

METROPOLITAN BRANCH TRAIL

DRAFT

Environmental Assessment

*Metropolitan Branch Trail
on National Park Service Land*

November 2010



U.S. Department of Transportation
Federal Highway
Administration

ENVIRONMENTAL ASSESSMENT

for

METROPOLITAN BRANCH TRAIL ON PARK SERVICE LAND

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by

U.S. Department of Transportation
Federal Highway Administration and
District Department of Transportation

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Gabe Klein, Director
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SUMMARY

This environmental assessment (EA), pursuant of the National Environmental Policy Act of 1969 (NEPA), evaluates a range of alternatives for siting sections of the Metropolitan Branch Trail (MBT) on National Park Service (NPS) land within the District of Columbia. This EA analyzed the potential impacts resulting from constructing and operating portions of the MBT on sections of land owned by the NPS within the area north of Fort Totten (Reservation 451 West), the area east of Fort Totten (Reservation 451 East), the Community Gardens (Reservation 497), and Tacoma Park (Reservation 531).

This EA was prepared by the U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) using their regulations (Environmental Impact and Related Procedures (23 CFR 771)) that govern the preparation of environmental documentation to support the NEPA process. FHWA's Environmental Impact and Related Procedures indicate under §§771.117 Categorical Exclusions that the construction of bicycle or pedestrian lanes, path, and facilities is an action that meets the criteria to be considered a categorical exclusion. A categorical exclusion is an action that does not involve significant environmental impacts to planned growth or land use; do not have significant impacts on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on traffic patterns; and do not have significant cumulative impacts (FHWA 1987). Therefore, an action delineated as a categorical exclusion does not require the preparation of an NEPA Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

With consideration for the area of interest – NPS lands, this EA was prepared to be consistent with NPS NEPA requirements. This included analysis of the context, duration, and intensity of impacts related to the sections of the MBT that utilize NPS land as required by *Director's Order 12: Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2001).

BACKGROUND

Culminating almost a decade of planning, research, and consensus building, the Washington Area Bicyclist Association (WABA) and the Coalition for the Metropolitan Branch Trail (CMBT) produced the *Metropolitan Branch Trail Concept Plan* in 1999. The plan, endorsed by public officials, business and property owners and trail enthusiasts, detailed a trail intended to provide the residents of Washington and their northern and eastern neighbors with an alternative to the driving between the many communities of the Northeast quadrant. The MBT's proposed alignment intersects with seven Metro Stations, making it an effective facility for connecting neighborhood residents to mass transit.

The MBT is a proposed 8-mile multi-use trail that runs from the Silver Spring Metro Station in Maryland to Union Station in the District of Columbia, generally following the path of the Metro's Red Line. The MBT will help to complete a regional network of trails by joining the Capital Crescent Trail in Silver Spring, the National Mall near Union Station and the proposed Fort Circle Parks trail. In addition, the proposed spur of the MBT at Fort Totten will form a link in the East Coast Greenway network of trails. The MBT is intended to link people to jobs, schools, commercial and recreation areas and various Metro stations. The MBT will consist of different trail types including shared roads, striped bicycle lanes, sidewalks shared with pedestrians and off-street shared use paths. When possible, the trail will be a 10-12 foot wide asphalt surface with a 2-foot wide shoulder on each side. This trail is much needed for transportation and recreation through many neighborhoods and industrial sections of the District.

Since the trail planning began in the 1990s, five segments have been completed in the District (1st Street NE; 2nd Street NE; New York Ave Metro Station; New York Ave to Franklin Street; and John McCormack Road), and the remaining segments are being planned by the District's Department of Transportation (DDOT) as outlined in the Concept Plan. The Prince George's County Connector on the Maryland side has also been completed.

PURPOSE AND NEED

The purpose of taking action is to connect the MBT system and provide a trail segment of the “Fort Circle Parks Trail System” proposed in the Fort Circle Parks Management Plan while ensuring the protection of natural and cultural resources. The trail segments proposed under this action would provide a venue for local and regional trail recreation to District residents and park visitors, encouraging planning and development of a continuous trail system for recreational uses.

The need for these trail segments proposed to cross NPS lands includes the need to provide:

- A component of the regional multi-use trail system in the D.C. region to use for transportation and recreation.
- Connection of the MBT between John McCormack Road and Kansas Avenue/Blair Road; and the MBT crossing at Piney Branch Road using the National Park Service segments.
- A component of the Fort Circle Parks Trail System.
- Improved bicycle and pedestrian Metro access to Fort Totten.
- Additional opportunities for cultural and historic and natural interpretation allowing additional visitor access.
- A connection to the East Coast Greenway from Prince George’s County, Maryland to the National Mall; a segment occurring on National Park Service lands connects the trail at Fort Totten Metro to the Prince George’s County Border.
- Educational and interpretation opportunities for the Fort Circle Park system.
- Opportunities for broader recreational user access to the Fort Circle Park system.

ALTERNATIVES CONSIDERED

This EA evaluated three areas where the MBT would be located on or adjacent to NPS land, which included Area A – South to North Alignments (area north of Fort Totten), Area B – Prince George’s County Spur (area east of Fort Totten), and Area C – Piney Branch Road (Takoma Park).

Elements common to all alternatives include:

- The trail would be 10-12 feet wide where possible if built as a separated side path. Signage and trail markings, lighting, and call boxes would also be provided as needed for each segment of trail on park property, coordinated with NPS to meet NPS standards. In general, to avoid impacts to wildlife on NPS property, lighting in or around natural areas would be avoided or minimized and directed downward. All requests to increase lighting on NPS land would need to be individually considered (area by area, trail segment by segment) for the overall impacts on park lands.
- Waysides with seating and shade are also proposed at appropriate locations, such as overlooking the Fort Totten Metro tunnel, at the DC/MD border in Takoma, to the east and west of the Community Gardens, and along the Spur.
- The DDOT assumes all maintenance responsibility and costs for trail segments on park lands.

- Education and interpretive measures would be implemented and could involve various efforts including directional signage to historic areas of interest along NPS lands.

The following provides a description of each proposed alternative for Area A, Area B, and Area C.

Area A has four alternative alignments that cross NPS Reservations 451 West and 497, including the area north of Fort Totten and the Community Gardens, respectively. Reservation 451 W includes NPS land located in the reservation west of the CSX and Metro rail tracks. In general, Area A alignments all begin at the Fort Totten Trash Transfer Station, proceed along the tracks to NPS lands, then around Fort Totten Metro Station, along 1st Place to the intersection of Riggs Road, where they cross at-grade, and up a widened sidewalk along Riggs Road beyond the retaining wall. They then differ by how they reach their end point at the intersection of Oglethorpe Street and Blair Road. The following is a brief description of the key elements for each Area A alignment alternative from Riggs Road north:

- **Alternative A1** proceeds from Riggs Road on the existing social path (NPS land) to Kennedy Street, on Kennedy and 1st Streets to Madison Street, on 1st Street or adjacent NPS land to New Hampshire Avenue, on McDonald Place to Blair Road, and on NPS land adjacent to Blair Road in the area of the Community Gardens to Oglethorpe Street.
- **Alternative A2** is identical to alternative A1 with the exception of the proposed trail section between Riggs Road and Madison Street. Instead of using the social path/Kennedy/1st Street route, alternative A2 would proceed to Madison and 1st Streets via the wooded NPS land paralleling the CSX tracks.
- **Alternative A3** differs from alternative A1 by proceeding down South Dakota Avenue (instead of McDonald Place) and on the service road through Community Gardens to Oglethorpe Street, then up to Blair Road on Oglethorpe Street.
- **Alternative A4**, like alternative A2, would proceed through the wooded area on NPS land adjacent to the CSX tracks to Madison and 1st Streets, then would proceed down South Dakota Avenue (instead of McDonald Place) and on the service road through Community Gardens to Oglethorpe Street, then up to Blair Road on Oglethorpe Street.

