

**MEMORANDUM**

January 21, 2020

**TO:** PHED Committee

**FROM:** Jeffrey L. Zyontz, Senior Legislative Analyst  
Nicole Rodriguez-Hernandez, Legislative Analyst

**SUBJECT:** Zoning Text Amendment 19-07, Telecommunications Towers – Limited Use

**PURPOSE:** Worksession

**Expected Participants:**

Ehsan Motazedi, Chief, Zoning and Site Plan Enforcement, Department of Permitting Services (DPS)  
Linda Kobylsky, Chief, Land Development, DPS  
Greg Russ, Planner Coordinator, Planning Department  
Dan Sanayi, Department of Transportation  
Mitsuko Herrera, Program Director, Office of Broadband Programs

**Summary of ZTA 19-07**

Zoning Text Amendment (ZTA) 19-07, lead sponsor Councilmember Riemer, co-sponsors Councilmembers Alborno and Rice, was introduced on October 1, 2019. ZTA 19-07 would:

- allow certain telecommunications towers as a limited or conditional use in certain residential zones;
- revise the standards for telecommunications towers allowed as a limited or conditional use;
- revise the conditional use findings required for the replacement of a pre-existing pole; and
- generally amend use requirements to address certain telecommunications towers.

The ZTA would allow poles with antennas as a limited use in residential zones where the pole would replace a pre-existing utility pole, streetlight pole, or site plan-approved parking lot light pole.<sup>1</sup>

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<sup>1</sup> ZTA 19-07 does not change the requirement for a franchise agreement in order to have private facilities in the public right-of-way. Under 59.3.5.14.C, except for single-unit housing, antennas are allowed on existing structures as a limited use in residential zones. DOT has not done a survey of existing traffic signals to determine if a small cell antenna can be mounted on them. All antennas on streetlights could only be accommodated on new replacement poles. Existing traffic signals and streetlight poles were not designed to accommodate additional weight. Existing wooden utility poles may be able to

ZTA 19-07 would also amend the conditional use standards in residential zones for poles that are under 50 feet and do not meet the limited use standards, and the ZTA would allow for batching of conditional use applications.

The intent of this ZTA is for the County to set its own standards for telecommunications towers; otherwise, the County could be preempted with less favorable standards by the Maryland General Assembly. In addition, the sponsors of ZTA 19-07 believe that a robust 5G network will contribute to County residents' quality of life (economic development, education, healthcare, transportation, etc.) and do not want the County to be left behind.

## **Public Hearing**

The Council conducted a public hearing on November 19, 2019. The Executive recommended deferring the consideration of ZTA 19-07 until the federal courts consider the County's challenges to Federal Communication Commission (FCC) rules and improvements are made in the County's administration of antenna applications. In any event, the Executive opposed changes to the conditional use process for antennas that included removing Planning staff application reviews.

The Planning Board recommended approval of ZTA 19-07 with amendments to increase Planning staff involvement, clarification of volume and height measurements, and the timing of applications for consolidated processing.

The Town of Somerset opposed ZTA 19-07 as a sweeping change that would eviscerate the opportunity for Planning staff review. The City of Takoma Park expressed concern with ZTA 19-07 and preferred a code more along the lines adopted by the City.<sup>2</sup>

Most speakers opposed ZTA 19-07. Some speakers were opposed due to the negative health effects of radio frequency waves. This included a claim that radio frequency (RF) exposure would disproportionately burden minority communities. Some speakers were opposed because of a reduction in property values. Other issues raised by opponents included the lack of public notice of limited uses, the lack of coordination between DPS and the Tower Committee, the lack of experience with small cell antennas in commercial areas, the lack of post-construction inspections in the current process, a conditional use process that lacked meaningful public participation, an increase in energy use, and a lack of need.

There were speakers in favor of ZTA 19-07 in some form. Industry representatives questioned whether the proposed process in ZTA 19-07 would violate FCC shot clock rules (established timeframes within which State and local governments must complete their reviews of the wireless tower deployment) or if it would violate federal law by effectively prohibiting the deployment of 5G facilities in residential areas.

The emails received by the Council were unevenly split between those favoring approval and those opposed. Those opposed mostly cited negative health effects. The second reason for opposition was reduced property values. The Mayor of Garrett Park requested the Council work with municipalities

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accommodate the weight of small cell antennas without replacement, but safety-related separation requirements mean the pole must be replaced with a taller pole.

<sup>2</sup> The objective design standards that the City requires: 1) compliance with County zoning; 2) a public meeting once the application is complete; 3) a finding that the pole is in the least-visible location; 4) a finding that the pole does not create an overconcentration of facilities; and 5) City-conducted test for RF compliance with FCC standards.

before proceeding. On January 16, Council received comments from the Town of Chevy Chase concerning conditional use procedures.

Testimony essentially asked 3 complex questions:

- 1) Should the Council approve ZTA 19-07 in any form?
- 2) Should small cell towers be allowed in residential zones as a limited use?
- 3) Should the procedures and standards for a conditional use be changed for small cell towers?

This memorandum attempts to address issues raised. Staff provided considerable information in the November 19 public hearing memorandum. That information is repeated only when it addresses an issue raised in the public hearing.

**I) Should the Committee recommend approval of ZTA 19-07 in any form?**

Arguments against proceeding

- 1) Ongoing court proceedings
- 2) Health effects - Supporting the ZTA would be a violation of the United States and Maryland Constitution required by the Council's oath of office
- 3) Changes since this Council last rejected allowing small cell poles in residential zones
- 4) Current wireless service works great and there is no need for an upgrade
- 5) Antennas, poles, and equipment will reduce home values
- 6) Antenna deployment will increase net power consumption
- 7) Fix the antenna approval process before allowing more antennas
- 8) Discuss being more permissive of small cell antennas with municipalities
- 9) Racial Equity

Arguments supporting a change in zoning requirements

- 1) Allowing more permissive deployment of wireless technology enhances the desirability of the County.
- 2) Having less permissive standards than surrounding jurisdictions decreases the County's desirability.
- 3) It is more likely that the current standards will provoke preemptive legislation by the General Assembly than the standards under ZTA 19-07.
- 4) The current standards are more likely to be found non-compliant with federal law and FCC rules than the amended provisions.

## Arguing against consideration of ZTA 19-07

### **1) Ongoing court proceedings**

Under federal law, local jurisdictions are preempted from regulating telecommunications antennas because of health effects, as long as those facilities are operating within FCC-determined power and RF ranges.<sup>3</sup>

The County joined with other jurisdictions to challenge the FCC's small cell order. The County also independently challenged the FCC's failure to address RF emissions in the small cell order in violation of the National Environmental Policy Act and the Administrative Procedures Act. Those petitions for judicial review are pending in the United States Court of Appeals for the 9<sup>th</sup> Circuit.

Also, the County and several other jurisdictions asked the FCC to first complete a stalled 2013 evaluation to determine if the Commission's existing RF safety standards would adequately protect the public health from RF emissions.<sup>4</sup> The FCC health study to date only looked at the heat effects of RF transmission and did not look at such non-heat related effects such as cancer risks. Academic health studies were conducted after 1996 that suggest there are cancer risks. The FCC refused to review its 23-year-old standards, simply stating, "[w]e disagree" with concerns raised about RF emissions from 5G small cell facilities.<sup>5</sup> The County's ZTA does not change the issues in federal court.

*Staff comment:* ZTA 19-07 has nothing to do with the FCC's obligations. The petitions for judicial review have everything to do with the FCC living up to its obligations. ZTA 19-07 does not weaken the County's petitions for judicial review.

### **2) Health effects/violating oath of office**

Approving ZTA 19-07 would not, as alleged, violate the Council's oath of office. The Council's oath of office was to uphold the United States and Maryland Constitutions. The Constitution expressly allows federal regulation over interstate commerce.<sup>6</sup> When there is expressed power, Congress may pass all laws "necessary and proper" for carrying out those powers.<sup>7</sup> When such laws are made, those laws are the supreme law of the land.<sup>8</sup>

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<sup>3</sup> 47 U.S.C. §332(c)(7)B. No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

Current 5G radio options from Nokia, Samsung, and Ericsson range from 250 to 1000W per panel. The limit for 5G bands is 1585W. Operators have lobbied for the allowed power output to be increased by 20 percent.

<sup>4</sup> The Commission's standards were last evaluated in 1996. The 5G frequencies are different from the frequencies that were previously evaluated.

<sup>5</sup> See <https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety#Q5>.

<sup>6</sup> Article 1 Section 8: The Congress shall have power ...to regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes....

<sup>7</sup> Article 1 Section 8: The Congress shall have power ...to make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof.

<sup>8</sup> Article 6:...This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

(a) United States Constitution

Congress has enacted laws limiting the Council's authority in enacting zoning regulations that effectively prohibit the ability of any entity to provide any interstate or intrastate telecommunications service.<sup>9</sup> **Congress preempted the County from considering any regulations related to RF health issues.**<sup>10</sup> Congress's preemption stands without regard to Lloyds of London's unwillingness to insure the wireless industry against health effects.<sup>11</sup>

Petitioning for judicial review to require an evaluation of RF environmental effects (a phrase that includes health effects) is as much as the Council may do regarding regulating due to health issues. Congress delegated all considerations of health to the FCC. ZTA 19-07 does not change the FCC's obligation to study health effects or the limitations on the Council to NOT consider health effects.

(b) Maryland Constitution

Article 2 of the Maryland Constitution acknowledges the authority of the Constitution of the United States and the law made under that constitution.<sup>12</sup> The Maryland Constitution does not pre-empt the US Constitution.

*Staff comment:* ZTA 19-07 is a proposal to exercise powers that the County still has...unless preempted by state legislation or court orders. There are FCC orders which, arguably, would require the County to be even more permissive than ZTA 19-07. Other major counties in the state have assumed that the FCC's more permissive rules for small cell deployment will be sustained. Prince George's, Baltimore, and Howard Counties all have approved more permissive rules for short (50 feet or less) small cell poles than proposed by ZTA 19-07.

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<sup>9</sup> 47 US Code Section 252(a) Communications Act:

No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

47 US Code Section 332 Communications Act:

(B) Limitations

(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof—

(I) shall not unreasonably discriminate among providers of functionally equivalent services; and

(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

<sup>10</sup> 47 U.S. Code § 332. Mobile services (c)(7)(B)(iv)

No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

<sup>11</sup> Lloyd's of London and its underwriter, CFC Underwriting Limited, exclude any liability coverage for claims "directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise." <https://www.jrseco.com/lloyds-insurance-company-does-not-cover-health-damage-caused-by-electromagnetic-radiation/>.

<sup>12</sup> The Constitution of the United States, and the Laws made, or which shall be made, in pursuance thereof, and all Treaties made, or which shall be made, under the authority of the United States, are, and shall be the Supreme Law of the State; and the Judges of this State, and all the People of this State, are, and shall be bound thereby; anything in the Constitution or Law of this State to the contrary notwithstanding.

### 3) Changes since Council rejected residential small cell antennas<sup>13</sup>

#### (a) Sponsor's concern

The sponsors are concerned about preemption efforts by the FCC and possibly the Maryland General Assembly. This ZTA is an opportunity for the County to set its own standards. Last year, a Maryland Association of Counties Bill and a competing industry-sponsored bill were introduced in the General Assembly. Both Bills died. This year, the industry is again trying to get a State Bill introduced. In that effort, Montgomery County is given as the example of a restrictive jurisdiction.

In the opinion of the sponsors, if the Council does not act, state rules may be imposed on the County, and those rules will be less favorable than what this ZTA would achieve. There is also a risk that if the standards in the current FCC orders concerning "effective prohibition" and "shot clocks" are upheld, the County's current regulation may be found non-compliant.<sup>14</sup>

#### (b) Federal Action

FCC Small Cell Order 18-133 became effective January 14, 2019.<sup>15</sup> FCC regulations and the Communications Act preempts state or local regulations that "effectively prohibit" the provision of wireless services. The Declaratory Ruling portion of the FCC Order adopts the position that a state or local government need only "materially inhibit" a particular small wireless facility deployment for its action to constitute an "effective prohibition" under Section 253 or 332(c)(7).

