



DEPARTMENT OF DEVELOPMENT SERVICES – PLANNING DIVISION
REPORT: Text Amendment Adding Section 4.20.7.I – Macro Cells
for consideration January 11, 2021

STAFF REPORT

TO: Planning & Zoning Commission
PREPARED BY: Paul Ashworth, Senior Planner
paul.ashworth@hartford.gov

PROJECT: Text Amendment
City Wide

TYPE: Proposed Text amendment to the Hartford Zoning Regulations adding Section 4.20.7.I which provides for regulation of Macro Cellular Radio Access Nodes as accessory structures, including screening, size, and siting; and, adding a line to Figure 4.20-A allowing for the placement of such structures in all districts subject to the conditions in Sec.4.20.7.I.

APPLICANT: Verizon Wireless c/o Kenneth C. Baldwin, Esq.; Robinson + Cole LLP

OWNER: N/A

BACKGROUND INFORMATION

The applicant is requesting an amendment to the Zoning Regulations to add a subsection to Section 4.20.7 regarding accessory structures to allow for Commercial Wireless Service Facilities, commonly known as macro-cell antennas. This new classification of accessory structure is proposed to be permitted by right within all districts subject to use specific restrictions as identified in the proposed text. Proposed subsection 4.20.7.I will include siting, size, screening and design requirements for macro cell node installation similar in scope to other accessory structures listed in the Zoning Regulations.

Circa April 2021, the applicant contacted the Hartford Planning & Zoning Division inquiring about placing a cellular radio access node on the roof of the apartment building located at 891 West Boulevard. The proposed node was to include twelve (12), six (6) foot tall panel type, roof mounted antennas and supporting equipment cabinets. At that time, it was determined by City staff that no section of the Hartford Zoning Regulations (the Regulations) applied specifically to this scale and size of cellular node, and that the only route to an approval would be to classify the proposed installation as a nonconforming Small Cell Node under Section 4.20.7.F and request variances for the nonconforming aspects of the installation. On March 19, 2021, the Applicant applied for variances to: allow antennas larger than a small cell antenna as defined in Sec.4.20.7.F; and, to allow these larger antenna to be installed in a district in which small cell nodes are not permitted per Fig.4.20-A. Staff later determined that a variance allowing small cell nodes in an NX district was

prohibited by Section 1.3.6.E.(h) of the Regulations and that subsequently, there was no regulatory path to approval for the proposed cellular installation.

The applicant has since argued that cellular radio access nodes of this size are a necessary and established part of a modern high-speed communications network. In response City staff suggested exploring a text amendment to the Regulations that would allow for this scale of cellular node installation with appropriate limitations. Since application, the applicant has gone through several iterations of the proposed text in response to discussions with Staff. The proposed text is the result of this process.

KEY APPLICATION TIMELINES

- Application Submission Date: November 11, 2021
- Date Application Accepted as Complete: November 11, 2021
- Application Date of Receipt: November 23, 2021 (sooner of either: date of next regularly scheduled meeting, or 35 days after acceptance of complete application)
- The Applicant accepted an extension to the open hearing deadline from January 27 to February 8, 2022 to allow additional time to work with staff and allow the Capital Region Council of Governments (CRCOG) to comment on modifications to the proposed text.
- Public Hearing is scheduled to open on Tuesday, February 8, 2022; Open Hearing Deadline: February 8, 2022.
- Close Hearing Deadline (if opens February 8, 2022): (35 days after opening) Tuesday, March 15, 2022
- CT General Statutes Sec.8-7D allow that the applicant may consent to one or more extensions of time, provided the total extension of all time periods shall not be for longer than 65 days.

LEGAL STANDARD

Standard for Application Type:

The Commission reviews requests for re-zonings and text amendments in accordance with Zoning Regulations section 1.3.5. The Commission must consider the plan of conservation and development and state on the record its findings on the consistency of the proposed amendment with such plan.

STANDARD SPECIFIC TO THE USE

Section 1.3.5 Zoning Amendments

- C. An application for a proposed text amendment must contain the text of the portion of the regulations proposed to be amended (if applicable) and the text of the proposed amendment.

Plan of Conservation & Development

Grow400

- Avenues

- Build high-speed communications infrastructure: Ensuring businesses on our avenues have the latest technology will equalize access to economic opportunity and connect our entrepreneurs to the world.

