WMATA Glenmont Tower, Mandatory Referral, MR2020004

Description

- Construction of a new communications tower, part of the Public Safety System Modernization Project;
- Location: 12750 Layhill Road, Silver Spring MD;
- Property Size: 31.72 acres;
- Zone: R-90;
- Master Plan: 2013 Glenmont Sector Plan;
- Applicant: Washington Metropolitan Area Transit Authority (WMATA).

Summary

- This Mandatory Referral includes two components:
  - Mandatory Referral MR2020004: Staff’s review of the Mandatory Referral to construct a new 210-foot tall communications tower for public safety use within the WMATA Glenmont rail yard is discussed in this report.
  - Final Forest Conservation Plan Amendment MR2020004: This project is within the previously approved Limits of Disturbance of FFCP No. MR1994003 for the WMATA Glenmont Storage Yard. The amendment submitted with this application is considered minor because (1) it does not clear an additional 5,000 square feet of forest; (2) does not modify an existing forest conservation easement; and (3) does not modify any of the conditions of approval in the Planning Board Resolution approving the previous Final Forest Conservation Plan (FFCP). An administrative approval letter for FFCP Amendment MR2020004 is attached to this report (see Attachment 2).
- Staff recommends approval of the Mandatory Referral and transmittal of comments to WMATA.
- The Planning Board action on a Mandatory Referral is advisory.
RECOMMENDATIONS

Staff recommends approval, with the following comments to be transmitted to the Washington Metropolitan Area Transit Authority (WMATA):

1. There should be no outdoor storage of equipment or other items.
2. Install a sign, not more than two feet square, affixed to the equipment compound identifying the owner, operator, and maintenance service provider of the support structure and the emergency telephone number of a contact person.
3. Submit documentation on height and location of the tower to the Department of Permitting Services prior to final inspection of the building permit.
4. Certify that the tower is operating within the Federal Communications Commission (FCC) standards on an annual basis, in addition, an actual radio frequency (RF) measurement should be provided after the telecommunications tower is installed, and after each co-location on the subject tower.
5. The owner of the tower is responsible for maintaining the tower in a safe condition.
6. Remove the tower and equipment compound within twelve months of cessation of the use of the facility.
7. Coordinate with the Parks Department to define a process for the future implementation of the Legacy Open Space recommendation included in the 2013 Glenmont Sector Plan.

MANDATORY REFERRAL REVIEW

This proposal to construct a new public safety system modernization radio communications tower is being reviewed under the Mandatory Referral review process and the Montgomery County Planning Department’s Uniform Standards for Mandatory Referral review. State law requires all federal, state, and local governments and public utilities to submit proposed projects for a Mandatory Referral review and approval by the Commission. The law requires the Montgomery County Planning Board to review the proposed location, character, grade and extent of any road, park, public way or ground, public (including federal) building or structure, or public utility (whether publicly or privately owned) prior to the project being located, constructed or authorized.
PROJECT DESCRIPTION

Background

WMATA operates communications networks for the purpose of daily and emergency communications systems including Metrorail, Metrobus, and Transit Police. WMATA is tasked with ensuring that these emergency responders have effective and reliable radio coverage throughout their service areas.

The development of this infrastructure is part of a Federal Transit Administration funded project to satisfy the terms and conditions mandated by the Middle Class Tax Relief and the Job Creation Act that were enacted by the United States Congress on February 22, 2012. This system requires the current 490 MHz service to be updated to 700 MHz. In order to implement the new technologies, new base stations are required across WMATA’s service area.

Effective public radio serves the public health, safety and welfare of Montgomery County residents. Where no existing site can provide adequate radio coverage, there are significant consequences for emergency response personnel. A lack of radio service can increase response time, the number of personnel required to effectively respond to an emergency situation, and the amount of time it takes to resolve an incident.

