

**SAMPLE REGULATIONS FOR THE PROCESSING OF  
APPLICATIONS FOR COMMERCIAL COMMUNICATIONS  
TOWERS AND ANTENNAS**

**Lehigh Valley Planning Commission**  
Allentown, Pennsylvania  
June 1999

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# **SAMPLE REGULATIONS FOR THE PROCESSING OF APPLICATIONS FOR COMMERCIAL COMMUNICATIONS TOWERS AND ANTENNAS**

## **Purpose**

The purpose of this regulation is to provide a uniform and comprehensive set of standards for the development and installation of new commercial communications towers and antennae. The regulations contained herein are designed to protect and promote public health, safety, and the general welfare of the community while ensuring that new commercial communications towers will be safe and be placed in suitable locations and at the same time not unduly restricting the development of needed telecommunications facilities. These regulations will also help in ensuring that municipal land use regulations are in compliance with the Federal Telecommunications Act of 1996.

It is intended that the Municipality shall apply these regulations to accomplish the following:

1. Minimize adverse visual effects of commercial communications towers and antennae and related facilities through design and siting standards.
2. Maintain and ensure that a non-discriminatory, competitive and broad range of telecommunications services and high quality telecommunications infrastructure consistent with the Federal Telecommunications Act of 1996 are provided to serve the community, as well as serve as an important and effective part of the municipality's emergency services network.
3. Provide requirements necessary for obtaining approval to site and construct commercial communications towers and antennae while at the same time protecting the legitimate interests of the municipality's citizens.
4. Protect environmentally sensitive areas of the municipality by regulating the location, design and operations of telecommunications facilities.
5. Encourage the use of alternative support structures, co-location of new antennas on existing commercial communications towers, camouflaged towers, monopoles and construction of towers with the ability to locate three or more providers.

## **Definitions**

**Alternative Tower Structure** Includes but is not limited to man-made trees, clock towers, bell steeples, light poles and similar alternative design mounting structures that camouflage or conceal the presence of commercial communications towers and antennas.

**Cellular Telephone** A system providing portable telephone service to specific subscribers. A cellular telephone may also be referred to as a wireless telephone.

**Commercial Communications Antenna** Any device used for the transmission or reception of radio, television, wireless telephone, pager, commercial mobile radio service or any other wireless communications signals, including without limitation omnidirectional or whip antennas and directional or panel antennas, owned or operated by any person or entity licensed by the Federal Communications Commission (FCC) to operate such device. This definition shall not include private residence mounted

satellite dishes or television antennas or amateur radio equipment including without limitation ham or citizen band ratio antennas.

**Commercial Communications Tower** A structure other than a building, such as a monopole, self-supporting or guyed tower, designed and used to support Commercial Communications Antennas.

**ANSI** The American National Standards Institute, a non-profit, privately funded membership organization that coordinates the development of U.S. voluntary national standards and is the U.S. representative to non-treaty international standards setting entities including the International Organization for Standardization (ISO) and the International Electrotechnical Commission.

**Fall Zone** The area on the ground within a prescribed radius from the base of a Commercial Communications Tower. The fall zone is the area within which there is a potential hazard from falling debris or the collapsing of the commercial communications tower. The Fall Zone shall be determined by the applicant's engineer and reviewed by the municipal engineer.

**Height of Tower** The overall height of the tower from the base of the tower to the highest point of the tower, including, but not limited to, antennas, transmitters, satellite dishes or any other structures affixed to or otherwise placed on the tower. If the base of the tower is not on ground level, the height of the tower shall include the base of the building or structure to which the tower is attached.

**Public Utility Transmission Tower** A structure, owned and operated by a public utility electric company regulated by the Pennsylvania Public Utility Commission, designed and used to support overhead electricity transmission lines.

## **District Requirements**

1. Commercial Communication Towers shall not be permitted in any residential zoning district.
2. Commercial Communication Towers shall be allowed as principal or accessory uses as follows:
  - a. Special Exception use in any commercial, agricultural and conservation zoning districts;
  - b. Permitted by Right in any industrial and extraction-zoning district.
3. Commercial Communications Antenna shall be a Permitted-By-Right use in all zoning districts if placed on an existing commercial communications tower, Public Utility Transmission Tower, or placed on any structure other than a single-family detached dwelling, duplex dwelling, townhouse dwelling or any other residential structure. Commercial Communications antennas shall not be permitted on any residential accessory structure. A structure shall not include, for these purposes, concrete or macadam pavement and/or a concrete slab. Further, the municipality may require a visual impact analysis, as described in requirement number three below, to be performed to ensure that any adverse visual impact created by the commercial communications antenna is mitigated.

