Washington Metropolitan Area Transit Authority

Board Action/Information Summary

◉ Action ○ Information	MEAD Number: 201747	Resolution: ◉ Yes ○ No

TITLE:

Greenbelt Development Public Hearing Staff Report

PRESENTATION SUMMARY:

Inform the board of public hearing comments and seek approval of the hearing report on the reconfiguration of WMATA facilities at Greenbelt Metro Station.

PURPOSE:

Contingent on selection by the U.S. General Services Administration (GSA) of the Greenbelt station site for a consolidated FBI headquarters, staff is seeking board approval of:

- The Greenbelt Joint Development Public Hearing Staff Report dated April 2016 and the WMATA transit facility changes recommended therein; and
- The amended General Plans and the Adopted Regional System plan to include the changes to WMATA facilities at the Greenbelt Metro station recommended in the Staff Report; and
- Institution of a non-rider parking fee of $14.50 per day

DESCRIPTION:

To accommodate a consolidated U.S. Federal Bureau of Investigation (FBI) headquarters at Greenbelt Metro station for some 11,000 employees, WMATA, the State of Maryland, and local jurisdictions have been planning for the relocation and reconfiguration of existing WMATA facilities on-site at no cost to WMATA. If GSA does not select Greenbelt for the FBI headquarters, the relocation/reconfiguration of WMATA facilities will not happen. Highlights of the proposed changes are given below.

Key Highlights:

- A covered bus loop with 12 bus bays and 14 bus layover spaces on the ground floor of a new office building and hotel located northeast of the station entrance
- A covered Kiss & Ride lot on the ground level of a residential and retail building with 48 short-term metered/driver-attended parking spaces; 11 accessible spaces for disabled persons; 20 motorcycle spaces; and pick-up/drop-off space for 15 taxis, 4 shuttles, and 9 standard vehicles
- An 8-story Park & Ride garage with 3,669 parking spaces, including 47 accessible parking spaces that will replace the existing accessible spaces in the Park & Ride

lots, located southeast of the station, with a direct pedestrian connection to the station that meets WMATA access standards
- New well-lit sidewalks from the Kiss & Ride lot, bus facilities and parking garage
- Improved pedestrian and bicycle facilities, including replacement of the existing bike racks and locker
- An event bus layover lot with 30 spaces located just to the east of the bus loop
- A non-rider parking fee of $14.50 per day

Background and History:

In February 2013, the Board approved an amended agreement with Renard Development Company, LLC (Developer). The agreement allowed the Developer to pursue the relocation and consolidation of the U.S. Federal Bureau of Investigation (FBI) headquarters at Greenbelt. In June 2014, the Developer and GSA signed an option agreement providing a portion of the 78-acre Greenbelt site for potential FBI use. Since that time, GSA has continued to seek developer interest in building a consolidated headquarters at three potential sites, one of which is Greenbelt.

Discussion:

To free up space including buffers at the Greenbelt Metro station for the FBI headquarters, it will be necessary to relocate existing WMATA facilities on-site: principally a bus loop, Kiss & Ride and Park & Ride surface lots, and internal circulation routes for pedestrians, bicycles and other vehicles. Further, to handle additional traffic, a full interchange is needed with Interstate 495, the Capital Beltway. At present, there are only two, rather than four, off-on ramps. The Developer, WMATA, the State of Maryland, Prince George's County and the City of Greenbelt have been cooperatively planning these changes, and the Developer has produced design concepts and conceptual phasing plans that allow for coordinated construction of the WMATA facilities, the interchange, and internal circulation routes.

To assure GSA and potential developers that the WMATA site can be reconfigured to accommodate the FBI relocation, Board approval of the proposed transit facility changes is needed. The changes are summarized in the Key Highlights section of this document. WMATA held a public hearing on the proposed changes on February 23, 2016. Extensive English-language and Spanish-language outreach was performed before and after the public hearing. The outreach included pop-up events at the station, direct e-mails to a sample of station customers, an on-line survey, a direct mail postcard to 5,000 residents within one mile of the station, a 30-day advance notice in local newspapers as required by the WMATA Compact and an information session prior to the hearing. Approximately 436 survey results were obtained, 10 people testified at the hearing, and 27 submitted written comments for the record. The commentary is addressed in the Public Hearing Staff Report.

In general, respondents expressed appreciation for the proposed improvements to the station area and a desire to have continued convenient access to the station by the travel mode used. Staff believes that convenient access has been provided and gave an overview of the multi-level circulation routes for pedestrians, cyclists, bus users and automobile parkers at the public hearing. No changes to plans were necessitated

by public hearing or outreach comments, and maintaining convenient access will continue to be a forermost objective as planning and design of transit facilities for the station advances.

Several commenters were concerned about the potential institution of a non-rider fee at the station to discourage non-WMATA-transit users from parking in the WMATA garage and to replace lost revenue if such parking does occur. The fee reflects the regular garage parking charge and the round trip fare to downtown Washington. It is applied if a departing driver's SmarTrip card does not show WMATA transit use within two hours of exiting the parking garage. Staff noted that the fee will apply only during weekdays. Upon the April 6, 2016, release of the draft Public Hearing Staff Report for a 10-day review period, only one additional comment was received, a request for electric vehicle charging stations in the garage. These stations were already included in the plans.

In addition to replacing WMATA facilities, the Developer proposes to build approximately 1.5 million square feet of mixed use development over the WMATA bus loop and Kiss & Ride facilities. The uses are currently expected to be both residential apartments and condominiums, an office building, a hotel, and retail shops lining an entrance plaza to the Metro station.

Anticipated funding sources for the WMATA replacement facilities include Developer contributions in lieu of paying for the site and, potentially, Prince George's County tax increment financing and/or use of the County's surcharge account. The State of Maryland will pay for the interchange design and construction.

If GSA does not choose Greenbelt for the FBI headquarters, the agreement with the Developer will terminate, and the proposed changes to transit facilities will not occur. If GSA does choose the Greenbelt site, WMATA will work with all parties to achieve timely development. WMATA will sell the site once it has approved 100% construction drawings for replacement facilties, ensured that funding is secure for the replacement facilities and interchange, and determined that Prince George's County has approved the Detailed Site Plan for the site and the Federal Transit Administration has concurred with the transaction.

The schedule to implement the project depends upon GSA's timetable. According to GSA's current timetable, the agency would receive developer proposals in late June 2016 and select a proposal in late 2016 or early 2017, after which sale of the WMATA site to the Developer would occur. It is anticipated that a WMATA replacement garage would be available for use by late 2018 or early 2019. Thereafter, construction on the FBI site would start. Construction of the mixed use development site would start after completion of the WMATA bus loop and Kiss & Ride facilities in late 2020.

FUNDING IMPACT:

There will be no initial impact on funding because the Developer will provide the relocated and reconfigured WMATA facilities at its own cost. There will, however, be revenue benefits. The joint development agreement with Renard provides for an estimated $16 million cash payment to WMATA upon sale of the site. There will be a significant increase in ridership revenue from the proposed mixed use development occupants and visitors, as well as FBI employees and visitors, estimated by WMATA staff at $7.3 million annually.

Project Manager:	Rosalyn Doggett
Project Department/Office:	CFO/LAND

TIMELINE:

Previous Actions	February 2013 Board approval of agreement with Developer to pursue FBI September 2014 Board authorization of Public Hearing on changes to transit faciliities
Anticipated actions after presentation	June 2016 GSA receipt of proposals from potential FBI developers Early 2017 GSA award of site/developer If GSA does not select Greenbelt site, termination of JDA If GSA selects Greenbelt site: Mid-2017 Sale of site following Metro approval of construction drawings and funding Winter 2018-2019 Metro garage completed Spring 2019 - 2022 Construction of FBI complex and mixed use development over WMATA facilities

RECOMMENDATION:

Contingent on selection by the U.S. General Services Administration (GSA) of the Greenbelt station site for a consolidated FBI headquarters:

- Approve the Greenbelt Joint Development Public Hearing Staff Report dated April 2016 and the WMATA transit facility changes recommended therein
- Amend the General Plans and the Adopted Regional System plan to include the changes to WMATA facilities at the Greenbelt Metro station recommended in the Staff Report
- Approve institution of a non-rider parking fee of $14.50 per day

PRESENTED AND ADOPTED: July 28, 2016

SUBJECT: APPROVAL OF PUBLIC HEARING STAFF REPORT FOR THE REPLACEMENT AND RECONFIGURATION OF METRO FACILITIES AT THE GREENBELT METRORAIL STATION AND THE INSTITUTION OF A NON-RIDER PARKING FEE

2016-34

RESOLUTION
OF THE
BOARD OF DIRECTORS
OF THE
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WHEREAS, On February 28, 2013, the Washington Metropolitan Area Transit Authority (WMATA) Board of Directors approved an amended agreement with Renard Development Company, LLC (Developer), permitting the Developer to pursue a major Federal tenant for the Greenbelt Metrorail station joint development site; and

WHEREAS, On July 29, 2014, the U.S. General Services Administration (GSA) executed an option agreement with Developer that conditionally offered a portion of the Greenbelt Metrorail station site for U.S. Federal Bureau of Investigation (FBI) headquarters use; and

WHEREAS, Redevelopment of the joint development site for FBI use will require on-site relocation of existing WMATA pedestrian, bicycle, bus, taxi, automobile and related transit facilities; and

WHEREAS, The redevelopment of the site will require a full interchange with the I-495 Capital Beltway, to accommodate all future site occupants and the Developer. WMATA, the State of Maryland, Prince George's County and the City of Greenbelt have cooperated to design a full interchange that is integrated with the site's internal circulation system; and

WHEREAS, The option agreement calls for timely Board of Directors approval of changes to WMATA transit facilities so that potential redevelopers of the remaining portion of the site might be assured of WMATA's satisfaction with the concept plan for WMATA replacement facilities; and

WHEREAS, There may be substantial non-transit demand for WMATA's replacement transit parking at the station by FBI personnel due to limited parking at the proposed FBI headquarters, necessitating a Non-Rider Parking Fee to discourage use for non-WMATA rider parking and compensate for revenue loss if such parking does occur; and

Motioned by Mr. Price, seconded by Ms. Carmody
Ayes: 8 – Mr. Bulger, Ms. Harley, Mr. Corcoran, Mr. Costa, Mr. Price, Mr. Goldman, Mrs. Hudgins and Ms. Carmody

WHEREAS, Any increase in fares or parking fees requires a public hearing; and

WHEREAS, A public hearing to, among other things, solicit public comment on the proposed institution of a Non-Rider Parking Fee at the rate of up to $14.50 per day, was held on February 23, 2016, and the record remained open for written comments until March 4, 2016; and

WHEREAS, Prior to and following the public hearing, substantial English-language and Spanish-language public outreach was conducted by WMATA staff to inform the public of the proposed transit facility changes and solicit comment, including pop-up events at the Greenbelt Metrorail station, direct emails to a sample of station customers, advertisements and notices in area newspapers, a direct mail postcard to 5,000 residents within one mile of the station, an on-line survey, and an information session prior to the public hearing; and

WHEREAS, A report on the results of the public outreach and the public hearing entitled *Greenbelt Joint Development Public Hearing Staff Report, R-16-01, Proposed Changes to WMATA Facilities at Greenbelt Metro Station/Compact Public Hearing No. 608, Staff Analysis of the Public Hearing and Staff Recommendations, April 2016* (Staff Report) was presented to the public for review and comment on April 6, 2016; and

WHEREAS, The public comment period closed on April 15, 2016, and the Staff Report has been supplemented with additional comments received; and

WHEREAS, The updated Staff Report was provided to the Board of Directors for review and the Board of Directors has considered this information; now, therefore be it

RESOLVED, That the Board of Directors approves the replacement and reconfiguration of existing surface transit facilities including two Kiss & Ride lots with 106 total parking spaces; a bus loop with seven bus bays and eight layover bays; a Park & Ride lot with 3,677 parking spaces; and an event lot with 26 bus coach parking spaces; and be it further

RESOLVED, That the Board of Directors approves the attached Staff Report and amends the General Plans and the Adopted Regional System plan to include the following changes to Metro facilities at the Greenbelt Metrorail Station:

- A covered bus loop with 12 bus bays and 14 bus layover spaces to be located on the ground floor of an office building and hotel to be developed above, located northeast of the station entrance;
- A covered Kiss & Ride lot located on the ground level of a residential and retail building with 107 total spaces including 48 short-term metered/driver-attended parking spaces; 11 accessible spaces for disabled persons; pick-up/drop-off space for 15 taxis, four shuttles, nine standard vehicles, and 20 motorcycle spaces;

- An eight-story Park & Ride garage with 3,669 parking spaces, including 47 accessible parking spaces which will replace the existing accessible spaces in the Park & Ride lots located southeast of the station with a direct pedestrian connection to the station that meets WMATA access standards;
- New well-lit sidewalks from the Kiss & Ride lot, bus facilities and parking garage;
- Improved pedestrian and bicycle facilities, including replacement of the existing bike racks and lockers;
- An event bus layover lot with 30 spaces located just to the east of the bus loop;
- Institution of a Non-Rider Parking Fee of $14.50 per day; and be it further

RESOLVED, That if the Greenbelt Station site is not selected as the location of a consolidated FBI headquarters, this Resolution shall be rescinded without further Board action, and of no further force and effect; and be it finally

RESOLVED, That this Resolution shall be effective 30 days after adoption in accordance with § 8(b) of the WMATA Compact.

Reviewed as to form and legal sufficiency,

Patricia Y. Lee
General Counsel

WMATA File Structure Nos.:
9.12.9 Tariff (WMATA Fare Structure)
12.7.3 Station Area Plans
21.9.4 Joint Development Agreements

Greenbelt Joint Development Environmental Evaluation

Prepared by:

Washington Metropolitan Area Transit Authority

December 2015

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1. INTRODUCTION

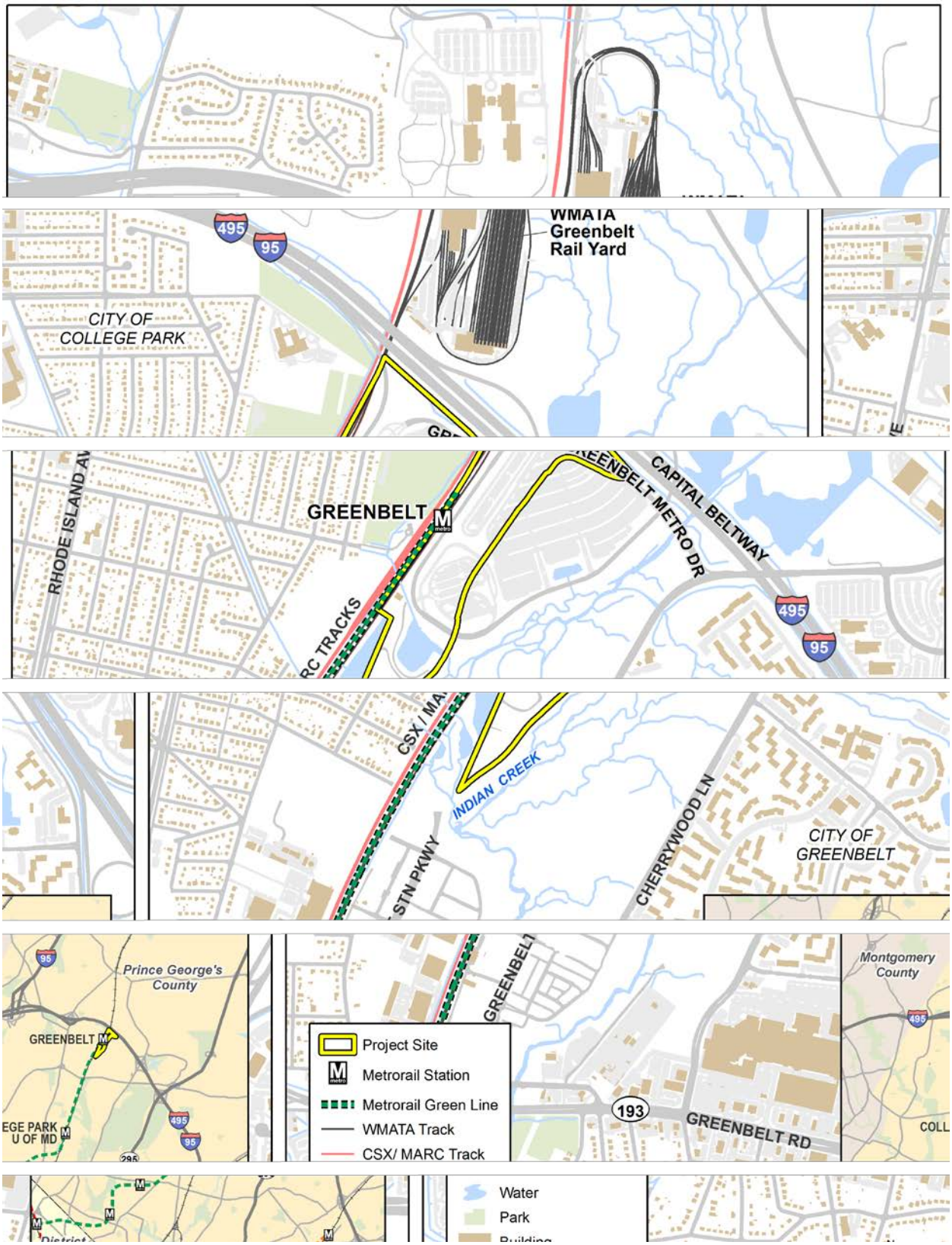
The Washington Metropolitan Area Transit Authority (WMATA) has entered into an agreement with Renard Development Company, LLC ("the developer") that is planning to construct a mixed-use joint development on the existing Greenbelt Metrorail Station property to include hotel, parking, office, retail, and residential uses (see **Figure 1** for project location). The proposed joint development project ("the project") would include the redevelopment of existing WMATA facilities including a new Park & Ride, Kiss & Ride, and bus loop.

The proposed project is located adjacent to another separate proposed development that could include a new consolidated headquarters for the Federal Bureau of Investigation (FBI). The potential FBI headquarters development is undergoing a separate environmental review process led by the U.S. General Services Administration (GSA); therefore, the focus of this document is to evaluate the potential environmental effects of the mixed-use joint development on WMATA facilities, not the potential FBI headquarters development on the proposed GSA site. This evaluation does consider some secondary and cumulative impacts of the proposed FBI headquarters on the joint development, specifically how those impacts would impact future WMATA operations.

Because the project includes a modification of WMATA station facilities and station access, an environmental evaluation (EE) has been prepared to assess the potential effects of this action. To support WMATA Compact requirements, specifically §14(c)(1), this EE describes the project and documents the potential effects of the mixed-use joint development on the human and natural environment in terms of transportation, social, economic, and environmental factors.

To provide the opportunity for public comment, a public hearing will be held near the Greenbelt Metrorail Station at the Greenbelt Marriott on February 23, 2016. Based on the conclusions of this evaluation, coordination with state and local agencies, and comments from the public, the WMATA Board will make a decision regarding construction of the project.

Figure 1: Project Location



2. EXISTING SITE DESCRIPTION

WMATA operates the Greenbelt Metrorail Station in Prince George's County, Maryland, as the northern terminal station for the Metrorail Green Line and Yellow Line Rush Plus services. This station also serves as a rail transfer point from Metro to the Camden Line of the Maryland Area Regional Commuter (MARC) train service operated by the Maryland Transit Authority (MTA).

A WMATA bus loop with seven bus bays is located between the Greenbelt Metrorail Station platform and the Park & Ride lot. The bus loop encircles a Kiss & Ride facility and taxi stand. The bus loop includes space for approximately eight buses to layover. The bus loop is also connected via an access road to a 26-space event bus layover lot southeast of the bus loop. The event bus layover lot is used for non-transit service provider buses during special events. The station connects passengers with the following bus transit services: 12 Metrobus routes, three Prince George's County TheBus lines, and one bus line operated by the Regional Transportation Agency (RTA) of Central Maryland. The station also provides a stop for the Bolt Bus intercity bus company.

WMATA also operates a surface-level Park & Ride lot with 3,677 parking spaces, surface-level Kiss & Ride lots with a total of 106 parking spaces, and a taxi curbside stand for approximately 10 vehicles. An overview of the existing transportation facilities is shown in **Figure 2** and described in more detail in the subsections below.

2.1 Metrorail

The Metrorail Green Line operates between Branch Avenue Metrorail Station, located in southern Prince George's County, and Greenbelt Metrorail Station. The Metrorail Yellow Line extends from Franconia-Springfield in Fairfax County, Virginia, to Greenbelt Metrorail Station during rush hour as "Rush Plus" service.

The Greenbelt Metrorail Station averaged 6,314 weekday boardings in 2014. **Table 1** provides average passenger weekday entries and exits by time of day. Greenbelt Metrorail Station experiences the majority of station entries during the AM peak period (from opening to 9:30 AM) and the majority of station exits during the PM peak period (from 3:00 PM to 7:00 PM). Together, AM peak entrances and PM peak exits account for 59.6% of the station's daily exits and entries. The most common trips recorded (accounting for 19.1% of weekday entries and exits at Greenbelt) were Greenbelt to L'Enfant Plaza, Gallery Place-Chinatown, Farragut North, and Archives-Navy Memorial during the AM peak period and the same four stations to Greenbelt during the PM peak period.

Table 1: Greenbelt Metrorail Station Weekday Entry/Exit Averages

Time And Direction	Average Number of Daily Entries/Exits	Percent of Total Entries and Exits
AM Peak Entry	3,892	31.1%
AM Peak Exit	570	4.6%
Midday Entry	1,190	9.5%
Midday Exit	970	7.8%
PM Peak Entry	859	6.7%
PM Peak Exit	3,561	28.5%
Evening Entry	373	3.0%
Evening Exit	1,098	8.8%
Total	**12,513**	**100.0%**

Source: WMATA fare gate data (May 2014)

Figure 2: Existing Transportation Facilities

2.2 Metrobus

Twelve Metrobus routes serve Greenbelt Metrorail Station: B30, C2, G12, G13, G14, G16, R3, R12, 81, 87, 89, and 89M. **Table 2** shows headways, trip lengths, and weekday daily average intermodal transfers for these routes. **Figure 3** shows the approach of Metrobus and TheBus routes to the Greenbelt Metrorail Station.

Table 2: Weekday Metrobus Route Statistics

Route	Approx. Weekday Headway (minutes)	Approx. Trip Length (minutes)	Average Number of Bus-to-Rail Transfers	Average Number of Rail-to-Bus Transfers	Average Total Daily Transfers
B30	40	35-40	70	92	162
C2	15-30	60	75	90	165
G12	30-60	45-55	123	109	232
G13	30-60	50-55	62	17	79
G14	30-60	55-60	76	81	157
G16	30-60	40-45	5	33	38
R3	35	25-30	21	6	27
R12	30-60	45-55	58	112	170
87	15-40	40-60	186	156	342
89	40-50	40-55	71	99	170
89M	50-60	50	53	63	116
Total	**--**	**--**	**800**	**858**	**1,658**

Source: WMATA timetables and WMATA transfer statistics (May 2015)
Note: Route 81 provides Sunday-only service and is not represented in Table 2 weekday Metrobus route statistics.

2.2.1 BWI Thurgood Marshall Airport Line (B30)

Metrobus Route B30 is an express, limited stop service between Greenbelt Metrorail Station and the BWI Business District Light Rail Station with two stops at BWI Thurgood Marshall Airport. The route maintains 40-minute headways seven days per week with travel times of 35 to 40 minutes between termini in each direction.