There are time limits for local consideration of applications, on fees local governments may charge,<sup>16</sup> and on how jurisdictions may regulate issues such as equipment design and other aesthetic concerns. In short, the FCC is making it easier for private companies to take local governments to court if they believe municipal policies are effectively prohibiting network investment.

The County joined with other jurisdictions to challenge the FCC's small cell order. The County also independently challenged the FCC's failure to address RF emissions in the small cell order in violation of

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<sup>13</sup> The Council reviewed the restrictions on 5G towers in 2018. By approving ZTA 18-02, the Council allowed deployment of 5G antennas in mixed-use and non-residential zones with reduced setbacks. In the fall of 2018, the previous Council also took up the question of allowing a limited use in residential zones with a 30-foot setback. Ultimately, the Council did not approve shorter cell towers as a limited use in residential zones. The ZTA was withdrawn before action... it was not voted down.

<sup>14</sup> Except for antennas on existing structures, cell antennas are prohibited in the right-of-way, except where the antenna can be located 300 feet from a building. There are very few places where the current provision would allow new or replacement poles. Required minimum front setback in residential zones between the right-of-way and a structure varies between 20 and 60 feet.

<sup>15</sup> The FCC Report and Order defines small cell antennas as three (3) cubic feet or less space and associated equipment as twenty-eight (28) cubic feet or less. Small cell structures are defined as being less than fifty feet in height and no more than ten percent (10%) higher than its existing height or that of adjacent structures. Summary of the FCC final order: <https://nextcenturycities.org/wp-content/uploads/Guide-to-FCC-Small-Cell-Order.pdf>

<sup>16</sup> The FCC has required that County fees associated with eligible facilities requests be cost-based. There is a presumed safe harbor for application and use fees, but no specific cap on fees. The safe harbor amounts are (a) \$500 for a single up-front application that includes up to five Small Wireless Facilities, with an additional \$100 for each Small Wireless Facility beyond five; (b) \$270 per Small Wireless Facility per year for all recurring fees, including any possible ROW access fee or fee for attachment to municipally-owned structures in the ROW; and (c) \$1,000 for nonrecurring fees for a new pole. Nothing in the Order prevents a local government from charging higher fees. However, under the FCC's framework, if a carrier files a lawsuit challenging the fees imposed by a local government, the burden would be on the local government to demonstrate that the amount is a reasonable approximation of its costs and that its costs are reasonable.

the National Environmental Policy Act and the Administrative Procedures Act. Those petitions for judicial review are pending in the United States Court of Appeals for the 9<sup>th</sup> Circuit.<sup>17</sup>

*Staff comment:* Unless the FCC's interpretation of effectively prohibiting wireless service is changed by the County's petition, the County's current zoning restrictions (which include prohibiting antennas on single-unit houses) may be viewed as violating the small cell order.

#### 4) No need

Testimony suggested that cable and existing wireless infrastructure are sufficient and that there is no need to allow more facilities in residential zones.

The 2019 Annual Wireless Industry Survey found U.S. consumers used 82% more mobile data in 2018 compared to 2017, using a record 28.58 trillion megabytes (MB) of mobile data. Some of that rise is due to more devices being connected to mobile networks. The report found that there were 421.7 million mobile devices connected in 2018. That is an increase of 21.5 million devices compared to the year prior. Nearly half of those are smartphones, according to the report. Subscriber connections grew 5.4%.<sup>18</sup>

Wireless technology is rapidly changing to offer faster speeds, enhanced reliability, and expanded capabilities. The FCC believes that greater capacity is needed to meet future demands. The next generation of wireless technology (5G) has dramatically more capacity than 4G. The demand for more wireless capacity is coming from the bandwidth and speed required for mobile video, driverless cars, and/or connected appliances. Telecommunications providers have indicated an interest in creating a 5G network in the County.<sup>19</sup> Mobile cell phones now outnumber other computer devices.<sup>20</sup>

In the opinion of the sponsors, the opportunities for innovations in health care, education, transportation, agriculture, entertainment, and many other sectors should not be understated. Wireless connectivity increasingly helps power the County's economy. The sponsors of ZTA 19-07 believe that a robust 5G network will contribute to County residents' quality of life and do not want the County to be left behind.

The sponsors of ZTA 19-07 also believe that the proposed ZTA strikes the right balance. It ensures that the industry is incentivized to use poles that are 60 feet or more from an occupied building. When the setback distance is between 60 and 30 feet, residents will continue to have a voice in the process to argue that there are less obtrusive locations.

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<sup>17</sup> The following issues are the focus of the FCC orders being challenged:

1. interpretation of the "prohibit or effectively prohibit" language in Sections 253 and 332 of the Communications Act, and the "material inhibition" standard the FCC adopted;
2. elimination of distinction between actions taken in regulatory vs. proprietary capacity, in rights-of-way;
3. application of one-time and recurring fees for right-of-way access;
4. standard for aesthetic, undergrounding, and spacing requirements;
5. imposition of new shot clocks applicable to small wireless facilities, presumptions localities must overcome to defend shot clock violations, and the expansion of shot clocks to cover all applications;
6. moratoria criteria where time-limited or intended to allow study and planning; and
7. prohibition on mandatory pre-application meetings.

<sup>18</sup> <https://www.fiercewireless.com/wireless/ireless-data-use-us-nearly-doubled-2018-report>.

<sup>19</sup> There are 50 "tabled" applications submitted to the Tower Committee.

<sup>20</sup> <https://www.emarketer.com/content/more-than-half-of-social-network-users-will-be-mobile-only-in-2019>.

## **5) Effects on property values**

The Staff memorandum for the Council's public hearing on ZTA 19-07 cited a number of studies on an antenna's effect on property value. Some studies found no effect on property values. Other studies found a negative effect. This memorandum will not repeat the summary of those studies that were made in the Public Hearing memorandum.<sup>21</sup>

ZTA 19-07 is somewhat focused on short poles in rights-of-way. Staff could not determine if any of the studies in the literature focus on the poles under 50 feet high in rights-of-way. Testimony included a 2011 property tax assessment appeal, which cited "the probability of a neighboring cell tower" as part of the reason for a reduced assessment. Staff could not determine if that conclusion was due to a high tower. There may be potential buyers who are less inclined to buy a home due to RF emissions or the aesthetics of observable poles. The sponsors believe that other buyers value high-speed and high-capacity wireless services.

Council regulations may include reasonable aesthetic criteria (screening, setback, or color matching, etc.), but it may not prohibit the deployment of small cell antennas. According to industry representatives, this technology for 5G will require antennas every 250 feet or so. The deployment of small cell antennas in residential zones will require that antennas be on or in front of somebody's home.

Testimony cited Ocean City, Maryland where antennas are prohibited in residentially-zoned areas. Unlike Ocean City, the County has vast areas zoned residential that will not be able to be served by neighboring commercial/mixed use areas.

## **6) Net power consumption**

The claim that small cell antennas would increase power consumption and greenhouse gas emissions was made at the Council's hearing. The power used by individual antennas is small (about 14 watts per antenna – 1 watt less than the wattage of a residential LED flood light) but there could be thousands of antennas. The industry can employ strategies to reduce energy consumption by putting antennas in a sleep mode.<sup>22</sup> That will still mean more power consumption than by the antennas used today. Even so, there may be energy efficiencies in home devices (that turn on only when the owner is approaching home) or behavioral changes that result in a net energy savings.

Staff has not done research on this issue.

## **7) Fix the existing process first**

The Council heard complaints about noticing, ability to speak at the Telecommunications Transmission Facility Coordinating Group meetings, and post approval inspections. The Executive asked to improve administrative effectiveness and assurance that the public process was fair and transparent. The Executive and the Town of Somerset would retain the current conditional use process. The current process includes Planning Board comments and a comprehensive list of findings by the Hearing Examiner.

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<sup>21</sup> "If all the economists were laid end to end, they'd never reach a conclusion." George Bernard Shaw.

<sup>22</sup> A technical look at 5G energy consumption and performance, <https://www.ericsson.com/en/blog/2019/9/energy-consumption-5g-nr>



What is before the Council is a Zoning Text Amendment. The process revision in the proposed ZTA is limited to the conditional use approval (when a conditional use is required), the findings for approval, time limits, and the role of the Planning Board and Planning staff. ZTA 19-07 can correct “problems” with the conditional use process. To the extent that there are problems with the Telecommunications Transmission Facility Coordinating Group, those must be addressed by a Bill concerning Section 2-58E of the County code or Chapter 8 of the County code concerning Building Permits.<sup>23</sup>

#### **8) Conversation with municipalities**

The Mayor of Garrett Park requested that the Council work with municipalities before proceeding.

#### **9) Racial equity**

A claim was made in the Council’s public hearing that the approval of ZTA 19-07 would be more burdensome to minority populations (compared to the County’s white non-Hispanic population), since they believe ZTA 19-07 would make it easier to place antennas on existing apartment buildings where they believe the majority of tenants are from racial/ethnic minority backgrounds. The testimony specifically alleged apartment tenants would be disproportionately exposed to RF emissions.

The fact is that ZTA 19-07 as introduced does not change any provision for antennas on existing structures. The current code prohibits antennas on single-unit houses but already allows such antennas on apartment buildings. The ZTA would be more permissive of antennas in single-unit zoned areas than the current code.

*Staff comment:* Wireless providers are not public utilities that must provide universal coverage at a regulated price. These entities will provide service only where there is money to be made. The absence of wireless service is a disadvantage to communities. Statistically, minority populations have lower incomes than non-minority populations.<sup>24</sup> The lack of service in lower-income areas would be a racial equity concern.

#### **Does the Committee wish to recommend disapproval of ZTA 19-07 or proceed with reviewing any of the details of ZTA 19-07?**

*Staff comment:* The approval of ZTA 19-07 would put the County in a better position to defend itself against a claim that the County’s regulations amount to “effectively prohibiting” small cell deployment (in violation of federal law). If the Committee recommends disapproving ZTA 19-07, there is no need to read the remainder of this memorandum.

*Option to using right-of-way -* ZTA 19-07 or any more permissive requirements for antennas in rights-of-way is not the only way to address the federal requirement to not prohibit wireless service. The City of Gaithersburg does not allow antennas in residential rights-of-way but does allow them on houses as a limited use. The County does not allow commercial antennas on single-unit houses.

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<sup>23</sup> The Telecommunications Transmission Facility Coordinating Group was not established to be a body that hears public testimony. It does not make subjective findings. It makes recommendations to the Hearing Examiner or the Department of Permitting Services. It is open to the public but mailed notice of applications to nearby property owners is not required.

<sup>24</sup> 2016 American Community Survey, 1-year estimates, U.S. Census Bureau.

**II) Should small cell antennas be allowed as a limited use in residential zone?**

Limited Use

The ZTA would allow towers as a limited use if the tower would replace a pre-existing utility pole, streetlight pole, or site plan-approved parking lot light pole.

Given that the County may not prohibit the deployment of antennas (or so restrict their deployment that it has the effect of prohibiting them) and does not allow antennas on single-unit houses, the question becomes: under what, if there are any, objective standards should antennas be allowed?

All limited use standards are purely objective criteria that do not ever have a public hearing. DPS determines if the criteria have been met at the time of building permit. Generally on permits **for buildings**, the required notice for a limited use is on-site posting once DPS issued a permit.<sup>25</sup> If the issuance of a building permit is appealed, it then goes to the Board of Appeals and a hearing is held to determine if DPS's approval or denial satisfied the standard for zoning and building permits.<sup>26</sup> A building permit appeal is not an opportunity to make a general objection to DPS action; it must be a violation of code standards. The conditional use process has value when there is some subjective finding (such as "compatibility") required by zoning. Under Virginia State law, conditional use approval for a small cell pole is prohibited.