Play400

- Tourism

- Hartford has architecture, history, parks, arts culture, sports, and museums that would be the envy of any similarly-sized city. Creating a coherent tourism strategy that highlights our diverse assets will draw people, drive investment, create service jobs, and foster a love of our great city.

COMMENTS RECEIVED (DEPARTMENTS, AGENCIES, NRZs, PUBLIC)

The following neighboring towns were notified of the subject request: Bloomfield, East Hartford, Newington, West Hartford, Wethersfield and Windsor. As of this writing no comments have been received by staff.

The CRCOG was notified and provided the proposed text amendment for review on January 27, 2022. As of this writing the CRCOG had not returned any comments on the proposed text amendment but projected to complete review on February 4, 2022.

ANALYSIS

When evaluating proposed text amendments, the Planning & Zoning Commission (the Commission) must base their judgement on the Plan of Conservation and Development (the POCD) and state its findings on the record. However, the connection between the POCD and the proposed text is sometimes indirect. In this case, two of the most relevant sections of the POCD relate to the build out of a high-speed communications network; and, the protection and propagation of the City's architectural, historical and other assets that are important to the local economy and residents' quality of life. The evaluation of the proposed text amendment is therefore centered around whether the text amendment is justified and necessary for the build out of a "high speed communications infrastructure", and if so, whether the context of the amendment adequately protects existing architectural and historical assets.

Justification

Staff finds that a text amendment providing for the installation of macro cell nodes is justified. The proposed text amendment is at its root an effort to close a gap in the Regulations. The Regulations currently do not provide a regulatory pathway for the installation of cellular radio access nodes that are larger than "small cells" and are not located on traditional freestanding radio or wireless towers, hereby referred to as macro cell nodes. The applicant has provided a justification statement (attached to this report as Attachment 1) elaborating on the history of this type of cellular installation and its common implementation. They report that there are already more than sixty (60) roof-top macro cell nodes within the City of Hartford and that they were previously permitted under Section 4.20.7.A of the Regulations, titled Antenna & Satellite Dish. Macro cell nodes, partly due to their size, and partly due to their typical location at higher elevations on building roofs and facades, provide a larger coverage area compared to small cell nodes. The larger coverage area allows for fewer installations overall.

Staff finds that the use of Sec.4.20.7.A (Antenna & Satellite Dish) to permit macro cells in the past was an inappropriate use of the section. Section 4.20.7.A does not provide for roof-top screening or any architectural guidelines. The dimensional characteristics described by the section (maximum 10' diameter on the roof or 36" diameter on the building façade) more resemble large satellite dishes such as those used for C-band communication. C-band satellite feeds are largely abandoned by the industry today and the installation of such a dish is increasingly uncommon. Further, based on the districts in which the described appurtenances are permitted (permitted in all residential districts while prohibited in the DT and most MS districts), the section seems intended to provide for private antennas or dishes that in decades past were commonly used to receive television service primarily for residential uses. Within this context it is clear that Sec.4.20.7.A was not intended to regulate modern cellular installations.

The Regulations do not otherwise allow for the installation of macro cell nodes. The section for small cell nodes (Sec.4.20.7.F) is specific in terms of size (maximum 3' height antenna) and also focuses mainly on the installation of Small Cell Nodes on poles in the public right of way. Small cell nodes are permitted to be installed on the roof of buildings in locations that are not visible from a person viewing the building from any public right of way. There is one exception to this rule, that for buildings located in any district other than the MS, MX and OS districts, one cylindrical antenna with a maximum cross section of 30 square inches may project up to 5' from the parapet of a flat roofed building at least 4-stories tall. Small cell nodes are prohibited from being located on a building façade.

No other section of the Regulations addresses cellular appurtenances, leaving the existing 60+ macro cell nodes already installed in the City nonconforming with no way of conforming. Further, the lack of regulatory tools effectively prohibits the installation of, as the Applicant shows in their justification statement, a typical and necessary part of a modern "high speed communications infrastructure".

Architectural & Historical Protection

The proposed text amendment would allow for the installation of macro cell nodes in all districts subject to the conditions in the proposed subsection 4.20.7.I. The proposed subsection includes conditions (a) through (m) which cover siting, size, screening and architectural guidelines for the installation of macro cell nodes on building facades and building roof tops.