Area B includes two alternative alignments that cross NPS Reservation 451 East, which includes NPS land east of the CSX and Metro rail tracks. In general, Area B alignment alternatives begin at the Fort Totten Metro Station and proceed to South Dakota Avenue along an alignment that will be determined at a future date. They then proceed to Gallatin Street and along or on Gallatin Street to the DC/MD border near the intersection of Gallatin Street and 16th Street. They differ by their trail-type:

- **Alternative B1** proposes to construct a new 10-12 foot wide possible hard surface path on NPS land adjacent to Gallatin Street for approximately 0.8 miles to the Prince George's County Border.
- **Alternative B2** proposes to construct construct/stripe and follow on-road bike lanes along Gallatin Street to the Prince George's County Border.

Area C includes three alternative alignments that cross NPS Reservation 531. Reservation 531 exists at the intersection of Eastern Avenue and Piney Branch Road.

- **Alternative C1** proposes to follow Eastern Avenue past the Cady-Lee Mansion either on the sidewalk (on western side) or by on-street bike lanes and cross Piney Branch Road at-grade.

- **Alternative C2** would cross Piney Branch Road on a bridge to the west of the tracks (to be constructed) or descend to Piney Branch Road using a switchback alignment. Stairs on both sides of Piney Branch Road are also proposed. Depending on option selected, it would proceed along Piney Branch Road past the Cady-Lee Mansion by sidewalk on either the northern or southern sides of Piney Branch Road. The southern option would cross Piney Branch Road at Eastern Avenue.
- **Alternative C3** would follow a path on an elevated structure adjacent to the Metro tracks (but not attached) running behind cooperative apartments on Eastern Avenue and the Cady-Lee Mansion. The trail would pass between the Metro tracks and the Cady-Lee Mansion, crossing Piney Branch Road on a newly-constructed bridge.

Per NEPA requirements the no action alternative was also addressed in the EA. Under the no action alternative, no MBT alignments would be developed on any NPS lands. The no action alternative is the baseline alternative.

Several alternatives were considered but not carried forward for evaluation:

- An alternative would have utilized Fort Totten Drive. This alternative was not carried forward because it involved a gradient in excess of 11 percent along Fort Totten Drive, greatly exceeding ADA standards.
- Two south to north alternatives that included bisecting the Community Gardens with a new path (instead of an existing service path) were considered but not carried forward. The historical and ethnographic values as well as strong community support for keeping current plots intact at the Community Gardens were the reason.
- A bridge over Riggs Road was considered and not carried forward. Such a bridge, to obtain the necessary clearance, would use park land and disturb vegetation in its approaches and abutments. Given the direct at grade crossing available at the intersection of First Place with Riggs Road, these impacts were considered unnecessary.

Based on the impact analysis prepared by this EA, alternatives A1, B2, C1 and/or C2 are the environmentally preferred alternatives. These alternative alignments would best fulfill park responsibilities as trustee of this sensitive habitat; ensuring safety; healthful, productive, and aesthetically, and culturally pleasing surroundings; and attaining a wider range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

ENVIRONMENTAL CONSEQUENCES

Through the internal scoping process it was determined that the following resource areas would not be impacted by the proposed alternatives and were removed from consideration in the EA: Geohazards, Water Resources, Air Quality, Unique Ecosystems, Biosphere Reserves, World Heritage Sites, Sacred Sites/Native American Concerns, Environmental Justice, and Park Management and Operations. Impacts from construction and operating the MBT were analyzed for the following resource topics: Soils, Vegetation, Wildlife and Wildlife Habitat, Threatened, Endangered Species of Special Concern, Cultural and Historical Resources, Viewsheds, Land Use, and Visitor Use and Experience.

Impacts of the MBT alignment alternatives were assessed in accordance with four overarching environmental protection laws and policies that guided the DDOT in this action: NEPA, and its implementing regulations; the *USDOT FHWA Environmental Impact and Related Procedures*, the *National Parks Omnibus Management Act of 1998* (NPOMA) including the *Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making*; and the *NPS Organic Act*.

Using the above guidance, impacts to the identified resources were analyzed in terms of their context, duration, and intensity. Table A summarizes the results of the impact analysis.

TABLE A: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Topic	No Action Alternative	Area A Alternatives – South to North Alignments Through NPS Reservations 451 West and 497				Area B Alternatives – Prince George’s County Spur Through NPS Reservation 451 East		Area C Alternatives – Piney Branch Road in Takoma Through NPS Reservation 531		
		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Soils	<p>No impacts to soils are expected as a result of implementing the no action alternative.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to soils; impairment to soil resources would not be expected.</p>	<p>Negligible, adverse, short- and long-term impacts to soils are expected from trail construction.</p> <p>Erosion and sediment control Plans are particularly important around the Fort Totten Metro Green Line tunnel and the wooded area just to the north of the tunnel, where moderately steep slopes occur.</p> <p>Other development is on the other side of the tracks would not add cumulatively to these impacts.</p> <p>Impairment to soil resources would not occur.</p>	<p>Alternative A2 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>In addition to area around tunnel, erosion and sediment control is particularly important along the CSX tracks between Riggs Road and New Hampshire Ave.</p> <p>Impairment to soil resources would not occur.</p>	<p>Alternative A3 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>Impairment to soil resources would not occur</p>	<p>Alternative A4 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>In addition to area around tunnel, erosion and sediment control is particularly important along the CSX tracks between Riggs Road and New Hampshire Ave.</p> <p>Impairment to soil resources would not occur</p>	<p>Moderate long-term impacts to soils/park resources are expected from trail construction.</p> <p>In addition to area around tunnel, erosion and sediment control is particularly important along CSX tracks between Riggs Road and New Hampshire Ave.</p> <p>Impairment to soil resources would not occur.</p>	<p>The area of soil disturbed under alternative B2 would be less than under B1 because most consists of an on-road bike lane along Gallatin Street.</p> <p>Impacts/cumulative impacts would be negligible.</p> <p>Impairment to soil resources would not occur.</p>	<p>The trail is on-street; only a wayside would impact soils. These impacts to soils are negligible.</p> <p>No cumulative impacts to soils on NPS land would be expected under alternative C1.</p> <p>Impairment to soil resources would not occur.</p>	<p>Impacts/cumulative impacts on NPS lands, only from wayside construction, would be negligible.</p> <p>Impairment to soil resources would not occur.</p>	<p>Impacts/cumulative impacts to soils from a wayside and bridge construction would be negligible.</p> <p>Impairment to soil resources would not occur.</p>
Vegetation	<p>No impacts to vegetation are expected as a result of implementing the no action alternative.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to vegetation; impairment to vegetation would not be expected.</p>	<p>Minor, adverse, short- and long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., primarily grass and weeds along social path to Kennedy and along 1st St., and potentially some tree root impacts along Blair Rd.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment would not occur.</p>	<p>Moderate long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., some trees through woods along CSX tracks between Riggs Rd. and Madison St., grass to New Hampshire Ave., and potentially some tree root impacts along Blair Rd.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment to vegetation would not occur.</p>	<p>Minor, adverse, short- and long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., primarily grass and weeds along social path to Kennedy and along 1st St., and potentially some weeds along service road to Oglethorpe St.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment to vegetation would not occur.</p>	<p>Moderate long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., some trees through woods along CSX tracks between Riggs Rd. and Madison St., grass to New Hampshire Ave., and potentially some weeds along service road to Oglethorpe St.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment to vegetation would not occur.</p>	<p>Moderate adverse, short- and long-term impacts would be expected by the removal of lawn, tree, shrub and herbaceous species on off-road path along Gallatin St. and connector to PG County trail alignment through wooded area.</p> <p>Moderate long-term cumulative impacts are expected.</p> <p>Impairment to vegetation would not occur.</p>	<p>No impacts for on-road path along Gallatin St.; negligible impacts would be expected through wooded area near the DC/MD border.</p> <p>Cumulative impacts are negligible.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation, due to construction of a wayside, are negligible. Trail is on-street or sidewalk.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation on NPS lands due to construction of a wayside are negligible. Trail is on-street or sidewalk.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation due to construction of a wayside and a bridge are negligible.</p> <p>Impairment to vegetation would not occur.</p>
Wildlife and Wildlife Habitat	<p>No impacts would be expected. No disturbance of wildlife species or their habitat would occur.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to wildlife/habitat; impairment to wildlife/habitat would not be expected.</p>	<p>Negligible, adverse, short- and long-term impacts would be expected. Impacts to wildlife and wildlife habitat are negligible because the areas along and adjacent to the trail currently experience a high level of pedestrian use.</p> <p>Negligible, adverse, short-, and long-term cumulative impacts would be expected from other projects.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Minor, adverse, short- and long-term impacts would be expected to wildlife and wildlife habitat due to the proposed trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497), which cuts through a wooded area paralleling the CSX tracks.</p> <p>Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Alternative A3 impacts /cumulative impacts to wildlife/habitat are similar to Alt. A1 and expected to be negligible.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Alternative A4 impacts /cumulative impacts to wildlife/habitat are similar to Alt. A2 and expected to be minor, adverse, short- and long-term.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Overall, impacts are expected to be negligible because the trail follows an alignment currently experiencing high levels of pedestrian and vehicle use. A wooded area along this alignment would be most impacted.</p> <p>Cumulative impacts are also expected to be negligible for the same reason.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Impacts/cumulative impacts would be negligible and less than for Alt. B1 by staying on the road away from most of the wooded area.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>