Surrounding Neighborhood

The WMATA Glenmont Rail Yard is located at 12750 Layhill Road, in Silver Spring MD (see Figure 1). The subject property is mostly surrounded by residential development, and is bound by Georgia Avenue on the west and Layhill Road on the east. To the north are single family communities, mostly zoned R-90, that extend from Georgia Avenue to both sides of Layhill Road. South of the railyard are CR and RT zoned properties, including the Glenmont Metrocentre development, the Auden Place apartment community, and the Glenmont Metrorail Station Facilities. Immediately adjacent to the subject property on Layhill Road is the Glenfield Local Park.

![Figure 1: Location and Vicinity Map](image)
Site Description

The WMATA Glenmont Rail Yard is home to various storage and maintenance related uses such as a train car storage yard with capacity for approximately 132 cars, various structures for operations, train control, car maintenance, and a power substation. The Lead Track Building for this end of WMATA’s Red Line is also located here (see Figure 2). The subject property also includes forested areas protected by conservation easements per FFCP No. MR1994003.

Figure 2: Site Map. For details on project location see Figure 3.

The subject property consists of four separate parcels, with access from Georgia Avenue and Layhill Road. The proposed use is located within the largest, Parcel 888, on a landscaped island adjoining the northern end of the Lead Track Building (see Figure 2). The project location is a grassy area with trees, most of which will be removed for the construction of the proposed use. There are no forests on the proposed location area.
Figure 3: Proposed Tower Location

Project Description

WMATA is proposing to install a 200-foot high, three-leg lattice tower with a 10-foot lighting rod, resulting in an overall height of 210 feet. The structure will fill coverage gaps left by the existing legacy system. Two omni antennas are proposed at a height of 190 feet, and two panel antennas are proposed at a center line height of 173 feet. The tower will be surrounded by an irregularly shaped fenced compound which will house an equipment shelter and propane tank to support a standby emergency generator. Additional space within the compound and on the tower will allow for other providers to collocate in the future (see Figure 4). The proposed tower and compound will be located on property that is owned and operated by WMATA.
Figure 4: Proposed Site Layout

Figure 5: Proposed Tower Elevation
ANALYSIS

Master Plan Conformance

The application is within the boundaries of the 2013 Glenmont Sector Plan.

Legacy Open Space

The sector plan recommended designation of the forested areas on the north side of the subject property as Legacy Open Space (LOS) Natural Resource Candidate Sites. The LOS Advisory Committee unanimously endorsed this recommendation on May 21, 2012. The proposed use does not impact or modify these areas. Further discussion on this subject is included in the Parks Department section of this report.

Zoning Analysis

The proposed tower is considered a “Public Use (Except Utilities),” defined in Section 3.4.9 of the Zoning Ordinance and is a permitted use in all zones including the R-90 zone of the subject property.

As a publicly-owned structure intended to support public safety radio communications, the proposed tower is considered a Public Use and not a “Public Utility Structure” (59.3.6.7.E), which supports the provision of public utilities or a “Telecommunications Tower” (59.3.5.2.C), which supports wireless communications. The definition of each of these uses is referenced in Table 1.

<table>
<thead>
<tr>
<th>Zoning Ordinance Section</th>
<th>Definitions of Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 3.4.9</strong></td>
<td>Public Use (Except Utilities) means a publicly-owned or publicly operated use. Public Use (Except Utilities) includes County office buildings, maintenance facilities, public schools and parks, post office, State and Federal buildings. Public Use (Except Utilities) does not include a Public Utility Structure (see Section 3.6.7.E, Public Utility Structure).</td>
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<tr>
<td><strong>Section 3.6.7.E</strong></td>
<td>Public Utility Structure means a utility structure other than transmission lines or pipelines. Public Utility Structure includes structures for the occupancy, use, support, or housing of switching equipment, regulators, stationary transformers, and other such devices for supplying electric service or other public utilities.</td>
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<tr>
<td><strong>Section 3.5.2.C</strong></td>
<td>A Telecommunications Tower means any structure, other than a building, used to provide wireless voice, data, or image transmission within a designated service area. Telecommunications Tower includes one or more antennas attached to a support structure, and related equipment, but does not include amateur radio antenna, radio or TV tower, or an antenna on an existing structure.</td>
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*Table 1: Zoning Ordinance Definitions*