The applicant has proposed to permit macro cell nodes in all districts with the limitation that no macro cell node be located within 50' of a building occupied by a 1, 2 or 3-family use. The form-based nature of the regulations allows for a diverse range of possible neighborhood contexts. For example, the NX-1 district permits larger Apartment Type buildings which may be appropriate for the installation of macro cell nodes, however the NX-1 district also permits smaller buildings such as House B types and Row Building types which Staff find to be generally inappropriate for the location of macro cell nodes. Thus, staff find that limiting the installation of macro cell nodes to certain districts to be an ineffective way to appropriately locate the structures. Through working with staff, the applicant accepted that a better form of place-based regulation would be a minimum separation from certain uses which are typically only found in the smaller building types and in more low-scale neighborhood contexts.

Staff originally suggested a 50' setback from properties occupied by a 1, 2 or 3-family principle use. The majority of architectural guidelines provided in the proposed subsection focus on the

installation's impact on the public right of way, while the proposed 50' separation requirement would allow a physical separation between the visual impact of a macro cell node and neighboring properties with low intensity uses. The applicant found that a 50' setback from the property line would be too restrictive, arguing that a 50' setback from the property line would effectively prohibit macro cell nodes in significant portions of the City that currently have coverage gaps. The applicant instead has proposed a 50' separation from 1, 2 or 3-family occupied structures with the exception that macro cell nodes maybe be located closer than 50' if "adequately screened". The applicant has stated that this compromise would allow for adequate separation while at the same time providing a greater number of possible macro cell node locations to fill coverage gaps.

Staff do not support the switch to a 50' setback from structures occupied by 1, 2 or 3-family uses, or the use of screening to reduce separation. The staff proposed language for a 50' setback from properties occupied by 1, 2 or 3-family uses is purposefully more restrictive. The proposed regulations for macro cell nodes are in some ways less stringent than those for small cell nodes which encourages cellular providers to qualify their antennas as macro cells. The 50' setback from 1, 2 or 3-family properties will protect less intense uses while also incentivizing cellular providers to use smaller less visible devices. With the staff proposed language, in order to place devices in locations close to less intense uses (within 50' of specified properties), cellular providers would be forced to use small cell nodes. Small cell nodes are required to be of a certain diminutive size and if permitted in the location, would be less obtrusive than a macro cell node.

The proposed section restricts the placement of macro cell nodes to the roof of buildings and to the internal side and rear facades. The section provides for a minimum setback for roof mounted macro cells of 10% the roof depth or 10'. This mirrors other sections of the regulations and is found to be appropriate. Roof mounted antennas are further restricted to only flat or shallow pitched roofs. Staff find the roof restriction appropriate but suggest that "shallow pitched roofs" be further defined to a certain ratio (2/12) to clarify future implementation of the rule. The proposed language provides a maximum antenna elevation of 15' above the roof line or parapet and the additional limitation that the physical antenna height be restricted to "the minimum required to function satisfactorily". The applicant will be required to justify the height of every antenna installation through the submission of technical reports and coverage maps to show the necessity of such a height. The overall occupation of any one building roof is limited to 25% the area of the roof.



Figure 1. Roof mounted example – Ken Baldwin 2020

Façade mounted macro cell nodes are permitted only on the internal side and rear facades. This regulation mitigates most impacts on the right of way, however the proposed text also provides general guidance and requirements regarding facade mounted nodes. Such nodes are required to be painted or textured to match the building and if possible to be incorporated into existing vertical façade elements. The nodes are further restricted from extending above the cornice of a building, allowing for the natural roof line of the building to retain prominence.



Figure 2. Façade & roof mounted example – Ken Baldwin 2021



Figure 3. Façade mounted example – Ken Baldwin 2021

Any equipment cabinet associated with a façade or roof mounted node is also required to be appropriately screened or placed underground to mitigate or eliminate visual impact. With the proposed limitations of roof coverage, elevation, architectural design and screening, Staff find it unnecessary to regulate the dimensions of any one component of a node. These general, visibility-based regulations allow for the future evolution of communications technology while maintaining a consistent level of visual impact on the public.



Figure 4. Rooftop mounted equipment cabinet & antenna screening example – Ken Baldwin 2021

Part (m) of the proposed text addresses historically designated buildings or buildings located within historic districts. The section requires that prior to a node being placed on such a building or within such a district, that the applicant apply for and receive approval from the Historic Preservation

Commission and the Planning & Zoning Commission through the special permit process. Staff find this existing, accepted process to be sufficient to protect historic assets.