Impact Topic	No Action Alternative	Area A Alternatives – South to North Alignments Through NPS Reservations 451 West and 497				Area B Alternatives – Prince George’s County Spur Through NPS Reservation 451 East		Area C Alternatives – Piney Branch Road in Takoma Through NPS Reservation 531		
		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Threatened, Endangered, or Species of Special Concern	There are no occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	Because of developed nature of area, no impacts/cumulative impacts are expected.	Because of developed nature of area, no impacts/cumulative impacts are expected.	Because of developed nature of area, no impacts/cumulative impacts are expected.
Cultural and Historic Resources	No cultural or historic resources would be impacted. Other foreseeable development would not be expected to have cumulative impacts on historical and cultural resources. Impairments to cultural and historic resources would not occur.	Trail would be distant from earthworks at Fort Totten and the disturbed nature of area makes cultural resources along the alignment unlikely. This alternative avoids the Community Gardens. Impacts/cumulative impacts to cultural and historic resources are therefore expected to be negligible. Impairments to cultural and historic resources would not be expected.	Alt. A2, like Alt. A1, is distant from earthworks and avoids the Community Gardens. Alignment parallel to CSX and Metro rail tracks passes through a less disturbed area, but previous disturbance of the landscape is likely to have destroyed or severely compromised the integrity of any historic or prehistoric deposits in this area. Impacts/cumulative impacts to cultural and historic resources are expected to be negligible. Impairments to cultural and historic resources would not be expected.	Alt. A3 impacts, similar to Alt. A1, would be negligible except for segment passing through the Community Gardens. For this segment, moderate short- and long-term adverse impacts would be expected due to the ethnographic (human culture) value of the Gardens. Other projects do not add cumulatively to the impacts of Alt. A3. Impairments to cultural and historic resources would not be expected.	Alt. A4, like Alt. A1, is distant from earthworks, and like Alt. A2, passes along CSX tracks; these segments would have negligible impacts. For segment traversing Community Gardens, moderate short- and long-term adverse impacts would be expected due to the ethnographic (human culture) value of the Gardens. Other projects do not add cumulatively to the impacts of Alt. A3. Impairment to cultural and historic resources would not be expected.	No short- or long-term adverse impacts to cultural and historic resources would occur; no sites within Alt. B1 study area are listed on the National Register of Historical Places and the NPS land is delineated as a connecting corridor management zone. There are no historic earthworks in this management zone. Other projects do not add cumulatively to the impacts of Alt. B1. Impairments to cultural and historic resources would not occur.	Alt. B2 impacts are the same as for Alt. B1.	Minor short- and long-term adverse impacts to cultural and historic resources (the Cady-Lee Mansion) would be expected from an expected increase in pedestrian traffic. Other projects do not add cumulatively to the impacts of Alt. C1. Impairments to cultural and historic resources would not occur.	Alt. C2 impacts are the same as for Alt. C1.	Moderate short- and long-term adverse impacts to cultural and historic resources would occur from introduction of traffic between Cady-Lee Mansion and tracks, and from construction of a bridge near the Mansion. Other projects do not add cumulatively to the impacts of Alt. C3. Impairments to cultural and historic resources would not occur.
Viewsheds	Impacts to viewsheds would not occur under the no action alternative. There would be no cumulative impacts to viewsheds under the no action alternative. Impairments to existing viewsheds would not occur.	Impacts would be negligible adverse and long-term. This area does not provide a high point for the views and vistas of the area. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system. Other projects do not add cumulatively to the impacts of Alt. A1. Impairments to existing viewsheds would not occur.	Alternative A2 impacts /cumulative impacts to viewsheds are similar to Alt. A1 and expected to be negligible. Other projects do not add cumulatively to the impacts of Alt. A2. Impairments to existing viewsheds would not occur.	Alternative A3 impacts /cumulative impacts to viewsheds are similar to Alt. A1 except in the area of the Community Gardens, where moderate, long-term adverse impacts would be expected. Within the Community Gardens, the MBT would introduce a new visual element to the historic garden plots. Other projects do not add cumulatively to the impacts of Alt. A3. Impairments to existing viewsheds would not occur.	Alternative A4 impacts /cumulative impacts to viewsheds are similar to Alt. A3; in the area of the Community Gardens, moderate, long-term adverse impacts would be expected. Within the Community Gardens, the MBT would introduce a new visual element to the historic garden plots. Other projects do not add cumulatively to the impacts of Alt. A4. Impairments to existing viewsheds would not occur.	Negligible long-term adverse impacts are expected, as the character of the viewshed would not be altered under this alternative. Other projects do not add cumulatively to the impacts of Alt. B1. Impairments to existing viewsheds would not occur.	Alt. B2 impacts are the same as for Alt. B1.	The MBT would either be on the existing roadway or sidewalk. Long-term minor impacts could occur if the trail is placed on the sidewalk and adjustments to the sidewalk are required. Other features (wayside, crossing improvements, lighting) would be in character with the viewshed. Cumulative impacts under other projects do not add cumulatively to the impacts of Alt. C1. Impairments to existing viewsheds would not occur.	A potential bridge on the other side of the tracks would have negligible viewshed impacts; impacts from the trail passing by on the sidewalk would also be negligible. Other features (wayside, crossing improvements, lighting) would be in character with the viewshed. Cumulative impacts under other projects do not add cumulatively to the impacts of Alt. C2. Impairments to existing viewsheds would not occur.	Moderate to major adverse long-term impacts to the viewshed of the Cady-Lee Mansion could occur from placement of the trail and a bridge in the vicinity of the Mansion, depending upon how well features could be made to blend with their surroundings. Other projects do not add cumulatively to the impacts of Alt. C3. Impairments to existing viewsheds would not occur.
Land Use	Under the no action alternative there would be no impacts or cumulative impacts. Impairments to existing land use would not occur.	Long-term adverse minor impacts would be expected in converting social path, sidewalks on McDonald Pl., and added Blair Road pedestrians. Converting Natural Zone area to path entails moderate adverse impacts. Improved access to Metro and adherence to the <i>Fort Circle Parks Management Plan</i> and <i>Comprehensive Plan for the National Capital</i> are minor to moderate beneficial impacts. Other projects would not add cumulatively to the land use impacts under Alt. A1.	Impacts/cumulative impacts under Alt. A2 are the same as under Alt. A1, with the exception that additional areas delineated as a Natural Zone (along CSX tracks) would incur moderate impacts in conversion to path.	Impacts/cumulative impacts under Alt. A3 are the same as under Alt. A1, with exception that minor adverse impacts could occur in converting service road through Community Gardens to path.	Impacts/cumulative impacts under Alt. A4 are the same as under Alt. A2, with exception that minor adverse impacts could occur in converting service road through Community Gardens to path.	Long-term moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Metro station, increased recreational opportunities, and adherence to the <i>Fort Circle Parks Management Plan</i> and the <i>Comprehensive Plan for the National Capital</i> with regards to the Fort Circle Parks Trail. Moderately beneficial cumulative impacts to individuals in new development would occur.	Impacts under Alt. B2 would be the same as under Alt. B1.	Long-term minor to moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of Takoma Park and the increase in recreational opportunities. Development of the MBT is supported by the Takoma Central District Plan. Other foreseeable development is consistent with the Takoma Central District Plan and would not add adverse cumulative impacts in conjunction with MBT.	Impacts under alternative C2 would be the same as those described under alternative C1 with the exception of the construction of a bridge to the west of the railroad tracks on Piney Branch Road. Short-term minor adverse impacts to local traffic and land use as the bridge is being constructed are expected. Cumulative impacts under alternative C2 would be the same as those under alternative C1.	Impacts under Alt. C3 would be the same as under Alt. C1 with the exception that the construction of an elevated structure adjacent to metro tracks behind cooperative apartments on Eastern Avenue and bridge by the Cady-Lee Mansion would cause short-term minor adverse impacts to local traffic and land use as the bridge is being constructed. Cumulative impacts under alternative C3 would be the same as those under alternative C1.

