



## Executive Director's Recommendation

Commission Meeting: July 9, 2020

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**PROJECT**

**Antenna Submission Guidelines Update**

National Capital Region

**NCPC FILE NUMBER**

6947

**NCPC MAP FILE NUMBER**

00:00(38.30)45155

**SUBMITTED BY**

National Capital Planning Commission

**APPLICANT'S REQUEST**

Authorization to release draft recommendations for a 60-day public comment period

**REVIEW AUTHORITY**

Review of Plans and Projects for Consistency with the Comprehensive Plan per 40 U.S.C. § 8711(e)(2)

**PROPOSED ACTION**

Authorization to release draft recommendations for a 60-day public comment period

**ACTION ITEM TYPE**

Staff Presentation

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### PROJECT SUMMARY

The National Capital Planning Commission (NCPC) adopted antenna guidelines in January 1988 to address the impacts of new telecommunication infrastructure in the national capital region. The purpose of the guidelines is to protect the skyline, historic resources and scenic character of the nation's capital and provide a safe environment for employees, visitors, and residents. The guidelines were last updated in 2001. This update is necessary to address significant advances in technology, in addition to an increased demand for multiple types of telecommunication infrastructure. Staff is requesting authority to release the updated antenna guidelines, which will replace Chapter 5 of the NCPC Submission Guidelines, for a 60-day public comment period.

NCPC staff reviewed the current guidelines and have identified the need for revisions to the antenna typology, the design review criteria, and the review process. The changes and their justification will be explained in more detail in the staff analysis section.

### KEY INFORMATION

- The antenna guidelines were first approved in 1988 and were last updated in 2001.
- The purpose of the guidelines is to protect the skyline, historic resources and scenic character of the nation's capital and provide a safe environment for employees, visitors, and residents.
- Proposed changes include antenna definitions, updated design review criteria and review processes.

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- The public comment period for this draft will commence during the week of July 13, 2020 and will conclude on Wednesday, September 16, 2020. During this time period, a public meeting will be held to receive feedback on the draft guidelines.
  - Staff will also continue discussions with agency stakeholders and meet with providers as necessary.
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## RECOMMENDATION

The Commission:

**Authorizes** staff to release the draft Antenna Guidelines, which will replace Chapter 5 of the NCPC Submission Guidelines, for a 60-day public comment period pursuant to 40 U.S.C. § 8721.

## PROJECT REVIEW TIMELINE

|   |  |
|---|--|
| <b>Previous actions</b>                   | <b>January 1988</b> – Approved the guidelines<br><b>June 2001</b> – Updated the guidelines |
| <b>Remaining actions</b><br>(anticipated) | Approval of the Final Guidelines – Fall 2020   |

## PROJECT ANALYSIS

### Executive Summary

There have been significant changes in technology since these guidelines were last updated in 2001. The creation, proliferation and use of smart phones, tablets and GPS devices have increased the demand for cellular antennas. In addition, service providers are starting to deploy the 5<sup>th</sup> generation or 5G network nationally, which will further increase the use of and reliance on cellular networks. In order to provide sufficient guidance for current and future antenna infrastructure, staff is proposing changes to the guidelines that will help protect significant viewsheds and historic resources, clarify the criteria the Commission uses to review antennas, and update the review process to simplify the review of temporary antennas.

Specifically, staff has identified three areas to address in this update:

1. *Antenna Types* - Guidelines do not address the different antenna types that have emerged over the last several decades (e.g. small cells, temporary antennas, ancillary equipment).
2. *Design Review Criteria* – Standards for evaluating installations do not adequately consider location, color, cumulative effects, or priority viewsheds.

3. *Review Process* - Review process does not differentiate between temporary, permanent, and small cell antennas.

Staff notes these updated guidelines will apply in the following instances: installation of new antennas; modification/replacement of existing antennas; and renewal of existing antennas when their previous approval has expired. Staff analysis of the identified issues is provided below.

## **Analysis**

### *Issue #1: Antenna Type*

Staff proposes to update the antenna guidelines to address three categories of antennas and their review processes. These include permanent, temporary and small cell antennas. The current guidelines do not distinguish between these antenna types. This is problematic when the installation of a temporary antenna is for less time than a Commission review cycle, or when there is a last minute need to install a temporary antenna and it doesn't align with the review cycle.

