5G Small Cell Facilities

Current Regulations – Federal Communication Commission

September 26, 2018 – The FCC issued a ruling to constrain local government's ability to stop small cell facilities.

1. Municipalities have 90 days to approve or reject small cell-site applications
2. Fees charged can only be for actual costs of processing applications and managing deployments in the right of way.
3. 5G cell sites are not subject to the environmental or historic preservation processes that standard sized cell towers are.
4. State and local government legal requirements will constitute an effective prohibition **if** they materially limit or inhibit the ability of a provider or its competitor to fill coverage gaps, densify a wireless network, introduce new service, or improve service capabilities.

PSATS commented on the order in support of deployment of 5G networks but expressed concerns about safeguarding local decision making, the fee structure and the timeframes imposed on issuing permits.

The FCC order took effect on January 14, 2019 after the US Court of Appeals for the tenth Circuit denied a motion to stay the FCC decision. Challenges are expected to continue.

Maidencreek Township Zoning Ordinance Section 220-81 adopted March 2017

When Maidencreek Township adopted its Zoning Ordinance in March of 2017, section 220-81 Wireless Communication Facilities was updated to regulate small cell facilities in anticipation of deployment of mini cell towers. Our current regulations correspond with the FCC order for non-tower wireless communication facilities:

1. Non-tower WCF are permitted in all districts inside the public street right of way by conditional use. Must be located on existing streetlights or utility poles. There is provision for a new pole if collocation is not feasible.
2. Reimbursement for right of way use for Township's right of way management costs.
3. Permit processing – 10 days to notify if application is complete, 60- and 90-day review periods as permitted by FCC.

I believe our existing regulations fall within the FCC ruling on 5G small wireless facility development. Various citizen groups and grassroots groups suggest additional requirements such as:

1. Locate small cell facilities 1500 feet away from the nearest small cell installation or 250 feet away from any permanent dwelling.
2. Require as part of the conditional use application a master plan and map showing the geographic service area and all anticipated future installations.
3. Require photographs of the facility equipment, and certification by a RF engineer that the aggregate radio frequency emissions for new and any collocated equipment comply with FCC standards with each permit application.

Chapter 220. Zoning

Article XVI. Supplementary Regulations

§ 220-81. Wireless communication facilities.

A. Purpose.

(1) To accommodate the need for cellular communications antennas while regulating their location and number in the Township.

(2) To minimize adverse visual effects of wireless communications antennas and support structures through proper design, siting and vegetative screening.

(3) To avoid potential damage to adjacent properties from antenna support structure failure and falling ice, through engineering and proper sighting of antenna support structures.

(4) To encourage the joint use of existing and any new antenna support structures to reduce the number of such structures needed in the future.

(5) At the discretion of the Maidencreek Township Board of Supervisors, municipal uses for the purposes of police protection, fire protection, ambulance service and road maintenance shall be exempt from these regulations.

B. Use regulations. This section addresses the various types of wireless communication facilities (WCFs) permitted in the Township either as a use by right or by conditional use in all or selected zoning districts. The following table presents an overview of the various WCF uses and where they are permitted.

WCF Uses Permitted By Zoning District

WCF Use Type	Permitted By	Zoning District(s) Permitted
Towers on municipal property § **220-81B(1)(a)**	By right	All districts
New antenna/existing structure[1] § **220-81B(1)(b)** Districts	By right	All nonresidential
Antenna/equipment replacements § **220-81B(1)(c)**	By right	All districts
New antenna co-location on existing tower[2] § **220-81B(1)(d)**	By right	All districts
Relocation of existing tower § **220-81B(2)(a)**	Conditional use	All districts
New antenna/existing structure[3] § **220-81B(2)(b)**	Conditional use	All districts
New communication tower outside of public ROW § **220-81B(2)(c)**	Conditional use	Industrial district
New communication tower inside of public ROW § **220-81B(2)(d)**	Conditional use	All districts — inside ROW of Rt. 222 and Park Road
New nontower WCF inside public ROW § **220-81B(2)(e)**	Conditional use	All districts — inside public street ROW's

NOTES:

(1) Height increase of existing structure by 20 feet or less.

(2) Compliant with "No Substantially Change" standards.

(3) Height increase of existing structure in excess of 20 feet.