Impact Topic	No Action Alternative	Area A Alternatives – South to North Alignments Through NPS Reservations 451 West and 497				Area B Alternatives – Prince George’s County Spur Through NPS Reservation 451 East		Area C Alternatives – Piney Branch Road in Takoma Through NPS Reservation 531		
		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Visitor Use and Experience	Impacts under the no action alternative would be minor. The trail would not be constructed and additional recreational opportunities would not be provided. Visitor satisfaction would remain stable, but the added benefits of the trail would not be realized. Cumulative impacts under the no action alternative would be minor adverse. The MBT would not be constructed and would not link up to the Prince George’s County Trail in the vicinity of 16 th Street NE.	Short-term minor impacts caused by inconvenience to visitors during construction would be offset by moderate to major long-term beneficial impacts from enhancing access to NPS-owned lands and additional recreational opportunities. Cumulative long-term moderate to major beneficial impacts would occur in linking other planned trail networks and the remainder of MBT.	Impacts/cumulative impacts under alternative A2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative A3 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative A4 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative B1 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative B2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C1 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C3 would be the same as those described under alternative A1.

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PURPOSE OF AND NEED FOR ACTION

BACKGROUND

The Metropolitan Branch Trail (MBT) is a proposed 8-mile multi-use trail that runs from the Silver Spring Metro Station in Maryland to Union Station in the District of Columbia, generally following the path of the Metro's Red Line. The MBT will help to complete a regional network of trails by joining the Capital Crescent Trail in Silver Spring, the National Mall near Union Station and the proposed Fort Circle Parks trail. In addition, the proposed spur of the MBT at Fort Totten will form a link in the East Coast Greenway network of trails. The MBT is intended to link people to jobs, schools, commercial and recreation areas and various Metro stations. The MBT will consist of different trail types including shared roads, striped bicycle lanes, sidewalks shared with pedestrians and off-street shared use paths. When possible, the trail will be 10-12 foot wide asphalt surface with a 2-foot wide shoulder on each side. This trail is much needed for transportation and recreation through many neighborhoods and industrial sections of the District. Some sections of the alignment options are proposed for portions of National Park Service lands that are under the administrative authority of Rock Creek Park. Fort Circle Parks' land surrounding Fort Totten (Reservation 451), the Community Gardens (Reservation 497), and two smaller parcels of park service land in the Takoma Park (Reservation 531) area all occur along the proposed MBT network.

The U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) has regulations (Environmental Impact and Related Procedures (23 CFR 771)) that govern the preparation of environmental documentation to support the National Environmental Policy Act (NEPA) process. FHWA's Environmental Impact and Related Procedures indicate under §§771.117 Categorical Exclusions that the construction of bicycle or pedestrian lanes, path, and facilities is an action that meets the criteria to be considered a categorical exclusion. A categorical exclusion is an action that does not involve significant environmental impacts to planned growth or land use; do not have significant impacts on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on traffic patterns; and do not have significant cumulative impacts (FHWA 1987). Therefore, an action delineated as a categorical exclusion does not require the preparation of an NEPA Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

However, there are three sections of the proposed trail that bisect National Park Service lands. Thus, this EA was prepared to analyze the context, duration, and intensity of impacts related to the sections of the MBT that utilize National Park Service land as required by *Director's Order 12: Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2001).

HISTORY OF THE METROPOLITAN BRANCH TRAIL

The MBT is named after the "Metropolitan Branch," the first rail line built through the corridor by the Baltimore and Ohio (B&O) Railroad. The corridor is now home to Amtrak and Metro as well as freight lines. It is anchored by two significant railroad landmarks, Union Station and the old B & O Railroad Station in Silver Spring.

Culminating almost a decade of planning, research, and consensus building, the Washington Area Bicyclist Association (WABA) and the Coalition for the Metropolitan Branch Trail (CMBT) produced the *Metropolitan Branch Trail Concept Plan* in 1999. The plan, endorsed by public officials, business and property owners and trail enthusiasts, detailed a trail intended to provide the residents of Washington and their northern and eastern neighbors with an alternative to driving between the many communities of the Northeast quadrant. The MBT's proposed alignment intersects with seven Metro Stations, making it an effective facility for connecting neighborhood residents to mass transit.

A preliminary alignment and engineering study conducted by the District of Columbia found the MBT to be feasible and estimated initial construction costs for those segments in the District. Congresswoman Eleanor Holmes Norton led the efforts to obtain federal funding, \$8.5 million authorized by Congress, for the MBT's implementation. The District of Columbia's then Mayor Anthony Williams subsequently identified another \$7.5 million in funds that could be dedicated for the MBT.

Since the trail planning began in the 1990s, five segments have been completed in the District (1st Street NE; 2nd Street NE; New York Ave Metro Station; New York Ave to Franklin Street; and John McCormack Road) and the remaining segments are being planned by the District's Department of Transportation (DDOT) as set out in the Concept Plan. The Prince George's County Connector on the Maryland side has also been completed.

TRAIL LOCATION

The MBT will be an important transportation route providing direct access from Northeast D.C. neighborhoods to the heart of Washington and seven of Metro's Red Line stations. The MBT will generally follow Metro's Red Line and the CSX railroad right-of-way to join the Capital Crescent Trail in Silver Spring and to the National Mall near Union Station. A 1.1-mile segment extending from Fort Totten to the Prince George's County boundary will connect to a segment from the West Hyattsville Metro Station, thus connecting the MBT to Maryland's Anacostia Tributaries Trail System. Through the MBT, neighborhoods such as Takoma D.C., Lamond-Riggs, Brookland, and Eckington will connect to the regional trail network, including the National Mall trails, the Capital Crescent Trail, Rock Creek Park Trail, the Sligo Creek and Northwest Branch Trails in Prince George's County, and the East Coast Greenway, which runs from Maine to Florida (see Maps 1 and 2, MBT South and North Location Maps).

The Silver Spring portion of the trail extends into Montgomery County, Maryland and the connector segment at Fort Totten extends into Prince George's County, Maryland. The DDOT Concept Plan, however, only includes the 7-mile portion of the trail within the boundaries of the District of Columbia.

TRAIL SEGMENTS

The MBT can be identified by the segments presented in Table 1. Segments identified as 6, 7 and 8 encounter National Park Service land along their proposed alternative routes. Alternatives along Segments 6 and 7 run into sections of National Park Service land surrounding Fort Totten and the Community Gardens. Under Segment 8, proposed MBT alignments intersect National Park Service land near the intersection of Eastern Avenue and Piney Branch Road in Tacoma Park.