**Small cell antennas** are smaller, low-power cell antennas usually attached to existing streetlight poles or placed on new poles. These antennas are the main infrastructure of an emerging, integrated telecommunications system that is necessary for deploying the 5<sup>th</sup> generation, or 5G, networks. The service providers note these smaller, lower-power cell antennas need to be deployed close to users along the street at more frequent intervals because the signals do not travel as far as previous generations due to the large amounts of data that they are able to handle.

Small cell antennas proposed on federal or District of Columbia property are reviewed in accordance with the submission guidelines for permanent antennas in the next section. Small cell antennas proposed on public rights-of-way in the District of Columbia follow the District's review process. In 2018, NCPC worked with the District Department of Transportation to develop a federal interest map for the area around the monumental core in downtown Washington. The map identifies specific locations where small cell antennas are permitted on new and existing light poles. DDOT will forward any applications that deviate from this map to NCPC for approval. DDOT will also forward all applications for small cell antennas on public rights-of-way in front of federal buildings or sites to NCPC for approval.

### **Permanent antennas**

For the purpose of the submission guidelines, staff proposes to define permanent antennas as antenna infrastructure located on a building, monopole or tower for a period greater than three months. The infrastructure may either be permanently affixed to or free standing on a building. Submissions for review of permanent antennas may include the relocation of an existing antenna, addition to an existing antenna, or a replacement antenna in addition to proposals for entirely new antenna equipment. Staff is not proposing any changes to the review process for permanent antennas.

### **Temporary antennas**

Staff proposes that antenna infrastructure, most often installed on the roof or side of a building, for a period of less than 3 months be considered “temporary”. Temporary antennas can also be located in the public right-of-way (known as cell-on-wheels (COWs)); however, these are not reviewed by NCPC.

The installation of temporary antennas has increased significantly with the use of cell phones and requires a different review process given the limited duration of their installation. Most temporary antennas are needed to enhance the cellular or security communications network for a specific, recurring event such as the Presidential Inauguration, the Fourth of July celebrations, or the Folk Life Festival. Given the Commission’s review cycle is sometimes longer than the installation of the temporary antenna and there are several recurring events/festivals requiring the same temporary antenna infrastructure every year, staff proposes that NCPC not require the submission of temporary antennas that are installed for less than 90 days. Initially staff defined temporary antennas as those installed for 30 days or less; however, upon additional discussion with agency stakeholders and the Smithsonian, it became clear that 90 days captures most recurring events in the Monumental Core throughout the year.

Staff expects any visual impacts will be temporary and minor given the antennas are only in place to enhance the communications network for an event and then removed. In lieu of a submission, staff proposes that NCPC request notification of the proposed infrastructure and duration of installation via a Temporary Antenna Notification Form (Appendix B). This form will be used to understand where and how many temporary antennas are deployed on federal buildings and land in any given year.

### *Issue #2: Design and Safety Criteria*

The current antenna guidelines include a set of criteria staff uses to evaluate antenna submissions. Staff proposes to simplify and reorganize the criteria (see list of criteria below) according to: new building design, general rooftop antenna siting, significant viewshed siting, multiple antennas on a single roof, materials, lighting, advertisement, health and safety. Each antenna submission will need to describe how it meets the applicable criteria.

In addition to the changes to the existing criteria, staff proposes to add criteria that address the impact of antennas on significant viewsheds. While it is important to minimize the visibility impacts of antennas on all buildings in the city, NCPC recognizes a hierarchy of streets in and around the monumental core that deserve even greater protection given their importance in the nation’s capital. Staff proposes new criteria regarding the preeminent viewsheds identified in the Urban Design Element of the Comprehensive Plan.

While a single antenna on a building may not have a significant impact on views from the street, multiple visible antennas may if they are not sited properly. As the need for more antenna infrastructure increases, the issue of cumulative impacts of multiple antennas is a growing concern.

The best solution is identifying an overall rooftop strategy for buildings in high demand. For new buildings this should be done during the design phase. For existing buildings, this means cataloging the number and location of rooftop antennas and developing overall limits and an effecting screening strategy if they are visible from the ground or other important viewsheds.

*Proposed Design and Safety Criteria*

Staff proposes the following design and safety criteria for review of permanent antenna submissions. The current criteria are listed in Appendix A for comparison.

