limits:

"[F]or nonresidential uses in residential districts, when upon or extending through the roof of a building: roof structures for elevators, stairways, tanks, ventilating fans, air conditioning or similar equipment for the operation or maintenance of buildings, satellite dishes, and any device used for screening those structures and equipment. Any of these features must be set back from the edges of buildings or otherwise visually screened so that no more than one-half of their height is visible from the ground at any property line of the lot on which the building is located. Chimneys and skylights are also permitted above the height limit in these districts but are not subject to screening requirements."

*153.076(A)*

"[S]teeple and clock or bell towers (either attached to the principal structure or as a separate freestanding structure associated by architectural design to the principal structure), flagpoles, smokestack or chimney separate from a building, water tanks. . . . [and] must be separated from any [residentially zoned] adjoining lot line by a distance equal to its height measured from the ground [often called a fall zone] and must meet yard requirements of the zoning district."

Maximum height of these structures is 80'.

*153.076(B) and (C)*

Accessory structures:

Separate structures (garages, sheds, pools, gazebos, etc.) in residential districts cannot be taller than both 20', and the principal structure.

*153.077(B)*

Electric and telephone poles:

When used to support utilities: 60' maximum height.

*153.076(D)*

Flagpoles:

Are allowed to be no more than 10' higher than the zoning district's maximum permitted building height or 50', whichever is less.

153.143(B)(2)

Outdoor lighting:

- The top part of any lighting fixtures in single-family or multi-family properties, whether ground mounted or building mounted, is 20'

- Lighting for pedestrian pathways or sidewalks separate from road R-O-Ws cannot exceed 16' in height

153.102(H)

- Lighting for outdoor sports fields and outdoor performance areas shall not exceed 80', unless receiving advance approval from the Bd of Adjustment

153.102(J)(3)

Communications Towers, Standards and Stealth:

Standard, non-stealth towers are not permitted in residential districts. Stealth applications (on a new structure) are allowed up to 80'. Stealth applications on an existing structure (i.e., power transmission tower) are allowed to height of the existing structure for one service provider, or up to 20' or 40' for a second or third provider respectively.

153.172(B)

Standard, non-stealth towers are not permitted in the R/I district unless the site is adjacent to all nonresidential properties. No R/I district currently meets this criteria. Stealth applications are allowed with the same provisions as for residential sites up to 80'.

153.172(C)

**HEIGHT LIMITS IN RES & R/I DISTRICTS**

<u>Zoning District</u>	<u>Dwelling Ht</u>	<u>Institutional Ht</u>	<u>Rooftop items</u>	<u>Steeple, smokestack</u>	<u>Acces strucures</u>	<u>Utility poles</u>	<u>Flagpoles</u>	<u>Outdoor lights</u>	<u>Stealth - new</u>	<u>Stealth - existing</u>
R-20	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-15	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-12	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-9	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-MH	35	na	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-VS	35	na	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-15MF	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R-12MF	35	40 or 60	1/2 screened	80 w/fall zone	20 & actual	60	45	20	80	exist struct + 40
R/I	na	60 or greater	1/2 screened	80 w/fall zone	20 & actual	60	50	20	80	exist struct + 40