**III) If small cell antennas are allowed as a limited use in residential zones, under what standard should small cell antennas be allowed?**

**1) Setbacks**

ZTA 19-07 would allow a small cell antenna that replaces a streetlight as a limited use if there are prescribed setbacks. Under ZTA 19-07, the replacement pole must be at least 60 feet from any building intended for human occupation, excluding any setback encroachments to be allowed as a limited use. A setback requirement dramatically limits the pole location that may be approved as limited use (and conversely might expand the number of places a conditional use is required). Other surrounding jurisdictions allow antennas that are closer to single-unit houses:

Prince George's County	30 feet from a house, 150 feet from a school
DC	10 feet from a building
Fairfax County	10 feet from a right-of-way line
Arlington County	None (wherever a utility pole or streetlight exists)

<sup>25</sup> Sec. 8-25. Permits.

(g) Posting of permits and site plans. The building permit or a true copy thereof and a copy of the building or other plans covered by the permit shall be kept on the site of operations open to inspection by the department, fire or police officials, in the course of their duties, during the entire time the work is in progress and until its completion.

<sup>26</sup> Sec. 8-23. Appeals.

Any person aggrieved by the issuance, denial, renewal, amendment, suspension, or revocation of a permit, or the issuance or revocation of a stop work order, under this Chapter may appeal to the County Board of Appeals within 30 days after the permit is issued, denied, renewed, amended, suspended, or revoked or the stop work order is issued or revoked...

A person may be aggrieved for the purpose of this provision if they have substantial interest in the outcome...that is generally limited to the applicant or a property owner within sight of the project for which the permit is being sought. Generally, the only notice of a building permit is on site posting:

ZTA 19-07 would allow a 60-foot setback reduced to 30 feet with conditional use approval. The issue at conditional use approval is only which alternative location is better.

The less the required setback, the more poles that would be allowed as a limited use:

- 9,383 poles have less than a 30-foot setback from a building;
- 18,839 poles have a setback between 30 feet and 45 feet;
- 13,596 poles have a setback between 45 and 60 feet;
- 33,368 poles have a setback 60 feet or more.

## 2) Height

Under the current zoning ordinance, the height of the tower, including any attached antennas and equipment, must not exceed:

- (a) for streetlights, the height of the pole that is being replaced:
  - plus 6 feet when abutting a right-of-way with a paved section width of 65 feet or less; or
  - plus 15 feet when abutting a right-of-way with a paved section width greater than 65 feet.
- (b) for parking lot lights, the height of the pre-existing parking lot light pole plus 10 feet.<sup>27</sup>

Prince George's County	No higher than 50 feet or 10% higher than adjacent structures
DC	The greater of 10% increase or 36 feet
Fairfax County	15 feet higher than the original pole
Arlington County	6 feet higher than the original pole but no higher than 35 feet

One industry representative suggested that unless the height limit is 50 feet, it may result in a regulation that prohibits service under the FCC order.

### Utility Poles

Under Chapter 8-1 (d)3(C), a building permit is not required for any utility pole. A pole may be replaced because of general maintenance, increased electrical service needs, to accommodate cable service, or to accommodate an antenna. If the pole exists when an applicant applies for an electrical permit, the provision for an antenna attachment on an existing structure applies (Section 59.3.5.14.C of the zoning code). There is NO height limit for antennas on existing structures. There IS a required 60-foot antenna setback from any dwelling (Section 59.3.5.14.C.2.e.iii).

As introduced, ZTA 19-07 concerns Telecommunications Towers (Section 3.5.2.c). As introduced, it would not amend Antenna on Existing Structure (Section 59.3.5.14.C). It does not affect the current law concerning the unlimited height of utility poles in their status as existing structures. ZTA 19-07 applies to all replacement telecommunications towers that are not installed when an applicant applies for an electrical permit.

If the Council wants to control the height of utility poles, a Bill is required to issue building permits for utility poles. There may be an easier approach that does not require a Bill. Antenna on Existing Structure

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<sup>27</sup> The regulation of utility poles follows.

is a separate provision in zoning that can be amended. (References to utility pole height in ZTA 19-07 should be deleted unless the provision for Antenna on Existing Structure is amended.)

The Department of Permitting Services issues right-of-way permits for all utility poles. It also issues construction and electrical permits for antenna attachments. DPS staff will be available to describe its process for dealing with utility poles and antenna attachments on some of those poles.

### **3) Design Standards**

The City of Takoma Park commented on design standards. ZTA 19-07 **includes** the following design standards:

- The design of a replacement tower located in a public right-of-way, including the footer and the replacement streetlight, must be approved by the Department of Transportation.
- The antenna must be concealed within an enclosure the same color as the pole and be installed parallel with the tower. Equipment may be of stealth design approved for safety by the Department of Transportation.
- The tower must be the same color as the pre-existing pole.
- The tower must have no visible exterior wiring, except that exterior wiring may be enclosed in shielded conduit on wooden or utility poles.

If any other design standards are desired, ZTA 19-07 must be amended. There were no alternatives suggested, except for not allowing a pole in residential zones under any circumstances.

ZTA 19-07 would retain the maximum volume of equipment to 12 cubic feet. At least one wireless provider indicated that this is a workable volume. Another wireless service provider noted that a small cell facility defined by the FCC allowed for 28 cubic feet of equipment. That service provider requested a change to the maximum volume to 28 cubic feet.

### **IV) Conditional use - reducing the time for conditional use reviews**

Currently, all telecommunications towers in residential zones, without regard to the height of the tower, may only be approved as a conditional use. The conditional use standards require the tower to be set back from dwellings one foot for every foot in height or 300 feet, whichever is greater. A location must exist on the subject property where that setback can be met, but then may be located elsewhere on the site with a reduced setback if the alternative location is visually less obtrusive. ZTA 19-07 would not allow the Hearing Examiner to reject all poles in an application. The least obtrusive pole must be approved.

The FCC small cell order defines small cell antennas as those that are on structures 50 feet or less in height.<sup>28</sup> The FCC requires that such new poles be approved within 90 days (shot clock) of the submission of a complete application. The presumption of an application not approved in that time is that the delay effectively prohibits service. The current process for conditional use approval will always take longer than 90 days from the date of application. The intent of ZTA 19-07 is to streamline the current process and avoid a prohibition of service. It does this by reducing the time for a decision and the issues that require a decision.

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<sup>28</sup>These lower height antennas are poles, not the traditional latticework tower.

The alternative to amending the conditional use process is to allow all small cell antennas as a limited use. This is required by State law in Virginia. Assuming the Council wants a conditional use process, the following material is relevant.

The current code requires notice of the recommendations from Planning staff, the recommendations of the Planning Board, a public hearing by the Hearing Examiner, and the ability to appeal to the Board of Appeals. The current conditional use process has only one-time requirement: the Hearing Examiner's report must be issued within 30 days of the closing of the public hearing record. The process can easily take 6 months to a year. The FCC allows a 60-day approval for attachments to existing poles and 90 days for new (replacement) poles. The sponsors intended to allow for a noticed public hearing with a report and finding by the Hearing Examiner within the FCC's shot clock. The ZTA accomplishes this objective by:

- removing the requirement for Planning staff and Planning Board recommendations
- limiting the findings required by the Hearing Examiner (less visually intrusive than other locations)
- allowing consolidated applications
- allowing appeals directly to the Circuit Court
- reducing the notice requirement (all property owners, homeowners' associations, civic associations, condominiums, and renter associations within 300 feet of the proposed tower).

Public testimony objected to all these changes from the current conditional use process. An alternative process that both had a likelihood of meeting the FCC shot clock and avoided a denial of wireless service was not suggested in testimony.

#### 1) Notice

Poles allowed in the amended conditional use process would likely be less than 50 feet. The current code requires notice to all property owners and civic associations within 1/2 mile (2,640 feet) of the conditional use application. A 50-foot pole would not be visible from 1/2 mile away. If antennas were placed every 300 feet in a neighborhood, a homeowner would get multiple notices of poles. A cobra streetlight pole is 25 feet high; a neighborhood streetlight is generally 14 feet high. The height allowed by ZTA 19-07 (which does not change the height of utility poles) is between 35 and 40 feet. In the opinion of the sponsors, the current noticing requirement appears to be excessive.

*Staff comment:* Multiple notices to the same property owner should not be required when small cell antennas are proposed for a neighborhood. A single notice should be sufficient to inform owners of what is occurring.

#### 2) Planning Board and Planning staff role

The Executive and Planning Board made unspecific comments about the role of the Planning Board and Planning staff. A specific alternative to the current process or the process proposed by ZTA 19-07 was not offered. Currently, all conditional use applications require a Planning staff report and Planning Board recommendations. The change (to only allow Planning staff participation at the request of a Hearing Examiner) was recommended by the sponsor to reduce the time required for review.

#### 3) Limiting the findings required

Generally, to approve a conditional use, the Hearing Examiner is required (in part) to find that the application:

- substantially conforms with the recommendations of the applicable master plan;
- is **harmonious** with and will not alter the character of the surrounding neighborhood in a manner inconsistent with the plan;
- will not, when evaluated in conjunction with existing and approved conditional uses in any neighboring Residential Detached zone, increase the number, intensity, or scope of conditional uses sufficiently to affect the area adversely or alter the predominantly residential nature of the area;
- will not cause undue harm to the neighborhood as a result of a non-inherent adverse effect alone or the combination of an inherent and a non-inherent adverse effect in any of the following categories:
  - i. the use, peaceful enjoyment, economic value or development potential of abutting and confronting properties or the general neighborhood;
  - ii. traffic, noise, odors, dust, illumination, or a lack of parking; or
  - iii. the health, safety, or welfare of neighboring residents, visitors, or employees;
- is **compatible** with the character of the residential neighborhood.

The findings are appropriate for some conditional uses, but the sponsors thought that they were not appropriate for small cell antennas. The reason to require a conditional use for anything is that the use is generally compatible in the zone but may be incompatible at some locations. If a small cell is not harmonious or compatible in one neighborhood it could still be in any other neighborhood. Under ZTA 19-07, the Hearing Examiner has a single finding: is location X better than location Y? The revised finding more likely avoids a prohibition of service.

#### 4) Consolidated Hearings

ZTA 19-07 would allow consolidation of pole applications for applications filed within 30 days of each other. (Consolidation would be allowed for poles in the same neighborhood where poles of similar height, structure, and characteristics are proposed.) The Hearing Examiner suggested changes to ZTA 19-07 to allow for applicant-initiated consolidation only when applications are made. Industry representatives requested the opportunity to consolidate more applications.

The Town of Chevy Chase noted the following problem with the Office of Hearing Examiner's (OZAH's) Rule of Procedure to participate in a motion to consolidate applications (where the motion is granted before the public hearing):

We believe the definition of "party of record" in OZAH Rule 3.1 should be amended to include "individuals and organizations testifying at an OZAH public hearing; those who have filed a written notice indicating their intention to testify; those who have filed a motion or opposition to motion; and those who have requested and been approved by the Hearing Examiner to be parties of record...."

OZAH's Land Use Rules of Procedure already permit persons to file or oppose motions prior to the public hearing when they are not parties of record. The Hearing Examiner does not agree with the Town's recommendation:

OZAH's Rules distinguish between "parties of record" and "participants" to streamline the hearing process without compromising the rights of residents. Participants are those who submit written comments to OZAH prior to the public hearing or who do not wish to testify at the public hearing. In contested cases, OZAH may receive literally hundreds of written submissions from residents before the hearing. If all are treated as parties, OZAH is required to coordinate hearing dates, postponements, motions, and copy communications with all of those individuals. Residents who have been designated parties have administrative burdens as well, as they may not communicate with OZAH without copying all parties and must respond to motions.

**V) Other Issues**

1) RF testing

Takoma Park is requiring annual RF testing around each antenna to determine if it is operating within RF power and frequency ranges allowed by the FCC. ZTA 19-07 does not have that requirement.

