

Design Manual

for the

*Installation of Network Nodes and Node Support Poles
pursuant to Tex. Loc. Gov. Code, Chapter 284.*

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SECTION 1. PURPOSE AND APPLICABILITY.

The City of Coppell (“City”) recognizes that the State of Texas has delegated to the City the fiduciary duty, as a trustee, to manage the public right-of-way for the health, safety, and welfare of the public to Texas municipalities.

Purpose: Loc. Gov. Code, Chapter 284 allows certain wireless Network Providers to install in the public rights-of-way their wireless facilities, described and defined in Tex. Loc. Gov. Code, Chapter 284, Sec. 284.002 as “Micro Network Nodes”, “Network Nodes”, and “Node Support Poles”.

As expressly allowed by Tex. Loc. Gov. Code, Chapter 284, Section 284.108, and pursuant to its police power authority reserved in Sec. 284.301¹, the City enacts these Design Guidelines in order to meet its fiduciary duty to the citizens of the City, and to give assistance and guidance to wireless telecommunications providers to assist such companies in the timely, efficient, safe and aesthetically pleasing installation of technologically competitive equipment.

Applicability: This Design Manual is for siting and criteria for the installation Wireless Facilities, including Micro Network Nodes, Network Nodes, Node Support Poles and related ground equipment being installed pursuant to Loc. Gov. Code, Chapter 284

This Design Manual shall apply to any sitings, installations, collocations in, on, over or under the public rights-of-way of Network nodes, Node support poles, Micro network nodes, Distributed Antenna Systems, microwave communications or other Wireless Facilities, by whatever nomenclature, whether they are installed pursuant to Chapter 284, or installed pursuant to an agreement as agreed to and consented to by the City in its discretion, or installed as may otherwise be allowed by state law.

City Rights-of-Way Management Ordinance: A Network Provider shall comply with the City’s Rights-of-Way Management Ordinance except where in conflict with this Design Manual or Chapter 284, Subchapter C.

SECTION 2. DEFINITIONS.

The definitions as used in Tex. Loc. Gov. Code, Chapter 284, Sec. 284.002 shall be used in this Design Manual, unless otherwise noted in this Section 2, below.²

Abandon and its derivatives means the facilities installed in the right-of-way (including by way of example but not limited to: poles, wires, conduit, manholes, handholes, cuts, network nodes and node support poles, or portion thereof) that have been left by Provider in an unused or non-functioning condition for more than 120 consecutive calendar days unless, after notice to Provider, Provider has established to the reasonable satisfaction of the City that the applicable facilities, or portion thereof, is still in active use.

Antenna means communications equipment that transmits or receives electromagnetic radio frequency signals used in the provision of wireless services.

Applicable codes means:

- (A) uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization; and
- (B) local amendments to those codes to the extent not inconsistent with Chapter 284.

City means the City of Coppell, Texas or its lawful successor.

City Manager shall mean City Manager or designee

Chapter 284 means Tex. Loc. Gov. Code, Chapter 284.

Collocate and *collocation* mean the installation, mounting, maintenance, modification, operation, or replacement of network nodes in a public right-of-way on or adjacent to a pole.

Concealment or Camouflaged means any Wireless Facility or Pole that is covered, blended, painted, disguised, camouflaged or otherwise concealed such that the Wireless Facility blends into the surrounding environment and is visually unobtrusive as allowed as a condition for City advance approval under Chapter 284, Sec. 284.105 in Historic or Design Districts. A Concealed or Camouflaged Wireless Facility or Pole also includes any Wireless Facility or Pole conforming to the surrounding area in which the Wireless Facility or Pole is located and may include, but is not limited to hidden beneath a façade, blended with surrounding area design, painted to match the supporting area, or disguised with artificial tree branches.

Decorative pole means a streetlight pole specially designed and placed for aesthetic purposes and on which no appurtenances or attachments, other than specially designed informational or directional signage or temporary holiday or special event attachments, have been placed or are permitted to be placed according to nondiscriminatory municipal codes.

Design District means an area that is zoned, or otherwise designated by municipal code, and for which the city maintains and enforces unique design and aesthetic standards on a uniform and nondiscriminatory basis.

Disaster emergency or disaster or emergency means an imminent, impending, or actual natural or humanly induced situation wherein the health, safety, or welfare of the residents of the city is threatened, and includes, but is not limited to any declaration of emergency by city state or federal governmental authorities.

Distributed Antenna System or DAS shall be included as a type of “Network Node.”

Easement means and shall include any public easement or other compatible use created by dedication, or by other means, to the city for public utility purposes or any other purpose whatsoever. "Easement" shall include a private easement used for the provision of utilities.

Federal Communications Commission or FCC means the Federal Administrative Agency, or lawful successor, authorized to oversee cable television and other multi-channel regulation on a national level.

Highway right-of-way means right-of-way adjacent to a state or federal highway.

Historic district means an area that is zoned or otherwise designated as a historic district under municipal, state, or federal law.

Law means common law or a federal, state, or local law, statute, code, rule, regulation, order, or ordinance.

Local means within the geographical boundaries of the City.

Location means the City approved and lawfully permitted location for the Network Node.

Macro tower means a guyed or self-supported pole or monopole greater than the height parameters prescribed by Chapter 284, Section 284.103 and that supports or is capable of supporting antennas.

Mayor means the Mayor for the City.

Micro network node means a network node that is not larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height, and that has an exterior antenna, if any, not longer than 11 inches.

Municipal park means an area that is zoned or otherwise designated by municipal code as a public park for the purpose of recreational activity.

Municipally owned utility pole means a utility pole owned or operated by a municipally owned utility, as defined by Section 11.003, Utilities Code, and located in a public right-of-way.

MUTCD means Manual of Uniform Traffic Control Devices.