Although the proposed use is a Public Use and not a Telecommunications Tower, the proposed use, character and physical impacts on adjacent uses are similar to those of a Telecommunications Tower, a conditional use in the R-90 zone. As the Zoning Ordinance does not provide review standards for a Public Use, staff consulted the conditional use standards associated with the Telecommunications Tower to inform this Mandatory Referral review. Staff has applied this rationale for the review of similar uses at other locations, including the Public Safety System Modernization at Damascus (MR2020011) and Brookeville (MR2020012) earlier this year.

The conditional use standards for a Telecommunications Tower are extensive, but because this application is a Mandatory Referral these standards are not mandatory. Only the most pertinent standards from §59.3.5.2.C.2.c are discussed below. Staff notes that the Hearing Examiner is the approving body in the conditional use process,
but it is only referenced here to quote the Zoning Ordinance as written. Hearing Examiner review is not required for this Mandatory Referral application.

i. Before the Hearing Examiner approves any conditional use for a Telecommunications Tower, the proposed facility must be reviewed by the County Transmission Facility Coordination Group. The applicant for a conditional use must file a recommendation from the Transmission Facility Coordination Group with the Hearing Examiner at least 5 days before the date set for the public hearing. The recommendation must be no more than 90 days old.

The Transmission Facility Coordination Group “recommended (approval), conditioned on approval through the Mandatory Referral process” of the tower application at its September 4, 2019 meeting.

ii. A Telecommunications Tower must be set back from the property line, as measured from the base of the support structure as follows:

(d) The Hearing Examiner may reduce the setback requirement to no less than the building setback for a detached house building type in the applicable zone or to a distance of one foot from an off-site dwelling for every foot of height of the support structure, whichever is greater, if evidence indicates that a reduced setback will allow the support structure to be located on the property in a less visually obtrusive location than locations on-site where all setback requirements can be met after considering the height of the structure, topography, existing vegetation, nearby residential properties, and visibility from the street. A reduced setback might be approved only if there is a location on the property where the setback requirements can be met.

There are no existing dwellings within 210 feet of the proposed tower location, and the tower location meets the front, rear and side setbacks of the zone. This proposed tower meets the recommended setback requirements (see Figure 6).

iii. The maximum height of a support structure and antenna is 135 feet, unless it can be demonstrated that additional height up to 179 feet is needed for service, collocation, or public safety communication purposes. At the completion of construction, before the support structure may be used to transmit any signal, and before the final inspection required by the building permit, the applicant must certify to DPS that the height and location of the support structure conforms with the height and location of the support structure on the building permit.

The proposed height is 210 feet (including the lighting rod). While the structure exceeds the maximum permitted height, it is important to note that the proposed tower is a Public Use and is not subject to the conditional use review standards of the Telecommunications Tower, including maximum height. Furthermore, at this location the height is necessary to achieve the coverage needed for public safety communications purposes. Additional information was provided by the applicant to explain coverage requirements (see Attachment 4). As previously noted, the proposal meets the setback requirements for the proposed height. Actual antennas are proposed to be installed at 173 feet and 190 feet.

iv. The support structure must be located to minimize its visual impact. Screening under Division 6.5 is not required, however, the Hearing Examiner may require the support structure to be less visually obtrusive by use of screening, coloring, stealth design, or other visual mitigation options, after considering the height of the structure, topography, existing vegetation and environmental features, and nearby residential properties.

Screening is sufficient at ground level when incorporating the existing vegetation between the proposed tower and adjacent properties.
viii. The equipment compound must have sufficient area to accommodate equipment sheds or cabinets associated with all the carriers. Outdoor storage of equipment or other items is prohibited.