TABLE 1: MBT TRAIL SEGMENTS

Segment	Description
National Mall	Constitution Ave/U.S. Capitol Grounds to Union Station/Columbus Circle
1a	Union Station along 1st Street, NE to New York Avenue Metro Station
1b	Union Station along 2 nd Street, NE to New York Avenue Metro Station
2	New York Avenue Metro Station
3	New York Avenue to Franklin Street
4	8th Street, NE to Catholic University/Brookland Metro Station
5	Catholic University/Brookland Metro Station along John McCormack Rd to Bates Road
6	Bates Rd to Ft Totten to Kansas Ave./Blair Rd. intersection
7	Spur from Fort Totten Metro Station to DC/MD Border, paralleling Gallatin Street
8	Kansas Ave./Blair Rd. Intersection to DC/MD Border, generally paralleling Metro's Red Line

MAP 1: MBT SOUTH LOCATION MAP



MAP 2: MBT NORTH LOCATION MAP



TRAIL FUNDING AND CONSTRUCTION

Portions of the trail will be funded by Federal-aid transportation funds from the USDOT Federal Highway Administration and matching funds from the District of Columbia. DDOT is managing most of the design and construction for the District segments, while the Washington Metropolitan Area Transit Authority constructed the New York Avenue Metro Station segment. In Maryland, the City of Takoma Park constructed the first trail segment in Maryland in summer 2003. The Maryland National Capital Park and Planning Commission (M-NCPPC) has completed the Prince George's County Connector in Maryland. The Montgomery County Department of Transportation and Prince George's County M-NCPPC are managing additional design and construction in their respective jurisdictions.

TRAIL PARTNERS

DDOT is partnering with numerous governments, non-profit organizations, the public, and other stakeholders to develop the trail into the showcase trail it should be. Current partners include:

- Federal Highway Administration
- National Park Service, Rock Creek Park
- National Park Service's Rivers, Trails and Conservation Assistance Program
- D.C. Commission on the Arts and Humanities
- Washington Area Bicyclist Association
- Rails-to-Trails Conservancy
- Maryland National Capital Park and Planning Commission
- Coalition for the Capital Crescent Trail
- Washington Metropolitan Area Transit Authority

HISTORY OF THE METROPOLITAN BRANCH TRAIL AND ROCK CREEK PARK

DDOT began developing the concept plan and EA in Fall 2003.

The planning process included:

- Concept Plan that included trail design concepts and trail alignment
- Environmental Assessment to determine impacts to natural and cultural resources on National Park Service lands
- Concepts for major structures, lighting, and roadway crossings
- Landscape concepts
- Public Art Plan
- Public outreach to involve stakeholders in the planning process

It is estimated that approximately one-third of the MBT is proposed to cross properties owned by governmental (District and NPS) or quasi-governmental (WMATA) entities. The National Park Service administers Fort Totten (north and south of Riggs Road) as well as scattered federal reservations adjacent to streets along the proposed MBT route. NPS has authority to dedicate a portion of its park premises for trail purposes. In addition, NPS has the authority to enter agreements with other parties regarding all aspects of design, construction, and maintenance, subject to design approval from the D.C. State Historic Preservation Officer, Commission of Fine Arts, and the National Capital Planning Commission. NPS has indicated that it would not be willing to entertain sale or transfer of property interests for the MBT, preferring instead to maintain ownership and control subject to agreements regarding design, construction, and potentially, ongoing use, maintenance and security (Stanmore Associates, 2001).

National Park System units are established by Congress to fulfill specified purposes. A park's purpose, as established by Congress, is the fundamental building block for its decisions to conserve resources while providing for the "enjoyment of future generations." Rock Creek Park is a 3,200 acre park, extending from the Washington, D.C. and Maryland border to the Potomac River. Rock Creek Park, as an administrative unit of the National Park System, is composed of 99 separate areas, known as reservations, located in the northern part of Washington, D.C. (NPS 2002). The park legislation and planning documents vary for each unit of the park. The following provides the enabling legislation for the two units managed by Rock Creek Park that are applicable to the action — Rock Creek Park (Reservation 339) and the Fort Circle Parks, as it applies to Fort Totten.

PURPOSE AND SIGNIFICANCE OF ROCK CREEK PARK AND THE FORT CIRCLE PARKS

ROCK CREEK PARK

As an administrative unit of the National Park System, Rock Creek Park is composed of 99 separate areas, known as reservations, located in Washington, D.C. The park system extends from the Maryland border to the Potomac River through the northwest section of Washington. The largest of the 99 reservations, Rock Creek Park (Reservation 339), was established by Congress on September 27, 1890, and consists of 1,754 acres of Rock Creek and the surrounding valley from the Maryland State line south to the National Zoo. Beyond Reservation 339, Rock Creek administers areas such as the Rock Creek and Potomac Parkway (Reservation 360), Fort Totten (Reservation 544). Rock Creek Park, National Capital Parks – East, and George Washington Memorial Parkway contain Civil War earth works, and these areas are collectively referred to as the Fort Circle Parks (NPS 2003a). The total acreage managed under the administrative heading of Rock Creek Park is 3,175 acres throughout Washington D.C., including about half of the civil war forts that circle the city. About half of these forts are within Rock Creek Park's administrative jurisdiction though some are in other National Park Service areas.

Congress established Rock Creek Park as a unique natural park containing significant historic and archeological resources, and providing a great variety of recreational opportunities for visitors and residents of the Washington, D.C. metropolitan area (Pub. L. 51-297, 26 Stat. 482). As its enabling legislation states, Rock Creek Park was "perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States."

Purpose — The 1890 enabling legislation for Rock Creek Park states that:

- The area is to be "perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States."
- The park is to "provide for the preservation from injury or spoliation of timber, animals, or curiosities within said park, and their retention in their natural condition, as nearly as possible."

- Park managers are directed to provide for public recreation, specifically to “layout and prepare roadways and bridle paths, to be used for driving and for horseback riding, respectively, and footways for pedestrians.”

The legislation also states that Rock Creek Park exists to:

- Preserve and perpetuate for this and future generations the ecological resources of the Rock Creek valley within the park in as natural a condition as possible, the archeological and historic resources in the park, and the scenic beauty of the park.
- Provide opportunities for the public to experience, understand, and appreciate the park in a manner appropriate to the preservation of its natural and cultural resources.
- Provide opportunities for recreation appropriate to the park’s natural and cultural resources.

The purpose of the tributary parks adjacent to Rock Creek Park proper is to (NPS 2002):

- Preserve the flow of water in Rock Creek.
- Prevent the pollution of Rock Creek and the Potomac River.
- Preserve forests and natural scenery in and around Washington, D.C.

Significance — Park significance statements capture the essence of the park’s importance to the nation’s natural and cultural heritage. Understanding park significance helps managers make decisions that preserve the resources and values necessary to the park’s purpose. The following significance statements recognize the important features of the park.

- Rock Creek Park is one of the oldest and largest naturally managed urban parks in the United States.
- The park contains approximately 2,100 acres of valuable plant and wildlife habitat, providing protection for a variety of native species within a heavily urbanized area.
- Rock Creek Park encompasses a rugged stream valley of exceptional scenic beauty with forested, natural landscapes and intimate natural details, in contrast to the surrounding cityscape of Washington, D.C.
- Rock Creek Park’s forests and open spaces help define the character of the nation’s capital.
- Rock Creek valley was important in the early history of the region and in the development of the nation’s capital and the park’s cultural resources are among the few tangible remains of the area’s past.
- Rock Creek Park is an oasis for urban dwellers, offering respite from the bustle of the city.
- Rock Creek Park is a historic designed landscape incorporating early 20th century picturesque and rustic features designed to enhance the visitors’ experience of the naturalistic park scenery.
- Located in the heart of a densely populated cosmopolitan area, Rock Creek Park serves as an ambassador for the national park idea, providing outstanding opportunities for education, interpretation, and recreation to foster stewardship of natural and cultural resources.

FORT CIRCLE PARKS

The Fort Circle Parks, administered by Rock Creek Park, are defined as Battery Kemble, Fort Bayard, Fort Reno, Fort DeRussy, Fort Stevens, Fort Slocum, Fort Totten, and Fort Bunker Hill, as stated in the *Fort Circle Parks Management Plan/Environmental Assessment* (NPS 2003b).

Establishment – The monies used by the NPS to acquire the Fort Circle Parks were appropriated by the Capper-Cramton Act of 1930. This act appropriated funds for the further acquisition of “...such lands in the District of Columbia as are necessary and desirable for the suitable development of the National Capital Park, parkway, and playground system...”