Network node means equipment at a fixed location that enables wireless communications between user equipment and a communications network. The term:

(A) includes:

- (i) equipment associated with wireless communications;
- (ii) a radio transceiver, an antenna, a battery-only backup power supply, and comparable equipment, regardless of technological configuration; and
- (iii) coaxial or fiber-optic cable that is immediately adjacent to and directly associated with a particular collocation; and

(B) does not include:

- (i) an electric generator;
- (ii) a pole; or
- (iii) a macro tower.

Network provider means:

- (A) a wireless service provider; or
- (B) a person that does not provide wireless services and that is not an electric utility but builds or installs on behalf of a wireless service provider:
 - (i) network nodes; or
 - (ii) node support poles or any other structure that supports or is capable of supporting a network node.

Node support pole means a pole installed by a network provider for the primary purpose of supporting a network node.

Permit means a written authorization for the use of the public right-of-way or collocation on a service pole required from a municipality before a network provider may perform an action or initiate, continue, or complete a project over which the municipality has police power authority.

Pole means a service pole, municipally owned utility pole, node support pole, or utility pole.

Private easement means an easement or other real property right that is only for the benefit of the grantor and grantee and their successors and assigns.

Provider has the same meaning as “Network Provider.”

Public right-of-way means the area on, below, or above a public roadway, highway, street, public sidewalk, alley, waterway, or utility easement in which the municipality has an interest. The term does not include:

- (A) a private easement; or
- (B) the airwaves above a public right-of-way with regard to wireless telecommunications.

Public right-of-way management ordinance means an ordinance that complies with Chapter 284, Subchapter C.

Service pole means a pole, at least 8’ in height, other than a municipally owned utility pole, owned or operated by a municipality and located in a public right-of-way, including:

- (A) a pole that supports traffic control functions;
- (B) a structure for signage;
- (C) a pole that supports lighting, other than a decorative pole; and
- (D) a pole or similar structure owned or operated by a municipality and supporting only network nodes.

Small cell shall be included as a type of “Network Node.”

Street means only the paved portion of the right-of-way used for vehicular travel, being the area between the inside of the curb to the inside of the opposite curb, or the area between the two parallel edges of the paved roadway for vehicular travel where there is no curb. A “Street” is generally part of, but smaller in width than the width of the entire right-of-way, while a right-of-way may include sidewalks and utility easements, a “Street” does not. A “street” does not include the curb or the sidewalk, if either are present at the time of a permit application or if added later.

SWPPP shall mean Storm Water Pollution Prevention Plan.

TAS means Texas Accessibility Standards.

Traffic Signal means any device, whether manually, electrically, or mechanically operated by which traffic is alternately directed to stop and to proceed.

Transport facility means each transmission path physically within a public right-of-way, extending with a physical line from a network node directly to the network, for the purpose of providing backhaul for network nodes.

Underground Requirement Area shall mean an area where poles, overhead wires, and associated overhead or above ground structures have been removed and buried or have been approved for burial underground pursuant to municipal ordinances, zoning regulations, state law, private deed restrictions, and other public or private restrictions, that prohibit installing aboveground structures in a public right-of-way.

User means a person or organization which conducts a business over facilities occupying the whole or a part of a public street or right-of-way, depending on the context.

Utility pole means a pole that provides:

- (A) electric distribution with a voltage rating of not more than 34.5 kilovolts; or
- (B) services of a telecommunications provider, as defined by Chapter 284, Section 51.002, Utilities Code.

Wireless service means any service, using licensed or unlicensed wireless spectrum, including the use of Wi-Fi, whether at a fixed location or mobile, provided to the public using a network node.

Wireless service provider means a person that provides wireless service to the public.

Wireless facilities mean “Micro Network Nodes,” “Network Nodes,” and “Node Support Poles” as defined in Texas Local Government Code Chapter 284.

SECTION 3. PROHIBITED AND PREFERRED LOCATIONS OF MICRO NETWORK NODE, NETWORK NODE, NODE SUPPORT POLE AND RELATED GROUND EQUIPMENT.

A. Prohibited or Restricted Areas for Certain Wireless facilities, except with Separate City Agreement or Subject to Concealment Conditions.

1. ***Municipal Parks and Residential Areas.*** In accordance with Chapter 284, Sec. 284.104 (a), a Network Provider may not install a Node Support Pole in a public right-of-way without the City's discretionary, nondiscriminatory, and written consent if the public right-of-way is in a Municipal park or is adjacent to a street or thoroughfare that is:

- (1) not more than 50 feet wide of paved street surface, being the area measured as the shortest distance between the inside of the curb to the inside of the opposite curb, or the area measured as the shortest distance between the two parallel edges of the paved roadway for vehicular travel where there is no curb; and

(2) adjacent to single-family residential lots or other multifamily residences or undeveloped land that is designated for residential use by zoning or deed restrictions.

1.1. In accordance with Chapter 284, Sec. 284.104 (b), a Network Provider installing a Network Node or Node Support Pole in a public right-of-way described above shall comply with private deed restrictions and other private restrictions in the area that apply to those facilities. Each permit application shall disclose if it is within a Municipal Park and Residential Areas as described above.

2. *Historic District and Design Districts.* In accordance with Chapter 284, Sec. 284.105, a Network Provider must obtain advance written approval from the City before collocating Network Nodes or installing Node Support Poles in a Design District with Decorative Poles or in an area of the City zoned or otherwise designated as a Design District or Historic District.

2.1. As a condition for approval of Network Nodes or Node Support Poles in Design Districts with Decorative Poles or in a Historic District, the City shall require reasonable design or Concealment measures for the Network Nodes or Node Support Poles. Therefore, any request for installations in a Design District with Decorative Poles or in a Historic District, must be accompanied with proposed Concealment measures in the permit applications.