2.2.2 University Boulevard Line (C2)

Metrobus Route C2 operates between Greenbelt and Wheaton Metrorail Stations, Monday through Saturday. The route serves the Four Corners, Langley Park, Lewisdale, College Park, and Branchville neighborhoods and the University of Maryland. The route has weekday westbound headways of approximately every 15 minutes during the AM peak, 30 minutes during midday, and 20 minutes during the PM peak. Weekday eastbound headways are approximately every 24 minutes during the AM peak, 30 minutes during midday, and 16 minutes during the PM peak. Route travel times are approximately one hour between termini in each direction.

2.2.3 Greenbelt-New Carrollton Line (G12, G13, G14, and G16)

Metrobus Routes G12, G13, G14, and G16 operate between Greenbelt and New Carrollton Metrorail Stations and provide riders with access to Franklin Park, Beltway Plaza, Old Greenbelt, and the Greenway Shopping Center. Route G12 provides service to the Doctors Community Hospital. Routes G13, G14, and G16 provide access to NASA's Goddard Space Flight Center, Seabrook, and Lanham.

Metrobus Routes G12 and G16 operate six days per week. Metrobus Routes G13 and G14 operate Monday through Friday. During the weekdays, routes G13, G14, and G16 have a combined headway of approximately every 30 minutes during peak periods and every hour during off-peak periods in both directions. A G12 bus always leaves within three minutes of a bus serving the G13, G14, or G16 routes.

2.2.4 Greenbelt-Prince George's Plaza Line (R3)

Metrobus Route R3 operates between Greenbelt and Prince George's Plaza Metrorail Stations. Route R3 provides service to the University of Maryland, Beltway Plaza, and The Mall at Prince Georges. The route operates on weekdays only with headways of approximately 35 minutes and takes between 25 and 31 minutes to travel between the two Metrorail Stations.

2.2.5 Kenilworth Avenue Line (R12)

Metrobus Route R12 operates between the Greenbelt and Deanwood Metrorail Stations. The route serves Franklin Park, Westchester Park, Berwyn Heights, Riverdale Park, Bladensburg, and Tuxedo. Route 12 operates six days per week, with weekday service beginning around 5:00 AM. R12 operates with a 30-minute weekday peak period headway and a one hour weekday off-peak and Saturday headway. A one way trip takes 40 to 55 minutes to complete depending on the route direction and time of day.

2.2.6 Laurel Line and Laurel Express Line (87, 89, and 89M)

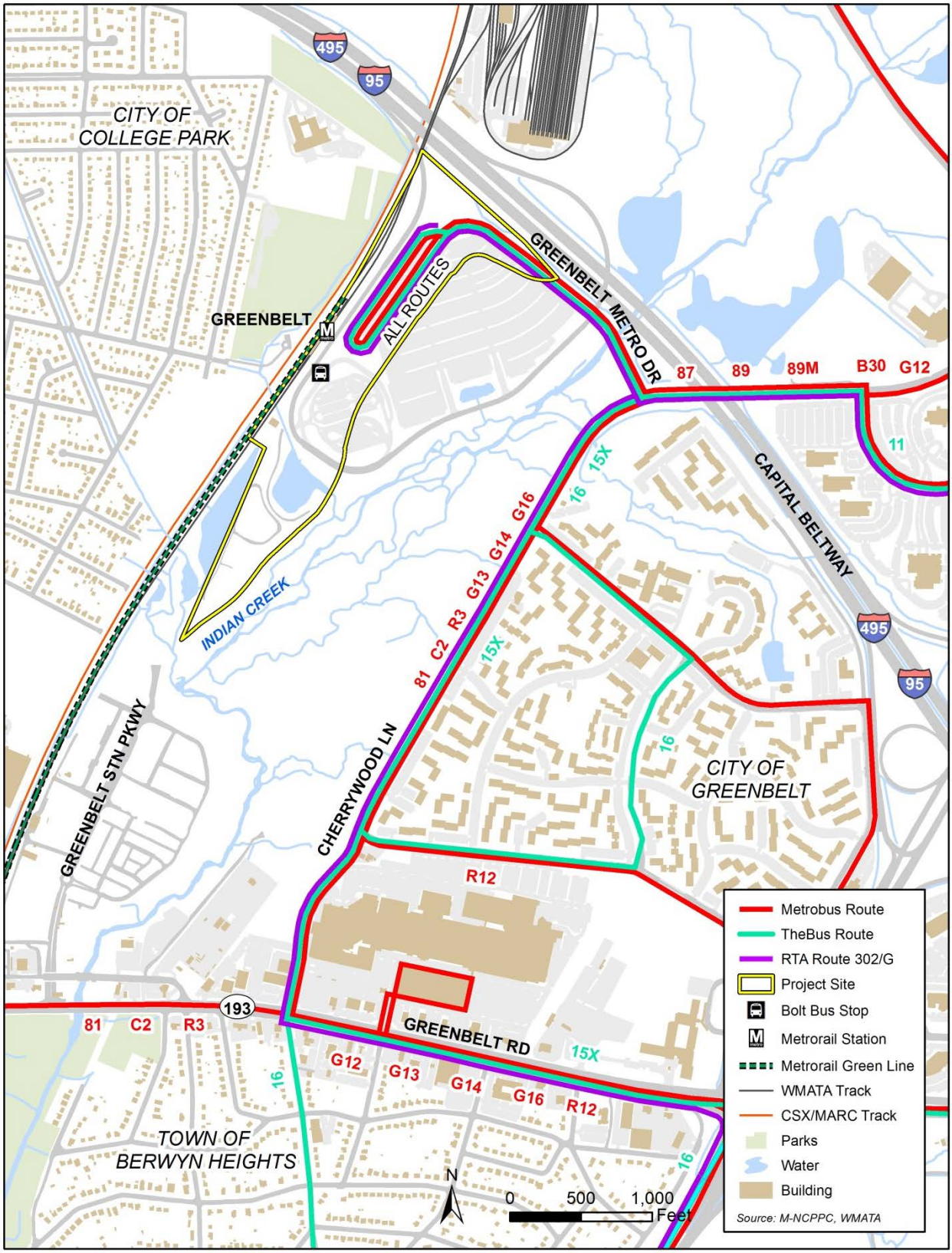
Metrobus Routes 87, 89, and 89M operate between Laurel, Maryland, and the Greenbelt Metrorail Station. The routes serve Beltsville, Konterra, and Laurel, stopping primarily at shopping malls and centers.

Route 87 operates with northbound headways of approximately 25 minutes during the AM peak and 15 minutes during the PM peak. Route 87 maintains southbound headways of approximately 20 minutes during the AM peak and 30 minutes during the PM peak. Route 87 does not operate midday.

2.2.7 College Park Line (81)

Metrobus Route 81 operates only during the daytime on Sundays between Cherry Hill Park Camp Ground and the Rhode Island Ave-Brentwood Metrorail Station, stopping at the Greenbelt Metrorail Station. A one way trip takes between 46 and 53 minutes to complete in each direction and maintains one hour headways.

Figure 3: Existing Bus Routes



2.2.8 RTA (302/G)

RTA operates Route 302/G seven days per week with headways of one hour. The route goes from Towne Centre, Laurel, Maryland, to College Park Metrorail Station. On weekdays, the route does not stop at Greenbelt Metrorail Station, but on weekends, the route stops at the Greenbelt Metrorail Station before proceeding to the College Park Metrorail Station. On Saturdays, the route operates between 9:00 AM and 6:00 PM and on Sundays the route operates between 10:00 AM and 6:00 PM.

2.2.9 Bolt Bus

Bolt Bus is a private coach bus company providing service from Greenbelt to New York City. Buses leave from Greenbelt Metrorail Station between 6:00 AM and 6:45 PM with headways ranging from 45 minutes to 4 hours. As of August 2015, service is most frequent on Fridays (ten departures) and least frequent on Tuesdays and Wednesdays (six departures per day). Bolt Bus ridership is shown in **Table 3** below.

Table 3: Bolt Bus Ridership

Day	Arrivals	Departures	Average Daily Alightings	Average Daily Boardings
Monday	8	8	70	73
Tuesday	6	6	70	73
Wednesday	6	6	70	73
Thursday	8	8	70	73
Friday	10	10	122	138
Saturday	8	8	120	126
Sunday	9	9	122	138
Weekly Total	**55**	**55**	**644**	**694**

Source: BoltBus (July 2015)

2.3 MARC Camden Line

The Maryland Transit Authority (MTA) operates the Camden Line of the Maryland Area Regional Commuter (MARC) train service between Union Station in the District of Columbia and Camden Station in Baltimore, Maryland. At Greenbelt Station, MARC passengers have the opportunity to transfer to the Metrorail Green Line or Yellow Line Rush Plus. Northbound trips (Washington to Baltimore) serve the station seven times each weekday: three times during the AM peak period and four times during the PM peak period. Southbound trips between Baltimore and Washington also serve the station seven times each weekday: four times during the AM peak period and three times during the PM peak period. Northbound trips serve the station between 6:49 AM and 8:16 AM and again between 5:01 PM and 8:01 PM. Southbound trips serve the station between 5:42 AM and 8:50 AM and again between 4:10 PM and 6:57 PM.

The MARC platforms are at ground level just to the west of the Greenbelt Metrorail Station. A walkway connects the Metrorail station mezzanine with the northbound platform, and a tunnel beneath the tracks connects the northbound platform to the southbound platform. A pedestrian sidewalk also connects the southbound platform and tunnel to Lackawanna Street in the Hollywood neighborhood west of the tracks. CSX operates a freight transport rail service along the same tracks.

2.4 Park & Ride

The existing Park & Ride surface lot shown in **Figure 2** provides a total of 3,677 spaces. These spaces include 3,399 all-day parking spaces (62 of which are accessible spaces), 197 short-term metered spaces, 64 long-term metered spaces, and 17 multi-day spaces. The lot generally sees maximum occupancy around 11:30 AM, with just over 3,200 cars and approximately 500 empty spaces. During the period from

July 2013 to June 2014 (fiscal year 2014), the lot utilization was 74%, ranking eleventh of the fifteen Park & Ride facilities in Prince George's County.

2.5 Kiss & Ride

The existing Kiss & Ride area at the Greenbelt Metrorail Station is located within two separate lots as shown in **Figure 2**. The Kiss & Ride lots include 55 short-term metered/driver attended 'A' spaces, 11 accessible spaces, 24 motorcycle spaces, 10 taxi spaces, and 6 car sharing spaces. Additional amenities include two covered seating shelters, trash receptacles, and lighting for riders waiting for private vehicles.

2.6 Pedestrian and Bicycle Access

Bicycle riders and pedestrians access the Metrorail Station via streets and sidewalks. A shared-used path allows pedestrians and bicyclists to access the area west of the Metrorail Station through a tunnel under the Metrorail and CSX tracks as shown in **Figure 2**. Greenbelt Metro Drive along the north side of the property includes paved sidewalks separated from vehicular traffic by elevated curbs and, in some places, two to three feet of landscaping. Sidewalks along Greenbelt Metro Drive continue to the west side of the bus loop and Kiss & Ride and widen to form a plaza with lighting and trash receptacles in front of the Metrorail Station entrance. Paved sidewalks also connect the Greenbelt Metrorail Station entrance to the western and southern borders of the Park & Ride area. Amenities at the station include 60 bike racks and 52 bike lockers.

3. PROJECT DESCRIPTION

The purpose of the project is to consolidate existing WMATA activities in order to facilitate the joint development on land owned by WMATA adjacent to the east side of the Greenbelt Metrorail Station, as shown in **Figure 1**. The project consists of the following actions:

- Construction of replacement transit facilities by the developer at no cost to WMATA:
  - Kiss & Ride lot with 104 spaces, including 48 short-term metered spaces/driver-attended 'A' spaces, 11 accessible spaces, 20 motorcycle spaces, 15 taxi spaces, 4 shuttle spaces, and 6 pick-up/drop-off spaces;
  - Park & Ride structure with 3,669 parking spaces, including 47 accessible spaces and 6 electric vehicle spaces;
  - Bus loop with 12 bus bays and 14 bus layover spaces; and
  - Event bus layover lot with 26 spaces.

- Construction of a mixed-use, transit-oriented development, which includes the following elements:
  - Hotel, office, retail and residential, and associated parking uses;
  - A five-lane access road, "Greenbelt Station Parkway," which will serve the joint development and connect to the existing Greenbelt Station Parkway segment south of the WMATA property; and
  - Pedestrian and bicycle improvements, including an east-west trail connection between Cherrywood Lane and Greenbelt Station Parkway, a north-south pedestrian/bike trail connection between the Metrorail station and the southern portion of Greenbelt Station Parkway, a direct pedestrian connection from the Metrorail station to the office development planned on the east side of Greenbelt Station Parkway, and bicycle lanes along Greenbelt Station Parkway and Greenbelt Metro Drive.

The replacement transit facilities are shown in **Figure 4** and the joint development concept is shown in **Figure 5**.

3.1 Park & Ride Structure

The existing Park & Ride lot would be replaced with an eight-story WMATA owned-and-operated parking structure with 3,669 parking spaces to be located southeast of the Greenbelt Metrorail Station entrance. Vehicles would enter the Park & Ride structure using Metro Access Drive or Greenbelt Station Parkway and exit the structure onto Greenbelt Station Parkway.

3.2 Kiss & Ride Lot

The existing Kiss & Ride lots would be replaced and integrated into the ground floor of a private development parking structure across from the existing Metrorail platform. The Kiss & Ride would include:

- Pick-up spaces for 15 taxis, four shuttles, and nine standard vehicles; and
- Parking spaces for 48 standard vehicles, 20 motorcycles, and 11 accessible spaces.

3.3 Bus Loop and Layover Spaces

The joint development project would replace the bus loop and layover spaces in a location under a private parking structure as shown in **Figures 4 and 5**. The bus loop features 12 bus bays and space for 14 buses to layover. At the northeast corner of the Greenbelt Metrorail Station, an event bus layover lot will be constructed with space for 26 buses. The bus loop and event bus lot will share an entrance and exit designated for bus use only.

Figure 4: Proposed Replacement of Transit Facilities

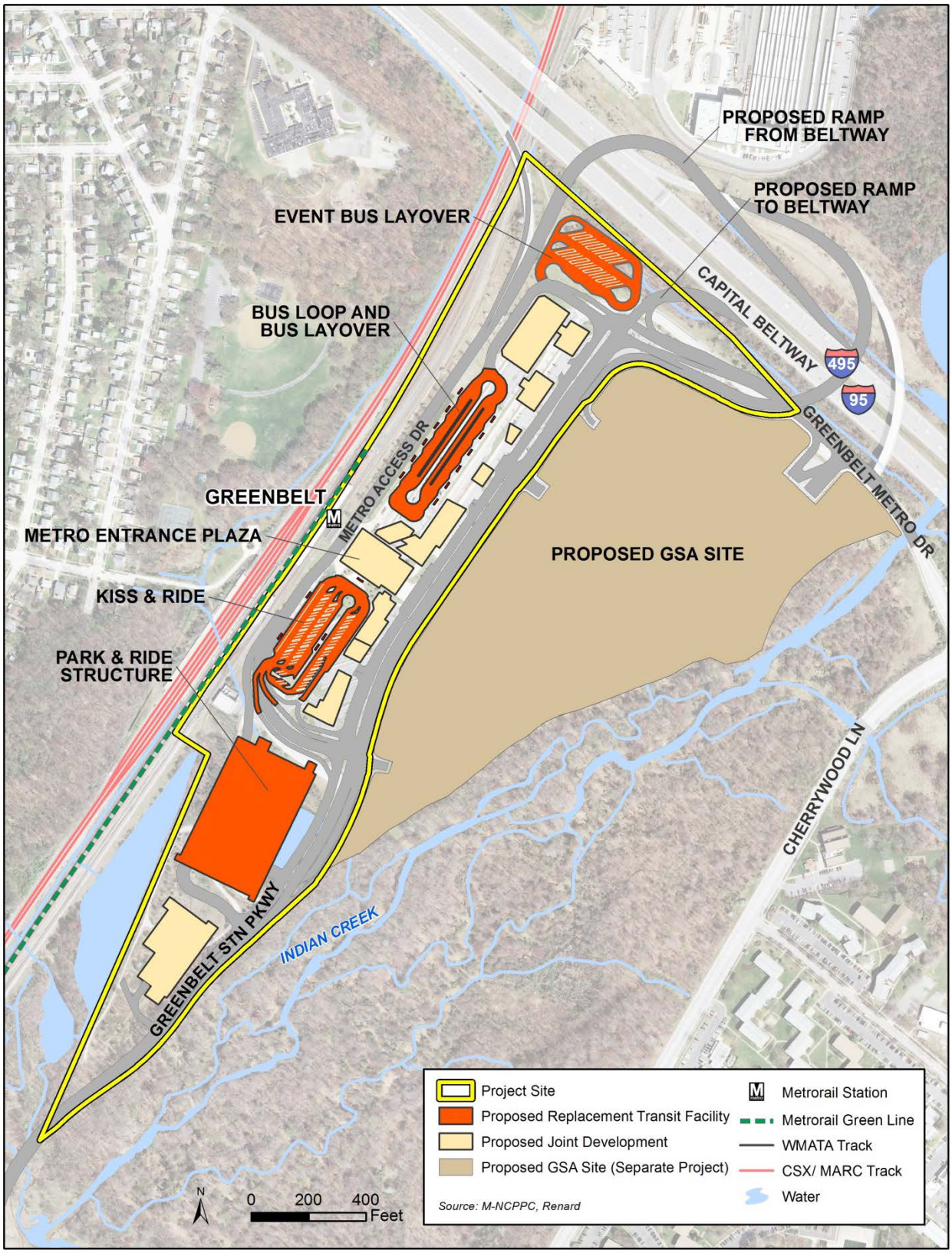
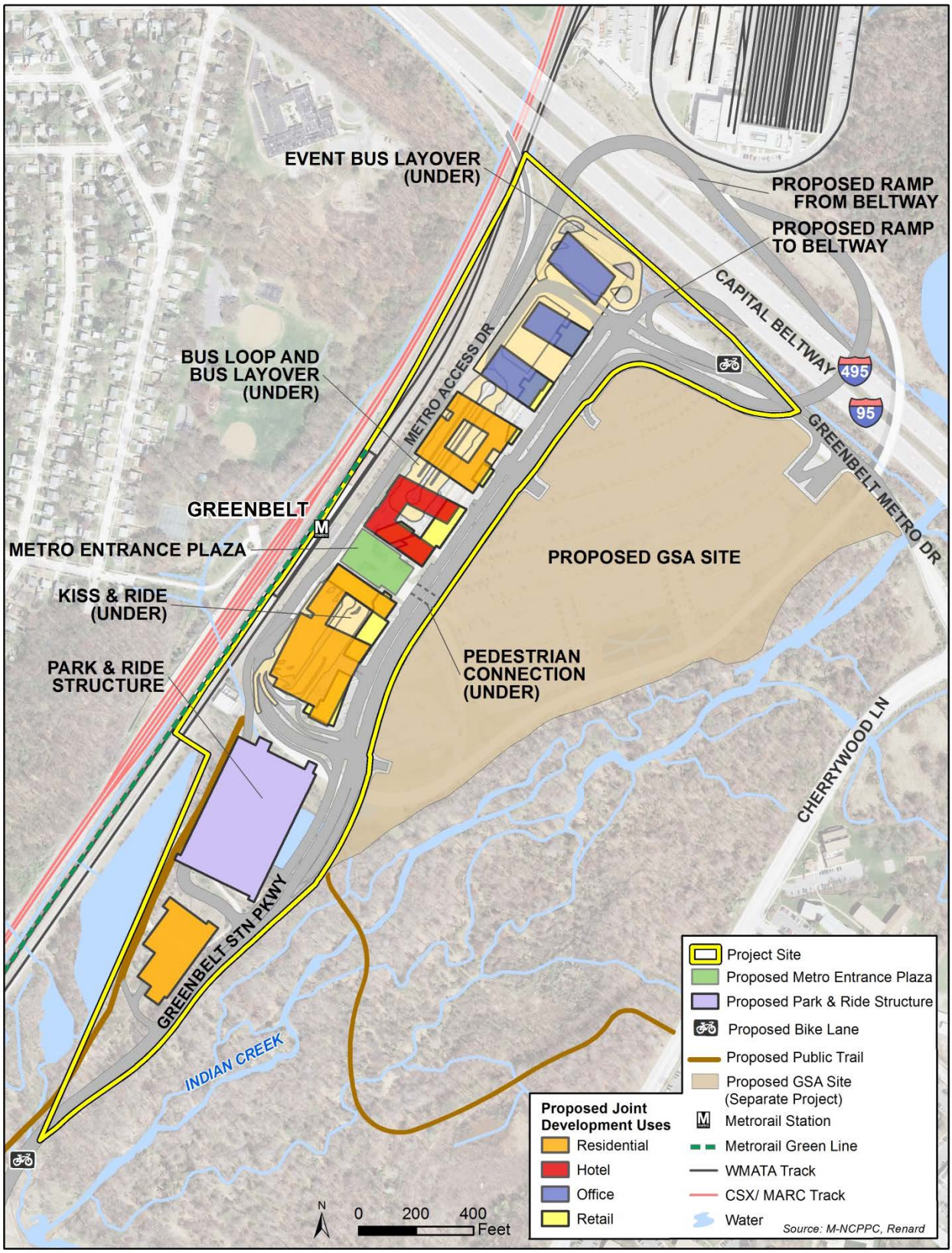


Figure 5: Joint Development Concept



3.4 Joint Development

The joint development would construct a new mixed-use development which the County refers to as the "Greenbelt Station North Core Area" and is shown in **Figure 5**. The concept illustrates both the proposed joint development and replacement transit facilities. Greenbelt Station North Core Area would include commercial space, residences, greenspace, and the replacement transit facilities along a linear alignment adjacent to the Metrorail Station.

The development is currently anticipated to have 800 residential units, a hotel with 300 rooms and a 20,000 square foot conference facility, 400,000 square feet of office space, and 70,000 square feet of ground-floor retail (See **Appendix A** for the developer's concept plan).

3.4.1 Background – Greenbelt Station Development

As noted above, the joint development project is part of a larger private development called the Greenbelt Station project. As background regarding the history of the development, the previous plans reviewed and approved by the Maryland-National Capital Park and Planning Commission (M-NCPPC) and the Prince George's County Planning Board also proposed mixed-use development on the area of WMATA property now under consideration as the proposed GSA site for the FBI headquarters.

The current Greenbelt Station project also includes a separate development project off of WMATA property, referred to as the "South Core Area." The South Core portion is an 87-acre transit-oriented, mixed-use infill project with 350 townhomes, 550 apartments, and 180,000 square feet of retail, located southwest of the joint development site. Phase I is currently under construction. **Figure 6** shows the locations of the North Core and South Core areas. The current proposed GSA site project is described below under "Other Future Development."

3.4.2 Joint Development Agreement

WMATA executed an (amended) Joint Development Agreement (JDA) in October 2011 with Renard Development Company, LLC. Renard is the successor in name to Metroland Developers, LLC, with which WMATA executed the original JDA for the Greenbelt Metrorail Station in January 2000.

The JDA commits the developer to the construction of the replacement transit facilities described in the previous section, and in exchange, enables the developer to construct a transit-oriented development on land adjacent to the Greenbelt Metrorail Station. WMATA would sell approximately 78 acres to the developer as a condition of the JDA, of which approximately half would be transferred for the proposed FBI development shown in **Figures 4 and 5**.