(1) Permitted uses by right. The following wireless communication facilities are permitted as a use by right in all or selected zoning districts subject to the specific requirements set forth below.

(a) Towers on municipal property. Antennas and/or towers (tower-based or nontower based WCFs), as regulated and defined by this Chapter, are permitted by right on land owned or controlled by Maidencreek Township without the need for a conditional use approval, provided a license and/or lease authorizing such antenna and/or tower has been approved by Maidencreek Township.

(b) New antenna/existing structure. A new cell site antenna (nontower WCF) may be located on an existing smoke stack, water tower, farm silo or other tall structure in all nonresidential zoning districts provided:

[1] Submission of a zoning permit for the cell site antenna.

[2] Provide a report from a structural engineer licensed in the State of Pennsylvania on the structural adequacy of the existing structure to accommodate the added weight and wind load of the proposed antenna location.

[3] That the height of the antenna shall not exceed the height of the existing structure by more than 20 feet above the permitted height of the applicable zoning district.

[4] Building-mounted communications antennas shall not be located on any single-family dwelling.

[5] Omnidirectional or whip communications antennas shall not exceed 20 feet in height and seven inches in diameter.

[6] Directional or panel communications antennas shall not exceed five feet in height and three feet in width.

[7] Any applicant proposing communications antennas to be mounted on a building or other structure shall submit evidence of agreements and/or easements necessary to provide access to the building or structure on which the antennas are to be mounted so that installation and maintenance of the antennas and communications equipment building can be accomplished.

[8] Any applicant proposing communications antennas to be mounted on a building or other structure shall submit detailed construction and elevation drawings indicating how the antennas will be mounted on the structure for review by the Township Engineer for compliance to applicable building codes.

[9] The antenna complies with all applicable FCC and FAA regulations.

[10] The antenna complies with all applicable building codes.

(c) Antenna/equipment replacements. Replacements of existing antennas or existing equipment such as electrical cabinets are permitted to be replaced in all zoning districts subject to:

[1] Submission of a zoning permit for the antenna/equipment replacement.

[2] Provide a report from a structural engineer licensed in the State of Pennsylvania on the structural adequacy of the existing cell tower to accommodate the added weight and wind load.

[3] Submission of a plan set and other information as appropriate to show the proposed replacement work.

[4] The replacement antenna array(s) comply with all applicable FCC and FAA regulations.

[5] The replacement array(s) comply with all applicable building codes.

(d) New antenna co-location. Location of a new antenna array on an existing cell tower is encouraged over the construction of a new tower location. Co-location of new antennas on existing towers is permitted in all zoning districts subject to:

[1] Submission of a zoning permit for the antenna co-location.

[2] Submission of a plan set and other information as appropriate to show the proposed co-location work.

[3] Provide a report from a structural engineer licensed in the State of Pennsylvania on the structural adequacy of the existing cell tower to accommodate the added weight and wind load of the new antenna array.

[4] The proposed antenna co-location will be reviewed to determine if it is considered as a "substantial change" or one which "does not substantially change" the wireless support structure (see § **220-11** definition of "substantial change").

[5] Timing of the zoning application for a new co-location antenna will be approved within the time frames set forth under § **220-81C**. Should a zoning variance be required due to a height conflict, the prescribed review

period will not start until the required zoning approval has been secured and the application is then deemed to be complete.

[6] The new co-location antenna array complies with all applicable FCC and FAA regulations.

[7] The new co-location antenna array complies with all applicable building codes.

(2) Uses permitted by conditional use. The following wireless communication facilities are permitted subject to conditional use approval from the Maidencreek Township Board of Supervisors, in all or specific zoning districts subject to the specific requirements set forth below in additional to those presented in § **220-81C** below.

(a) Relocation of an existing tower.

[1] A tower which is being rebuilt to accommodate the co-location of an additional antenna may be moved on its site within 50 feet of its existing location as long as all other applicable requirements have been met.

[2] After the tower is rebuilt to accommodate co-location, only one tower may remain onsite.

[3] A relocated onsite tower shall continue to be measured from the original tower location for purposes of calculating separation distances between towers pursuant to these regulations. The relocation of a tower hereunder shall in no way be deemed to cause a violation of these regulations.

[4] The onsite relocation of a tower which comes within the separation distances to residential units or residentially zoned land shall only be permitted with additional approvals.