2.2. The City requests that a Network Provider explore the feasibility of using Camouflage measures to improve the aesthetics of the Network Nodes, Node Support Poles, or related ground equipment, or any portion of the nodes, poles, or equipment, to minimize the impact to the aesthetics in Design Districts or in an Historic District.

2.3. Network Provider shall comply with and observe all applicable City, State, and federal historic preservation laws and requirements.

2.4. Each permit application shall disclose if it is within a Design District with Decorative Poles or in an area of the City zoned or otherwise designated as a Design District or Historic District.

3. *Historic Landmarks.* A Network Provider is discouraged from installing a Network Node or Node Support Pole within 300 feet of a historic site or structure or Historic Landmark recognized by the City, state or federal government (*see, for example, and not limited to* §442.001(3) of the Texas Government Code, and 16 U.S.C. §470), as of the date of the submission of the permit. It is recommended that each permit application disclose if it is with 300 feet of such a structure.

4. *Compliance with Undergrounding Requirements.* In accordance with Chapter 284, Sec. 284.107, a Network Provider shall comply with nondiscriminatory undergrounding requirements, including municipal ordinances, zoning regulations, state law, private deed restrictions, and other public or private restrictions, that prohibit installing aboveground structures in a public right-of-way without first obtaining zoning or land use approval.

4.1 Areas may be designated from time to time by the City as Underground Requirement Areas in accordance with filed plats, and or conversions of overhead to underground areas, as may be allowed by law.

4.2 Each permit application shall disclose if it is within an area that has undergrounding requirements.

B. Least preferable locations.

1. **Residential Areas and Parks.** A Network Provider is discouraged from installing a Network Node on an existing pole in a public right-of-way without written consent from the City Council if the public right-of-way is located in or adjacent to a street or thoroughfare that is adjacent to a municipal park or single-family residential lots or other multifamily residences or undeveloped land that is designated for residential use by zoning or deed restrictions.

1.1 In accordance with Chapter 284, Sec. 284.104 (b) a Network Provider installing a Network Node or a Node Support Pole in a public right-of-way shall comply with private deed restrictions and other private restrictions in the area that apply to those facilities.

2. **Historic Districts and Design Districts.** A Network Provider is discouraged from installing a Network Node or a Node Support Pole in the public right-of-way in any area designated by the City as a Design Districts or in an area of the City zoned or otherwise designated as a Historic District unless such a Network Node or a new Node Support Pole is camouflaged.

C. Most preferable locations

1. *Industrial areas* if not adjacent to a Municipal Park, Residential area, Historic District or Design District.

2. *Highway Rights-of-Way* areas if not adjacent to a Municipal Park, Residential area, Historic District or Design District.

3. *Retail and Commercial areas* if not adjacent to a Municipal Park, Residential area, Historic District or Design District.

D. Designated Areas.

1. The City Council may designate an area as a Historic District or a Design District under Chapter 284.105 at any time.

2. Currently designated *Historic Districts* are:

(a) Historic District Number 1 is the area referred to as Coppell Old Town/Historic District. Its boundaries are: depicted in Exhibit 1.

3. Currently designated *Design District* areas are:

(a) Design District Number 1 is the area referred to as Town Center District. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design.

(b) Design District Number 2 is the area referred to as Retail District. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design _.

(c) Design District Number 1 is the area referred to as Commercial District. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design.

(d) Design District Number 2 is the area referred to as Highway Commercial District. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design _.

4. The failure to designate an area in this Chapter shall not mean that such an area is not within a defined district, if so designated by the City Council. Future areas may be designated as one of these Districts at any time. Such a designation does not require a zoning case.

5. While not required under Chapter 284 to designate Underground Compliance Areas to prohibit above ground Wireless facilities, the City may also, from time to time, also designate Underground Compliance Areas.

Currently designated *Underground Compliance Areas* are:

(a) Underground Compliance Area Number 1 is the area referred to as Old Town Coppell____. Its boundaries are: ____ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design _____.

(b) Underground Compliance Area Number 2 is the area referred to as South Right-of-Way of Sandy Lake Road____. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design _____.

(c) or Underground Compliance Area Number 3 is the area referred to as Intersection of Denton Tap and Sandy Lake Road and Denton Tap 540’ South of Sandy Lake____. Its boundaries are: _ depicted in Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design _____.

E. Exceptions

The City by its discretionary consent and agreement may grant exception to the above prohibited locations and sizes, but only in a non-exclusive, and non-discriminatory manner, as allowed or required by Chapter 284, Sec. 284.109 and Sec. 284.110.

F. Order of Preference regarding Network Node attachment to existing facilities and New Node Support Poles.

1. *Existing telephone or electrical lines between existing utility poles.* Micro Network Nodes shall only be lashed on existing telephone or electrical lines between existing utility poles (electric poles or telephones poles), with notice to the pole owner as required by the Federal Pole Attachment Act, and not placed on Utility Poles, Node Support Poles or Service Poles.

2. *Existing Utility Poles* (electric poles or telephones poles), shall be the preferred support facility for Network Nodes and related ground equipment.

3. *Municipal Service Poles:*

a. *Non-decorative street lights* with a height of more than 20 feet.

b. *Traffic signal structures* when such installation will not interfere with the integrity of the facility and will not interfere with the safety of public and in accordance with an agreement as allowed by Chapter 284, Sec. 285.056 and Sec. 284.101 (a) (3), and (b).

c. *Street signage* shall be a low priority use for attachment of a Network Node.

d. *Other municipal Service pole* use is discouraged.

4. *New node support poles* shall be the least preferred type of allowed facility for attachment of Network Nodes.

5. *Ground Equipment.* Ground equipment should be minimal and the least intrusive.

SECTION 4. GUIDELINES ON PLACEMENT.