The equipment compound includes an 11'8” x 34’ shelter with an internal generator and has sufficient area inside for the requested equipment. No outdoor storage is proposed or recommended, and staff recommends reiterating that no outdoor storage is permitted within the comments transmitted to WMATA.

ix. The support structure must be removed at the cost of the owner of the Telecommunications Tower when the Telecommunications Tower is no longer in use by any wireless communication carrier for more than 12 months.

Staff recommends including a similar provision in the comments transmitted to WMATA.

x. The support structure must be identified by a sign 2 square feet or smaller, affixed to the support structure or any equipment building. The sign must identify the owner and the maintenance service provider of the support structure or any attached antenna and provide the telephone number of a person to contact regarding the structure. The sign must be updated and the Hearing Examiner notified within 10 days of any change in ownership.

Staff recommends including this provision in the comments transmitted to WMATA.

xi. Each owner of the Telecommunications Tower is responsible for maintaining the wireless communications tower in a safe condition.

Staff recommends including this provision in the comments transmitted to WMATA.

Figure 6: Setbacks Diagram
Neighborhood Compatibility

Although the proposed tower will be visible from many locations in the area, the importance of its function in support of public safety must be weighed against the diminished viewshed. Given the importance of the facility and the need to expand coverage, the impact on neighborhood compatibility should be weighed against the safety concerns.

Environmental Analysis

This project is within the previously approved Limits of Disturbance of Final Forest Conservation Plan (FFCP) No. MR1994003 for the WMATA Glenmont Storage Yard. The proposed Glenmont Tower does not change the Limits of Disturbance or any of the conditions of the previously approved FFCP.

According to Section 22A.00.01.09.B of the Forest Conservation Regulations, Final Forest Conservation Plans must show the footprints of buildings. Therefore staff has requested, and the Applicant has submitted, a redline amendment to FFCP No. MR1994003 to show the footprint of the new Glenmont Tower on the FFCP. No additional mitigation is required, nor is a new Variance request needed.

Minor Forest Conservation Plan (FCP) Amendments can be approved administratively. Per Forest Conservation Regulations section 22A.00.01.13, this amendment to the approved FCP is considered a minor amendment, because it (1) does not clear an additional 5,000 square feet of forest; (2) does not modify an existing forest conservation easement; and (3) does not modify any of the conditions of approval in the Planning Board Resolution approving the previous FCP. The Administrative FFCP Amendment letter is dated November 23, 2020 (see Attachment 2).

The project remains in compliance with Chapter 22A, Forest Conservation, and in conformance with the Environmental Guidelines.

Parks Department

This project is internal to WMATA property but is adjacent to urban forest that has been master plan designated as future park property. Viewshed impacts and disturbance area should be limited to the maximum extent possible.

From the 2013 Glenmont Sector Plan:

Forested Parcels adjacent to Glenfield Local Park

A wooded area of approximately 30 acres, which contains nearly half of all the forest within the Sector Plan area, is located adjacent to Glenfield Local Park and the Glenmont Metro Station Maintenance Yard. It consists of five parcels, including two County-owned parcels and others owned by WMATA, a Homeowners Association, and M-NCPPC Department of Parks. This area contains mature upland forest directly adjacent to existing parkland. The forest also contains headwater streams and people’s choice trails connecting Glenfield Local Park to the neighborhood north of Briggs Road. The majority of the WMATA acreage is already preserved as forest through a Category I Forest Conservation Easement, but public access is currently not provided to this forest. This forested area is the largest, contiguous tract of land with forest and natural resources within the Plan area. It should be preserved to provide opportunities for natural resource-based recreation, such as natural surface trails and nature interpretation.
On May 21, 2012, the Legacy Open Space (LOS) Advisory Committee unanimously endorsed this forest for designation as an LOS Natural Resources Candidate Site in support of the need to provide natural recreation spaces for the County’s urban residents. Within the Plan area, there is no other forested area of similar size and quality potentially available for parkland acquisition. The Montgomery County Planning Board subsequently approved these properties as a Legacy Open Space Natural Resource Candidate Site and a future addition to Glenfield Local Park. The County Council subsequently affirmed the recommendation through approval of the 2013 Glenmont Sector Plan.