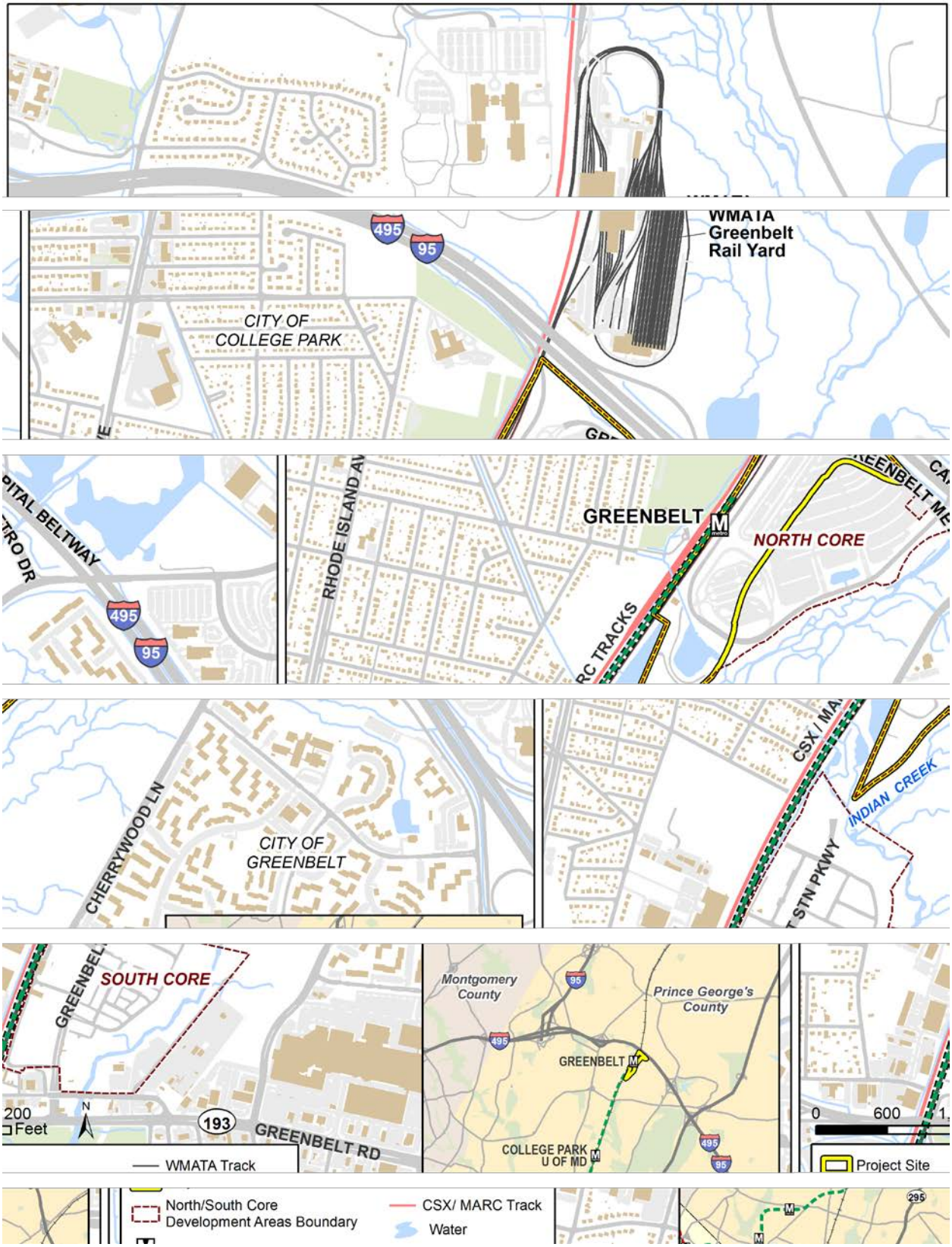
The JDA also states that the developer is responsible for compliance with all applicable federal and Maryland environmental laws, rules, regulations, ordinances, judicial or administrative decrees, orders, decisions, authorizations and permits.

3.5 Other Future Development

GSA is currently preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act for construction of the new FBI headquarters. The *FBI Headquarters Consolidation Draft EIS* evaluated three alternative sites for the relocation of the FBI headquarters, including a site east of and adjacent to the joint development project, as well as sites in Landover, Maryland,

and Springfield, Virginia. GSA has not identified a preferred alternative site for the FBI headquarters at this time. The Draft EIS was released on November 6, 2015 for public comment. Environmental impacts resulting from the potential FBI development are not being analyzed as part of this EE except as the impacts relate to increases in traffic and transit ridership. The site that GSA is evaluating is shown in **Figures 4 and 5**.

Figure 6: North Core and South Core Areas



4. PROJECT IMPACTS

This section evaluates the potential environmental effects of the project, which consists of the proposed joint development and associated replacement of WMATA facilities described in Chapter 3. The potential environmental effects of the proposed FBI headquarters development are not included in this evaluation, except as the impacts relate to the cumulative impacts of the project and separate adjacent development projects to transportation, including traffic and transit services, analyzed in **Section 4.19 Secondary and Cumulative Impacts**.

4.1 Land Acquisitions and Displacements

Joint development occurs when a public transportation agency partners with another private or public organization to develop land owned or operated by the transportation agency. In the case of the Greenbelt Metrorail Station, WMATA has partnered with Renard Development Company, LLC. WMATA would retain control of its own facilities and operations to include Metrorail, a bus loop with layover space, event bus parking, a Park & Ride structure, and a Kiss & Ride lot. Renard and the GSA would be allowed to construct other facilities to achieve transit-oriented development (TOD).

No additional land acquisition would be required as part of the project. No WMATA facilities would be permanently displaced, but the existing bus loop, bus layover site, Kiss & Ride, and Park & Ride facilities would be redeveloped as part of the joint development. WMATA facilities may be temporarily relocated during construction of the joint development; however, no permanent impact to operations is anticipated as part of the project.

4.2 Transportation

4.2.1 Parking

As part of the project, the developer would redevelop and replace the existing WMATA bus loop with layover space, event bus parking, Kiss & Ride lot, and Park & Ride lot as shown in **Figure 4**. **Table 4** shows a comparison of the existing WMATA parking facilities with the developer's proposed replacement facilities.

While the project would have a net loss of eight Park & Ride spaces and two Kiss & Ride spaces, the existing spaces are not fully utilized. Further, the proposed replacement facilities would improve existing conditions. The existing surface Park & Ride lot with short-term, long-term and multi-day metered spaces would be consolidated into an eight-level garage structure and would provide 3,669 daily parking spaces. The two existing surface Kiss & Ride lots would be consolidated into one area and would provide five additional taxi spaces, four shuttle spaces, and nine pick-up/drop-off spaces. Five additional bus bays and six additional bus layover spaces would be an improvement over existing conditions.

Table 4: Comparison of Parking and Layover Facilities

Parking/Layover Facility		Existing Spaces	Proposed Spaces
Park & Ride Lot			
	Daily spaces (Daily accessible spaces) (Daily electric vehicle charging spaces)	3,399 (62) -	3,669 (47) (6)
	Multi-day spaces	17	-
	Short-term meter spaces	197	-
	Long-term meter spaces	64	-
	Total	**3,677**	**3,669**
Kiss & Ride Lot			
	Short-term meter spaces/	55	48

Parking/Layover Facility		Existing Spaces	Proposed Spaces
	Driver-attended 'A' spaces		
	Accessible spaces	11	11
	Motorcycle spaces	24	20
	Taxi spaces	10	15
	Shuttle spaces	-	4
	Car sharing spaces	6	-
	Pick-up/Drop-Off	-	9
	Total	**106**	**107**
Bus Bays		**7**	**12**
Bus Layover		**8**	**14**
Event Bus Lot		**26**	**26**

Source: WMATA and Renard Development Company, LLC

4.2.2 Traffic

The Capital Beltway serves as the northern border of the WMATA Greenbelt Metrorail Station property. A partial interchange exists from the Capital Beltway with an eastbound off-ramp and westbound on-ramp at the Greenbelt Metrorail Station. Cherrywood Lane borders Greenbelt Metrorail Station to the east and extends north of the Capital Beltway to Edmonston Road (MD 201). South of the property, the beginnings of Greenbelt Station Parkway have been constructed and extend from Greenbelt Road (MD 193) to the south end of the joint development property.

The developer has approved conceptual site plans and preliminary plans with M-NCPPC and the Prince George's County Planning Board (Resolutions No. 01-130(A/3) and 06-32(A) for the former Greenbelt Station North and South Core development plans that included additional mixed-use development on the currently proposed GSA site. These approved plans have a trip cap of 4,180 AM peak hour and 7,029 PM peak hour trips for the combined North Core (including the proposed GSA site) and South Core developments. The current joint development plans (North Core mixed-use development only, excluding the proposed GSA site) would generate 749 AM peak hour and 887 PM peak hour trips, which are well below the M-NCPPC approved trip cap. The current joint development plans with the addition of the South Core development under construction (excluding the proposed GSA site) would generate 1,311 AM peak hour and 1,970 peak hour trips, which would still be below the approved trip cap.

Roadway improvement commitments for the joint development project (based on the Greenbelt Station North and South Core developments approved by M-NCPPC and the Prince George's County Planning Board) include new I-95/I-495 off- and on-ramps, completion of the Greenbelt Station Parkway, and associated realignments and intersection improvements to the existing internal street network at the Greenbelt Metrorail station. Implementation of these improvements would depend on development of the proposed GSA site.

The *FBI Headquarters Consolidation Draft EIS* assessed future traffic conditions in 2022 with the joint development project and other planned developments in the vicinity but without the FBI headquarters development as part of its No Build Alternative. This analysis assumed additional mixed-use development on the currently proposed GSA site and assessed the conditions with and without the roadway improvement commitments. Without the roadway improvements, the analysis found adverse impacts to overall traffic corridor and intersection conditions in the project vicinity. However, the proposed roadway improvements were found to fully mitigate these adverse traffic impacts.

Potential cumulative traffic impacts of the South Core and FBI headquarters developments and their proposed mitigation measures are discussed in **Section 4.19 Secondary and Cumulative Impacts**.

4.2.3 Metrorail

Transit-oriented joint development at the Greenbelt Metrorail Station is expected to increase overall ridership at the Greenbelt Metrorail Station.

Any increase in ridership at Greenbelt Metrorail Station due to new employment, retail, or residential opportunities is not expected to be large enough to cause any significant impact on Metrorail operations. An increase in ridership would make better use of existing capacity because of the reverse commute.

The *FBI Headquarters Consolidation Draft EIS* assessed Metrorail service and operations for future conditions in 2022 with the joint development project and other planned developments in the vicinity but without the FBI headquarters development as part of its No Build Alternative. Under these conditions, train car passenger loads, station escalator and stair capacity, platform pedestrian level of service, and station evacuation times would continue to operate below capacity and within acceptable levels of service.

Potential cumulative traffic impacts of the South Core and FBI headquarters developments are discussed in **Section 4.19 Secondary and Cumulative Impacts**.

4.2.4 Metrobus, TheBus, and RTA Bus Routes

All routes accessing the Greenbelt Metrorail Station may experience a marginal increase in ridership from people travelling to and from the retail, office, and residential uses associated with the joint development. No impact to bus facilities or operations is anticipated as part of the development.

The *FBI Headquarters Consolidation Draft EIS* assessed future traffic conditions in 2022 with the joint development project and other planned developments in the vicinity but without the FBI headquarters development as part of its No Build Alternative. This analysis assumed additional mixed-use development on the currently proposed GSA site and assessed the conditions with and without the roadway improvement commitments. Without the roadway improvements, the analysis found adverse impacts to traffic conditions that in turn adversely impacted some bus operations in the station vicinity. However, the proposed roadway improvements were found to fully mitigate these adverse traffic and bus operations impacts.

Potential cumulative traffic impacts of the South Core and FBI headquarters developments are discussed in **Section 4.19 Secondary and Cumulative Impacts**.

4.2.5 Bolt Bus

Bolt Bus operations would be moved to the new event bus layover and parking facility with other privately operated buses and special event buses. Pedestrians would access the event lot from the Metrorail entrance via sidewalks on the eastern side of Greenbelt Metro Drive. No permanent impact to Bolt Bus operations is anticipated as part of the development.

4.2.6 Pedestrian and Bicycle Access

Joint development plans include improved pedestrian and bicycle access to the Greenbelt Metrorail Station and enhanced facilities within the site, including bike lockers/racks and a future bike-and-ride facility located next to the Metro Plaza near the Metrorail Entrance.

Sidewalks would be constructed along Greenbelt Station Parkway connecting with sidewalks on the existing portion of the road south of the site. To the north, the sidewalks would extend to the last intersection before the Capital Beltway ramps. The new sidewalks would allow pedestrians to walk directly from Greenbelt Station Parkway to the joint development planned along the western portion of Greenbelt Station Parkway,

or along Greenbelt Metro Drive and from the existing sidewalks on the northbound side of Cherrywood Lane to the joint development. The joint development would also provide internal pedestrian access elements including walkways, sidewalks, stairs, elevators, and escalators.

New public access trails that connect to the existing and proposed sidewalk network are also proposed as part of the joint development (see **Figure 5**). Pedestrians and bicyclists coming from south of the station near Greenbelt Road (MD 193) or along Greenbelt Station Parkway could utilize the proposed pedestrian/bike trail that would provide a more direct route to the Metrorail Station. Another trail would be constructed between Cherrywood Lane and the eastern sidewalk of Greenbelt Station Parkway across from the WMATA parking structure. This trail would provide pedestrian access to the Metrorail Station from the Franklin Park neighborhood. A direct pedestrian connection is also proposed from the Greenbelt Metrorail Station to the proposed GSA site planned on the east side of Greenbelt Station Parkway; this connection would provide more direct access for pedestrians and increase safety by creating special attention to pedestrian crossings at-grade. Bicycle lanes are proposed along Greenbelt Station Parkway and Greenbelt Metro Drive.

The addition of sidewalks, trails, and bicycle lanes is expected to improve pedestrian and bicycle safety, connectivity, and access to the Greenbelt Metrorail Station.

4.2.7 Other Facilities

In addition to WMATA-operated parking at the Greenbelt Metrorail Station, the joint development would include 300 hotel parking spaces, 699 residential parking spaces, 1,113 office parking spaces, and 200 retail parking spaces on the western portion of the Greenbelt Metrorail Station site. The number of parking spaces is anticipated to accommodate demand; therefore, no impact to parking is anticipated. No impacts are anticipated to the MARC Greenbelt Station, MARC Camden Line, or CSX operation as a result of this project.

4.3 Land Use and Zoning

Existing land use designations for the Greenbelt Metrorail Station include “transportation” and “bare ground”. The station is zoned M-X-T (Mixed-Use-Transportation Oriented) by Prince George’s County, which allows for a variety of residential, commercial, and employment uses. M-X-T zones must be located near a major intersection or transit stop or station and provide adequate transportation facilities for anticipated traffic. The proposed development is consistent with the existing land use and M-X-T zoning designations. See **Figure 7** and **Figure 8** for existing land use and zoning maps.

Figure 7: Existing Land Use

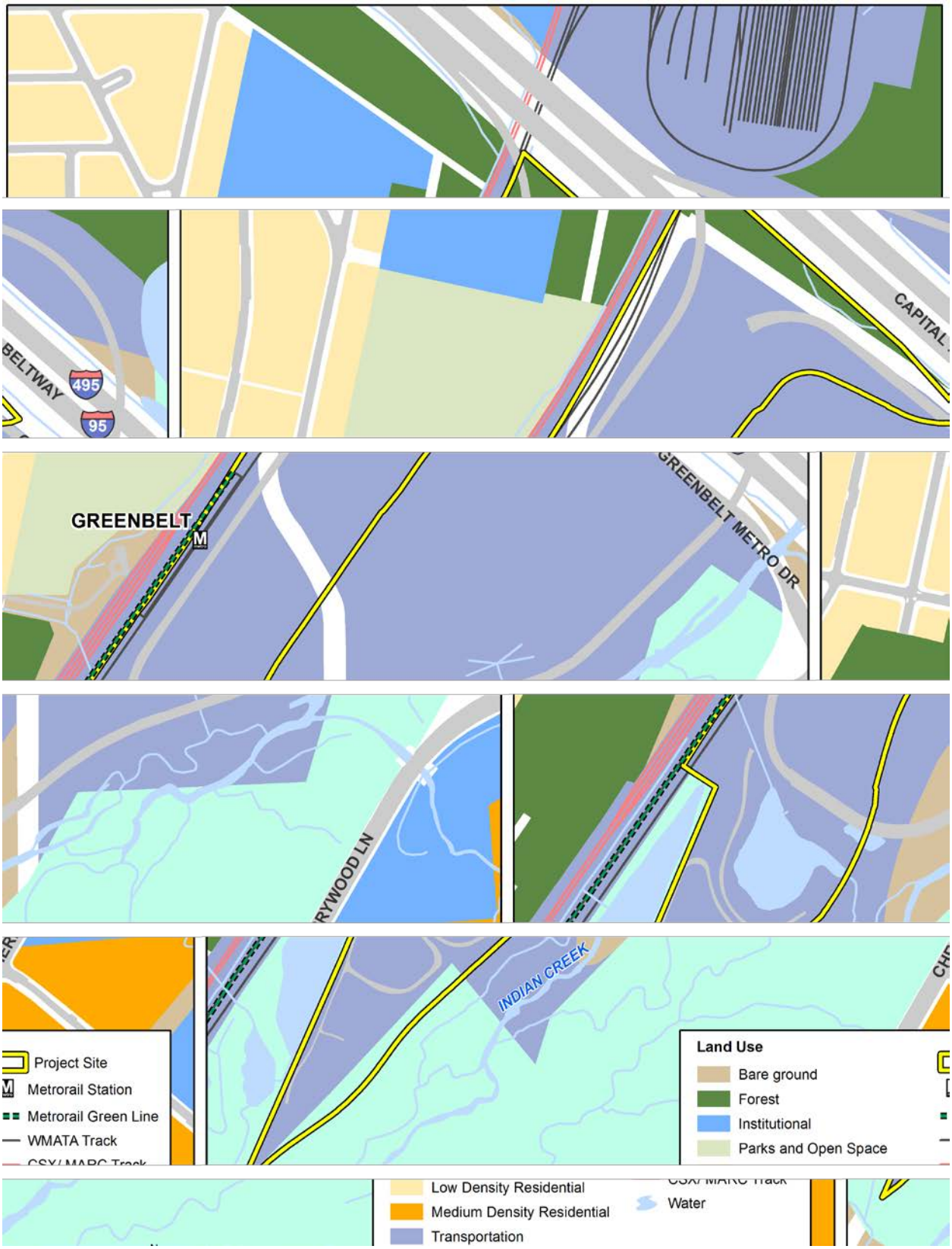
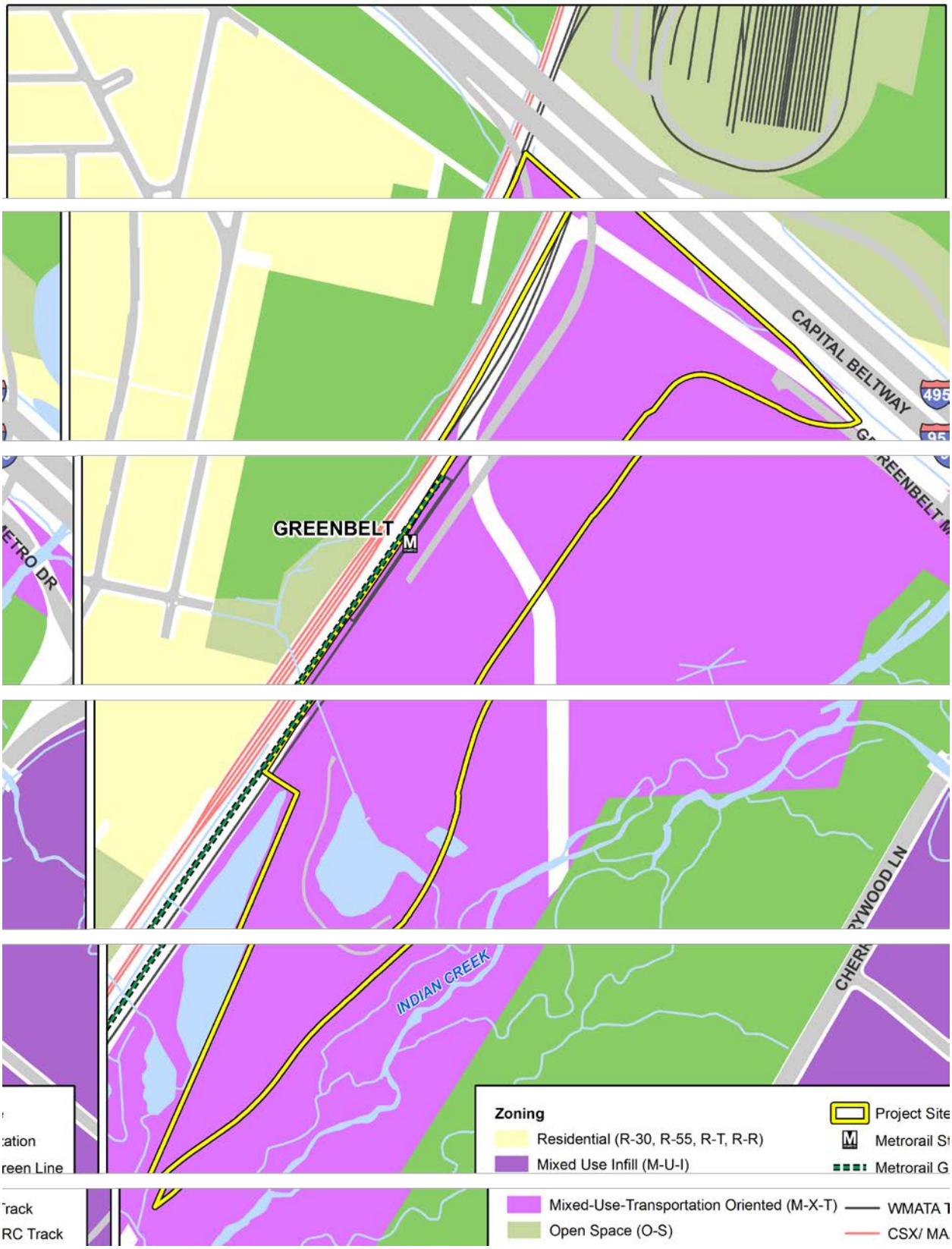


Figure 8: Existing Zoning



4.4 Planning Consistency

Table 5 identifies applicable local plans and inconsistencies with current joint development plans.

Table 5: Land Use and Transportation Plans

Plan	Description	Author	Date	Inconsistencies
Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and Sectional Map Amendment	Recommends future transit-oriented development at the Greenbelt Metrorail Station. Envisions new urban space and large employer campus near the Metrorail Station.	Maryland-National Capital Park and Planning Commission (M-NCPPC)	March 2013	None
Prince George's 2035 Approved General Plan	Identifies the Greenbelt Metrorail Station area as: 1) one of eight Regional Transit Districts in the County, to which the majority of future employment and residential growth will be directed. These Districts are to feature high-quality urban design, incorporate a mix of complimentary uses and public spaces, and provide a range of transportation options; and 2) within an Innovation Corridor for tax incentives and targeted infrastructure improvements to retain existing and attract new employers.	M-NCPCC	May 2014	None
Approved Countywide Master Plan of Transportation	Identifies the Greenbelt Metrorail Station area as: 1) Priority Investment District for managing the adverse impact of traffic congestion that may be caused by new development; and 2) Metropolitan Center, with high enough density and intensity of land use and economic activities to become both a major transit center and "destination place." Recommends a feasibility study for a pedestrian bridge linking the station and joint development with the communities and trails west of the railroad tracks.	M-NCPPC	November 2009	None
Approved Countywide Green Infrastructure Plan	Prioritizes areas for the conservation of environmentally sensitive ecosystems. Identifies portions of the project site as Regulated Area, Evaluation Area, and Network Gap (see description following table). Prior to submission of land development applications, the exact location of the green infrastructure network will be delineated on natural resources inventory plans.	M-NCPPC	June 2005	During the land development process the three areas of the network will receive different levels of consideration for preservation (see description following table).