The FCC only requires RF testing under certain circumstances.<sup>29</sup> The categorical exclusions are not exclusions from compliance but, rather, exclusions from performing routine evaluations to demonstrate compliance.

2) Fees

Currently, conditional use application fees for telecommunication towers are more than \$16,000. The fee was based on experience. A substantial amount of that experience was from macro-towers. The Hearing Examiner does not have much experience with lower and small 5G antennas. The Hearing Examiner has no experience with the process proposed by ZTA 19-07. Fees are established by Council resolution. At some point in the near future, it would be appropriate to have different fees for any towers that use a new process.

This packet contains

<u>ZTA 19-07</u>	<u>© number</u>
Detailed table of requirements in other jurisdictions	1-14
American Cancer Society web page of Cellular Phone Towers	15-17
Planning Board testimony	18-23
Planning staff testimony	24-26
DPS process for utility poles	27-33
	34

<sup>29</sup> FCC Office of Engineering and Technology, Bulletin 65.

Zoning Text Amendment No.: 19-07  
Concerning: Telecommunications  
Towers – Limited Use  
Draft No. & Date: 2 – 10/21/19  
Introduced: October 1, 2019  
Public Hearing:  
Adopted:  
Effective:  
Ordinance No.:

**COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND  
SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION OF  
THE MARYLAND-WASHINGTON REGIONAL DISTRICT WITHIN  
MONTGOMERY COUNTY, MARYLAND**

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Lead Sponsor: Councilmember Riemer  
Co-Sponsors: Councilmembers Albornoz and Rice

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**AN AMENDMENT** to the Montgomery County Zoning Ordinance to:

- allow certain telecommunications towers as a limited or conditional use in certain residential zones;
- revise the standards for telecommunications towers allowed as a limited or conditional use;
- revise the conditional use findings required for the replacement of a pre-existing pole; and
- generally amend use requirements to address certain telecommunications towers.

By amending the following sections of the Montgomery County Zoning Ordinance, Chapter 59 of the Montgomery County Code:

DIVISION 3.1. “Use Table”  
Section 3.1.6. “Use Table”  
DIVISION 3.5. “Commercial Uses”  
Section 3.5.2. “Communication Facility”  
DIVISION 7.3. “Regulatory Approvals”  
Section 7.3.1. “Conditional Use”



**EXPLANATION:** ***Boldface** indicates a Heading or a defined term.*  
*Underlining indicates text that is added to existing law by the original text amendment.*  
*[Single boldface brackets] indicate text that is deleted from existing law by original text amendment.*  
*Double underlining indicates text that is added to the text amendment by amendment.*  
*[[Double boldface brackets]] indicate text that is deleted from the text amendment by amendment.*  
*\* \* \* indicates existing law unaffected by the text amendment.*

#### ORDINANCE

*The County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following ordinance:*

1 **Sec. 1. DIVISION 59-3.1 is amended as follows:**

2 **DIVISION 3.1. Use Table**

3 \* \* \*

4 **Section 3.1.6. Use Table**

5 The following Use Table identifies uses allowed in each zone. Uses may be modified in Overlay zones under  
6 Division 4.9.

USE OR USE GROUP	Definitions and Standards	Ag	Rural Residential		Residential													Commercial/ Residential			Employment				Industrial			
					Residential Detached								Residential Townhouse			Residential Multi-Unit												
					AR	R	RC	RNC	RE-2	RE-2C	RE-1	R-200	R-90	R-60	R-40	TLD	TMD	THD	R-30	R-20	R-10	CRN	CRT	CR	GR	NR	LSC	EOF
* * *																												
COMMERCIAL																												
* * *																												
Communication Facility	3.5.2																											
Cable Communications System	3.5.2.A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	P	C	C	C	C
Media Broadcast Tower	3.5.2.B	C	C	C		C	C	C	C	C	C	C				C	C	C				C		L	C	C	C	P
Telecommunications Tower	3.5.2.C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L/C	L	L	L	L/C	L/C	L	L/C	L	L	L

7 **Key:** P = Permitted Use L = Limited Use C = Conditional Use Blank Cell = Use Not Allowed

8           **Sec. 2. DIVISION 59-3.5 is amended as follows:**

9   **DIVISION 3.5. Commercial Uses**

10 \* \* \*

11 **Section 3.5.2. Communication Facility**

12 \* \* \*

13 C.    Telecommunications Tower

14 \* \* \*

15        2.    Use Standards

16 \* \* \*

17           b.    [In the Commercial/Residential, Industrial, and Employment  
18                    zones, where] Where a Telecommunications Tower is allowed  
19                    as a limited use and the tower would replace a pre-existing  
20                    utility pole, streetlight pole, or site plan approved parking lot  
21                    light pole, the tower is allowed if it satisfies the following  
22                    standards:

23                    i.    Any permit application to the Department of Permitting  
24                            Services concerning a Telecommunications Tower must  
25                            include a recommendation from the Transmission  
26                            Facility Coordinating group issued within 90 days of the  
27                            submission of the permit application.

28                    ii.   In the Commercial/Residential, Industrial, and  
29                            Employment zones, the pre-existing pole and the  
30                            replacement tower must be at least 10 feet from an  
31                            existing building, excluding any setback encroachments  
32                            allowed under Section 4.1.7.B.5.

33                    iii.   In the Agricultural, Rural Residential, and Residential  
34                            zones, the pre-existing pole and the replacement tower

35 must be at least 60 feet from any building intended for  
36 human occupation, excluding any setback encroachments  
37 allowed under Section 4.1.7.B.5.

38 [i] iv. Antennas must comply with the Antenna Classification  
39 Standard A under Section 59.3.5.2.C.1.b, be concealed  
40 within an enclosure the same color as the pole, be  
41 installed at a minimum height of 15 feet, and be installed  
42 parallel with the tower.

43 [ii] v. The tower must be located:

44 (a) within 2 feet of the base of a pre-existing pole and  
45 at the same distance from the curb line, or edge of  
46 travel lane in an open section, as the pre-existing  
47 pole in a public right-of-way;

48 [(b) at least 10 feet from an existing building;]

49 [(c) (b) outside of the roadway clear zone as  
50 determined by the Department of Permitting  
51 Services;

52 [(d) (c) in a manner that allows for adequate sight  
53 distances as determined by the Department of  
54 Permitting Services; and

55 [(e) (d) in a manner that complies with streetlight  
56 maintenance requirements as determined by the  
57 Department of Transportation.

58 [iii] vi. A pre-existing streetlight or parking lot light pole  
59 must be removed within 10 business days after power is  
60 activated to the replacement tower, and a pre-existing

61 utility pole must be removed within 180 days after a  
62 replacement utility pole is installed.

63 [iv] vii. The height of the tower, including any attached  
64 antennas and equipment, must not exceed:

65 (a) for streetlights, the height of the pole that is being  
66 replaced:

67 (1) plus 6 feet when abutting a right-of-way  
68 with a paved section width of 65 feet or less;

69 or

70 (2) plus 15 feet when abutting a right-of-way  
71 with a paved section width greater than 65  
72 feet.

73 (b) for utility poles and parking lot lights, the height of  
74 the pre-existing utility or parking lot light pole plus  
75 10 feet.

76 [v] viii. The tower must be the same color as the pre-  
77 existing pole.

78 [vi.] ix. The tower must have no exterior wiring, except  
79 that exterior wiring may be enclosed in shielded conduit  
80 on wooden or utility poles.

81 [vii] x. Any equipment cabinet:

82 (a) must not exceed a maximum volume of 12 cubic  
83 feet;

84 (b) if used to support antennas on a replacement  
85 streetlight pole, must be installed in the

86 Telecommunications Tower base or at ground

87 level, unless this requirement is waived by the  
88 Department of Transportation;

89 (c) must be the same color or pattern as the pre-  
90 existing tower[, except as provided in Section  
91 59.3.5.2.C.2.b.vii(d)] 3.5.2.C.b.x(d); and

92 (d) may be a stealth design approved for safety by the  
93 Department of Transportation.

94 [viii] xi. The tower must include a replacement streetlight,  
95 if a streetlight existed on the pre-existing pole.

96 [ix] xii. The design of a replacement tower located in a  
97 public right-of-way, including the footer and the  
98 replacement streetlight, must be approved by the  
99 Department of Transportation.

100 [x] xiii. The noise level of any [fans] equipment must  
101 comply with Chapter 31B.

102 [xi] xiv. Signs or illumination [on the antennas or support  
103 structure], except a streetlight, on the antennas or support  
104 structure are prohibited unless required by the Federal  
105 Communications Commission or the County.

106 [xii] xv. The owner of the tower [or the antenna attached to  
107 the tower] must maintain their tower[.]. The owner of the  
108 antenna must maintain the [antennas,] antenna and  
109 equipment in a safe condition[.]. Both owners must  
110 remove graffiti[,] and repair damage from their facility.

111 [xiii] xvi. If a tower does not have a streetlight, the tower  
112 must be removed at the [cost] expense of the owner of  
113 the tower when the tower is no longer in use for more

114 than 12 months. Any antenna and equipment must be  
115 removed at the [cost] expense of the owner of the  
116 antenna and equipment when the [antennas] antenna and  
117 equipment are no longer in use for more than 12 months.  
118 The [Telecommunications] Transmission [Facilities]  
119 Facility Coordinating Group must be notified within 30  
120 days of the removal.

121 c. Where a Telecommunications Tower is allowed as a conditional  
122 use, it may be permitted by the Hearing Examiner under  
123 [Section 3.5.2.C.2.a, limited use standards, Section 7.3.1,  
124 Conditional Use,] either Subsection 3.5.2.C.2.d or Subsection  
125 3.5.2.C.2.a, limited use standards. In addition, Section 7.3.1  
126 and the following procedures and standards must be satisfied:

127 i. Before the Hearing Examiner approves any conditional  
128 use for a Telecommunications Tower, the proposed  
129 facility must be reviewed by the [County] Transmission  
130 Facility Coordinating Group. The applicant for a  
131 conditional use must file a recommendation from the  
132 Transmission Facility Coordinating Group with the  
133 Hearing Examiner at least 5 days before the date set for  
134 the public hearing. The recommendation must be no  
135 more than 90 days old when the conditional use  
136 application is accepted.

137 \* \* \*

138 d. In the Agricultural, Rural Residential, and Residential zones,  
139 where a Telecommunications Tower that is proposed to be less  
140 than 50 feet in height does not meet the limited use standards

141 under Subsection 3.5.2.C.2.a, it may be permitted by the  
142 Hearing Examiner as a conditional use without regard to  
143 Section 7.3.1 only if the following procedures and standards are  
144 satisfied:

145 i. An application must include:

- 146 (a) the subject property's ownership and, if the  
147 applicant is not the owner, authorization by the  
148 owner to file the application;
- 149 (b) fees as approved by the District Council;
- 150 (c) a statement of how the proposed development  
151 satisfies the criteria to grant the application;
- 152 (d) a certified copy of the official zoning vicinity map  
153 showing the area within at least 1,000 feet  
154 surrounding the subject property;
- 155 (e) a written description of operational features of the  
156 proposed use;
- 157 (f) plans showing existing buildings, structures,  
158 rights-of-way, tree coverage, vegetation, historic  
159 resources, and the location and design of  
160 streetlights, utilities, or parking lot poles within  
161 300 feet of the proposed location;
- 162 (g) a list of all property owners, homeowners  
163 associations, civic associations, condominiums,  
164 and renter associations within 300 feet of the  
165 proposed tower;



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- (h) plans showing height and architectural design of the tower and cabinets, including color materials, and any proposed landscaping and lighting;
  - (i) photograph simulations with a direct view of the tower and site from at least 3 directions;
  - (j) at least one alternative site that maximizes the setback from any building intended for human occupation or reduces the height of the proposed tower.
- ii. Before the Hearing Examiner reviews any conditional use for a Telecommunications Tower, the proposed facility must be reviewed by the Transmission Facility Coordinating Group. The Transmission Facility Coordinating Group must declare whether the application is complete, verify the information in the draft application, and must issue a recommendation within 20 days of accepting a complete Telecommunications Tower application. The applicant for a conditional use must file a complete copy of the recommendation from the Transmission Facility Coordinating Group with the Hearing Examiner at least 30 days before the date set for the public hearing. The Transmission Facility Coordinating Group recommendation must have been made within 90 days of its submission to the Hearing Examiner.