1. *New building design - Federal agencies should anticipate the need for antennas on all new buildings and incorporate, as necessary, any screening or other components into the building's design to reduce their visibility. As much as they may be anticipated, antenna requirements should also be considered and included as part of federal agency master plans.*

**Comment** - This is essentially the same as the current criteria with some minor changes.

2. *General rooftop antenna siting- Consistent with technical communications requirements, rooftop antennas should be:*
  - a. *Installed at the lowest possible elevation above the roof line and as a last resort located on top of any penthouse structure.*
  - b. *Set back from the edge of the building a distance at least equal to the antenna's height above the roof (1:1 ratio).*
  - c. *Screened as appropriate from any public views in a manner that is sensitive to the architectural character of the building unless the screening results in a greater impact on public views.*

**Comment** - This is the same as the current criteria.

3. *Preeminent viewshed siting – rooftop antennas on buildings within preeminent viewsheds (as shown in Map 8):*

*In consultation with the Commission staff, the submitting agency/service provider should provide a viewshed analysis indicating how it will minimize viewshed impacts by either moving the antenna to a location of less visibility, camouflaging it by using a color to match the building, or installing a screen to hide the antennas.*

**Comment** – Staff is proposing this new criterion based on the preeminent viewsheds identified in the Comprehensive Plan. The additional consultation is necessary in these locations as it will provide staff an opportunity to comment on antenna proposals and ensure protection from the intrusion of antennas on these viewsheds.

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4. *Multiple antennas on a single building – A rooftop antenna plan is required when multiple antennas on a building rooftop are visible from the street. The plan should include a coverage impact analysis indicating how antenna placement on the rooftop will affect coverage and address the cumulative impacts of several antennas on the building and mitigate for the effects by including greater setbacks or a screening solution.*

**Comment** – Staff is proposing this criterion to reduce visual impacts of multiple antennas on an individual building rooftop.

5. *Ground level antennas, including small cell siting - Consistent with technical communications requirements, ground level antennas should be:*
- a. *Sited in locations that minimize public views,*
  - b. *Installed at the lowest possible elevation above grade where appropriate, and*
  - c. *Screened to the extent practicable by landscaping to reduce visual impacts.*

**Comment** - This is essentially the same as the current criteria.

6. *Materials - Antennas on existing federal buildings or ground level installations should not be bright, shiny, or reflective but should consist of materials that minimize their appearance from adjacent/nearby properties and public rights-of-way. Antennas on the side of a building or penthouse should be painted the same color as the building. When antennas are located on building rooftops such that the sky is the background, the antenna and related equipment should be painted light grey in color to minimize visibility.*

**Comment** – Staff is proposing this new criterion as it builds upon the current criteria by including ways to use color to minimize visibility of rooftop antennas. Color can often be an effective strategy to minimize views when all other mitigation techniques fail.

7. *Lighting - Maintenance lights, or illumination, shall only be permitted on antennas and support structures for the purpose of safe access to these facilities. This lighting shall remain off until access is needed. Illumination required by the Federal Communications Commission, the Federal Aviation Administration, or another federal government agency may also be permitted.*

**Comment** – Staff has incorporated a minor change to this criterion which essentially barred any lighting except that allowed by the FCC or another federal governmental agency. Occasionally maintenance technicians needed to have lighting to permit safe access to these facilities during different times during the day. This updated criterion will now permit that access.

8. *Advertisement - No commercial advertising shall be allowed on an antenna or support structure.*

**Comment** - This is essentially the same as the current criteria.

9. *Health – Sponsoring agencies must provide a certification that proposed antennas are in compliance with radio frequency (RF) radiation emission guidelines established by the Federal Communications Commission (FCC) and the Occupational Safety and Health Administration (OSHA). If other emission sources are nearby, the cumulative effect of the additional proposed antenna must also follow the FCC guidelines.*

**Comment** - This new criterion recognizes that other agencies (FCC and OSHA) are responsible for RF emission safety guideline and NCPC's role has been to determine the visual impacts of proposed antennas. The current criterion is very confusing and unenforceable and therefore, unnecessary.

10. *Safety – Antennas must be clearly marked and include screening, fencing, and/or another deterrent, to restrict public access and ensure safety.*

**Comment** - This new criterion was simplified from the current criterion which conflated a screening plan and safety issues. This new criterion is focused on clearly labeling these facilities that will restrict access by unauthorized personnel.