Prince George's County *Green Infrastructure Plan*

The project site intersects with natural environmental areas identified in the *Approved Countywide Green Infrastructure Plan* (2005), which is described as a "comprehensive vision for interconnecting environmental ecosystems in Prince George's County." The plan identifies land areas that are part of a "Green Infrastructure Network." The network is divided into three categories:

- **Regulated areas** "contain environmentally sensitive features, such as streams, wetlands, 100-year floodplains, severe slopes and their associated buffers that are regulated…"
- **Evaluation areas** "contain environmentally sensitive features, such as interior forests, colonial waterbird nesting sites, and unique habitats, that are not regulated…"
- **Network gaps** are "those areas that are critical to the connection of the regulated and evaluation areas and were included in the mapping to provide areas of possible connectivity…"

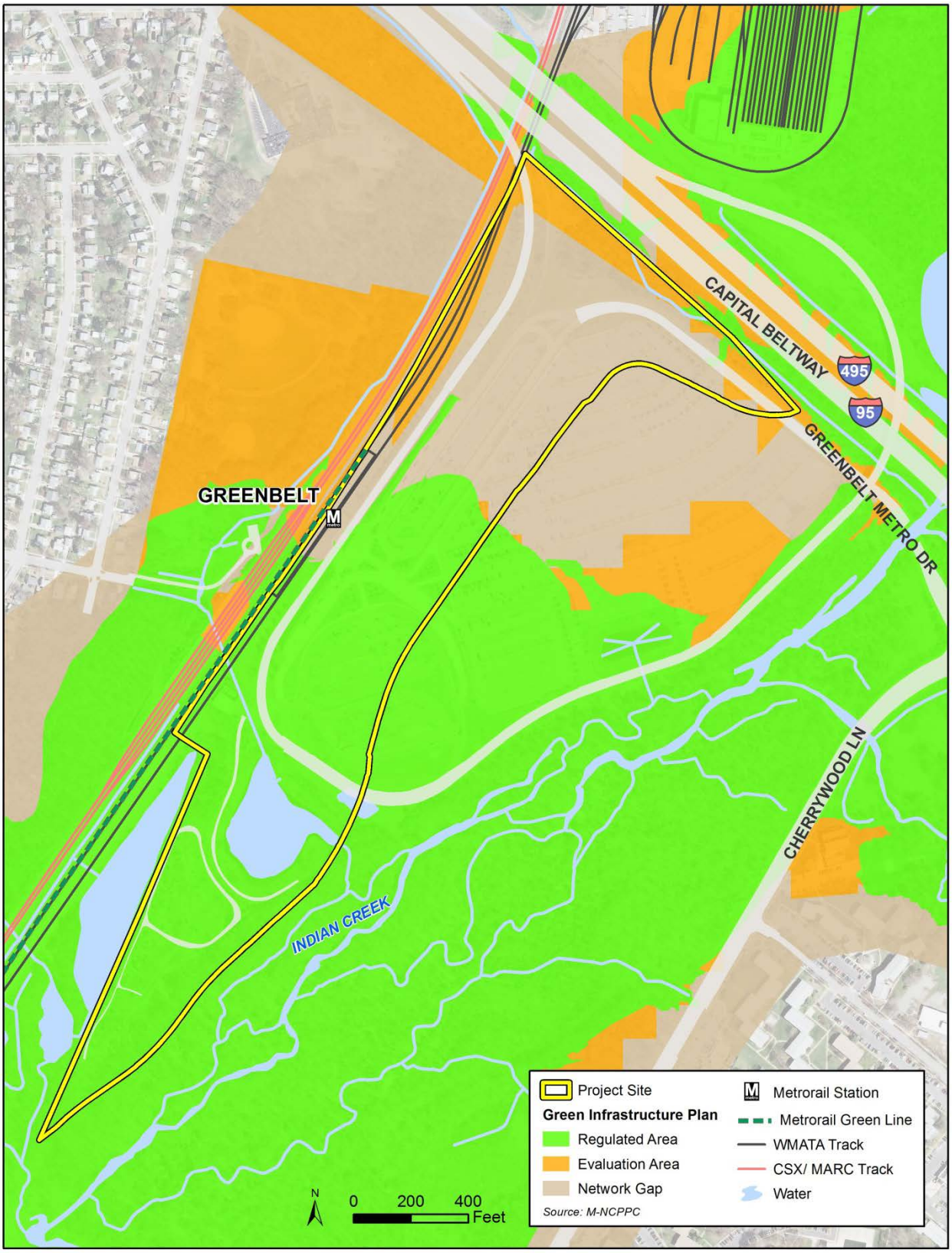
Figure 9 shows the locations of these designated areas in relation to the project site. During the land development process the three areas of the network will receive different levels of consideration, which is summarized as follows:

- **Regulated areas** are required to be preserved, except for road crossings and public utilities where necessary.
- **Evaluation areas** can develop in keeping with the underlying zoning and in conformance with the other regulations of applicable ordinances; however, consideration must be given to preservation of the natural resources.
- **Network gaps** should be considered during the development review process to evaluate opportunities for making critical connections or otherwise restoring functions of the green infrastructure network.

Prior to submission of land development applications, the exact location of the green infrastructure network will be delineated on natural resources inventory plans. At the time of plan approval in 2005, the majority of the site was considered part of the 100-year floodplain and classified as a regulated area. In 2008, the Federal Emergency Management Agency (FEMA) approved a Letter of Map Revision (LOMR) for properties within the project site, which modified the regulated floodplain boundary and removed most of the existing parking lot from the regulated floodplain. Thus, the current boundaries of the regulated area may change based on the delineation to be conducted during the County review process.

WMATA will complete the "Mandatory Referral Review" process in coordination with Prince George's County, and in accordance with County guidance material, including the *Adopted Uniform Standards for Mandatory Referral Review* (July 18, 2012). In Maryland, government agencies must submit proposed projects for review and comment. Through this process, WMATA has the opportunity to review comments from the Prince George's County Planning Board and make modifications to the project as necessary.

Figure 9: Prince George's County Green Infrastructure Plan



4.5 Neighborhoods and Community Facilities

The project site, including the existing parking lot for the station, is located within the City of Greenbelt in Prince George's County, Maryland. Immediately to the west of the project site, across the railroad tracks, is the City of College Park. South of the project site, generally along Greenbelt Road, is the Town of Berwyn Heights. The project site is located in the vicinity of several neighborhoods and community facilities, as shown in **Figure 10**.

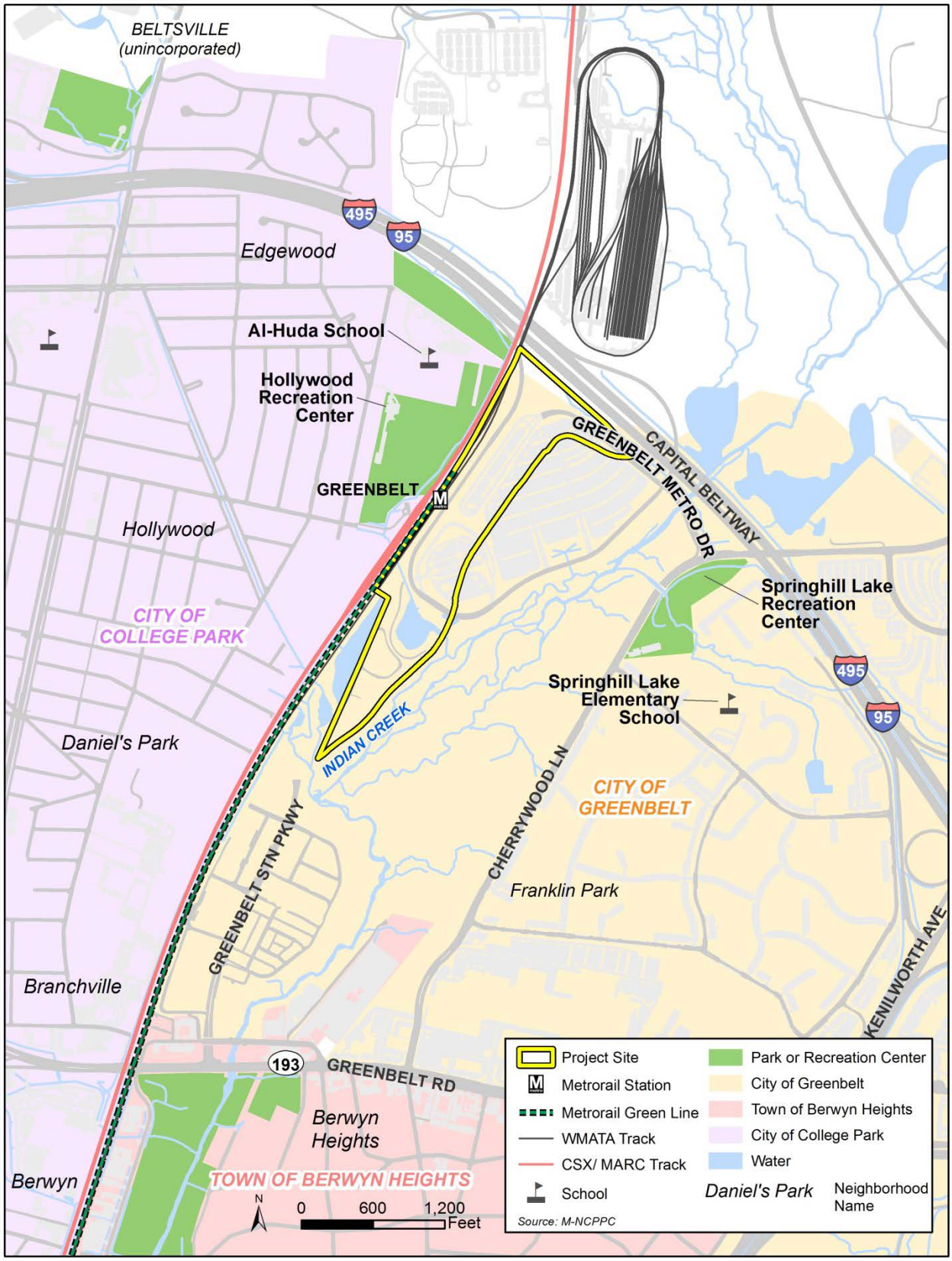
The residential area west of the WMATA and CSX tracks is known as North College Park. The neighborhoods in North College Park closest to the joint development site are Hollywood, Edgewood, and Daniel's Park. The residential area east of the joint development site and Indian Creek is known as Franklin Park. Immediately south of Franklin Park is Berwyn Heights.

Within a half-mile of the project site, the following schools and recreation facilities are present:

- Al-Huda School
- Springhill Lake Elementary School
- Hollywood Community Park and Recreation Center
- Springhill Lake Recreation Center

The proposed joint development project would not create a physical barrier within a neighborhood, isolate a portion of a neighborhood, or have a direct impact on a community facility or access to a community facility. Traffic volumes are expected to increase, but all intersections would continue to operate at an acceptable Level of Service (see **Section 4.2.2**). Short-term construction impacts on these neighborhoods are discussed in **Section 4.20**.

Figure 10: Neighborhoods and Community Facilities



4.6 Environmental Justice Populations

The following section identifies minority and low-income populations (collectively "Environmental Justice populations") in the project area, and assesses any potential disproportionately high and adverse impacts to those identified populations.

4.6.1 Identification of Environmental Justice Populations

A half-mile radius around the project site was determined to be the appropriate study area boundary to analyze the presence of Environmental Justice populations; the proportion of all U.S. Census block groups that fell within the half-mile boundary were included, with the exception of two block groups that were eliminated from analysis because no residences were located within the study area. The City of Greenbelt and Prince George's County were selected as comparison areas for the Environmental Justice analysis. Minority and low-income statistics were then analyzed at the Census block group level using population and income data from the U.S. Census Bureau's American Community Survey 5-Year Estimates (2009-2013).

Table 6 lists the percentages of minority and low-income residents in the half-mile project study area in comparison to the City of Greenbelt and Prince George's County overall. Approximately 74 percent of the study area population belongs to a minority group, which is lower than the City of Greenbelt (74.5 percent) and Prince George's County (85.2 percent). Additionally, slightly less than 10 percent of the study area is low-income, which is lower than the City of Greenbelt (10.7 percent) and Prince George's County (15.6 percent). While the study area as a whole has lower minority and low-income percentages than the comparison areas, the individual block groups east of Cherrywood Lane have significant concentrations of minority and low-income populations.

Table 6: Minority and Low-Income Population by Block Group

Census Tract	Block Group	Minority			Low-Income		
		Total Population	Minority Population	Percent	Total Population*	Low-Income Population	Percent
8067.13	1	211	208	98.6%	211	59	28.0%
8067.13	2	922	762	82.6%	922	169	18.3%
8067.14	1	1763	1634	92.7%	1763	172	9.8%
8069	1	1295	881	68.0%	1295	25	1.9%
8069	3	894	408	45.6%	894	69	7.7%
8070	1	400	160	40.0%	400	50	12.5%
Project Study Area		**5,485**	**4,053**	**73.9%**	**5,485**	**544**	**9.9%**
City of Greenbelt		23,310	17,355	74.5%	23,294	2,490	10.7%
Prince George's County		873,481	744,506	85.2%	851,946	133,008	15.6%

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates (2009-2013).

*The total population for low-income is determined by the U.S. Census Bureau and may differ from total population counts. For the ACS 5-Year Estimates (2009-2013), poverty status was determined for all people except for unrelated individuals under 15 years old, and people in institutional group quarters, college dormitories, military barracks, and living situations without conventional housing.

Note: For block groups that partially fell within the half-mile study area boundary, minority and low-income populations were estimated by multiplying the block group total by the proportion of the block group estimated to fall within the half-mile boundary.

Table 7 provides a breakdown of the minority groups present within the project study area. The largest minority groups within the study area are Black/African Americans (35.8 percent), Hispanic/Latinos (28.1 percent), and Asians (7.6 percent). The percentage of Hispanic/Latinos within the project study area is higher than those of the City of Greenbelt (13.3 percent) and Prince George's County (15.4 percent).

Table 7: Minority Population by Block Group

Minority Group	Project Study Area		City of Greenbelt		Prince George's County	
	# of Residents	% of Total Population	# of Residents	% of Total Population	# of Residents	% of Total Population
Black/ African American	1,963	35.8%	11,653	50.0%	553,244	63.3%
American Indian/ Alaska Native	0	0.0%	0	0.0%	2,031	0.2%
Asian	415	7.6%	1,867	8.0%	36,266	4.2%
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	269	0.0%
Some Other Race	16	0.3%	105	0.5%	1,989	0.2%
Two or More Races	121	2.2%	623	2.7%	16,515	1.9%
Hispanic or Latino	1,539	28.1%	3,107	13.3%	134,192	15.4%
Minority Total	**4,054**	**73.9%**	**17,355**	**74.5%**	**744,506**	**85.2%**

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates (2009-2013).

4.6.2 Assessment of Disproportionately High and Adverse Impacts

There is no anticipated human environmental impact, including health, economic, and social impacts, on the identified minority and low-income populations within the project study area. No adverse impacts to neighborhoods, community facilities, air quality, noise, vibration or traffic are anticipated as a result of the project. Taking all of these factors into account, the joint development project would not have "disproportionately high and adverse effects" on identified Environmental Justice populations.

The proposed project would improve access to transit for the surrounding neighborhoods, including Environmental Justice populations. The planned pedestrian and bicycle improvements would have a beneficial impact by creating spaces specifically designed for pedestrians and bicyclists and to improve safety. The proposed improvements would also increase the overall connectivity of the pedestrian and bicycle network in the area around the project site.

4.7 Cultural Resources

M-NCPPC does not identify any historic architectural resources within the project site listed in the National Register of Historic Places, State of Maryland, or Prince George's County historic registers. No known archaeological resource is known to be located within the project site. Archaeological resources are unlikely, as the ground was disturbed substantially during construction of the existing facilities.

4.8 Public Parklands and Recreation Areas

Hollywood Community Park and Recreation Center and Springhill Lake Recreation Center, shown in **Figure 10**, are the only parklands or recreation centers located within a half mile of the project. No parks or recreation areas would be impacted by the project.

4.9 Wetlands and Waters of the U.S.

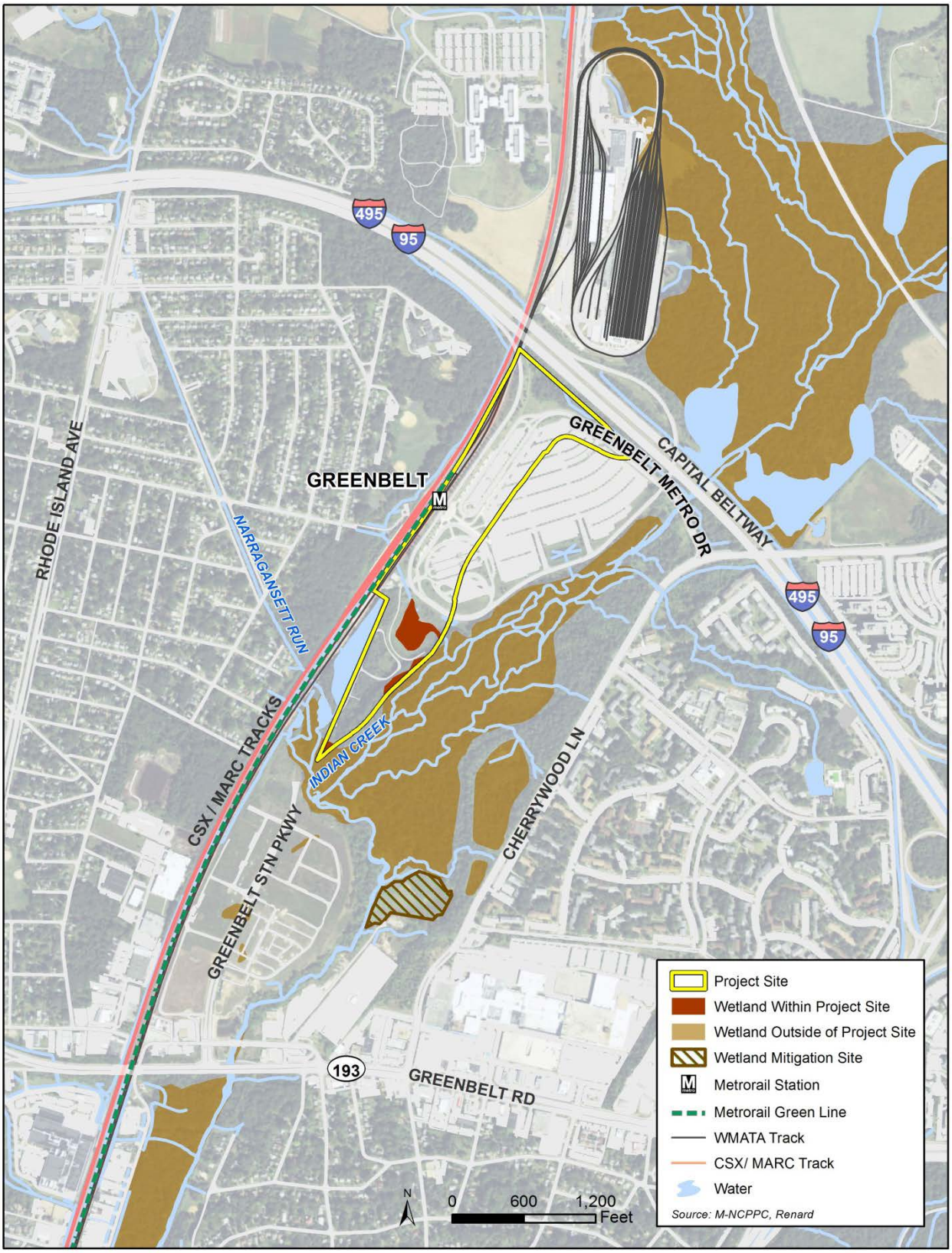
Both Indian Creek and Narragansett Run flow in proximity to the project site (see **Figure 11**). These streams are considered Waters of the U.S. (WOUS) under the Clean Water Act and implementing regulations (40 CFR 230.3). Indian Creek flows east of and adjacent to the project site. Narragansett Run flows along the southwest side of the project site where it passes through a culvert underneath the railroad tracks to join Indian Creek. According to a study by Renard (LandStudies 2007), Narragansett Run was previously channelized, with stream banks that are armored by riprap and concrete in places or eroding and unstable elsewhere. Both streams are tributaries to the Anacostia River. M-NCPPC data indicate that the project site also contains wetlands associated with the streams. The National Wetlands Inventory classifies these wetlands as Freshwater Emergent (PEM1CH) and Freshwater Forested/Shrub (PFO1A).

Approximately 2.41 acres of wetlands could be impacted by the project. The impact areas are shown in **Figure 11**. The impact estimate could be reduced as the design of the project progresses.

The developer is solely responsible for permitting wetland and WOUS impacts, and for implementing necessary mitigations. Jurisdictional wetlands and WOUS are subject to the Clean Water Act and Maryland state law which relate to the protection of surface water resources. The developer stated in the *2013 Request for Expressions of Interest Response* that it submitted a “Revised/Updated wetland permit” application on June 23, 2008, to the U.S. Army Corps of Engineers-Baltimore District (USACE) and Maryland Department of the Environment (MDE) and is pending issuance as the project progresses. The developer identified a mitigation site in the South Core development area to mitigate impacts for both the North Core joint development project and the South Core development (see **Figure 11**). Wetland mitigation has been completed at the identified mitigation area, consisting of the removal of a former concrete plant, asphalt plant and related industrial activities, and restoration of portions of Indian Creek. The restoration included the creation of approximately 10 acres of wetlands in connection with the removal of the concrete spoils area known as the "concrete mountain." The balance of wetland mitigation would be provided through offsite stream improvements on the South Core site. According to the developer’s *2013 Request for Expressions of Interest Response*, the approved permits will allow the stream relocation necessary to construct the proposed Greenbelt Station Parkway stream crossing linking the South Core with the North Core developments and linking the project site directly with MD 193/Greenbelt Road.

Additional mitigation activities already permitted by the developer, that would be coordinated with development of the FBI site, include a restoration plan for Narragansett Run. The proposed plan would realign the stream channel to create a more natural, meandering stream course, reduce stream velocities during rain events, and create wetlands to temporarily store excess stream volume.

Figure 11: Wetlands and Waters of the U.S.



4.10 Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)[1] shows that a portion of the project site is located within the 100-year floodplain. The FIRM reports that the Base Flood Elevations (BFE) for the 100-year floodplain range from 68 to 72 feet Mean Sea Level within the project site (due to the age of the FIRM, the BFE is provided in the North American Geodetic Vertical Datum of 1929). Existing facilities at Greenbelt Metrorail Station do not occupy the current 100-year floodplain (Zone A6).

The effective FIRM panel for the project site is 2452080015D, effective on December 15, 1989, which predates the construction of the Greenbelt Metrorail Station. On May 27, 2008, FEMA published a Letter of Map Revision Based on Fill (LOMR-F) for the property after determining the floodplain boundary was changed due to construction at Greenbelt Station. In 2013, FEMA developed a revised preliminary FIRM for Prince George's County. Using the revised preliminary FIRM data, there are 100-year floodplains within the project site, but the boundaries differ from those in the effective FIRM as shown in **Figure 12**. Although the revised preliminary FIRM is the best available information concerning floodplains within the project site, the current effective FIRM continues to have legal authority until the revised FIRM is approved. Approval of the revised FIRM is anticipated in August 2016.