- 191                    iii. The Hearing Examiner must schedule a public hearing to  
192                    begin within 30 days after the date a complete application  
193                    is accepted by the Hearing Examiner.
- 194                    (a) Within 10 days of when an application is accepted,  
195                    the Office of Zoning and Administrative Hearings  
196                    must notify all property owners within 300 feet of  
197                    the application of:
- 198                    (1) the filed application;  
199                    (2) the hearing date; and  
200                    (3) information on changes to the hearing date  
201                    or the consolidation found on the Office of  
202                    Zoning and Administrative Hearing's  
203                    website.
- 204                    A sign that satisfies Section 59.7.5 must also be  
205                    posted at the site of the application at the same  
206                    time.
- 207                    (b) The Hearing Examiner may postpone the public  
208                    hearing and must post notice on the website of the  
209                    Office of Zoning and Administrative Hearings of  
210                    any changes to the application, the application  
211                    schedule, or consolidation of multiple applications.
- 212                    (c) The Hearing Examiner may request information  
213                    from Planning Department Staff.
- 214                    iv. A Telecommunications Tower must be set back, as  
215                    measured from the base of the support structure.
- 216                    v. (a) The Telecommunications Tower must be at least  
217                    60 feet from any building intended for human

218 occupation, excluding encroachments that are  
219 allowed under Section 4.1.7.B.5 and no taller than  
220 30 feet; or  
221 (b) if the Hearing Examiner determines that additional  
222 height and reduced setback are needed to provide  
223 service or a reduced setback or increased height  
224 will allow the support structure to be located on  
225 the property in a less visually obtrusive location,  
226 the Hearing Examiner may reduce the setback  
227 requirement to at least 30 feet or increase the  
228 height. In making this determination, the Hearing  
229 Examiner must consider the height of the structure,  
230 topography, existing tree coverage and vegetation,  
231 proximity to nearby residential properties, and  
232 visibility from the street.  
233 vi. The Hearing Examiner may not approve a conditional  
234 use if the use abuts or confronts an individual resource or  
235 is in a historic district in the Master Plan for Historic  
236 Preservation.  
237 vii. The tower must be located to minimize its visual impact  
238 as compared to any alternative location where the tower  
239 could be located to provide service. Neither screening  
240 under Division 6.5 nor the procedures and standards  
241 under Section 7.3.1 are required. The Hearing Examiner  
242 may require the tower to be less visually obtrusive by use  
243 of screen, coloring, or other visual mitigation options,  
244 after the character of residential properties within 400

- 245                   feet, existing tree coverage and vegetation, and design  
246                   and presence of streetlight, utility, or parking lot poles.
- 247           e.    When multiple applications for Telecommunications Towers  
248                   raise common questions of law or fact, the Hearing Examiner  
249                   may order a joint hearing or consolidation of any or all of the  
250                   claims, issues, or actions. Any such order may be prompted by  
251                   a motion from any party or at the Examiner's own initiative.  
252                   The Hearing Examiner may enter an order regulating the  
253                   proceeding to avoid unnecessary costs or delay. The following  
254                   procedures for consolidated hearings govern:
- 255                   i.    All applications must be filed within 30 days of each  
256                   other and be accompanied by a motion for consolidation.
- 257                   ii.   The proposed sites, starting at a chosen site, must be  
258                   located such that no site is further than 3,000 feet from  
259                   the chosen site in the application.
- 260                   iii.   The proposed sites must be located in the same zone,  
261                   within the same Master Plan area, and in a neighborhood  
262                   with similar building heights and setbacks.
- 263                   iv.   Each tower must be of the same or similar proposed  
264                   height, structure, and characteristics.
- 265                   v.    A motion to consolidate must include a statement  
266                   specifying the common issues of law and fact.
- 267                   vi.   The Hearing Examiner may order a consolidated hearing  
268                   if the Examiner finds that a consolidated hearing will  
269                   more fairly and efficiently resolve the matters at issue.

270                    vii. If the motion to consolidate is granted, the applicant and  
271                    opposition must include all proposed hearing exhibits  
272                    with their pre-hearing statements.

273                    viii. The Hearing Examiner has the discretion to require the  
274                    designation of specific persons to conduct cross-  
275                    examination on behalf of other individuals and to limit  
276                    the amount of time given for each party's case in chief.  
277                    Each side must be allowed equal time.

278                    f. Any party aggrieved by the Hearing Examiner's decision may  
279                    file a petition for judicial review under the Maryland rules  
280                    within 15 days of the publication of the decision.

281                    \*   \*   \*

282                    **Sec. 3. Effective date.** This ordinance becomes effective 20 days after the  
283                    date of Council adoption.

284

285                    This is a correct copy of Council action.

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288                    Selena Mendy Singleton, Esq.,  
289                    Clerk of the Council

	Setbacks	Pole Height
Montgomery County current	<p><u>AR,R,RC-limited</u> (not replacement): 300 feet</p> <p><u>C/R- limited</u> (replacement): 10 feet from existing building/within 2 feet of pre-existing pole base</p> <p><u>All Residential Zones<sup>i</sup> conditional</u> (new and pre-existing): a distance of one foot for every foot of height or 300 feet from an existing dwelling (whichever is a greater setback)<sup>ii</sup></p>	<p><u>AR, R, RC-limited</u> (not replacement): 179 feet maximum</p> <p><u>C/R- limited</u> (replacement):</p> <p>-<i>Streetlights</i>: the height of the pole being replaced:</p> <ol style="list-style-type: none"> <li>1) plus 6 feet when abutting a ROW<sup>iii</sup> with paved section width of 65 feet or less</li> <li>2) plus 15 feet when abutting a ROW with a paved section width greater than 65 feet</li> </ol> <p>-<i>Utility poles</i>: the height of the pre-existing pole plus 10 feet</p> <p><u>All Residential Zones<sup>iv</sup>- conditional</u> (new and pre-existing): 135 feet maximum</p>
Montgomery County proposed	<p><u>All Residential Zones-limited</u> (replacement on pre-existing pole): at-least 60 feet from nearest habitable building</p> <p><u>All Residential Zones-conditional</u> 30 feet from a building</p>	<p><u>All Residential Zones-limited</u> (replacement on pre-existing pole):</p> <p>-<i>Streetlights</i>: the height of the pole being replaced:</p> <ol style="list-style-type: none"> <li>1) plus 6 feet when abutting a ROW with paved section width of 65 feet or less</li> <li>2) plus 15 feet when abutting a ROW with a paved section width greater than 65 feet</li> </ol> <p>-<i>Utility poles</i>: the height of the pre-existing pole plus 10 feet</p> <p><u>All Residential Zones-conditional</u> under 50 feet</p>
Prince George's County	<p><u>Public &amp; Private Land</u>: one foot for every one foot in the height of the pole</p> <p>-Cannot be located within...<sup>v</sup></p> <ul style="list-style-type: none"> <li>• 150 of the nearest small wireless facility controlled by the same "Person"</li> <li>• 15 feet of an existing tree</li> <li>• 30 feet from a residential dwelling unit unless a study deems more distance is required related to radio frequency radiation</li> <li>• 3 feet, 6 inches from the curb or 6 feet from the end of the paved section of the roadway if no curb exists when in a public ROW</li> <li>• 250 feet of an elementary/secondary institution</li> </ul>	<p><u>Public Land</u>: 199 feet maximum</p> <p><u>Private Land</u>: 100 feet maximum</p> <p>Co-located/Existing Pole: The new height cannot exceed 10 feet higher than the original pole height.</p> <p>Public ROW (protected area): Cannot exceed 30 feet</p> <p>Public ROW: Cannot exceed 50 feet or 10 feet greater than the tallest existing pole in the public ROW</p>
Washington D.C. <sup>vi</sup> ROW/Public	<p><u>New or Existing Pole</u>: Small cell infrastructure shall not be installed on an existing or new pole within a 10' setback from all existing buildings or building lines (i.e. property line, building restriction line, or additional setback required by zoning)</p>	<p><u>Existing Poles</u>: Any attachment, including antenna(e), to an existing pole shall not extend the existing pole to a height of more than 36 feet or by more than 10 percent, whichever is greater.</p> <p><u>Wood Poles</u>: The height of any replacement wood pole including its antennae shall not exceed 50 feet.</p>

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	<p>Small Cell infrastructure is not permitted to be installed on: Medians and traffic islands; bridges, tunnels, overpasses and elevated roadways; Twin-Twenty or Washington Upright poles, or others; all sidewalks and rights-of-way immediately adjacent to Federal property or Federal reservations; and avenues and streets on the Federal Core Interest Area Map that do not designate small cell infrastructure locations</p>	
<p>Fairfax, VA<sup>vii</sup></p>	<p><u>Co-located<sup>viii</sup></u>: If in utility transmission easement or street ROW, it must be located a minimum of 10 feet from the utility transmission easement or ROW line. Otherwise, it must meet minimum yard requirements of the specific zoning district<sup>x</sup></p> <p><u>R-12, R-16, R-20: Permitted Use, Setback</u>: All other structures (1) Front yard: Controlled by a 25° angle of bulk plane, but not less than 20 feet (2) Side yard: Controlled by a 25° angle of bulk plane, but not less than 10 feet (3) Rear yard: Controlled by a 25° angle of bulk plane, but not less than 25 feet (FAR .70)</p> <p><u>R-30: Permitted Use, Setback</u>: All structures (1) Front yard: Controlled by a 25° angle of bulk plane, but not less than 20 feet (2) Side yard: Controlled by a 25° angle of bulk plane, but not less than 10 feet (3) Rear yard: Controlled by a 25° angle of bulk plane, but not less than 25 feet (FAR: 1.0)</p> <p><u>Replacement</u>: Assume the new pole must be in the exact same spot as preexisting pole</p> <p><u>New Structures</u>: Single-family zones, <u>not</u> located on a major thoroughfare= no less than 300 feet All other areas: no less than 100 feet From an existing or permitted utility distribution or transmission pole</p> <p><u>Hub-Sites<sup>x</sup></u>: If in utility transmission easement or street ROW, it must be located a minimum of 20 feet from the utility transmission easement or ROW line</p>	<p><u>Co-located</u>: 12 feet maximum</p> <p><u>Replacement-Single Family Dwelling Zones</u>: If <i>located on a major thoroughfare</i>, maximum height equals 80 feet. If the existing pole is higher than 80 feet, then the new pole cannot be more than 15 feet taller than the original. If <i>not located on a major thoroughfare</i> the new pole cannot be more than 15 feet higher than the existing pole.</p> <p><u>Replacement-Multi-Family Dwelling Zones</u>: If the buildings are 35 feet or less in height, than the entire height of the pole must not exceed 100 feet. If the original pole exceeds 100 feet, then the replacement cannot be more than 15 feet higher than the existing pole.</p> <p><u>Replacement- All Other Instances</u>: The entire height of the pole must not exceed 100 feet. If the original pole exceeds 100 feet, then the replacement cannot be more than 15 feet higher than the existing pole.</p> <p><u>New Structures</u>: 50 feet maximum    <u>Hub-Sites</u>: 12 feet maximum</p>

<b>Arlington, VA<sup>xi</sup></b>	All small cell facilities must be placed on an existing privately-owned utility poles and structures in the right-of-way, and County owned light poles.	Height restrictions are based on the type of pole the small wireless facility will be placed on. <sup>xii</sup> Some examples include <sup>xiii</sup> : <ul style="list-style-type: none"> <li>• 35 feet maximum (including small wireless facility)</li> <li>• 26 feet maximum (including small wireless facility)</li> </ul> The small wireless facility should not exceed 6 feet higher than the pole.
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<sup>i</sup> AR, R, RC, RNC, RE-2, RE-2C, RE-1, R-200, R-90, R-60, R-40

<sup>ii</sup> The Hearing Examiner may reduce the setback to no less than one foot for every foot in height if evidence indicates that the reduced setback will allow the support structure to be located on the property in a less visually-intrusive location. – Jeff Zyontz November 19, 2019 Public Hearing Staff Packet pg. 8  
[https://www.montgomerycountymd.gov/council/Resources/Files/agenda/col/2019/20191119/20191119\\_7.pdf](https://www.montgomerycountymd.gov/council/Resources/Files/agenda/col/2019/20191119/20191119_7.pdf)

<sup>iii</sup> Right-of-Way

<sup>iv</sup> Unless it can be demonstrated that additional height up to 179 feet is needed for service, collocation, or public safety communication purposes. At the completion of construction, before the support structure may be used to transmit any signal, and before the final inspection required by the building permit, the applicant must certify to DPS that the height and location of the support structure conforms with the height and location of the support structure on the building permit.