Summary

Staff finds the proposed text amendment providing for the installation and regulation of macro cell nodes to be justified and consistent with the POCD. The proposed text amendment is necessary to close an existing gap in the Regulations and will provide a framework to accomplish the POCD identified goal of building a high-speed communications network while protecting the City's architectural and historical assets. While generally in favor of the text amendment, Staff have identified three ways in which the text amendment could better accomplish the goals of the POCD. Please find these changes below:

- Part (b) of the proposed text should be revised to provide a minimum 50' setback from any property occupied by a 1, 2 or 3-family use with no option to reduce the separation with screening, to provide additional protection of these low intensity uses;
- Part (h) of the proposed text should provide a maximum roof slope for which macro cell nodes shall be installed. Staff propose a maximum slope of 2/12 and that nodes should be located on the rear pitch of the roof whenever possible;
- The introductory section of the proposed text should be revised to eliminate the clause stating "...and subject to the Small Cell Node regulations..." This clause was originally suggested by staff on a previous iteration of the text but the clause is no longer relevant to the current version of the text.

Staff recommends approval of the text amendment with the above stated changes. Please find a redline version of the text for adoption attached to this report as Attachment 3. Should the Planning & Zoning Commission agree to staff changes, or propose changes of their own to the text, the public hearing must be continued to the March 8, 2022 meeting of the Planning & Zoning Commission to allow for review by the CRCOG prior to adoption.

STAFF RECOMMENDATION

Staff recommends that the Planning & Zoning Commission continue the hearing to March 8, 2022 to allow CRCOG to review proposed changes. Staff then recommend adoption at the March 8, 2022 meeting.

A draft resolution follows.

ATTACHMENTS

1. Applicant Justification Statement dated December 23, 2021
2. Proposed Text Amendment – Applicant Version
3. Proposed Text Amendment – Staff Redline Version

REVIEWED AND EDITED BY,

Aimee Chambers, Director



**CITY OF HARTFORD
PLANNING & ZONING COMMISSION RESOLUTION
TEXT AMENDMENT TO THE ZONING REGULATIONS
MACRO CELL NODES**

- Whereas,** The City of Hartford Planning & Zoning Commission reviewed the application and attached documents regarding the request for a text amendment to the Hartford Zoning Regulations adding Section 4.20.7.I which provides for regulation of Macro Cellular Radio Access Nodes as accessory structures, including screening, size, and siting; and, adding a line to Figure 4.20-A allowing for the placement of such structures in all districts subject to the conditions in Sec.4.20.7.I; and
- Whereas,** The Commission reviews requests for re-zonings and text amendments in accordance with Zoning Regulations section 1.3.5; and
- Whereas,** The POCD states the following under the Grow400 element “Build high-speed communications infrastructure: Ensuring businesses on our avenues have the latest technology will equalize access to economic opportunity and connect our entrepreneurs to the world”; and
- Whereas,** The POCD states the following under the Play400 element “Hartford has architecture, history, parks, arts culture, sports, and museums that would be the envy of any similarly-sized city. Creating a coherent tourism strategy that highlights our diverse assets will draw people, drive investment, create service jobs, and foster a love of our great city”; and
- Whereas,** The applicant has proposed a text amendment to allow for the installation and regulation of cellular radio access nodes that are larger than “small cells” and are not located on traditional freestanding radio or wireless towers, hereby referred to as macro cell nodes; and
- Whereas,** The Regulations do not currently allow for installation of such accessory structures; and
- Whereas,** The applicant provided a justification statement in which they argue that macro cell nodes are a typical and necessary part of a modern “high speed communications infrastructure” consistent with the POCD’s goal; and

Whereas, The proposed text amendment includes architectural, siting, size and design requirements that adequately protect the City’s historical an architectural assets consistent with the POCD; and

Now therefore Be It

Resolved, The City of Hartford Planning & Zoning Commission hereby **denies/approves** the request for a text amendment to the Hartford Zoning Regulations adding Section 4.20.7.I which provides for regulation of Macro Cellular Radio Access Nodes as accessory structures, including screening, size, and siting; and, adding a line to Figure 4.20-A allowing for the placement of such structures in all districts subject to the conditions in Sec.4.20.7.I:

Be It Further,

Resolved, This 8th day of February, 2022.

MEMORANDUM

To: Paul Ashworth, Senior Planner

From: Kenneth C. Baldwin, Esq.