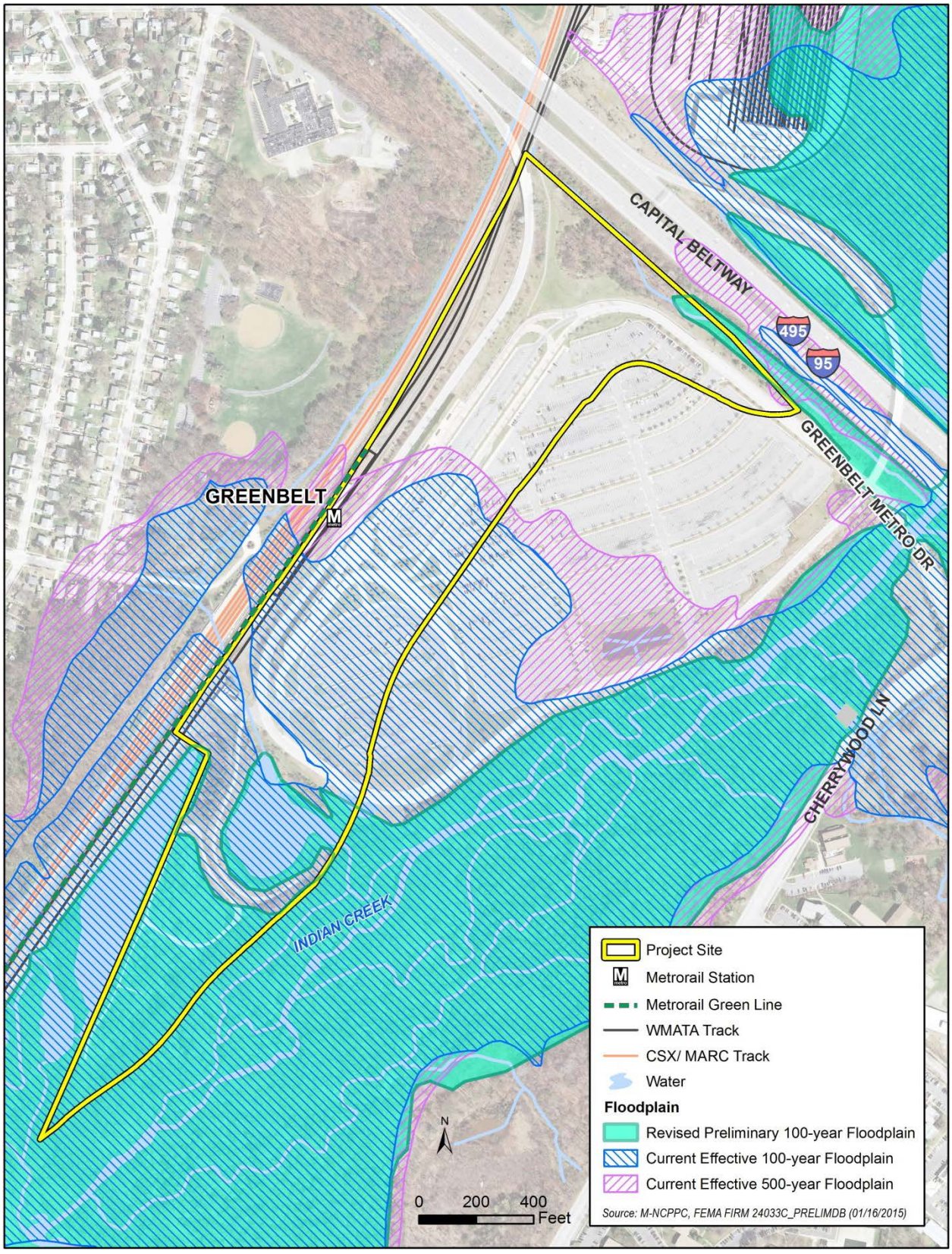
Project impacts were conservatively estimated using the entire project site boundary as an approximate Limit of Disturbance. The project could impact a maximum of 9.45 acres of the 100-year floodplain based on the revised FIRM data provided by FEMA as shown in **Figure 12**. The impact estimate could be reduced as the design of the project progresses.

Floodplain impacts are regulated by Prince George's County in accordance with the County's floodplain ordinance and the National Flood Insurance Program. The developer will seek appropriate approvals through Prince George's County and FEMA.

The developer is solely responsible for permitting impacts and mitigation for floodplains with both Prince George's County and FEMA. The developer stated in the *2013 Request for Expressions of Interest Response* that it has obtained an approved floodplain plan and site grading for the floodplain mitigation from Prince George's County. The developer states that that the floodplain mitigation project had been completed with the grading of the South Core development, which will also provide the floodplain mitigation for the North Core development where the project site is located.

[1] *Prince George's County, MD, Flood Insurance Rate Map, Community-Panel Number 2452080015D, December 15, 1989.*

Figure 12: Floodplains



4.11 Water Quality

The project is not anticipated to affect the water quality of the adjacent streams and wetlands. Stormwater management facilities will be constructed in accordance with Prince George's County regulations, which control the rate and water quality of stormwater runoff. The developer stated in the *2013 Request for Expressions of Interest* that Prince George's County had approved stormwater management concept plans for the North Core on July 26, 2011. The developer stated that the project received final Stormwater Management Plan approval in May 2013, and the current approval remains valid provided that construction of the stormwater management system serving the project is completed prior to May 3, 2016 (see **Appendix B**). The developer is solely responsible for obtaining all required permits and will request extensions of approved permits as necessary.

The new stormwater management facilities will be designed to mitigate the increase in impervious surface within the project site and are the responsibility of the developer. No new discharges (i.e., industrial) from the project are anticipated that would require a National Pollutant Discharge Elimination System (NPDES) permit.

Consultation with the Maryland Department of Natural Resources (DNR) indicated that the braided stream channel system associated with Indian Creek supports the state-listed endangered Trailing Stitchwort plant (see **Section 4.14 Threatened and Endangered Species** and **Appendix D** for agency correspondence). Due to its location within the stream, the Trailing Stitchwort is highly vulnerable to changes in stream hydrology and sedimentation.

To avoid sedimentation of the rare species' habitat, sediment and erosion control measures should be strictly implemented and enforced. DNR provided the following recommendations regarding sediment control:

- Stabilize soil - Stabilization should occur immediately (within 24 hours);
- Make special efforts to retain fine particle silt, sand and clay sediments including the incorporation of redundant/additional control measures in the sediment and erosion control plan to ensure maximum filtration of any sediment-laden runoff (e.g., second row of silt fence, super silt fence instead of silt fence); and
- Inspect frequently - All measures should be inspected daily to ensure that they are functional from the very initial stages through final construction, and any problems should be corrected immediately.

Regarding the maintenance of stream hydrology, DNR recommended that the developer pursue environmental sensitive design to address stormwater runoff by promoting the use of non-structural best management practices to the maximum extent in an effort to mimic natural infiltration patterns across the site in order to maintain natural hydrology.

4.12 Air Quality

The project site is located in Prince George's County, which is part of the EPA-defined Metropolitan Washington Air Quality Designation Area.

The Greater Metropolitan Washington area is currently designated as a nonattainment area for 8-hour ozone (O_3) and annual average particulate matter less than 2.5 microns ($PM_{2.5}$). The Metropolitan

Washington area is in attainment for all other pollutants including carbon monoxide (CO), particulate matter less than 10 microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb).
If the project is constructed, the existing Metrobus and Metrorail transit operations would continue, and no change in service is anticipated.

4.13 Forest Stands

The project could affect a maximum of 6.74 acres of forest stand; however, this impact estimate could be reduced as the design of the project progresses (see **Figure 13**).

To comply with the Forest Conservation Act, the developer will complete a Forest Stand Delineation (FSD) and corresponding Forest Conservation Plans (FCP) for any effect on forest stands resulting from the project. Both the FSD and FCP will be submitted to M-NCPPC or DNR for approval depending on the required development approval process.

The amount of reforestation required by the Forest Conservation Act is determined using the Forest Conservation Worksheet provided in the State Technical Manual. Reforestation is determined using multiple factors such as net tract areas, land use category, existing forest cover, sensitive environmental features, and proposed clearing. Reforestation can occur either on- or off-site, and may include the use of a pre-approved forest mitigation bank or paying into the State Forest Conservation Program Fee-In-Lieu Fund. The developer would be responsible for implementing the approved FCP for any impact to forest stands resulting from the project.

4.14 Threatened and Endangered Species

No impact to federally protected species or habitat is expected as a result of the project. A review of the project site was conducted online via the U.S. Fish and Wildlife Service (USFWS) Chesapeake Bay Field Office on September 25, 2015 (See **Appendix C** for USFWS IPaC Trust Resource Report). While the search returned one bat species (*Myotis septentrionalis*) and 23 species of migratory birds, it is expected that their habitats will not be affected as construction will not occur on the protected forest and wetland areas. In a letter dated December 13, 2015, USFWS indicated there are no current records of northern long-eared bats in the project vicinity, therefore the project as proposed is “not likely to adversely affect” the northern long-eared bat and there are no time of year restrictions on forest clearing (see **Appendix D** for agency correspondence). Additionally, USFWS also indicated no other Federal proposed or listed endangered or threatened species under their jurisdiction are known to exist within the project impact area.

Consultation with the Maryland Department of Natural Resources (DNR) indicated that the project site is located adjacent to a braided stream channel system associated with Indian Creek which supports the state-listed endangered Trailing Stitchwort plant (*Stellaria alsine*) (see **Appendix D** for agency correspondence). There are several sub-populations of this listed species scattered along the stream in this area of floodplain habitat. Due to its location within the stream, the Trailing Stitchwort is highly vulnerable to changes in stream hydrology and sedimentation (see **Section 4.11 Water Quality** for DNR recommended minimization and mitigation measures).

Figure 13: Forest Stands

4.15 Utilities

The project is not anticipated to affect utilities which serve the project site and adjacent neighborhoods including water, sewer, electric and natural gas services. The Renard and Prince George's County *Request for Expressions of Interest Response* (EOI) described the following existing and proposed utility services within and adjacent to the project site:

- **Water** – An existing 30-inch sewer line is located under Cherrywood Lane. An 18-inch sewer outfall and a 12-inch water line parallel to the sewer line are expected to be sufficient for the property. These lines would cross under Indian Creek. The EOI reports that Washington Sanitary Sewer Commission (WSSC) approved the adequacy of the water and sewer infrastructure to serve the site in October 2005.
- **Electric** – Potomac Electric Power Company (PEPCO) will provide power to the joint development project. The main feed for electric power will be extended from the Branchville Substation, with a back-up feed from the Greenbelt Substation via Cherrywood Lane along the access drive into the project site from the northeast. Working with PEPCO, the developer has confirmed the availability and estimated cost of the back-up power feeder to serve the proposed FBI Headquarters adjacent to the project site.
- **Natural Gas** – Washington Gas will provide service from the existing portion of Greenbelt Station Parkway to the joint development.

4.16 Safety and Security

In addition to the transportation facilities and operations described in **Section 4.2**, WMATA would be responsible for the provision of police and/or security presence at WMATA-operated facilities, as part of the joint development during operating hours. As WMATA is currently responsible for existing facilities and operations at Greenbelt Metrorail Station, no significant impact on facilities or operations is expected.

4.17 Hazardous and Contaminated Materials

Hazardous and contaminated materials include oil and other hazardous substances that present an imminent and substantial danger to the public health and the environment. Federal and state laws that regulate hazardous and contaminated materials include:

- Comprehensive Environmental Response, Compensation, and Liability Act;
- Resource Conservation and Recovery Act;
- Toxic Substances Control Act;
- Clean Water Act;
- Clean Air Act; and
- Maryland Oil Control Program (COMAR 26.10.01).

A review of databases which monitor compliance with the federal and state laws was completed through the EPA NEPAssist web portal[2] and Maryland's Underground Storage Tank (UST) database[3]. No records for the project site were identified through the database search.

Based on the search results, the project is not expected to encounter any hazardous or contaminated materials.

[2] http://nepassisttool.epa.gov/nepassist/entry.aspx
[3] http://www.mde.maryland.gov/programs/land/oilcontrol/undergroundstoragetanks/pages/programs/landprograms/oil_control/usthome/index.aspx

4.18 Noise and Vibration

Existing noise sources within and adjacent to the project site are dominated by motor vehicle traffic along the Capital Beltway (I-95 and I-495), Metrorail and freight traffic. No impact on existing noise sensitive receptors is anticipated as a result of the project. If the project is constructed, the existing Metrobus and Metrorail transit operations would continue to operate as they do now, and no increases in service are anticipated. The Metrorail tracks would continue to function as they do now; the tracks would not be realigned nor would any new switches be constructed on the tracks if the project is built. The existing bus routes would continue to serve the Metrorail Station as they do now, though the bus loop and layover area would be closer to residential receptors located west of the Metrorail tracks.

Future residences constructed as part of the joint development would also be considered noise sensitive receptors. The developer completed a noise analysis in December 2007, at three locations within the project site where future residences are planned to be built (see **Appendix E** for the noise analysis). The analysis did not measure noise levels external to the project site. The analysis predicted the following:

- Day Night Noise Levels (DNL) from the Capital Beltway will be as high as 70.2 dB at the façade of the most-impacted residence.
- DNL from the railroad corridor will be as high as 68.5 dB at the façade of the most-impacted residence.
- Combined DNL will be as high as 71.5 dB at the façade of the most-impacted residence.

Prince George's County planning staff identified an interior design goal for DNL of no higher than 45 dB inside residences. The building envelope for the residences must therefore reduce noise levels by as much as 26.5 dB. Standard high-rise apartment construction can provide a reduction of approximately 20-25 dB. Modest upgrades to standard construction for some residences on upper floors would be necessary to meet the County DNL goal.

The developer is solely responsible for quantifying and mitigating noise and vibration impacts from the project including those to the existing residences, future residences and hotel rooms constructed as part of the joint development. This mitigation includes compliance with Prince George's County Noise Ordinance (Section 19-120 Noise Control) and Code of Maryland regulations (COMAR 26.02.03.02) which establish residential noise standards.

4.19 Secondary and Cumulative Impacts

4.19.1 Secondary Impacts

No adverse secondary impacts are anticipated as a result of the project. Secondary impacts of the project would result from the increase in permanent residents and workers at the project site. The joint development's housing, commercial, and office uses would increase the overall resident and employee population of the Greenbelt area and would contribute to a marginal increase in economic activity in the project vicinity, including demand for goods, services, and housing.

4.19.2 Cumulative Impacts

Cumulative impacts associated with other reasonably foreseeable activities within the vicinity of the project would primarily be associated with the transportation impacts of adjacent development projects. The most significant projects are the proposed FBI headquarters development and the Greenbelt Station South Core development, both located immediately adjacent to the project. The cumulative transportation impacts would consist of the incremental impacts of the joint development project added to the impacts of these separate projects.

4.19.2.1 Traffic

No long-term adverse cumulative traffic impact is anticipated. The joint development project developer, Renard, has approved conceptual site plans and preliminary plans with M-NCPPC including an approved trip cap of 4,180 AM peak hour and 7,029 PM peak hour trips.

Mitigation measures proposed for the joint development, Greenbelt Station South Core development, and FBI headquarters development project are anticipated to address its direct impacts. According to the *FBI Headquarters Consolidation Draft EIS, Appendix C: Greenbelt Transportation Impact Assessment: Greenbelt:*

> The addition of the Greenbelt site to the traffic network would result in three intersections operating at an unacceptable level of service. These three failing intersections would experience equal or better operations than the No-build Condition as a result of recommended mitigation that include new turning lanes, extended turning lane lengths, and new travel lanes. Overall, the roadway non-Interstate network would operate much better and experience shorter queues with the addition of the recommended mitigation when compared to the No-build Condition (Part II, page 6-45).

In addition to the construction of a full interchange, Renard plans to extend Greenbelt Station Parkway towards the Capital Beltway as part of the development project.

The *FBI Headquarters Consolidation Draft EIS*, Chapter 8, Cumulative Impacts, 8.1.2.9 Transportation also found that these mitigation measures are anticipated to address cumulative adverse traffic impacts of the joint development project, Greenbelt Station South Core development, FBI headquarters, and other development projects in the site vicinity:

> There would be cumulative impacts from the Greenbelt Alternative as follows: direct, long-term, adverse traffic impacts... The recommended mitigation … would minimize the adverse traffic … impacts such that they would be an improvement over the No-action Alternative, and therefore direct, long-term, and beneficial (page 598).

The FBI headquarters development project is expected to contribute to short-term, adverse construction impacts caused by construction vehicles blocking lanes and intermittent road closures.

4.19.2.2 Transit

No long-term adverse cumulative impacts to transit services or facilities are anticipated. The FBI headquarters development project would contribute to a significant increase in Metrorail ridership at Greenbelt Station and an increase in bus ridership on routes serving the station. The proposed FBI headquarters would increase the number of riders exiting Greenbelt Metrorail Station during the AM peak period and the number of riders entering the Greenbelt Metrorail Station during the PM peak period. Because FBI employees would travel in the reverse commute direction (outbound AM, inbound PM) compared to the majority of current Greenbelt Metrorail Station customers, the additional ridership is not anticipated to lead to crowding at the station or on the Green or Yellow Lines.

The *FBI Headquarters Consolidation Draft EIS,* Chapter 8, Cumulative Impacts, 8.1.2.9 Transportation assessed the impact of the forecasted increase in transit ridership from the joint development project, Greenbelt Station South Core development, FBI headquarters, and other planned developments on Metrorail and Metrobus services:

- **Metrorail** – Train car passenger loads, station escalator and stair capacity, platform pedestrian level of service, and station evacuation times were assessed. The analysis found that all aspects of Metrorail service at Greenbelt would continue to operate below capacity and within acceptable levels of service.
- **Metrobus and other Bus Services** – Passenger loads and operations were assessed for Metrobus. The analysis found that the increase in ridership from the projects would not exceed capacity on individual Metrobus routes given the commitment for the previously approved Greenbelt Station development proposal (which included full development of the GSA site) to provide six additional AM peak hour bus trips and eight additional PM peak hour bus trips on existing bus services within the project area. Bus operation delays due to increased traffic along Edmonston Road would impact three Metrobus routes; however, traffic mitigation measures associated with the FBI project would address the traffic delay, resulting in no bus operational impacts. TheBus routes were not assessed by the Draft EIS study, as ridership data were not available at the time, and the analysis assumed that they would see some minor increases in ridership on routes serving the site.

The FBI headquarters development project is expected to contribute to short-term, adverse construction impacts caused by construction vehicles blocking lanes and intermittent road closures, which may result in temporary delays for bus vehicles on roads and driveways near the station.

4.20 Construction Impacts

Construction of the project will not close the station to passengers at any time. During construction, all modes of access would be maintained. Phased construction would allow WMATA to retain operations within the bus loop, Park & Ride, and Kiss & Ride facilities via temporary arrangements on the portions of the property not under construction.

Construction noise may be a concern to surrounding neighborhoods. The presence of green areas – specifically the Indian Creek streambed valley, Hollywood Community Park, and undeveloped land between the train tracks and the neighborhoods of Hollywood and Daniel's Park – will serve as a buffer to mitigate the effect of noise on residences. All construction activities would adhere to noise control regulations as established in the Greenbelt Code of Ordinances, College Park Code of Ordinances, Prince George's County Code of Ordinances, Maryland noise standards, and WMATA design criteria.

5. PUBLIC INVOLVEMENT

WMATA will keep the public informed about the project through public outreach beginning in January 2016. A project website will be developed and postcards with information about the project will be mailed to local residents and businesses. Posters with information about the project will also be placed in bus information centers in Landover, Montgomery, and Bladensburg, Maryland; in MetroAccess vehicles; and at Greenbelt and College Park Metrorail Stations. Three public outreach events are scheduled for early February 2016 at Greenbelt Metrorail Station and will be staffed by English and Spanish speakers. At these events, staff will disseminate information about the project and receive input and comments via a paper survey. All outreach materials will be provided in both English and Spanish and available on the project website.

In addition to the public outreach events, a public hearing is scheduled for February 23, 2016 at the Greenbelt Marriott to provide the public with the opportunity to comment on the project. English- and Spanish-speaking staff will be available at the hearing, and all public hearing materials will be provided in both English and Spanish. Notice of the public hearing will be published in the Washington Post for two successive weeks. The notice will also be published in Washington Hispanic and El Tiempo Latino, two local Spanish-language newspapers. A public hearing staff report summarizing comments received at the hearing with staff responses will be released for public review and comment.

WMATA will collect comments from the public through the following ways:

- Online form on the project website;
- Email to writtentestimony@wmata.com;
- In-person at outreach events; and
- A public hearing.

The developer has also conducted public outreach activities in conjunction with the project, as shown in **Table 8**.

Table 8: Public Outreach Efforts by Renard Development Company, LLC

Organization or Event	Date
Greenbelt City Council	February 18, 2015
North College Park Civic Association	March 12, 2015
College Park City Council	April 7, 2015
Environmental Design Charrette	May 12, 2015
City of Greenbelt Advisory Planning Board	May 27, 2015 and July 8, 2015

Source: Renard Development Company, LLC.

6. REFERENCES

Federal Emergency Management Agency (FEMA). Flood Insurance Rate Map (FIRM) for Prince George's County, Maryland Number 22452080015D, December 15, 1989.

M-NCPPC (Maryland-National Capital Park and Planning Commission). Approved Countywide Green Infrastructure Plan, June 2005.

M-NCPPC. Approved Countywide Master Plan of Transportation, November 2009.

M-NCPPC. Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and Sectional Map Amendment, March 2013.

M-NCPPC. Plan Prince George's 2035, May 2014.

Renard Development Company, LLC. Greenbelt Station Noise Analysis prepared by Hush Acoustics, LLC, December 10, 2007.

Renard Development Company, LLC. Internal Traffic Flow Analysis for Greenbelt WMATA, Mixed-Use, and FBI Headquarters prepared by Lenhart Traffic Consulting, Inc., October 6, 2014.

Renard Development Company, LLC. Narragansett Run at Greenbelt Metro Station Visual Observations, Geomorphic Findings & Recommendations prepared by LandStudies, March 2007.

Renard Development Company, LLC. Overall Concept Plan prepared by Dewberry, February 27, 2015.

Renard Development Company, LLC. Request for Expressions of Interest Response: Federal Bureau of Investigation Headquarters Consolidation, December 17, 2013.

U.S. Census Bureau. American Community Survey 5-Year Estimates (2009-2013).