(b) New antenna/existing structure. A new cell site antenna (nontower WCF) to be located on an existing smoke stack, water tower, farm silo or other tall structure in all nonresidential zoning districts where the height of the new antenna will exceed the height of the existing structure in excess of 20 feet shall require conditional use approval provided:

[1] Submission of a zoning permit for the cell site antenna.

[2] Provide a report from a structural engineer licensed in the State of Pennsylvania on the structural adequacy of the existing structure to accommodate the added weight and wind load of the proposed antenna location.

[3] Building-mounted communications antennas shall not be located on any single-family dwelling.

[4] Omnidirectional or whip communications antennas shall not exceed 20 feet in height and seven inches in diameter.

[5] Directional or panel communications antennas shall not exceed five feet in height and three feet in width.

[6] Any applicant proposing communications antennas to be mounted on a building or other structure shall submit evidence of agreements and/or easements necessary to provide access to the building or structure on which the antennas are to be mounted so that installation and maintenance of the antennas and communications equipment building can be accomplished.

[7] Any applicant proposing communications antennas to be mounted on a building or other structure shall submit detailed construction and elevation drawings indicating how the antennas will be mounted on the structure for review by the Township Engineer for compliance to applicable building codes.

[8] The antenna complies with all applicable FCC and FAA regulations.

[9] The antenna complies with all applicable building codes.

(c) New communication tower outside public rights-of-way. New communication towers (tower-based WCFs) outside of public rights-of-way are permitted in the I Industrial District subject to conditional use approval. Consideration for approval would be subject to compliance with the criteria listed below as well as those of § **220-81C** of this Chapter:

[1] Annual permit fee. The applicant shall pay the Township an annual Permit Fee as set by Resolution by the Board of Supervisors.

[2] Location. The applicant shall be required to demonstrate, using technological evidence, that the tower-based WCF must be located where it is proposed.

[3] Height. The applicant must demonstrate that the tower-based WCF is the minimum height required to function satisfactorily. Maximum height of the tower shall be 200 feet. Accessory facilities shall meet the height requirements of the zoning district in which it is located.

[4] Structure design. The applicant shall demonstrate that the proposed tower-based WCF is safe and that the surrounding area will not be negatively affected by support structure failure, falling ice or other debris, electrometric fields, radio or satellite frequency interference. A licensed professional engineer shall certify that the tower can structurally accommodate the number of shared users being proposed by the applicant and that the tower meets the setback, requirements, separation distances.

[5] Fence. A fence shall be required around the tower-based WCF and other equipment. The fence shall be eight feet in height. Any wire on top of the fence shall not be included in the measurement of the height of the fence.

[6] Landscaping. The following landscaping shall be required to screen as much of the tower-based WCF support structure as possible, the fence surrounding the support structure, and any other ground-level features (equipment cabinets, etc.):

[a] An evergreen screen shall be required to surround the site. The screen can be either a hedge or a row of evergreen trees. The evergreen screen shall be a minimum height of six feet at planting, and shall grow to a minimum height of 15 feet at maturity.

[b] In addition, the existing vegetation on and around the site shall be preserved to the greatest extent possible.

[7] Parking spaces. If the tower-based WCF is fully automatic, two off-street parking spaces shall be required. If the site is not automated, the number of required parking spaces shall equal the number of people in the largest shirt, but in any event, may not be less than two off-street parking spaces.

[8] Other permitted uses. All other uses associated with the tower-based WCF, such as a business office, transmission studio, maintenance depot, or vehicle storage, shall not be located on the site unless the use is otherwise permitted in the zoning district in which the site is located.

[9] Accommodating use. In order to reduce the number of tower-based WCFs needed in the Township in the future, any proposed support structure shall be designed to accommodate other users, including but not limited to police, fire and emergency services. Prior to proposing the construction of a new tower, the applicant shall demonstrate that a reasonable effort has been made to site the antenna on an existing tower or structure within close proximity of the choses site. Space for Township communication systems, if desired by the Township, shall be made available at no cost.

[10] Building permit. The applicant shall obtain a building permit in accordance with Township requirements prior to commencement of construction for any tower-based WCF.