### *Identified Issue #3: Changes in the Review Process*

In addition to staff's proposal to only review antennas that will be installed for greater than 90 days, staff is proposing changes to the Commission's delegated actions. The primary change is to include a delegation that allows all antenna types to be delegated if staff determines there are no issues. Currently, only "receive-only" antennas can be delegated. The majority of antenna installations today are "send and receive". Likewise, staff is proposing to expand the current exception regarding "receive-only" antennas to "send and receive" antennas.

## **CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE**

### **Comprehensive Plan for the National Capital**

The updated antenna guidelines are consistent with the Urban Design, Federal Workplace, Parks and Open Space, and Historic Preservation Elements of the Comprehensive Plan.

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### **National Historic Preservation Act**

This proposal does not sustain characteristics of a federal undertaking. The proposal of policy revision does not implement, contract, or take other actions that would preclude consideration of the full range of alternatives to avoid or minimize harm to federal historic properties. Consequently, the proposed action does not require review pursuant to the National Historic Preservation Act, Section 106 process.

### **National Environmental Policy Act**

Staff reviewed the proposal in accordance with NCPC's implementation of the National Environmental Policy Act and determined that these guidelines which are in support of the Comprehensive Plan can be categorically excluded from further environmental analysis and documentation. The action is determined by the staff to qualify as NCPC's Categorical Exclusion: (4) Adoption of a Federal Element of the Comprehensive Plan or amendment thereto or broad based policy or feasibility plans prepared and adopted by the Commission in response to the Comprehensive Plan.

### **CONSULTATION**

The draft update to the antenna guidelines has been coordinated internally and with various agencies. A public meeting will be held during the public comment period to solicit feedback and answer questions.

### **ONLINE REFERENCE**

The following supporting documents for this project are available online at [www.ncpc.gov](http://www.ncpc.gov):

Prepared by Carlton Hart  
07/02/2020

### **APPENDICES**

**Appendix A** Existing Design Criteria  
**Appendix B** Temporary Antenna Notification Form  
**Appendix C** Draft Antenna Submission Guidelines

### **POWERPOINT (ATTACHED)**

**Appendix A -**  
Existing Design Criteria (from 2017 Submission Guidelines)

## Submission Guidelines

Table 23: Criteria Applicable to Antenna Installation

| Visibility   |
|--|
| 1) To the extent possible, federal agencies should anticipate the need for antennas on all new buildings and design such buildings to screen the needed antennas in a manner appropriate to the building's design. Antenna requirements should also be considered and included as part of federal agency master plans.   |
| 2) Rooftop antennas on existing federal buildings or ground level installations in the NCR should be designed and installed in a manner that minimizes or eliminates the visibility of the antenna and all support structures from adjacent properties, including public right-of-ways and nearby residential areas.   |
| 3) No commercial advertising shall be allowed on an antenna or support structure.  |
| 4) No signals, lights, or illumination shall be permitted on antennas or support structures unless required by the Federal Communications Commission, the Federal Aviation Administration, or another federal government agency.   |
| Safety   |
| 5) Reasonable precautions are necessary in locating and operating transmitting antennas because of potential adverse RF radiation effects. Because of the numerous variables regarding power and frequency levels for each installation, RF radiation impacts will be evaluated on a site specific basis taking into account any existing nearby emission sources in compliance with guidelines established by the Federal Communications Commission.            |
| 6) The screening plan should respond to public safety concerns by restricting public access near ground-mounted and roof-mounted antennas.   |
| Location/Siting  |
| 7) Consistent with technical communications requirements, rooftop antennas should be: <ul style="list-style-type: none"><li>▪ Installed at the lowest possible elevation above the roof line.</li><li>▪ Set back from the edge of the building a distance at least equal to the antenna's height above the roof.</li><li>▪ Screened as appropriate from any public views in a manner that is sensitive to the architectural character of the building.</li></ul> |
| 8) Ground level antennas should be sited in locations that minimize public views, installed at the lowest possible elevation above grade, and screened to the extent practicable by landscaping and screening elements that reduce visual impacts as well as exposure to RF radiation.   |
| Materials  |
| 9) Materials used in the construction of antennas and their mountings should not be bright, shiny, or reflective and should be of a color that blends with the building's materials or landscape.  |
| 10) Any masts or towers should be non-combustible, corrosion resistant or protected, and protected against electrolytic action.  |

## **Appendix B**

### Temporary Antenna Notification Form

## Temporary Antenna Notification Form

### Contact Information

Agency: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

*Street Address*

*City*

*State*

*ZIP Code*

Contact Name: \_\_\_\_\_ Email: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