A. Generally.

In accordance with Chapter 284.102, a Network Provider shall construct and maintain Network Nodes and Node Support Poles in a manner that does not:

1. obstruct, impede, or hinder the usual travel or public safety on a public right-of-way;

2. obstruct the legal use of a public right-of-way by other utility providers;

3. violate nondiscriminatory applicable codes;

4. violate or conflict with the municipality's publicly disclosed public right-of-way management ordinance or this Design Manual.

5. violate the federal Americans with Disabilities Act of 1990 (42 U.S.C. Section 12101 et seq.).

B. General Requirements and Information:

1. *Size Limits.* Network Providers shall provide detailed drawings, with calculations to show strict conformity to the size limitations as set forth in Chapter 284, in accordance with, but not limited to Chapter 284, Sec. 284.002, size of a Micro Network Node, Sec. 284.003, Size of Network Nodes, and Sec. 284.103, Max. pole height, with each application and with each request for a permit for each location.³

2. *State and Federal Rights-of-way permit.* If the project lies within a Highway Right-of-Way, the applicant must provide evidence of a permit from the State or Federal Government.

3. *Confirmation of non-interference with City Safety Communication Networks.*

a. The Network Provider needs to provide analysis that the proposed network node shall not cause any interference with City public safety radio system, traffic signal light system, or other city safety communications components in accordance with Chapter 284, Sec. 284.304.

b. It shall be the responsibility of the Network Provider to evaluate, prior to making application for permit, the compatibility between the existing City infrastructure and Provider's proposed Network Node. A Network Node shall not be installed in a location that causes any interference. Network Nodes shall not be allowed on City's public safety radio infrastructure.

4. *Improperly Located Network Node facilities, Node Support Poles and related ground equipment:*

a. Improperly Located Network Node facilities, Node Support Poles and related ground equipment shall not impede pedestrian or vehicular traffic in the Right-of-Way. If any Network Node facilities, Node Support Poles or ground equipment is installed in a location that is not in accordance with the plans approved by the City Manager and impedes pedestrian or vehicular traffic or does not comply or otherwise renders the Right-of-Way non-compliant with applicable Laws, including the American Disabilities Act, then Network Provider shall promptly remove the Network Node facilities, Node Support Poles or ground equipment.

b. Notice to Remove unauthorized facilities and relocate and penalty: After 30 days' notice to remove of Network Node facilities, Node Support Poles or ground equipment that is located in the incorrect permitted location, if not relocated the Network Provider shall be subject to a penalty of \$2,000.00 per day penalty until the Network Node facilities, Node Support Poles or ground equipment is relocated to the correct area within the permitted Location, regardless of whether or not the Network Provider's contractor, subcontractor, or vendor installed the Network Node facilities, Node Support Poles or ground equipment in strict conformity with the City Rights-of-way management ord., and other applicable ordinances concerning improperly located facilities in the rights-of-way.

B. Underground Requirement Areas.

1. In accordance with Chapter 284.107, a Network Provider shall, in relation to installation for which the City approved a permit application, comply with nondiscriminatory undergrounding requirements, including municipal ordinances, zoning regulations, state law, private deed restrictions, and other public or private restrictions, that

prohibit installing aboveground structures in a public right-of-way without first obtaining zoning or land use approval.

2. If a location is designated by the City to transits to be an Underground Requirement Area, then a Network Provider's permit for the location of the Micro Network Node, Network Node, Node Support Pole, and related ground equipment at such location will be revoked 90 days after the designation, with removal of said the Micro Network Node, Network Node, Node Support Pole, and related ground equipment at such location within 90 days of such designation, or as otherwise reasonably allowed by the City for the transition of other overhead facilities.

C. Network Node facilities placement:

1. *Right-of-Way:* Network Node facilities, Node Support Poles and related ground equipment shall be placed, as much as possible, within two feet of the outer edge of the Right-of-Way line to minimize any obstruction, impediment, or hindrance to the usual travel or public safety on a public right-of-way.

2. *Height above ground.* Network Node attachments to a pole shall be installed at least eight (8) feet above the ground in accordance with Chapter 284, Sec. 284.108, and if a Network Node attachment is projecting toward the street, for the safety and protection of the public and vehicular traffic, the attachment shall be installed no less than sixteen (16) feet above the ground.

3. *Protrusions.* In accordance with Chapter 284, Sec. 284.003 (a) (1) (C), Sec. 284.003 (a) (2) (C) and Sec. 284.003 (a) (3) (B) no protrusion from the outer circumference of the existing structure or pole shall be more than two (2) feet.

4. *Limit on number of Network Nodes per Site.* There shall be no more than one Network Node on any one Pole.

D. New Node Support Poles.

1. *New Node Support Poles Spacing.* New node support poles shall be spaced apart from existing utility poles or Node Support poles at the same as the spacing between utility poles in the immediate proximity, but no less than at a minimum 300 feet from a utility pole or another Node Support Pole to minimize the hazard of poles adjacent to road ways and to minimize effect on property values and aesthetics on the area.

2. *Location of Node Support Poles within Street.* New node support poles shall not be placed in the raised median section of a street to minimize the hazard of poles within the road ways, unless all other options for attachment of network nodes to existing poles and placement of new node support poles outside of the raised median have been denied.

3. *Height of Node Support Poles or modified Utility Pole.* In accordance with Chapter 284, Sec. 284.103 a Node support pole or modified Utility Pole may not exceed the lesser of:

(1) 10 feet in height above the tallest existing utility pole located within 500 linear feet of the new pole in the same public right-of-way; or

(2) 55 feet above ground level.