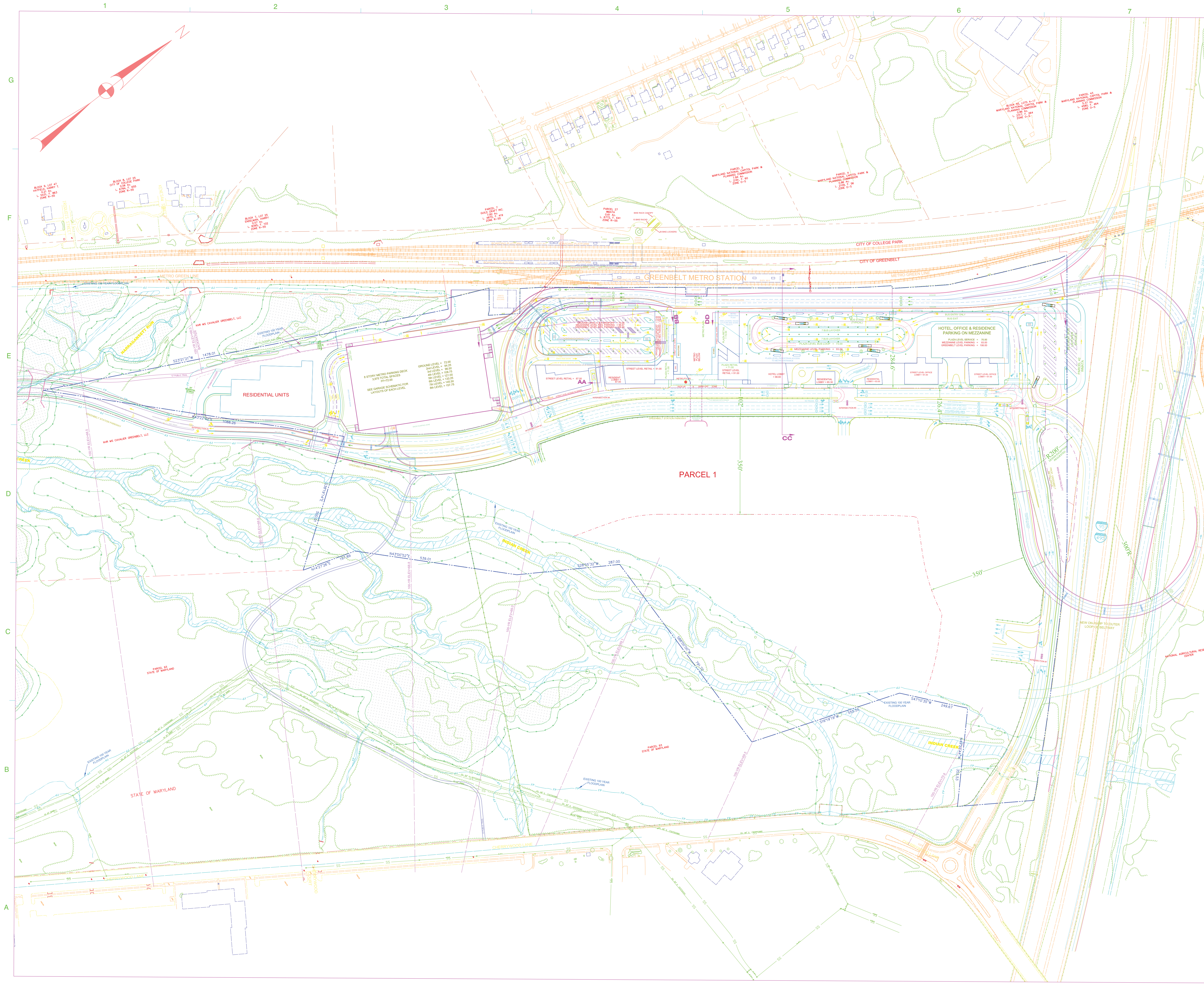
U.S. Environmental Protection Agency. Clean Water ACT (CWA) - 33 U.S.C. §1251 33 U.S. Code

U.S. Fish and Wildlife Service (USFWS). IPaC – Information, Planning, and Conservation System, http://ecos.fws.gov/ipac/. Accessed on September 25, 2015

U.S. General Services Administration. FBI Headquarters Consolidation Draft Environmental Impact Statement, November 2015.

WMATA. Joint Development Agreement (amended), October 6, 2011.

Appendix A: Project Concept Plan



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OWNER/APPLICANT
RENARD DEVELOPMENT COMPANY, LLC
6411 IVY LANE, SUITE 200
GREENBELT, MD 20770

CONTACT:

GREENBELT STATION NORTH CORE
PRINCE GEORGE'S COUNTY

COLLEGE PARK, MD
21ST ELECTION DISTRICT

TAX MAP 26 GRID A3; PARCELS 19&84
200' MAP REFERENCE 210NE05, 211NE05

SCALE

0' 100' 200'

1"=100'

No.	DATE	BY	Description

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE February 27, 2015

TITLE

OVERALL CONCEPT PLAN TOWN CENTER (WITH CONCOURSE)

PROJECT NO. 50057272

C-01

SHEET NO. 1 of 1

Appendix B: Greenbelt Station North Core Stormwater Management Concept Approval Letter

THE PRINCE GEORGE'S COUNTY GOVERNMENT

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
OFFICE OF ENGINEERING
9400 PEPPERCORN PLACE, SUITE 420
LARGO, MARYLAND 20774
(301) 883-5730

STORMWATER MANAGEMENT CONCEPT APPROVAL

CASE NAME: GREENBELT NORTH TOWN CENTER CASE #: 10387-2008-02
APPLICANT'S NAME: RENARD DEVELOPMENT COMPANY, LLC
ENGINEER : Dewberry

REQUIREMENTS:

Technical Review is required for PUBLIC/PRIVATE Storm Drain/SWM Construction.

Type of Storm Drainage/SWM Construction is both PUBLIC and PRIVATE.

These additional approvals are required: None.

These fees apply: REVIEW, FEE-IN-LIEU.

These bonds apply: None.

Required water quality controls: STORM FILT & UND STO.

Required water quantity controls: None.

A maintenance agreement is required.

No special conditions apply.

Required easements: None.

Storm Water Management fee payment of $261,334.00 in lieu of providing on-site attenuation/quality control measures. (Fee-In-Lieu subject to change during technical review.)

CONDITIONS OF APPROVAL:

1) ALL STORM DRAIN OUTFALLS TO HAVE STEPPED RIP-RAP PLUNGE POOLS
2) THIS PROJECT INVOLVES REDEVELOPMENT OF AN EXISTING DEVELOPED SITE
3) A FLOODPLAIN STUDY IS REQUIRED FOR AREAS WITH GREATER THAN 50 ACRES OF DRAINAGE
4) NO STRUCTURES TO BE BUILT WITHIN 25 FEET OF THE 100-YEAR FLOODPLAIN
5) CROSS REFERENCE SWM CONCEPT # 2657-2001-02.
6) THE SITE IS WITHIN THE CITY OF GREENBELT. COORDINATE WITH CITY OF GREENBELT. SUPERSEDES PREVIOUS APPROVAL DATED 7-2-08, 7-17-08, 8-22-08. REVIEWED BY EM.

APPROVED BY:

Rey De Guzman

APPROVAL DATE: May 3, 2013
EXPIRATION DATE: May 3, 2016

FOR OFFICE USE ONLY

ADC MAP:	7J9	200' SHEET:	212NE05
STREET NAME:	GREENBELT METRO DR		
WATERSHED:	11-Indian Creek		
NUMBER OF DU'S:	0	COST PER DWELLING:	0

CC: APPLICANT, SCD, PERMITS
P.G.C. FORM #3693 (REV 04/93)

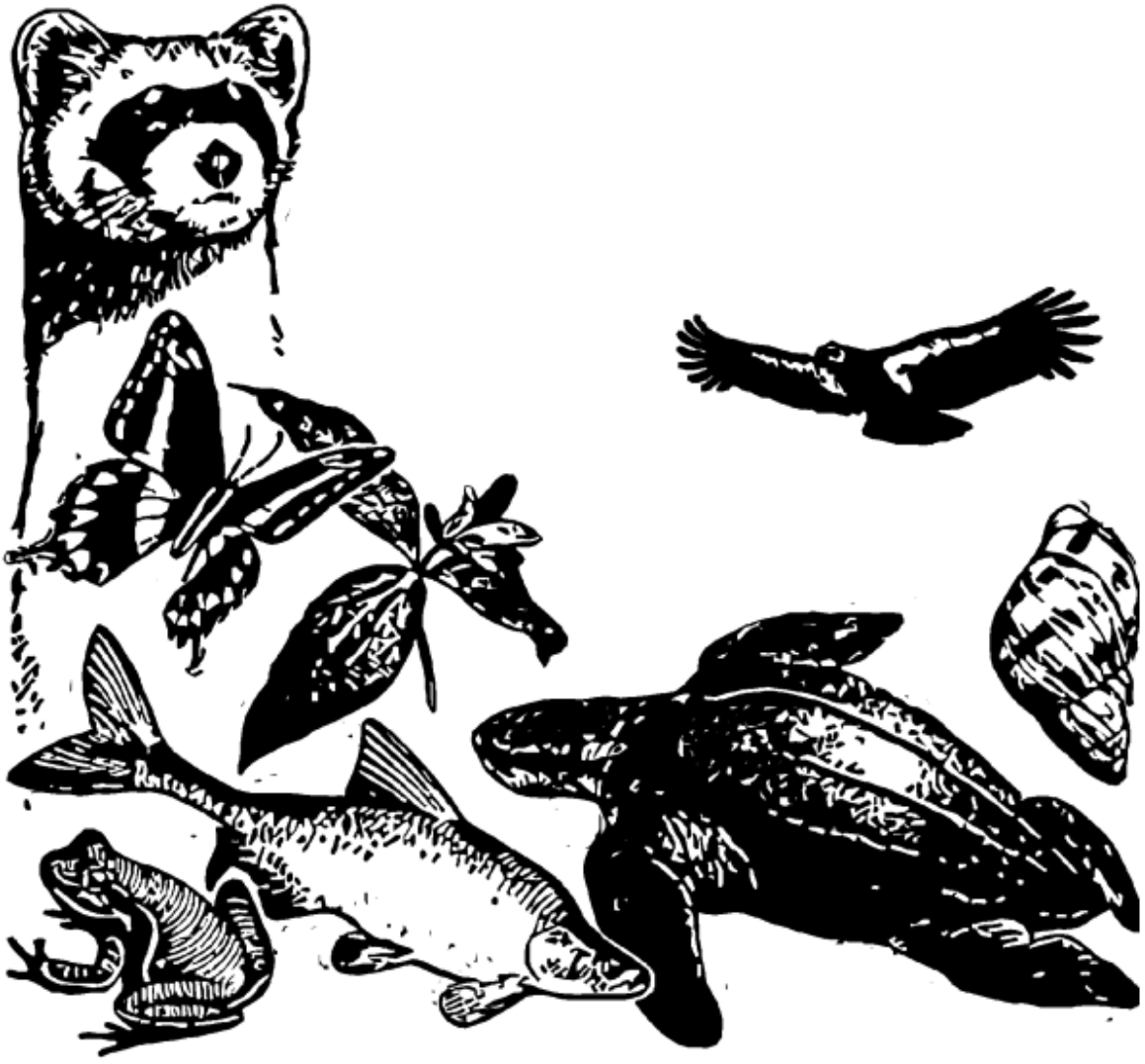
Appendix C: USFWS IPaC Trust Resource Report

Greenbelt Joint Development Environmental Evaluation

IPaC Trust Resource Report

Generated September 25, 2015 02:38 PM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Greenbelt Joint Development Environmental Evaluation

PROJECT CODE

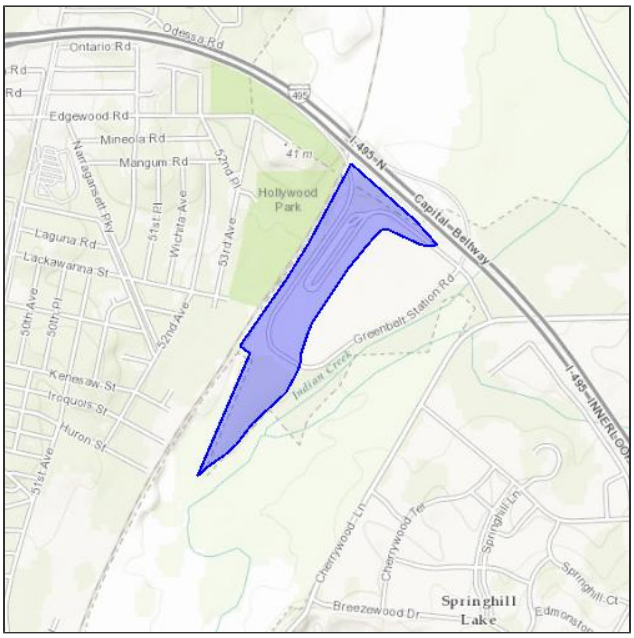
3ZFZV-KZPU5-AB3GJ-XWI3O-MOLROA

LOCATION

Prince George's County, Maryland

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

Mammals

Northern Long-eared Bat Myotis septentrionalis **Threatened**

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Oystercatcher Haematopus palliatus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — **Bird of conservation concern**
Season: Breeding

Cerulean Warbler Dendroica cerulea — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09I

Fox Sparrow Passerella iliaca — **Bird of conservation concern**
Season: Wintering

Gull-billed Tern Gelochelidon nilotica — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0JV

Kentucky Warbler Oporornis formosus — **Bird of conservation concern**
Season: Breeding

Least Bittern Ixobrychus exilis — **Bird of conservation concern**
Season: Breeding

Pied-billed Grebe Podilymbus podiceps — **Bird of conservation concern**
Season: Breeding

Prairie Warbler Dendroica discolor — **Bird of conservation concern**
Season: Breeding

Prothonotary Warbler Protonotaria citrea — **Bird of conservation concern**
Season: Breeding

Purple Sandpiper Calidris maritima **Bird of conservation concern**
Season: Wintering

Red Knot Calidris canutus rufa **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Red-headed Woodpecker Melanerpes erythrocephalus **Bird of conservation concern**
Year-round

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus **Bird of conservation concern**
Year-round

Short-billed Dowitcher Limnodromus griseus **Bird of conservation concern**
Season: Wintering

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula **Bird of conservation concern**
Season: Breeding

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum **Bird of conservation concern**
Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

Appendix D: Agency Correspondence

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Mark Belton, Secretary
Joanne Throwe, Deputy Secretary

December 8, 2015

Mr. James A. Ashe
Environmental Policy and Compliance
Washington Metropolitan Area Transit Authority
600 5th St, NW
Washington, D.C. 20001

Re: WMATA Greenbelt Station Joint Development Project with Renard Development Company

Dear Mr. Ashe:

The Wildlife and Heritage Service has determined that this project site is located adjacent to a braided stream channel system associated with Indian Creek which supports the state-listed endangered Trailing Stitchwort (*Stellaria alsine*). There are several sub-populations of this listed species scattered along the stream in this area of floodplain habitat. The plants grow on sandbars in the channel and along the edge of the channel, and may be on stream banks as well. This is an ephemeral species and does not necessarily grow in exactly the same spot year after year. Due to its location within the stream, the Trailing Stitchwort is highly vulnerable to changes in stream hydrology and sedimentation.

In order to avoid sedimentation of the rare species' habitat, sediment and erosion control measures should be strictly implemented and enforced. The Wildlife and Heritage Service has the following recommendations regarding sediment control.

a) Stabilize soil - Stabilization should occur immediately (within 24 hours).
b) Special effort should be made to retain fine particle silt, sand and clay sediments including the incorporation of redundant/additional control measures in the sediment and erosion control plan to ensure maximum filtration of any sediment-laden runoff (e.g., second row of silt fence, super silt fence instead of silt fence).
c) Inspect frequently - All measures should be inspected daily to ensure that they are functional from the very initial stages through final construction, and any problems should be corrected immediately.

Regarding the maintenance of stream hydrology, the Wildlife and Heritage Service recommends that the applicant pursue environmentally sensitive design to address stormwater runoff by promoting the use of nonstructural best management practices to the maximum extent. The goal is to mimic natural infiltration patterns across the site in order to maintain natural hydrology.

a) Methods to pursue include the use of sheet flow to buffers, vegetated channels to convey road runoff (i.e. roadside swales), disconnection of roof and non-roof runoff, methods of bioretention such as rain gardens.

b) Reduce impervious cover as outlined in the MDE stormwater management manual section 5.1.3.1, which is available online at their website: (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Documents/www.mde.state.md.us/assets/document/Design%20Manual%20Chapter%205%2

003%2024%202009.pdf). In addition to these methods, options to pursue include the use of pervious materials wherever possible.

Please note that this portion of Indian Creek that supports Trailing Stitchwort has been recommended to Maryland Department of the Environment (MDE) to be designated as a Nontidal Wetland of Special State Concern (NTWSSC), which would provide additional regulatory protection for wetlands, including a larger, 100ft regulated upland buffer.

If you have questions regarding these comments, please feel free to contact me (Katharine.McCarthy@Maryland.gov).

Sincerely,

Katharine McCarthy
Southern Maryland Ecologist
Natural Heritage Program
Wildlife and Heritage Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

December 13, 2015

Mr. James A. Ashe
Manager, Environmental Planning and Compliance
Washington Metropolitan Area Transit Authority
600 5th St NW
Washington, DC 20001

RE: "Not Likely to Adversely Affect" northern long-eared bat determination; WMATA Greenbelt Metrorail Station Joint Development in Prince George's County, Maryland

Dear Mr. Ashe:

The U.S. Fish and Wildlife Service (Service) has reviewed your project information from the Service's Information for Planning and Conservation (IPaC) online system dated September 25, 2015. The Service has evaluated the potential effects of this project to the threatened northern long-eared bat (*Myotis septentrionalis*). The comments provided below are in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The purpose of this proposed project is for the Washington Metropolitan Area Transit Authority (WMATA) and Renard Development Company LLC to construct a mixed-use joint development on the existing Greenbelt Metrorail Station property to include hotel, parking, office, retail, and residential uses. The proposed joint development project would include the redevelopment of existing WMATA facilities including a new Park and Ride lot, Kiss and Ride lot, and bus loop. The project would be built on land which is mostly a paved, surface parking lot that serves the existing Metrorail Station.

This project is within the range of the northern long-eared bat, a federally listed threatened species. The northern long-eared bat is a temperate, insectivorous migratory bat that hibernates in mines and caves in the winter and summers in wooded areas. Since the forest clearing for this proposed project is minimal, and there are no current records of northern long-eared bats in the project vicinity, this project as proposed is "not likely to adversely affect" the northern long-eared bat, therefore, there are no time of year restrictions on forest clearing.

TAKE PRIDE® IN AMERICA

Except for occasional transient individuals, no other Federal proposed or listed endangered or threatened species under our jurisdiction are known to exist within the project impact area. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

We appreciate the opportunity to provide information relevant to threatened and endangered fish and wildlife resources. This Endangered Species Act determination does not exempt this project from obtaining all permits and approvals that may be required by other State or Federal agencies.

If you have any questions or concerns regarding this letter, please contact Trevor Clark of my Endangered Species staff at (410) 573-4527 or by email at Trevor_Clark@fws.gov.

Sincerely,

G. LaRouche

Genevieve LaRouche
Supervisor

Appendix E: Greenbelt Station Noise Analysis (2007)

HUSH
ACOUSTICS LLC

2851 Marshall St., Falls Church, Va 22042
T [703] 534.2790 F [703] 286.7955

December 10, 2007

Mr. Alex Villegas
Associate
Dewberry
10003 Derekwood Lane, Suite 204
Lanham, MD 20706

Re: Greenbelt Station – Acoustical Analysis

Mr. Villegas:

This report summarizes the highway and railroad noise analysis for the Greenbelt Station project in Prince George's County, Maryland.

1. Executive summary

A site survey was performed and sound levels were measured in the locations shown in Figures 2a, 2b, and 2c for seven days. Traffic volumes on the Capital Beltway were counted briefly at the beginning and end of the survey. The Traffic Noise Model (TNM) was used to model existing highway noise conditions. The output sound levels compared sufficiently well to the measured sound levels. A traffic forecast was developed based on a forecast provided by Prince George's County staff. The Traffic Noise Model was used to predict future highway noise levels at the facades of residences.

Future highway noise levels are presented in Figures 5 and 6. The projected highway DNL will be as high as 70.2 dB at the facade of the most-impacted residence. Future railroad noise levels are presented in Figures 7 and 8. The railroad DNL will be as high as 68.5 dB at the façade of the most-impacted residence. Combined highway and railroad noise levels are presented in Figure 9. The combined DNL will be as high as 71.5 dB at the façade of the most-impacted residence. These noise levels could be used for a subsequent indoor noise analysis.

Designing noise barriers is beyond our scope of work. Noise barriers are also likely not necessary for this site, since there are no identified outdoor recreation areas.

Evaluating indoor noise levels is beyond our scope of work. Once architectural drawings are available an indoor noise analysis could be performed.

2. Introduction

Hush Acoustics LLC was contracted by Dewberry to perform sound level measurements on the site, to model future highway noise levels and draw highway and railroad noise contours. This analysis was based on the electronic drawings provided by Mr. Jon Markland of Dewberry on November 21, 2007, and the Greenbelt Station Town Center Concept Plan prepared by The Martin Architectural Group dated September 5, 2007. The electronic drawings show proposed building locations, proposed ground floor elevations, the locations of the Capital Beltway, Metrorail and railroad, and the ground elevations

on the site and Capital Beltway. The Concept Plan shows the building types and approximate numbers of stories per building. The site is located along the south side of the Capital Beltway and the east side of the railroad and Metrorail tracks. An earlier version of the site plan is included as Figure 1.

Per conversations with Prince George's County planning staff we understand that the design goals are a Day-Night Average Sound Level (DNL) no higher than 45 dB inside residences, and no higher than 65 dB in the outdoor recreation areas of residences. On this site, there are no identified outdoor recreation areas.

Note that these noise criteria were developed based on how *annoyed* people are to noise. When the DNL is approximately 65 dB outdoors, it is assumed that a certain percentage of the population would be "highly annoyed." That percentage has been estimated as between 12 and 19 percent for all types of transportation noise by various prominent scientists and engineers over the years. Where the DNL is 60 dB, the rate drops to 6 to 13 percent highly annoyed. Since these annoyance rates are still high, many other countries have much stricter noise goals than a DNL of 65 outdoors and 45 dB indoors. Other private organizations also recommend lower noise levels. For luxury conditions, it would be advisable to aim for below a DNL indoors of 45 dB. For an subsequent indoor noise analysis, we recommend using a DNL of 45 dB as the primary goal, with a secondary goal of 40 dB. For an explanation of DNL see the appendices.