![LOS Designated Areas](image)

**Figure 7: LOS Designated Areas (2013 Glenmont Sector Plan, p. 51)**

WMATA, as part of this Mandatory Referral, may want to transfer their portion of the designated LOS area to the Department of Parks, for master plan consistency and to minimize operation and maintenance burden associated with the subject parcel. Future Department of Parks use of this parcel would be limited to conservation parkland and a potential natural surface trail loop originating from Glenfield Local Park.

Staff forwarded the Parks Department recommendation to the Applicant. Further coordination will be needed between WMATA and the Parks Department to define a process to implement this Sector Plan recommendation in the future. The proposed use does not preclude the Sector Plan’s recommendation.

**Transportation Analysis**

**Local Area Transportation Review (LATR):**

The Applicant did not provide a traffic statement, but notes in its application that the facility will not be staffed following construction. As such, the facility will not generate any trips and is not subject to a Local Area Transportation Review (LATR) study. Because the location of the facility is internal to WMATA’s existing rail yard, the project does not impact master-planned roadways.

**Planned Bikeways**

The Bicycle Master Plan calls for an off-street trail crossing north of the proposed tower facility on the northern portion of the WMATA property and potentially the adjacent county-owned property. This proposed trail connects the stems of Jingle Lane and saves users approximately 139 linear feet as compared to travel on Weller Road and Briggs Road, where the adjacent master-planned connections lie. The proposed trail would need to traverse the Lutes Run stream and could be achieved through coordination with WMATA and the county at a future date if deemed a priority. This project does not preclude the provision of the trail.
Community Outreach

The Applicant held an informational community meeting on July 10, 2020. Adjoining property owners and neighborhood associations were notified. Most questions were related to visibility and location of the structure. The applicant prepared photo exhibits to illustrate potential visibility of the proposed structure from various vantage points in the surrounding neighborhood (see Attachment 3).

After receiving the Mandatory Referral application, staff notified local citizen associations and other interested parties of the submittal and invited comments. Staff has received one request for information from a representative of the Strathmore Bel Pre Civic Association interested in reviewing the application materials. A link to the information was provided, and no additional questions have been received.

Attachments

1. Mandatory Referral Package
2. Redline FCP Administrative Approval Letter
3. Tower Visibility Exhibits
4. Coverage Reliability Letter
Ms. Alexandra Bull  
Washington Metropolitan Area Transit Authority, c/o NB&C  
6095 Marshalee Drive, Suite 300  
Elkton, MD 21075

Subject: Final Forest Conservation Plan Amendment  
For the WMATA Glenmont Tower  
Final Forest Conservation Plan Number: MR2020004  
Amends Final Forest Conservation Plan Number: MR1994003  
Net Tract Area: 41.49 acres  
Zone/Land use Category: R-90/IDA

Dear Ms. Bull:

The Montgomery County Planning Department has reviewed Final Forest Conservation Plan Amendment No. MR2020004 for the WMATA Glenmont Tower, as submitted on October 9, 2020. This forest conservation plan amendment adds the footprint of the WMATA Glenmont Tower to the previously approved Final Forest Conservation Plan (FFCP No. MR1994003). This Final Forest Conservation Plan (FFCP) covers the requirements of Chapter 22A, Forest Conservation, for Mandatory Referral No. MR2020004.

Based on staff review, Final Forest Conservation Plan Amendment No. MR2020004 is approved.

Plan Evaluation

This project is within the previously approved Limits of Disturbance of FFCP No. MR1994003 for the WMATA Glenmont Storage Yard. The proposed Glenmont Tower does not change the Limits of Disturbance or any of the conditions of the previously approved FFCP.