[11] Federal Communication Commission. If the use of a tower-based WCF requires licensing by any state or federal agency, including but not limited to the Federal Communications Commission (FCC), the applicant shall present evidence that it has obtained such license. The applicant shall demonstrate that the proposed wireless communication tower and communications antennas proposed to be mounted thereon comply with all applicable standards established by the FCC governing human exposure to electromagnetic radiation.

[12] Lighting. No wireless communication towers shall be artificially lighted except when required by the Federal Aviation Administration or by state regulations. Communication towers shall comply with all applicable federal Aviation Administration, Commonwealth Bureau of Aviation and applicable airport zoning regulations.

[13] Lot requirements. A new tower-based WCF may be permitted as the sole use on a lot, or in combination with an existing use, except residential, subject to the following conditions:

[a] The existing use on the property may be any permitted use in the applicable zoning district, and need not be affiliated with the WCF.

[b] The minimum lot size shall comply with the applicable district and shall be the area needed to accommodate the tower-based WCF, its guy wires, the equipment building, security fence, and buffer plantings in addition to the existing use.

[c] The minimum lot size for a stand-alone WCF lot shall be one acre.

[14] Setbacks. The setback of a tower-based WCF from all property lines, existing street right-of-way lines and aboveground utility lines shall be no less than the height of the tower. All guy wire anchors shall be setback a minimum of 40 feet from the property lot lines and existing street right-of-ways. No more than one tower shall be permitted on a single lot.

[15] Signs. No portion of any communication tower or antenna shall be used for a sign or other advertising purpose. No routine lighting of a tower, antenna, or accessory facilities shall be permitted.

[16] The WCF shall employ the most current stealth technology in an effort to appropriately blend into the surrounding environment and minimize aesthetic impact. Application of the stealth technology chosen by the applicant shall be subject to approval of the Township.

[17] Annual certification. In January of each year, an inspection shall be performed by an independent engineer acceptable to the Township and paid by the applicant, and verification shall be provided to the Township zoning officer that there have been no changes in the operating characteristics of the commercial tower-based WCF as approved at the time of conditional use application, including at minimum:

[a] Direction of the signal.

[b] Frequency, modulation and class of service.

[c] Transmission and maximum effective radiated power.

[d] Manufacturer, type and model of equipment.

[e] Height of antenna.

[f] Name, address and emergency telephone number of the operator.

[g] Copy of current FCC license.

[h] Review of all reasonable requests of shared use of the tower.

[18] Geotechnical investigation. The owner shall complete and submit geotechnical evaluation of the site in which the communications tower is to be located. The owner shall demonstrate how the proposed tower and related infrastructure is to be stabilized and anchored.

[19] Land development plan. A full site plan prepared by either a registered surveyor or a professional engineer, with elevations prepared by a professional engineer, shall be required for tower-based WCF sites showing the communication tower, buildings, fences, buffering, access, and any accessory structures. Said plan shall be in accordance with all applicable Subdivision and Land Development ordinance requirements of the Township.[1]

[1] *Editor's Note: See Ch.* ***190****, Subdivision and Land Development.*

[20] Occupancy permit. Prior to a certificate of use and occupancy being issued, the applicant shall provide an engineer's certification that the tower is constructed as designed and shall submit the same to the zoning officer.

[21] Access. Access shall be provided to the tower-based WCF by means of a public street or easement to a public street. The easement shall be a minimum of 20 feet in width and shall be improved to a width of at least 10 feet with a dust-free, all weather surface for its entire length.

[22] If a tower-based WCF is to be designed as a structure or natural feature, the communications tower and antenna shall be disguised and/or camouflaged within the surrounding area. The type, style, color, design, size and location of the disguised and/or camouflaged communications tower and antenna shall be subject to the approval of the Township Board of Supervisors as part of the conditional use process.

[23] Removal. The applicant shall submit a plan for the removal of a tower-based WCF when it becomes functionally obsolete or is no longer in use. Any antenna or tower that is not operated, and for which there is no intent or attempt to operate, for a continuous period of time of 12 months shall be considered abandoned, and the owner of such tower or antenna shall remove the same within 90 days after receipt of notice from the Township notifying the owner of such abandonment. Failure to remove an abandoned antenna or tower within said 90 days shall be grounds to remove the tower or antenna at the owner's expense. If there are two or more users of a single tower, then this provision shall not become effective until all users have abandoned the tower or antenna.