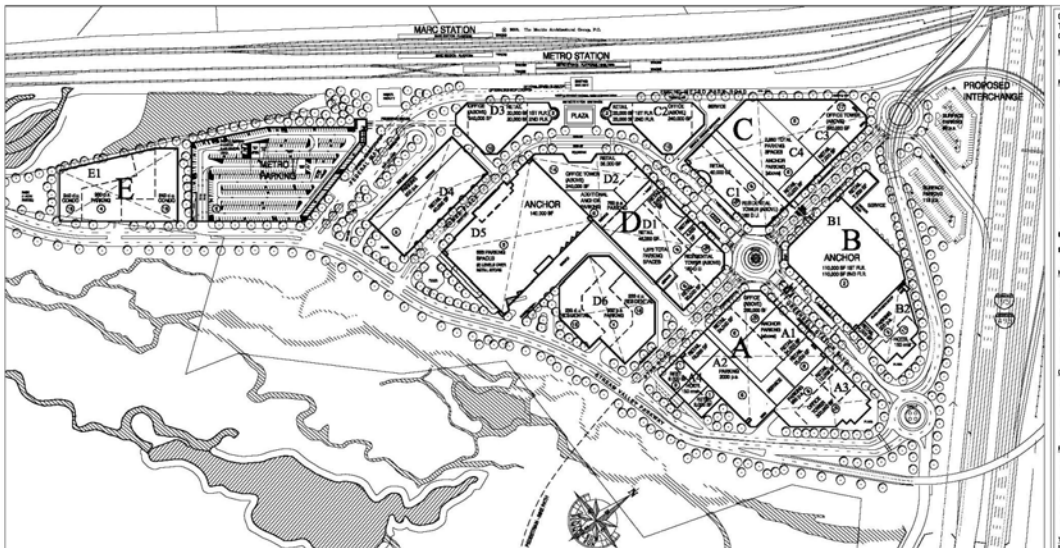
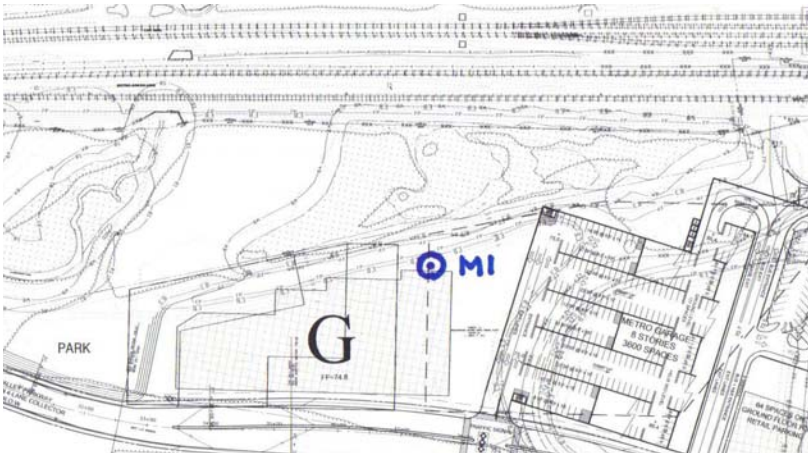


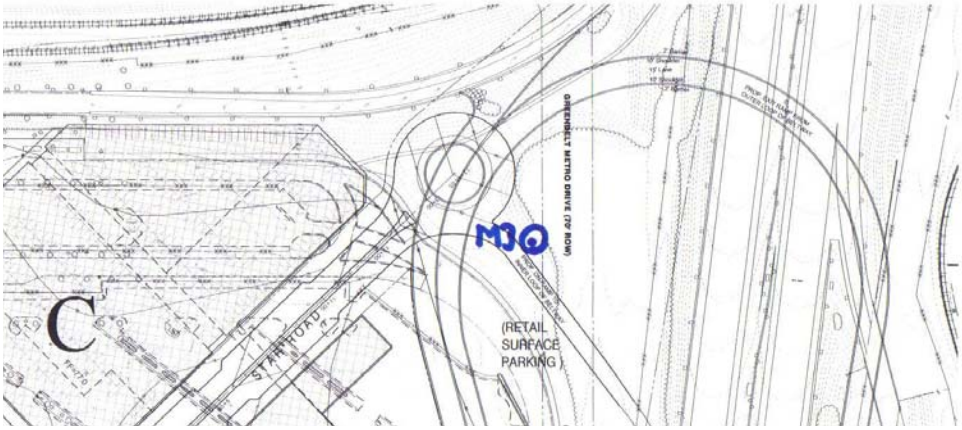
Figure 1. Site Plan

3. Site survey

3.1 Sound level measurement procedure

Three Larson Davis model 831 and LxT sound level meters were installed in the locations indicated in Figures 2a, 2b, and 2c from 2:30 p.m. on Thursday November 8, 2007, through 3 p.m. on Thursday November 15, 2007.





Figures 2a, 2b, and 2c. Sound Level Meter Locations

The sound level meters were programmed to report average, maximum, and minimum A-weighted sound levels during each one-minute interval. For an explanation of A-weighted sound levels see the appendices. The meters were chained to trees and the microphones were attached to poles. The microphones at locations M1 and M2 were 32 feet above the ground, while at M3 the microphone was 18 feet above the ground.

3.2 Site observations

The site currently has a vast parking lot along the east side of the Greenbelt Metrorail station. The northern portion of the site is on a plateau at an elevation lower than the Capital Beltway. The southern portion of the site has a storm water management pond and a forest, and is along the east side of the Metrorail and railroad tracks, generally at a slightly lower elevation than the tracks. The main noise source along the northern portion of the site is traffic on the Capital Beltway, occasional ambulances on the Capital Beltway, and occasional helicopters. The posted speed limit on the Capital Beltway is 55 mph. The main sources of noise along the southern portion of the site are Metrorail trains, railroad locomotives, and railroad horns.

3.3 Measured sound levels

Average sound levels during five-minute intervals were calculated based on the measured one-minute average sound levels. Figure 3 presents the resulting five-minute average sound levels. Sound levels were significantly elevated during various one-minute intervals.

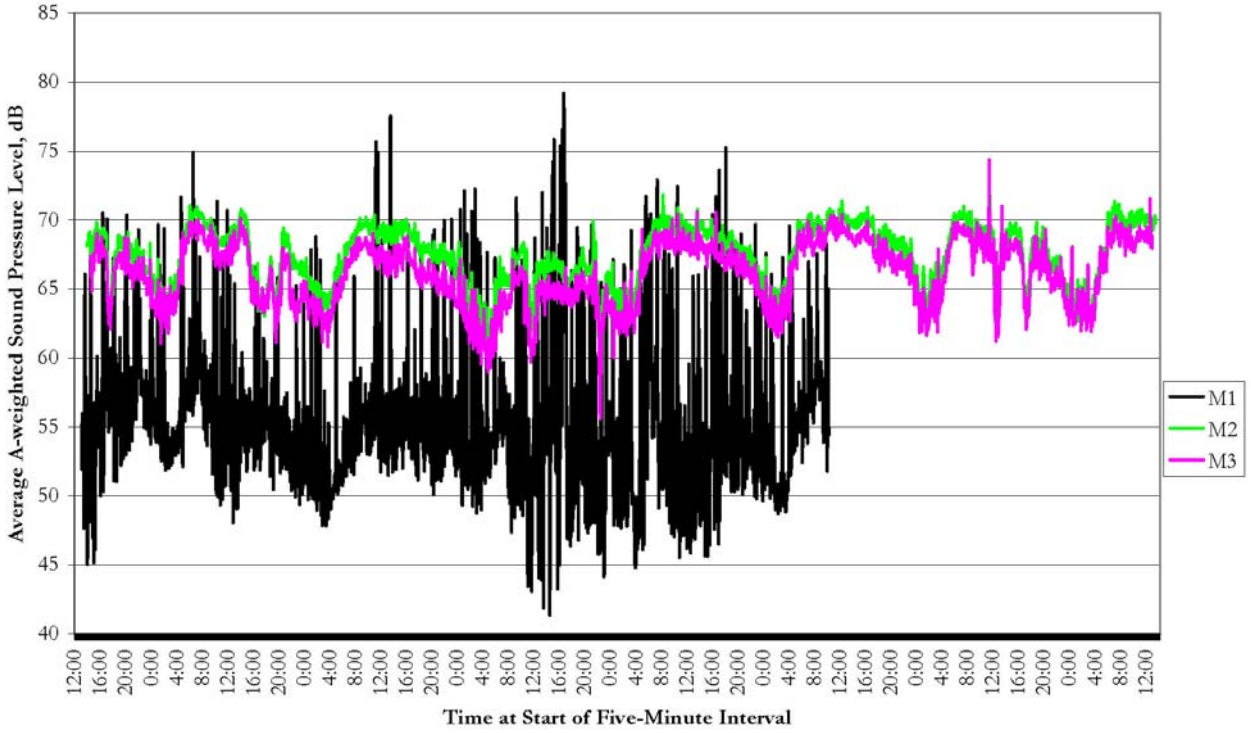


Figure 3. Five-Minute Average Sound Levels

The sound level meter at location M3 was programmed to record audio files during loud noise events. Based on these data it was possible to identify spuriously loud noise events. Eighteen of the noise events were train horns, 10 were loud trucks on the Capital Beltway, two were helicopters, and two were sirens. Data during the four intervals containing the helicopters and sirens were not used in the calculation of hourly or daily average sound levels, or in Figure 3.

The sound level pattern for location M1 became erratic during the survey. At the end of the survey it was noticed that there was water in the microphone cable. Based on the sound level pattern it is believed that water entered the cable at 10:20 a.m. on Tuesday November 13. Data after this time were not used in Figure 3 or elsewhere.

Hourly average sound levels were calculated based on the five-minute average sound levels. Figure 4 presents the hourly average sound levels.

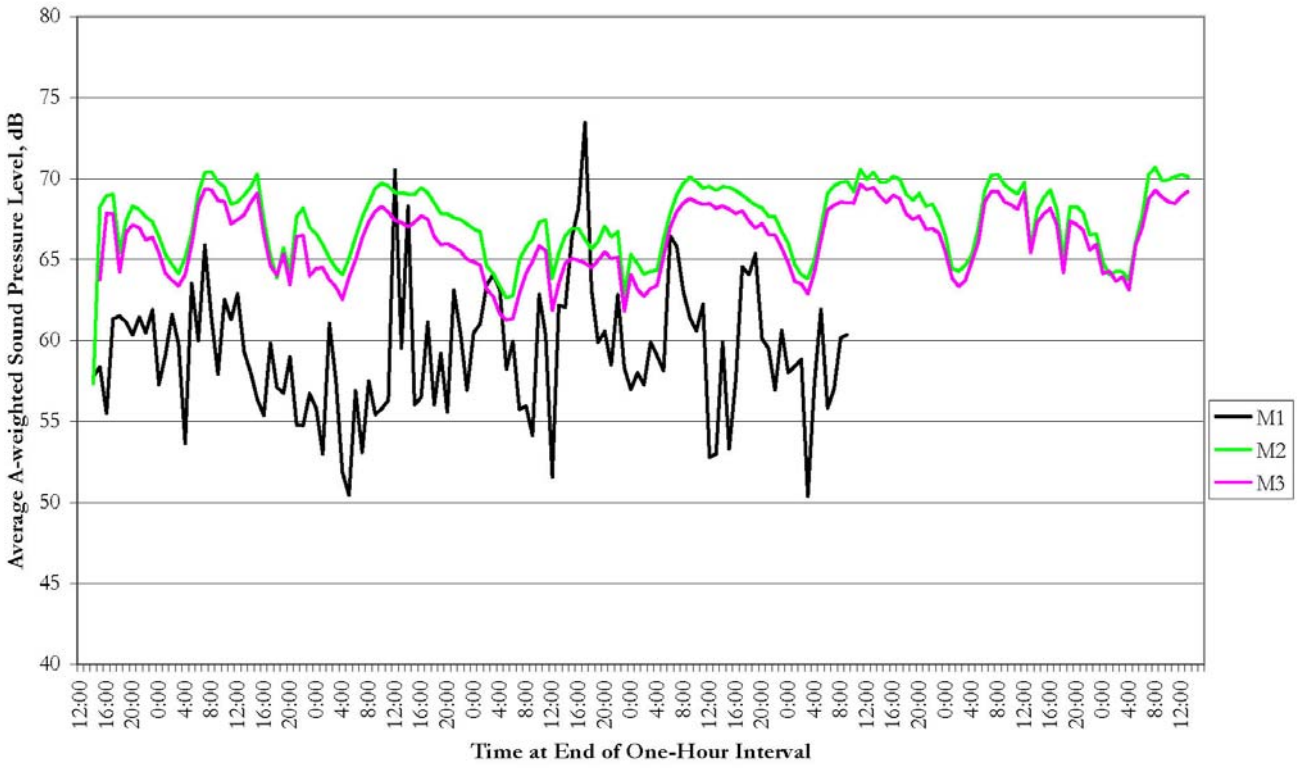


Figure 4. Hourly Average Sound Levels

The Day-Night Average Sound Levels (DNL) were calculated for each full calendar day. For an explanation of DNL see the appendices. Table 1 presents the DNL and loudest-hour average sound level, and the difference between the two, for each calendar day.

Table 1. Measured DNL and Loudest-Hour Average Sound Levels, dB

Day, Date	DNL			Loudest-Hour Average Sound Level			DNL Minus Loudest-Hour Average		
	M1	M2	M3	M1	M2	M3	M1	M2	M3
Thursday, Nov.08				61.9	69.0	67.9			
Friday, Nov.09	67.2	73.6	72.5	65.9	70.4	69.3	1.3	3.2	3.1
Saturday, Nov.10	64.9	73.0	71.4	70.5	69.7	68.3	-5.7	3.2	3.1
Sunday, Nov.11	68.2	71.1	69.5	73.5	67.5	65.8	-5.2	3.7	3.7
Monday, Nov.12	68.1	73.2	72.1	66.5	70.1	68.8	1.7	3.1	3.3
Tuesday, Nov.13	-	73.8	72.8	61.9	70.6	69.7	-	3.2	3.1
Wednesday, Nov.14	-	73.5	72.7	-	70.3	69.2	-	3.2	3.5
Thursday, Nov. 15				-	70.7	69.3			

3.4 Traffic counts

Traffic volumes were counted during one five-minute intervals for each direction of traffic on the Capital Beltway at the start and end of the survey. From these volumes the hourly average traffic volumes were extrapolated. Table 2 presents the extrapolated hourly traffic volumes. Automobiles include pickup trucks, passenger cars hauling trailers, and vans. Medium trucks are six-wheeled cargo vehicles with two axles. Heavy trucks are cargo vehicles with three or more axles. Speeds were determined using a hand-held radar gun. The average speeds for dozens of vehicles on the Inner Loop of the Capital Beltway are listed in Table 2.

Table 2. Extrapolated Hourly Traffic Volumes and Prevailing Speeds on Capital Beltway

Day, Date and Time	Lanes	Speed (mph)	Auto	Medium Trucks	Heavy Trucks	Buses	Motor-cycles
Th. Nov. 8, 2:44-2:49pm	Outer Loop		6,924	240	408	24	0
Th. Nov. 8, 2:37-2:42pm	Inner Loop	62.2	6,108	168	444	0	0
Th. Nov. 15, 957-1002am	Outer Loop		5,664	180	396	0	0
Th. Nov. 15, 1003-1008am	Inner Loop		5,616	228	384	36	0

3.5 Weather

Weather can affect both the propagation of sound from a highway, as well as produce sound by rustling leaves or causing wind or rain noise at the microphone. For these reasons, weather conditions were documented during the survey. Hourly weather information was obtained from the National Weather Service for Fort Meade. Unfortunately, Fort Meade did not report precipitation data, and there were clearly periods of precipitation during the survey. Winds were generally calm. The following wind faster than 10 mph were noted:

- 6 a.m. on November 15 from the WNW at 16 mph
- 9-10 a.m. on November 15 from the NW at 12-13 mph

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4. Outdoor highway noise modeling

4.1 TNM overview

In the United States, highway noise levels are typically analyzed using the Federal Highway Administration's (FHWA) Traffic Noise Model (TNM). The current version is 2.5. The output from TNM is the hourly average sound level at the receivers. The program allows input of the following information:

- Coordinates of selected points along the road centerlines
- Pavement width and type
- Road locations which are elevated (structure roadways)
- Hourly volumes and speeds of autos, medium trucks, heavy trucks, buses, and motorcycles for each road segment
- Locations of traffic flow control devices such as stop signs, traffic signals, and toll booths at the start of roads
- Coordinates and heights of evaluation points (receivers)
- Coordinates of ground elevations in selected locations (terrain lines)
- The default ground type, and coordinates and ground material in selected locations (ground zones)
- Coordinates and height of areas covered with thick evergreen forest (tree zones)
- Coordinates of existing and proposed objects that shield the site such as noise walls and buildings (barriers)
- Coordinates, height and spacing between buildings of rows of buildings which partially shield the site (building rows)

4.2 TNM validation

The traffic volumes and speeds presented in Table 2 were input into TNM. This TNM run is called the validation run. Each direction of travel of the Capital Beltway has four through lanes of traffic. Each two lanes were modeled as a single road in TNM. The locations and elevations of selected points along the Capital Beltway, and the width of the Capital Beltway, were taken from the electronic drawings; however, the roads were extended in TNM to include noise generated farther from the site. Since the observed existing pavement is asphaltic concrete, the pavement was modeled as Dense-Graded Asphaltic Concrete (DGAC). This is the louder, and more common, of the two types of asphaltic concrete available in TNM. Since the Outer Loop slopes uphill at the site, and since traffic volumes were high, it was assumed that the speed is 55 mph. Terrain lines were added along the site frontage of the Capital Beltway to model the slight change in elevation along the site. Tree zones with heights of 60 feet were also included in this area to model shielding provided by the trees. A ground zone was included near location M2 to model reflections off water in the creek. The pavement of the existing ramps to and from the Capital Beltway, and Greenbelt Metro Drive in the vicinity of location M2, was included to model the effects the elevated pavement have on sound from the Capital Beltway. The default ground type was field grass.

The output sound levels were then compared to the sound levels measured during the traffic counts at the start of the survey. Since it was raining during the traffic counts at the end of the survey, it was not meaningful to compare the measured sound levels at that time to the noise model output. Table 3 presents this comparison for the counts at the start of the survey.

Table 3. Comparison of TNM Validation Run Output and Measured Sound Levels, dB

	M1	M2	M3
Measured 2:39 to 2:49 p.m. on Thursday 11/8/07	48.4	66.9	65.5
TNM Output	51.1	70.1	68.8
TNM Minus Measured	2.7	3.2	3.3

It can be seen from Table 3 that TNM was approximately 3 dB conservative at all three locations. This level of agreement between the modeled and measured sound levels is slightly high but still within the accuracy of the model.

4.3 Future highway traffic conditions

A year 2030 Average Daily Traffic (ADT) volume traffic forecast of 251,800 for the Capital Beltway at the site was obtained from the Prince George's County Planning Department. No peak hour factor or classification data were available at the site; however, these data were provided for various dates for the Capital Beltway at Good Luck Road. The morning and afternoon peak-hour factors were in the range of approximately 6.6% to 7.8% for various dates evaluated; a value of 7.5% was used in the analysis of future noise levels. The percentages of trucks noted for the Capital Beltway at Good Luck Road were well lower than the percentages observed during our brief traffic counts. To be conservative, percentages derived from our traffic counts were used. Specifically, it was assumed that the percentages were 3.5% medium trucks, 6.5% heavy trucks, 0.5% buses, and 0.0% motorcycles. Based on our traffic counts it was assumed that the directional factor was approximately 50%. For simplicity it was assumed that the peak traffic hour will generate the highest noise levels (i.e., the loudest-hour).

The resulting forecast traffic volumes are presented in Table 4. It can be seen from Tables 2 and 4 that the forecast traffic volumes are much higher than those observed during the site visits. Note that the total traffic volumes will be 2,361 vehicles per hour per lane. At this volume traffic would slow down somewhat and produce slightly less noise. To be conservative, the same prevailing traffic speeds from the validation run were used.

Table 4. Year 2030 Loudest-Hour Traffic Volumes

Lanes	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Prevailing Speed (mph)
Outer Loop	8,451	330	614	47	0	55
Inner Loop	8,451	330	614	47	0	62.2

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4.4 Future highway noise modeling

TNM was run using the traffic volumes and speeds presented in Table 4. It was assumed that the Capital Beltway elevations and pavement width would remain unchanged. Receivers were located at the facades of the residential buildings. Per the Concept Plan this includes three pairs of 18-stsory buildings on parcels C/D, E, and G. Locations and first floor elevations of the buildings were taken from the electronic plans. The receiver heights were selected to represent the tops of windows on the second, tenth, and 18th floors. The assumed heights were 25, 105, and 185 feet above the first floor elevation. Note that noise levels are generally highest at the top floor of the building, due to a lack of sound absorption by the ground. Shielding provided by the proposed buildings was considered in the analysis by modeling each proposed building (all types, not just residential) as a noise barrier. The building heights were assumed to be 15 feet for the first story, 10 feet for each additional story, and 5 feet for the roof/parapet. The resulting total height for the residential buildings was 190 feet.

All other model parameters were the same as for the validation run including the Capital Beltway pavement type, terrain lines, tree zone, ground zone, and default ground type.

The effect from the pavement of the proposed ramp from the Outer Loop to the site was not included in the noise model, since the model became unstable with the introduction of this one element.

4.5 Future outdoor highway noise levels

It can be seen from Table 2 that the DNL was between 3.1 and 3.7 dB above the loudest-hour average sound level (for weekdays, the range was 3.1 to 3.3 dB). The future loudest-hour average sound levels were output from TNM. To be conservative, it was assumed that in the year 2030 the DNL would be approximately 3.5 dB above the loudest-hour average sound level. This assumption is equivalent to assuming that a slightly higher percentage of traffic would travel on the Capital Beltway at night (between 10 p.m. and 7 a.m.) than presently do.

The resulting year 2030 DNL due to highway noise at the facades of the proposed residential buildings are presented in Figure 5 for the 18th floor elevations. In each case the DNL will be higher at the 18th floor than at the 2nd or 10th floors, as is normally the case due to less sound absorption by the ground. It can be seen from Figure 5 that the highway DNL will reach 70.2 dB at the most impacted residence.

Typically, noise contours are generated for standing elevation which is approximately five feet above the ground. For this site, it is more appropriate to model noise levels 185 feet above the ground for the following reasons:

1. There are no identified outdoor recreation areas.
2. There are very tall buildings which will significantly reduce noise levels five feet above the ground.
3. The noise-sensitive locations are the residential buildings, and noise levels are highest at the elevation of the top floor; as noted above, the top of the top floor windows was assumed to be approximately 185 feet above the first floor elevation.

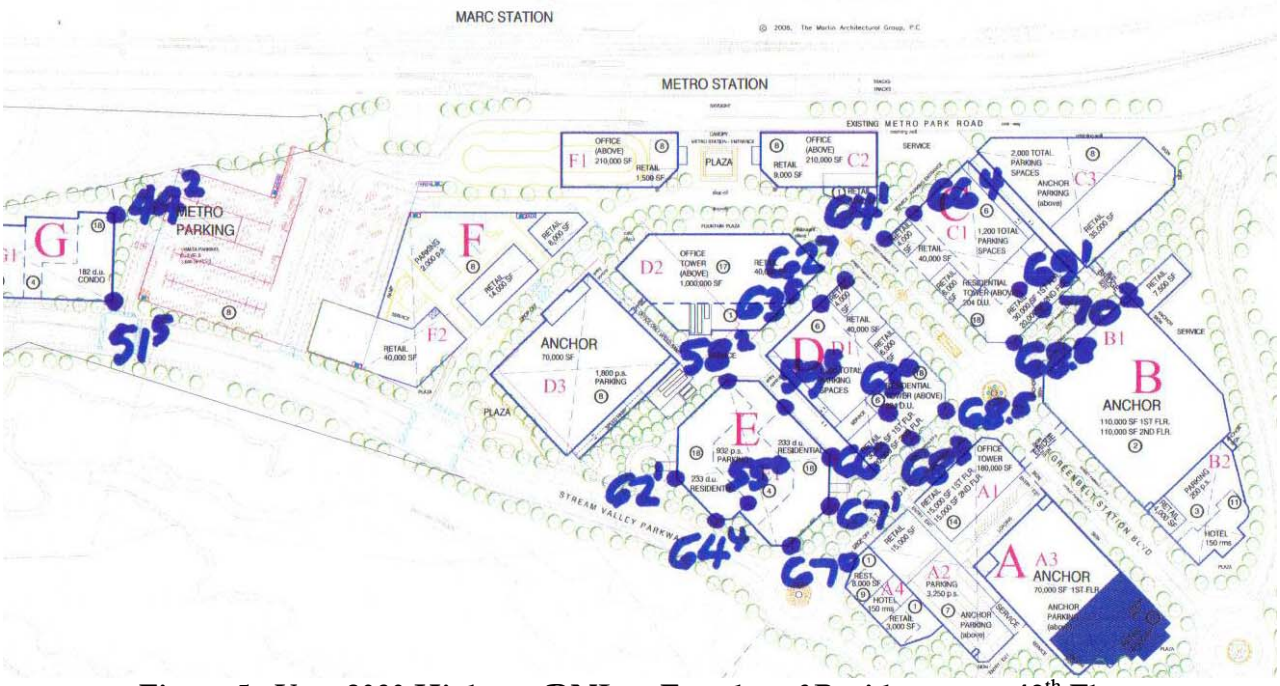

Figure 5. Year 2030 Highway DNL at Facades of Residences on 18th Floor

Figure 6 presents DNL contours due to highway noise at an elevation of 185 feet. Note that these figures do not include railroad noise.

