

3.0 Affected Environment and Environmental Consequences

This chapter identifies the existing conditions and the environmental consequences of the No Build Alternative and the proposed Build Alternatives. Potential mitigation strategies are provided for resources areas where impacts could occur. A list of all data sources used to conduct analysis and create figures in Chapter 3 can be found in **Section 6.2 Data Resources**.

3.1 Transportation

3.1.1 Introduction

This section identifies and assesses existing and future transportation conditions in the study areas and potential transportation impacts. Areas of roadway service and performance consist of network characteristics, including streets, intersection levels of service, signal system characteristics, and corridor travel times. The analysis addresses and evaluates the project's impact on the adjacent street network and recommends mitigation measures related to any negative impacts of site-generated traffic on the adjacent street network.

3.1.2 Methodology

A detailed analysis was conducted to determine the potential effects on traffic for each alternative. Future build conditions were compared to the existing traffic conditions for identified intersections within the vicinity of each site. Study intersections evaluated include:

- No Build Alternative/Alternative C:
 - Southern Ave SE at Benning Road
 - Marlboro Pike at Benning Road
 - Marlboro Pike at Boones Hill Road
 - Southern Avenue at Marlboro Pike
 - Ridge Road at Bowen Road
- Alternative A:
 - Suitland Parkway WB at Forestville Road
 - Suitland Parkway EB at Forestville Road
 - Forestville Road at Rena Road
 - Forestville Road at I-495 SB off ramp
 - Forestville Road at Allentown Road (including lefts to NB I-495 on-ramp)
- Alternative B:
 - Pennsylvania Avenue at Westphalia Road
 - Westphalia Road at Chester Grove Road

Existing conditions were established from turning movement counts at intersections identified above; 24-hour counts at the existing Southern Avenue Bus Garage; review of existing signal timing plans for identified signalized intersections, provided by the District of Columbia, State of Maryland, and Prince George's County; and bus turning movement data during peak periods 7:00am – 9:00am and 4:00pm – 6:00pm for the specified intersections above.

To assess the future build condition (2015) for each alternative, a Synchro analysis was conducted. An annual growth rate was applied to the documented traffic volumes until 2015. This was combined with the estimated trips to be generated by the build alternatives. For purposes of this analysis, each site is expected to generate 616 unique trips (combined buses and employees). An additional 178 vehicle trips were estimated for Alternative C due to the proposed commercial retail center as part of the development.

Intersection performance was measured by level of service (LOS), which is a qualitative measurement of traffic determined by seconds of delay per vehicle at intersections. LOS is designated from A to F, with A

representing the best traffic conditions and least delay and F representing the poorest conditions with the highest delay. For major urban area, LOS D or better is considered acceptable. For this analysis, impacts predicted to increase delay at intersections, resulting in a LOS D or worse, or to worsen delay at intersections currently operating at a LOS F, mitigation is proposed. Potential mitigation measures proposed are consistent with the guidance provided in the Maryland-National Capital Parks & Planning Commission, Prince George's County Planning Department *Guidelines for the Analysis of Traffic Impact Development, September 2002*.

3.1.3 No Build Alternative

Existing Conditions

As shown in **Figure 3-1**, the existing Southern Avenue Bus Garage is located at the intersection of Southern Avenue and Marlboro Pike. Southern Avenue is a four-lane arterial that forms the border between the District of Columbia and Prince George's County. Marlboro Pike is a four-lane arterial that connects the District of Columbia's southeast border to eastern Prince George's County, Maryland. A small access road, Pear Street, runs perpendicular to Southern Avenue and provides emergency access to the site. The eastern edge of the site is bordered by Boones Hill Road, which is a relatively short two-lane local street between Southern Avenue and the entrance into the bus garage that crosses Marlboro Pike. Buses turn left at Marlboro Pike to turn left and right at Southern Avenue intersection. Employees and operators use the Boones Hill Road Entrance to access the facility.

Key intersections serving the site and their existing LOS are included in **Table 3-1** and identified in **Figure 3-2**. All of the intersections maintain an acceptable LOS.

Environmental Consequences

Future transportation conditions of the No Build Alternative were evaluated by taking into consideration the growth in background traffic. The MWCOC model indicates that there is no traffic growth on Southern Avenue in 2015, and a conservative 1 percent per year growth rate was used at all study intersections. This rate accounts for regional and development growth within the study area.

Key intersections serving the site and their existing LOS are included in **Table 3-1** and identified in **Figure 3-2**. All of the intersections experience a delay increase through 2015, but all maintain an acceptable LOS. The change in delay is attributed to growth and not the existing bus garage.

Table 3-1: No Build Alternative Intersection Conditions

Intersection Conditions		AM LOS (Delay*)		PM LOS (Delay*)	
Intersection Name	Traffic Control	Existing Conditions	No Build 2015	Existing Conditions	No Build 2015
Benning Rd/ Southern Ave (North)	Signalized	C (21.4)	C (22.4)	B (18.9)	C (20.1)
Benning Rd/ Southern Ave (South)	Signalized	B (17.7)	B (18.12)	C (20.1)	B (19.8)
Benning Rd/ Marlboro Pike	Signalized	A (5.9)	A (6.1)	A (9.5)	B (10.1)
Boones Hill Rd/ Marlboro Pike	Signalized	A (3.5)	A (3.5)	A (4.6)	A (4.7)
Southern Ave/ Marlboro Pike	Signalized	D (40.3)	D (44.5)	D (37.6)	D (41.4)
Bowen Rd SE/ Ridge Rd	Signalized	D (44.9)	D (50.9)	C (26.4)	C (27.7)

*Delay measured in seconds.

Potential Mitigation

Since the increase in delay is attributed to incremental growth and not the existing bus garage, no direct adverse impact is expected; therefore, no mitigation is proposed.

Figure 3-1: Transportation Network

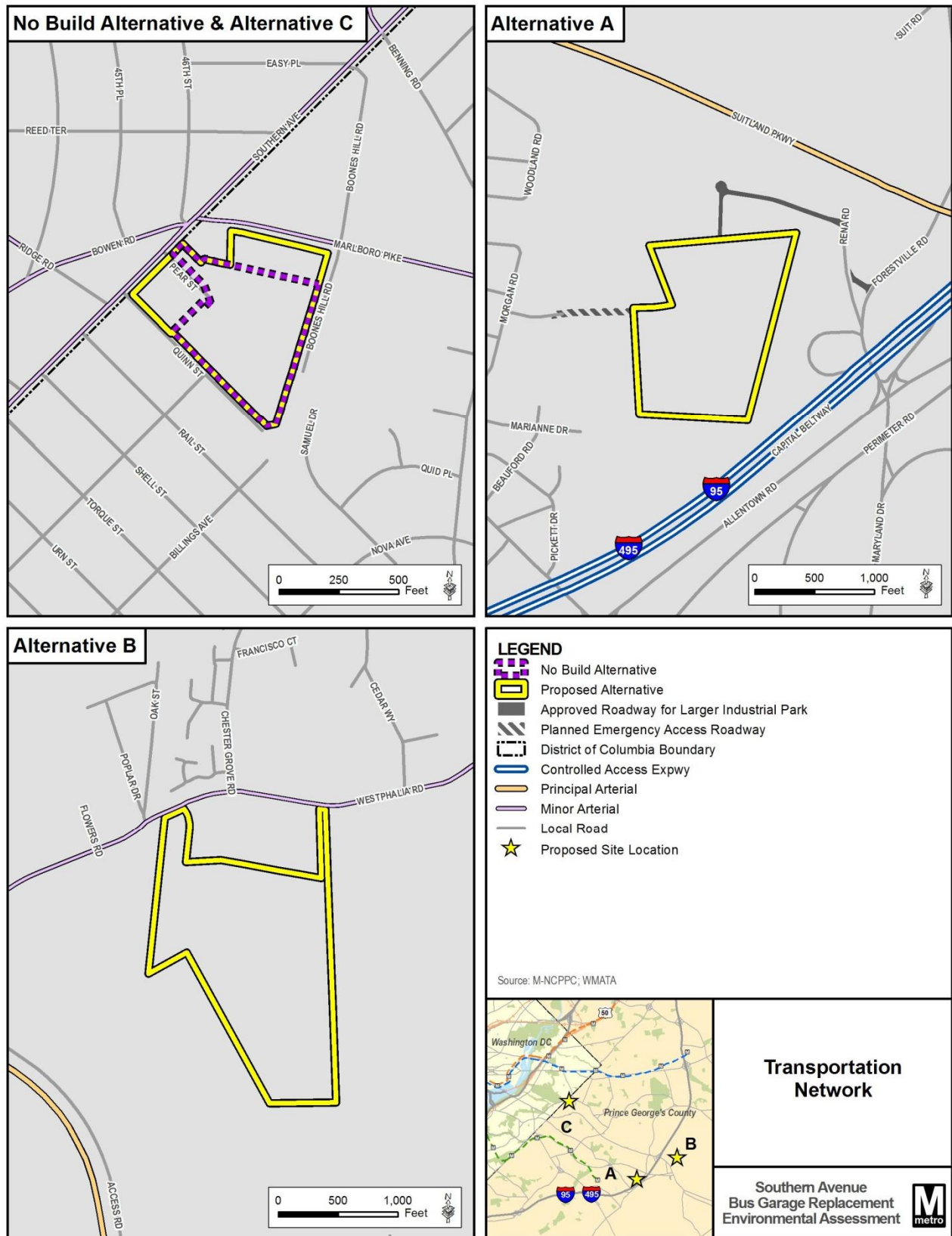
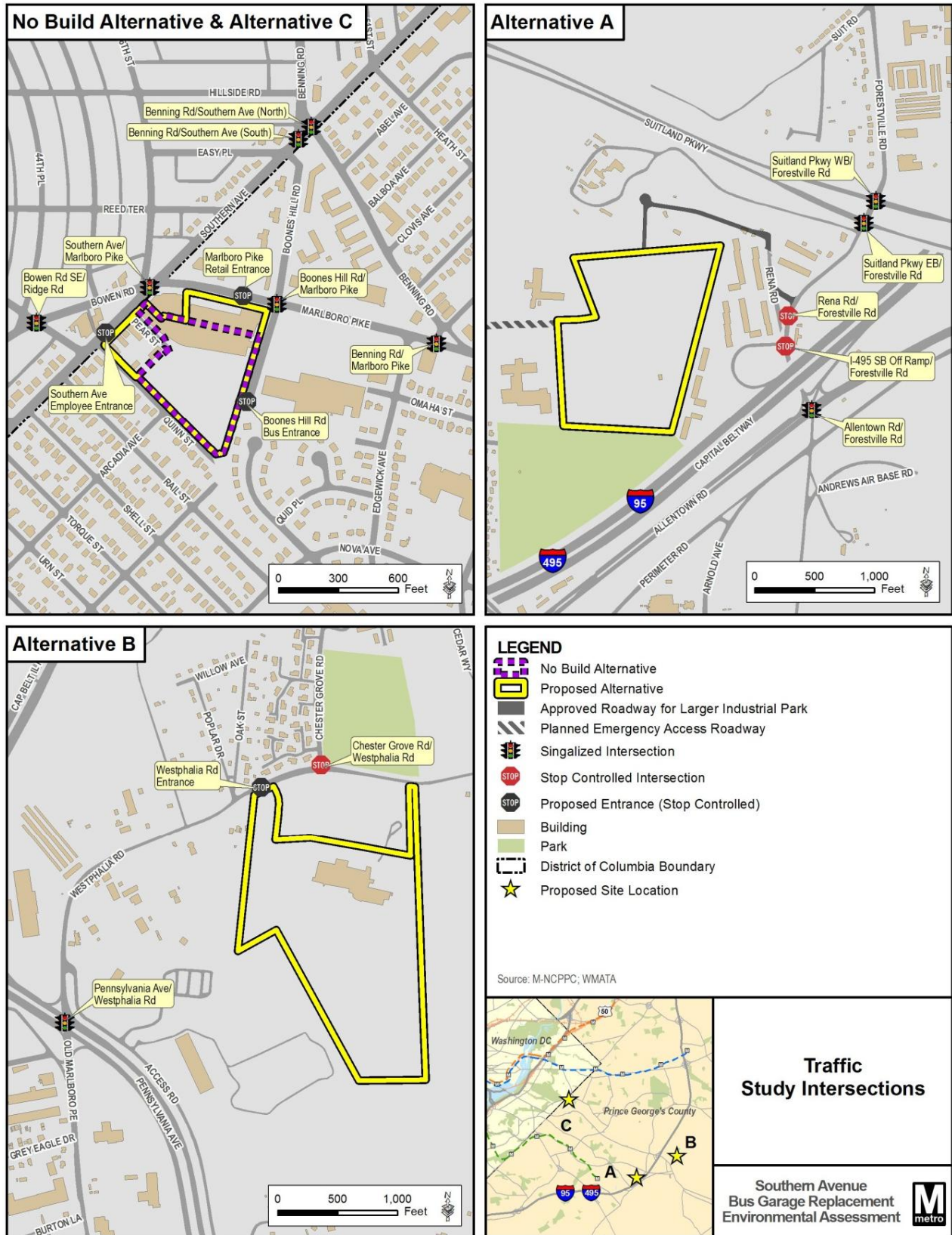


Figure 3-2: Traffic Study Intersections



3.1.4 Alternative A

Existing Conditions

As shown in **Figure 3-2**, Alternative A is located southwest of the intersection of Suitland Parkway and the Capital Beltway (I-95/I-495). Alternative A is currently an undeveloped site within a larger proposed industrial park without public access. The nearest intersection is Rena Road and Forestville Road. Access to the industrial park will be provided by an extension and realignment of Rena Road. Forestville Road is a two-lane roadway that intersects with Suitland Parkway on the north and Allentown Road on the south. The closest signalized intersections are Forestville Road and Suitland Parkway to the northeast, and Forestville Road and Capital Beltway/Allentown Road to the east. At present, northbound (NB) Forestville Road between Allentown Road and the I-495 southbound (SB) off-ramp is closed.

Key intersections serving the site and their existing LOS are included in **Table 3-2** and identified in **Figure 3-2**. There are three intersections that have a LOS lower than D: I-495 SB off ramp and Forestville Road during both AM and PM (both LOS F); Suitland Parkway eastbound (EB) and Forestville Road during both AM (LOS E) and PM (LOS F); and Suitland Parkway westbound (WB) and Forestville Road during both AM and PM (both LOS F). The approved Andrews Federal Campus is part of the baseline from which impacts have been assessed.

Environmental Consequences

Future transportation conditions of Build Alternative A were evaluated by taking into consideration the growth in background traffic. The MWCOC model indicates that there is no traffic growth on Forestville Road, Allentown Road, and Suitland Parkway in 2015, and a conservative 1 percent per year growth rate was used at all study intersections. This rate accounts for regional growth as well as the development growth within the study area. Due to the northbound closure on Forestville Road between Allentown Road and the I-495 Southbound off-ramp, data collected for the *Andrews Federal Campus Traffic Impact Study* (February 17, 2011) was used to project turning movement counts.

To assess environmental consequences, the site was evaluated at a 2015 No Build scenario and a 2015 build scenario. Potential traffic generated from the larger industrial development was not included in the No Build analysis. Key intersections serving the site and their existing LOS under the No Build scenario are included in **Table 3-2** and identified in **Figure 3-2**. All intersections experience a delay increase through 2015. Intersections that see a change in LOS are Rena Road and Forestville Road during the PM peak (from LOS C to D) and Suitland Parkway EB and Forestville Road during both the AM peak and PM peak (both from LOS E to F).

Alternative A will be accessed via an extension of Rena Road, constructed as part of a larger industrial development. The site will have a two-lane access road that will connect to the Rena Road extension. In addition, an emergency access road will be provided by an extension of Ames Road to the west of the site. Potential traffic generated from the larger industrial development was not included in the build analysis. Key intersections serving the site and their existing LOS under the build scenario are included in **Table 3-2** and identified in **Figure 3-2**.

Permanent impact to traffic in the vicinity of the project site would be moderate. All of the intersections experience a delay increase. The only intersection that sees a change in LOS is Rena Road and Forestville Road during the AM peak (LOS C to E) and the PM peak (from LOS D to F).

Potential Mitigation

The following potential mitigation measures are proposed to address predicted LOS delays:

- WB Suitland Parkway at Forestville Road approach: changing the curb lane from a right-turn-only lane to a shared through/right lane. To accommodate the additional through movement, a receiving lane on WB Suitland Parkway should be provided.
- NB Forestville Road at WB Suitland Parkway approach: changing the left lane to a shared through/left lane; providing an additional receiving lane on NB Forestville Road.
- NB Forestville Road approaching EB Suitland Parkway: changing the NB Forestville Road right lane to a shared through/right lane. providing an additional receiving lane on NB Forestville Road.

- SB Forestville Road approaching EB Suitland Parkway: changing the left lane to a shared through/left lane ; providing an additional receiving lane on SB Forestville Road.
- Suitland Parkway and Forestville Road intersection (both legs): changing the cycle length to 120 seconds at the AM and PM peak hour.
- Suitland Parkway and Forestville Road: changing the traffic signal sequence at Suitland Parkway and Forestville Road to the following:
 - 1st Phase - East and Westbound Suitland Parkway
 - 2nd Phase – Northbound Forestville Road
 - 3rd phase – Southbound Forestville Road
- Signalizing the Forestville Road at I-95 SB Off-Ramp and Forestville Road at Rena Road intersections.

By introducing these enhancements, traffic conditions around the surrounding road network would improve. Key intersections serving the site and their mitigated LOS are included in **Table 3-2** and identified in **Figure 3-2**. All intersections experience a delay decrease. Intersections that see a change in LOS are Suitland Parkway EB and Forestville Road during the AM peak (from LOS F to C) and the PM peak (from LOS F to D) and Suitland Parkway WB and Forestville Road during the AM peak (from LOS F to C) and the PM peak (from LOS F to D).

As project planning progresses, final mitigation for potentially adverse traffic conditions would be coordinated with the appropriate state and local jurisdictions and all requirements for site development would be met. For the proposed signalized employee entrance off of Southern Avenue, WMATA would coordinate with the District Department of Transportation (DDOT).

Table 3-2: Alternative A Intersection Conditions

Intersection Conditions		AM LOS (Delay*)				PM LOS (Delay*)			
Intersection Name	Traffic Control	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015
Allentown Rd/ Forestville Rd	Signalized	A (2.6)	A (4.1)	A (4.2)	A (4.2)	A (1.9)	A (3.7)	A (3.8)	A (3.8)
I-495 SB Off Ramp/ Forestville Rd	Stop Controlled	F (142.9)	F (191.6)	F (230.1)	C (27.1)+	F (211.0)	F (284.9)	F (317.0)	C (23.7)+
Rena Rd/ Forestville Rd	Stop Controlled	C (15.4)	C (21.7)	E (48.2)	B (10.7)+	C (20.5)	D (31.8)	F (279.7)	B (11.5)+
Suitland Parkway EB/ Forestville Rd	Signalized	E (58.3)	F (119.3)	F (143.1)	C (30.6)	F (106.8)	F (132.3)	F (154.2)	D (48.3)
Suitland Parkway WB/ Forestville Rd	Signalized	F (150.0)	F (185.8)	F (187.6)	C (31.6)	F (141.9)	F (277.3)	F (263.7)	D (54.5)

*Delay measured in seconds.

+ Mitigation consists of changing intersection from stop controlled to signalized

3.1.5 Alternative B

Existing Conditions

As shown in **Figure 3-2**, Alternative B is northeast of the intersection of Pennsylvania Avenue and the Capital Beltway (I-95/I-495). The site is accessed via a private two-lane access road. The closest major intersection is Westphalia Road and Pennsylvania Avenue about a half-mile to the west. Westphalia

Road is a three-lane roadway for approximately 1,400 feet that narrows to two lanes on the north side of the Pennsylvania Avenue intersection. The access road to the facility intersects with Westphalia Road and operates under a stop controlled condition.

Key intersections serving the site and their existing LOS are included in **Table 3-3** and identified in **Figure 3-2**. Pennsylvania Avenue at Westphalia Road is the only intersection that operates below a LOS D during the PM peak hour (LOS E) under the existing conditions.

Environmental Consequences

Future transportation conditions of Alternative B were evaluated by taking into consideration the growth in background traffic. The MWCOG model indicates that there is traffic growth on Westphalia Road in 2015, and a 3 percent per year growth rate was used at all study intersections. This rate accounts for expected growth due to population and employment increases within the study area.

To assess environmental consequences, the site was evaluated at a 2015 No Build scenario and a 2015 build scenario. Key intersections serving the site and their existing LOS under the No Build scenario are included in **Table 3-3** and identified in **Figure 3-2**. All of the intersections experience a delay increase through 2015, yet no intersections experience a change in LOS.

The site will be accessed via the existing two-lane access road. Key intersections serving the site and their existing LOS under the build scenario are included in **Table 3-3** and identified in **Figure 3-2**. Permanent impact to traffic in the vicinity of the project would be minor. Only the Pennsylvania Avenue at Westphalia Road intersection experiences a delay increase and a change in LOS during the AM (from LOS D to E) for the future conditions.

Potential Mitigation

Based on the traffic analysis conducted, delays in intersection LOS were identified at the Pennsylvania Avenue at Westphalia Road intersection. Signal timing optimization at this intersection would mitigate the delay.

By introducing this enhancement, traffic conditions around the surrounding road network would improve. Key intersections serving the site and their mitigated LOS are included in **Table 3-3** and identified in **Figure 3-2**. The Pennsylvania Avenue at Westphalia Road intersection would experience a delay decrease and a change in LOS during the AM and PM (both from LOS E to D).

As project planning progresses, final mitigation for potentially adverse traffic conditions would be coordinated with the appropriate state and local jurisdictions and all requirements for site development would be met.

Table 3-3: Alternative B Intersection Conditions

Intersection Conditions		AM LOS (Delay*)				PM LOS (Delay*)			
Intersection Name	Traffic Control	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015
Pennsylvania Ave/ Westphalia Rd	Signalized	D (39.1)	D (46.6)	E (62.4)	D (55.0)	E (61.1)	E (75.4)	E (76.9)	D (54.6)
Chester Grove Rd/ Westphalia Rd	Stop Controlled	B (11.6)	B (12.6)	B (13.0)	None Proposed	B (10.5)	B (11.0)	B (14.4)	None Proposed
Entrance/ Westphalia Rd	Stop Controlled	Inactive		B (12.6)	None Proposed	Inactive		B (11.1)	None Proposed

*Delay measured in seconds.

3.1.6 Alternative C

Existing Conditions

Same as the No Build Alternative.

Environmental Consequences

Future transportation conditions of Alternative C were evaluated by taking into consideration the growth in background traffic. The MWCOG model indicates that there is no traffic growth on Southern Avenue in 2015, and a conservative 1 percent per year growth rate was used at all study intersections. This rate accounts for regional growth as well as the development growth within the study area.

To assess environmental consequences, the site was evaluated at a 2015 No Build scenario and a 2015 build scenario. Key intersections serving the site and their existing LOS under the No Build scenario are included in **Table 3-4** and identified in **Figure 3-2**. All intersections experience a delay increase through 2015. Intersections that see a change in LOS are Benning Road at Southern Avenue (North) during the PM peak (from LOS B to C) and Benning Road at Marlboro Pike during the PM peak (from LOS A to B). Benning Road at Southern Avenue (South) shows an improved LOS during the PM peak (from LOS C to B).

The rebuilt and expanded site will have separate access points for employees and buses. Employees and operators will access the site via a ramp entrance along Southern Avenue and buses will access the site at street level along Boones Hill Road. Buses will turn left at Marlboro Pike to turn left and right at Southern Avenue intersection. The commercial retail proposed will have a separate entrance along Marlboro Pike. In addition, an emergency access drive is found along Quinn Street and a delivery and emergency access ramp is found along Marlboro Pike. No impacts to Quinn Street have been identified. Key intersections serving the site and their existing LOS under the build scenario are included in **Table 3-4** and identified in **Figure 3-2**.

Permanent impact to traffic in the vicinity of the project would be moderate. Intersections that experience a delay increase include Benning Road at Southern Avenue (South) during both the AM and PM peak, Benning Road at Marlboro Pike during the PM peak, and Boones Hill Road at Marlboro Pike during the AM and PM peak. All other intersections either have the same delay or see an improvement. Benning Road at Southern Avenue (South) during the PM peak (LOS B to C) is the only intersection that experiences a change in LOS.

Potential Mitigation

Based on the traffic analysis conducted, some delays in intersection LOS were identified. Signal timing optimization at the Southern Avenue at Marlboro Pike and Southern Avenue at Benning Road intersections would mitigate the delay.

By introducing these enhancements, traffic conditions around the surrounding road network would improve. Key intersections serving the site and their mitigated LOS are included in **Table 3-4** and identified in **Figure 3-2**. Most of the intersections experience a delay decrease. Intersections that see a change in LOS are Benning Road at Southern Avenue (North) during the PM peak (from LOS C to B); Benning Road at Southern Avenue (South) during the PM peak (from LOS C to B); and Bowen Road SE at Ridge Road during the AM peak (from LOS D to C).

As project planning progresses, final mitigation for potentially adverse traffic conditions would be coordinated with the appropriate state and local jurisdictions especially along Southern Avenue, and all requirements for site development would be met.

Table 3-4: Alternative C Intersection Conditions

Intersection Conditions		AM LOS (Delay*)				PM LOS (Delay*)			
Intersection Name	Traffic Control	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015	Existing Conditions	No Build 2015	Build 2015	Mitigated Build 2015
Benning Rd/ Southern Ave (North)	Signalized	C (21.4)	C (22.4)	C (22.3)	C (22.4)	B (18.9)	C (20.1)	C (20.0)	B (17.7)
Benning Rd/ Southern Ave (South)	Signalized	B (17.7)	B (18.12)	B (18.4)	B (18.7)	C (20.1)	B (19.8)	C (20.1)	B (16.6)
Benning Rd/ Marlboro Pike	Signalized	A (5.9)	A (6.1)	A (6.1)	None Proposed	A (9.5)	B (10.1)	B (10.2)	None Proposed
Boones Hill Rd/ Marlboro Pike	Signalized	A (3.5)	A (3.5)	A (3.7)	None Proposed	A (4.6)	A (4.7)	A (4.8)	None Proposed
Southern Ave/ Marlboro Pike	Signalized	D (40.3)	D (44.5)	D (43.8)	D (36.6)	D (37.6)	D (41.4)	D (41.1)	D (37.0)
Bowen Rd SE/Ridge Rd	Signalized	D (44.9)	D (50.9)	D (50.9)	C (30.6)	C (26.4)	C (27.7)	C (27.6)	C (31.3)
Marlboro Pike Retail Entrance	Stop Controlled	Does Not Exist		A (9.4)	None Proposed	Does Not Exist		B (11.1)	None Proposed
Southern Ave Entrance	Stop Controlled			C (17.6)	C (17.6)			C (18.0)	C (18.0)
Boones Hill Rd Entrance	Stop Controlled			A (8.9)	None Proposed			A (9.8)	None Proposed

*Delay measured in seconds.

3.2 Zoning

3.2.1 Introduction

This section documents the consistency of the proposed bus garage with the existing zoning for each location under review. This section also identifies any special exception permits, variances, or rezoning that would be required.

3.2.2 Methodology

The alternatives were analyzed for consistency with existing local zoning regulations, as documented in the Prince George's County Zoning Ordinance.

3.2.3 No Build Alternative

Existing Conditions

The site is zoned Commercial Shopping Center (C-S-C), which allows for retail and service commercial activities generally located within shopping center facilities. **Figure 3-3** shows existing zoning at the site.

Environmental Consequences

The current zoning is C-S-C, which is intended to provide for retail commercial shopping facilities and other compatible institutional, recreational, and service uses. However, the existing facility is "grandfathered" and allowable "by right." No rezoning, variance, or special exception permit is required.

3.2.4 Alternative A

Existing Conditions

The site is zoned Limited Intensity Industrial (I-4), which allows for limited intensity commercial, manufacturing, warehousing, and distribution uses. Prince George's County Zoning Ordinance indicates that the I-4 designation allows for a "parking lot or garage, or loading area." In addition, this zoning designation requires a 25 percent green area per parcel. **Figure 3-3** illustrates the designated zoning which applies to Alternative A.

Environmental Consequences

As proposed, Build Alternative A is consistent with the existing zoning. The provision of a bus garage and maintenance facility at this location is allowable under the current zoning, and no rezoning, variance, or special exception would be required. As proposed, the development of this parcel meets the 25 percent green area requirements.

3.2.5 Alternative B

Existing Conditions

Build Alternative B is proposed on a currently developed property zoned as M-X-T (Mixed Use Transportation-Oriented), with grandfathered I-1 zoning (Industrial). Under the M-X-T zoning, retail businesses; office/research/industrial; and dwellings/hotel/motel uses are allowable. The I-1 zoning allows for a "parking lot or garage, or loading area." **Figure 3-3** illustrates the designated zoning which applies to Alternative B.

Environmental Consequences

Alternative B is allowable under the current and proposed zoning and no rezoning, variance, or special exception would be required.

3.2.6 Alternative C

Existing Conditions

As described for the No Build Alternative, the site is zoned Commercial Shopping Center (C-S-C), which allows for retail and service commercial activities generally located within shopping center facilities. The properties proposed for expansion are zoned as M-X-T, which allows for retail businesses; office/research/industrial; and dwellings/hotel/motel uses. **Figure 3-3** shows existing zoning at the site.