<sup>v</sup> Prince George's County CB-058-2019 on Small Wireless Facilities <https://princegeorgescountymd.legistar.com/LegislationDetail.aspx?ID=4144226&GUID=A73DBCBE-5AED-408B-86B2-88298DD721C0&Options=ID|Text|&Search=CB-58-2019>

<sup>vi</sup> Small Cell Design Guidelines, 2019

[https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page\\_content/attachments/Final%20Third%20Version%20of%20the%20Small%20Cell%20Guidelines.pdf](https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page_content/attachments/Final%20Third%20Version%20of%20the%20Small%20Cell%20Guidelines.pdf)

<sup>vii</sup> Ground-mounted equipment has different restrictions based on specific zones and locations. Please see 7-8 of Fairfax County Zoning Ordinance 19-480

<https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning%20ordinance/adopted%20amendments/zo19480.pdf>

<sup>viii</sup> Co-location includes antenna and equipment is placed on an existing utility or light pole.

<sup>ix</sup> Fairfax minimum yard requirements for residential zones, R-12 (pg. 3-77) R-16 (pg. 3-83), R-20 (pg. 3-89), R-30 (pg. 3-95) : <https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning/zoning%20ordinance/art03.pdf>

<sup>x</sup> A hub site as defined by the Fairfax County Zoning Ordinance pertains to an equipment cabinet or structure that serves a wireless facility system when there are no antennas located on the same lot as the equipment cabinet or structure.

<sup>xi</sup> Amended and enacted Chapter 22 (Street Development and Construction) Section 22-8.2 for Arlington County, VA Effective August 1, 2019

[https://arlington.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=3656&meta\\_id=188150](https://arlington.granicus.com/MetaViewer.php?view_id=2&clip_id=3656&meta_id=188150) Chapter 22 full text: [https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/22/2019/08/Ch-22\\_STREET-DEVELOPMENT-AND-CONSTRUCTION\\_per-Board-Report\\_Final.pdf](https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/22/2019/08/Ch-22_STREET-DEVELOPMENT-AND-CONSTRUCTION_per-Board-Report_Final.pdf)

<sup>xii</sup> Arlington, VA Department of Transportation Lighting Standards & Specifications Updates <https://transportation.arlingtonva.us/streets/street-lights/lighting-standards-specifications-updates/>

<sup>xiii</sup> Arlington, VA Department of Transportation Small Cell Wireless Facility Pole Drawings <https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/19/2019/10/Small-Cell-Wireless-Facility-SWF-Pole-Drawings.pdf>

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# Cellular Phone Towers

Cellular (cell) phones first became widely available in the United States in the 1990s, but since then their use has increased dramatically. The widespread use of cell phones has led to cell phone towers being placed in many communities. These towers, also called *base stations*, have electronic equipment and antennas that receive and transmit radiofrequency (RF) signals.

## How do cellular phone towers work?

Cell phone base stations may be free-standing towers or mounted on existing structures, such as trees, water tanks, or tall buildings. The antennas need to be high enough to adequately cover the area. Base stations are usually from 50-200 feet high.

Cell phones communicate with nearby cell towers mainly through radiofrequency (RF) waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. Like FM radio waves, microwaves, visible light, and heat, they are forms of **non-ionizing radiation**. This means they do not directly damage the DNA inside cells, which is how stronger (**ionizing**) types of radiation such as x-rays, gamma rays, and ultraviolet (UV) light are thought to be able to cause cancer.

At very high levels, RF waves can heat up body tissues. (This is the basis for how microwave ovens work.) But the levels of energy used by cell phones and towers are much lower.

When a person makes a cell phone call, a signal is sent from the phone's antenna to the nearest base station antenna. The base station responds to this signal by assigning it an available radiofrequency channel. RF waves transfer the voice information to the base station. The voice signals are then sent to a switching center, which transfers the call to its destination. Voice signals are then relayed back and forth during the call.

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# How are people exposed to the energy from cellular phone towers?

As people use cell phones to make calls, signals are transmitted back and forth to the base station. The RF waves produced at the base station are given off into the environment, where people can be exposed to them.

The energy from a cellular phone tower antenna, like that of other telecommunication antennas, is directed toward the horizon (parallel to the ground), with some downward scatter. Base station antennas use higher power levels than other types of land-mobile antennas, but much lower levels than those from radio and television broadcast stations. The amount of energy decreases rapidly as the distance from the antenna increases. As a result, the level of exposure to radio waves at ground level is very low compared to the level close to the antenna.

Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly.

At ground level near typical cellular base stations, the amount of RF energy is thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.

When a cellular antenna is mounted on a roof, it is possible that a person on the roof could be exposed to RF levels greater than those typically encountered on the ground. But even then, exposure levels approaching or exceeding the FCC safety guidelines are only likely to be found very close to and directly in front of the antennas. If this is the case, access to these areas should be limited.

The level of RF energy inside buildings where a base station is mounted is typically much lower than the level outside, depending on the construction materials of the building. Wood or cement block reduces the exposure level of RF radiation by a factor of about 10. The energy level *behind* an antenna is hundreds to thousands of times lower than in front. Therefore, if an antenna is mounted on the side of a building, the exposure level in the room directly behind the wall is typically well below the recommended exposure limits.

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# Do cellular phone towers cause cancer?

Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there is very little evidence to support this idea. In theory, there are some important points that would argue against cellular phone towers being able to cause cancer.

First, the energy level of radiofrequency (RF) waves is relatively low, especially when compared with the types of radiation that are known to increase cancer risk, such as gamma rays, x-rays, and ultraviolet (UV) light. The energy of RF waves given off by cell phone towers is not enough to break chemical bonds in DNA molecules, which is how these stronger forms of radiation may lead to cancer.

A second issue has to do with wavelength. RF waves have long wavelengths, which can only be concentrated to about an inch or two in size. This makes it unlikely that the energy from RF waves could be concentrated enough to affect individual cells in the body.

Third, even if RF waves were somehow able to affect cells in the body at higher doses, the level of RF waves present at ground level is very low – well below the recommended limits. Levels of energy from RF waves near cell phone towers are not significantly different from the background levels of RF radiation in urban areas from other sources, such as radio and television broadcast stations.

## Studies in people

Very few human studies have focused specifically on cellular phone towers and cancer risk.

In one large study, British researchers compared a group of more than 1,000 families of young children with cancer against a similar group of families of children without cancer. They found no link between a mother's exposure to the towers during pregnancy (based on the distance from the home to the nearest tower and on the amount of energy given off by nearby towers) and the risk of early childhood cancer.

In another study, researchers compared a group of more than 2,600 children with cancer to a group of similar children without cancer. They found that those who lived in a town that could have exposed them to higher than average RF radiation from cellular phone towers in the previous 5 years had a slightly higher risk of cancer, although not of any certain type of cancer (like leukemia or brain tumors). This study estimated the children's possible exposure based on the number of towers in their town and how

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strong the signals were from the towers. It did not look at actual exposure of any individual child based on how far their home or school was from a tower. This limitation reduces confidence in the results of the study.

One study looked for signs of DNA and cell damage in blood cells as a possible indicator of cancer-causing potential. They found that the damage was no worse in people who lived near a cell phone tower as compared with those didn't.

The amount of exposure from living near a cell phone tower is typically many times lower than the exposure from using a cell phone. About 30 studies have looked at possible links between cell phone use and tumors in people. Most studies to date have not found a link between cell phone use and the development of tumors, although these studies have had some important limitations. This is an area of active research. For more information, see [Cellular Phones \(/cancer/cancer-causes/radiation-exposure/cellular-phones.html\)](#).

## Studies done in the lab

Laboratory studies have looked at whether the types of RF waves used in cell phone communication can cause DNA damage. Most of these studies have supported the idea that the RF waves given off by cell phones and towers don't have enough energy to damage DNA directly. Because of this, it's not clear how cell phones and towers might be able to cause cancer, but research in this area continues.

Some scientists have reported that RF waves may produce other effects in human cells (in lab dishes) that might possibly help tumors grow. However, these studies have not been verified, and these effects weren't seen in a study that looked at the blood cells from people living near a cellular phone tower.

Several studies in rats and mice have looked at whether RF energy might promote the development of tumors caused by other known carcinogens (cancer-causing agents). These studies did not find evidence of tumor promotion, but this is still an area of research.

A recent large study by the US National Toxicology Program (NTP) exposed groups of lab rats and mice to RF energy over their entire bodies for about 9 hours a day, starting before birth and continuing for up to 2 years (which is the equivalent of about 70 years for humans, according to NTP scientists). The study found an increased risk of tumors called malignant schwannomas of the heart in male rats exposed to RF radiation, as well as possible increased risks of certain types of tumors in the brain and adrenal glands. But some aspects of this study make it hard to know just how these results might apply to RF exposure from cell phone towers in people. For example, there was no clear increased risk among female rats or among male or female mice in the study. The doses of RF radiation in the study were also generally higher than those people are exposed to when using cell phones (much less being near a cell phone tower). The male rats in the

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study exposed to RF waves also lived longer, on average, than the rats who were not exposed, for unclear reasons. Still, the results add evidence to the idea that the signals used in cell phone communication might potentially impact human health.

## What expert agencies say

### About cell phone towers

The 3 expert agencies that usually classify cancer-causing exposures (carcinogens) – the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and the US Environmental Protection Agency (EPA) – have not classified cell phone towers specifically as to their cancer-causing potential.

The **US Federal Communications Commission** (FCC) has said this about cell phone towers near homes or schools:

“Radiofrequency emissions from antennas used for cellular and PCS [personal communications service] transmissions result in exposure levels on the ground that are typically thousands of times below safety limits. These safety limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety. Therefore, there is no reason to believe that such towers could constitute a potential health hazard to nearby residents or students.”

### About RF radiation

Some of the agencies that classify cancer-causing exposures have, however, made statements about radiofrequency radiation.

The **International Agency for Research on Cancer (IARC)** has classified RF fields as “possibly carcinogenic to humans,” based on limited evidence of a possible increase in risk for brain tumors among cell phone users, and inadequate evidence for other types of cancer. (For more information on the IARC classification system, see [Known and Probable Human Carcinogens \(/cancer/cancer-causes/general-info/known-and-probable-human-carcinogens.html\)](#).) IARC also noted that exposure to the brain from RF fields from cell phone base stations (mounted on roofs or towers) is less than 1/100<sup>th</sup> the exposure to the brain from mobile devices such as cell phones.

The **Environmental Protection Agency** (EPA) states:

“At very high levels, RF energy is dangerous. It can heat the body's tissues rapidly. However, such high levels are found only near certain equipment, such as powerful long-distance transmitters. Cellphones and wireless networks produce RF, but not at

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levels that cause significant heating. In addition, RF energy decreases quickly over distance. At ground level, exposure to RF from sources like cellphone towers is usually very low.