Purpose —The *Fort Circle Parks Management Plan/Environmental Assessment* states that the purpose of the Fort Circle Parks is (NPS 2003b):

- To preserve and interpret historical resources related to the Civil War defenses of Washington.
- To conserve this linkage or urban green spaces that contributes to the natural character and scenic values of the nation’s capital.
- To provide recreational opportunities compatible with historic and natural resource values.
- To protect the forests and natural scenery and to prevent the pollution of park waterways.

Significance — The *Fort Circle Parks Management Plan/Environmental Assessment* states that the significance of the Fort Circle Parks is (NPS 2003b):

- The park sites contain remains of the defense sites (e.g. forts, batteries, rifle trenches) that effectively deterred the invasion of the nation’s capital during the Civil War.
- The Fort Circle Parks include the remains of forts that were engaged in the Battle of Fort Stevens in July 1864 – the only Civil War battle in the District of Columbia and the only time a sitting U.S. president has come under enemy fire in warfare.
- The pattern (greenbelt) of public space of Fort Circle Parks represents an element of one of the earliest urban planning efforts for public recreation in the United States (as first suggested in the 1902 *Improvement of the Park System of the District of Columbia* and the 1926-1927 *National Capital Planning Commission Plan*). Today it enhances the aesthetics of the capital city and the quality of life for its citizens.

The Fort Circle Parks preserve significant natural features, including substantial acreage of mature native hardwood forests, geologic and aquatic resources, and a diversity of important habitat for indigenous flora and fauna that are unusual in an urban setting and that contribute to the uniqueness of the nation’s capital.

PURPOSE AND NEED

PURPOSE OF ACTION

The purpose of taking action is to connect the MBT system and provide a trail segment of the “Fort Circle Parks Trail System” proposed in the Fort Circle Parks Management Plan and Environmental Assessment, while ensuring the protection of natural and cultural resources. The trail segments proposed under this action would provide a venue for local and regional trail recreation to District residents and park visitors, encouraging planning and development of a continuous trail system for recreational uses.

NEED FOR ACTION

The need for these trail segments proposed to cross National Park Service lands includes the need to provide:

- A component of the regional multi-use trail system in the D.C. region to use for transportation and recreation.
- Connection of the MBT between John McCormack Road and Kansas Avenue/Blair Road; and the MBT crossing at Piney Branch Road using the National Park Service segments.
- A component of the Fort Circle Parks Trail System.
- Improved bicycle and pedestrian Metro access to Fort Totten.
- Additional opportunities for cultural and historic and natural interpretation allowing additional visitor access.
- A connection to the East Coast Greenway from Prince George's County, Maryland to the National Mall; a segment occurring on National Park Service lands connects the trail at Fort Totten Metro to Prince George's County Border.
- Educational and interpretation opportunities for Fort Circle Park system.
- Opportunities for broader recreational user access to the Fort Circle Park system.

SCOPE OF ANALYSIS

This environmental assessment will analyze the potential impacts resulting from constructing portions of the MBT on sections of land owned by the National Park Service within the area of Fort Totten, the Community Gardens, and Tacoma Park. The MBT is a proposed 8-mile multi-use trail that runs from the Silver Spring Metro Station in Maryland to the National Mall in the District of Columbia. The trail will follow the Metro's Red Line and the CSX railroad right-of-way. The MBT will help to complete a regional network of trails by joining the Capital Crescent Trail in Silver Spring and the National Mall near Union Station. There will be a 1.1 mile spur at Fort Totten that will connect the MBT to Maryland's Anacostia Tributaries Trail System at the Prince George's County border.

OBJECTIVES IN TAKING ACTION

Objectives are "what must be achieved to a large degree for the action to be considered a success" (Director's Order 12). All alternatives selected for detailed analysis must meet all objectives to a large degree, and resolve purpose and need for action. Objectives for the MBT trail segments occurring on National Park Service lands must be grounded in the park's enabling legislation, purpose, significance, and mission goals and be compatible with direction and guidance provided by the general management plan and/or other management guidance. The following are the objectives related to the design, construction, operation, and management of the proposed MBT trail segments. These objectives were partially derived during the internal scoping meeting and have been further developed by the contractor.

Flora and Fauna

- Ensure that actions related to the construction, operation, and management of a multi-use trail system through NPS lands does not impact park wildlife or wildlife habitat directly or indirectly.

- Protect native vegetation and avoid introduction or increase in any non native/invasive species from activities related to the construction and management of a multi-use trail system through park units.
- Avoid habitat fragmentation as a result of the construction, operation, or maintenance of a multi-use trail system through park units.
- Protect and sustain federal and District-listed threatened or endangered species and their habitats as well as potential habitats, including identified sensitive species in the park from activities related to the construction, operation, and maintenance of a multi-use trail system through NPS lands.

Cultural Resources

- Ensure qualities of historic properties, such as the earth works in Fort Totten and the integrity of the Community Gardens, are protected during the construction, operation, and maintenance of a multi-use trail system.
- Ensure that actions related to the permitting, construction, operation, and maintenance of a multi-use trail system can be classified as having no adverse effect on the cultural resources of the park units as defined in the National Historic Preservation Act.
- Ensure that a multi-use trail is permitted in a manner that protects archeological sites in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.

Viewsheds

- Retain significant cultural and natural characteristics in viewsheds through landscaping and careful design of MBT features.
- Ensure the integrity of cultural and natural viewsheds within and around all Rock Creek Park units by avoiding the introduction of intrusive elements that might otherwise result from the permitting, construction, operation, or maintenance of the MBT.

Visitor Use and Experience

- Protect existing and future recreational opportunities at Fort Totten.
- Provide visitors the opportunity to interact with the Fort Circle Parks' cultural resources in ways that do not damage or derogate those resources.
- Provide safe, satisfying experiences to park visitors.

Park Management and Operations

- Ensure that individually or cumulatively the construction, operation, or maintenance of a multi-use trail system does not intrude on management's ability to protect park resources or disrupt park operations.

PUBLIC INVOLVEMENT

Three public meetings have been held to present trail alternatives to the public and to obtain community feedback. Meetings were held in June 2004 for trail sections in the Brookland area, Rhode Island Metro Station area, and the Fort Totten area. The meeting held for the Fort Totten area included public scoping for the environmental assessment process. Future efforts will include dissemination of information through the project website (www.metbranchtrail.com).

ISSUES AND IMPACT TOPICS

Issues associated with the construction, operation, and maintenance of the MBT on National Park Service lands were identified by park staff during the internal scoping meeting at Rock Creek Park held on April 18, 2004 and the Environmental Screening Form (ESF).

SOILS

Impact Topic: Impact of MBT construction activities on soils

Issue: Construction and maintenance activities have the potential to create soil erosion and compaction that would in turn have an adverse impact on surrounding habitats.

Impact Topic: Impact of MBT use on soils

Issue: Trail use activities have the potential to create soil erosion and compaction that would in turn have an adverse impact on surrounding habitats if users left the designated trail, creating more informal social paths.

FLORA AND FAUNA

Impact Topic: Impact of MBT use on vegetation and habitat

Issue: Trail use activities have the potential to disturb vegetation if off-trail use became prevalent.

Impact Topic: Impact of MBT use on wildlife

Issue: Potential increase in human activity in certain areas may disturb wildlife.

Impact topic: Permanent loss of trees and other vegetation and wildlife habitat due to trail corridor and construction corridor widths

Issue: Certain trail segments could cause the permanent loss of trees and other vegetation and wildlife habitat, specifically under Alternatives A2 and A4. These are considered impacts that cannot be mitigated.

Impact topic: Introduction of exotic/invasive species due to the construction, operation, and maintenance of MBT segments

Issue: The construction, operation, and maintenance of a multi-use trail system at the edge of existing habitats creates an environment that promotes the introduction and increase of exotic and invasive species.

Results of Discussion with Park: Activities that disturb or create new edge habitat should be avoided as to prevent the increase and/or introduction of exotic and invasive species.

CULTURAL AND HISTORIC RESOURCES

Impact topic: Impact to Earth Works

Issue: Cyclists and other trail users may increase foot or bike traffic on the earth works in the Fort Circle Parks.