Environmental Consequences

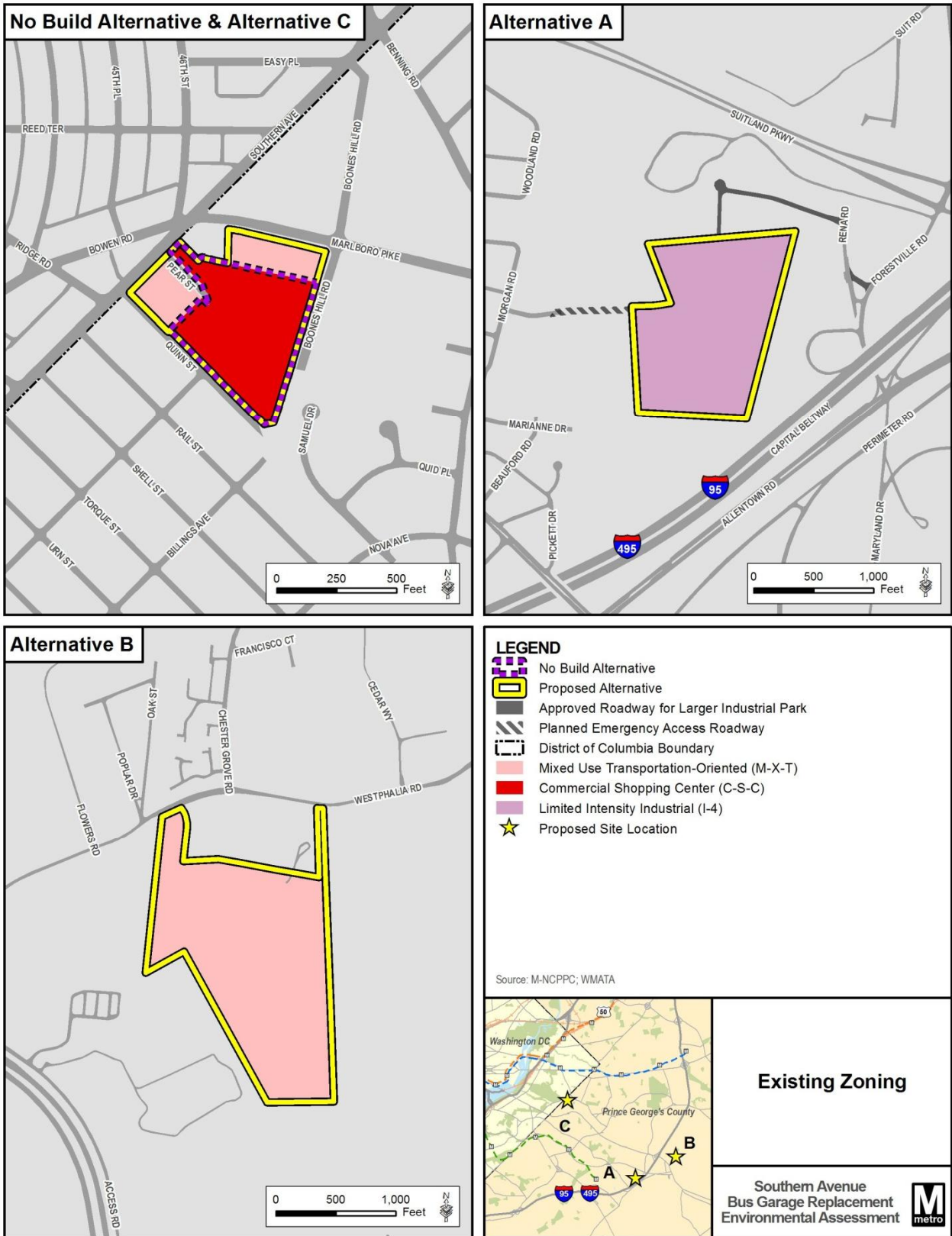
As proposed, Build Alternative C would expand the existing facility and require land use conversions of residential and commercial properties to an industrial use. Any expansion or rebuild would require a Special Exception, as these actions would be classified as intentional alterations of the existing grandfathered structure. The Special Exception process may take between 8 months to a year to be completed.

3.3 Land Acquisitions and Displacements

3.3.1 Introduction

This section identifies potential land acquisitions and displacements that would be needed for each alternative. Acquisitions would be differentiated based on the type of property being acquired. Any displacements that could result will be identified.

Figure 3-3: Existing Zoning



Any land acquisition would be subject to the provisions of the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* as amended, which ensures that property owners, residents and businesses affected by the acquisition or demolition of real property during the construction of federally-funded projects are treated fairly, consistently and equitably and that they do not suffer disproportionate injuries as a result of programs designed for the benefit of the public as a whole. Relocation assistance would follow the guidelines set forth in Title 49, Part 24 of the Code of Federal Regulations (49 CFR Part 24). Both federal and state laws require that property owners be paid fair market value for their land and improvements, and that property owners be assisted in finding replacement business sites or dwellings.

If negotiations with any affected property owners are unsuccessful pursuant to the Uniform Relocation and Real Property Acquisition Policies Act, WMATA has the authority to acquire real property by condemnation as enumerated in Section 12. (d), Article V (General Powers) of the "Washington Metropolitan Transit Authority Compact", P.L. 89-774, 80 Stat. 1234 (1966). As a multistate agency, WMATA's condemnations are handled by the U.S. Department of Justice. WMATA would only use its condemnation authority if they were unable to come to an agreement with an unwilling property owner.

3.3.2 Methodology

Parcel information was obtained through Prince George's County GIS parcel data. Field visits and aerial photography were used to verify the condition and location of property and structures identified for acquisition.

3.3.3 No Build Alternative

There would be no new land acquisition or displacement associated with the No Build Alternative.

3.3.4 Alternative A

Under Build Alternative A, WMATA would purchase the 36-acre parcel of land from the developer Jackson Shaw/Maryland and W.M. Schlosser. Purchase of this property would not result in any displacement.

3.3.5 Alternative B

Under Build Alternative B, WMATA would purchase the 52.5-acre property currently owned by Cambridge Place at Westphalia, LLC. Purchase of this property would not result in any displacement.

3.3.6 Alternative C

As proposed, Build Alternative C would extend beyond the existing 5.75-acre parcel currently owned by WMATA and therefore result in property acquisitions of parcels abutting the site. Some of the properties to be acquired would also result in displacements. The site would expand up to 8.2 acres. **Table 3-5** summarizes the properties proposed for acquisition. **Figure 2-8** shows the locations of these properties.

Environmental Consequences

All properties listed in **Table 3-5** are located within the block bounded by Marlboro Pike, Southern Avenue, Quinn Street, and Boones Hill Road, and would be acquired to accommodate the proposed expansion. In all, ten parcels and one road, totaling approximately 2.5 acres, would be affected and result in the displacement of six businesses, the occupants of one residence, and one church. **Figure 2-8** shows the locations of these parcels.

Each land acquisition would be conducted in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* as discussed in **Section 3.3.1**. Relocation assistance would follow the guidelines set forth in Title 49, Part 24 of the Code of Federal Regulations (49 CFR Part 24). Relocation resources would be made available to all displaced residents, businesses and nonprofit organizations without discrimination. WMATA would prepare a detailed acquisition and relocation plan before initiating any land acquisition or relocation activity.

Table 3-5: Proposed Property Acquisitions – Build Alternative C

County Parcel Tax ID	Property Size (Acres)	Address	Use	Establishment	Owner	Occupation
06-0576652 (partial)	0.05	4703 Marlboro Pike	Parking / Storage Annex	Vacant Building	FG Development Corporation	Occupied
06-0430520	1.072	4703 Marlboro Pike	Commercial	Green Hill Plaza	FG Development Corporation	Vacant
06-0424564	0.073	4703 Marlboro Pike	Commercial	Super Liquors	Cheung, Jimmy T & Cui L	Occupied
06-0447268	0.092	4270 Pear Street	Place of Worship	Teachings from the Holy Ghost Under God Church of Christ	BWF Southern LLC	Occupied
06-0555888	0.230	4208 Quinn Street	Residential	<i>Not applicable</i>	Maiatico, Teresa & Mary R	Occupied
06-0449371	0.101	4401 Southern Avenue	Commercial	White Corner Restaurant	Jeon, Kyong C	Occupied
06-0619619	0.197	4403 Southern Avenue	Commercial	<i>Not applicable (Not in use)</i>	Redshift LLC	Occupied
06-0447573	0.101	4405 Southern Avenue	Commercial	SAG Graphics & Printing	Sharrofna, Aref A	Occupied
06-0447250	0.152	4415 Southern Avenue	Commercial	4411 Southern Plaza: Work Dat Cell Phones (4415)	BWF Southern LLC	Occupied
06-0447276	0.184	4415 Southern Avenue	Commercial	Salon Monica (4413) CLG Education Consultant (4409) The Hobo Shop (4407)	BWF Southern LLC	Occupied
N/A	0.21	Pear Street	Road	<i>Not applicable. Currently used as the Southern Avenue Bus Garage Emergency Exit</i>	Public Access Road	N/A
Total Acreage	2.462					

3.4 Neighborhoods and Community Resources

3.4.1 Introduction

This section identifies direct impacts on neighborhoods and community resources. This section also addresses *Presidential Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks*, enacted in 1997 (EO 13045).

3.4.2 Methodology

To address EO 13045, a qualitative assessment of potential risk on children resulting from the proposed action was done. Each site was evaluated to determine if there were community facilities that cater to children adjacent to or within close proximity of the site. It was assumed that communities would likely have a population of children or the potential for children to visit.

In order to assess impacts on neighborhoods and community resources, a qualitative evaluation was done to determine if the proposed action would: 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.

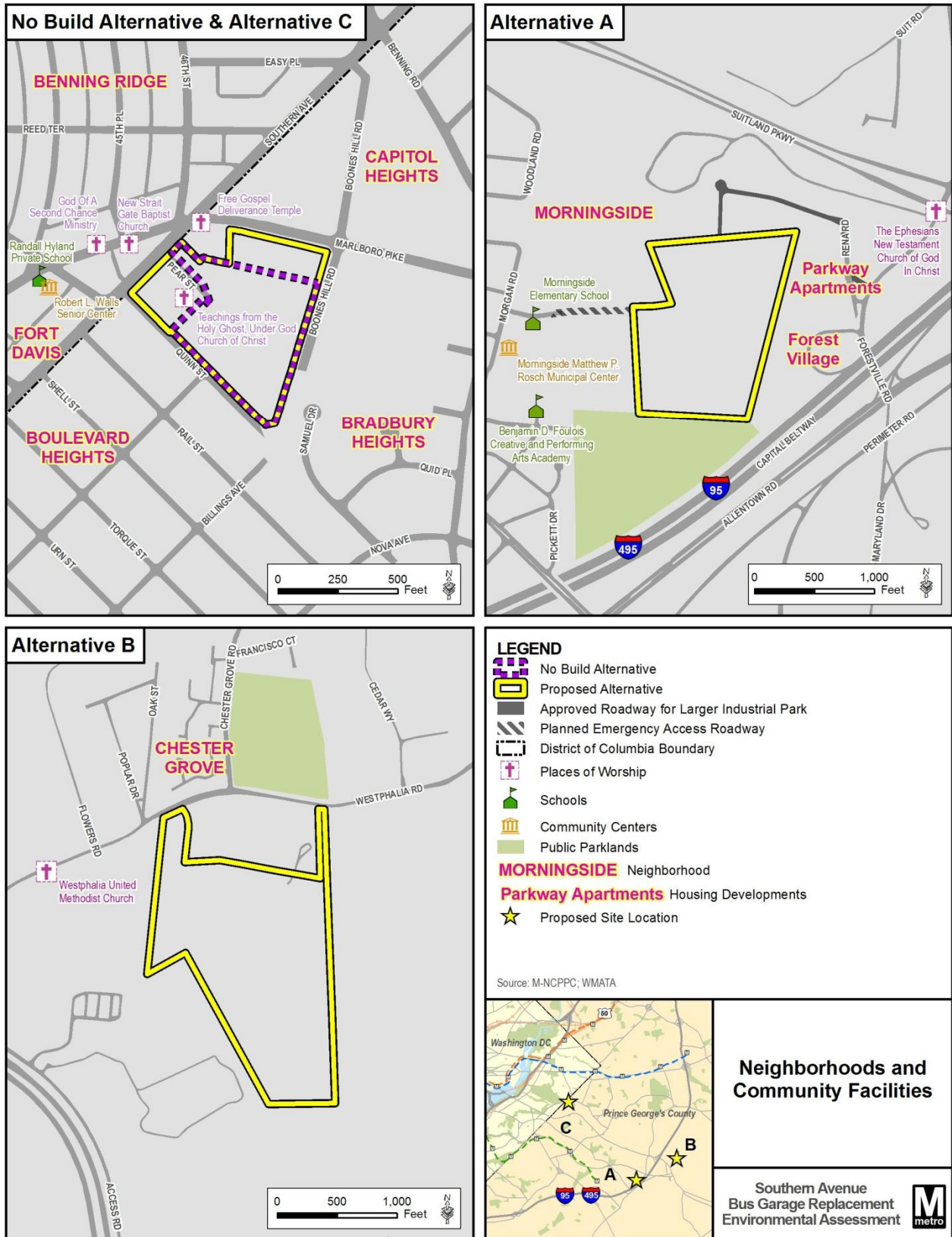
3.4.3 No Build Alternative

Existing Conditions

The following neighborhoods and community facilities were identified within proximity to the No Build Alternative/existing facility:

- **Neighborhoods:** Prince George's County neighborhoods within close proximity of the existing bus garage are Capitol Heights to the northeast and Boulevard Heights and Bradbury Heights to the south. District of Columbia neighborhoods within close proximity of the existing bus garage include Fort Davis and Benning Ridge. The neighborhoods and community resources for the No Build Alternative are described below and identified in **Figure 3-4**.
 - **Capitol Heights:** Capitol Heights is located directly northeast of the No Build Alternative site and generally bounded by Marlboro Pike, Southern Avenue, Capitol Heights Boulevard, Tunic Avenue, and Central Avenue. Capitol Heights was developed throughout the 20th century and includes single-family homes, community facilities, and some commercial uses.
 - **Boulevard Heights and Bradbury Heights:** Boulevard Heights and Bradbury Heights are located directly south of the No Build Alternative and generally bounded by Quinn Street, Southern Avenue, John Eager Howard Elementary School, and Pennsylvania Avenue. The neighborhood was established in the early 20th century and developed through the 1970s. The neighborhood includes single-family, detached residential homes with varying setbacks laid on a street grid. Limited commercial development is also located along Southern Avenue.
 - **Fort Davis:** Fort Davis is in Southeast Washington, DC, located directly west of the No Build Alternative and generally bounded by Southern Avenue; Pennsylvania Avenue, SE; Alabama Avenue, SE; and Bowen Road, SE. The neighborhood includes single-family residential homes with varying setbacks. Limited commercial development is also located along Southern Avenue.
 - **Benning Ridge:** Benning Ridge is in Southeast Washington, DC, located directly west of the No Build Alternative and generally bounded by Southern Avenue, Benning Road, SE; Texas Avenue, SE; and Ridge Road, SE. The neighborhood includes single-family detached residential homes, attached townhomes, and multi-story public housing developments. Limited commercial development is also located along Benning Road, SE and Southern Avenue.

Figure 3-4: Neighborhoods and Community Facilities



- **Community Resources:** Several places of worship, a preschool, and a senior center exist within close proximity to the existing bus garage and are detailed in **Table 3-6** and **Figure 3-4** shows the locations.

Table 3-6: Community Resources near the No Build and Build Alternatives

Site	Community Facility	Type	Address	Ownership
No Build Alternative	Free Gospel Deliverance Temple	Place of Worship	4703 Marlboro Pike Capitol Heights MD 20743	Private
	God of a Second Chance Ministry	Place of Worship	4411 Bowen Road SE Washington DC 20019	Private
	New Strait Gate Baptist Church	Place of Worship	4407 Bowen Road SE Washington DC 20019	Private
	Randall Hyland Private School	School	4339 Bowen Rd SE Washington DC 20019	Private
	Robert L. Walls Senior Citizens Center	Senior Citizen Center	4339 Bowen Road SE Washington DC 20019	Private
	Teachings from the Holy Ghost, Under God Church of Christ	Place of Worship	4270 Pear Street Capitol Heights MD 20743	Private
Alternative A	Benjamin D. Foulois Creative and Performing Arts Academy	School	4601 Beauford Road Suitland MD 20746	Public
	Morningside Elementary School	School (Vacant)	6900 Ames Street Suitland MD 20746	Public
	Morningside Matthew P. Rosch Municipal Center	Municipal Center	6901 Ames Street Suitland MD 20746	Public
	The Ephesians New Testament Church of God In Christ	Place of Worship	4301 Forestville Road District Heights MD 20747	Private
Alternative B	Westphalia United Methodist Church (facility currently not in use)	Place of Worship	8511 Westphalia Road Upper Marlboro MD 20774	Private
Alternative C	Free Gospel Deliverance Temple	Place of Worship	4703 Marlboro Pike Capitol Heights MD 20743	Private
	God of a Second Chance Ministry	Place of Worship	4411 Bowen Road SE Washington DC 20019	Private
	New Strait Gate Baptist Church	Place of Worship	4407 Bowen Road SE Washington DC 20019	Private
	Randall Hyland Private School	School	4339 Bowen Rd SE Washington DC 20019	Private
	Robert L. Walls Senior Citizens Center	Senior Citizen Center	4339 Bowen Road SE Washington DC 20019	Private
	Teachings from the Holy Ghost, Under God Church of Christ	Place of Worship	4270 Pear Street Capitol Heights MD 20743	Private

Environmental Consequences

Existing conditions would continue under the No Build Alternative. The No Build Alternative would not isolate any neighborhood or impact any community resource. No potential health or safety risk to children was identified for this site.

Potential Mitigation

Since existing conditions would remain unchanged, no adverse impact would occur; therefore, no mitigation is proposed.

3.4.4 Alternative A

Existing Conditions

The following neighborhoods and community facilities were identified within proximity to Build Alternative A:

- **Neighborhoods:** The neighborhoods in the vicinity of Alternative A are Morningside and Forest Village. These two neighborhoods are described below and identified in **Figure 3-4**.

- **Morningside:** Morningside is adjacent to Alternative A, bounded by the western boundary of Alternative A, Suitland Road, Suitland Parkway, and the Capital Beltway. Morningside was developed in the 1940s and includes single-family homes, community facilities, and limited commercial development along Suitland Road. The neighborhood is laid out with curvilinear streets and contains large lots with uniform setbacks.
- **Forest Village:** Forest Village is adjacent to Alternative A, bounded by Rena Road, Forestville Road, and the Capital Beltway. The community was developed in the 1960s and includes three-story, multi-family dwelling buildings and private facilities. Access to the neighborhood is through Rena Road.
- **Community Resources:** Four active community resources exist in the site area. These resources are detailed in **Table 3-6** and include a place of worship, a vacant public elementary school, a public magnet school, and a town-owned municipal center that house community and police facilities. **Figure 3-4** shows the location of these resources.

Environmental Consequences

Implementation of Alternative A would not result in creating barriers that would divide or isolate portions of identified neighborhoods. Furthermore, no direct impact or elimination of access to any identified community resources would occur.

Benjamin D. Foulois Creative and Performing Arts Academy is adjacent to and west of Alternative A. This facility serves elementary school-aged children. No specific health or safety risk to children was identified for Alternative A to the children that use this school. The site would provide for appropriate safety and security measures to prohibit trespassing and appropriate barriers between bus facility activities and adjacent property. However, the change in travel patterns and increased vehicle trips through the Forest Village complex resulting in part from the bus facility could create a safety risk to children that may reside within Forest Village; this risk increase is considered a moderate impact.

Potential Mitigation

Alternative A would not isolate any neighborhood or impact any community resource; therefore, no mitigation is proposed.

3.4.5 Alternative B

Existing Conditions

The following neighborhoods and community facilities were identified within proximity to Build Alternative B:

- **Neighborhoods:** The neighborhood in the vicinity of Alternative B is Chester Grove. It is described below and identified in **Figure 3-4**.
 - **Chester Grove:** Chester Grove is located across Westphalia Road from Alternative B. The neighborhood is characterized by single-family homes, townhomes, multi-family homes, and a neighborhood park. The neighborhood features side streets and cul-de-sacs off of the main road, Chester Grove Road.
- **Community Resources:** One community facility exists in the vicinity of Alternative B. This place of worship is detailed in **Table 3-6** and shown in **Figure 3-4**.

Environmental Consequences

Implementation of Alternative B would not result in creating barriers that would divide or isolate any identified neighborhoods or impact any community facility. No increased potential health or safety risk to children was identified for this location.

Potential Mitigation

Alternative B would not isolate any neighborhood or impact any community resource; therefore, no mitigation is proposed.

3.4.6 Alternative C

Existing Conditions

Neighborhoods and community facilities within proximity to Build Alternative C are discussed in **Section 3.4.3**.

Environmental Consequences

Implementation of Alternative C would not result in creating barriers that would divide or isolate portions of identified neighborhoods. There would be acquisitions and displacements associated with Alternative C to include commercial, residential and a place of worship properties (see **Section 3.3**). No increased potential health or safety risk to children was identified for this location.

Potential Mitigation

Mitigation for the acquisitions and displacements are documented in **Section 3.5**.

3.5 Environmental Justice

3.5.1 Introduction

Under Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, (EO 12898) all Federal agencies are required to “identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations...” In accordance with EO 12898, this section addresses the potential for disproportionate and adverse effects on minority and low-income populations.

3.5.2 Methodology

Current and projected demographic information through 2030 was based on 2000 U.S. Census data and MWCOC’s *Cooperative Forecasting Round 7.2A: Employment, Population and Household Forecasts by Traffic Analysis Zone (TAZ)*, published in November 2009. TAZs are geographic units commonly used in transportation models and regional forecasts to analyze demographic data. Census tract, block group, and block data were used to determine minority and low-income populations.

Low-income populations are identified by the annual statistical poverty thresholds from the U.S. Census Bureau’s Current Population Reports on Income and Poverty. A low-income status is designated for any individual or household with income at or below the 1999 U.S. Census poverty thresholds. For a family of four, the threshold is \$17,050 and for individuals, it is \$8,350.

A minority is defined as: “Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.” For this analysis, minority and low-income populations were identified where either:

- The minority or low-income population of the affected census tracts exceeds 50 percent; or
- The minority or low-income population percentage of the affected census tracts is meaningfully greater (10 percent) than the minority or low-income population percentage in the general population or other appropriate unit of geographic analysis.

For the purposes of this section, the study area for demographics was assessed at a ¼-mile distance from each site boundary.

In addition to the study areas defined, two additional geographic areas are provided for comparison: Prince George’s County/Southeastern DC (comprising the area of the District of Columbia south of East Capitol Street and east of the Anacostia River and all of Prince George’s County) and the WMATA Compact area (comprising Prince George’s County, Maryland; Montgomery County, Maryland; District of Columbia; Arlington County, Virginia; City of Alexandria, Virginia; City of Fairfax, Virginia; Fairfax County, Virginia; and City of Falls Church, Virginia). **Table 3-7** provides the demographic characteristics of the comparison areas. **Figure 3-5** illustrates the boundaries of the geographic comparison areas.

Figure 3-5: Environmental Justice Comparison Areas

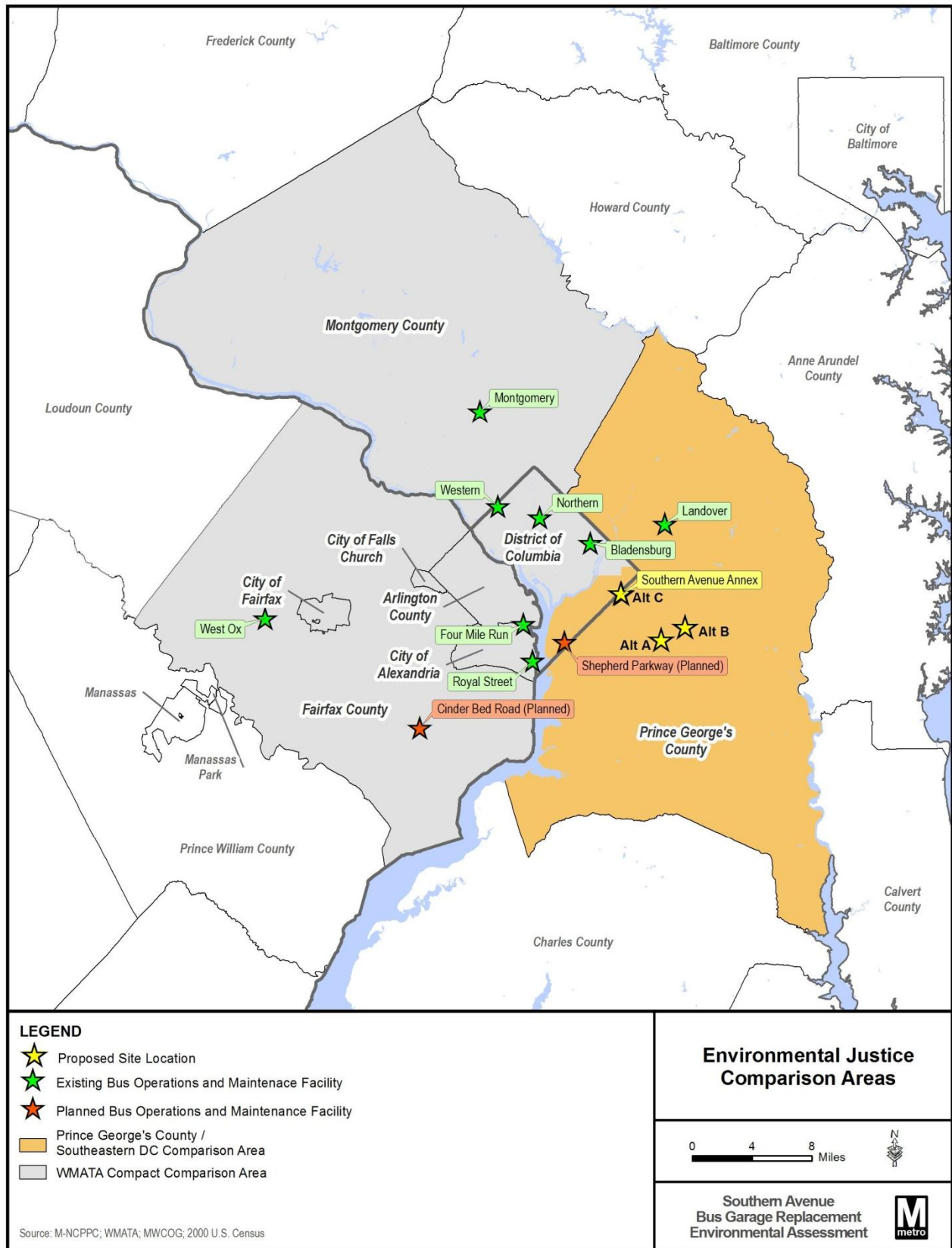


Table 3-7: 2000 Population Characteristics of Prince George's County/Southeastern DC and the WMATA Compact Area

Geographic Region	Total Population	Percent Minority	Percent Low-Income	Percent Low-Income And Minority
Prince George's County and Southeastern DC	941,129	79	11	10
WMATA Compact Area	3,566,275	52	8	7

Source: U.S. Census 2000

CEQ guidance also defines disproportionately high and adverse environmental effects and recommends consideration of whether or not an impact significantly and adversely affects a minority or low-income population or Indian tribe; has the potential to significantly and adversely affect minority or low-income populations; or could contribute to cumulative effects on minority or low-income populations. The analysis presented below looks at the potential for disproportionate adverse effects at each site and also provides a comparison of each alternative to evaluate if one alternative has a greater potential to experience disproportionately high and adverse effects over another.

This section only addresses those resource areas where impacts have been identified. These resources comprise traffic, land acquisitions and displacements, and noise. No other resources are expected to be adversely affected.

3.5.3 No Build Alternative

The existing Southern Avenue Bus Garage is located within a minority population that meets the environmental threshold of having a population of 50 percent or greater of minority persons within the defined study area. Low-income populations also exist within the study area. As shown in **Table 3-7**, the majority of the population of the comparison study area for Prince George's County/Southeastern DC is minority. **Table 3-8** provides the demographic and socioeconomic characteristics of the populations within the study area for the existing facility.

Table 3-8: No Build Study Area - Comparison of Environmental Justice Population Characteristics

	Prince George's County/Southeastern DC	WMATA Compact Area	Existing Facility Study Area
Population	941,129	3,566,275	2,713
% Minority Population	79	52	98
% Low-Income Population	11	8	14
% Low-Income Minority Population	10	7	14

Source: U.S. Census 2000

Environmental Consequences

No adverse effect on traffic has been identified for the No Build Alternative. Land acquisitions and displacements may occur within the study area that would be unrelated to the operation of the existing Southern Avenue Bus Garage that could affect the minority and low-income populations within the study area. Local planning documents, such as the Marlboro Pike Master Plan and Endorsed Sectional Map Amendment, have envisioned transforming this area in ways that may result in private development acquiring and subsequently displacing persons or businesses. Existing ambient noise conditions would remain the same.