(d) New communication tower inside public rights-of-way. New communication towers (tower-based WCFs) of 40 feet or shorter may be permitted inside the public right-of-way of Rt. 222 and Park Road throughout the Township, regardless of the underlying zoning district, provided they are compliant with the following:

[1] The location of the proposed tower-based WCF inside public right-of-way is not located within 50 feet of an area in which utilities are underground.

[2] Tower-based WCFs inside public right-of-way are prohibited in residential areas or areas in which utilities are located underground.

[3] Tower-based WCFs inside public right-of-way shall not be located in the front facade area of any structure.

[4] The Township and PennDOT shall determine the time, place and manner of construction, maintenance, repair and/or removal of all tower-based WCFs in the public right-of-way based on public safety, traffic management, physical burden on the right-of-way, and related considerations. For public utilities, the time, place and manner requirements shall be consistent with the police powers of the Township and the requirements of the Public Utility Code.

[5] Securing of a highway occupancy permit (HOP) from PennDOT as may be required when the proposed WCF is within a state highway right-of-way.

[6] Tower-based WCFs inside public right-of-way and related equipment shall be located as not to cause any physical or visual obstruction to pedestrian or vehicular traffic, or to otherwise create safety hazards to pedestrians and/or motorists or to otherwise inconvenience public use of the right-of-way as determined by the Township and PennDOT. In addition:

[a] In no case shall ground-mounted related equipment, walls, or landscaping be located within 18 inches of the face of curb or a minimum of two feet from edge of cartway if no curb. The location of new poles and other aboveground facilities shall be installed outside the shoulder and highway zone as near to the right-of-way line as practicable, under the HOP and applicable PennDOT design provisions.

[b] Ground-mounted related equipment that cannot be placed underground shall be screened, to the fullest extent possible, through the use of landscaping or other decorative features to the satisfaction of the Township and PennDot.

[c] Required electrical meter cabinets shall be screened to blend in with the surrounding area to the satisfaction of the Township.

[d] Any graffiti on the tower or on any related equipment shall be removed at the sole expense of the WCF owner.

[e] Any underground vaults related to tower-based WCFs shall be reviewed and approved by the Township and PennDOT.

[f] The WCF shall employ the most current stealth technology in an effort to appropriately blend into the surrounding environment and minimize aesthetic impact. Application of the stealth technology chosen by the applicant shall be subject to approval of the Township and PennDot.

[g] Any proposed WCF shall be designed structurally, electrically, and in all respects to accommodate both the WCF applicant's antennae and comparable antennae for future users.

[h] Reimbursement for right-of-way use. In addition to permit fees as described in this section, every tower-based WCF in the Township right-of-way is subject to the Township's right to fix annually a fair and reasonable fee to be paid for use and occupancy of the right-of-way. Such compensation for right-of-way use shall be directly related to the Township's actual right-of-way management costs including, but not limited to, the costs of the administration and performance of all reviewing, inspecting, permitting, supervising and other right-of-way management activities by the Township. The owner of each tower-based WCF shall pay an annual fee to the Township to compensate the Township for the Township's cost incurred in connection with the activities described above. Said fee is to be set by resolution of the Township.

(e) New nontower WCF inside public rights-of-way. New nontower WCFs located within the public right-of-way shall be collocated on existing poles, such as utility poles or light poles. If co-location is not technologically feasible, the WCF applicant shall locate its nontower WCFs on existing poles or freestanding structures that do not already act as wireless support structures with the approval of the Township and PennDOT, provided they are compliant with the following:

[1] WCF installations located above the surface grade in the public right-of-way including, but not limited to, those on streetlights and joint utility poles, shall consist of equipment components that are not more than six feet in height and that are compatible in scale and proportion to the structures upon which they are mounted. All equipment shall be the smallest and least visibly intrusive equipment feasible.

[2] Antenna and related equipment shall be treated to match the supporting structure and may be required to be painted, or otherwise coated, to be visually compatible with the support structure upon which they are mounted.

[3] The Township and PennDOT shall determine the time, place and manner of construction, maintenance, repair and/or removal of all tower-based WCFs in the public right-of-way based on public safety, traffic management, physical burden on the right-of-way, and related considerations. For public utilities, the time, place and manner requirements shall be consistent with the police powers of the Township and the requirements of the Public Utility Code.