Results of Discussion with Park: The Fort Circle General Management Plan recommends the development of a recreation trail in the park to facilitate visitor usage. Clear wayfinding signage would direct MBT trail users to appropriate trail use to avoid damaging the earth works. Other restrictions, such as limited bicycle access to earthworks should also be considered.

Impact topic: Impact to Community Gardens

Issue: Cyclists and other trail users may increase foot or bike traffic in off trail sections of the Community Gardens. Additionally, the trail itself through the gardens could possibly impact the ethnographic value of the community gardens.

Results of Discussion with Park: An alternative alignment that would have created a new pathway to bisect the Community Gardens was determined to be an alternative considered but not carried forward. The EA must address impacts of a trail on the existing service roads to the existing plots and the historical significance of Community Gardens.

LAND USE

Impact Topic: Impact of MBT on land within Park and future land use plans.

Issue: The MBT needs to be consistent with the Fort Circle Management Plan and the Rock Creek General Management Plan for land use and development of trails.

Results of Discussion with Park: The trail should at all times avoid potentially environmentally sensitive areas. In addition, the trail alignment should not alter the plots in the Community Gardens.

Impact topic: Trail use on park lands after dark

Issue: Generally, NPS does not encourage park use after dark. It is likely that users of MBT will be on the trail after dark for commuting purposes and it would be difficult to close NPS segments of the trail.

Results of Discussion with Park: Lighting and police call boxes would be the most likely improvements to address safety issues; although, there is a clear understanding that adding lights or call boxes will not ensure the complete safety of trail users.

VIEWSHEDS

Impact Topic: Impact of MBT on viewsheds within and around Park units

Issue: The MBT alignments and appearance must take into account the setting of significant cultural and natural features, insuring their integrity is retained.

Results of Discussion with Park: Signage, landscaping, and design of trail elements will be coordinated with the Park to be consistent with NPS requirements and to avoid detracting from significant cultural or natural features.

VISITOR USE AND EXPERIENCE

Impact topic: Impact of the trail on the visitor experience in the park

Issue: How can the trail be used to support the visitor experience in the Fort Circle Parks?

Results of Discussion with Park: The MBT trail could increase the number of visitors to the Fort Circle Parks as well as enhance the visitor experience with signage or other interpretive materials. One of the main elements of the Fort Circle Parks Draft Management Plan is a trail linking the various sites and connecting green corridors. The MBT could help to meet those goals in the plan.

ISSUES ELIMINATED FROM FURTHER CONSIDERATION

The following impact topic and/or issue should be removed from consideration:

- *Geohazards:* There are no known geohazards within the applicable park units that would be affected by the construction of a recreational multi-use trail or that would affect the siting of such a trail.
- *Water Resources:* The construction, operation, and maintenance of the proposed MBT segments would not affect water resources due to the location of the activities. No impacts would be expected to water quality or quantity, streamflow characteristics, and/or fish and fish habitat.
- *Air Quality:* There are no known air quality issues associated with the operation and maintenance of the MBT. Temporary increases in air pollution and noise would occur during the construction of the trail; however, impacts to the human environment would be considered negligible to minor and only temporary with no lasting effects. It is assumed that the development of a multi-use trail system will actually benefit air quality in the region, reducing automobile densities due to commuting.
- *Unique Ecosystems, Biosphere Reserves, World Heritage Sites:* There are no known biosphere reserves, World Heritage sites, or unique ecosystems listed in the park that would be affected by any of the proposed alignments.
- *Sacred Sites/Native American Concerns:* There are no sacred sites/Native American concerns within the vicinity of proposed trail segments.
- *Environmental Justice:* On 11 February 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This order directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement of any adverse effects from federal policies and actions on these populations. Local residents may include low-income populations; however these populations would not be particularly or disproportionately affected by the construction, operation, and maintenance of a multi-use trail system.
- *Park Management and Operations:* The MBT is not expected to require Park resources regarding the maintenance of the trail. Maintenance of trail including trash removal and surface repair would be a financial and time burden on park maintenance staff. The current District Department of Transportation position is that all maintenance issues relating to MBT on segments of NPS property would be the financial and time responsibility of the District of Columbia.

RELATIONSHIP TO OTHER PLANS, POLICIES, AND ACTIONS

To determine the potential cumulative effects of implementing the proposed action, other plans, policies, and actions must be considered. The following plans, policies, and actions will be considered.

In the vicinity of the Fort Totten Metro Station Cafriz developers intends to construct a project within the next 2-3 years. The project is bounded by South Dakota Ave, Galloway St, Hamilton St, and 4th St. The project is a mixed use development that will include low-income housing, a day care center, senior housing, retail space, and a community space with 529 residential units; 52,000 s.f. of retail; a 7,200 s.f. daycare facility; a 19,000 s.f. flex use space (community space included); and 681 parking spaces.

Another foreseeable project is at the Takoma Metro Station, where Eakin Youngentob (EYA) has proposed an 80 unit residential development with structured parking and a 1-acre greenspace.

ROCK CREEK PARK AND ADMINISTERED UNITS PLANNING DOCUMENTS

Fort Circle Parks Management Plan/Environmental Assessment (2003)

The Fort Circle Parks are a collection of historic Civil War resources and the remnants of what was originally envisioned as a parkway with a historical focus, but never completed. Rock Creek Park administers Battery Kemble, Fort Bayard, Fort Reno, Fort DeRussy, Fort Stevens, Fort Slocum, Fort Totten, and Fort Bunker Hill. The draft management plan provides a unifying management concept for significant historic resources associated with the Civil War defense of Washington that would allow these resources to be preserved for future generations, and interpreted in a coherent, easily understandable manner. This plan sets forth a series of desired visitor experience and resource condition statements to guide the management of these units for the next 10 to 15 years. The preferred alternative derived in the plan contains both recreational and cultural resource preservation components, which would include a new trail, linking most of the Fort sites and the connecting green corridor of the Fort Circle Park system. This would require (NPS 2003b):

. . . a separate planning effort in consultation with the District of Columbia and other governmental and private organizations to develop a route. . . Existing trail segments would be used, as would city sidewalks, with some minor construction within the Fort Circle Park to connect existing trail segments. Appropriate signs would be placed along the greenbelt corridor, connecting most of the Fort sites. . . Where possible, this new trail would also include bicycle access as long as cultural and natural resources are sufficiently protected.

Strategic Plan for Rock Creek National Park

The *Strategic Plan* for Rock Creek National Park contains a mission statement, mission goals, and long-term goals – generally five years in length – as well as information on how the long-term goals will be accomplished. The *Strategic Plan* was first submitted on September 30, 1997. On January 15, 2000, the service-wide *Strategic Plan* was revised and published electronically. This plan complements and tiers with the National Park Service *Strategic Plan* and displays how Rock Creek Park addresses service-wide mission and goals as well as the specific mission and long-term goals of the park.

Natural Resources Management Plan Rock Creek Park

The Natural Resources Management Plan for Rock Creek Park provides specific management objectives for Rock Creek Park based on the park's Statement for Management. Resource related management objectives as determined by the Natural Resources Management Plan include that the park:

- Work cooperatively with other Federal agencies, agencies in Maryland and the District of Columbia, private organizations, and members of the public in developing programs to reduce flooding and pollution in the Rock Creek watershed, to prevent or repair damage to park resources caused by human activities.

- Improve the quality of the visitors experience by reducing excessive automobile (commuter) traffic on roads within Rock Creek Park and better protect the natural resources.
- Seek information, through research or other means, on the natural processes of the park's natural areas in order to perpetuate park resources and to enhance opportunities for resource-compatible public use and enjoyment.
- Preserve and perpetuate the park's plant and wildlife resources in as natural a condition as possible, and to reduce the adverse effects of human activities and exotic species on the natural environment.
- Identify, protect, and perpetuate the park's historic resources, including its mills, Civil War fortifications, and archeological sites.
- Monitor and evaluate current recreational uses of the park lands and to redirect these activities in order to reduce adverse impacts.
- Foster understanding and appreciation of the park's natural and cultural values through interpretive and educational programs focusing on Rock Creek's biological, geological, historic, and prehistoric resources.
- Provide for public use and enjoyment of the park through the provisions of varied facilities, services, and programs that are compatible with perpetuating the park's natural and cultural values.
- Establish contract and cooperation with citizens' associations, governmental agencies, and other groups or individuals that surround and have direct effects on or interests in the welfare of the parks.