Potential Mitigation

No adverse effects on potential environmental justice populations have been identified; therefore, no mitigation is proposed.

3.5.4 Build Alternative A

Existing Conditions

The site for Build Alternative A is located within an area with a minority population that meets the threshold of having a population of 50 percent or greater of minority persons within the defined study

area. Low-income populations also exist within the study area. As shown in **Table 3-7**, the majority of the population of the comparison study area for Prince George's County/Southeastern DC is minority. **Table 3-9** provides the demographic and socioeconomic characteristics of the populations within the study area for Build Alternative A.

Table 3-9: Alternative A Study Area - Comparison of Environmental Justice Population Characteristics

	Prince George's County/Southeastern DC	WMATA Compact Area	Alternative A Study Area
Total Population	941,129	3,566,275	1,520
% Minority Population	79	52	85
% Low-Income Population	11	8	6
% Low-Income Minority Population	10	7	6

Source: U.S. Census 2000

Environmental Consequences

The location for Build Alternative A is within close proximity to the existing Southern Avenue Bus Garage and would continue to provide service to the same service area as the existing facility. Potential adverse effects on traffic have been identified with this alternative; however, mitigation is proposed to offset the potential adverse effects, as described in **Section 3.1** of this EA. The land acquisition associated with this site would not displace any minority populations or minority-owned businesses. No exceedances of the FTA noise thresholds have been identified as a result of implementation of a bus garage at this location.

As proposed, the WMATA facility at this location would be part of a new, larger industrial park. Due to this proposed arrangement, the Forest Village complex may also experience effects from this larger development. Because the WMATA facility would be part of this larger industrial park, the bus garage would contribute to the overall effects on this community.

Potential Mitigation

As described in **Section 3.1** Transportation Effects, mitigation is proposed to improve impacted intersections. No other adverse effects on the identified minority and low-income populations have been identified; therefore, no other mitigation is proposed.

3.5.5 Build Alternative B

Existing Conditions

The site for Build Alternative B is located within a minority population that meets the environmental threshold of having a population of 50 percent or greater of minority persons within the defined study area. Low-income populations also exist within the study area. As shown in **Table 3-7**, the majority of the population of the comparison study area for Prince George's County/Southeastern DC is minority.

Table 3-10 provides the demographic and socioeconomic characteristics of the populations within the study area for Build Alternative B.

Table 3-10: Alternative B Study Area - Comparison of Environmental Justice Population Characteristics

	Prince George's County/Southeastern DC	WMATA Compact Area	Alternative B Study Area
Total Population	941,129	3,566,275	280
% Minority Population	79	52	89
% Low-Income Population	11	8	2
% Low-Income Minority Population	10	7	2

Source: U.S. Census 2000

Environmental Consequences

The location for Build Alternative B is within close proximity to the existing Southern Avenue Bus Garage and would continue to provide service to the same service area as the existing facility. Potential traffic

impacts have been identified within the study area. Minor additional delays at the nearby intersection of Pennsylvania Avenue/Westphalia Road would result; however, potential mitigation has been proposed that would negate the impact at this intersection. The required land acquisition for Build Alternative B would not result in the displacements of any minority or low-income populations or minority-owned businesses. No exceedances of the FTA noise thresholds have been identified as a result of implementation of a bus garage at this location.

Potential Mitigation

As described in **Section 3.1** Transportation, mitigation is proposed to improve impacted intersections. No other adverse effects on the identified minority and low-income populations have been identified; therefore, no other mitigation is proposed.

3.5.6 Build Alternative C

Existing Conditions

The site for Build Alternative C is located within a minority population that meets the environmental threshold of having a population of 50 percent or greater of minority persons within the defined study area. Low-income populations also exist within the study area. As shown in **Table 3-7**, the majority of the population of the comparison study area for Prince George's County/Southeastern District of Columbia is minority. **Table 3-11** provides the demographic and socioeconomic characteristics of the populations within the study area for Build Alternative C.

Table 3-11: Alternative C Study Area - Comparison of Environmental Justice Population Characteristics

	Prince George's County/Southeastern DC	WMATA Compact Area	Alternative C Study Area
Population	941,129	3,566,275	2,713
% Minority Population	79	52	98
% Low-Income Population	11	8	14
% Low-Income Minority Population	10	7	14

Source: U.S. Census 2000

Environmental Consequences

The location for Build Alternative C is at the same location as the existing facility and would continue to provide service to the same service area as the existing facility. As described in **Section 3.1**, Potential traffic impacts have been identified within the study area. Minor additional delays at the nearby intersections would result; however, potential mitigation has been proposed that would negate the impacts at these locations.

The expansion of the existing facility at this location would result in land acquisitions and subsequent displacements. Two community facilities would be impacted by these acquisitions. A partial acquisition of the Free Gospel Deliverance property would occur, but would not impact the function of this community facility. A full acquisition and displacement of the Teachings from the Holy Ghost Under God Church of Christ community facility would also occur as part of the site expansion.

Additionally, Build Alternative C would result in a noise impact under the FTA criteria, as described in **Section 3.10**.

Potential Mitigation

Potential mitigation is proposed in **Section 3.1** for traffic impacts and **Section 3.10** for the noise impact. All land acquisitions and displacements would be done in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* as amended, and Title 49, Part 24 of the Code of Federal Regulations (49 CFR Part 24).

3.5.7 Comparison of Disproportionately High Adverse Effects of Build Alternatives

WMATA bus garage and maintenance facility locations are evenly dispersed throughout the WMATA service area, as shown in **Figure 1-2**. Typically, bus garages are located within close proximity of the

areas that the buses serve. Therefore, the location of a bus garage within the same service area as the existing Southern Avenue Bus Garage would not result in a disproportionate effect on minority or low-income populations.

Build Alternative C would result in the most direct adverse impacts on identified minority and low-income populations that in comparison with the other proposed alternatives may be considered disproportionate. While Build Alternative A in and of itself would not result in quantifiable direct adverse impacts to minority or low-income populations, when combined with the potential effects of the planned larger industrial park, the alternative may result in disproportionate adverse effects to the adjacent populations. Build Alternative B would not result in any disproportionately high adverse effects.

3.6 Consistency with Local Plans

3.6.1 Introduction

This section identifies and assesses the consistency of the proposal with adopted transportation and land use plans that apply to each alternative.

3.6.2 Applicable Adopted Local Planning Documents

This section reviews the goals and policies within the plans of local jurisdictions and other agencies to assess the consistency of the Southern Avenue Bus Garage Replacement. These plans include county-wide land use, transportation, and environmental plans adopted by Prince George's County, and transportation plans adopted by WMATA. Specific plans and planning efforts reviewed for project consistency include:

- *Prince George's County Approved General Plan (October 2002)*
- *Prince George's Countywide Green Infrastructure Plan (June 2005)*
- *Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment (2007)*
- *Marlboro Pike Master Plan and Endorsed Sectional Map Amendment (2009)*
- *Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment (2009)*
- *Preliminary Subregion 6 Master Plan and Proposed Sectional Map Amendment (2009)*
- *Countywide Master Plan of Transportation (November 2009)*
- *2010 Metrobus Fleet Management Plan (2010)*

Prince George's County Approved General Plan (October 2002)

The *Prince George's County Approved General Plan* sets a comprehensive policy framework for Prince George's County. The General Plan identifies three areas of growth within the county: the developed tier; the developing tier; and the rural tier. The county's vision for the developed tier is a network of sustainable, transit-supporting, mixed-use, pedestrian-oriented, medium- to high-density neighborhoods. One of the primary ways to achieve this goal is to capitalize on investments in transportation. The county's vision for the developing tier is to maintain a pattern of low- to moderate-density suburban residential communities, distinct commercial centers, and employment areas that are increasingly transit serviceable. Prince George's County envisions compact, higher-intensity, mixed-uses in the distinct commercial centers and corridors. The policy goals for each tier are meant to inform planning done at the subregion and sector levels. The plan is applicable to all alternatives evaluated in this document.

Prince George's Countywide Green Infrastructure Plan (June 2005)

As the first functional master plan of its kind in Prince George's County, the *Countywide Green Infrastructure Plan* seeks to support the policies of the General Plan and identifies existing green infrastructure elements throughout the county. Green infrastructure is defined as an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas of countywide significance. The plan identifies a contiguous network of environmentally sensitive areas throughout the county and sets forth a goal, objectives, policies, and strategies to preserve, protect, and enhance these elements by the year 2025. The plan is applicable to Alternative A evaluated in this Environmental

Assessment, but is not applicable to the No Build Alternative, Alternative B, or Alternative C since no identified green infrastructure features exist on these sites.

Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment (2007)

The *Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment* applies to the area bounded by White House Road, Ritchie Marlboro Road, the Capital Beltway (I-95/I-495), and Pennsylvania Avenue (MD 4). The plan recommends future mixed-use development at moderate to high densities in context with surrounding neighborhoods. Additional goals include promoting industrial development in appropriate locations; promoting the development of gateways into the Westphalia area; and promoting new, and conserving existing, residential development throughout this sector of the County. Alternative B, evaluated in this document, falls within the boundaries of the plan.

Marlboro Pike Master Plan and Endorsed Sectional Map Amendment (2009)

While the General Plan sets a comprehensive policy framework for Prince George's County, detailed planning is done at the subregion and sector plan levels. The *Marlboro Pike Master Plan and Endorsed Sectional Map Amendment* provides the guiding policy for the Marlboro Pike Corridor. The plan seeks to address the area's deteriorating condition by developing policies to guide investment, revitalization efforts, and development along the Marlboro pike corridor. The plan recommends enhancing the node at Marlboro Pike and Southern Avenue to incorporate commercial/mixed use development and revitalize this gateway from the District of Columbia into Prince George's County. The plan is applicable to all alternatives evaluated in this document.

Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment (2009)

Subregion 4 is located in central Prince George's County and borders the District of Columbia. The *Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment* contains recommendations for land use; environment; transportation systems, including roadways, transit, bicycle, pedestrian, and trail facilities; public facilities; parks and recreation; historic preservation; and urban design. The plan seeks to implement the policy goals of the General Plan to improve quality of life, promote mixed-use development along transportation corridors and at targeted centers and nodes, encourage local economic development, and protect environmentally sensitive areas. Since Marlboro Pike lies within Subregion 4, the plan builds upon the recommendations of the *2009 Marlboro Pike Preliminary Corridor Sector Plan and Proposed Sectional Map Amendment*. The plan is applicable to the No Build Alternative and Alternative C evaluated in this document.

Preliminary Subregion 6 Master Plan and Proposed Sectional Map Amendment (2009)

The Preliminary Subregion 6 Master Plan and Proposed Sectional Map Amendment applies to the subregion in the southeast portion of Prince George's County. Because the Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment provides the guiding policy for the area, this plan does not address any areas applicable to the alternatives evaluated in this document.

Countywide Master Plan of Transportation (November 2009)

The *Countywide Master Plan of Transportation (MPOT)* for Prince George's County is the functional master plan that addresses the strategic transportation issues for all modes in Prince George's County. The *MPOT* was written to guide public and private resources to transportation policies, programs, facilities, and services that will help attain the goals and concepts in the General Plan. Two of the primary goals, as identified in the *MPOT*, are to improve the transportation network to reduce congestion and vehicle miles traveled, and to provide strategic transportation and transit guidance. One of the specific goals of the plan is to provide adequate transportation facilities. The plan is applicable to all alternatives evaluated in this document.

2010 Metrobus Fleet Management Plan (2010)

The *Metrobus Fleet Management Plan* provides a system-wide analysis for fleet growth through FY2020, taking into consideration current and future ridership demand, proposed service enhancements, supply of new buses, and capacities of the Metrobus maintenance programs and facilities. As part of the plan's evaluation of WMATA's system-wide garage capacities, the existing Southern Avenue Bus Garage is identified as an older garage over its capacity of 103 Metrobus vehicles. The Metrobus Fleet

Management Plan calls for the replacement of the Southern Avenue Bus Garage. See **1.0 Purpose and Need** for the Project. The plan is applicable to all alternatives evaluated in this document.

3.6.3 No Build Alternative

The No Build Alternative is not consistent with any of the applicable plans detailed in **Section 3.6.2**. The alternative is not consistent with WMATA's *Metrobus Fleet Management Plan* as the plan calls for the replacement of the existing Southern Avenue Bus Garage. The No Build Alternative is not consistent with the *Prince George's County Approved General Plan* since it is inconsistent with the goals set forth for the developed tier. The site is not consistent with policies on providing a transportation system that is integrated and that promotes development and revitalization, nor on providing public facilities to support and fit into the developed tier's development pattern. The alternative is not consistent with the *Countywide Master Plan of Transportation* because it does not provide adequate transportation facilities. The No Build Alternative is also not consistent with the *Marlboro Pike Master Plan and Endorsed Sectional Map Amendment* and the *Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment*. Both of the plans call for the existing site to become a commercial/mixed use development.

3.6.4 Alternative A

Development of Alternative A would not require any amendments to any adopted local applicable plan detailed in **Section 3.6.2**. Alternative A is also consistent with WMATA's *Metrobus Fleet Management Plan*, which calls for the replacement of the existing Southern Avenue Bus Garage. The site is within the developed tier described in *Prince George's County Approved General Plan* and is consistent with policies on providing a transportation system that is integrated and promotes development and revitalization, and on providing public facilities to support and fit into the developed tier's development pattern. The alternative is consistent with the *Countywide Master Plan of Transportation* by providing adequate transportation facilities. Alternative A is not consistent with the *Prince George's Countywide Green Infrastructure Plan* since identified evaluation areas and network gaps exist within the site. However, development of this site is allowable under current and future zoning.

3.6.5 Alternative B

Development of Alternative B would not require any amendments to the identified adopted local plans detailed in **Section 3.6.2**. Alternative B is also consistent with WMATA's *Metrobus Fleet Management Plan*, which calls for the replacement of the existing Southern Avenue Bus Garage. The site is located within the developing tier described in *Prince George's County Approved General Plan* and is consistent with the goals and policies attached to the developing tier. The alternative is consistent with the *Countywide Master Plan of Transportation* by providing adequate transportation facilities.

3.6.6 Alternative C

Development of Alternative C would not require any amendments to the identified adopted local plans detailed in **Section 3.6.2**. The alternative is consistent with WMATA's *Metrobus Fleet Management Plan* as the plan calls for the replacement of the existing Southern Avenue Bus Garage. Alternative C is consistent with the *Prince George's County Approved General Plan* since it is consistent with policies on providing a transportation system that is integrated and promotes development and revitalization, and on providing public facilities to support and fit into the developed tier's development pattern. The alternative is consistent with the *Countywide Master Plan of Transportation* by providing adequate transportation facilities. The No Build Alternative is not consistent with the *Marlboro Pike Master Plan and Endorsed Sectional Map Amendment* and the *Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment*. Both of the plans call for the existing site to become a commercial/mixed-use development.

Table 3-12 below provides an overview of local plan consistency across all alternatives.

Table 3-12: Consistency with Local Plans

	No Build Alternative	Alternative A	Alternative B	Alternative C
Prince George's County Approved General Plan	Inconsistent	Consistent	Consistent	Consistent
Prince George's Countywide Green Infrastructure Plan	<i>Not applicable</i>	Inconsistent	<i>Not applicable</i>	<i>Not applicable</i>
Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment	<i>Not applicable</i>	<i>Not applicable</i>	Consistent	<i>Not applicable</i>
Marlboro Pike Master Plan and Endorsed Sectional Map Amendment	Inconsistent	<i>Not applicable</i>	<i>Not applicable</i>	Inconsistent
Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment	Inconsistent	<i>Not applicable</i>	<i>Not applicable</i>	Inconsistent
Countywide Master Plan of Transportation	Inconsistent	Consistent	Consistent	Consistent
2010 Metrobus Fleet Management Plan	Inconsistent	Consistent	Consistent	Consistent

3.7 Cultural Resources

3.7.1 Introduction

This section identifies and evaluates the potential to impact cultural resources resulting from the project.

3.7.2 Methodology

Cultural resources include historic and prehistoric archaeological sites as well as historic districts, structures and objects listed in or potentially eligible for inclusion in the National Register of Historic Places (NRHP) and/or the State of Maryland Register of Historic Places (MRHP). Qualified archaeologists and architectural historians conducted research at the Maryland Historical Trust (MHT) and site visits to identify historic architectural and archaeological resources within or in proximity to the three alternative site locations. The Section 106 process was initiated with the Maryland Historical Trust on April 14, 2011. Section 106 correspondence regarding concurrence can be found in **Appendix A** Agency Correspondence.

For each site, an Area of Potential Effect (APE) was defined for both architectural and archaeological resources. For architectural resources, the APE included the site and some adjacent properties. For archaeological resources the APE included the site boundaries.

3.7.3 No Build Alternative

Existing Conditions

- **Historic Architectural Resources:** No eligible historic architectural resource exists at the site based on research and determinations made by the Maryland Historical Trust.¹ This finding can be found in **Appendix A** Agency Correspondence.
- **Archaeological Resources:** No previously identified archaeological site (prehistoric or historic) exists within the site. A low potential for prehistoric archaeological resources exists that does not warrant a field investigation based on an evaluation of topographic mapping and geotechnical borings.

Environmental Consequences

The No Build Alternative would not alter the existing facility. In addition, no cultural resource was identified on or adjacent to the site. Therefore no impact to any cultural resource would occur as a result of the No Build Alternative.

¹ Washington Metropolitan Area Transit Authority, previously conducted a study and initiated correspondence with the MHT regarding the replacement of the Southern Avenue Bus Garage in May 2009.

Potential Mitigation

No impact is expected, therefore no mitigation is proposed.

3.7.4 Alternative A

Existing Conditions

- **Historic Architectural Resources:** A review of files held by MHT found no National Register-listed or -eligible resources within the project boundaries of Alternative A. However; one National Register-eligible resource, the Morningside Historic District, is located adjacent to and west of the project boundaries. The Morningside Historic District was determined eligible for listing in the National Register on September 14, 2000. **Figure 3-6** identifies the APE for architectural resources and adjacent cultural resources.
- **Archaeological Resources:** Potential direct impact to archaeological resources would be limited to the area that would be disturbed by construction activities. Alternative A site is a wooded area and the majority of the area is located on an upland terrace at the confluence of Henson Creek and an unnamed tributary. Historic aerials and USGS maps indicate no structure was located within the site, hence, the potential for historic archaeological resources is considered low. Research conducted at MHT did not reveal any previously documented archaeological resources. However, given the natural characteristics of the site and the lack of previous development, there is a potential for prehistoric archaeological resources to exist. **Figure 3-6** identifies the APE for archaeological resources and adjacent cultural resources.

Environmental Consequences

In a letter dated April 26, 2011, the MHT concurred that this alternative will have no effect on architectural resources located within the APE for Alternative A, including the Morningside Historic District. However, the MHT requested that a Phase I Archaeological Survey was warranted for Alternative A. As requested, A Phase I Archaeological Survey was submitted to MHT on May 23, 2011. See **Appendix A** Agency Correspondence for correspondence with MHT. Coordination is ongoing with MHT to make a determination of effect on archaeological resources.

Potential Mitigation

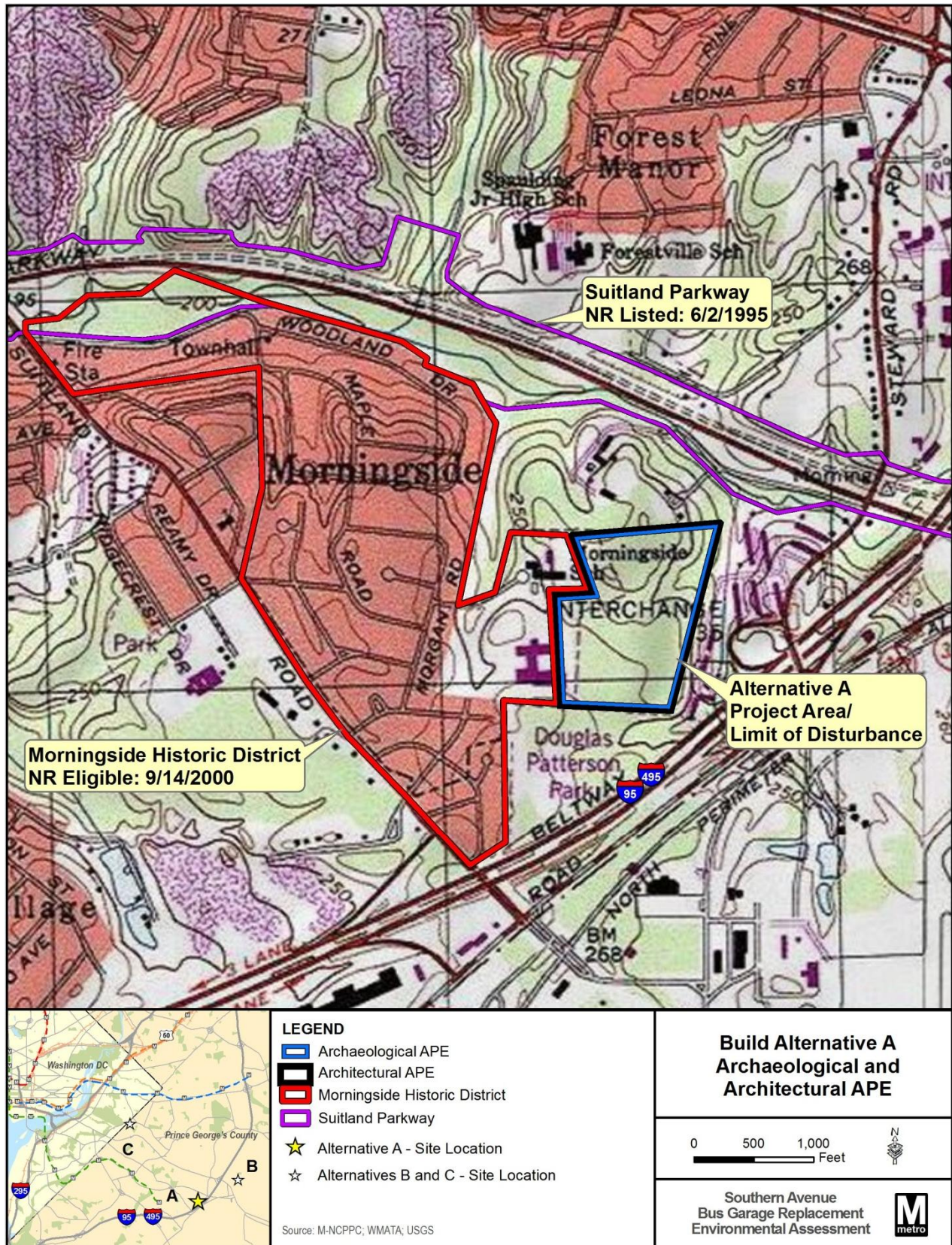
If adverse impacts are identified, appropriate mitigation would be developed in coordination with MHT.

3.7.5 Alternative B

Existing Conditions

- **Historic Architectural Resources:** A review of files held by MHT found no National Register-listed or -eligible resources within or adjacent to the project boundaries of Alternative B. One previously-unidentified structure over 50 years of age is located at 8705 Westphalia Road, immediately to the west of the site and within the APE. **Figure 3-7** identifies the APE for architectural resources and adjacent cultural resources.
- **Archaeological Resources:** Potential direct impact to archaeological resources is limited to the area that would be disturbed by construction activities. A site visit determined that the location contains a modern vacant shop facility. The building and parking lots are surrounded by both landscaped and wooded areas. **Figure 3-7** identifies the APE for archaeological resources and adjacent cultural resources.

Figure 3-6: Build Alternative A Cultural Resources



Historic aerials and USGS maps indicate no structure was located within the site, hence, the potential for historic archaeological resources is also considered low. The MHT has not identified any archaeological sites located within the Alternative B site and no archaeological survey has been conducted at the location. Historic aerials also show that the area was mined for gravel, which significantly reduces the potential for intact archaeological resources. However, the undisturbed area along Cabin Creek in the west and southwest portion of the site has the potential to contain prehistoric resources.

Environmental Consequences

In a letter dated April 26, 2011, the MHT concurred that Alternative B APE has a low potential for containing National Register eligible archeological resources, and that further investigations are not warranted. However, MHT requested the preparation of a Determination of Eligibility short form for the property located at 8705 Westphalia Road. As requested, a Determination of Eligibility form was submitted for review on May 27, 2011. Coordination is ongoing with MHT regarding the structure at 8705 Westphalia Road. See **Appendix A** Agency Correspondence for correspondence with MHT.

Potential Mitigation

If adverse impacts are identified, appropriate mitigation would be developed in coordination with MHT.

3.7.6 Alternative C

Existing Conditions

Existing conditions for Build Alternative C are the same as described under the No Build Alternative.

Environmental Consequences

None of the properties is listed or eligible for listing in the National Register of Historic Places. In a letter dated April 26, 2011, the MHT concurred that no impact to historic resources would occur as a result of Alternative C, and archeological investigations are not warranted. See **Appendix A** Agency Correspondence for correspondence with MHT.

Potential Mitigation

No impact to cultural resources would occur; therefore no mitigation is proposed.

3.8 Parklands

3.8.1 Introduction

This section identifies and assesses the potential impact to public parklands, recreational areas, and wildlife refuges. Public parklands could include local, state, and federally-owned parklands.

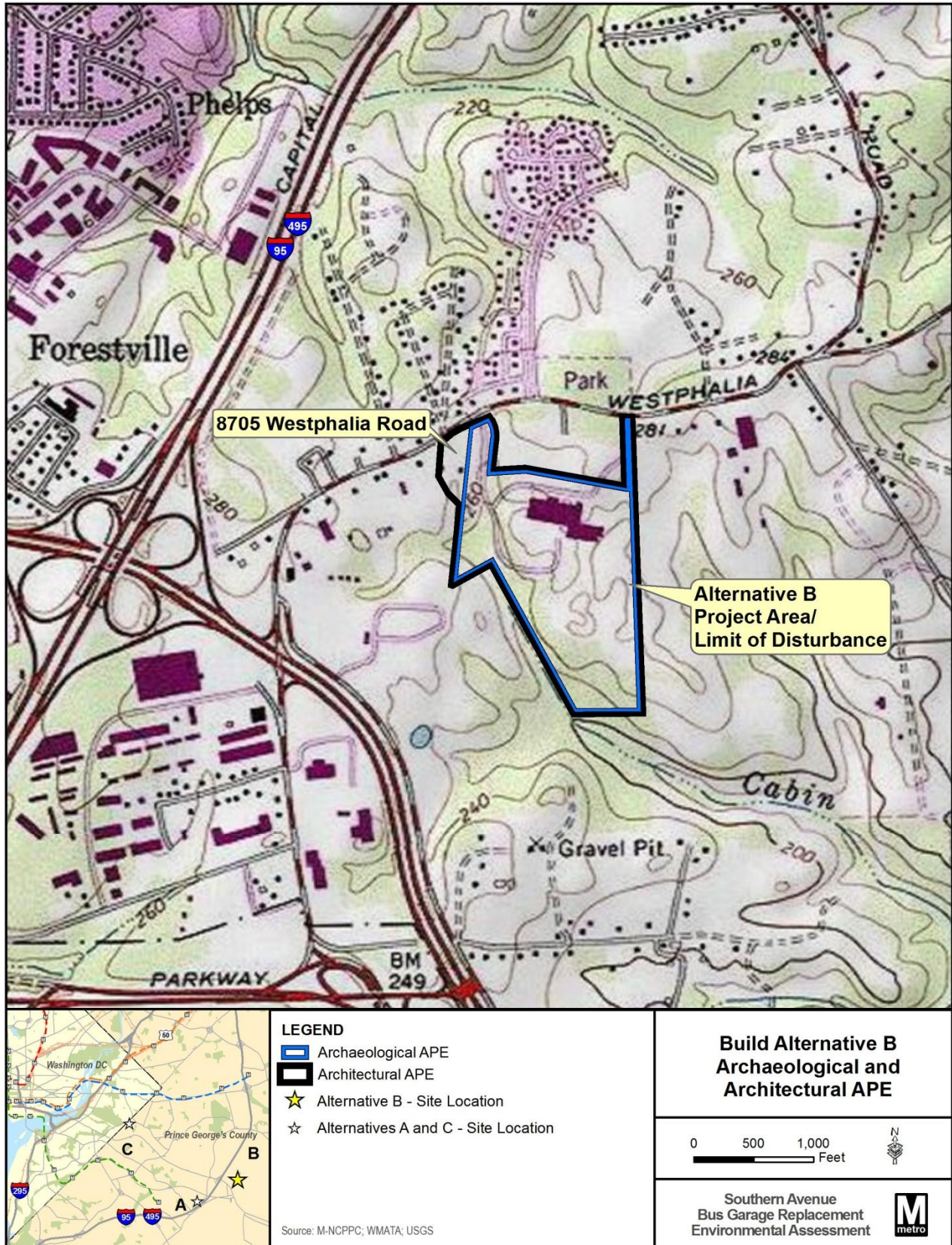
3.8.2 Methodology

Section 4(f) of the US Department of Transportation Act of 1966, as amended, requires that agencies within the Department assess their potential effects on public parks and recreational lands, wildlife refuges, and historic resources. As part of this assessment, agencies are directed to determine if the proposed action would have a "use" of one the aforementioned facilities. A Section 4(f) Evaluation is provided in Appendix C.