Some people are concerned about potential health effects, especially on the developing brains and bodies of children. Some studies suggest that heavy long-term use of cellphones could have health effects. Other studies don't find any health effects from cellphone use. Long-term studies on animals exposed to the RF found in wireless networks (Wi-Fi) have, so far, found no health effects. Scientists continue to study the effects of long-term exposure to low levels of RF.”

## Can I limit my exposure?

Cell phone towers are not known to cause any health effects. But if you are concerned about possible exposure from a cell phone tower near your home or office, you can ask a government agency or private firm to measure the RF field strength near the tower (where a person could be exposed) to ensure that it is within the acceptable range.

## What should I do if I've been exposed to cellular phone towers?

There is no test to measure whether you have been exposed to RF radiation from cellular phone towers. But as noted above, most researchers and regulatory authorities do not believe that cell phone towers pose health risks under ordinary conditions. If you have additional health concerns, you might want to talk with your doctor.

Written by    Additional resources    Resources



The American Cancer Society medical and editorial content team  
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Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

Last Medical Review: December 2, 2014 | Last Revised: November 5, 2018

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**MONTGOMERY COUNTY PLANNING BOARD**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

OFFICE OF THE CHAIR

November 18, 2019

**TO:** The County Council for Montgomery County, Maryland, sitting as the District Council for the Maryland-Washington Regional District in Montgomery County, Maryland

**FROM:** Montgomery County Planning Board

**SUBJECT:** Zoning Text Amendment No. 19-07

**BOARD RECOMMENDATION**

The Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission reviewed Zoning Text Amendment No. 19-07 (ZTA 19-07) at its regular meeting on November 14, 2019. By a vote of 5:0, the Planning Board provides the following comments on ZTA 19-07 to allow certain telecommunications towers as a limited or conditional use in certain residential zones; revise the standards for telecommunications towers allowed as a limited or conditional use; revise the conditional use findings required for the replacement of a pre-existing pole; and generally amend use requirements to address certain telecommunications towers.

The Board believes that ZTA 19-07 strikes a balance in addressing the community's interest in having increased access to mobile broadband services and the evolving technical needs of the wireless industry while also working to protect the community's interest in managing commercial use of public property and maintaining attractive and safe roads and neighborhoods.

The Board believes that adding a requirement and expedited process for conditional use approval for replacement poles that do not meet the limited use standards makes sense, given that retrofitting them with small cell technology can be more difficult when also trying to establish compatibility with neighborhoods, especially in areas with underground utilities.

The Board further recommends that the following comments/questions be addressed during the PHED Committee worksession on ZTA 19-07 (as detailed in the staff report):

- The extent of Planning Staff involvement in the expedited limited use and conditional use processes.
- The Hearing Examiner's concerns regarding the proposed language that allows consolidation of applications filed up to 29 days apart. OZAH believes that any consolidated applications should be filed on the same day.
- Clarification on the maximum size (volume) of a small cell antenna to be located on a replacement or existing streetlight, utility or site plan approved parking lot light pole. There appears to be inconsistency between the current Zoning Code maximum and the FCC allowance.

- Clarification of existing Zoning Code language on how the minimum installation height (of 15 feet) of an antenna on a pole should be measured. The Board suggests that the measurement be made from the base of the antenna.

ZTA 18-02 (adopted May 15, 2018), amended the Zoning Ordinance to allow replacement of pre-existing streetlights, utility poles and site plan-approved parking lot lights in the Commercial/Residential, Employment and Industrial zones.

ZTA 18-11 was proposed to allow replacement of these same types of pre-existing poles in the Agricultural, Rural Residential and Residential zones as a Limited Use if the pre-existing pole is at least 22 feet tall and 30 feet from a house, or as Conditional Use if the pre-existing pole is shorter than 22 feet and at least 30 feet from a house. The Hearing Examiner would need to find that the tower is compatible with nearby residential property and is located to minimize its visual impact. To meet federal shot clocks, the Hearing Examiner's decision would be made final action by the County, by removing the right to appeal the Hearing Examiner's decision to the Board of Appeals. Appeal to the Circuit Court would still be permitted. ZTA 18-11 was not enacted by the previous Council.

As proposed, ZTA 19-07:

- Allows poles with antennas as a limited use in residential zones where the pole for the antenna would replace a pre-existing utility pole, streetlight pole, or site plan-approved parking lot light pole;
- Requires that any permit application to the Department of Permitting Services concerning a Telecommunications Tower include a recommendation from the Transmission Facility Coordinating (TFCG) group issued within 90 days of the submission of the permit application;
- Requires, in the Agricultural, Rural Residential, and Residential zones, the pre-existing pole and the replacement tower to be at least 60 feet from the nearest habitable building;
- Limits the height of a replacement structure to 6 additional feet for streetlights, when abutting a right-of-way with a paved section width of 65 feet or less, or 15 additional feet for streetlights when abutting a right-of-way with a paved section width greater than 65 feet. Additional height for utility poles and parking lot light poles would be limited to 10 feet;
- Amends the conditional use standards for poles in Agricultural, Rural Residential, and Residential zones proposed to be less than 50 feet in height that do not meet the limited use standards;
- Requires that any conditional use for a Telecommunications Tower be reviewed by the TFCG before being reviewed by the Hearing Examiner. The TFCG must declare whether the application is complete, verify the information in the draft application, and must issue a recommendation within 20 days of accepting a complete Telecommunications Tower application;
- Requires that the Telecommunications Tower under a conditional use application be at least 60 feet from any building intended for human occupation and no taller than 30 feet;



- Allows the Hearing Examiner to reduce the setback requirement to a minimum of 30 feet or increase the height above 30 feet if needed to provide service or if a reduced setback or increased height will allow the support structure to be located on the property in a less visually obtrusive location;
- Requires the tower to be located to minimize its visual impact as compared to any alternative location where the tower could be located to provide service;
- Requires that appeals of the Hearing Examiner's decisions go straight to the Circuit Court;
- Requires that the Hearing Examiner schedule a public hearing to begin within 30 days after the date a complete application is accepted by the Hearing Examiner; and
- Allows for batching applications when those applications are in the same neighborhood and have similar issues.

#### CERTIFICATION

This is to certify that the attached report is a true and correct copy of the technical staff report and the foregoing is the recommendation adopted by the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission, at its regular meeting held in Silver Spring, Maryland, on Thursday, November 14, 2019.



Casey Anderson  
Chair

CA:GR:aj



**Zoning Text Amendment (ZTA) No. 19-07, Telecommunications Towers – Limited & Conditional Use**

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SDR

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**Completed: 11/7/19**

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**Description**

ZTA No. 19-07 amends the Montgomery County Zoning Ordinance to allow certain telecommunications towers as a limited or conditional use in certain residential zones; revise the standards for telecommunications towers allowed as a limited or conditional use; revise the conditional use findings required for the replacement of a pre-existing pole; and generally amend use requirements to address certain telecommunications towers.

**Summary**

Staff recommends the following comments on ZTA No. 19-07 to allow certain telecommunications towers as a limited or conditional use in certain residential zones; revise the standards for telecommunications towers allowed as a limited or conditional use; revise the conditional use findings required for the replacement of a pre-existing pole; and generally amend use requirements to address certain telecommunications towers.

Staff believes that ZTA 19-07 strikes a balance in addressing the community's interest in having increased access to mobile broadband services and the evolving technical needs of the wireless industry while also working to protect the community's interest in managing commercial use of public property and maintaining attractive and safe roads and neighborhoods.

Staff believes that adding a requirement and expedited process for conditional use approval for replacement poles that do not meet the limited use standards makes sense, given that retrofitting them with small cell technology can be more difficult when also trying to establish compatibility with neighborhoods, especially in areas with underground utilities.

Staff further recommends that the following comments/questions be addressed during PHED Committee worksession on ZTA 19-07 (as detailed in the staff report):

- The extent of Planning Staff involvement in the expedited limited use and conditional use processes.
- The Hearing Examiner's concerns regarding the proposed language that allows consolidation of applications filed up to 29 days apart. OZAH believes that these applications should be filed on the same day.

- Clarification on the maximum size (volume) of a small cell antenna to be located on a replacement or existing streetlight, utility or site plan approved parking lot light pole. There appears to be inconsistency between the current Zoning Code maximum and the FCC allowance.
- Clarification of existing Zoning Code language on how the minimum installation height (of 15 feet) of an antenna on a pole should be measured. Staff suggests that the measurement should be made from the base of the antenna.
- Minor plain language clarifications.

### Background/Analysis

ZTA 18-02 (adopted May 15, 2018), amended the Zoning Ordinance to allow replacement of pre-existing streetlights, utility poles and site plan-approved parking lot lights in the Commercial/Residential, Employment and Industrial zones.

ZTA 18-11 was proposed to allow replacement of these same types of pre-existing poles in the Agricultural, Rural Residential and Residential zones as a Limited Use if the pre-existing pole is at least 22 feet tall and 30 feet from a house, or as Conditional Use if the pre-existing pole is shorter than 22 feet and at least 30 feet from a house. The Hearing Examiner would need to find that the tower is compatible with nearby residential property and is located to minimize its visual impact. To meet federal shot clocks, the Hearing Examiner's decision would be made final action by the County, by removing the right to appeal the Hearing Examiner's decision to the Board of Appeals. Appeal to the Circuit Court would still be permitted. **ZTA 18-11 was not enacted by the previous Council.**

ZTA 19-07 was introduced on October 1, 2019. Below is an excerpt from the Council Staff report introducing the ZTA:

*Wireless technology is rapidly changing to offer faster speeds, enhanced reliability, and expanded capabilities. The Federal Communications Commission (FCC) believes that greater capacity is needed to meet future demands. The next generation of wireless technology has dramatically more capacity than what is in use today.*

*Wireless networks will increasingly take advantage of millimeter wave spectrum above 24 GHz. That spectrum can carry a lot of information, but the signal travels a short distance. The technology requires many antennas that are closer to the device that is sending and receiving information. While today's technology relies on relatively few but tall macro towers, tomorrow's technology (5G) will also make use of many more, shorter antennas.*

*As stated above, the previous Council reviewed the restrictions of 5G towers in 2018. By approving ZTA 18-02, the Council allowed deployment of 5G antennas in mixed-use and non-residential zones with reduced setbacks. The zoning code does not allow 5G towers in residentially-zoned areas except by conditional use approval (In the conditional use process, a minimum 300-foot setback from existing dwellings is required.). The previous Council also took on the question of allowing a limited use in residential zones in the fall of 2018 (ZTA 18-11) with a 30-foot setback. Ultimately, the Council did not support shorter cell towers as a limited use in residential zones.*

*In the opinion of the sponsors, the opportunities for innovation and advancement in health care, education, transportation, agriculture, entertainment, and many other sectors should not be understated. As wireless technologies increasingly help power the County's economy and*

*undoubtedly contribute to County residents' quality of life, the sponsors of ZTA 19-07 do not want the County to be left behind.*

*The sponsors of ZTA 19-07 believe that the proposed ZTA strikes the right balance. It ensures that the industry is incentivized to use poles that are 60 feet or more from a building. When the setback distance is between 60 and 30 feet, residents will continue to have a voice in the process to argue that there are less obtrusive locations.*

*The sponsors are concerned about preemption efforts by the FCC and possibly the Maryland General Assembly. This ZTA is an opportunity for the County to set its own standards. In the opinion of the sponsors, if the Council does not act, federal or state rules will be imposed on the County, and those rules will be less favorable than what this ZTA would achieve (The County filed petitions for judicial review of several FCC orders that, as of the date of this memorandum, the court has not acted on.).*

As proposed, ZTA 19-07 does not change the requirements for telecommunications towers that are not replacing a pre-existing utility pole, streetlight pole, or site plan approved parking lot light pole.<sup>1</sup> However, the ZTA adds to or modifies the telecommunication provisions as discussed below (Planning staff supports these proposed changes, with modifications as indicated):

**REPLACEMENT POLES AS LIMITED USE IN RESIDENTIAL AREAS** (Streetlight, Utility, and Parking Lot Light Poles)

- ZTA 19-07 would allow poles with antennas as a limited use in residential zones where the pole for the antenna would replace a pre-existing utility pole, streetlight pole, or site plan-approved parking lot light pole.
  - Any permit application to the Department of Permitting Services concerning a Telecommunications Tower (including non-residential zones) must include a recommendation from the Transmission Facility Coordinating group issued within 90 days of the submission of the permit application. *(lines 23-27)*
  - In the Agricultural, Rural Residential, and Residential zones, the pre-existing pole and the replacement tower must be at least 60 feet from the nearest habitable building. In 2018, the characteristics of emerging 5G and small cell technology required that antennas be located closer to mobile devices, and thus closer to residences and businesses. In ZTA 18-02, the County approved allowing the smallest class of antennas to be located on poles at least 10 feet from buildings in commercial areas. *(lines 33-37)*
  - The height of a replacement structure would be limited to 6 additional feet for streetlights, when abutting a right-of-way with a paved section width of 65 feet or less, or 15 additional feet for streetlights when abutting a right-of-way with a paved section width greater than 65 feet. Additional height for utility poles and parking lot light poles would be limited to 10 feet.