[4] Nontower WCFs and related equipment shall be located as not to cause any physical or visual obstruction to pedestrian or vehicular traffic, or to otherwise create safety hazards to pedestrians and/or motorists or to otherwise inconvenience public use of the right-of-way as determined by the Township and PennDOT. In addition:

[a] In no case shall ground-mounted related equipment, walls, or landscaping be located within 18 inches of the face of curb, within two feet of the edge or cartway if no curb, or within an easement extending onto a privately owned lot.

[b] Ground-mounted related equipment that cannot be placed underground shall be screened, to the fullest extent possible, through the use of landscaping or other decorative features to the satisfaction of the Township and PennDOT.

[c] Required electrical meter cabinets shall be screened to blend in with the surrounding area to the satisfaction of the Township and PennDOT.

[d] Any graffiti on the nontower WCF or on any related equipment shall be removed at the sole expense of the WCF owner.

[e] Any underground vaults related to nontower based WCFs shall be reviewed and approved by the Township and PennDOT.

[f] Relocation or removal of facilities. Within 60 days following written notice from the Township, or such longer period as the Township determines is reasonably necessary or such shorter period in the case of an emergency, an owner of a nontower WCF in the right-of-way shall, at its own expense, temporarily or permanently remove, relocate, change or alter the position of any nontower WCF when the Township, consistent with its police powers and applicable Public Utility Commission regulations and PennDOT, shall have determined that such removal, relocation, change or alteration is reasonably necessary under the following circumstances:

[i] The construction, repair, maintenance or installation of any Township or other public improvement in the right-of-way.

[ii] The operations of the Township or other governmental entity in the right-of-way.

[iii] Vacation of a street or road or the release of a utility easement.

[iv] An emergency as determined by the Township.

[g] Reimbursement for right-of-way use. In addition to permit fees as described in this section, every nontower WCF in the Township right-of-way is subject to the Township's right to fix annually a fair and reasonable fee to be paid for use and occupancy of the right-of-way. Such compensation for right-of-way use shall be directly related to the Township's actual right-of-way management costs including, but not limited to, the costs of the administration and performance of all reviewing, inspecting, permitting, supervising and other right-of-way management activities by the Township. The owner of each tower-based WCF shall pay an annual fee to the Township to compensate the Township for the Township's cost incurred in connection with the activities described above. Said fee is to be set by resolution of the Township.

C. Permit processing time frames. Timing of approval for WCF applications shall be as follows:

(1) For a nontower WCF:

(a) Within 30 calendar days of the date that an application for a nontower WCF is filed with the Township, the Township shall notify the WCF applicant in writing of any information that may be required to complete such application.

(b) Upon submission to the Township of the additional required information, the Township shall within 10 days notify the applicant if the application is now complete.

(c) For those applications for nontower based WCFs that do not substantially change the physical dimensions of the wireless support structure to which they are attached as defined by the WBCA, within 60 days the Township shall make its final decision on whether to approve the application.

(d) For those applications for nontower based WCFs that do substantially change the physical dimensions of the wireless support structure to which they are attached as defined by the WBCA, within 90 days the Township shall make its final decision on whether to approve the application.

(e) The decision of the Township shall be made in writing and provided to the applicant.

(f) If additional information was requested by the Township to complete an application, the time required by the WCF applicant to provide the information shall not be counted toward the Township's sixty- or ninety-day review periods, as applicable. These timing requirements in this section shall only apply to proposed facilities that fall under the Pennsylvania Wireless Broadband Collocation Act. (Provision to put clock on "hold" when additional information has been requested to make an application complete.)

(2) For a tower-based WCF:

(a) Within 30 calendar days of the date that an application for a new tower-based WCF is filed with the Township, the Township shall notify the WCF applicant in writing of any information that may be required to complete such application (i.e., the requirement for a special exception approval from the Zoning Hearing Board).

(b) Upon submission to the Township of the additional required information, the Township shall within 10 days notify the applicant if the application is now complete.

(c) All applications for tower-based WCFs shall be acted upon within 150 days of the receipt of a fully completed application for the approval of such tower-based WCF and the Township shall advise the WCF applicant in writing of its decision.

(d) If additional information was requested by the Township to complete an application, the time required by the WCF applicant to provide the information shall not be counted toward the one-hundred-fifty-day review period.