E. Ground Equipment.

1. *Ground Equipment near street corners and intersections:* Ground equipment should be minimal and the least intrusive. In accordance with Chapter 284.102 (1), to minimize any obstruction, impediment, or hindrance to the usual travel or public safety on a public right-of-way the maximum line of sight required to add to safe travel of vehicular and pedestrian traffic and in order to maximize that line of sight at street corners and intersections and to minimize hazards at those locations, ground equipment may not be installed within 250 feet of a street corner or a street intersection.

2. *Ground Equipment near Municipal Parks.* For the safety of Municipal park patrons, particularly small children, and to allow full line of sights near Municipal park property, the Network Provider shall not install Ground Equipment in a Right-of-Way that is within a Park or within 250 feet of the boundary line of a Park, unless approved by the City Manager and Parks Director in writing.

3. *Minimize Ground equipment density:*

In accordance with Chapter 284, Sec. 284.102 (1) to enhance the safety requirements of line of sight of pedestrians, particularly small children, the City's designee may deny a request for a proposed Location if the Network Provider installs Network Node ground equipment where existing ground equipment within 300 feet already occupies a footprint of 25 sq. ft. or more.

F. Municipal Service Poles:

1. *In accordance with Agreement:* Installations on all Service Poles shall be in accordance with an agreement as allowed by Chapter 284, Sec. 285.056 and Sec. 284.101 (a) (3), and (b).

2. *Required industry standard pole load analysis:* Installations on all Service Poles shall have an industry standard pole load analysis completed and submitted to the municipality with each permit application indicating that the Service Pole to which the Network Node is to be attached will safely support the load, in accordance with Chapter 284.108.

3. *Height of attachments:* All attachments on all Service Poles shall be at least 8 feet above grade, in accordance with Chapter 284, Sec. 285.108 (a) (1) - (2) and if a Network Node attachment is projecting toward the street, for the safety and protection of the public and vehicular traffic, the attachment shall be installed no less than sixteen (16) feet above the ground. If a service pole is less than 8 feet tall, it shall not be extended to allow attachment.

4. *Installations on Traffic Signals:* Installations on all Traffic signal structures must not interfere with the integrity of the facility in any way that may compromise the safety of the public and must be in accordance with an agreement as allowed by Chapter 284, Sec. 285.056 and Sec. 284.101 (a) (3), and (b). Installation of Network Node facilities on any traffic signal structures shall:

- i. Be encased in a separate conduit than the traffic signal electronics;
- ii. Have a separate electric power connection than the traffic signal structure; and

iii. Have a separate access point than the traffic signal structure; and

5. Installations on Street signage: Installations on all street signage structures must not interfere with the integrity of the facility in any way that may compromise the safety of the public. Installation of Network Node facilities on any street signage structures that has electrics shall:

i. Be encased in a separate conduit than any City signage electronics;

ii. Have a separate electric power connection than the signage structure;

iii. Have a separate access point than the signage structure; and

SECTION 5. GENERAL AESTHETIC REQUIREMENTS

A. Concealment.

1. Concealment of Network Nodes and Node support poles shall be required by the City in Design Districts with Decorative Poles and in Historic Districts pursuant to Chapter 284.105.

2. It is also the City's preference that all new node support poles be camouflaged. New node support poles shall match the color and character of existing decorative poles within the same right-of-way or design district. Companies shall submit their proposal for camouflage with the permit application.

3. The Network Node facilities shall be concealed or enclosed as much as reasonably possible in an equipment box, cabinet, or other unit that may include ventilation openings. External cables and wires hanging off a pole shall be sheathed or enclosed in a conduit, and positioned on the pole in a manner hidden from view of the street to the extent practical, so that wires are protected and not visible or visually minimized to the extent possible in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

The Network Node facilities shall be concealed or enclosed as much as possible in an equipment box, cabinet, or other unit that may include ventilation openings. Concealment units and nodes shall be camouflaged with paint to match color of the pole or facility the equipment is located upon. Ground equipment shall match existing infrastructure within the same right-of-way or district. External cables and wires hanging off a pole shall be sheathed or enclosed in a conduit, so that wires are protected and not visible or visually minimized to the extent possible, except to the extent not consistent with Chapter 284.

B. New Node Support Pole Spacing.

New node support poles shall be at a minimum 300 feet from a utility pole or another Node Support Pole to minimize the hazard of poles adjacent to road ways and to minimize effect on property values and aesthetics on the area.

C. Minimize Ground Equipment Concentration.

In order to minimize negative visual impact to the surrounding area, and in accordance with Chapter 284, Sec. 284.102 (1) to enhance the safety requirements of line of sight of pedestrians, particularly small children, the City's designee may deny a request for a proposed

Location if the Network Provider installs Network Node ground equipment where existing ground equipment within 300 feet already occupies a footprint of 25 sq. ft. or more to minimize effect on property values and aesthetics on the area.

D. Allowed Colors.

Colors in Historic Districts and Design Districts must be approved by the City Manager or his designee, from a palette of approved colors. Sample colors will be submitted with the application for attachment or installation. Unless otherwise provided, all colors shall match the background of any structure or cable strand the facilities are located upon and all efforts shall be made for the colors to be inconspicuous. Colors in areas other than in Historic Districts and Design Districts shall conform to colors of other installations of telecommunication providers or installations by the city in the immediately adjacent areas.

SECTION 6. ELECTRICAL SUPPLY

A. Network Provider shall be responsible for obtaining any required electrical power service to the Micro Network Node, Network Node facilities, Node Support Poles and ground equipment. The City shall not be liable to the Network Provider for any stoppages or shortages of electrical power furnished to the Micro Network Node, Network Node facilities, Node Support Poles or ground equipment, including without limitation, stoppages or shortages caused by any act, omission, or requirement of the public utility serving the structure or the act or omission of any other tenant or Network Provider of the structure, or for any other cause beyond the control of the City.