### Antenna Location

Building Name: \_\_\_\_\_ Address: \_\_\_\_\_

\_\_\_\_\_

### Installation Information

Site Description: \_\_\_\_\_

\_\_\_\_\_

Antenna Description: \_\_\_\_\_

\_\_\_\_\_

Event: \_\_\_\_\_

Dates of Installation: \_\_\_\_\_

Duration of Installation: \_\_\_\_\_

Service Provider/ Network: \_\_\_\_\_

### Additional Information

Please list any other information and attach images (photos, drawings) showing the location of the temporary antenna.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Antenna Guidelines Update

Authorization to Release Draft Recommendations for a  
60-Day Public Comment Period

National Capital Planning Commission

# Background

Antenna guidelines were first adopted in January 1988 and most recently updated in 2001.

**Purpose** - to protect the skyline, historic resources and scenic character of the nation's capital and provide a safe environment.

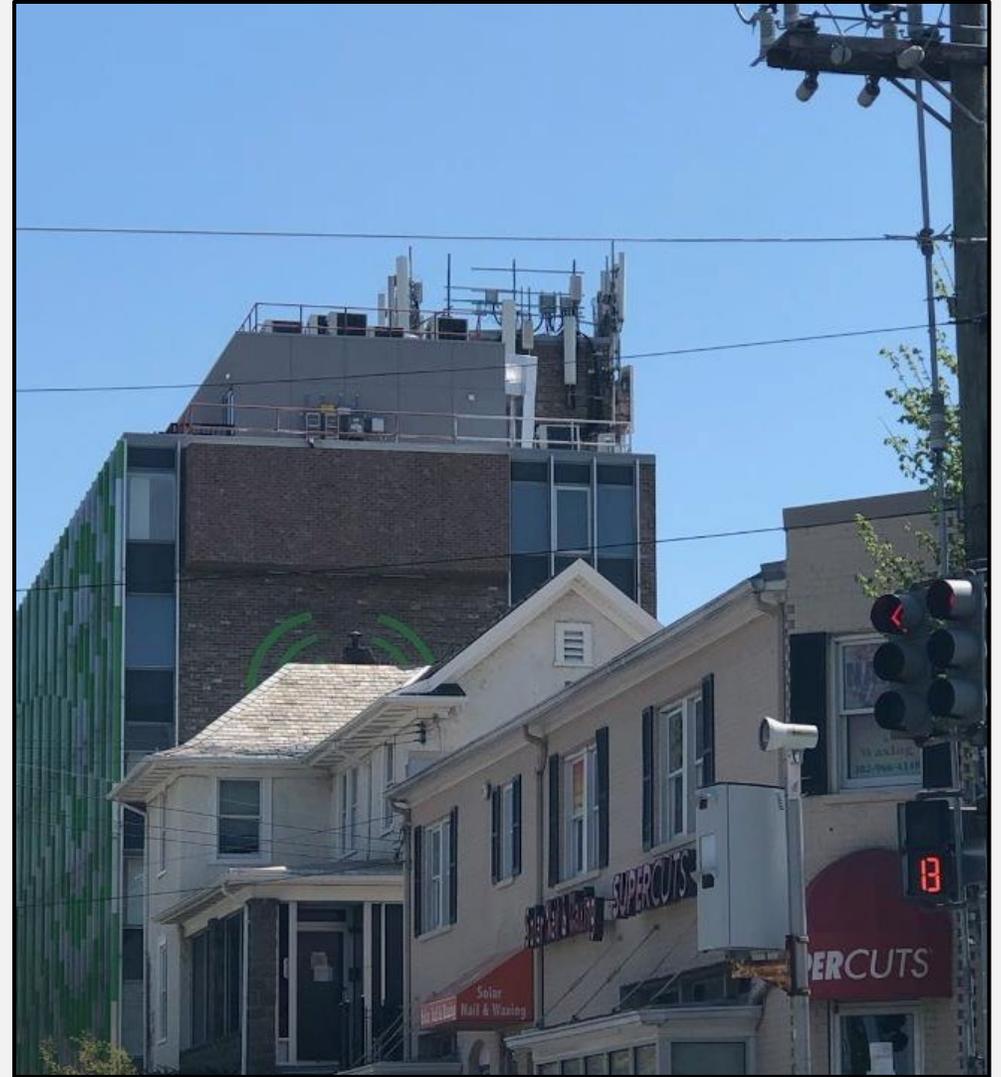
**Current Context** - significant advances in technology, in addition to an increased demand for multiple types of telecommunication infrastructure.