Date: December 23, 2021

Subject: **Text Amendment Application - Commercial Wireless Service Facilities**

This memo is in response to your December 17, 2021 email requesting additional information about the proposed Text Amendment submitted by Cellco Partnership d/b/a Verizon Wireless ("Cellco"), to establish language regulating the installation of Commercial Wireless Service Facilities.

1. Provide a statement describing in detail why the proposed text amendment is necessary and how the existing regulations fail to provide for a necessary use.

In years past, Cellco has applied for and received Hartford zoning approvals to install roof-top "macro-cell" wireless facilities in Hartford pursuant to the provisions of Section 4.20.7 Accessory Utility Structures, Subsection A. - Antenna and Satellite Dish regulations. Among other things, this regulation allows for the installation of antennas on the roof or on the façade of a building; requires antennas and equipment to be setback from the edge of the roof; and requires antennas to be installed no higher than necessary to function properly.

According to the Connecticut Siting Council's Comprehensive List of (Non-Tower) Sites, there are more than sixty (60) of these roof-top or building-mounted commercial wireless facilities in the City of Hartford. See <https://portal.ct.gov/CSC/Common-Elements/Common-Elements/Connecticut-Siting-Council---Disclaimer>. Until recently, when the City adopted its Small Cell Node regulation, there were no other provisions dealing with non-tower wireless facilities.

Recently, Cellco began the permitting process to establish a building-mounted commercial wireless facility off West Boulevard. According to City Plan Commission staff, the provisions of Section 4.20.7.A. no longer apply to roof-top wireless facilities and recommended Cellco explore the City's recently adopted Small Cell Node ordinance, Section 4.20.7. Subsection F. of the Zoning Regulations. The differences, however, between a "small cell"

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wireless facility and a “macro-cell” wireless facility are significant and, in our view, should be treated and regulated differently. Some of the important distinctions are described below.

Macro-Cell Facilities

All of the Cellco roof-top facilities in Hartford are, what the industry describes as “macro-cell” facilities. These facilities are identical to macro-cell facilities you might see installed at traditional tower sites around the City, except the building itself is the structure supporting the antennas. These macro-cell facilities typically involve the installation of 9 to as many as 15 panel type antennas. The antennas are usually configured in 3 sectors (with 3 to 5 antennas in each sector), so as to provide wireless service in all directions around the building. Cellco typically provides service in each of its licensed operating frequencies from these macro-cell facilities, including but not limited to 700 MHz, 850 MHz, 1900 MHz, 2100 MHz, 2800 MHz. Generally, a macro-cell facility will provide service to an area within a 1.0 to 1.5-mile radius around the building.

The panel antennas are typically between 4 feet and 8 feet tall and 12 inches to eighteen (18) inches wide, depending upon the frequencies being transmitted. Behind each antenna, Cellco installs one or more remote radio heads (“RRHs”) which are generally 12 inches by 12 inches in size. Roof-mounted panel antennas and RRHs are typically supported by steel, ballast frame structures on the roof. Façade-mounted antennas are attached to the building by individual mounting pipes and brackets. RRHs for façade-mounted antennas may also be installed on the same pipe-mount or on a separate steel mounting frame located on the roof.

Radio equipment associated with macro-cell installations can be located on the roof of the building or on the ground adjacent to the building. In earlier years of network development, Cellco would install its radio equipment inside a climate-controlled shelter. Today, it is more common for Cellco to install 2 to 4 separate equipment cabinets, typically the size of a small refrigerator, located either on the roof or on the ground adjacent to the building. Back-up power to a macro-cell facility can be provided by a battery cabinet and a back-up generator.

Included in Attachment 1 are several photographs of existing roof-top macro-cell facilities. These photographs show the number of antennas and RRHs installed, cable interconnections, antenna mounting variations and an equipment shelter for these macro-cell facilities.

Small Cell Facilities

Cellco has installed hundreds of small cell nodes throughout the State of Connecticut, many of which are located in the City of Hartford. Small cell nodes typically consist of a single cannister antenna (12 to 16 inches tall and 12 inches in diameter) or a cluster of three smaller antennas (9.5 inches by 16.8 inches) attached to existing utility poles¹, on street lights or traffic signal poles or on buildings. Small cell node equipment can consist of a single RRH located on

¹ The attachment of small cell nodes to existing electric distribution poles is under the exclusive jurisdiction of the Public Utilities Regulatory Authority (“PURA”) pursuant to Section 16-234 of the General Statutes. The process through which these installations are approved is described in PURA’s decision in Docket No. 17-02-49.

the pole or included as a part of the antenna unit; one or two electrical boxes and an electric meter. Power and fiber connections to the small cell typically extend from existing service either on the utility pole or in the building.