B. Network Provider shall not allow or install generators or back-up generators in the Right-of-Way in accordance with Chapter 284, Sec. 284.002 (12) (B) (1).

SECTION 7. INSURANCE, INDEMNITY, BONDING AND SECURITY DEPOSITS.

1. Insurance, bonding and security deposits shall be in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

2. Indemnity shall be in accordance with Chapter 284, Sec. 284.302, as provided for in Chapter 283, Sec. 283.057 (a) and (b) of the Texas Loc. Gov't Code.

SECTION 8. REQUIREMENTS IN REGARD TO REMOVAL, REPLACEMENT, REPLACEMENT, MAINTENANCE AND REPAIR

A. REMOVAL OR RELOCATION BY NETWORK PROVIDER.

1. If the Network Provider removes or relocates a Micro Network Node, Network Node facilities, Node Support Pole or related ground equipment at its own discretion, it shall notify the City Manager in writing not less than 10 business days prior to removal or relocation. Network Provider shall obtain all Permits required for relocation or removal of its Micro Network Node, Network Node facilities, Node Support Poles and related ground equipment prior to relocation or removal.

2. The City shall not issue any refunds for any amounts paid by Network Provider for Micro Network Node, Network Node facilities, Node Support Poles or related ground equipment that have been removed.

B. REMOVAL OR RELOCATION REQUIRED FOR CITY PROJECT.

1. In accordance with Chapter 284, Sec. 284.107, except as provided in existing state and federal law, a Network Provider shall relocate or adjust Micro Network Node, Network Node, Node Support Pole and related ground equipment in a public right-of-way in a timely manner and without cost to the municipality managing the public right-of-way

2. Network Provider understands and acknowledges that the City may require Network Provider to remove or relocate its Micro Network Node, Network Node, Node Support Pole and related ground equipment, or any portion thereof from the Right-of-Way for City construction projects as allowed by state and federal law, including the common-law.

3. Network Provider shall, at the City Manager's direction, remove or relocate the same at Network Provider's sole cost and expense, except as otherwise provided in existing state and federal law, whenever the City Manager reasonably determines that the relocation or removal is needed for any of the following purposes: Required for the construction, completion, repair, widening, relocation, or maintenance of, or use in connection with, any City construction or maintenance project of a street or public rights-of-way to enhance the traveling public's use for travel and transportation.

4. If Network Provider fails to remove or relocate the Micro Network Node, Network Node, Node Support Pole or related ground equipment, or portion thereof as requested by the City Manager within 90 days of Network Provider's receipt of the request, then the City shall be entitled to remove the Micro Network Node, Network Node, Node Support Pole or related ground equipment, or portion thereof at Network Provider's sole cost and expense, without further notice to Network Provider.

5. Network Provider shall, within 30 days following issuance of invoice for the same, reimburse the City for its reasonable expenses incurred in the removal (including, without limitation, overhead and storage expenses) of the Micro Network Node, Network Node, Node Support Pole or related ground equipment, or portion thereof.

C. REMOVAL REQUIRED BY CITY FOR SAFETY AND IMMINENT DANGER REASONS.

1. Network Provider shall, at its sole cost and expense, promptly disconnect, remove, or relocate the applicable Micro Network Node, Network Node, Node Support Pole and related ground equipment within the time frame and in the manner required by the City Manager if the City Manager reasonably determines that the disconnection, removal, or relocation of any part of a Micro Network Node, Network Node, Node Support Pole and related ground equipment (a) is necessary to protect the public health, safety, welfare, or City property, (b) the Micro Network Node, Network Node, Node Support Pole and related ground equipment, or portion thereof, is adversely affecting proper operation of streetlights or City property, or (c) Network Provider fails to obtain all applicable licenses, Permits, and certifications required by Law for its Micro Network Node, Network Node, Node Support Pole and related ground equipment, or use of any Location under applicable law. If the City Manager reasonably determines that there is imminent danger to the public, then the City may immediately disconnect, remove, or relocate the applicable Micro

Network Node, Network Node, Node Support Pole and related ground equipment at the Network Provider's sole cost and expense.

2. The City Manager shall provide 90 days written notice to the Network Provider before removing a Micro Network Node, Network Node, Node Support Pole and related ground equipment under this Section, unless there is imminent danger to the public health, safety, and welfare.

3. Network Provider shall reimburse City for the City's actual cost of removal of Micro Network Node, Network Node, Node Support Pole and related ground equipment within 30 days of receiving the invoice from the City.

SECTION 9. INSTALLATION AND INSPECTIONS

A. INSTALLATION.

Network Provider shall, at its own cost and expense, install the Micro Network Node, Network Node facilities, Node Support Poles and related ground equipment in a good and workmanlike manner and in accordance with the requirements promulgated by the City Manager, as such may be amended from time to time. Network Provider's work shall be subject to the regulation, control and direction of the City Manager. All work done in connection with the installation, operation, maintenance, repair, modification, and/or replacement of the Micro Network Node, Network Node facilities, Node Support Poles and related ground equipment shall be in compliance with all applicable laws, ordinances, codes, rules and regulations of the City, applicable county, the state, and the United States ("Laws").

B. INSPECTIONS.

The City Manager, or designee, may perform visual inspections of any Micro Network Node, Network Node, Node Support Pole or related ground equipment located in the Right-of-Way as the City Manager deems appropriate without notice. If the inspection requires physical contact with the Micro Network Node, Network Node, Node Support Poles or related ground equipment, the City Manager shall provide written notice to the Network Provider within five business days of the planned inspection. Network Provider may have a representative present during such inspection.

SECTION 10. REQUIREMENTS UPON ABANDONMENT OF OBSOLETE MICRO NETWORK NODE, NETWORK NODE, NODE SUPPORT POLE AND RELATED GROUND EQUIPMENT.