Public parklands adjacent to or within close proximity to the alternative site locations were identified with a variety of data sources. The analysis consisted of gathering existing information through site visits, recent aerial photographs, and information provided by Prince George's County. A review of parks protected by Section 6(f) of the U.S. Land and Water Conservation Fund Act (LWCF) was conducted to determine if any identified parks within the study areas were enhanced using these funds.

Potential uses of publicly-owned park and recreational resources caused by the project are described in terms of acreage and how activities and facilities at these areas could be impacted. **Table 3-13** summarizes the resources identified.

Figure 3-7: Build Alternative B Cultural Resources



3.8.3 No Build Alternative

Existing Conditions

No parkland exists adjacent to or within immediate proximity to the site.

Environmental Consequences

The No Build Alternative will not require the use of or have an indirect impact on parklands.

Potential Mitigation

No impact is projected; therefore, no mitigation is proposed.

3.8.4 Alternative A

Existing Conditions

Douglas Patterson Community Park borders the south side of the site. See **Table 3-13** for information about Douglas Patterson Community Park and **Figure 3-8** for the location of the park. A review of the LWCF list of grant recipients indicates that this park is not a recipient of LWCF funds and, therefore, is not protected under the provisions of Section 6(f).

Environmental Consequences

As proposed, Build Alternative A would not require the use or acquisition of any portion of the park. Based on the noise impact assessment discussed in greater detail in **Section 3.11**, the proposed facility would not exceed the threshold for severe impacts at this sensitive receptor and, therefore, no proximity effects are expected. The proposed site design maintains a tree buffer to minimize visual and noise effects. Alternative A would not generate any adverse impacts.

Potential Mitigation

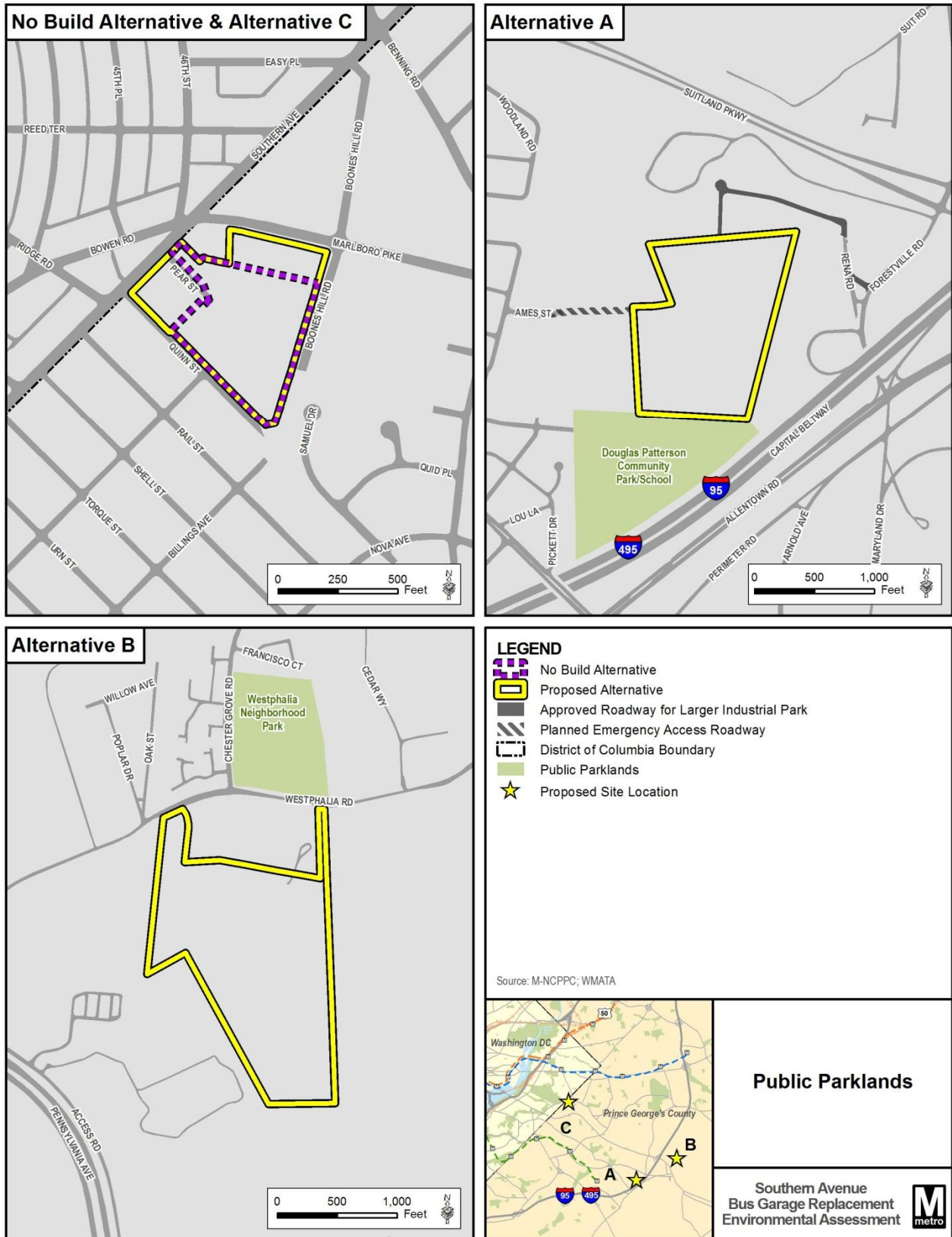
No impact is projected; therefore, no mitigation is proposed.

Table 3-13: Identified Parklands

Alternative Site	Park	Location	Size	Ownership/ Operated By	Amenities
Alternative A	Douglas Patterson Community Park	7001 Marianne Dr. Morningside, MD 20746	26.4 Acres	M-NCPPC	-Basketball Court -Comfort Station -2 Tennis Courts -3 Picnic Areas -Playground -2 Softball w/Football and Soccer Overlay Fields -Trails
Alternative B	Westphalia Neighborhood Park	8900 Westphalia Rd. Upper Marlboro, MD 20774	6.7 Acres	M-NCPPC	-Basketball Court -Fitness Station -Tennis Court -Playground -Softball Diamond
Alternative C	No public parklands identified	<i>Not applicable</i>	<i>Not applicable</i>	<i>Not applicable</i>	<i>Not applicable</i>

Source: M-NCPPC Park Finder, http://www.mncppcapps.org/pgparks/park_finder/park_finder.asp.

Figure 3-8: Public Parklands



3.8.5 Alternative B

Existing Conditions

Westphalia Neighborhood Park is the only parkland within proximity to Alternative B and is across Westphalia Road from the site. See **Table 3-13** for information about Westphalia Neighborhood Park and **Figure 3-8** for an illustration. A review of the LWCF list of grant recipients indicates that this park is not a recipient of LWCF funds and, therefore, is not protected under the provisions of Section 6(f).

Environmental Consequences

As proposed, Build Alternative B would not require the use of or acquisition of any portion of Westphalia Neighborhood Park. Based on the noise impact assessment discussed in greater detail in **Section 3.10**, the proposed facility would not exceed the threshold for severe impacts at this sensitive receptor and, therefore, no proximity effects are expected.

Potential Mitigation

No impact is projected; therefore, no mitigation is proposed.

3.8.6 Alternative C

As described for the No Build Alternative, no public park is located adjacent to or within close proximity of the site; therefore, no use of or acquisition of a public park will occur.

3.9 Air Quality

3.9.1 Introduction

This section identifies and assesses the potential effects on regional air quality per the Clean Air Act Amendments. The project is listed in the Transportation Improvement Program for the Metropolitan Washington region for fiscal years 2011-2016 (TIP ID number 5636). The TIP is provided in **Appendix B**.

3.9.2 Methodology

Under the *Clean Air Act*, it is the responsibility of federal agencies such as the FTA to ensure that a proposed project conforms to the State Implementation Plan (SIP). Transportation conformity is a process required of the Metropolitan Washington Council of Governments (MWCOC) as the region's metropolitan planning organization pursuant to the *Clean Air Act Amendments* (CAAA), to ensure that those transportation activities that are consistent with air quality goals receive federal funding and approval. The U.S. Environmental Protection Agency (EPA) promulgated the *Transportation Conformity Rules* under the CAAA, effective December 27, 1993. The transportation conformity regulation, "Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded, Developed or Approved under Title 23 U.S.C. or the Federal Transit Act" (40 CFR Parts 51 and 93), is used for conformity determinations.

The EPA has designated the greater metropolitan Washington area (including Prince George's County) as "Moderate Non-attainment" for 8-hour ozone and "Non-attainment" for PM_{2.5}. However, the metropolitan Washington area is in attainment for all other pollutants including CO, PM₁₀, NO₂, SO₂, and Pb. Therefore, the SIP requirements do not apply to CO with respect to this project.

Based on the proposed use and function of the Southern Avenue Bus Facility, the project would meet the relevant criterion in the EPA's "Procedures for Determining Localized CO and PM₁₀ Concentrations (Hot-spot Analysis)" or 40 CFR 93.123(b)(1)(iii). Specifically, it would create "New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location." Based on Appendix A of the EPA's March 2006 "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas," an example of a project that is an air quality concern under 40 CFR 93.123(b)(1) would be "an existing bus or intermodal terminal that has a large vehicle fleet where the number of diesel buses increases by 50 percent or more, as measured by bus arrivals." Therefore, the proposed project would be considered an air quality concern, and an air quality evaluation is required to assess the potential for PM_{2.5} impacts.

Due to the location of the project near the border of Maryland and Washington, DC, measured ambient air quality was evaluated for both Maryland and the District of Columbia. The Maryland Department of the Environment (MDE) and the District Department of the Environment (DDOE) develop and implement plans and programs to meet and maintain federal, Maryland, and District of Columbia air quality standards. The MDE and the DDOE monitor air quality to ensure that Prince George's County and the District meet and maintain national air quality health standards. The MDE and the DDOE protect and manage the region's air resources in accordance with the federal Clean Air Act.

The proposed Southern Avenue Bus Facility would provide capacity for 250 buses, which represents an increase of 130 buses at the existing facility. Emissions related to this increase in capacity were evaluated on a project level to assess the impact potential for local "hot spots" such as at congested intersections or other points of congestion where vehicles could idle for long periods of time.

3.9.3 No Build Alternative

Existing Conditions

The MDE and the DDOE maintain an area wide network of monitoring stations that routinely measure pollutant concentrations in the ambient air. These stations provide data to assess compliance with the NAAQS and to evaluate the effectiveness of pollution control strategies. The relevant monitored pollutants are O₃, NO₂, CO, PM, and SO₂. **Table 3-14** presents the maximum concentrations for these pollutants measured at representative monitoring station sites closest to the study area, as reported by the EPA for the three most recent years for which data are available (2006-2008). As shown in **Figure 3-9**, the closest monitoring stations include 34th and Dix Streets NE in Washington, DC (Site M1) and the Bladensburg Volunteer Fire Department (VFD) in Bladensburg, MD (Site M2).

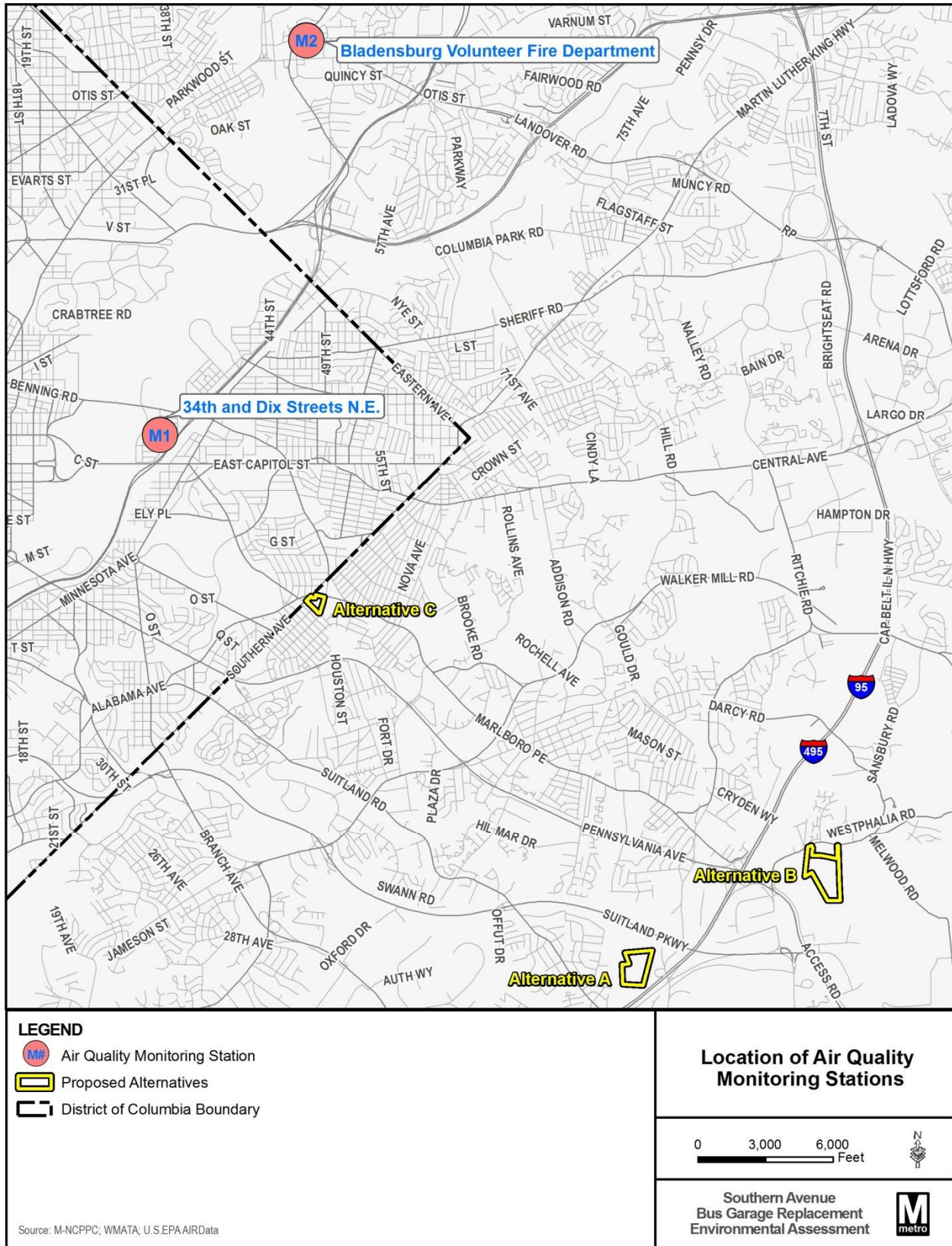
Table 3-14: Recent Monitored Ambient Air Quality in the Region

Pollutant	Averaging Period	NAAQS	2006		2007		2008	
			1 st Max	2 nd Max	1 st Max	2 nd Max	1 st Max	2 nd Max
Carbon Monoxide (CO)	1-hour	35 ppm	4.5	4.0	3.8	3.8	3.0	2.7
	8-hour	9 ppm	3.4	3.3	3.0	2.7	2.6	2.1
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					
Nitrogen Dioxide (NO ₂)	Annual	0.053 ppm	0.016	--	0.015	--	0.018	--
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					
Ozone (O ₃)	8-hour	0.075 ppm	0.087	--	0.089	--	0.082	--
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					
Sulfur Dioxide (SO ₂)	3-hour	0.03 ppm	0.045	0.035	0.039	0.03	0.035	0.035
	24-hour	0.14 ppm	0.014	0.014	0.014	0.013	0.031	0.015
	Annual	0.5 ppm	0.005	--	0.005	--	0.006	--
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					
Particulate Matter (PM _{2.5})	24-hour	35 µg/m ³	n/a	n/a	41.7	32.5	37.7	33.4
	Annual	15 µg/m ³	n/a	--	14.14	--	13.36	--
	Site	--	Bladensburg VFD in Bladensburg, MD (Site M2)					
	24-hour	35 µg/m ³	75.8	38.6	45.6	45.4	45.2	34.9
	Annual	15 µg/m ³	14.27	--	14.45	--	13.24	--
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					
Particulate Matter (PM ₁₀)	24-hour	150 µg/m ³	84	61	44	43	30	22
	Site	--	34 th and Dix Streets NE, Washington, DC (Site M1)					

Source: U.S. Environmental Protection Agency AIRData website (<http://www.epa.gov/air/data/geosel.html>).

As shown in **Table 3-15**, the eight-hour O₃ concentrations at Site M1 exceeded the new limit of 0.075 ppm in each of the previous three years. The full observed data for 2009 is not available yet but the past trends indicate more current violations as well. However, the 24-hour PM₁₀ concentration at Site M1 did not exceed the criterion limit of 150 µg/m³ in any of the previous three years. Recent concentrations of PM_{2.5}, however, are reported to also exceed the new more stringent 24-hour standard of 35 µg/m³ in each of the most recent three years for which data are available. All of the other pollutants, including CO, are reported to be well below their respective standards.

Figure 3-9: Air Quality Hot Spot Locations



Recent monitored values of secondary particulate precursors, such as nitrogen dioxide (NO₂) and sulfur dioxide (SO₂), are decreasing. This downward trend in NO₂ and SO₂ may be due to the ultra-low sulfur diesel (ULSD) fuel that has been produced recently and is required of all manufacturers as of December 1, 2010. ULSD fuel has a sulfur content of only 15 ppm compared to the previous diesel fuel, which had a sulfur content of 500 ppm.

Environmental Consequences

Pollution levels found under the current ambient air quality in the region are expected to continue under the No Build Alternative. Levels of O₃ and PM_{2.5} are expected to exceed NAAQS standards; PM₁₀ is expected to remain below the current limit; and NO₂ and SO₂ would continue to decrease.

Potential Mitigation

Because current conditions and trends in ambient air quality would continue under the No Build Alternative, no mitigation is proposed.

3.9.4 Alternative A

Existing Conditions

Ambient air quality is reported regionally; therefore, existing conditions for Alternative A are the same as reported under the No Build Alternative.

Environmental Consequences

Alternative A would provide capacity for 276 buses; however, it is unlikely that WMATA would accommodate more than 250 buses at any bus facility. For this reason, a maximum of 250 buses was used in this analysis. This new number represents an increase of approximately 120 buses over the existing facility. Emissions related to this increase in capacity were evaluated on a project-level basis to assess the impact potential for local “hot spots” such as at congested intersections or other points of congestion where vehicles could idle for long periods of time.

As shown in **Table 3-15**, the proposed bus capacity is predicted to increase 92 percent between the No Build Alternative and Alternative A (e.g., from 130 buses to 250 buses). However, Alternative A is expected to include only buses that include “green technologies” that reduce diesel emissions by over 90 percent. As a result, using buses fitted with diesel particulate filters (DPF), diesel oxidation catalysts (DOC), and other emission technologies approved by the EPA would actually reduce overall emissions by 81 percent.

Table 3-15: Comparison of Bus Emissions between the No Build and Build Alternatives

Project Alternative	Bus Capacity	Emission Factor	Emissions Estimate	Description
No Build Alternative	130	100	13,000	100% diesel buses fleet
Alternatives A, B, or C	250	10	2,500	100% conversion to “green” technologies (e.g., DPF, which reduce PM _{2.5} emissions by over 90%)
Change	+92%		-81%	Cumulative change between the Existing and Build Alternatives

As shown in **Table 3-16**, future Level of Service (LOS) data at selected intersections are predicted to decrease or remain the same between the 2015 No Build Conditions and the 2015 Mitigated Build Conditions. Future congestion at the closest intersections in the vicinity of Alternative A (as measured by LOS) is predicted to decrease or remain the same. As a result, the traffic from Alternative A is not predicted to have an adverse impact on air quality at nearby congested intersections.

Therefore, although the project would be considered an air quality concern under 40 CFR 93 due to the expanded diesel bus facility, the proposed emission control measures to be implemented as part of this project by WMATA are expected to more than offset the proposed increase in bus volumes. As a result, the future emissions from the proposed bus facility at each site are predicted to decrease compared with the existing condition due to the use of green diesel technologies such as DPF installed as part of the diesel engine system.

The results of a transportation conformity analysis for PM_{2.5}, which typically includes a demonstration of conformance on a regional level as well as on a project level, showed that the project conforms on both of these levels. The project conforms on a regional level because the proposed Southern Avenue Bus Facility is included in MWCOC's regional transportation plan and the short-term transportation improvement program. Similarly, on a project-level, conformance is established by evaluating pollutant concentrations at local hot spots such as congested intersections. However, since none of the intersections affected by the project would result in a level of service of 'D' or worse, it is unlikely that an exceedance of the NAAQS would occur. Furthermore, the Southern Avenue Bus project is expected to include only buses that include EPA-approved "green technologies" that reduce diesel emissions such as PM_{2.5} by over 90 percent. As a result, using buses fitted with newer green diesel technologies (such as diesel particulate filters), the overall emissions from the facility are predicted to decrease 81 percent compared to the No Build Alternative (including the 120 new buses).

Therefore, the Southern Avenue Bus project is predicted to decrease PM_{2.5} emissions under Alternative A and no exceedances of the NAAQS are expected.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.9.5 Alternative B

Existing Conditions

Ambient air quality is reported regionally; therefore, the existing conditions for Alternative B are the same as reported under the No Build Alternative.

Table 3-16: Comparison of Future Traffic Congestion at Select Intersections

Intersection Name	Site	2015 AM Peak-Hour		2015 PM Peak-Hour	
		No Build Conditions	Mitigated Build Conditions	No Build Conditions	Mitigated Build Conditions
Allentown Road and Forestville Road	Site A	A	A	A	A
I-495 SB Off Ramp and Forestville Road	Site A	F	F	F	F
Rena Road and Forestville Road	Site A	C	C	D	D
Suitland Parkway EB and Forestville Road	Site A	F	C	F	D
Suitland Parkway WB and Forestville Road	Site A	F	C	F	D
Pennsylvania Ave/Westphalia Road	Site B	D	D	E	D
New Entrance/Westphalia Road	Site B	--	B	--	B
Chester Grove Rd/Westphalia Road	Site B	B	B	B	B
Benning Road/Southern Ave (North)	Site C	C	C	C	B
Benning Road/Southern Ave (South)	Site C	B	B	B	B
Benning Road/Marlboro Pike	Site C	A	A	B	B
Boones Hill Road/Marlboro Pike	Site C	A	A	A	A
Southern Avenue/Marlboro Pike	Site C	D	D	D	D
Bowen Road SE/Ridge Road	Site C	D	C	C	C
Marlboro Pike Retail Entrance	Site C	--	A	--	B
Southern Avenue Entrance	Site C	--	C	--	C
Boones Hill Road Entrance	Site C	--	A	--	A

Environmental Consequences

As shown in **Table 3-16**, future LOS data at selected intersections are predicted to decrease or remain the same between the 2015 No Build Conditions and the 2015 Mitigated Build Conditions. Future congestion at the closest intersections in the vicinity of Alternative B (as measured by LOS) is predicted to decrease or remain the same. As a result, the traffic from Alternative B is not predicted to have an adverse impact on air quality at nearby congested intersections.

Therefore, although the project would be considered an air quality concern under 40 CFR 93 due to the expanded diesel bus facility, the proposed emission control measures to be implemented as part of this project by WMATA are expected to more than offset the proposed increase in bus volumes. As a result, future emissions from the proposed bus facility at each site are predicted to decrease compared with the existing condition due to the use of green diesel technologies such as DPF installed as part of the diesel engine system.

For the same reasons as Alternative A, Alternative B is predicted to decrease PM_{2.5} emissions and no exceedances of the NAAQS are expected.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.9.6 Alternative C

Existing Conditions

Ambient air quality is reported regionally; therefore, the existing conditions for Alternative C are the same as reported under the No Build Alternative

Environmental Consequences

As shown in **Table 3-16**, future LOS data at selected intersections are predicted to decrease or remain the same between the 2015 No Build Conditions and the 2015 Mitigated Build Conditions. Future congestion at the closest intersections in the vicinity of Alternative C (as measured by LOS) is predicted to decrease or remain the same. As a result, traffic from Alternative C is not predicted to have an adverse impact on air quality at nearby congested intersections.

Therefore, although the project would be considered an air quality concern under 40 CFR 93 due to the expanded diesel bus facility, the proposed emission control measures to be implemented as part of this project by WMATA are expected to more than offset the proposed increase in bus volumes. As a result, future emissions from the proposed bus facility at each site are predicted to decrease compared with the existing condition due to the use of green diesel technologies such as DPF installed as part of the diesel engine system.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.10 Noise and Vibration

3.10.1 Introduction

This section identifies sensitive receptors within each alternative site's study area and evaluates the potential for the Southern Avenue Bus Facility to result in a noise impact on those receptors. The noise assessment was prepared in accordance with the guidelines set forth by the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*.

3.10.2 Methodology

The applicable regulations to noise impact assessment for this project include:

- **The Federal Noise Control Act of 1972 (Public Law 92-574):** This law requires that all federal agencies administer their programs in a manner that promotes an environment free from noises that could jeopardize public health or welfare.
- **WMATA Noise Criteria:** WMATA has developed design criteria specifically for the WMATA system. These criteria are provided in the WMATA Manual of Design Criteria for Maintaining and Continued Operation of Facilities and Systems. WMATA's criteria for Transit System Ancillary Facilities were used to evaluate impacts from bus activities at the proposed bus garage.

For purposes of this analysis, FTA General Assessment methodologies were utilized with the default reference noise levels for a Bus Operating Facility to evaluate the extent and severity of noise and vibration impacts from transit-related projects. FTA assesses impacts at sensitive receptors such as residences, schools, and libraries. Commercial and industrial properties are typically not considered sensitive to transit noise and vibration. Noise impacts due to transit and other ancillary sources are assessed based on land-use categories and these uses' sensitivity to noise from transit sources as described in the FTA guidelines. **Table 3-17** describes the land use categories and required noise metrics.

Table 3-17: FTA Land-Use Categories and Noise Metrics

Land-Use Category	Noise Metric	Description
1	$L_{eq}(h)$	Tracts of land set aside for serenity and quiet, such as outdoor amphitheatres, concert pavilions, and historic landmarks.
2	L_{dn}	Buildings used for sleeping such as residences, hospitals, hotels, and other areas where nighttime sensitivity to noise is of utmost importance.
3	$L_{eq}(h)$	Institutional land uses with primarily daytime and evening uses including schools, libraries, churches, museums, cemeteries, historic sites, and parks, and certain recreational facilities used for study or meditation.

Source: FTA, 2006.

The FTA transit noise impact criteria define noise impacts in terms of the existing noise levels, expected noise levels with the proposed project, and land uses that would be affected. Category 1 and 2 land uses are more sensitive to noise than Category 3 land uses (see **Table 3-17**). For example, a project noise level of 60 dBA might be considered a moderate impact at a Category 1 or 2 land use, but no impact at a Category 3 land use.

FTA's noise criteria separate noise impacts into two categories: moderate impact and severe impact. The moderate impact category indicates that the change in noise is noticeable but might not be great enough to cause a strong, adverse community reaction. The severe impact category indicates that a significant percentage of the population would be highly affected by the new noise. The degree of impact at any specific location can be determined by comparing the predicted project noise level at the site to the existing noise level.

The average day-night noise level over a 24-hour period, or L_{dn} , was used to characterize noise exposure for residential areas (FTA Category 2). For other noise-sensitive land uses identified along the project corridor, such as schools and libraries (FTA Category 3), the peak hourly noise level, or $L_{eq}(h)$, was used.

WMATA's noise limits for ancillary facilities are summarized in **Table 3-18**. The WMATA criteria include limits for different land-use categories. Since the proposed bus garage is expected to include noise sources that vary throughout the day, the WMATA "transient" criteria were used to evaluate impacts from the proposed bus garage.

- Site A – 75 dBA for Industrial/Highway land-uses
- Site B – 75 dBA for Industrial/Highway land-uses
- Site C – 65 dBA for mixed-use commercial land-uses.

Table 3-18: WMATA Criteria for Noise from Transit System Ancillary Facilities (dBA)

Community Area Category		Maximum Noise Level	
		Transient Noises	Continuous Noises
I	Low-density Residential	50	40
II	Average Residential	55	45
III	High-density Residential	60	50
IV	Commercial	65	55
V	Industrial/Highway	75	65

1 The WMATA criteria are generally referenced to or applied at a point 50 feet or farther from the track centerline.

2 Maximum noise level (or Lmax) criteria are reported for transient and continuous sources.

A modeling exercise was completed to predict the potential noise levels as each alternative site on identified sensitive land use categories. A noise-monitoring program was conducted at representative locations to determine baseline noise conditions, or background noise, at each alternative site. Hourly equivalent A-weighted noise levels (or Leq(h) in dBA) were measured over a 24-hour period at one representative location at each site to determine the average ambient conditions during a typical weekday. At the other monitoring locations, short-term noise measurements were conducted during various periods of the day to develop the 24-hour day-night noise level. The noise measurements document existing noise sources in the vicinity of the proposed bus garage such as existing traffic and air plane over passes. In accordance with FTA guidelines, 24-hour day-night noise levels (or Ldn in dBA) were developed based on the monitoring results. The modeling assumptions and input parameters (such as reference noise levels) used in the noise assessment are summarized below.