The technological advances and other changes necessitate an update to the existing guidelines.



# Issues – Existing Guidelines

1. The current guidelines do not discuss the **different antenna types** that have emerged over the past couple of decades (e.g. small cells, temporary antennas).
2. The **criteria for evaluating installations** does not adequately address location, color, cumulative effects, or priority viewsheds.
3. The **current review process** does not differentiate between temporary, permanent, and small cell review which is needed due to varying installation timeframes.



# Different Antenna Types

## Temporary

- Usually installed for a specific event.
- Temporarily augment the existing telecommunications system.
- Installed for less than 90 days.
- Installed on the roof, side of a building, or in the public-right-of way.



# Design and Safety Criteria Changes

Update the criteria the Commission uses to evaluate siting, material, visibility, and safety.

1. The existing guidelines do not appropriately address several issues:
  - a. Visibility of antennas
  - b. Small cells
  - c. Lighting
  - d. Screening
2. Mast/tower materials criterion are not necessary
3. Changes to existing categories



# Criteria Changes: Challenges

## Challenges

1. Preeminent viewsheds
2. Cumulative visual impacts of multiple service providers on a single building

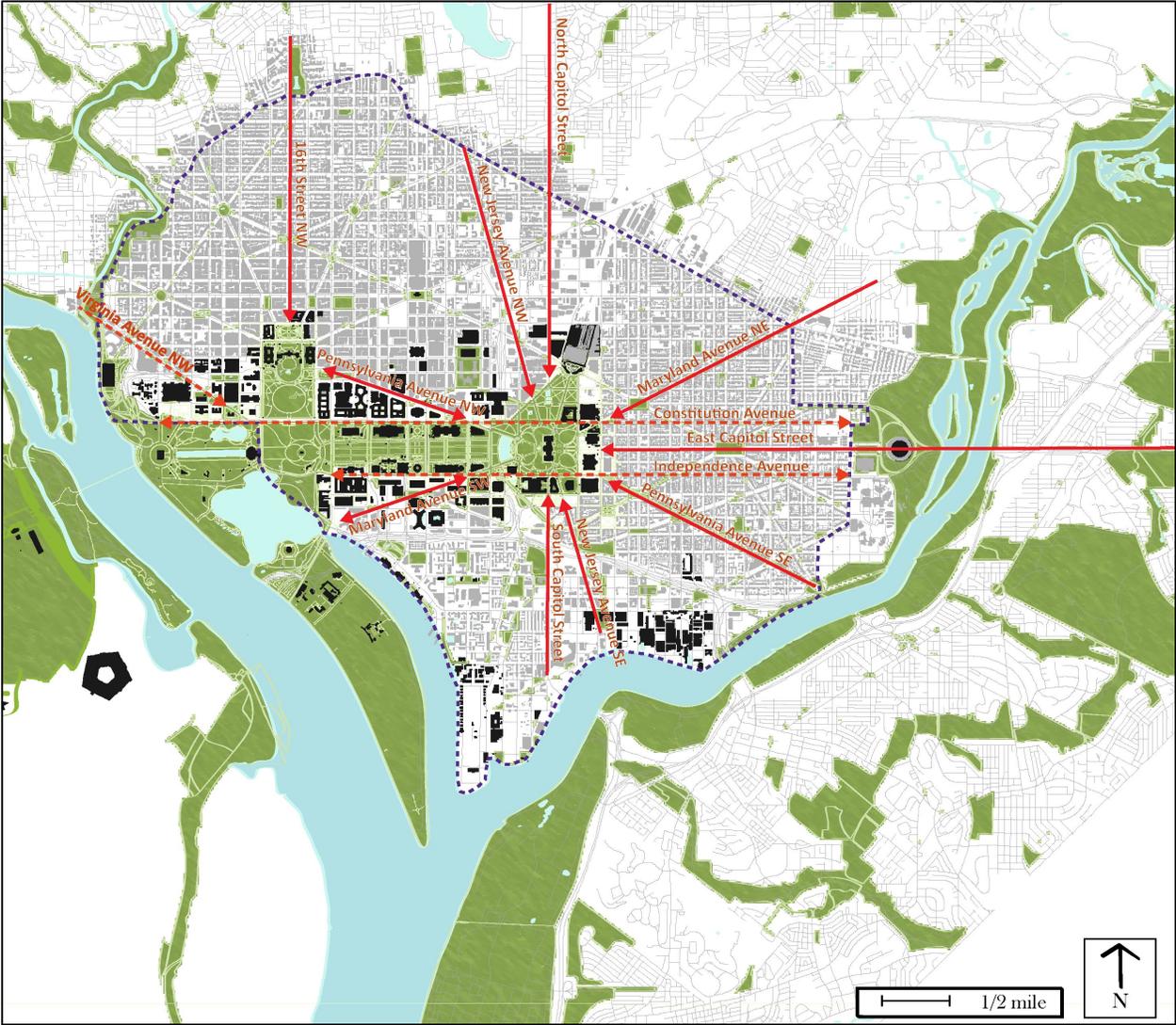


# Criteria Changes: Preeminent Viewsheds

## Proposed Criteria

Preeminent viewshed siting – rooftop antennas on buildings within specific viewsheds should be:

In consultation with the Commission staff, the submitting agency/service provider should provide a viewshed analysis indicating how it will minimize viewshed impacts by either moving the antenna to a location of less visibility, camouflaging it by using a color to match the building, or installing a screen to hide the antennas.