Included in Attachment 2 are several photographs of small cell nodes that Cellco has installed in Connecticut and examples of other installations that use municipally-owned street lights as are contemplated in the City's small cell node ordinance. These appear to be the types of wireless facilities contemplated in Section 4.20.7.F. of the Zoning Regulations.

Small cell nodes are typically installed at lower overall heights, between 25 and 35 feet above the ground. As such their individual coverage footprints are very small, limited to about 1,000-foot radius around the pole. Small cell nodes generally serve one of two purposes. They either provide coverage in a small area that is unserved by the existing macro-cell network (discrete coverage gaps) or provide coverage and capacity relief in a specific high demand areas for Cellco's network.

Small Cell Node Ordinance

The City's recently adopted code provision in Section 4.20.7.F. describes "an antenna" (singular) and "an equipment box" (singular) as the key components of a small cell node. A small cell node may be located in a rear yard or other location not visible from the public right of way, on a building or on other City owned light poles or utility infrastructure. While we understand that a small cell node may be located on a building, the differences between a small cell node, as described in Section 4.20.7.F. and the macro-cell facility referenced above are significant and clearly describe two different types of wireless installations.

Our goal with the proposed text amendment is to fill the gap in the regulations for roof-top facilities that are not currently addressed by either the Small Cell Node provisions in 4.20.7.F. or the Antenna and Satellite Dish provisions of 4.20.7.A.

2. How is the proposed text amendment consistent with the City of Hartford Plan of Conservation & Development (POCD).

The POCD does not specifically address the provision of wireless service or the ability to provide wireless service in any particular location or on any particular structure in the City. What the proposed ordinance does, however, is increase the likelihood that advanced and improved wireless services will continue to be provided throughout the City of Hartford for years to come by making more structures in more locations available for the siting of wireless facilities. This, in turn, will help the City meet the important economic and public safety goals described in the POCD.

Economic and Public Safety Benefits

Having access to high speed wireless networks is critical to the economic growth of the City. Existing and new businesses in Hartford rely on highspeed broadband services and will not

grow or relocate in areas where these wireless services are lacking or unavailable. In addition to businesses, first responders and City service providers rely more and more on wireless broadband connections so that they may continue to operate effectively and efficiently.

According to the Wireless Infrastructure Association, in cities like Hartford, access to high quality wireless networks can increase economic activity and reduce carbon footprints, traffic and pollution by enabling decentralized, remote work and schooling capabilities. According to the most recent federal survey of wireless substitution, about half of all Americans now have only cellular phones in their homes. More than two-thirds of all adults ages 25-34 are living in wireless-only households. With half of the population relying solely on mobile wireless networks for everyday communication, including 911 access, these networks are vital to the people of Hartford. Emergency weather warnings, Amber Alerts and other safety-oriented public announcements increasingly are disseminated via mobile networks because this can be done more quickly than with traditional methods and reach people who have opted out of a home landline phone service. Communities are also using new services like community Facebook pages to disseminate information and people are using their smartphones to access that material. All of these benefits, and many more are clearly consistent with the goals and policies of the Hartford POCD.

3. Do you have any visual representations of the types of antennas or installations that this amendment would allow for? Can you contrast this new installation type vs the small cell facility already allowed under certain circumstances by the regulations?

See the photograph included in Attachments 1 and 2 and the description of small cells and macro-cells in Section 1 above.

Attachment 2 – Proposed Text Amendment – Applicant Version

Proposed Text Amendment – Macro Cell Nodes

Sec. 4.20.7

I. Macro Cell Nodes. All cellular radio access nodes larger than those qualifying as Small Cell Nodes and not located on a Freestanding Radio or Wireless Tower (Section 4.20.7.C) shall be considered Macro Cell Nodes. Macro Cell Nodes shall be permitted in all zones and subject to the Small Cell Node regulations with the following exceptions and additions.