- Noise from the proposed facility include the following sources:
 - Idling buses during arrival and departure from the garage lot;
 - Moving buses along the garage access road; and
 - Miscellaneous activities from the maintenance shop and support buildings.
- The bus garage is expected to operate 24 hours per day with a capacity of 250 buses;
- Based on the number of arrivals and departures, a load factor of 2.0 was applied to the bus capacity to develop the total daily trips at the proposed garage (500 buses enter and exit the proposed facility over a 24-hour period);
- The estimated distribution of bus trips includes 75 percent during the daytime period (7:00 a.m. to 10:00 p.m.) and 25 percent during the nighttime period (10:00 p.m. and 7:00 a.m.);
- Therefore, the total number of bus trips/operations for each period of the day was estimated as follows:
 - 375 – daytime (7:00 a.m. to 10:00 p.m.)
 - 125 – nighttime (10:00 p.m. to 7:00 a.m.)
 - 50 – peak-hour
- Buses are expected to idle at the proposed maintenance garage no longer than 3 minutes;
- Similarly, maximum travel speeds along the access roads to the facility is estimated at 30 miles per hour;
- Other noise sources, such as personal vehicles that would visit the maintenance garage, are not a significant source of noise and are not expected to contribute to an exceedance of the project impact criteria; and,
- In accordance with the FTA transit vibration guidelines, a screening assessment was conducted to determine the location of sensitive receptors with the vibration screening distance of 50 feet for bus projects. Since no vibration-sensitive receptors were identified within this distance, a vibration assessment is not necessary. In general, rubber-tired vehicles, particularly buses, do not contribute to impacts due to the vibration isolation provided by the vehicle suspensions.

3.10.3 No Build Alternative

Existing Conditions

Three sensitive receptors were identified within the FTA defined screening distance from the existing Southern Avenue Bus Garage. These receptors and baseline noise levels are described in **Table 3-19** and shown in **Figure 3-10**.

Environmental Consequences

Future noise levels under the No Build Alternative should be similar to those under the existing conditions. The area in the vicinity of the proposed bus garage is characterized as a mixture of both urban and suburban communities that include both major highways and aircraft over flights. Therefore, the No Build Alternative would not cause any new noise impact at identified sensitive receptors.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.10.4 Build Alternative A

Existing Conditions

Ambient noise conditions at the site of Alternative A are affected by traffic from the Capital Beltway (I-95/495) and flight activities at Andrews Air Force Base. Three sensitive receptors were identified within the FTA-defined screening distance from the existing Southern Avenue Bus Garage. These receptors and baseline noise levels are described in **Table 3-19** and shown in **Figure 3-10**.

Environmental Consequences

Since the project would introduce a new bus source, noise from the Build Alternative was evaluated using the FTA prediction procedures. The FTA evaluation criteria were used to assess 24-hour impacts at residences (especially during the most sensitive nighttime period when people are sleeping) and daytime peak-hour impacts at institutional receptors. Similarly, the WMATA criteria were also used to assess maximum noise from single event pass-bys and during idling.

Table 3-20 provides the results of the analysis for each build alternative under the FTA criteria for impacts. **Table 3-21** provides the results of the analysis for each build alternative under the WMATA criteria for impacts. Alternative A is not predicted to exceed the FTA moderate or severe impact criteria; however, it would exceed the WMATA noise impact criteria for bus pass-bys at Receptor A1.

Potential Mitigation

Under the FTA criteria, no adverse impact is predicted at sensitive receptors surrounding Alternative A; therefore, no mitigation is proposed.

Table 3-19: Baseline Noise Levels Measured at Representative Locations in the Vicinity of the Proposed Bus Garage (in dBA)

Receptor						
ID	Location	Municipality	Land Use	Date	Peak-Hour Leq	24-Hour Ldn
No Build Alternative						
C1	4500 Bowen Road SE	Washington, DC	RES	02/15/2011	58	55
C2	4219 Quinn Street	Capitol Heights, MD	RES	02/15/2011	58	55
C3	1301 Samuel Drive	Capitol Heights, MD	RES	02/15/2011	55	61
Build Alternative A						
A1	4501 Rena Road	Morningside, MD	RES	02/14/2011	58	55
A2	4601 Beauford Road	Morningside, MD	SCH	02/14/2011	55	53
A3	Douglas Patterson Park, Marianne Drive	Morningside, MD	RES	02/14/2011	60	55
Build Alternative B						
B1	3373 Chester Grove Road	Upper Marlboro, MD	RES	02/14/2011	64	69
B2	9107 Westphalia Road	Upper Marlboro, MD	RES	02/14/2011	63	67
B3	Off of Pennsylvania Avenue between Pepco Place and Armstrong Lane	Upper Marlboro, MD	RES	02/14/2011	58	55
Build Alternative C (same as documented for the No Build Alternative)						
C1	4500 Bowen Road SE	Washington, DC	RES	02/15/2011	58	55
C2	4219 Quinn Street	Capitol Heights, MD	RES	02/15/2011	58	55
C3	1301 Samuel Drive	Capitol Heights, MD	RES	02/15/2011	55	61

Source: AECOM, Field Noise Measurements, February 2011.

Table 3-20: FTA Noise Impact Assessment at Select Receivers for Build Alternatives

Receiver		FTA Cat.	Metric	Noise Levels (dBA)						
				Meas. Exist.	Bus Operations Idling	Project Pass-by	Sum	FTA Criteria		
ID	Location							MOD	SEV	Impact
Build Alternative A										
A1	Residence, 4501 Rena Road	2	Ldn	55	49	42	50	55	61	No
A2	School, 4601 Beauford Road	3	Leq	55	51	38	51	60	66	No
A3	Residence, Douglas Patterson Park, Marianne Drive	2	Leq	60	46	36	46	63	68	No
Build Alternative B										
B1	Residence, 3373 Chester Grove Road	2	Ldn	69	43	45	47	63	69	No
B2	Residence, 9107 Westphalia Road	2	Ldn	67	44	35	44	62	68	No
B3	Residence, Off of Pennsylvania Avenue between Pepco Place and Armstrong Lane	2	Ldn	55	35	31	37	55	61	No
Build Alternative C										
C1	Residence, 4500 Bowen Road SE	2	Ldn	55	52	42	52	55	61	No
C2	Residence, 4219 Quinn Street	2	Ldn	55	58	46	58	55	61	Yes
C3	Residence, 1301 Samuel Drive	2	Ldn	61	55	45	56	59	64	No

Source: AECOM, March 2011.

Figure 3-10: Location of Noise Receptors

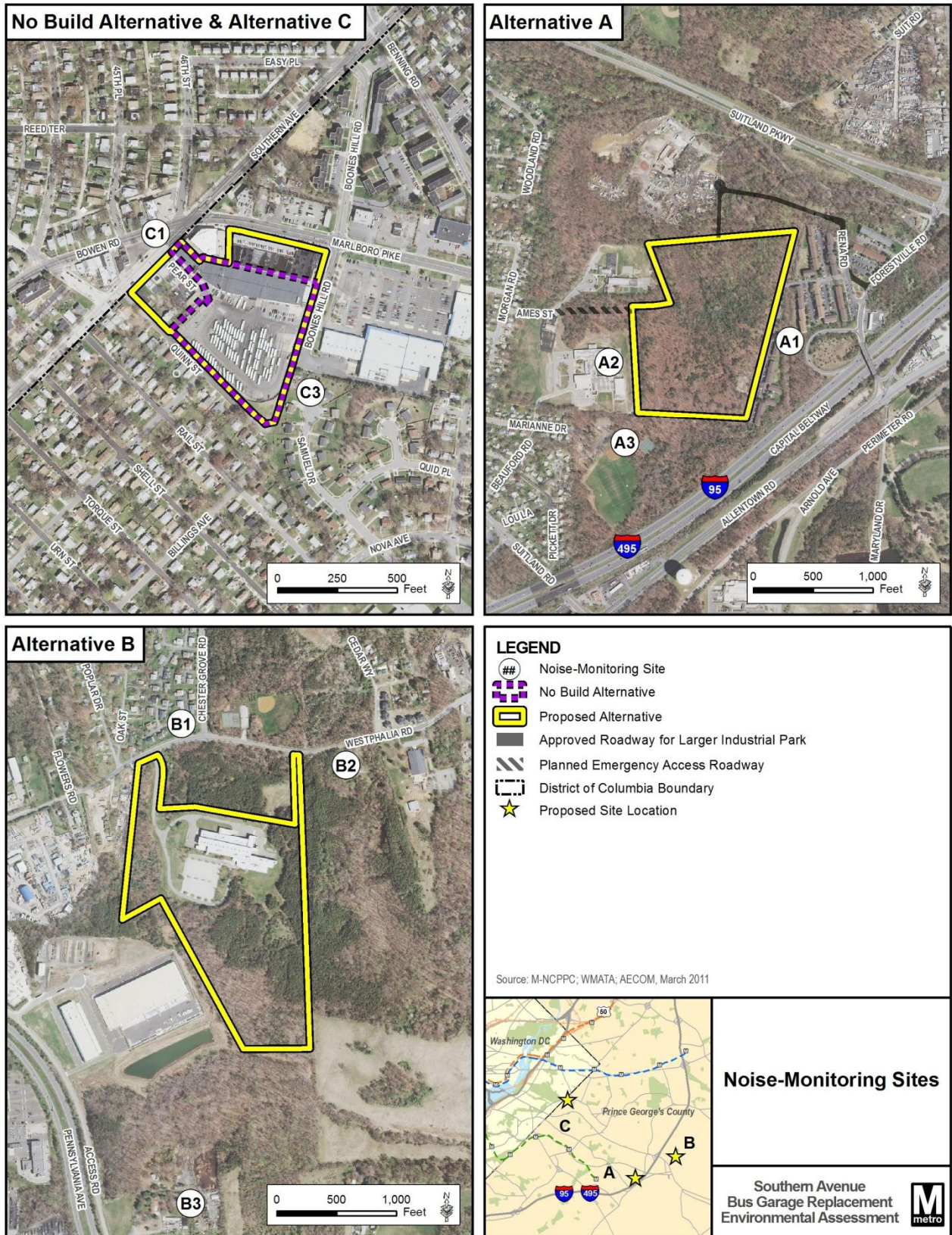


Table 3-21: WMATA Noise Impact Assessment at Select Receivers

Receiver		WMATA Land Use	Noise Levels (dBA)			
			Bus Operations		WMATA	
ID	Location		Idling	Pass-by	Criterion	Exceed
Build Alternative A						
A1	Residence, 4501 Rena Road	III	43	62	60	Yes
A2	School, 4601 Beauford Road	III	46	59	60	No
A3	Residence, Douglas Patterson Park, Marianne Drive	III	41	57	60	No
Build Alternative B						
B1	Residence, 3373 Chester Grove Road	II	37	65	55	Yes
B2	Residence, 9107 Westphalia Road	II	38	55	55	No
B3	Residence, Off of Pennsylvania Avenue between Pepco Place and Armstrong Lane	II	30	51	55	No
Build Alternative C						
C1	Residence, 4500 Bowen Road SE	III	46	62	65	No
C2	Residence, 4219 Quinn Street	III	52	66	65	Yes
C3	Residence, 1301 Samuel Drive	III	50	65	65	No

Source: AECOM, March 2011.

3.10.5 Build Alternative B

Existing Conditions

Ambient noise conditions at the site of Alternative B are affected by roadway traffic and activities at Andrews Air Force Base. Three sensitive receptors were selected to represent the land-uses surrounding the existing Southern Avenue Bus Garage. These receptors and baseline noise levels are described in **Table 3-19** and shown in **Figure 3-10**.

Environmental Consequences

As shown in **Table 3-20** and **Table 3-21**, Alternative B is not predicted to exceed the FTA moderate or severe impact criteria; however, it would exceed the WMATA noise impact criteria for bus pass-bys at Receptor B1.

Potential Mitigation

Under the FTA criteria, no adverse impact is predicted at sensitive receptors surrounding Alternative B; therefore, no mitigation is proposed.

3.10.6 Build Alternative C

Existing Conditions

Ambient noise conditions at the site of Alternative C are affected primarily by roadway traffic. Three sensitive receptors were selected to represent the land-uses surrounding the existing Southern Avenue Bus Garage. These receptors and baseline noise levels are described in **Table 3-19** and shown in **Figure 3-10**.

Environmental Consequences

As shown in **Table 3-20**, Alternative C is expected to exceed the FTA moderate impact criteria at Receptor C2 due to bus idling. Alternative C is not expected to exceed the WMATA criteria as seen in **Table 3-21**.

Potential Mitigation

To mitigate the potential *moderate* noise impacts near Alternative C, the proposed building designs for the bus garage would be optimized to include acoustical treatments to shield the nearby residences from the proposed reconstructed facility.

3.10.7 Vibration

In accordance with FTA's *Transit Noise and Vibration Impact Assessment* guideline, a screening assessment was conducted to determine the location of sensitive receptors with the vibration screening distance of 50 feet for bus projects. Since no vibration-sensitive receptors were identified within this distance, a vibration assessment is not necessary since no impacts are expected in the vicinity of the proposed bus garage. In general, rubber-tired vehicles, particularly buses, do not contribute to impacts due to the vibration isolation provided by the vehicle suspensions.

3.11 Water Quality

3.11.1 Introduction

This section summarizes federal, state, and local programs that regulate water quality within the study areas, and identifies designated impaired waters within the study area. The Federal Clean Water Act of 1977 (CWA) and the Federal Water Pollution Control Act of 1972 and subsequent amendments were designed to assist in maintaining and restoring the chemical, physical, and biological integrity of the nation's waters. Generally, the act prohibits the discharge of the pollutants into navigable waters (including associated wetlands) of the United States without first obtaining a permit. The act also provides for waste water treatment management for the protection of fish, shellfish, and wildlife. The U.S. Environmental Protection Agency (EPA) administers most of the authorities under the Act, while the U.S. Army Corps of Engineers (USACE) administers Section 404 (the discharge of dredged or fill material into waterways and wetlands). Congress also passed the Water Quality Act of 1987 to address the excessive levels of toxic pollutants still found in some waters.

Additionally, the State of Maryland manages the EPA's National Pollutant Discharge Elimination System (NPDES) stormwater regulations. The NPDES is authorized under section 402 the CWA. This program regulates the discharge of pollutants into the waters of the U.S. Under the CWA, NPDES permits are issued to industrial, municipal, and other point source dischargers. MDE also issues the General Construction Permit. For state or federal projects, such as this project, the appropriate Sediment Control and Stormwater Management Plans are approved by the Water Management Administration of the MDE. The goal of NPDES permitting is to improve and protect the quality of United States waterways by eliminating pollution from stormwater runoff to the maximum extent practicable.

3.11.2 Methodology

Potential effects on water quality due to changes in stormwater runoff or altered surface or sub-surface drainage patterns are evaluated based on the alteration of the existing conditions.

3.11.3 No Build Alternative

Existing Conditions

The No Build Alternative site is devoid of any natural water features. The entire site is located within the watershed of Oxon Run, a tributary of the Potomac River, which is approximately 0.3 miles from the site. Oxon Run is currently listed as a Category 5, or impaired, waterway by MDE. Listed impairments included high levels of nitrogen, phosphorus, and total suspended solids. Presently 93.3 percent of the site is covered in impervious surface. Stormwater runoff from the site is currently handled by the Municipal Storm Drain System as implemented by Prince George's County, Maryland, under the current NPDES permit.

Environmental Consequences

The implementation of the No Build Alternative would result in no impact--positive or negative--on water quality associated with the site. No additional impervious surface would be added to the site.

Potential Mitigation

No mitigation is proposed for this alternative. WMATA would continue to use erosion and sediment control measures during utility upgrades or other soil-disturbing activities to minimize any sedimentation that could impact quality downstream from the site.

3.11.4 Alternative A

Existing Conditions

The site of Alternative A is devoid of any natural water features, but does have some erosional gullies that would transport stormwater runoff during precipitation events. The entire site is located within the watershed of Henson Creek, which is located less than 50 feet from the site. Henson Creek drains into Broad Creek, which is a tributary of the Potomac River. Henson Creek is currently listed as a Category 5, or impaired, waterway by MDE. Listed impairments included high levels of nitrogen, phosphorus, and total suspended solids. In general, this site could be described as an undeveloped native forest. Presently the site has no impervious surface. No man-made stormwater features are currently located on the site. Stormwater is presently being managed through natural ecosystem functions such as evapotranspiration, canopy interception, soil infiltration, and surface water runoff.

Environmental Consequences

Implementation of Alternative A would result in an increase in impervious surface at the site of approximately 22.2 acres which includes paving the emergency access road. New impervious surface would lead to a substantial increase in the volume of stormwater directed into the stormwater system and peak discharge of stormwater generated by the site.

As with any transportation facility, spills or leaks involving petroleum or chemicals could release pollutants into the environment. A chemical release could migrate vertically and enter shallow groundwater, or flow into other surface water resources, but actual realized contaminant loads to the particular resource would vary depending on the proximity of a particular resource.

Road salt may be applied periodically as a de-icer. Road salt is generally comprised of 60 percent chloride and 40 percent of a cation such as sodium or, to lesser extents, calcium, potassium, and magnesium. When dissolved, the chloride and cations disassociate, and the cations may partition to soil particles or be metabolized biologically. However, the chloride ion can accumulate in watersheds.

Sodium chloride accumulation tends to increase the alkalinity of groundwater. It can also tend to reduce the aeration and permeability of the soil. It increases alkalinity by reducing the ion exchange capability of the soil. In general, chloride is less detrimental than sodium. High levels of sodium also cause the loss of vital plant nutrients such as potassium, calcium, and magnesium by displacing their attachment to soil colloids through isomorphic substitution. These cations are then released to solution causing increased nutrient loads to ground and surface water supplies.

Potential Mitigation

Site-specific stormwater management features would be developed as the design process moves. Management features would be incorporated into a stormwater management plan to be reviewed and approved by MDE. Stormwater management facilities would also be designed using techniques that would reduce the amount of nutrients, metals, and heavier petroleum products that could migrate through the soil column and pollute groundwater. Any spills occurring at the facility would be remediated before infiltrating into the groundwater system.

With appropriate stormwater management features, no adverse impact is projected.

3.11.5 Alternative B

Existing Conditions

The site of Alternative B has several natural water features including nontidal wetlands and perennial fresh water streams. The entire site is within the watershed of Cabin Branch, which is located on the southwestern portion of the site. Cabin Branch drains into Western Branch, which is a tributary of the

Patuxent River. Presently 16 percent of the site is covered in impervious surface. Stormwater on the site is presently being managed through a combination of an existing man-made pond and, to a lesser extent, the natural ecosystem functions of the forest such as evapotranspiration, canopy interception, soil infiltration, and surface water runoff.

Environmental Consequences

Implementation of Alternative B would result in an increase in impervious surface at the site of approximately 10.87 acres. New impervious surface would lead to a substantial increase in the volume of stormwater directed into the stormwater system and peak discharge of stormwater generated by the site.

As with any transportation facility, spills or leaks involving petroleum or chemicals could release pollutants into the environment. A chemical release could migrate vertically and enter shallow groundwater, or flow into other surface water resources, but because spills are acute isolated events, as opposed to chronic long-term events. Contaminant concentrations could decrease naturally by bacterial activity, dispersion, advection, and absorption. Actual realized contaminant loads to the particular resource would vary depending on the proximity of a particular resource.

Road salt may be applied periodically as a de-icer. Road salt is generally comprised of 60 percent chloride and 40 percent of a cation such as sodium or, to lesser extents, calcium, potassium, and magnesium. When dissolved, the chloride and cations disassociate, and the cations may partition to soil particles or be metabolized biologically. However, the chloride ion can accumulate in watersheds.

Potential Mitigation

Site-specific stormwater management features would be developed as the design process moves forward. Management features would be incorporated into a stormwater management plan to be reviewed and approved by MDE. Stormwater management facilities would also be designed using techniques that would reduce the amount of nutrients, metals, and heavier petroleum products that could migrate through the soil column and pollute groundwater. Any spills occurring at the facility would be remediated before infiltrating into the groundwater system.

With appropriate stormwater management features, no adverse impact is projected.

3.11.6 Alternative C

Existing Conditions

The existing conditions for Build Alternative C are the same as described for the No Build Condition. The Alternative C site is devoid of any natural water features. The entire site is located within the watershed of Oxon Run, a tributary of the Potomac River, which is approximately 0.3 miles from the site. Oxon Run is currently listed as a Category 5, or impaired, waterway by MDE. Listed impairments included high levels of nitrogen, phosphorus, and total suspended solids. Stormwater runoff from the site is currently handled by the Municipal Storm Drain System as implemented by Prince George's County, Maryland, under the current NPDES permit.

Environmental Consequences

In the long term, implementation of Alternative C would result in the entire 8.2 acre site being impervious surface. New impervious surface would lead to a substantial increase in the volume of water directed into the stormwater sewer system and peak discharge of stormwater generated by the site.

As described for Build Alternative A, the potential for petroleum or chemical releases and use of de-icers exists and, therefore, has the potential to affect water quality.

Potential Mitigation

Site-specific stormwater management features would be developed as the design process moves. Management features would be incorporated into a stormwater management plan to be reviewed and approved by MDE. Stormwater management facilities would also be designed using techniques that would reduce the amount of nutrients, metals, and heavier petroleum products that could migrate through the soil column and pollute groundwater. Any spills occurring at the facility would be remediated before infiltrating into the groundwater system.

With appropriate stormwater management, no adverse impact is projected.

3.12 Coastal Zones

3.12.1 Introduction

This section identifies and assesses the potential effects on navigable waterways and demonstrates consistency with the State of Maryland Coastal Zone Management Program (CZMP). Prince George's County is within Maryland's designated Coastal Zone. Counties within the CZMP zone are shown in **Figure 3-11**.

The Coastal Zone Management Act (CZMA) of 1972 (16 USC § 1451, et seq., as amended) provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. Section 307 of the CZMA stipulates that Federal projects that affect land uses, water uses, or the coastal resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's federally-approved coastal management plan.

To meet the requirements of the CZMA, the State of Maryland has implemented the CZMP based on existing state laws and regulations, particularly the Maryland Tidal Wetlands Law (Wetlands and Riparian Rights) and the Maryland Critical Area Program. Federal agencies are exempt from the state's Tidal Wetlands Law. Federal properties are also statutorily excluded from CZMA's definition of the state of Maryland's "coastal zone" (16 USC. § 1453 [1]). However, if a proposed Federal action would affect coastal resources or uses beyond the boundaries of the Federal property, the CZMA Section 307 Federal consistency requirement applies.

The Chesapeake Bay Critical Area Protection Program was enacted to control land use development in the Bay's watershed. Land within 1,000 feet of the Chesapeake Bay and the tidal portions of its tributaries comprises the "Critical Area," where development must meet criteria to minimize the adverse effects of human activities on water quality and natural habitats as well as foster uniform and more sensitive development activities.

3.12.2 Methodology

Existing information for navigable waterways and coastal zones was gathered from GIS data provided by the U.S. Army Corps of Engineers (USACE); Maryland Department of Natural Resources (MDNR); Prince George's County; United States Geological Survey topographical maps, including the Upper Marlboro and Anacostia quadrangles; examination of recent aerial photographs; and site visits. CZMP regulations were identified using information provided by *A Guide to Maryland's Coastal Zone Management Program Federal Consistency Process*.

WMATA prepared and submitted a Federal Agency Consistency determination in April 2011. This package can be found in **Appendix A** of this document.

3.12.3 Existing Conditions

Although all alternatives are within a CZMP-designated county and will require a federal consistency determination, the sites are outside State designated Chesapeake Bay Critical Areas.

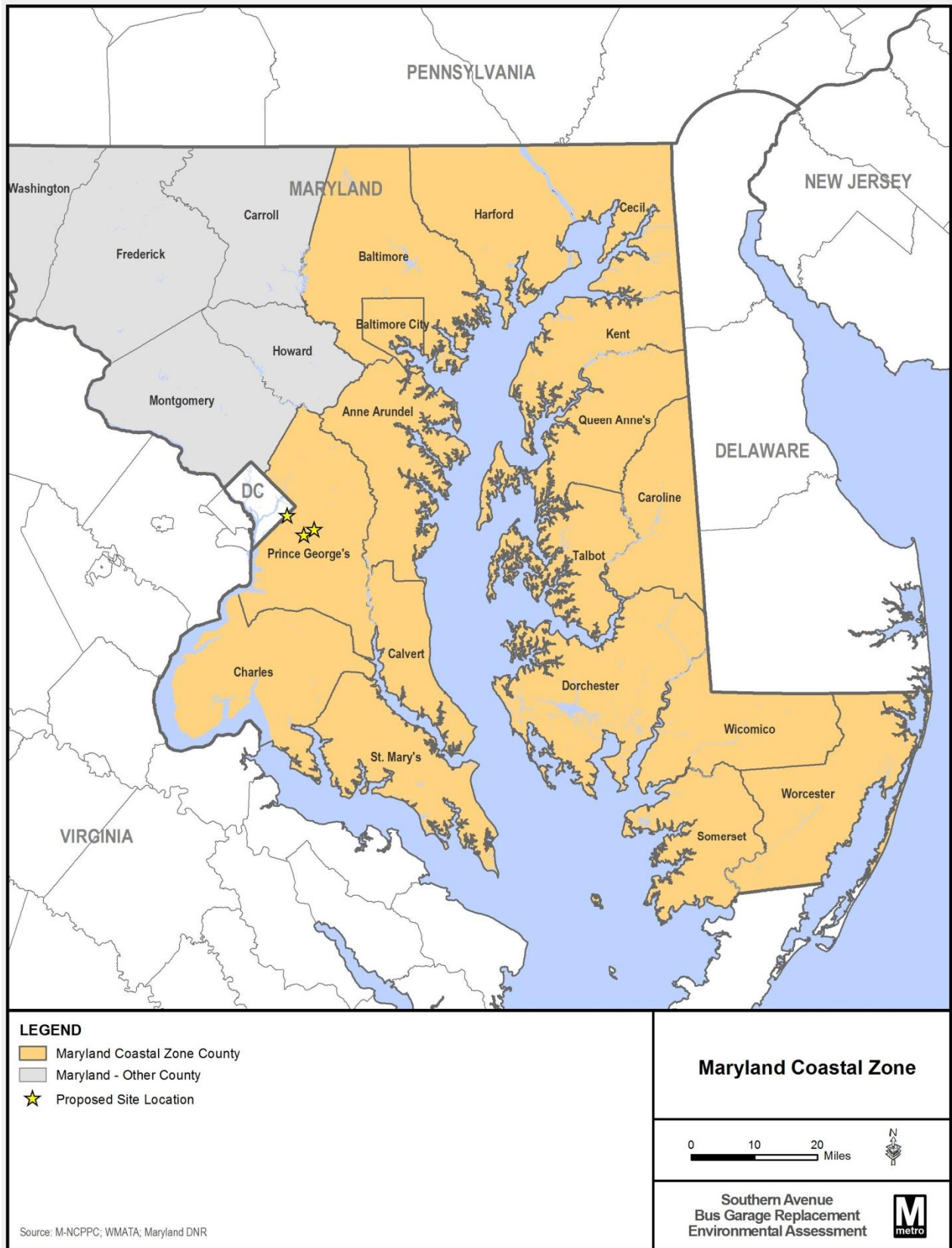
3.12.4 Environmental Consequences

WMATA anticipates that all alternatives would be consistent with the enforceable policies of the CZMP and would not have an adverse impact on the coastal zone. All applicable permits and approvals required by the State of Maryland will be obtained to ensure consistency. Upon receipt of a Federal Consistency Certification package from the State, the State Certification will be documented as part of this EA in **Appendix A**.

3.12.5 Potential Mitigation

No mitigation for direct impacts is proposed for any alternative.

Figure 3-11: Maryland Coastal Zone



3.13 Water Resources

3.13.1 Introduction

This section summarizes federal, state, and local programs that regulate water features within the study areas. Water features addressed in this section include Waters of the U.S. wetlands, and navigable waterways.

Federal

“Waters of the U.S.” is a broad term used to describe waters under the jurisdiction of the United States government. Typically it includes, but is not limited to, territorial seas and oceans, lakes, rivers, streams, and adjacent wetlands. The U.S. Army Corps of Engineers (USACE) has issued guidance that it will assert jurisdiction over traditional navigable waters, which includes all the waters described in 33 C.F.R. § 328.3(a)(1), and 40 C.F.R. § 230.3 (s)(1). Additionally, the USACE will assert jurisdiction over wetlands adjacent to traditional navigable waters, including over adjacent wetlands that do not have a continuous surface connection to traditional navigable waters.

Wetlands are considered to be important and valuable ecosystems that provide significant ecosystem function. Generally, wetlands can be described as transitional zones between terrestrial and aquatic ecosystems, and are flooded and/or saturated near the ground surface for extended periods. Tidal shores, vegetated and un-vegetated near-shore habitats, open tidal waters, beaches, wetlands, and non-tidal wetlands are regulated by the USACE under Section 10 of the Rivers and Harbors Act of 1899 and Sections 401, 402, and 404 of the Clean Water Act (CWA) of 1972 (amended in 1977) as a subset of all “Waters of the United States”, as defined in federal regulations (33 CFR 320 et seq. and 40 CFR 230 and 50 CFR 400-600). The discharge of dredged or fill material within regulated areas (including areas identified as wetlands) requires a permit to action. Wetlands are defined by the USACE and EPA as: “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”

Navigable waters of the United States are defined by 33 CFR part 329, as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.” Under Section 10 of the Rivers and Harbors Act of 1899, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers.