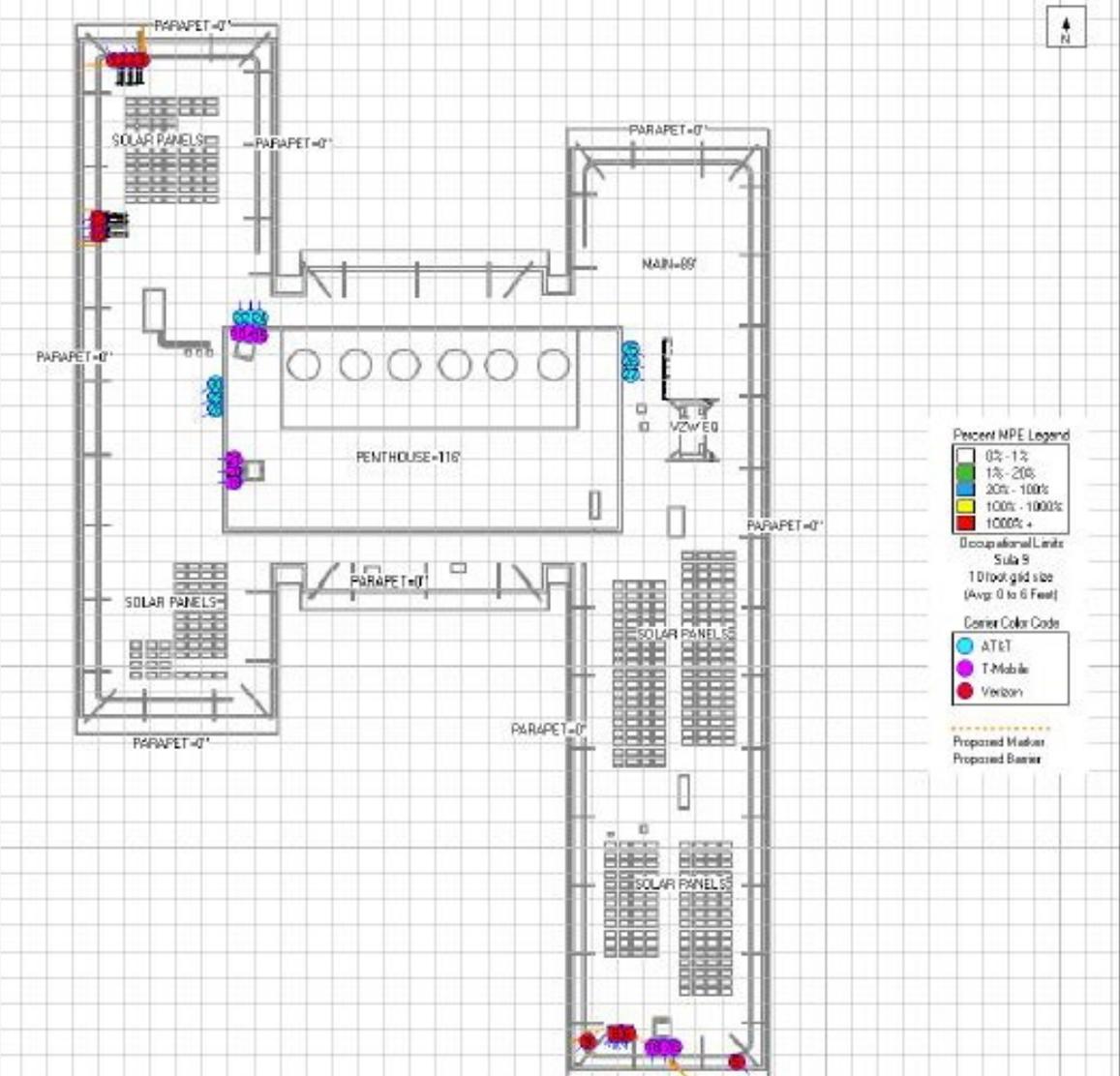


# Criteria Changes: Cumulative Impacts

## Proposed Criteria

### Multiple antennas on a single building –

A rooftop antenna plan is required when multiple antennas on a building rooftop are visible from the street. The plan should address the cumulative impacts of several antennas on the building and mitigate for the effects by including greater setbacks or a screening solution.



# Review Process Changes

## Review Process

1. Small cells
  - Describe process for small cell antennas and related infrastructure on District rights-of-way.
2. Temporary antennas
  - Determine that these antennas should not require NCPC review, but need to submit notification form.
3. Delegations
  - Include both send and receive antennas.
4. Review exceptions
  - Include both send and receive antennas for replacements and renewals.



### Temporary Antenna Notification Form

**Contact Information**

Agency: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_  