- (a) Macro Cell nodes are permitted in locations where they are least visible from the public right of way including: on the roof of existing buildings; and, on rear or internal side facades subject to these conditions.
- (b) Macro Cell Nodes shall maintain a 50-foot setback from a 1, 2 or 3-family residential structure. Macro Cell Nodes may be located closer than 50 feet from said residential structures if the Macro Cell Nodes and related equipment are adequately screened.
- (c) Any equipment shelters, or cabinets associated with a Macro Cell Node must be concealed from public view using landscaping or fencing for ground-mounted equipment, roof-top screening for roof-mounted equipment if said equipment is visible from a public right of way or equipment may be placed underground. Roof-top equipment screening shall be made compatible with the architecture of the surrounding structures.
- (d) The applicant shall submit written documentation demonstrating that the emissions from the proposed project are within the limits set by the Federal Communications Commission.
- (e) Façade mounted antennas should be painted and/or textured to match the existing structure.
- (f) Where feasible, antennas can be placed directly above, below or incorporated within vertical design elements of a building to help in camouflaging.
- (g) Façade-mounted antennas shall not extend above the cornice line of the building.
- (h) Roof -mounted antennas shall be permitted on flat or on shallow-pitched roofs.
- (i) Roof mounted antennas shall be set back from the roof edge 10 feet, or 10 percent of roof depth (measured from the building edge facing public street to opposite edge of roof), whichever is greater.
- (j) Roof mounted antennas shall not extend more than 15' above the roof line or parapet.
- (k) Roof-mounted antennas and associated equipment shall not occupy more than 25% of the roof area.
- (l) The applicant shall demonstrate that the antenna size and the antenna height are the minimum required to function satisfactorily.
- (m) An antenna may not be located on a building or structure that is listed on an historic register or is within an historic district, except with approval from the Historic Preservation Commission and by special permit approved by the Commission.

Add a Macro Cell Nodes line to Figure 4.20-A

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Attachment 3 – Proposed Text Amendment – Staff Redline Version

Proposed Text Amendment – Macro Cell Nodes Sec. 4.20.7

I. Macro Cell Nodes. All cellular radio access nodes larger than those qualifying as Small Cell Nodes and not located on a Freestanding Radio or Wireless Tower (Section 4.20.7.C) shall be considered Macro Cell Nodes. Macro Cell Nodes shall be permitted in all zones and subject to the ~~Small Cell Node regulations with the~~ following ~~exceptions and additions~~conditions.

- (a) Macro Cell nodes are permitted in locations where they are least visible from the public right of way including: on the roof of existing buildings; and, on rear or internal side facades subject to these conditions.
- (b) Macro Cell Nodes shall maintain a 50-foot setback from a 1, 2 or 3-family residential ~~structure~~properties. ~~Macro Cell Nodes may be located closer than 50 feet from said residential structures if the Macro Cell Nodes and related equipment are adequately screened.~~
- (c) Any equipment shelters, or cabinets associated with a Macro Cell Node must be concealed from public view using landscaping or fencing for ground-mounted equipment, roof-top screening for roof-mounted equipment if said equipment is visible from a public right of way or equipment may be placed underground. Roof-top equipment screening shall be made compatible with the architecture of the surrounding structures.
- (d) The applicant shall submit written documentation demonstrating that the emissions from the proposed project are within the limits set by the Federal Communications Commission.
- (e) Façade mounted antennas should be painted and/or textured to match the existing structure.
- (f) Where feasible, antennas can be placed directly above, below or incorporated within vertical design elements of a building to help in camouflaging.
- (g) Façade-mounted antennas shall not extend above the cornice line of the building.
- (h) Roof-mounted antennas shall be permitted on flat or on shallow-pitched roofs. Shallow pitched roofs shall be those with a ration of 2/12 or less. If the roof is pitched the node should be placed on the rear pitch whenever possible.
- (i) Roof mounted antennas shall be set back from the roof edge 10 feet, or 10 percent of roof depth (measured from the building edge facing public street to opposite edge of roof), whichever is greater.
- (j) Roof mounted antennas shall not extend more than 15' above the roof line or parapet.
- (k) Roof-mounted antennas and associated equipment shall not occupy more than 25% of the roof area.
- (l) The applicant shall demonstrate that the antenna size and the antenna height are the minimum required to function satisfactorily.
- (m) An antenna may not be located on a building or structure that is listed on an historic register or is within an historic district, except with approval from the Historic Preservation Commission and by special permit approved by the Commission.

Add a Macro Cell Nodes line to Figure 4.20-A with the “subject to conditions” symbol in each district slot.