A number of federal laws, regulations, and policies regulate activities in water resources, including:

- Protection of Wetlands, Executive Order 11990
- The North American Wetlands Conservation Act, 16 USC 4408
- Rivers and Harbors Act, 33 USC 401, et seq.
- Federal Water Pollution Control Act [Clean Water Act (CWA)], as amended, 33 USC 1251 et seq.
- The Coastal Zone Management Act of 1972 (CZMA), 16 USC 1451 et seq.

State

The goal of the Nontidal Wetlands Act is no overall net loss of nontidal wetland acreage and function. MDE’s Nontidal Wetlands and Waterways Division oversees the permit process for construction projects affecting nontidal wetlands. A permit is required for any activity that alters a nontidal wetland or its 25-foot buffer. The 25-foot buffer is expanded to 100 feet for wetlands of special state concern as defined and designated in COMAR 26.23.06.

The Maryland Department of the Environment (MDE) serves as the state’s Section 401 Certification regulatory authority for both tidal and non-tidal impacts permitted under Section 404 of the CWA. The MDE regulatory authority is legislated through Environment Article Title 5, Subtitle 5-901 through 5-911; Annotated Code of Maryland; Code of Maryland Regulations (COMAR) 26.23.

3.13.2 Wetland Delineation Methodology

A wetland delineation was performed in accordance with the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and, where applicable, in accordance with methods identified in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE, 2008). In December 2008, the Baltimore District USACE issued a special public notice (08-77) announcing the publication and one-year trial implementation period of the *Atlantic and Gulf Coastal Plain Interim Regional Supplement to the 1987 Wetland Delineation Manual (Supplement)*. Effective January 3, 2009, the *Supplement* must be applied to all wetland delineations conducted within the Atlantic and Gulf Coastal Plain Region. The Atlantic and Gulf Coastal Plain Region includes portions of Maryland that fall within the Inner Coastal Plain, Northern Coastal Plain, and Outer Coastal Plain Land Resource Regions (LRR).

According to USACE, the intent of the *Supplement* is to improve the accuracy of delineations conducted in the region; it is not intended to greatly expand the boundaries of jurisdiction. However, some of the revisions and new indicators included in the *Supplement* have the potential to significantly affect wetland delineations by potentially increasing the areal extent of jurisdictional wetlands. The most significant of these changes include the deletion of FAC-wetland indicator status plants as non-hydrophytes, changes in field indicators of wetland hydrology, and mandatory implementation of field indicators of hydric soils as identified using the National Technical Committee for Hydric Soils' (NTCHS) *Field Indicators of Hydric Soils in the United States*.

For an area to be classified as a wetland under this methodology, it must manifest characteristics and positive field indicators of hydric soils, a prevalence of hydrophytic vegetation, and indicators of wetland hydrology.

3.13.3 Waters of the U.S. Methodology

Waters of the United States (WOUS) were mapped and delineated in the field in accordance with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency Jurisdictional Determination Instructional Guidebook (USACE 2007) and the guidelines in the U.S. Army Corps of Engineers Regulatory Guidance Letter No. 05-05, dated December 7, 2005. GPS data was collected in the thalweg of each stream, as well as the ordinary high water mark (OHWM) near the top of each stream bank. The OHWM was distinguished by drift marks and bent foliage.

3.13.4 Navigable Waterway Methodology

Navigable waterways were determined from the U.S. Army Corps of Engineers Navigable Waterway Network GIS layers downloaded from the Bureau of Transportation Statistics. The Corps districts have made determinations regarding whether particular water bodies qualify as "navigable waters of the United States" for purposes of asserting jurisdiction under Sections 9 and 10 of the Rivers and Harbors Act of 1899.

3.13.5 No Build Alternative

Existing Conditions

There are no Waters of the United States, wetlands, or navigable waterways located on the site of the No Build Alternative.

Environmental Consequences

The No Build Alternative would result in no effects or impacts, positive or negative, to the existing navigable waters or Waters of the United States, including wetlands.

Potential Mitigation

No mitigation is proposed for this alternative.

3.13.6 Alternative A

Existing Conditions

Alternative A was evaluated for wetlands and Waters of the United States in March 2010. No Waters of the United States, wetlands, or navigable waterways were identified within the site boundaries for Build Alternative A.

Environmental Consequences

No Waters of the United States, wetlands, or navigable waterways would be impacted as a result of implementation of Build Alternative A.

Potential Mitigation

No mitigation is proposed for this alternative.

3.13.7 Alternative B

Existing Conditions

A field review and wetland delineation of the site was conducted between December 2010 and February 2011. These field reviews identified Palustrine Forested Wetlands (PFO) within the property boundaries. The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses and lichens, and all such wetlands that occur in tidal areas where salinity is low. PFO is generally characterized by woody vegetation that is 20 feet or taller. Coordination is ongoing with MDE/USACE to determine the extent of wetlands identified on the site. Furthermore, no navigable waterways were identified within the site boundaries for Build Alternative B.

Three separate jurisdictional wetland areas were identified totaling 1.48 acres (**Figure 3-12**). **Table 3-22** provides details about each wetland.

Table 3-22: Wetland Summary for Alternative B

Wetland Designation	Classification	Size	Type
A	PFO	1.34 acres	non-isolated
B	PFO	0.09 acres	non-isolated
C	PFO	0.05 acres	non-isolated

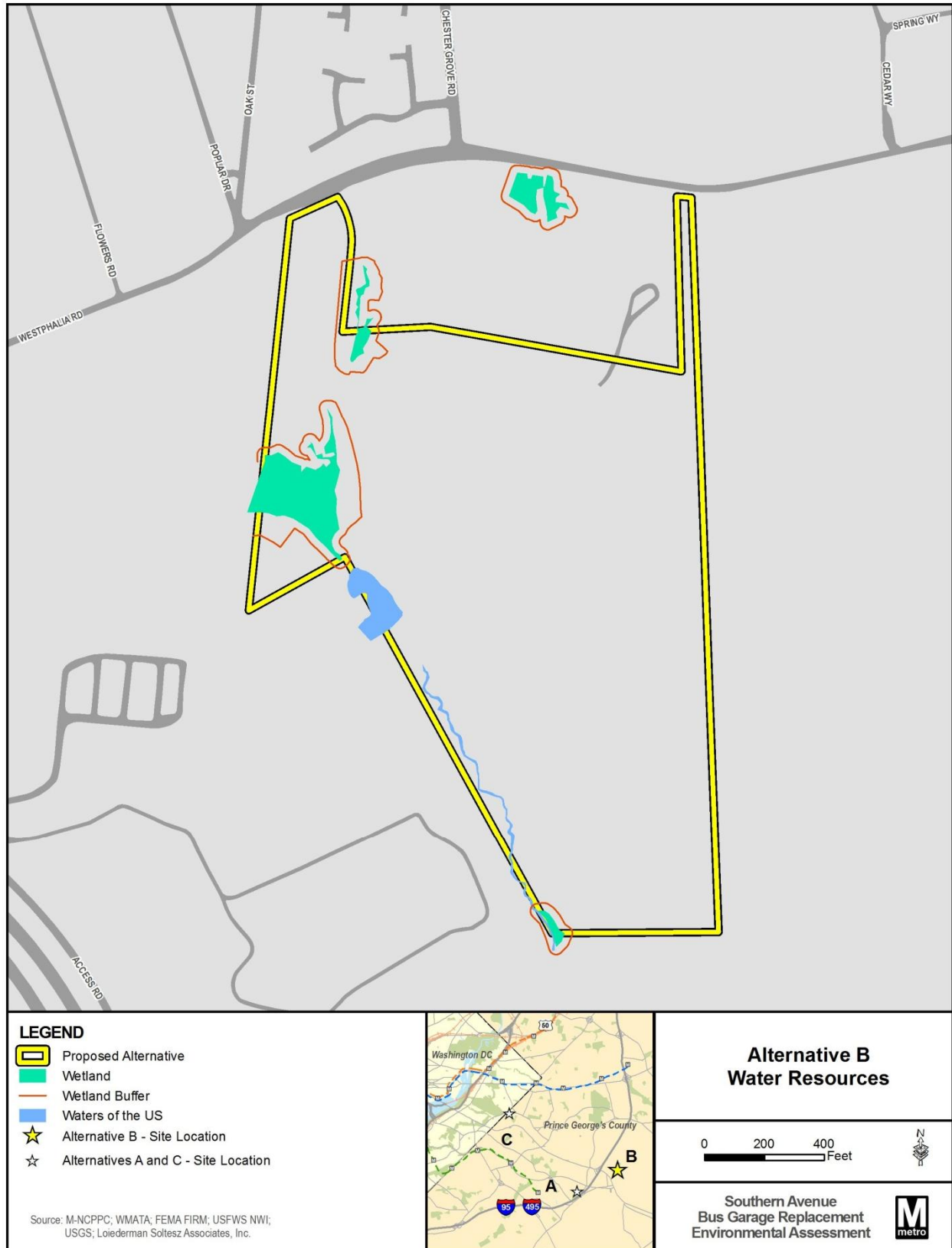
In addition to the wetlands identified, the site contains 1,506 linear feet of relatively permanent waters that are likely to be considered jurisdictional Waters of the United States (**Figure 3-12**).

The site associated with Build Alternative B is part of the Western Branch Watershed, which is a subwatershed of the Patuxent River. The tributaries of the Western Branch Watershed are classified as Use "I-P" as established by the Code of Maryland Regulations (COMAR) 26.08.02.08 which means that acceptable uses in the water body "include Water Contact Recreation, and Protection of Aquatic Life²". The majority of the streams on site are associated with a perennial stream flowing along the western boundary of the property with one tributary originating near the center of the site. The streams on the site flow into Cabin Branch, which is just south of the property (See **Figure 3-12**).

None of the wetlands identified on the site are classified by the Maryland Department of Natural Resources as a Wetland of Special State Concern (WSSC).

² Maryland Department of the Environment, *MD Stream Use Designations, Appendix D.9*, Pg. D.9.1, http://www.mde.state.md.us/assets/document/sedimentstormwater/Appnd_D9.pdf

Figure 3-12: Alternative B Water Resources



Environmental Consequences

A minor impact to wetlands is projected. Most development would take place on existing impervious surfaces, so no impact is anticipated. However, preliminary concept plans indicate development within the property boundary for Build Alternative B could impact 127 linear feet of Waters of the United States or their buffers. As plans develop further, project developers would revise the project design to avoid all impacts to Waters of the United States, including wetlands. Therefore, no impacts are anticipated. If impacts cannot be avoided, then those impacts would need to be mitigated through compliance with Sections 404 and 401 of the Clean Water Act. All unavoidable impacts would require filing a Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetlands, to be approved by the Maryland Department of Environment. Measures to avoid, minimize, and mitigate the expected impacts would be developed as part of the permitting process. Confirmation of this is pending review with the USACE and MDE. Furthermore, no navigable waterways would be impacted as a result of implementation of Build Alternative A.

Potential Mitigation

No dredging or filling of jurisdictional wetlands or Waters of the United States would occur; therefore, no mitigation is proposed. If Waters of the United States or wetland impacts are identified, a permit from USACE and MDE, and possibly other regulatory agencies would be required. If impacts cannot be avoided, explicit details on mitigation would be provided as part of the jurisdictional determination and permitting process for unavoidable impacts to Waters of the United States and wetlands.

3.13.8 Alternative C

Existing Conditions

No Waters of the United States, wetlands, or navigable waters have been identified on the existing site, or on the additional properties required for expansion.

Environmental Consequences

No Waters of the United States, wetlands, or navigable waters would be impacted as a result of implementation of Build Alternative C.

Potential Mitigation

No mitigation is proposed for this alternative.

3.14 Floodplains

3.14.1 Introduction

This section identifies and assesses floodplains and flood hazard zones within the study areas. Floodplain Construction is addressed in *Executive Order 11988, "Floodplain Management"*; USDOT Order 5600.2, "Floodplain Management and Protection"; and the Federal Aid Policy Guide 23 CFR 650A. The intent of these regulations is to avoid and minimize development within the 100-year floodplain, where practicable, and to encourage compatible land use within floodplains.

All Maryland counties and 92 municipalities participate in the National Flood Insurance Program (NFIP). This program makes flood insurance available to property owners in participating communities. In return, local governments must adopt ordinances to manage development within 100-year floodplains to prevent increased flooding and minimize future flood damage. The NFIP requires counties and towns to issue permits for all development in the 100-year floodplain. If state and federal permits are required, development may not begin until all necessary permits are issued. Proposed development must not increase flooding or create a dangerous situation during flooding, especially on another person's property. If a structure is involved, it must be constructed to minimize damage during flooding.

3.14.2 Methodology

Information regarding floodplains was obtained from Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) and Prince George's County Department of Environmental

Resources floodplain studies. For the purposes of this section, the study area for each alternative consists of all identified flood hazard areas on each site.

FIRM flood zones reflect the severity or type of expected flooding in the area. High risk areas for flooding are identified as Special Flood Hazard Areas (SFHAs). SFHAs are defined as areas that will be inundated by a flood event having a 1 percent chance of being equaled or exceeded in any given year (also referred to as the base flood or 100-year flood). SFHAs are labeled as Zone AE (areas of 100-year flood). Moderate flood hazard areas are labeled Zone X500 (areas between the limits of the 100-year flood and 500-year flood).

3.14.3 No Build Alternative

Existing Conditions

No floodplain is located on the site of the No Build Alternative. The nearest floodplain is located approximately one-half mile south of the site, along Oxon Run.

Environmental Consequences

No impact to any floodplain would occur, as no floodplains have been identified on the site.

Potential Mitigation

No mitigation is proposed.

3.14.4 Alternative A

Existing Conditions

The northeastern corner of Alternative A is immediately adjacent to a Zone AE-designated floodplain associated with Henson Creek. A small portion of the designated 100-year Flood Zone AE does exist within the far northeastern corner of the parcel boundary, as shown in **Figure 3-13**. The area of the Flood Zone AE included within the site is approximately 607 square feet. No other flood zones were identified on the site. However, a site specific floodplain study (FPS-200904) by Prince George's County Department of Environmental Resources determined that the site is completely outside the 100-year floodplain.

Environmental Consequences

Development of Alternative A would not occur within a 100-year floodplain (Zone AE) or Flood Zone AE. The northeastern portion of the site would remain undeveloped and be used only for greenspace and possible stormwater management. Therefore, implementation of Alternative A would not result in any direct impact to the Henson Creek floodplain or floodplain buffer. Based on a review of the Prince George's County Stormwater Design Manual, stormwater management facilities are permissible within a floodplain.

Potential Mitigation

No mitigation is proposed.

3.14.5 Alternative B

Existing Conditions

No flood plain is located on the Alternative B site. The nearest floodplain is located approximately one mile southeast of the site, along Cabin Branch.

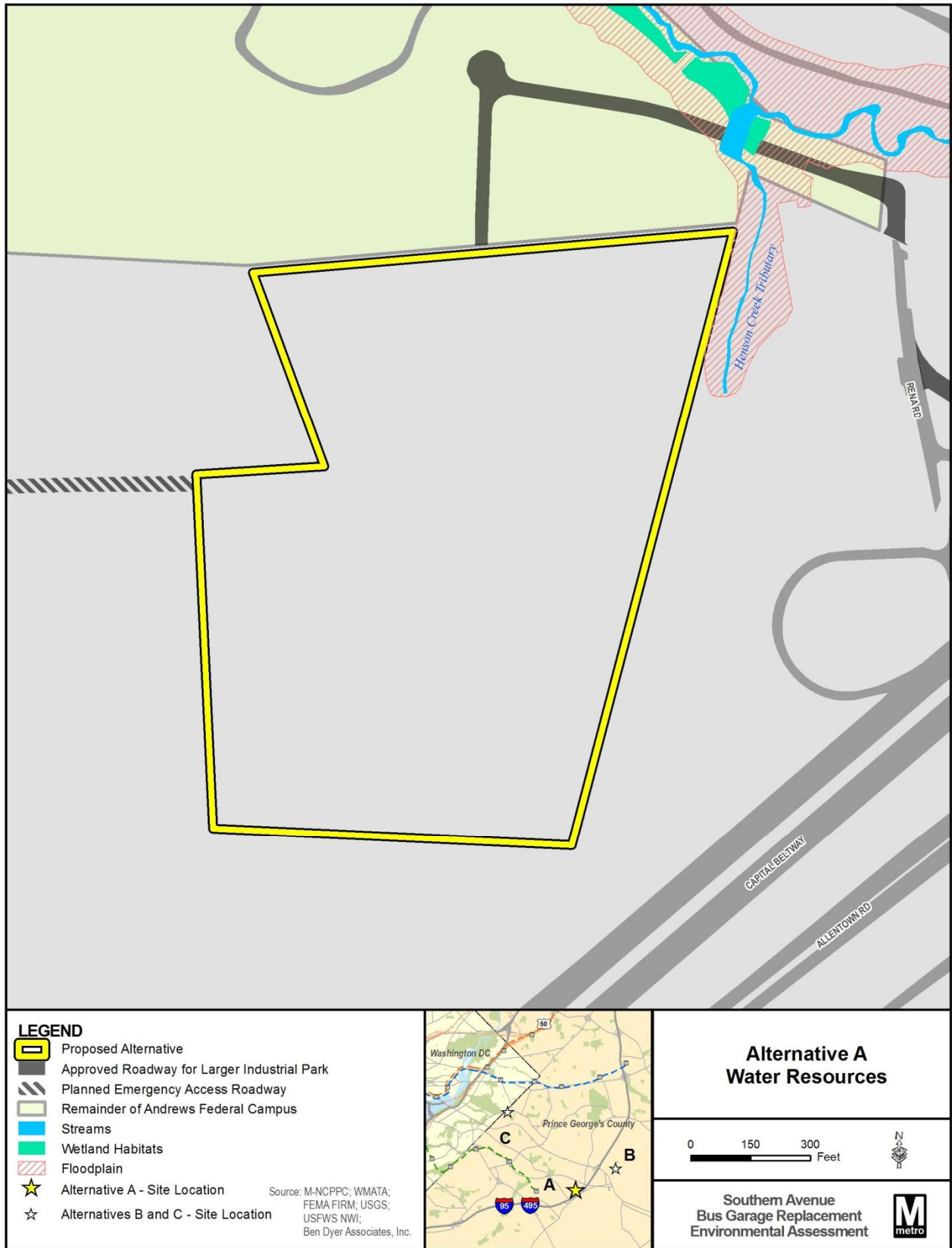
Environmental Consequences

No impacts to any floodplain would occur, as no floodplains have been identified on the site.

Potential Mitigation

No adverse effect to any floodplain would occur; therefore, no mitigation is proposed.

Figure 3-13: Alternative A Floodplain



3.14.6 Alternative C

Existing Conditions

No floodplain is located on the site of the No Build Alternative. The nearest floodplain is located approximately one-half mile south of the site, along Oxon Run.

Environmental Consequences

No impact to any floodplain would occur, as no floodplains have been identified on the site.

Potential Mitigation

No mitigation is proposed.

3.15 Ecosystems and Endangered Species

3.15.1 Introduction

This section summarizes information on existing biotic communities, ecologically sensitive areas, and protected species within the study areas, as well as the laws and regulations applicable to these resources.

The Endangered Species Act of 1973 was established to protect the habitat of endangered species and to help in the preservation and recovery of listed species. The law is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The USFWS is responsible for terrestrial and freshwater species, while the NMFS is responsible for marine species. Section 7 consultation is required under the Endangered Species Act for any federal action that may take place within the habitat of any federally listed endangered, threatened, or candidate species. The required consultation ensures that actions taken by federal agencies will not jeopardize the existence of any listed species. Agencies are encouraged to work in conjunction with the USFWS and the NMFS to plan or modify federal projects to avoid or minimize impacts to listed species and their habitat. Through coordination among these agencies, the identification of species and an informal resolution of potential conflicts can be resolved early in the planning process.

The Maryland Forest Conservation Act (FCA) was passed by the General Assembly in 1991, and subsequently amended to conserve the state's forest resources during development activities. The FCA requires identification of existing forest stands, protection of the most desirable stands, and establishment of areas where new forests can be planted. The act was written to protect not only forest and trees in developing areas, but also sensitive areas indentified such as wetlands, sensitive species, and unique habitat. The FCA requires that prior to the approval of any public or private subdivision, project plan, grading permit, or sediment control permit on a unit of land 40,000 square feet or greater, applicants must submit a Forest Stand Delineation (FSD) and a Forest Conservation Plan (FCP).

Maryland has several laws that protect rare, threatened, and endangered species and their habitats. The primary law that allows and governs the listing of endangered species is the Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01). This act is supported by regulations (Code of Maryland Regulations 08.03.08) that contain the official State Threatened and Endangered Species List. Sensitive Species Project Review Areas (SSPRA) is a database developed by the Service's Conservation Technology Program to aid the Maryland Department of Natural Resources (MDNR), other state agencies, and county planning offices in reviewing projects for potential impacts to rare species and certain other species groups that are regulated in Maryland. Forest Interior Dwelling Species (FIDS) are animals that are known to require habitat conditions in the interior of large forests for optimal reproduction and survival. FIDS habitat is a designated Habitat Protection Area and subject to additional regulations within the Critical Area. As mentioned in **Section 3.12**, the Critical Area in Maryland is generally defined as all land and water areas within 1,000 feet beyond the landward boundaries of tidal wetlands, the Chesapeake Bay, and its tributaries.

3.15.2 Methodology

Baseline vegetation and habitat data was compiled using data provided by the Maryland Department of Natural Resources (DNR). The potential occurrence of federally protected species in the study areas was accessed using online information³ provided by USFWS Chesapeake Bay Field Office. A coordination letter was sent to the USFWS to initiate direct consultation regarding potential protected species or habitats within the site area and are included in Appendix A. GIS data is developed and maintained by DNR for each county in the State which can be used to identify FIDS and SSPRA habitat. DNR GIS data sets⁴ used for the analysis included the *Forest Interior Dwelling Species - Potential Habitat* shapefile and *Sensitive Species Project Review Areas* shapefile for Prince George's County.

A review of the USFWS Chesapeake Bay Field Office online information identified the sensitive joint-vetch (*Aeschynomene virginica*) is listed for Prince George's County, MD. Therefore, each site was reviewed for the potential to support the required habitat for the sensitive joint-vetch.

3.15.3 No Build Alternative

Existing Conditions

The No Build Alternative site is almost entirely developed and devoid of vegetation, except for minor amounts of turf grass and weedy herbaceous species. These areas of turf comprise less than 4,000 square feet (approximately 1/10 of an acre). The site offers a minimal amount of habitat for any species, common or rare.

In response to an informal Section 7 consultation letter, dated February 1, 2011, the USFWS found that "Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area" (See **Appendix A**).

Environmental Consequences

Based on coordination with the USFWS, no impact to the federally-listed species would occur. Additionally, no forested areas or tree stands exist on the site.

Potential Mitigation

No mitigation is proposed.

3.15.4 Alternative A

Existing Conditions

Alternative A includes 35 acres of forested land (mostly intermediate and immature upland hardwoods), covering the parcel almost entirely. Dominant species include yellow poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), white oak (*Quercus alba*), southern red oak (*Q. falcata*), and chestnut oak (*Q. prinus*). Specimen trees (i.e., trees with a diameter greater than 30 inches or having 75 percent or more of the diameter of the current state champion of that species) identified on the site include four yellow poplars (the largest one being 38 inches in diameter), a southern red oak (30 inches), and two white oaks (30 inches). This forest is part of a larger forested area that extends beyond the boundaries of the site, but is interrupted to the north by Suitland Parkway, to the east by the Capital Beltway, and to the south and west by residential neighborhoods and streets. In addition, this area of forest is fragmented by various existing facilities, particularly to the north and west of the site. Altogether, the area within 0.25 miles of the site is estimated to contain approximately 70 acres of FIDS habitat.

As a result, the site may be assumed to provide habitat for common forest-dwelling species, particularly birds such as scarlet tanager (*Piranga olivacea*), American redstart (*Setophaga ruticilla*), hooded warbler (*Wilsonia citrine*), and barred owl (*Strix varia*).

³ United States Fish and Wildlife Service, Chesapeake Bay Field Office, <http://www.fws.gov/chesapeakebay/EndSppWeb/INDEX.HTM>

⁴ DNR GIS data for Prince George's County are available for download at: <http://dnrweb.dnr.state.md.us/gis/data/data.asp>

The sensitive joint-vetch (*Aeschynomene virginica*) favors moist areas; therefore, it is not likely to be present on the site.

Environmental Consequences

Based on coordination with the USFWS, no impacts to federally proposed or listed endangered or threatened species would occur. Therefore, no further consultation with the USFWS is required.

Alternative A would have direct adverse impacts to the forest cover and potential FIDS habitat, as approximately 24 acres of forest would be cleared to develop the site. This would increase the fragmentation of the large forested parcel and may result in a loss of FIDS habitat even outside the site (FIDS habitat must be at least 300 feet from the nearest forest edge). This loss would affect the wildlife currently using the site for nesting or foraging, which would be displaced and may not be able to relocate in the remaining forest.

Potential Mitigation

Alternative A is subject to the provisions of the FCA. Consistent with the act's requirements, a FCP would be developed. This plan would account for all clearing of forested land and define the applicable requirement for reforestation, either on- or off-site, to mitigate the impact from clearing. Upon selection of a Preferred Alternative and site development process, a FCP will be prepared and submitted for review by MDNR. Mitigation of cleared FIDS habitat would not be required because the site is outside of the state designated Critical Area; however, in the long-term, reforestation under the FCP would recreate such habitat.

3.15.5 Alternative B

Existing Conditions

Alternative B includes approximately 45 acres of forest located mostly along the periphery. The central part of the site is open and developed. The forested cover extends beyond the site to the west and south for about a quarter of a mile, before giving way to agricultural or residential areas. Altogether, there are approximately 72 acres of FIDS habitat within a ¼-mile radius. The site may be assumed to provide habitat for common forest-dwelling species, particularly birds such as the scarlet tanager (*Piranga olivacea*), American redstart (*Setophaga ruticilla*), hooded warbler (*Wilsonia citrine*), and barred owl (*Strix varia*).

Environmental Consequences

Based on coordination with the USFWS, no impacts to federally proposed or listed endangered or threatened species would occur. Therefore, no further consultation with the USFWS is required.. Alternative B will have a direct adverse impact to forest cover and potential FIDS habitat. Approximately 6.5 acres of forest would be cleared for the development of the site. This would increase the fragmentation of the large forested parcel and may result in a loss of FIDS habitat even outside the site (FIDS habitat must be at least 300 feet from the nearest forest edge). This loss would affect the wildlife currently using the site for nesting or foraging, which would be displaced and may not be able to relocate in the remaining forest.

Potential Mitigation

Alternative B is subject to the provisions of the FCA. Consistent with the act's requirements, a FCP would be developed. This plan would account for all clearing of forested land and define the applicable requirement for reforestation, either on- or off-site, to mitigate the impact from clearing. Upon selection of a Preferred Alternative and site development process, a FCP will be prepared and submitted for review by MDNR. Mitigation of cleared FIDS habitat would not be required because the site is outside of the state designated Critical Area; however, in the long-term, reforestation under the FCP would recreate such habitat.

3.15.6 Alternative C

Existing Conditions

The Alternative C site is almost entirely developed and devoid of vegetation, except for minor amounts of turf grass and weedy herbaceous species. These areas of turf comprise and add up to less than 4,000 square feet (approximately 1/10 of an acre). As such, the site offers a minimal amount of habitat for any species, common or rare. As such, the site is not found within the potential FIDS habitat and SSPRA layers maintained by the Maryland DNR.

In response to an informal Section 7 consultation letter, dated February 1, 2011, the USFWS found that "Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area" (**See Appendix A**).

Environmental Consequences

Based on coordination with the USFWS, no impacts to federally proposed or listed endangered or threatened species would occur. Therefore, no further consultation with the USFWS is required. As part of the development process, the open grown trees in the northwest section of the site would be cleared. While these trees provide benefits to the site such as storm water infiltration and microclimate control, the loss would be very small and the overall impact to the ecosystem would be minimal.

Potential Mitigation

No mitigation is proposed.

3.16 Soil and Geologic Resources

3.16.1 Introduction

This section identifies and assesses the potential effects on the existing topographic, geologic, and soil conditions for each site.

3.16.2 Methodology

Data from US Geological Survey (USGS), US Department of Agriculture (USDA), Maryland Department of Natural Resources (DNR), and Prince George's County was used to identify topography, geologic features, and soils for each alternative site. Soil, topographic and geologic data was obtained from the following sources:

- USGS 1:24,000 scale topographic maps
- USGS data for the Coastal Plain Physiographic Province
- Geological characteristics for the County identified by the DNR *Physiographic Provinces of Maryland Map*.
- USDA Natural Resources Conservation Service (NRCS) *Soil Survey Geographic (SSURGO) database* for Prince George's County, Maryland.
- Prince George's County, Maryland GIS data identifying *Marlboro Clay* soil locations within the County.
- Prince George's County, Maryland 2-foot contour resolution topographic data

Specific problem soils were identified to determine if the soils existed within the three alternative site locations. Problem soils include soil types that occur on steep slopes and poorly draining soils such as Marlboro Clay.