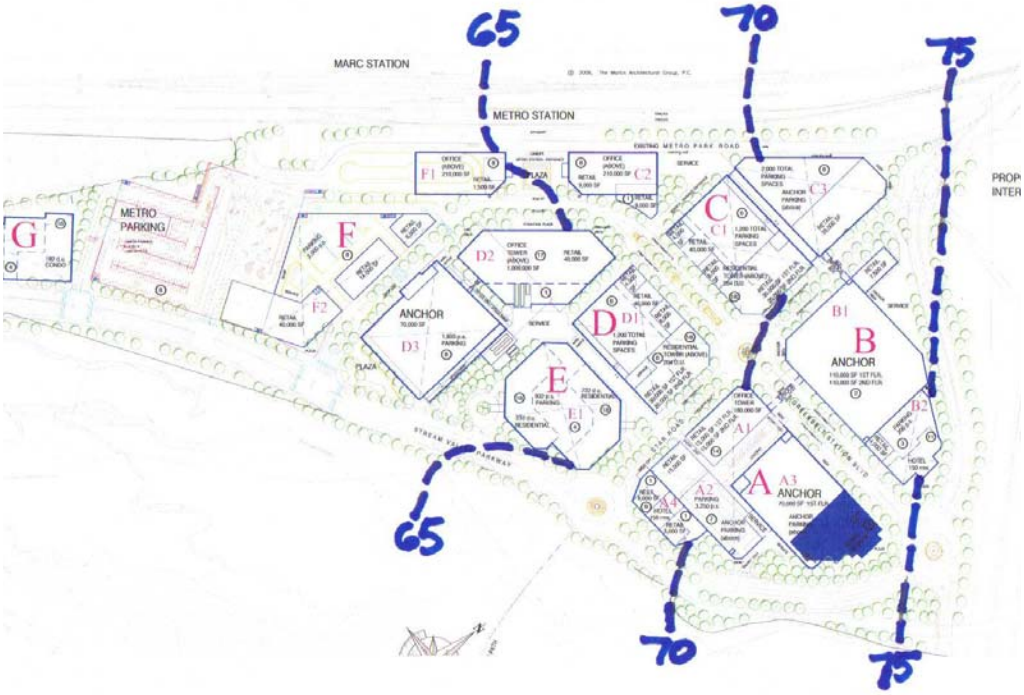

Figure 6. Year 2030 Highway DNL Contours 185 Feet Above Ground

5. Outdoor railroad noise levels

Sound level meter location M1 was quite close to the proposed location of residential building G. However, the microphone was only 32 feet above the ground. At this height, there should be little attenuation of sound from the ground, but at the top floor of the proposed building 18 stories high, sound levels might be somewhat higher. The highest measured DNL at location M1 was 68.2 dB. A simplified analysis was performed using TNM, and the result was that sound levels at the 18th floor would be approximately 0.3 dB higher than 32 feet high. To account for possible increases in sound level it was assumed that the DNL at the 18th floor would be approximately 68.5 dB.

It was assumed that the predominant noise source at location M1 was the railroad and not Metrorail. The microphone was approximately 373 feet from the centerline of the railroad tracks. A common way to estimate noise levels near a railroad is to measure at one distance from the tracks and extrapolate for other distances using an assumption about the drop-off rate. Based on a simplified analysis using TNM it was assumed that sound levels along the railroad will drop off at a rate of approximately 3.8 dB per doubling of distance from the noise source at the 18th floor.

Using a DNL of 68.5 dB for the 18th floor at a distance of 373 feet from the presumed acoustical centerline of the railroad, and the relationship that sound levels drop off at a rate of 3.8 dB per doubling of distance, Figures 7 and 8 were developed. Note that the noise levels shown in Figures 7 and 8 do not consider shielding provided by buildings; noise levels in the presence of buildings might be slightly lower. Also note that Figures 7 and 8 are approximate in the sense that sound levels due to horn soundings might vary significantly along the length of the site.

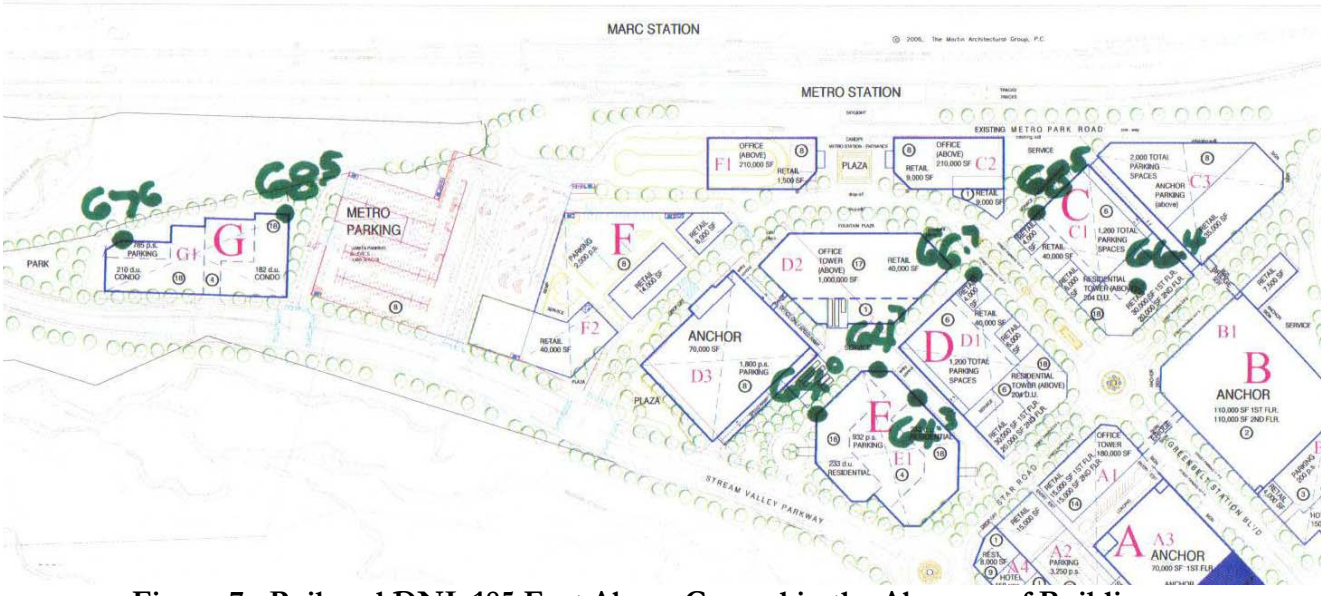

Figure 7. Railroad DNL 185 Feet Above Ground in the Absence of Buildings

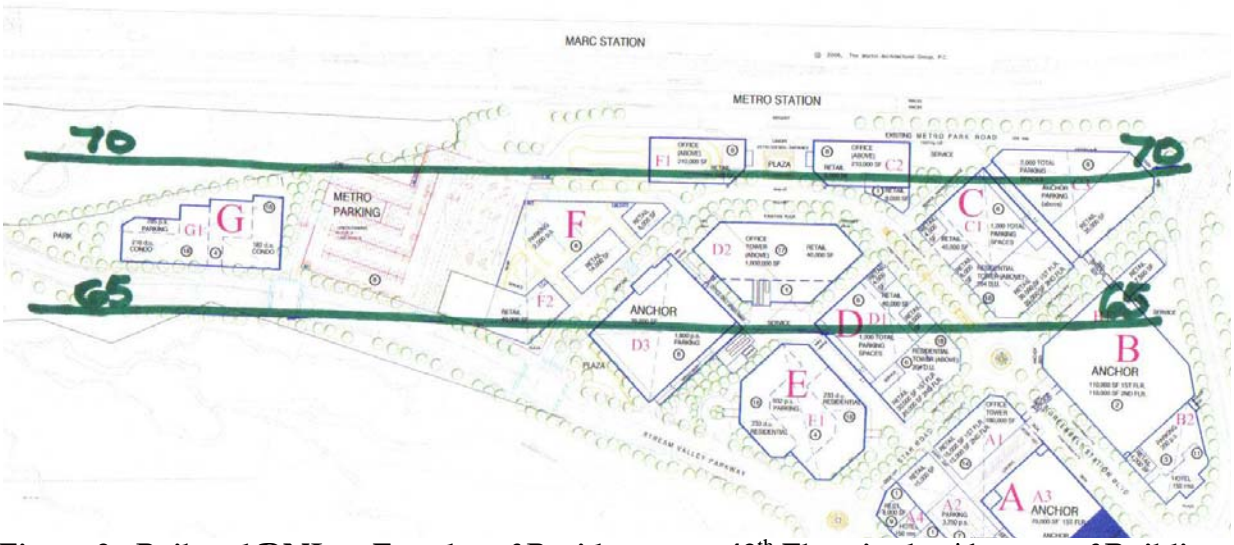

Figure 8. Railroad DNL at Facades of Residences on 18th Floor in the Absence of Buildings

6. Combined outdoor highway and railroad noise levels

Combined noise levels due to the Metrorail, the railroad and the Capital Beltway can be determined by logarithmically summing sound levels in Figures 5 and 7. The result is presented in Figure 9.

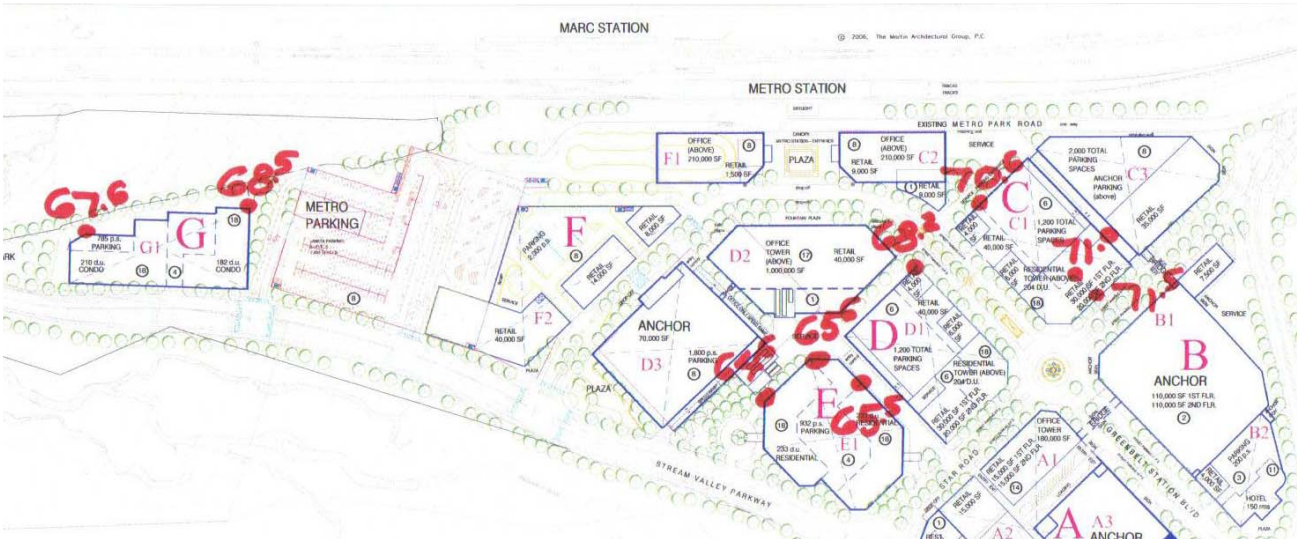

Figure 9. Combined DNL 185 Feet Above Ground in the Absence of Buildings

7. Outdoor noise mitigation

Designing noise barriers is beyond our scope of work. Also, since there are no identified outdoor recreation areas, there is no need for a noise barrier. If it were desired at a later date to design noise barriers to shield outdoor recreation areas, it would not be appropriate to use Figures 5 through 9 since these are for an elevation of 185 feet.

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8. Indoor noise levels

Evaluating indoor noise levels is beyond our scope of work. Once architectural drawings are available an indoor noise level analysis could be performed.

The indoor noise goal in Prince George's County is a DNL of 45 dB. It can be seen from Figure 9 that the DNL at the residences will be as high as 71.5 dB on the top floor. Since the indoor DNL goal is 45 dB, the building envelope must reduce noise levels by as much as 26.5 dB. Standard high-rise apartment construction can provide a reduction of approximately 20-25 dB. Modest upgrades to standard construction might be necessary for some residences on upper floors of certain facades in order to meet the county DNL goal.

The following appendices provide additional information about acoustical terminology and criteria, and the precision of this analysis.

If you have any questions, please contact me at 703/534-2790 or via e-mail at Gary@HushAcoustics.com.

Sincerely,

Gary Ehrlich, P.E.
Principal

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Appendix A – Noise Metrics

There are many different ways to express sound levels, but all ways must have some means of incorporating the three most important aspects of the sound: loudness (level), pitch (frequency), and duration (time pattern). The chosen way to express the sound level is known as the noise metric.

Level. The sound level is almost always expressed in decibels, abbreviated dB. The decibel is a unitless quantity; it is technically based a ratio between the sound pressure and a standard reference pressure. Sound level meters can show the sound level varying with a moving needle or changing electronic display. How quickly this display changes, and therefore how quickly the meter responds to changes in sound level, is called the time weighting network or simply the meter "response." The four most commonly used responses are peak, impulsive, fast, and slow; peak response is the fastest response while slow is the slowest. The peak response is only normally used to evaluate the potential for hearing damage and damage to structures, and is never used to express the annoyance of noise. The impulsive response is only typically used to evaluate loud periodic noises such as pile driving and gun fire. The fast and slow responses are the most commonly used. Fast response is used when the sound level changes relatively rapidly over time as would be the case at a night club or a construction site. Slow response is used when the sound level is relatively steady as would be the case for environmental noise such as near highways, railroads, and airports.

Following are how high A-weighted sound levels are for some familiar sounds (taken from U.S. Environmental Protection Agency documents):

Noises:

Chain saw operator	103-115 dBA
Heavy truck at 50 feet	85-95 dBA
Motorcycle driver	80-115 dBA
Power lawn mower operator	80-95 dBA
Subway rider	80-90 dBA
Train passenger	72-90 dBA
City bus at 50 feet	70-85 dBA
Waste food disposer	67-93 dBA
Automobile at 50 feet	64-88 dBA
Vacuum cleaner	60-85 dBA
Washing machine	47-73 dBA
Refrigerator	45-68 dBA

Average conversational speech at 1 meter:

Inside suburban house	55 dBA
Outdoors in suburban area	55 dBA
Inside urban house	57 dBA
Outdoors in urban area	65 dBA
On a train	66 dBA
On an aircraft	68 dBA

Frequency. The frequency of sound is always expressed in Hertz, abbreviated Hz. The audible frequency range (20 Hz to approximately 15,000 or 20,000 Hz) is typically divided into bands covering one octave,

or one-third of an octave. Each doubling of frequency is defined as one octave. A sound level can then be stated either as a single-value covering the entire audible frequency range, or for a given octave or one-third octave band. When sound levels are stated for the entire audible frequency range, the sound could be filtered to roughly simulate the hearing sensitivity of the average person. There are two commonly-used filter types: A- and C-weighting. An A-weighted sound level is by far the most-commonly used, and was designed to approximately represent the hearing sensitivity of a person exposed to sounds of moderate loudness. A C-weighted sound level is occasionally used to assess noise from blasting and other loud short-duration sounds and was developed to approximately represent the hearing sensitivity of a person exposed to loud sounds. For environmental noise studies, or for most other purposes as well, it is assumed that the sound level is A-weighted if there is no specific designation otherwise.

Time Pattern. The variation of a sound level over time is perhaps the most complex of the three parameters, and there are a myriad of ways to express this variation. The various ways can be divided into single-event sound levels and long-term sound levels. Examples of "single events" are a train passby, an aircraft overflight, or a gun firing. Single-event sound levels can be based on the maximum sound level reached during the event (abbreviated L_{max}), the total sound energy produced during the event (known as the sound exposure level, or SEL), or the number of times the sound level exceeds a threshold value (known as the number of events above, or NA). Long-term sound levels must be based on sound levels over a given time interval. Common time intervals are one hour and 24 hours. During this time interval the stated quantity could be the average sound level (known as the equivalent-continuous sound level, or L_{eq}), the amount of time the sound level exceeds a threshold value (known as time above, or TA), or the sound level exceeded any set percentage of the time (known as the statistical sound level; e.g., the sound level exceeded ten percent of the time is written L_{10}, while the sound level exceeded 90 percent of the time is written the L_{90}). One-hour average sound levels, or occasionally one-hour statistical sound levels, are used by the Federal Highway Administration and state departments of transportation to express highway noise levels. The sound level exceeded 90 percent of the time, L_{90}, is often considered the background sound level, since it is not significantly affected by loud periodic noise events. 24-hour average sound levels, and occasionally 24-hour statistical sound levels, are typically used to express all forms of transportation noise including highway, aircraft, and railroad noise. The 24-hour average noise level can include some adjustments to account for peoples' increased sensitivity to noise in the evening and at night. The two most common ways to account for this sensitivity is with the Day-Night Average Sound Level (DNL) and the Community Noise Equivalent Level (CNEL). The DNL is just a 24-hour average sound level for a calendar day with 10 dB added to all noise which occurs between 12 a.m. and 7 a.m. and between 10 p.m. and midnight. The CNEL is the same as DNL but with 5 dB added to all noise which occurs between 7 p.m. and 10 p.m.

Appendix B – Noise Criteria

Noise is unwanted since it causes: (1) hearing damage, (2) annoyance, (3) speech interference, and (4) sleep disturbance. There are various types of noise criteria that revolve around different unwanted causes. The Occupational Safety and Health Act (OSHA) established maximum allowable sound levels in the workplace in an effort to prevent hearing damage. The OSHA limits often become significant in industrial and military settings, as well as for construction workers. In most work and home environments the sound levels are well below the OSHA limits. Most noise criteria relate to the other

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three unwanted effects of noise. There are noise criteria at the federal, state, and local levels, and there are also non-regulatory criteria developed by many private and governmental organizations.

Federal Noise Criteria. There are many government agencies that have established noise criteria. The U.S. Environmental Protection Agency (EPA) developed many of the criteria used by other federal agencies. The U.S. Department of Housing and Urban Development (HUD) established an outdoor noise standard that residential use assisted or supported by HUD is "acceptable" where the DNL does not exceed 65 dB, "normally unacceptable" where the DNL is over 65 dB but does not exceed 75 dB, and "unacceptable" where the DNL exceeds 75 dB. The HUD indoor noise goal is that the DNL not exceed 45 dB inside proposed residences. These limits are typically only evaluated by HUD when the project receives funding from the Federal Housing Administration (FHA). The Federal Aviation Administration (FAA) has established a threshold of a DNL of 65 dB, above which residential development is not compatible; the FAA indoor threshold is a DNL of 45 dB. These limits are typically only evaluated when environmental noise studies (such as environmental assessments or environmental impact statements) are performed in support of a major project, or when existing residences, schools, or churches are sound insulated in FAA-sponsored programs. The Department of the Navy uses similar criteria which are typically only evaluated when environmental noise studies (such as Air Installation Compatible Use Zone, or AICUZ, studies) are completed in support of a major realignment of assets. The Federal Highway Administration (FHWA) established noise abatement criteria (NAC) for various land uses; the NAC for residential use is an hourly average sound level of 67 dB outdoors and 52 dB indoors. When the sound level approaches or exceeds the NAC a noise impact occurs; the state departments of transportation may define the word "approach" although it is typically considered to be when the sound level reaches within one dB of the NAC.

State Noise Criteria. Many states have established different noise criteria for four purposes: (1) to control noise produced by citizens, (2) to evaluate the compatibility of a proposed land use with respect to environmental noise, (3) to determine if construction of a state-funded noise barrier is warranted along a highway, and (4) to verify that new construction provides adequate acoustical separation between dwelling units of multi-family housing. The first purpose is incorporated into a noise ordinance and is enforceable against the person generating the noise. The Code of Maryland includes such as noise ordinance, while in the state of Virginia the noise ordinances are developed at the local level. Noise ordinances typically limit the maximum A-weighted noise level, and many also limit the maximum noise level in each octave band. The second purpose is incorporated into the environmental noise policy and is enforceable by the state and local (if adopted at the local level) planning and zoning departments. The Code of Maryland also includes such an environmental noise policy, while in most other states such as Virginia it is solely up to the municipalities to develop such a policy. Environmental noise policies are almost always expressed in terms of the DNL. The third purpose is incorporated in the noise barrier policy and is used by the state department of transportation. Maryland and Virginia, as well as other states, have such a noise barrier policy. The noise barrier policies are almost always expressed in terms of the hourly average sound level referencing the noise abatement criteria used by the FHWA, although some are expressed in terms of the sound level exceeded during 10 percent of the hour (the L_{10}). The fourth purpose is incorporated into the state and local building code in the form of a minimum acceptable Sound Transmission Class (STC) or Impact Insulation Class (IIC) rating.

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Local Noise Criteria. Many municipalities have established both a noise ordinance and an environmental noise policy. The environmental noise policy is sometimes summarized in a policy plan, comprehensive plan, or similar document, while in other jurisdictions it is not documented at all, outside of in-house planning department memos. The environmental noise policy is sometimes enforceable by ordinance in the case of an overlay zone. Overlay zones are often adopted around airports or military air bases, as is the case for High Point, North Carolina. In some municipalities the state department of transportation noise barrier policy is used to assist determining if a developer applying for a re-zoning must build a highway noise barrier.

Private Noise Criteria. In many cases, there are no applicable regulatory criteria. For example, there rarely is any regulatory limit on noise levels due to plumbing systems, noise levels in classrooms, or noise levels transmitted from one office to another. In these cases it is useful to consider non-binding criteria developed by private and governmental organizations. The American Society of Heating Refrigerating and Air-conditioning Engineers (ASHRAE) provides recommendations regarding noise from mechanical systems. The ASHRAE recommendations are typically expressed in terms of the Room Criterion (RC) rating, and used to be expressed in terms of the Noise Criterion (NC) rating. The American National Standards Institute (ANSI) developed a standard regarding noise levels in schools, and this standard has been adopted into law in some jurisdictions. The World Health Organization (WHO) has developed many noise standards for various purposes. In some cases it is useful to assess what percentage of syllables, words, or sentences would be intelligible in a given noise environment; two noise metrics used for this purpose are called speech transmission index (STI) and articulation index (AI). Various textbooks provide guidance on appropriate STI and AI values. There has also been some research into the percentage of people that would be "highly annoyed" or awakened by given noise levels. This research could be cited in the development on a noise criterion.

Appendix C – Precision of Predictions

It is not generally feasible to calculate the precision of a noise level or noise level reduction prediction. And unlike fields such as structural engineering, it is also not typical practice to incorporate a specific margin of error. However, where possible, somewhat conservative assumptions were used.

If a general margin of error were desired, it would be advisable to exceed the recommended acoustical performance (often expressed by the STC rating) of walls, windows, and doors by a couple of points. For highway noise analyses, a margin of error could be also incorporated by extending any recommended highway noise barriers farther (i.e., shielding a greater angle of view) and a couple of feet higher. If you would like to incorporate a specific margin of error, please let us know and we could revise our analysis.

Note that the noise levels presented in this report are based on the assumption that the rooms are furnished; noise levels in unfurnished rooms will be higher. This effect can account for a 2 to 3 dB difference in many cases.

If a specific proffered commitment is made during the rezoning process for a project regarding the noise level inside residences or in outdoor activity areas, we would recommend incorporating a specific margin of error of approximately 2-3 dB. While such a margin of error is not routinely included, and

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would likely increase construction (building and/or noise wall) costs, it could limit liability should noise levels vary slightly from the predictions.

Hush Acoustics LLC does not provide any warranty or guarantee as to the precision of the noise level or noise level reduction predictions or measurements.