According to Section 22A.00.01.09.B of the Forest Conservation Regulations, Final Forest Conservation Plans must show the footprints of buildings. Therefore Planning Staff has requested, and the Applicant has submitted, a redline amendment to FFCP No. MR1994003 to show the footprint of the new Glenmont Tower on the FFCP. The FFCP has been renumbered with the current Mandatory Referral number to reflect compliance with the Chapter 22A requirements of that application. No additional mitigation is required, nor is a new Variance request needed. The project remains in compliance with Chapter 22A, Forest Conservation, and in conformance with the Environmental Guidelines.

Per Forest Conservation Regulations section 22A.00.01.13, this amendment to the approved FCP is considered a minor amendment, because it (1) does not clear an additional 5,000 square feet of forest; (2) does not modify an existing forest conservation easement; and (3) does not modify any of the conditions of approval in the Planning Board Resolution approving the previous FCP. Minor FCP Amendments can be approved administratively.
There are no conditions or additional recommendations attached to this approval. All of the conditions of approval from the previously approved FFCP, No. MR1994003, remain in force for this site under FFCP Amendment No. MR2020004.

If you have any questions or concerns about these actions, please contact Steve Findley of our Mid-County Planning staff at 301-495-4727 or by email at steve.findley@montgomeryplanning.org.

Sincerely,

Carrie Sanders

Carrie Sanders
Chief
Mid-County Planning Division
August 15, 2019

Montgomery County
Transmission Facilities Coordination Group
10613 Concord Street
Kensington, MD 20895

RE: Overall Reliability Explanation (200’ Tower)
WMATA – Glenmont – 12750 Layhill Road
TFCG#2019060883

Dear TFCG Members:

During the August 7, 2019 Meeting, Motorola was asked to state the overall reliability changes when the height changes by 20’ or 40’ lower from the requested height. Motorola would like to provide the following response on behalf of WMATA:

The proposed simulcast system must be designed to provide complete and effective coverage according to a “95/95” coverage mandate: 95% coverage reliability in 95% of the WMATA service area. With the subject site at the proposed height of 200’, WMATA’s overall service area reliability (SAR) is at exactly 95% for their 2,500 square mile service area. WMATA’s overall reliability is affected negatively when antennas are lowered from what has been requested. Lowering antennas 20’, affects the overall SAR by almost 0.4%. Lowering antennas by 40’, affects the overall SAR by a little over 0.4%. The reduction of the tower height would reduce the SAR below the required 95% which specifically affects the area around the Glenmont Tower as well as WMATA’s critical buildings and their bus routes.

Motorola reliabilities are determined through Motorola’s Hydra coverage application. Motorola has over 35 years experience in the coverage tool development. This application takes into account tens of thousands of tuning points. This has resulted in hundreds of successfully accepted system designs based on Hydra.

If you zoom into the provided coverage maps, you can “see” differences. However, there is a distinction between covered area reliability versus service area reliability--SAR (the latter is the reliability Motorola must meet for WMATA’s Public Safety System). The laws of physics say that changing antenna heights will affect propagation path loss, and hence signal strength and tile reliabilities. Even slightly lower (or higher) reliabilities at each tile in the service area can affect the overall average of tile reliabilities throughout the service area. That same change in antenna height may or may not noticeably affect the painted covered area reliability map, depending on the edge tile reliability (aka contour) used to paint that map.

Sincerely,

Kristin M. Schrecker
Motorola Engineering Manager
Representative of WMATA
WMATA P25 700 MHz Radio Project
Portable Radio Outbound Coverage
Glenmont Site Coverage
No Building Loss
March 11, 2018
Subjective outbound
WMATA P25 700 MHz Radio Project
Portable Radio Outbound Coverage
Glenmont Site Tx 40 Ft Lower
No Building Loss
March 11, 2018

Solution: WMATA Above Ground
Job ID: 7446140527.1.Design 71 Glenmont Tx 20

Printed: 4/11/2019

Legend
75.00 CONTOUR (92.77 Equiv Area)
Glenmont [Component Rel] ON STREET
Subjective outbound