Network Provider shall remove Micro Network Node, Network Node, Node Support Pole and related ground equipment when such facilities are Abandoned regardless of whether or not it receives notice from the City. Unless the City sends notice that removal must be completed immediately to ensure public health, safety, and welfare, the removal must be completed within the earlier of 90 days of the Micro Network Node, Network Node, Node Support Pole and related ground equipment being Abandoned or within 90 days of receipt of written notice from the City. When Network Provider removes, or Abandons permanent structures in the Right-of-Way, the Network Provider shall notify the City Manager and City Manager in writing of such removal or Abandonment and shall file with the City Manager and City Manager the location and description of each Micro Network Node, Network Node, Node Support Pole and related ground equipment

removed or Abandoned. The City Manager may require the Network Provider to complete additional remedial measures necessary for public safety and the integrity of the Right-of-Way.

SECTION 11. GENERAL PROVISIONS.

1. As Built Maps and Records. Network Provider's as built maps and records shall be in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

2. Courtesy and Proper Performance. Courtesy and Proper Performance of Network provider's personnel, and contractors shall be in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

3. DRUG POLICY.

It is the policy of the City to achieve a drug-free workforce and workplace. The manufacture, distribution, dispensation, possession, sale, or use of illegal drugs or alcohol by Network Provider's employees, contractors, subcontractors, sub-Network Provider's, or vendors while on City rights-of-way is prohibited.

4. ALLOCATION OF FUNDS FOR REMOVAL AND STORAGE. The City has appropriated \$0 to pay for the cost of any removal or storage of Micro Network Node, Network Node, Node Support Pole and related ground equipment, as authorized under this Article, and no other funds are allocated.

5. OWNERSHIP

No part of a Micro Network Node, Network Node, Node Support Pole and related ground equipment erected or placed on the Right-of-Way by Network Provider will become, or be considered by the City as being affixed to or a part of, the Right-of-Way. All portions of the Micro Network Node, Network Node, Node Support Pole and related ground equipment constructed, modified, erected, or placed by Network Provider on the Right-of-Way will be and remain the property of Network Provider and may be removed by Network Provider at any time, provided the Network Provider shall notify the City Manager prior to any work in the Right-of-Way.

6. Tree Maintenance. Tree maintenance shall be in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

7. Signage. Signage shall be in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

Network Provider shall post its name, location identifying information, and emergency telephone number in an area on the cabinet of the Network Node facility that is visible to the public, but, to the extent practical, attached in a location that is not visible from the street. Signage required under this section shall not exceed 4" x 6", unless otherwise required by law (e.g. RF ground notification signs) or the City Manager.

Except as required by Laws or by the Utility Pole owner, Network Provider shall not post any other signage or advertising on the Micro Network Node, Network Node, Node Support Pole, Service pole or Utility Pole.

8. Graffiti Abatement.

As soon as practical, but not later than fourteen (14) calendar days from the date Network Provider receives notice thereof, Network Provider shall remove all graffiti on any of its Micro Network Node, Network Node, Node Support Pole, and related ground equipment located in the Right of Way. The foregoing shall not relieve the Network Provider from complying with any City graffiti or visual blight ordinance or regulation.

9. Restoration.

Network Provider shall restore and repair of the rights-of-way from any damage to the Right-of-Way, or any facilities located within the Right-of-Way, and the property of any third party resulting from Network Provider's removal or relocation activities (or any other of Network Provider's activities hereunder) in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

10. Network provider's responsibility.

Network Provider shall be responsible and liable for the acts and omissions of Network Provider's employees, temporary employees, officers, directors, consultants, agents, Affiliates, subsidiaries, sub-Network Provider's and subcontractors in connection with the installations of any Micro Network Node, Network Node, Node Support Pole and related ground equipment, as if such acts or omissions were Network Provider's acts or omissions in strict accordance with the City's rights-of-way management ordinance, and other applicable ordinances, except to the extent not consistent with Chapter 284.

SECTION 12-19 RESERVED

SECTION 20. DESIGN MANUAL - UPDATES

Placement or Modification of Micro Network Node, Network Node, Node Support Pole and related ground equipment shall comply with the City's Design Manual at the time the Permit for installation or Modification is approved and as amended from time to time.

¹ Sec. 284.301. LOCAL POLICE-POWER-BASED REGULATIONS. (a) Subject to this chapter and applicable federal and state law, a municipality may continue to exercise zoning, land use, planning, and permitting authority in the municipality's boundaries, including with respect to utility poles.

(b) A municipality may exercise that authority to impose police-power-based regulations for the management of the public right-of-way that apply to all persons subject to the municipality.

(c) A municipality may impose police-power-based regulations in the management of the activities of network providers in the public right-of-way only to the extent that the regulations are reasonably necessary to protect the health, safety, and welfare of the public.

² The definitions as used in Tx. Loc. Gov. Code, Chapter 284, Sec. 284.002 shall be used in this Design Manual.

Tex. Loc. Gov. Code, Chapter 284, Sec. 284.002. DEFINITIONS. In this chapter:

(1) "Antenna" means communications equipment that transmits or receives electromagnetic radio frequency signals used in the provision of wireless services.

(2) "Applicable codes" means:

(A) uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization; and

(B) local amendments to those codes to the extent not inconsistent with this chapter.

(3) "Collocate" and "collocation" mean the installation, mounting, maintenance, modification, operation, or replacement of network nodes in a public right-of-way on or adjacent to a pole.

(4) "Decorative pole" means a streetlight pole specially designed and placed for aesthetic purposes and on which no appurtenances or attachments, other than specially designed informational or directional signage or temporary holiday or special event attachments, have been placed or are permitted to be placed according to nondiscriminatory municipal codes.