Prime farmland soils were also identified through a review of Agricultural Preservation Program administered by the Prince George's County Soil Conservation District. The USDA *Maryland Natural Resources Inventory* describes prime farmland soil as:

"Land best suited to food, feed, forage, fiber, and oilseed crops. It may be cultivated land, pasture, woodland, or other land, but it is not urban land or water areas. It has soil

qualities, favorable growing season, and ample moisture supply – either natural or with irrigation - needed to produce sustained high yields on well-cultivated fields”⁵

3.16.3 No Build Alternative

Existing Conditions

Prince George’s County is located in the Atlantic Coastal Plain physiographic province. The site is in the Waldorf Upland Plain District in the Western Shore Uplands Region of the Embayed Section of the Atlantic Coastal Province. According to the USGS Seismic Hazard Map, Prince George’s County has a very low potential for seismic hazard.

The SSURGO database identified the existing soils on the site, which predominantly consists of Urban Land. **Figure 3-14** shows areas designated as prime farmland and **Figure 3-15** illustrates the topography of the site area. **Table 3-23** lists these soils and provides a description of their characteristics. Urban lands are classified as having a very slow infiltration rate and there has a high potential for runoff. Within the footprint of the existing facility, no soils are designated as prime farmland.

Table 3-23: Soil Characteristics – No Build Alternatives

Soil	Name	Slopes	Hydrolic Soil Group	Prime Farmland
CzE	Croom-Urban land complex	15 to 25 percent slopes	B	Not prime farmland
GuB	Grosstown-Urban land complex	0 to 5 percent slopes	B	Not prime farmland
MoD	Marr-Dodon-Urban land complex	5 to 15 percent slopes	B	Not prime farmland
Un	Urban land		D	Not prime farmland

***Soil group classifications:** (A) Soils having a high infiltration rate (low runoff potential) when thoroughly wet; (B) Soils having a moderate infiltration rate when thoroughly wet; (C) Soils having a slow infiltration rate when thoroughly wet; and (D) Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet.

Environmental Consequences

No major improvements are proposed as part of the No Build Alternative and, therefore, there would be no adverse impact on prime farmland soils or geologic conditions at the site.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.16.4 Alternative A

Existing Conditions

The underlying geologic conditions and potential for seismic activity are the same for Build Alternative A as described for the No Build Alternative

The SSURGO database identified no predominate soil group on the site. **Figure 3-14** and **Figure 3-15** illustrate the topography and additional soil characteristics of the site area, including soils designated as prime farmland. **Table 3-24** lists these soils and provides a description of their characteristics. Some of the soil types have steep slopes of 5 to 10 percent and 10 to 15 percent, particularly in the northern half of the site. Most of the site consists of soils designated as either Farmland of Statewide Importance or Prime Farmland. No soil types on the site are poorly draining soils.

Environmental Consequences

While the site is designated as Prime Farmland or Farmland of Statewide Importance, the site is not actively used for agricultural purposes and, therefore, would not result in a conversion of an agricultural use to a non-agricultural use. As described in **Section 3.2**, the site has been zoned by Prince George’s County as an industrial use and not for agricultural purposes.

⁵ United States Department of Agriculture, Natural Resources Conservation Service, *Maryland Natural Resources Inventory*, <http://www.md.nrcs.usda.gov/technical/nritext.html>

Figure 3-14: Prime Farmland

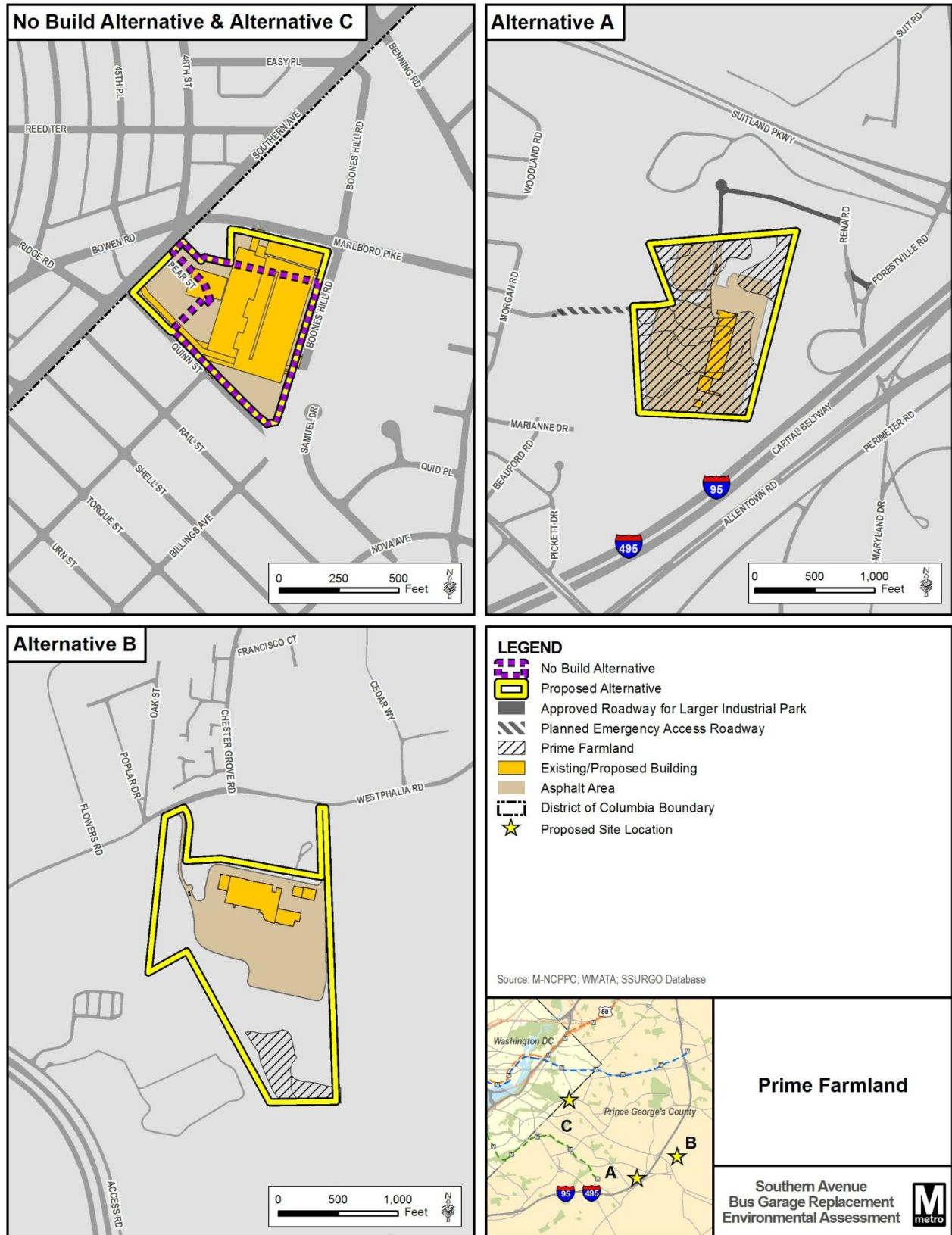
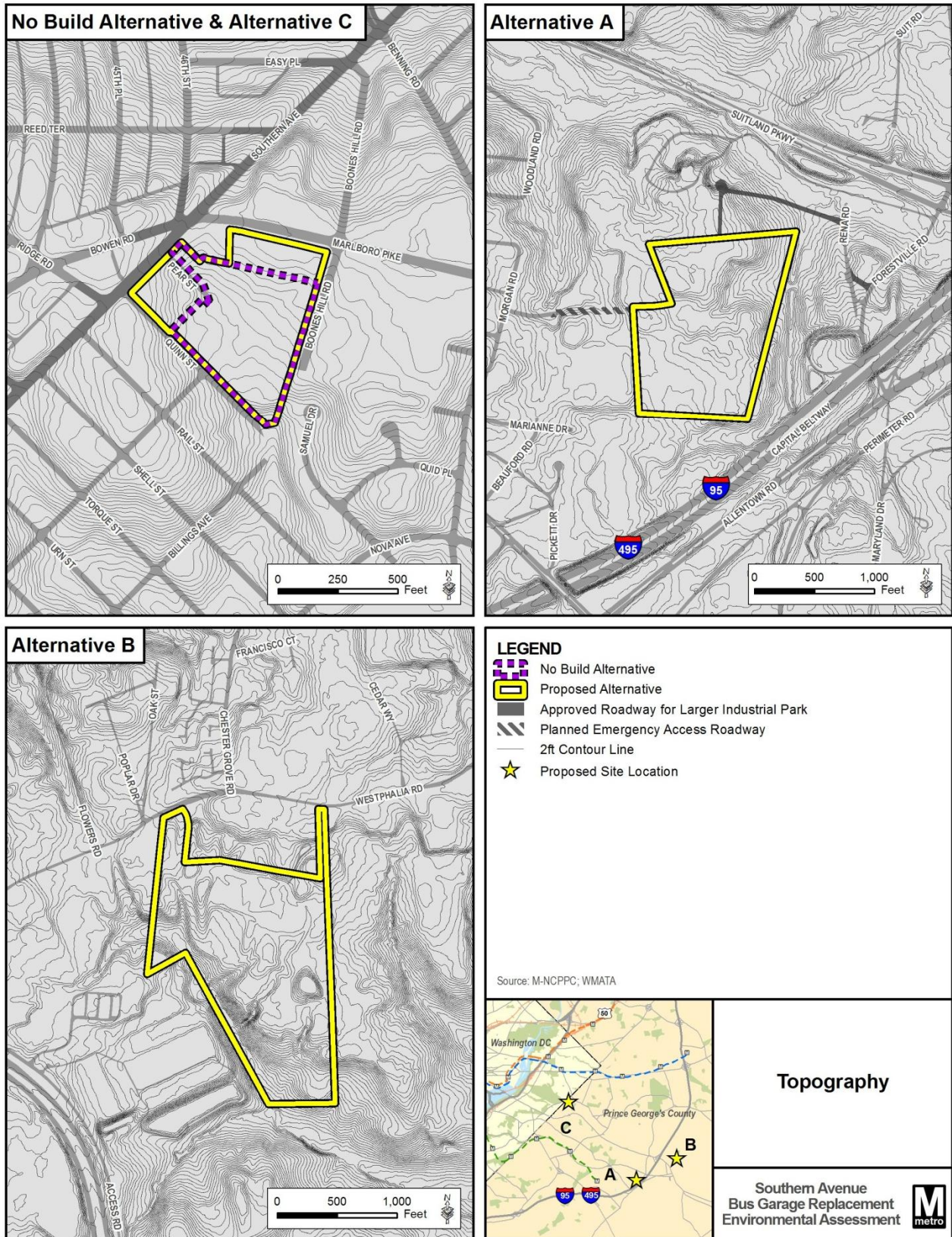


Figure 3-15: Topography



As proposed, the site would be cleared and graded to allow for construction; therefore, changes to natural topographic features would result. However, it is not expected that grading the site would result in adverse effects that would require soil stabilization or retaining structures.

Potential Mitigation

No adverse impacts are expected; therefore, no mitigation is proposed.

Table 3-24: Soils Characteristics – Build Alternative A

Soil	Name	Slopes	Hydrolic Soil Group	Prime Farmland
CwD	Croom-Marr complex	10 to 15 percent slopes	B	Not prime farmland
GgC	Grosstown gravelly silt loam	5 to 10 percent slopes	B	Farmland of statewide importance
HgB	Hoghole-Grosstown complex	0 to 5 percent slopes	A	Prime farmland if irrigated
SaA	Sassafras sandy loam	0 to 2 percent slopes	B	All areas are prime farmland
SaB	Sassafras sandy loam	2 to 5 percent slopes	B	All areas are prime farmland
SaC	Sassafras sandy loam	5 to 10 percent slopes	B	All areas are prime farmland

***Soil group classifications:** (A) Soils having a high infiltration rate (low runoff potential) when thoroughly wet; (B) Soils having a moderate infiltration rate when thoroughly wet; (C) Soils having a slow infiltration rate when thoroughly wet; and (D) Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet.

3.16.5 Alternative B

Existing Conditions

The underlying geologic conditions and potential for seismic activity are the same for Build Alternative B as described for the No Build Alternative.

The SSURGO database identified the existing soils on the site, which predominantly consists of Udorthents. **Figure 3-14** and **Figure 3-15** illustrate the topography and additional soil characteristics of the site area, including soils designated as prime farmland. **Table 3-25** lists these soils and provides a description of their characteristics. Most of the site is composed of soil types which have steep slopes of 5 to 10 percent, 5 to 15 percent, and 15 to 25 percent. Furthermore, most of the soils on the site are classified under Hydrolic Soil Group C, as soils having a slow infiltration rate when thoroughly wet. Only a small portion of land on the southern end of the site is designated as either Farmland of Statewide Importance or Prime Farmland.

Table 3-25: Soils Characteristics – Build Alternative B

Soil	Name	Slopes	Hydrolic Soil Group	Prime Farmland
CwE	Croom-Marr complex	15 to 25 percent slopes	B	No
MnB	Marr-Dodon complex	2 to 5 percent slopes		All areas are prime farmland
MnC	Marr-Dodon complex	5 to 10 percent slopes	B	Farmland of Statewide Importance
Px	Potobac-Issue complex	frequently flooded	D	No
SnB	Sassafras-Urban land complex	0 to 5 percent slopes	B	No
UdcB	Udorthents, reclaimed clay pits	0 to 5 percent slopes	C	No
UdgB	Udorthents, reclaimed gravel pits	0 to 5 percent slopes	C	No
UdgD	Udorthents, reclaimed gravel pits	5 to 15 percent slopes	C	No

***Soil group classifications:** (A) Soils having a high infiltration rate (low runoff potential) when thoroughly wet; (B) Soils having a moderate infiltration rate when thoroughly wet; (C) Soils having a slow infiltration rate when thoroughly wet; and (D) Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet.

Environmental Consequences

A minor impact to soil resources is projected. While portions of the site are designated as Prime Farmland or Farmland of Statewide Importance, the site is not actively used for agricultural purposes and, therefore, would not result in a conversion of an agricultural use to a non-agricultural use. As described in **Section 3.2**, the site has been zoned by Prince George's County as mixed use and not for agricultural purposes.

Soil data indicates that the majority of the soils on site are limited for constructability; however, the site is partially developed with an existing industrial building and parking lot, thereby exhibiting the ability to support construction.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.16.6 Alternative C

Existing Conditions

Geologic, soil, and topographic conditions for Alternative C are the same as for the No Build Alternative. **Figure 3-14** and **Figure 3-15** illustrate these characteristics for Alternative C. **Table 3-23** lists these soils and provides a description of their characteristics.

Environmental Consequences

Alternative C would incorporate land mostly characterized as Urban Land. Therefore, no adverse impact on soils or geologic resources is expected to occur.

Potential Mitigation

No adverse impact is expected; therefore, no mitigation is proposed.

3.17 Contaminated Materials

3.17.1 Introduction

This section identifies and assesses the potential effects on hazardous waste and contaminated material sites at or near the project alternatives.

3.17.2 Methodology

Phase I Environmental Site Assessments (ESA) were completed at each of the three sites. Each Phase I ESA was completed in accordance with the *Phase I Environmental Site Assessment Process*, American Society for Testing and Materials (ASTM) Standard E1527-05

The investigations identified the presence of potential areas of concern and the possible presence of contaminated substances, and determined any potential "Recognized Environmental Condition" (REC) that could impact the respective alternatives. The term REC means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances and petroleum products even under conditions in compliance with laws.

3.17.3 No Build Alternative

Existing Conditions

The existing bus garage is currently in operation and includes a bus maintenance building, asphalt-paved parking, and bus storage where Metrobuses are queued. Six identified RECs are located at the existing facility including:

- Current underground storage tank (UST) systems including two diesel USTs with two dispensers, one anti-freeze and water UST, one engine oil UST, and one heating oil UST. Former releases were documented from at least one of the USTs.
- Out-of-use USTs including four gas USTs, a vent pipe and fill caps, one diesel UST, and three gasoline USTs.
- Above-ground storage tanks (AST) including palletized drum storage and facilities of lubricants, oils, and fluids and batteries stored on pallets. Oil and anti-freeze ASTs and hazardous waste drums are also contained within secondary-containment systems.
- Oil/water separator and drains which may contain residual oils and fluids from bus service operations and from any spills from the bus parking and storage yard.
- General operations and conditions typical of a long-standing maintenance and bus storage facility with the concrete floors exhibiting staining and general wear from operations.
- Suspect materials that could contain non-friable asbestos-containing materials (ACM) included vinyl floor tiles, mastics (i.e., floor adhesive), ceiling tiles, and drywall components.

Environmental Consequences

The No Build Alternative would continue as a bus garage and requires no construction or operational changes. Therefore, all identified RECs would remain in place and unchanged.

Potential Mitigation

WMATA would continue to comply with appropriate environmental regulations regarding the management of contaminated media and hazardous materials.

3.17.4 Alternative A

Existing Conditions

Alternative A is currently a wooded lot. No REC or regulated site was identified in the Phase I ESA that could impact Alternative A.

Environmental Consequences

Based on the findings of the Phase I ESA, Build Alternative A is not projected to impact or disturb contaminated or hazardous materials.

Potential Mitigation

No contaminated or hazardous material was identified. Therefore, no mitigation is proposed.

3.17.5 Alternative B

Existing Conditions

Alternative B was previously used to provide support and to maintain, repair, and store electrical supply equipment. The property consists of a two-story service center building; asphalt-paved access roads and parking lots; landscaped areas; and wooded, undeveloped land surrounding the service center area. The Phase I ESA for Alternative B identified the following RECs:

- Several linear parallel mounds of soil typical for past earth-moving activities, in keeping with the property's reported former use as a gravel pit. These linear features were noted in prior investigations and soil samples were reportedly not contaminated. A remediated mercury spill occurred in the late 1980s in the former training area. The spill was less than one pint and the room was reportedly sealed then cleaned with a mercury vacuum, which has a reported recovery rate of 99.995%. After cleaning, a sealant was placed over the floor.
- ACM was identified potentially to exist within the service center building during the Phase I ESA site reconnaissance.

- The property is identified as a former Resource Conservation and Recovery Act Large Quantity Generator (RCRA-LQG). No violations were identified at the site; however, it remains a REC due to the previous presence, storage, and disposal of hazardous materials and waste from the site.
- Potential off-site encroachments are located west of the property where a paving contractor operates a small concrete batch plant.

In addition, an area of scattered debris and waste consisting of bottles, car tires, miscellaneous glass jars, empty rusted containers, mounds, car parts, and construction debris is adjacent to the western boundary and were observed encroaching on to the property, apparently from the off-site subject property.

Environmental Consequences

A positive impact is projected. As detailed in the Phase I ESA for Alternative B, six RECs would need to be addressed upon the redevelopment of the property, including:

- Investigating or providing information regarding the linear parallel soil mounds, the former mercury spill, the off-site encroachments, and the former storage and disposal of hazardous materials that are not impacting the site;
- If not already completed, the removal of the two USTs and any potential soil or groundwater contamination that could be associated with the USTs; and
- The investigation and abatement of any ACM that may be present within the service center building.

Potential Mitigation

A Phase II ESA Investigation should be completed should Alternative B be selected. The Phase II ESA Investigation should focus on the two former USTs; the linear soil mounds; the remediated mercury spill; the former storage and disposal of hazardous materials; the potential off-site encroachments; and an investigation of the service center building for ACM. A full building survey and testing of suspect ACM in accordance with 40 CFR Part 61.145(a), the National Emission Standards for Hazardous Air Pollutants (NESHAP) by an USEPA-certified professional is recommended prior to any demolition or renovation that could disturb the suspected materials at the current facility. If contamination is identified, the proposer would coordinate with MDE to ensure the site is remediated.

3.17.6 Alternative C

Existing Conditions

Alternative C consists of the redevelopment of the current bus garage and includes up to nine properties in the potential expansion area located immediately adjacent to the current site. These include the vacant retail Green Hill Plaza adjacent to the facility's northern boundary; one- and two-story retail/commercial businesses, a residential property, the Pear Street right-of-way, and a restaurant to the northeast; and a residential property located to the east.

The Phase I ESA for Alternative C identified two RECs in addition to the six RECs described under the No Build Alternative. The two RECs include:

- Potential ACM in structures on the expansion area properties that were constructed between 1911 and 1955;
- The former Mobil Station/current Tire & Auto Repair Shop at 4501 Bowen Road SE has operated as a gasoline service station since at least 1952. The former Mobil Station contained three gasoline USTs, one heating oil UST, and one used oil UST, and a release of gasoline and waste oil was reported in the groundwater and soil in 1993. The UST systems appear to have been removed, but the presence of a groundwater monitoring well along the eastern property boundary and the topography suggests that the groundwater flow may be towards the bus garage.

Environmental Consequences

A positive impact is projected. As detailed in the Phase I ESA for Alternative C, eight RECs would need to be addressed upon the redevelopment of the property, including:

- The removal of the four operational and up to seven potential out-of-use UST systems and the remediation of any potential soil or groundwater contamination that could be associated with the USTs;
- Conducting investigations and/or providing information regarding any potential off-site impacts from the former Mobil Station, the long-standing operations of the bus garage and site features including the floor drains and oil/water separator, and the storage and disposal of hazardous materials are not impacting the site; and
- Conducting the investigation and abatement of any ACM that may be present within the current bus garage facility and all structures on the potential expansion area properties.

Potential Mitigation

A Phase II ESA Investigation should be completed should it be the selected alternative. The Phase II Investigation should focus on the current and former UST systems; the current and former storage of hazardous materials; the oil/water and drainage system; the long-standing use as a bus maintenance and storage facility; to ensure off-site contamination from the former Mobil Station is not impacting the facility or the redevelopment; and investigations for ACM in accordance with the NESHAP. A full building survey and testing of suspect ACM by a USEPA-certified professional is recommended prior to any demolition or renovation that could disturb the suspected materials. In addition, the ACM surveys should be completed at the proposed expansion area properties to document the environmental conditions that may exist.

In addition, WMATA would still be required to permanently close any out-of-use USTs at the current bus garage within a year of their last use, including a site assessment to identify and remediate any potential soil or groundwater contamination associated with the USTs.

3.18 Secondary and Cumulative Impacts

3.18.1 Introduction

This section identifies and assesses the potential secondary and cumulative impacts the Proposed Action has on the surrounding social, built, and natural environment.

Secondary impacts are defined as impacts that are caused by the action, but which occur later in time or are farther away in distance from the site. Indirect effects may include growth-inducing effects and other effects related to induced changes in the patterns of land use, population density, or growth rate as well as related effects on air and water and other natural systems. Cumulative impacts are defined as impacts that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

3.18.2 Methodology

Resource areas studied include those that have the potential to be affected by growth or changes in land use pattern, and those that have the potential to be affected by the proposed action in combination with other ongoing development projects.

3.18.3 No Build Alternative

No secondary or cumulative impacts are anticipated as a result of the No Build Alternative.

3.18.4 Alternative A

Potential Secondary Effects

Construction of a bus storage and maintenance yard at the location identified for Build Alternative A would not, by itself, result in induced, or secondary, development. Future development would be regulated and guided by what is allowable under the Prince George's County zoning ordinance.

Potential Cumulative Effects

Build Alternative A would be part of a larger, approved development. As a result the project would contribute to the overall cumulative effects associated with the entire development. Several resources have been identified where minor impacts resulting from Build Alternative A may have the potential to contribute to cumulative effects on the same resources. These include: forest conservation, conversion of undeveloped land to developed land, traffic, and minority and low-income populations. These potential cumulative effects are described below. **Figure 3-16** shows the approved Andrew Federal Campus development, including the potential WMATA facility.

- **Forest Conservation:** As proposed, development of Build Alternative A would require the clearing of approximately 24 acres of forested land. This could contribute cumulatively to an overall reduction in forested areas within Prince George's County. Even with mitigation, clearing of mature trees could not readily be replaced.

An additional result of clearing the 24 acres of land would be the increase of impervious surface that would result in additional stormwater runoff within the watershed. As proposed, stormwater management would be provided on-site to help offset adverse effects. However, this combined with other planned development within this watershed would result in an overall net loss of pervious surface. This net loss and an increase in stormwater runoff could affect overall water quality within this watershed.

- **Traffic:** Traffic analysis conducted for this EA found that Build Alternative A would result in changes to levels of service at the unsignalized intersections of Rena Road and Forestville Road and eastbound Suitland Parkway and Forestville Road. Under the No Build condition, the Rena Road/Forestville Road intersection operates at a LOS C in the AM peak period and LOS D in the PM peak period. Analysis for the 2015 Build condition shows that in the AM peak, this intersection would operate at a LOS E; in the PM peak, this intersection would operate at a LOS F. In both the No Build and 2015 Build conditions, the eastbound Suitland Parkway and Forestville Road intersection operates at a LOS F during both the AM and PM peak periods.

As proposed, the site for Build Alternative A is part of a larger industrial park that is planned and currently undergoing approval. The introduction of this industrial park would result in new and additional traffic volumes at the aforementioned intersections. Cumulatively, both projects would result in a degradation of traffic operations at these intersections. However, with appropriate mitigation, these adverse effects can be offset to show improvements in LOS. Section 3.1 of this EA documents potential mitigation strategies that would compensate for the decreases in LOS related to the bus garage.

- **Effects on Minority and Low-income Populations:** Minority and low-income populations have been identified adjacent to the proposed site for Build Alternative A. These populations would experience effects from the proposed bus garage that by themselves may not be severe, but combined with other planned development as part of the larger industrial park (Andrews Federal Campus) may become severe. Analysis for this EA identified the following potential effects on these populations: changes in visual character and traffic. Cumulatively, these effects combined with the larger development could create more severe conditions.

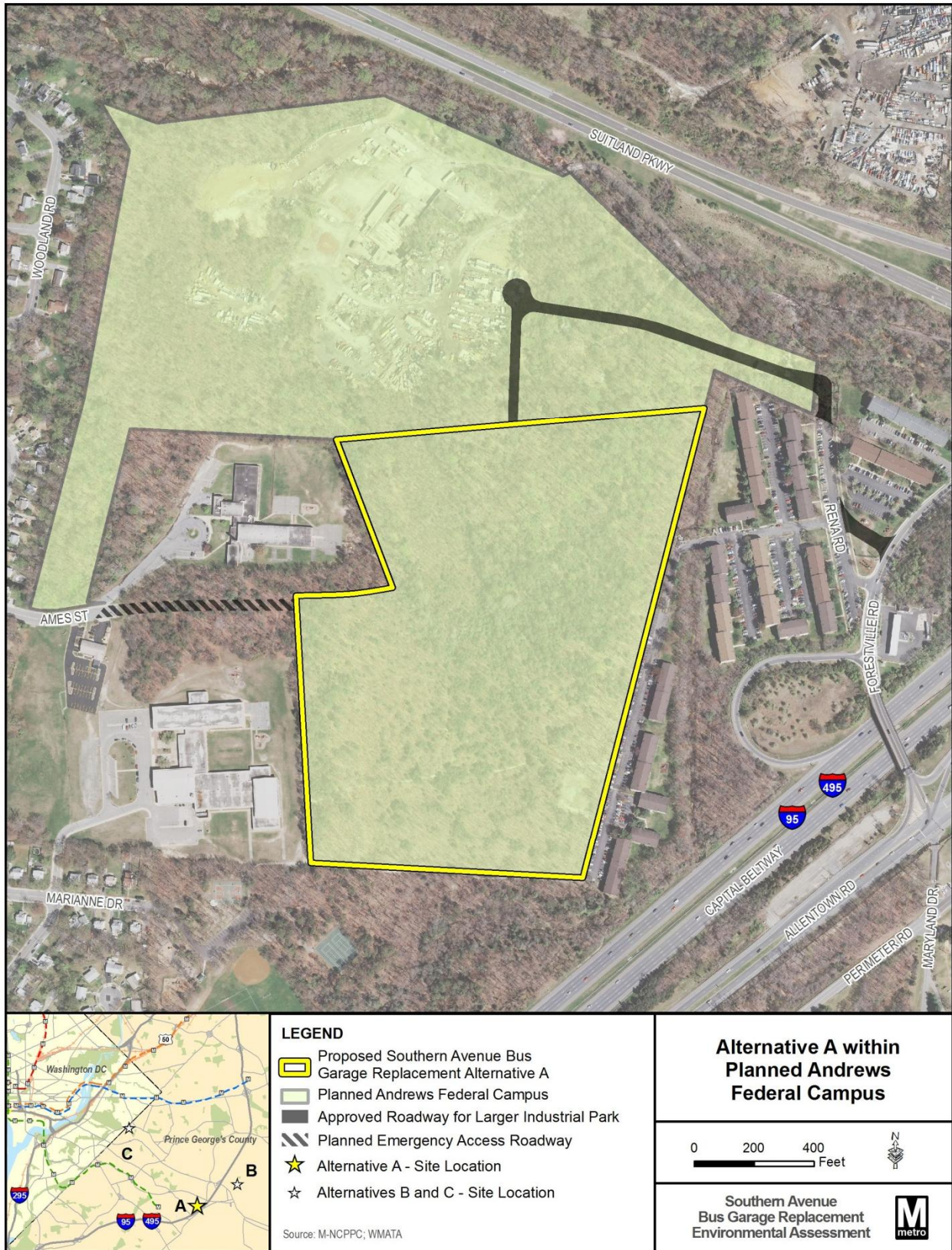
Mitigation measures proposed for the project's impacts are documented in Chapter 3 of the EA. Cumulative impacts noted on forest conservation would be administered by the Maryland Department of Natural Resources through their Forest Conservation Plan requirements. Cumulative traffic impacts are mitigated through coordination with the overseeing local agencies approving development.