## Specific Use and Special Exception Requirements

1. **Site Plan.** A site plan shall be prepared and submitted for any proposed commercial communications tower pursuant to applicable zoning ordinance requirements regarding preparation of a site plan. No site Plan is required for commercial communications antenna which are co-located on an existing commercial communications tower or structure as described in District Requirements No. 3 above.
2. **Setback.** A commercial communication tower, attached to the ground, shall be setback to the most restrictive of the following: a minimum distance equal to one-half its height from the nearest property or lease lot lines and existing street right-of-way lines, or the distance measured to the nearest property or lease line equal to the commercial communications tower fall zone.
3. **Visual Impact Analysis.** The applicant shall be required to undertake a visual impact analysis on any proposed commercial communications tower or any proposed modification to an existing tower which causes said tower to exceed 30 feet in height from its original permitted height .The visual impact analysis, in the form of a written report, shall assess the cumulative impacts of the proposed facility and other existing and foreseeable commercial communications towers in the area, and shall identify and include all feasible mitigation measures necessary to mitigate any negative visual impact by the proposed tower. Mitigation measures should be consistent with the technological requirements of the applicant. All costs for the visual impact analysis, and applicable administrative costs, shall be borne by the applicant.

The visual impact analysis report shall include but not be limited to the following:

- a. A photograph simulation of pre-development versus post-development views from key viewpoints, as established by the municipality, both inside and outside of the municipality;
- b. An analysis of alternative tower structure design and color schemes;
- c. An analysis of the visual impact of the tower base, accessory buildings, and overhead utility lines from abutting properties and streets.
- d. At the discretion of the municipality, an additional simulation of the tower's visual impact shall be provided by erecting a mechanical construction crane to the proposed height of the tower at the proposed project site. The applicant shall allow the viewing of the crane simulation by the appropriate municipal officials and interested parties at a reasonable day and time as established by the municipality.

The municipality shall review and consider all information presented in the report. Measures necessary to mitigate any negative visual impact created by the proposed tower shall be provided and implemented as required by the municipality.

4. **National Environmental Policy Act (NEPA).** The applicant shall demonstrate that all NEPA requirements, where applicable, for any proposed commercial communications tower and/or antenna facilities have been met. A copy of the NEPA required Environmental Assessment (EA) report shall be submitted when the proposed commercial communications tower and/or antenna falls into one or more of the following categories:

- a. Facilities that are to be located in an officially designated wilderness area;
- b. Facilities that are to be located in an official designated wildlife preserve;
- c. Facilities that may affect listed threatened or endangered species or designated critical habitats;
- d. Facilities that are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats, as determined by the Secretary of the Interior pursuant to the Endangered Species Act of 1973;
- e. Facilities that may affect districts, sited, buildings, structures or objects, significant in American History, architecture, archaeology, engineering or culture, that are listed, or are eligible for listing in the National Register of Historic Places;
- f. Facilities that may affect a Native American religious site;
- g. Facilities whose construction will involve significant change to surface features including but not limited to wetlands, deforestation or water diversion;
- h. Facilities located within a flood plain;
- i. Facilities that are to be equipped with high intensity white lights located in residential neighborhoods.

The applicant shall notify the municipality at least 30 days prior to any hearing or consideration of the Environmental Assessment report by the FCC. The applicant shall provide, to the municipality, documentation demonstrating how any negative impact on the features noted above will be mitigated.

5. **Base.** The base of a commercial communication tower shall be surrounded by a secure fence with a minimum height of 8 feet.
6. **Landscaping.** The following landscaping shall be required to screen the fence surrounding the tower and any other ground level features such as a building. Any combination of existing vegetation, topography, walls, decorative fences or other features instead of landscaping may be permitted, if they achieve the same degree of screening as the required landscaping. If the antenna is mounted on an existing structure, and other equipment is housed inside an existing structure, landscaping shall not be required.
  - a. An evergreen screen shall be required to surround the site. The screen can be either a hedge (planted 3 feet on center maximum) or a row of evergreen trees (planted 10 feet on center maximum). The evergreen screen shall be a minimum height of 6 feet at planting, and shall grow to a minimum of 15 feet at maturity.
  - b. In addition, existing vegetation on and around the site shall be preserved to the greatest extent possible.
  - c. Commercial communications tower located in any industrial or extraction zoning district shall be exempt from these landscaping provisions.
7. **Parking.** A minimum of two off-street parking spaces shall be provided for a commercial communications tower.
8. **Equipment Shelter.** Information shall be provided detailing the contents of the proposed equipment shelter servicing the proposed commercial communications tower and/or antenna. The information shall include but not be limited to the type and quantity of oil, gasoline, batteries, propane, natural gas or any other fuel stored within the shelter. Information shall also

be submitted which demonstrates that any hazardous materials stored on site including but not limited to fuel sources shall be housed to minimize the potential for any adverse impact on adjacent land uses. "Materials Safety Data Sheets" for any hazardous material stored or utilized in the equipment shelter shall be submitted to the municipality. The use of fuels and hazardous materials shall also be consistent with any municipal requirements regarding the same.