(5) "Design district" means an area that is zoned, or otherwise designated by municipal code, and for which the city maintains and enforces unique design and aesthetic standards on a uniform and nondiscriminatory basis.

(6) "Historic district" means an area that is zoned or otherwise designated as a historic district under municipal, state, or federal law.

(7) "Law" means common law or a federal, state, or local law, statute, code, rule, regulation, order, or ordinance.

(8) "Macro tower" means a guyed or self-supported pole or monopole greater than the height parameters prescribed by Section 284.103 and that supports or is capable of supporting antennas.

(9) "Micro network node" means a network node that is not larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height, and that has an exterior antenna, if any, not longer than 11 inches.

(10) "Municipally owned utility pole" means a utility pole owned or operated by a municipally owned utility, as defined by Section 11.003, Utilities Code, and located in a public right-of-way.

(11) "Municipal park" means an area that is zoned or otherwise designated by municipal code as a public park for the purpose of recreational activity.

(12) "Network node" means equipment at a fixed location that enables wireless communications between user equipment and a communications network. The term:

(A) includes:

(i) equipment associated with wireless communications;

(ii) a radio transceiver, an antenna, a battery-only backup power supply, and comparable equipment, regardless of technological configuration; and

(iii) coaxial or fiber-optic cable that is immediately adjacent to and directly associated with a particular collocation; and

(B) does not include:

(i) an electric generator;

(ii) a pole; or

(iii) a macro tower.

(13) "Network provider" means:

(A) a wireless service provider; or

(B) a person that does not provide wireless services and that is not an electric utility but builds or installs on behalf of a wireless service provider:

(i) network nodes; or

(ii) node support poles or any other structure that supports or is capable of supporting a network node.

(14) "Node support pole" means a pole installed by a network provider for the primary purpose of supporting a network node.

(15) "Permit" means a written authorization for the use of the public right-of-way or collocation on a service pole required from a municipality before a network provider may perform an action or initiate, continue, or complete a project over which the municipality has police power authority.

(16) "Pole" means a service pole, municipally owned utility pole, node support pole, or utility pole.

(17) "Private easement" means an easement or other real property right that is only for the benefit of the grantor and grantee and their successors and assigns.

(18) "Public right-of-way" means the area on, below, or above a public roadway, highway, street, public sidewalk, alley, waterway, or utility easement in which the municipality has an interest. The term does not include:

(A) a private easement; or

(B) the airwaves above a public right-of-way with regard to wireless telecommunications.

(19) "Public right-of-way management ordinance" means an ordinance that complies with Subchapter C.

(20) "Public right-of-way rate" means an annual rental charge paid by a network provider to a municipality related to the construction, maintenance, or operation of network nodes within a public right-of-way in the municipality.

(21) "Service pole" means a pole, other than a municipally owned utility pole, owned or operated by a municipality and located in a public right-of-way, including:

(A) a pole that supports traffic control functions;

(B) a structure for signage;

(C) a pole that supports lighting, other than a decorative pole; and

(D) a pole or similar structure owned or operated by a municipality and supporting only network nodes.

(22) "Transport facility" means each transmission path physically within a public right-of-way, extending with a physical line from a network node directly to the network, for the purpose of providing backhaul for network nodes.

(23) "Utility pole" means a pole that provides:

(A) electric distribution with a voltage rating of not more than 34.5 kilovolts; or

(B) services of a telecommunications provider, as defined by Section 51.002, Utilities Code.

(24) "Wireless service" means any service, using licensed or unlicensed wireless spectrum, including the use of Wi-Fi, whether at a fixed location or mobile, provided to the public using a network node.

(25) "Wireless service provider" means a person that provides wireless service to the public.

³ Sec. 284.002. DEFINITIONS (8) "Micro network node" means a network node that is not larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height, and that has an exterior antenna, if any, not longer than 11 inches.

Sec. 284.003. LIMITATION ON SIZE OF NETWORK NODES. (a) Except as provided by Section 284.109, a network node to which this chapter applies must conform to the following conditions:

- (1) each antenna that does not have exposed elements and is attached to an existing structure or pole:
 - (A) must be located inside an enclosure of not more than six cubic feet in volume;
 - (B) may not exceed a height of three feet above the existing structure or pole; and
 - (C) may not protrude from the outer circumference of the existing structure or pole by more than two feet;
 - (2) if an antenna has exposed elements and is attached to an existing structure or pole, the antenna and all of the antenna's exposed elements:
 - (A) must fit within an imaginary enclosure of not more than six cubic feet;
 - (B) may not exceed a height of three feet above the existing structure or pole; and
 - (C) may not protrude from the outer circumference of the existing structure or pole by more than two feet;
 - (3) the cumulative size of other wireless equipment associated with the network node attached to an existing structure or pole may not:
 - (A) be more than 28 cubic feet in volume; or
 - (B) protrude from the outer circumference of the existing structure or a node support pole by more than two feet;
 - (4) ground-based enclosures, separate from the pole, may not be higher than three feet six inches from grade, wider than three feet six inches, or deeper than three feet six inches; and
 - (5) pole-mounted enclosures may not be taller than five feet.
- (b) The following types of associated ancillary equipment are not included in the calculation of equipment volume under Subsection (a):
- (1) electric meters;
 - (2) concealment elements;
 - (3) telecommunications demarcation boxes;
 - (4) grounding equipment;
 - (5) power transfer switches;
 - (6) cut-off switches; and
 - (7) vertical cable runs for the connection of power and other services.
- (c) Equipment attached to node support poles may not protrude from the outer edge of the node support pole by more than two feet.
- (d) Equipment attached to a utility pole must be installed in accordance with the National Electrical Safety Code, subject to applicable codes, and the utility pole owner's construction standards.

Exhibit 1. Historic Districts, Design Districts and Designated Underground Required – Network Node and Node Support Pole Design