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<sup>1</sup> In residential areas, these macro towers continue to require a 300-foot setback, conditional use approval, and that an Office of Zoning and Administrative Hearing (OZAH) Hearing Examiner's approval may be appealed to the Board of Appeals.

However, additional minimum height would be permitted to comply with the National Electric Safety Code. (lines 63-75)

**REPLACEMENT POLES AS A CONDITIONAL USE IN RESIDENTIAL AREAS** (lines 138-246)

- ZTA 19-07 would amend the conditional use standards for poles in Agricultural, Rural Residential, and Residential zones proposed to be less than 50 feet in height that do not meet the limited use standards.
  - Before the Hearing Examiner reviews any conditional use for a Telecommunications Tower, the proposed facility must be reviewed by the Transmission Facility Coordinating Group. The Transmission Facility Coordinating Group must declare whether the application is complete, verify the information in the draft application, and must issue a recommendation within 20 days of accepting a complete Telecommunications Tower application. (lines 175-190)
  - The Telecommunications Tower must be at least 60 feet from any building intended for human occupation and no taller than 30 feet. (lines 216-220)
  - If the Hearing Examiner determines that additional height above the limited use standards and reduced setback are needed to provide service or that a reduced setback or increased height will allow the support structure to be located on the property in a less visually obtrusive location, the Hearing Examiner may reduce the setback requirement to a minimum of 30 feet or increase the height above 30 feet. Under all circumstances, the setback must be at least 30 feet from a building. (lines 221-232)
  - The tower must be located to minimize its visual impact as compared to any alternative location where the tower could be located to provide service. (lines 237-239)
  - ZTA 19-07 includes a revision to the conditional use process to allow for a decision to be made within 90 days, which is an FCC shot clock requirement for new poles. Reducing the processing time requires that appeals of the Hearing Examiner's decisions go straight to the Circuit Court. (lines 278-280)
  - The Hearing Examiner must schedule a public hearing to begin within 30 days after the date a complete application is accepted by the Hearing Examiner. Within that time frame, the Hearing Examiner may request information from Planning Department Staff. (lines 212-213) ***Planning Staff believes that this requirement needs clarification. What information may be requested from Planning Department staff? In what form would this information be, i.e., staff report, staff memo, graphics? What is the expected turnaround time for staff to accomplish this task if the Hearing Examiner is requesting information concerning consolidated cases or is on an expedited hearing schedule?***

**MULTIPLE APPLICATIONS FOR TELECOMMUNICATIONS TOWERS** (lines 247-277)

- ZTA 19-07 would also allow for batching applications when those applications are in the same neighborhood and have similar issues.
  - All applications must be filed within 30 days of each other and be accompanied by a motion for consolidation. (lines 255-256) The Hearing Examiner's Office believes that the ability to consolidate applications filed 29 days apart should be eliminated. The current proposal will

create logistical problems for OZAH staff, as they will have to rearrange hearings already scheduled with potentially many parties (including civic associations and individuals) to get a new date. They will also have to manage the scheduling of transcription services, update the website, and do multiple mailings when they could have done one mailing for the applications that are consolidated. As such, the ZTA should require the Motion for Consolidation to be filed at the same time the applications to be consolidated are filed.

The current language in the ZTA 19-07 reads:

*"All applications must be filed within 30 days of each other and be accompanied by a motion for consolidation."*

OZAH recommends changing that language to read:

*"All applications for Telecommunications Tower conditional uses that the Applicant seeks to have consolidated must be filed on the same date and be accompanied by a motion for consolidation."*

**Planning staff supports the change recommended by OZAH.**

- The proposed sites to be consolidated, starting at a chosen site, must be located such that no site is further than 3,000 feet from the chosen site in the application.
- The proposed sites must be located in the same zone, within the same Master Plan area, and in a neighborhood with similar building heights and setbacks.
- Each tower must be of the same or similar proposed height, structure, and characteristics.

#### **OTHER CHANGES AND CLARIFICATIONS**

- Section 3.5.2.C.2.b.iv (Telecommunication Use Standard- lines 38-42 of the ZTA) states for antennas on a replacement pole:

*Antennas must comply with the Antenna Classification Standard A under Section 59.3.5.2.C.1.b, be concealed within an enclosure the same color as the pole, be installed at a minimum height of 15 feet, and be installed parallel with the tower.*

***Although this language is existing language that is not proposed to be modified as part of ZTA 19-07, staff believes that clarifications could be warranted. The maximum antenna size under Standard A exceeds the requirement established by the Federal Communications Commission (FCC) which limits the antenna to 3 cubic feet in volume (Standard A allows a maximum volume of 6 cubic feet). Also, installation is typically from the center of the antenna. Under Standard A the base of the antenna could technically be at a height under 13 feet. Staff suggests that the minimum installation height of 15 feet be clarified to be measured from the base of the antenna.***

- Lines 106-110 read as follows:

xv. *The owner of the tower [or the antenna attached to the tower] must maintain their tower[.]. The owner of the antenna must maintain the [antennas,] antenna and equipment in a safe condition[.]. Both owners must remove graffiti[.] and repair damage from their respective facility.*

**Staff recommends a minor plain language clarification (double underlined language above) to make clear the responsibilities of both owners (tower and antenna).**

## Conclusion

Staff believes that ZTA 19-07 strikes a balance in addressing the community's interest in having increased access to mobile broadband services and the evolving technical needs of the wireless industry while also working to protect the community's interest in managing commercial use of public property and maintaining attractive and safe roads and neighborhoods. Adding a requirement and expedited process for conditional use approval for replacement poles that do not meet the limited use standards makes sense, given that retrofitting them with small cell technology can be more difficult when also trying to establish compatibility with neighborhoods, especially in areas with underground utilities. Staff further recommends that the following comments/questions be addressed during the PHED Committee worksession on ZTA 19-07 (as detailed in the staff report):

- The extent of Planning Staff involvement in the expedited limited use and conditional use processes.
- The Hearing Examiner's concerns regarding the proposed language that allows consolidation of applications filed up to 29 days apart. OZAH believes that these applications should be filed on the same day.
- Clarification on the maximum size (volume) of a small cell antenna to be located on a replacement or existing streetlight, utility or site plan approved parking lot light pole. There appears to be inconsistency between the current Zoning Code maximum and the FCC allowance.
- Clarification of existing Zoning Code language on how the minimum installation height (of 15 feet) of an antenna on a pole should be measured. Staff suggests that the measurement should be made from the base of the antenna.
- Minor plain language clarifications.

## Attachments

1. ZTA No. 19-07 as introduced



# DPS Process for Utility Poles

	New Utility Pole NOT RELATED TO WIRELESS	New Utility Pole for Maintenance	Replacement Utility Pole RELATED TO WIRELESS	Wireless attachment to a Utility Pole in ROW	New Wireless Structure (Pole) in ROW	Wireless on Private Property
<b>Details</b>	<p>Definition: PEPCO Maintenance (Double Poling)</p> <p>Transmit power</p> <p>12 month expiration</p>	<p>Definition: PEPCO (or other utility) (Double Poling)</p> <p>Transmit power</p> <p>12 month expiration (double poling)</p> <p>180 days to move equipment and switch all other carriers; removing</p>	<p>Definition: Installing a new pole specifically to accommodate a new antenna</p> <p>Related to Wireless</p> <p>12 month expiration (double poling)</p> <p>180 days to move equipment and switch all other carriers; removing double pole.</p>	<p>Definition: Mobile/telecommunications Franchisee) piece equipment</p>	<p>Commercial Building permit for structure</p> <p>Definition: new DOT street</p>	<p>Commercial Building permit for structure</p> <p>Definition: rooftop antenna, private</p>
<b>PERMIT TYPE</b>	Right of Way Permit	Right of Way Permit	Right of Way Permit	Three Permits Required: COMBUILT (Install/Wireless) Right of Way (Install/Wireless) Electrical (Install/Wireless)	Three Permits Required: COMBUILT (Install/Wireless) Right of Way (Install/Wireless) Electrical (Install/Wireless)	Two Permits Required: COMBUILT (Install/Wireless) Electrical (Install/Wireless)
<b>Work Type/Use Code</b>	INSTALL / PUBUTL * Check box for new pole	INSTALL / PUBUTL * Check box for new pole	INSTALL / PUBUTL * Check box for Pole to Accommodate Wireless	INSTALL / WIRELESS for all three permit types	INSTALL / WIRELESS for all three permit types	INSTALL / WIRELESS for both permit types
<b>Reviews</b>	Utility Review Traffic Control	Utility Review Traffic Control	Utility Review Traffic Control Zoning/Wireless	Structural Review Electrical Zoning/Wireless Review Subdivision Development Review (related ROW permit) Roadside Tree Review	Structural Review Electrical Zoning/Wireless Review Subdivision Development Review (related ROW permit) Roadside Tree Review DOT Review if new DOT	Structural Review Electrical Architectural (only if mounted on Life Safety (only if mounted on Bldg) Zoning/Wireless Review
<b>Submittal Req</b>	Standard submittal	Standard submittal	Tower Committee Recommendation	Tower Committee Recommendation	Tower Committee Recommendation DOT Approval (plans and/or letter uploaded to ePlans) if	Tower Committee Recommendation
<b>Inspections</b>	Performed by ROW inspector	Performed by ROW inspector	Performed by ROW inspector	Wireless provider must provide certifications related to structural integrity, ZTA requirements and photo of equipment installed. Performed by Zoning Inspector and/or	Wireless provider must provide certifications related to structural integrity, ZTA requirements and photo of equipment installed. Performed by Zoning Inspector and/or	Wireless provider must provide certifications related to structural integrity, ZTA requirements and photo of equipment installed. Performed by Zoning Inspector and/or
	Inspection - 251	Inspections - 251, 951	Inspection - 251, 951	Inspection - 251	Inspection - 251	Inspection - 251
	Inspection - Removal of Original Pole	Inspection - Removal of Original Pole	Inspection - Removal of Original Pole			
	Need to establish mechanisms to confirm that within 180 days of start of work that all work is completed.	Need to establish mechanisms to confirm that within 180 days of start of work that all work is completed.	Need to establish mechanisms to confirm that within 180 days of start of work that all work is completed.			
<b>Reports</b>	Expire letter to applicant Expire report for inspection	Expire letter to applicant Expire report for inspection	Expire letter to applicant Expire report for inspection	TBD - Commercial Building TBD - Zoning TFCG report - Longitude/Latitude, Utility Pole#, Total Height, Distance to Nearest Bldg, TC App#, TBD	TBD - Commercial Building TBD - Zoning TFCG report - Longitude/Latitude, Utility Pole#, Total Height, Distance to Nearest Bldg, TC App#, TBD	TBD - Commercial Building TBD - Zoning TFCG report - Longitude/Latitude, Utility Pole#, Total Height, Distance to Nearest Bldg, TC App#, TBD