9. **Wind Resistance.** For any commercial communications tower or antenna higher than 50 feet, the applicant shall provide certification from a registered professional engineer stating that the commercial communications tower or antenna meets the wind resistance requirements stated in the latest version of the BOCA National Building Code. Alternately, the applicant shall provide certification from a registered professional engineer that the commercial communications tower or antenna is designed to withstand winds in accordance with ANSI/EIA/TIA 222 (latest revision) standards. The registered professional engineer shall also certify to the overall structural integrity of the commercial communications tower or antenna
10. **Federal Aviation Administration (FAA).**
  - a. Documentation of FAA approval for commercial communication towers or antennas exceeding 200 feet in height, shall be provided. Commercial communication towers or antennas less than 200 feet in height shall meet the requirements of 14 Code of Federal Regulations Part 77.13(a), as amended (copy attached).
  - b. No commercial communications tower or antenna shall be artificially lighted except when required and approved by the FAA.
11. **Appalachian Trail Coordination.** The applicant for any proposed commercial communications tower or antenna located within one mile of the Appalachian National Scenic Trail shall notify the Appalachian Trail Conference and/or the federal Appalachian Trail Park Office of its intent to place such structure. Any comments received by either agency shall be considered by the municipality and integrated into the visual impact analysis. Any comments received from either agency shall also be incorporated into any Environmental Impact Assessment report prepared in support of the commercial communications tower and/or antenna.
12. **Airport Coordination.** The applicant for a proposed commercial communications tower or antenna, located within a five mile radius of an existing airport, shall notify the airport of its intent to place such structure(s). Any comments received from the airport shall be considered by the municipality in the processing of the application for the proposed commercial communications tower or antenna.
13. **Federal Communications Commission (FCC).**
  - a. Documentation that the commercial communications company is licensed by the FCC shall be provided.
  - b. Documentation of FCC approval for the proposed commercial communication tower or antenna shall be provided.
  - c. Documentation demonstrating that the proposed commercial communications tower or antenna complies with all applicable standards established by the FCC governing human exposure to electromagnetic or radio frequency radiation shall be provided within 90 days of the facility becoming operational. Such documentation shall then be

provided, to the municipality, on an annual basis from the date the facility becomes operational. The municipality may secure the services of a qualified independent radio frequency engineer to review the documentation and conduct tests as necessary to verify said documentation. The engineer shall state in a written report that the radio frequency radiation measurements are accurate and either conform or not conform to any and all FCC standards. Should the facility not meet FCC standards, the municipality shall make a formal complaint, in writing, to the FCC. The applicant shall be copied on any complaint filed with the FCC by the municipality.

- d. Any applicant for a proposed commercial communications tower and/or antenna site exceeding FCC standards regarding human exposure to electromagnetic or radio frequency radiation shall submit to the municipality a copy of the Environmental Assessment report required under NEPA prior to submitting to the FCC. The municipality may review the report and provide commentary to the FCC for its consideration.

14. **Documentation of Need.**

- a. The commercial communications company shall demonstrate, using technological evidence, that the tower and/or antenna must go where it is proposed in order to satisfy its function pursuant to the company's technological requirements.
- b. Prior to proposing the construction of a new commercial communications tower, the applicant shall demonstrate that he/she has made a reasonable effort to site the antenna on an existing structure within close proximity of the chosen site.

15. **Removal of Commercial Communications Towers and Antennas.** If a commercial communications tower and/or antenna remains unused for a period of twelve (12) consecutive months, the owner or operator shall dismantle and remove the tower and/or antenna within six (6) months of notice to do such by the municipality. Further, the owner or operator of the tower and/or antenna shall post security in a form acceptable to the municipality favoring the municipality in an amount to cover tower and/or antenna removal and site clean-up. The security shall be utilized by the municipality in the event that the owner or operator of the tower and/or antenna fails to remove the tower and/or antenna within six (6) months of notification by the municipality.

16. **Annual Permit and Fee.** Twelve months after a commercial communications tower and/or antenna becomes operational, an inspection shall be performed by the municipality or its designated agent to verify that the proposed facility continues to meet the requirements found in this ordinance. The inspection shall consist of but not be limited to review of the developed site condition versus the requirements of this ordinance, preparation of the annual radio frequency analysis as described in item number 13.c. above. Upon completion of the inspection, the municipality shall permit or not permit the facility to continue operation. The municipality may attach conditions to any permit. Said conditions shall be met within 30 days of the issuance of a permit. Failure to meet the conditions within 30 days of permit issuance shall result in revocation of the permit and closing of the facility.

17. **Exemptions.**

- a. A commercial communications tower or antenna necessary for and clearly primarily used for emergency communications by a police department, fire company, emergency

medical service and other similar public safety organizations is exempt from these requirements.

- b. The use of all television antenna and satellite dishes unless otherwise regulated by municipal zoning.
- c. Amateur Radio and/or Receive Only Antennas. This ordinance shall not govern the installation of any antenna that is owned and/or operated by a federally licensed amateur radio operator or, is used exclusively for receive only antennas unless otherwise regulated by municipal zoning.
- d. Mobile services providing public information coverage of news event of a temporary or emergency nature.
- e. Commercial communications antennas installed on, or attached to, any existing building or alternative support structure when the height of the antenna and its supporting tower, pole or mast is 30 feet or less above the highest part of the building or alternative support structure to which it is attached.
- f. Utility pole mounted commercial communications antennas if the height of the antenna is 30 feet or less above the highest part of the utility pole.

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