3.18.5 Alternative B

Potential Secondary Effects

Construction of a bus storage and maintenance yard at the location identified for Build Alternative B would not, by itself, result in induced, or secondary, development. Future development would be regulated and guided by what is allowable under the Prince George's County zoning ordinance.

Figure 3-16: Alternative A within Planned Andrews Federal Campus



Potential Cumulative Effects

Several resources have been identified where minor impacts resulting from Build Alternative B may have the potential to contribute to cumulative effects on the same resources. These include: forest conservation and conversion of undeveloped land to developed land.

- **Forest Conservation:** As proposed, development of Build Alternative B would require the clearing of approximately 6.5 acres of forested land. This could contribute cumulatively to an overall reduction in forested areas within Prince George's County. Even with mitigation, clearing of mature trees could not readily be replaced.
- **Conversion of Undeveloped Land:** An additional result of clearing and developing land would be the increase of impervious surface that would result in additional stormwater runoff within the watershed. As proposed, stormwater management would be provided on-site to help offset adverse effects. However, this combined with other planned development within this watershed would result in an overall net loss of pervious surface. This net loss and an increase in stormwater runoff could affect overall water quality within this watershed.

Mitigation measures proposed for the project's impacts are documented in Chapter 3 of the EA. Cumulative impacts noted on forest conservation would be administered by the Maryland Department of Natural Resources through their Forest Conservation Plan requirements. Cumulative impacts related to loss of undeveloped land would be administered through the local zoning ordinances/land use plans by Prince George's County.

3.18.6 Alternative C

Potential Secondary Effects

Construction of a bus storage and maintenance yard at the location identified for Build Alternative C would not, by itself, result in induced, or secondary, development. Future development would be regulated and guided by what is allowable under the Prince George's County zoning ordinance.

Potential Cumulative Effects

The potential for cumulative effects is relatively low with Build Alternative C as it proposes to redevelop and expand the existing Southern Avenue Bus Garage. Due to the proposed expansion, several adjacent properties would be acquired from minority/low-income populations.

As part of the *Marlboro Pike Sector Plan*, this area is proposed for redevelopment to provide for mixed land uses. It is unknown if this redevelopment would result in property acquisitions from surrounding minority/low-income populations, but it could be a possibility. This redevelopment, coupled with the property acquisitions related to the expansion and redevelopment of the bus garage, could contribute cumulatively to an adverse effect on these populations.

3.19 Construction Impacts

3.19.1 Introduction

This section assesses the potential temporary construction impact that could result from the construction of a Build Alternative.

WMATA will proactively work to avoid, minimize, or mitigate temporary construction impacts through the contract award process. The construction contract will specify the Best Management Practices (BMP's) that will be used during construction. Contractors will be required to obtain applicable local, state, or federal approvals for construction as a condition of the contract.

3.19.2 Environmental Consequences

Each Build Alternative has the potential for creating temporary construction impacts. As described in Chapter 2, the project will include the construction of a new or expanded bus garage facility.

Surrounding land uses that could experience temporary construction impacts include residential neighborhoods, schools, businesses, and places of worship.

- **Noise:** Noise levels from construction vehicles and equipment may create a temporary nuisance at some receptors, but sound levels are not expected to enter into a range that would be unsafe for human hearing. Additionally, vibration-based equipment rather than impact-based equipment may be used during construction to minimize noise, dust, and other potential effects.
- **Air Quality:** Sources of these potential impacts include direct emissions from construction equipment and trucks, increased emissions from motor vehicles on streets due to disruption of traffic flow, and fugitive dust emissions. These impacts would be temporary and affect only the immediate vicinity of the construction sites and their access routes. Emissions from project-related construction equipment and trucks would be much less than the total emissions from other industrial and transportation sources in the region, and, therefore, are expected to be insignificant with respect to NAAQS compliance.
- **Water Quality:** Water quality impacts resulting from construction could include site runoff from grading and other construction activities, erosion, and construction debris that could enter water bodies within the site.
- **Utilities:** Construction operations will not result in disruption of any energy utility to commercial, industrial, or residential customers at any of the alternative sites.

3.19.3 Potential Mitigation

- **Noise:** WMATA will require the construction contractor to ensure that noise levels caused by land clearing, hauling, and other construction activities will not exceed WMATA construction noise criteria. Additionally, the contractor will comply with Prince George's County noise ordinances relating to construction activities.
- **Air Quality:** Increases in nuisance dust and construction equipment emissions are not expected to impact air quality adversely, either locally or regionally, because WMATA will ensure that control measures are employed. Control measures may include the development of dust control procedures including:
 - Minimizing the length of exposure of disturbed lands;
 - Sprinkling water and/or wood chips on exposed earth during periods of high winds and intensive activity, and;
 - Using tarpaulins on loaded trucks.

WMATA will require the contractor to utilize the best available mitigation measures to prevent excessive emissions of particulates and carbon monoxide from the operation of machinery. Generally, such measures include the prohibition of unnecessary idling and operation of equipment and appropriate pollution control equipment.

- **Water Quality:** The project is regulated by Maryland's National Pollutant Discharge Elimination System (NPDES) Phase I or Phase II Permit for construction activities.

Temporary management facilities for the control of construction stormwater runoff would be erected and all appropriate permits and approvals will be obtained by the contractor. A stormwater management plan for erosion and sediment control will be prepared for use during construction activities, as required by the Maryland Department of the Environment, and the technical criteria stipulated in the Maryland Stormwater Design Manual will be incorporated into the project's BMP design.

Erosion and sediment control measures would be implemented during the site development and construction process to minimize any sedimentation that could impact water quality both on and off site.

A stormwater pollution prevention plan will also be developed, detailing the plan to manage construction waste such as building materials, garbage, and debris, and to implement controls to minimize the exposure of these materials to stormwater.

- **Utilities:** Careful design, routing service onto temporary lines, and installing new utility infrastructure, as appropriate, will minimize and mitigate construction-related impacts.
- **Disposal of Debris:** WMATA contract specifications require the contractor to dispose of construction generated solid waste. The disposal method will be either transport of materials to an approved disposal facility or collection by an approved agent. No waste will be disposed of or incinerated on site.
- **Maintenance of Traffic:** Construction at any of the sites is not expected to require the closing of any street or create a major interference in the traffic flow of the surrounding roadways. In the event that roadway traffic flow is affected, a Worksite Traffic Control Plan will be developed.
- **Construction Site Safety and Security:** The contractor must erect fencing around the construction zone to prevent trespassing.

4.0 Agency Coordination and Public Involvement

4.1 Introduction

This chapter identifies coordination with federal and state agencies as well as the public's involvement during the project planning and development process.

4.2 Agency Correspondence

Federal and state agencies were contacted to identify any potential areas of concern under their jurisdiction. Agencies contacted in the development of this EA are listed in **Table 4-1**. Agency correspondence is included in **Appendix A**, Agency Correspondence.

Table 4-1: Agency Correspondence

Resource Area Coordination	Agency	Date Contacted	Agency Response	Determination	Correspondence Letter
Cultural Resources	Maryland Historic Trust	04/14/2011	04/26/2011	Awaiting final determination (Requested documents submitted May 2011)	Appendix A
Coastal Zone	Maryland Department of the Environment	04/05/2011	No Response	Presumed Consistent	Appendix A
Endangered Species	U.S. Fish and Wildlife Service	12/28/2010	02/01/2011	No endangered or threatened species identified	Appendix A

4.3 Public Involvement

In addition to soliciting the input of government agencies, valuable feedback was sought from members of the public and organizations that have an interest in the project.

Table 4-2 lists the public meetings and presentations made to community organization in regards to the Build Alternatives.

4.4 Public Hearing

A public hearing will be held on this project upon completion of the public review period of the EA. It is expected that this hearing will occur in July 2011. A transcriptionist will be present at this hearing to document comments received from participants. Comments will also be received via written correspondence. This EA will take into consideration comments received, as appropriate.

In advance of the public hearing, WMATA will contact, by certified mail, potentially affected property owners of the Proposed Action and include information on the public hearing and where the document and general plans can be reviewed. Additionally, WMATA will provide a physical posting on potentially affected properties detailing the public hearing.

Upon completion of this public hearing process, a revised EA will be compiled that will include the transcripts from the public hearing and all comments received. The revised EA will identify the selected preferred alternative. If no significant impacts are identified, WMATA will seek a Finding of No Significant Impact (FONSI) from FTA.

Table 4-2: Public Meetings and Outreach

Alternative Presented	Organization	Outreach Venue	Type of Meeting	Date
Alternative A	Prince George's County Council	Prince George's County Municipal Center (meeting)	Presentation	02/07/2011
	Prince George's County Executive's Staff Meeting	Prince George's County Municipal Center (meeting)	Presentation	02/08/2011
	Town of Morningside Town Council	Morningside Matthew P. Rosch Municipal Center 6901 Ames Street Suitland, MD 20746 (meeting)	Town Meeting	02/15/2011
	Skyline Civic Association	Skyline Elementary School 6311 Randolph Road Suitland, MD 20746-3700 (meeting)	Board Meeting	03/15/2011
	The Honorable Mel Franklin, District 9 County Council Member	Skyline Elementary School 6311 Randolph Road Suitland, MD 20746-3700 (meeting)	Presentation	03/21/2011
	Residents of Forest Village Apartments		Mailing	04/25/2011
Alternative B	Prince George's County Council	Prince George's County Municipal Center (meeting)	Presentation	02/07/2011
	Prince George's County Executive's Staff Meeting	Prince George's County Municipal Center (meeting)	Presentation	02/08/2011
	The Honorable Ingrid Turner, Prince George's County Council Chair	Prince George's County Municipal Center (meeting)	Presentation	03/23/2011
	Westphalia Civic Association	Ridgely Church-God in Christ 9235 Darcy Road Upper Marlboro, MD 20774 (meeting)	Presentation	06/11/2011
Alternative C	Prince George's County Council	Prince George's County Municipal Center (meeting)	Presentation	02/07/2011
	Bradbury / Boulevard Heights Civic Association Meeting	John E. Howard Community Center 4400 Shell Street Capitol Heights, MD 20743 (meeting)	Board Meeting	06/06/2011

5.0 List of Acronyms and Terms

5.1 Acronyms

ACM	asbestos containing material
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNG	compressed natural gas
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
C-S-C	Commercial Shopping Center zone
CWA	Clean Water Act of 1977
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
dBA	Decibels, A-weighted Scale
DHHS	United States Department of Health and Human Services
DOC	diesel oxidation catalysts
DPF	diesel particulate filters
EA	environmental assessment
EB	eastbound
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
FCA	Forest Conservation Act
FCP	Forest Conservation Plan
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIDS	Forest Interior Dwelling Species
FIRM	Federal Insurance Rate Map
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FSD	Forest Stand Delineation
FTA	Federal Transit Administration
GIS	geographic information systems

I-1	Light Industrial zone
I-4	Limited Intensity Industrial zone
I-95	Interstate 95
I-495	Interstate 495
L _{dn}	24-hour day-night noise level
L _{eq}	constant noise level
L _{max}	maximum noise level during an event
LOS	level of service
LRR	Land Resource Regions
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDOT	Maryland Department of Transportation
MHT	Maryland Historic Trust
M-NCPPC	Maryland-National Capital Park and Planning Commission
MPO	Metropolitan Planning Organization
MPOT	Master Plan of Transportation
MRHP	Maryland Register of Historic Places
MWCOG	Metropolitan Washington Council of Governments
M-X-T	Mixed Use Transportation-Oriented zone
NAAQS	National Ambient Air Quality Standards
NB	northbound
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTCHS	National Technical Committee for Hydric Soils
NWI	National Wetlands Inventory
O ₃	ozone
OHWM	ordinary high water mark
Pb	lead
PEPCO	Potomac Electric Power Company
PFO	Palustrine Forested Wetlands
PM _{2.5}	Particulate Matter of 2.5 micrometers or less
PM ₁₀	Particulate Matter of 10 micrometers or less

RCRA-LQG	Resource Conservation and Recovery Act - Large Quantity Generator
REC	Recognized Environmental Condition
SAFETEA-LU	Safe, Accountable, Flexible and Efficient Transportation Act: A Legacy for Users
SB	southbound
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO _x	Sulfur Oxides
SSPRA	Sensitive Species Project Review Areas
SSURGO	Soil Survey Geographic Database
TAZ	Traffic Analysis Zone
TIP	Transportation Improvement Program
ULSD	ultra-low sulfur dioxide
UMTA	Urban Mass Transportation Act
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VFD	volunteer fire department
WB	westbound
WMATA	Washington Metropolitan Area Transit Authority
WOUS	Waters of the United States
WSSC	Wetland of Special State Concern

5.2 Glossary of Terms

100-year floodplain – The areas along or adjacent to a stream or body of water that are capable of storing or conveying floodwaters during a 100-year frequency storm event.

Area of Potential Effect (APE) – For purposes of complying with Section 106 of the NHPA, a geographic area or areas where an undertaking might directly or indirectly cause alterations in the character or use of historic properties, if any such properties are located in the area of the project.

Best Management Practices (BMPs) – Specific standards utilized during construction and design to minimize the impact on surrounding resources.

census tract – A small statistical subdivision of a county defined by a local committee of census data users for the purpose of presenting census information every ten years.

Clean Air Act Amendments of 1990 (CAAA) – Legislation requires states and the Federal government to reduce emissions from automobiles, trucks, buses, ships, barges, and consumer products, and to meet air quality standards. The legislation particularly addresses ozone, carbon monoxide (CO), and particulate

matter. The legislation defines how areas are designated “attainment” and allows the EPA to classify “non-attainment” areas as those that do not meet the federal air quality standards.

Coastal Zone Management Act of 1972 (CZMA) – Provides assistance to states, in cooperation with Federal and local agencies, for developing land and water use programs in coastal zones. Federal projects that affect land uses, water uses, or the coastal resources of a state’s coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state’s federally-approved coastal management plan.

coastal plain - An area of flat, low-lying land adjacent to a seacoast and separated from the interior by other features

Conformity – A designation given to transportation plans, programs, and projects that conform to federally mandated state air-quality plans.

Council on Environmental Quality (CEQ) – Established as part of the National Environmental Policy Act of 1969 (NEPA), the council coordinates federal environmental efforts, policies, and initiatives, and ensures that federal agencies meet NEPA requirements.

cumulative impact - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

decibel – A unit of measure of sound pressure used to describe the loudness of sound.

direct effect - Effect that occurs as a direct result of the project.

effect – Synonymous with impact, includes the result from actions that may have a beneficial or detrimental outcome.

endangered species – A species whose prospects for survival are in immediate danger based on a loss of habitat, over-exploitation, predation, competition, or disease. An endangered species requires immediate attention or extinction will likely follow.

Environmental Site Assessment (ESA) – Identifies potential or existing environmental contamination liabilities.

Federal Transit Administration (FTA) – The agency of the USDOT responsible for regulation and funding of public transportation.

Finding of No Significant Impact (FONSI) – Issued when the EA establishes that a project to have no significant impact on the environment.

Geographic Information Systems (GIS) – A system of computer software and hardware, data, and personnel to manipulate, analyze and present geographically referenced information or data that is identified according to their locations.

ground-borne vibration and noise – The vibration-induced levels that propagate over ground between the source and a receptor such as a building; typically assessed indoors.

habitat - The area or environment where an organism or ecological community normally lives or occurs.

Jurisdictional determination (JD) – The process of identifying jurisdictional Waters of the United States (including wetlands) regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

land use – Classification providing information on land cover and the types of human activity occurring on a parcel of land, such as “commercial,” “industrial,” “residential,” or “open space.”

level of service (LOS) – A letter grade designation used to describe given roadway conditions with “A” being at or close to free-flow conditions and “F” being at or close to over-saturation of the roadway; usually based on the progression of vehicles through the green phase of a signal, driver discomfort/frustration, lost travel time, and fuel consumption.

low-income – Any household with income at or below the U.S. Bureau of the Census poverty thresholds.

minority – According to the U.S. Census, is a member of the following races: (1) Black or African American, (2) American Indian or Alaska Native, (3) Asian, (4) Native Hawaiian or other Pacific Islander, (5) Hispanic or Latino Origin.

mitigation – Action to reduce or eliminate an impact.

mixed-use – Combination of land uses, such as residential uses combined with office, retail, public, entertainment, or even manufacturing uses.

National Environmental Policy Act of 1969 (NEPA) – Requires federal agencies to consider the environmental impacts of federal projects or decisions.

National Register of Historic Places (NRHP) – A federal list of buildings, sites, districts and other properties that have a historic significance.

No Build Alternative – A benchmark against which to compare other alternatives.

off-peak period – Used to describe times where travel is not at its peak, or highest level, during the day. Off-peak travel usually occurs in the midday and evenings in most cities.

Recognized Environmental Condition (REC) – The presence or likely presence of any hazardous substances or petroleum products on a property.

secondary impact – The effect of an action that takes place sometime after a primary event has occurred or at some distance.

Special Flood Hazard Areas (SFHAs) - Land areas that are at high risk for flooding; also are called floodplains. These areas are indicated on Flood Insurance Rate Maps (FIRMs).

State Historic Preservation Office (SHPO) – A state administrative agency responsible for carrying out consultation in accordance with the National Historic Preservation Act of 1966, as amended.

threatened species - A species that may become endangered if surrounding conditions begin or continue to deteriorate.

Traffic Analysis Zone (TAZ) – a geographic area delineated by state and/or local transportation officials for tabulating traffic-related data.

wetlands – Under the Clean Water Act, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

6.0 List of References

6.1 References

Data collection efforts were conducted from October 2010 through March 2011. References for data sources are listed below:

American Society for Testing Materials. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. ASTM E1527-05, ASTM International, West Conshohocken, PA.

Clean Air Act of 1963. 42 United States Code 7401.

Clean Water Act of 1977. 33 United States Code 1251 et seq.

Coastal Zone Management Act of 1972. 16 United States Code 1451-1456.

Council on Environmental Quality, 1970. *Regulations for Implementing NEPA*. 40 Code of Federal Regulations Parts 1500-1508.

Council on Environmental Quality, December 1997. *Environmental Justice: Guidance Under the National Environmental Policy Act*. Washington, DC: Executive Office of the President.
<http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf>.

Endangered Species Act of 1973. 16 United States Code 1531-1544.

Environmental Laboratory, 1987. *Corps of Engineers wetlands delineation manual*, Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
<http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf>.

Environmental Laboratory, 2008. *Interim regional supplement to the Corps of Engineers wetland delineation manual: Atlantic and Gulf Coastal Plain Region*, ERDC/EL TR-08-03. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
<http://el.erdc.usace.army.mil/elpubs/pdf/trel08-30.pdf>.

Executive Order 11988, 1977. *Floodplain Management*. 42 Federal Register 26951.

Executive Order 11990, 1977. *Protection of Wetlands*. 42 Federal Register 26961.

Executive Order 12898, 1994. *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. 59 Federal Register 7629.

Executive Order 13045, April 21, 1997. *Protection of Children from Environmental Health Risks and Safety Risk*. Federal Register, Vol. 62 No. 78.

Federal Emergency Management Agency, Sept. 2009. *Flood Insurance Rate Maps*.

Federal Highway Administration, 1970. *Uniform Relocation Assistance and Real Property Acquisition Act*. 49 Code of Federal Regulations Part 24.

Federal Highway Administration. *Location and Hydraulic Design of Encroachments on Floodplains*. Federal Aid Policy Guide 23 Code of Federal Regulations 650 A.

Federal Transit Administration, 1979. *Guidelines for Preparing Environmental Assessments*. UMTA 5620.1

Federal Transit Administration, 1987. *Environmental Impact and Related Procedures*. 23 Code of Federal Regulations Part 771.

Maryland Department of Natural Resources, Maryland Geological Survey, Accessed March 2011. *Physiographic Map of Maryland (Draft)*. <http://www.mgs.md.gov/coastal/maps/physio.html>.

Maryland-National Capital Park and Planning Commission, Accessed March 2011. *PG Atlas: Prince George's County GIS*. <http://www.pgatlas.com/pgatlas/Default.aspx>.

- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, October 2002. *Approved General Plan*.
http://www.pgplanning.org/Resources/Publications/General_Plan_Publication.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, Accessed March 2011. *Prince George's County Zoning Ordinance and Use Tables*.
http://www.pgplanning.org/Resources/Zoning_Information/Zoning_Ordinance_and_Use_Tables.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, February 2007. *Westphalia Preliminary Sector Plan and Proposed Sectional Map Amendment*.
http://www.pgplanning.org/Resources/Publications/Westphalia_Publication_2007.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, October 2008. *Countywide Master Plan of Transportation*.
<http://www.pgplanning.org/Assets/Planning/Transportation/Countywide+Master+Plan+of+Transportation.pdf>.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, June, 14 2005. *Countywide Green Infrastructure Plan*.
http://www.pgplanning.org/Resources/Publications/Green_Infrastructure_Publication.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, January 2009. *Adopted Marlboro Pike Master Plan and Endorsed Sectional Map Amendment*. http://www.pgplanning.org/Resources/Publications/Marlboro_Pike_Plan.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, August 2009. *Preliminary Subregion 4 Master Plan and Proposed Sectional Map Amendment*.
http://www.pgplanning.org/Resources/Publications/Preliminary_Subregion4_SMA.htm.
- Maryland-National Capital Park and Planning Commission, Prince George's County Planning Department, January 2009. *Preliminary Subregion 6 Master Plan and Proposed Sectional Map Amendment*.
http://www.pgplanning.org/Resources/Publications/Preliminary_Subregion_6_Master_Plan_and_Proposed_Sectional_Map_Amendment.htm.
- Metropolitan Washington Council of Governments, November 2009. *Round 7.2A Cooperative Forecasting: Employment Forecasts to 2040 by Traffic Analysis Zone*.
<http://www.mwcog.org/uploads/pub-documents/zlZXXw20091211140013.pdf>.
- Metropolitan Washington Council of Governments, November 2009. *Round 7.2A Cooperative Forecasting: Population and Household Forecasts to 2040 by Traffic Analysis Zone*.
<http://www.mwcog.org/uploads/pub-documents/zVZXXg20091211140123.pdf>.
- National Emission Standards for Hazardous Air Pollutants, 1991. 40 Code of Federal Regulations Part 61.145(a).
- National Environmental Policy Act of 1969. 42 United States Code 4332.
- National Park Service, Accessed March 2011. *Land and Water Conservation Fund Project List by County and Summary Reports*. <http://waso-lwcf.nrc.nps.gov/public/index.cfm>.
- Noise Control Act of 1972. Public Law 92-574.
- Nongame and Endangered Species Conservation Act. Title 8, Subtitle 3, Sec. 8-0308 et seq. Annotated Code of Maryland.
- Nontidal Wetlands Protection Act. Title 8, Subtitle 18, Sec. 8-1201 et seq. Annotated Code of Maryland.
- Nontidal Wetlands. Environment Article Title 5, Subtitle 5-901-11. Code of Maryland Regulations 26.23.
- North American Wetlands Conservation Act of 2010. 16 United States Code 4408.

- Section 10 of the Rivers and Harbors Act of 1899. 33 United States Code 403.
- Section 4(f) of the Department of Transportation Act of 1966. 23 United States Code 138 and 49 United States Code 303.
- Section 6(f) of the Land and Water Conservation Act of 1964. 16 United States Code 460.4-460.11.
- U.S. Army Corps of Engineers, 2005. *Regulatory guidance letter No. 05-05: Ordinary high water mark identification*. <http://usace.army.mil/CECW/Documents/cecwo/reg/rgls/rgl05-05.pdf>.
- U.S. Army Corps of Engineers, 2007. *U.S. Army Corps of Engineers jurisdictional determination form instructional guidebook*. http://www.usace.army.mil/CECW/Documents/cecwo/reg/cwa_guide/jd_guidebook_051207_final.pdf.
- U.S. Department of Agriculture, Natural Resources Conservation Service, 2006. *Field Indicators of Hydric Soils in the United States, Version 6.0*. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils. http://www.lrh.usace.army.mil/_kd/Items/actions.cfm?action=Show&item_id=14978&destination=ShowItem.
- U.S. Department of Agriculture Natural Resources Conservation Service, Accessed March 2010. *Soil Survey Geographic (SSURGO) Database*. <http://soils.usda.gov/survey/geography/ssurgo/>.
- U.S. Department of Health and Human Services, 2000. *The 2000 HHS Poverty Guidelines*. <http://aspe.hhs.gov/poverty/00poverty.htm>
- U.S. Department of Transportation, 1979. *Floodplain Management and Protection*. US DOT Order 5600.2.
- U.S. Department of Transportation, 1997. *Environmental Justice in Minority Populations and Low-Income Populations*. US DOT Order 561.2.
- U.S. Department of Transportation, Federal Transit Administration, Office of Planning and Environment, May 2006. *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06. Washington, DC.
- U.S. Environmental Protection Agency, 1993. *Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded, Developed or Approved under Title 23 U.S.C. or the Federal Transit Act*. 40 Code of Federal Regulations Parts 51 and 93.
- U.S. Environmental Protection Agency, March 2006. *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*. http://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance/pmhotspotguidatt.pdf.
- U.S. Fish & Wildlife Service, Accessed March 2011. *Endangered Species Program*. <http://www.fws.gov/endangered/>.
- U.S. Geological Survey, Accessed Sept.2010. *Maryland Seismic Hazard Map*. <http://earthquake.usgs.gov/earthquakes/states/maryland/hazards.php>.
- Washington Metropolitan Area Transit Authority, May 2008. *Manual of Design Criteria for Maintaining and Continued Operation of Facilities and Systems*.
- Washington Metropolitan Area Transit Authority, May 2009. *Replacement of the Southern Avenue Bus Garage*.
- Washington Metropolitan Area Transit Authority, July 22, 2010. *2010 Metrobus Fleet Management Plan*. http://www.wmata.com/pdfs/planning/2010_Bus_Fleet_Plan_07222010.pdf
- Wild and Scenic Rivers Act of 1968. 16 United States Code 1271-1287.

6.2 Data Resources

Planimetric Data*

The Maryland-National Capital Park and Planning Commission (M-NCPPC), *Data Transmittal Oct 2010*, website (www.mncppc.org)

**Planimetric Data includes all the base layers including and not limited to Roads, Parks, Aerials, Buildings, Parcels, Zoning, Community Facilities, Topography (Contours),*

WMATA Bus Maintenance Facilities

Washington Metropolitan Area Transit Authority (WMATA), July 22, 2010. *2010 Metrobus Fleet Management Plan*, website (http://www.wmata.com/pdfs/planning/2010_Bus_Fleet_Plan_07222010.pdf)

Build Alternative Sites and Proposed Concept Plans

Washington Metropolitan Area Transit Authority (WMATA), 2010

Demographics

2000 U.S. Census data and MWCOG's *Cooperative Forecasting Round 7.2A: Employment, Population and Household Forecasts by Traffic Analysis Zone (TAZ)*, published in November 2009

Air Quality Hot Spot Locations

U.S. Environmental Protection Agency AIRData, website (<http://www.epa.gov/air/data/geosel.html>)

Noise Monitoring Sites

AECOM, March 2011

Maryland Coastal Zone

The Maryland Department of Natural Resources (DNR), Accessed March 2011, *Maryland's Coastal Program*, website (http://dnr.maryland.gov/bay/czm/coastal_zone.html)

Streams and Hydrology

U.S. Geological Survey (USGS), accessed February 2011, *National Hydrography Dataset*, website (<http://nhd.usgs.gov/>)

Floodplains

Federal Emergency Management Agency (FEMA), accessed October 2010, *Digital Flood Insurance Rate Maps*, website (http://www.fema.gov/plan/prevent/fhm/dfm_dfhm.shtm)

Natural Resource Inventory Data*

Alternative A

Ben Dyer Associates, Inc. (BDAI), published December 2010, *Natural Resource Inventory –Andrews Federal Campus*, website (<http://www.bendyer.com>)

Alternative B

Loiederman Soltesz Associates, Inc. (LSA), published February 2011, *Natural Resource Inventory-Cambridge Place at Westphalia*, website (<http://www.lsassociates.net/>)

* *Natural Resource Inventory (NRI) is a planning process satisfying requirements of the Maryland Forest Conservation Act in Prince George's County, Maryland. NRI plans include site specific data on woodlands, streams, wetlands, floodplain studies, soils, sensitive species, topography, and other natural features.*

Wetlands

U.S. Fish and Wildlife Service (USFWS), accessed February 2011, *National Wetland Inventory*, website (<http://www.fws.gov/wetlands/Data/DataDownload.html>)

Prime Farmland

U.S. Department of Agriculture Natural Resources Conservation Service, Accessed March 2010. *Soil Survey Geographic (SSURGO Database)*, website(<http://soils.usda.gov/survey/geography/ssurgo/>)