Street Address

City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Contact Name: \_\_\_\_\_ Email: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

**Antenna Location**

Building Name: \_\_\_\_\_ Address: \_\_\_\_\_

\_\_\_\_\_

**Installation Information**

Site Description: \_\_\_\_\_

\_\_\_\_\_

Antenna Description: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Event: \_\_\_\_\_

Dates of Installation: \_\_\_\_\_

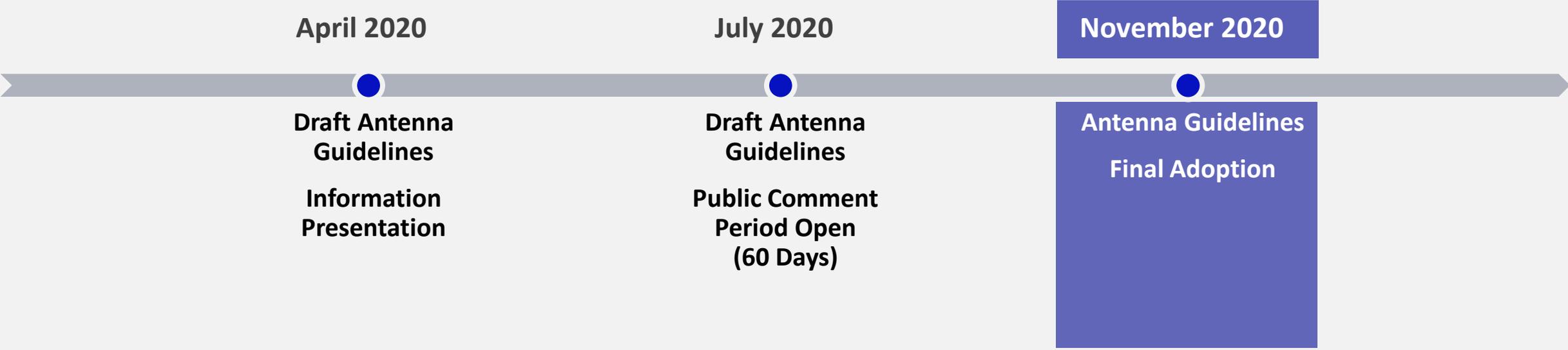
Duration of Installation: \_\_\_\_\_

Service Provider/ Network: \_\_\_\_\_

**Additional Information**

Please list any other information and attach images (photos, drawings) showing the location of the temporary antenna.

# Project Review Timeline



# Staff Recommendations to Executive Director

## The Commission:

**Authorizes** staff to release the draft Antenna Guidelines, which will replace Chapter 5 of the NCPC Submission Guidelines, for a 60-day public comment period pursuant to 40 U.S.C. § 8721.