The Natural Resources Management Plan is a strategic planning document and a key element in good management and resource preservation. These management objectives are addressed in a series of project statements which consider natural and cultural resource problems, activities, or issues.

NPS ORGANIC ACT AND MANAGEMENT POLICIES

By enacting the National Park Service Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units "to conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations" (16 U.S.C. §§ 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no "derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (16 U.S.C. §§ 1a-1).

Despite these mandates, the Organic Act and its amendments afford the National Park Service latitude when making resource decisions that balance visitor recreation and resource preservation. By these acts Congress "empowered [the National Park Service] with the authority to determine what uses of park resources are proper and what proportion of the parks resources are available for each use" (*Bicycle Trails Council of Marin v. Babbitt*, 82 F.3d 1445, 1453 (9th Cir. 1996)).

Because conservation remains predominant, the National Park Service seeks to avoid or to minimize adverse impacts on park resources and values. Yet, the National Park Service has discretion to allow negative impacts when necessary (Management Policies 2001, sec. 1.4.3); however, while some actions

and activities cause impacts, the National Park Service cannot allow an adverse impact that constitutes resource impairment (Management Policies 2001, sec. 1.4.3). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts (16 USC 1a-1). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (Management Policies 2001, sec. 1.4.4). To determine impairment, the National Park Service must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (Management Policies 2001, sec. 1.4.4).

Park units vary based on their enabling legislation, natural resources, cultural resources, and missions; management activities appropriate for each unit and for areas within each unit vary as well. An action appropriate in one unit could impair resources in another unit. Thus, this environmental assessment will analyze the context, duration, and intensity of impacts related to the Metropolitan Branch Trail within Rock Creek Park as well as the potential for resource impairment using both USDOT FHWA and National Park Service NEPA guidelines.

FEDERAL LAWS, REGULATIONS, AND POLICIES

The USDOT and National Park Service are governed by laws, regulations, and management plans before, during, and following any management action related to this environmental impact statement.

National Environmental Policy Act, 1969, as Amended

Section 102(2)(c) of this act requires that an environmental impact statement be prepared for proposed federal actions that may significantly affect the quality of the human environment or are major or controversial federal actions.

Environmental Impact and Related Procedures, USDOT FHWA, 1987

This regulation prescribes the policies and procedures of FHWA for implementing the NEPA and the regulations of the Council of Environmental Quality (CEQ), 40 CFR Parts 1500-1508. This regulation sets forth all requirements under NEPA for all FHWA actions/projects.

National Parks Omnibus Management Act of 1998 (NPOMA)

NPOMA (16 U.S.C. 5901 et seq.) underscores NEPA in that both are fundamental to National Park Service park management decisions. Both acts provide direction for articulating and connecting the ultimate resource management decision to the analysis of impacts, using appropriate technical and scientific information. Both also recognize that such data may not be readily available and provide options for resource impact analysis should this be the case.

The *Omnibus Act* directs the National Park Service to obtain scientific and technical information for analysis. The National Park Service handbook for *Director's Order 12* states that if “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected” (section 4.4).

Redwood National Park Act of 1978, as Amended

All National Park System units are to be managed and protected as parks, whether established as a recreation area, historic site, or any other designation. This act states that the National Park Service must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these

various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”

Code of Federal Regulations, 1992

Title 36, Chapter 1 provides the regulations “for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the National Park Service.” It states that “the National Park Service has the authority to manage the wildlife in the parks in fulfillment of the Organic Act without the consent of the state and by methods contrary to state law” (16 U.S.C. 3).

Endangered Species Act of 1973, as Amended

This act requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals having potential impact on federally endangered and threatened plants and animals.

National Historic Preservation Act of 1966, as Amended

Section 106 of this act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places. All actions affecting the parks’ cultural resources must comply with this legislation.

Historic Sites Act of 1935

This act declares as national policy the preservation for public use of historic sites, buildings, objects, and properties of national significance. It authorizes the Secretary of the Interior and National Park Service to restore, reconstruct, rehabilitate, preserve, and maintain historic or prehistoric sites, buildings, objects, and properties of national historical or archaeological significance.

Management Policies, National Park Service, 2001

This document focuses on the management of the national park system and serves as a Service-wide policy document for the National Park Service. Adherence to this policy document is mandatory unless specifically waived or modified by the Secretary, the Assistant Secretary, or the Director. National Park Service mission statements and methodologies for evaluating proposed project impacts are established in this document for the following categories: Land Protection, Natural Resource Management, Cultural Resource Management, Wilderness Preservation and Management, Interpretation and Education, Use of the Parks, Park Facilities, and Commercial Visitor Services.

Cultural Resources Management Guideline, NPS-28, 1998

The purpose of this document is to provide guidance to park managers to identify, evaluate, document, register, and establish basic information about cultural resources; to ensure that this information is well integrated into the management process for making decisions and setting priorities; and to make sure resources are preserved, protected, and interpreted to the public.

Natural Resources Management Guideline, NPS-77, 1991

The purpose of this document is to provide guidance to park managers for all planned and ongoing natural resource management activities. Managers must follow all federal laws, regulations, and policies. This document provides the guidance for park management to design, implement and evaluate a comprehensive natural resource management program.

Federal Noxious Weed Act, 1974

The Federal Noxious Weed Act (7 U.S.C. §§ 2801-2814, January 3, 1975, as amended 1988 and 1994) provides for the control and management of non-indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.

Executive Order 13112 – Invasive Species

This executive order requires the National Park Service to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

Executive Order 12898 - Environmental Justice in Minority Populations and Low-Income Populations

The National Park Service must address, as appropriate, disproportionately high and adverse human health or environmental effect of its programs, policies, and activities, including planning projects, on minority populations and low-income populations.

Executive Order 11990 - Protection of Wetlands

This executive order directs the National Park Service to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Executive Order 11593 - Protection and Enhancement of the Cultural Environment

This executive order directs the National Park Service to support the preservation of cultural properties and to identify and nominate to the National Register cultural properties within the park and to “exercise caution . . . to assure that any NPS-owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.

STATE AND LOCAL LAWS, REGULATIONS, AND POLICIES

National Capital Planning Commission

The National Capital Planning Commission (NCPC) serves as the central federal planning agency for federal activities and interests in the National Capital Region. Federal government projects in the region that will alter the exterior appearance of a site must be presented to the NCPC for comments, review, and, in some cases, approval.

Commission of Fine Arts

The Commission of Fine Arts (CFA) was established by Congress in 1910 as an independent agency to advise the federal and District of Columbia governments on matters of art and architecture that affect the appearance of the nation’s capital. The Commission’s primary role is to advise on proposed public building projects, but it also reviews private buildings adjacent to public buildings and grounds of major importance, including Rock Creek Park (under the Shipstead-Luce Act) and projects in the Historic District of Georgetown (under the Old Georgetown Act).

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ALTERNATIVES

NEPA requires that federal agencies explore a range of reasonable alternatives. The alternatives under consideration must include the “no-action” alternative as prescribed by 40 CFR 1502.14. Project alternatives may originate from the proponent agency, local government officials, or members of the public, at public meetings or during the early stages of project development. Alternatives may also be developed in response to comments from coordinating or cooperating agencies. The alternatives analyzed in this document are in accordance with NEPA and are the result of agency and public scoping.

Alternatives selected for full analysis in this environmental assessment must meet the management objectives of the park to a large degree, while also meeting the purpose of and need for action. As stated in the CEQ guidance, a “range of alternatives” includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study (40 CFR 1502.14). A range of alternatives for each study area have been rigorously explored and objectively evaluated.

This section of the environmental document describes all reasonable alternatives considered to meet the purpose of and need for action. It also provides a discussion of alternatives considered during the planning process, but after further evaluation were eliminated from detailed impact analyses. Comparative tables are provided, as well as discussion and identification of the environmentally preferred alternative.

The following provides descriptions for south to north alignments within the Fort Totten Area, west to east alignments to connect the MBT to the Prince George’s County border, and configurations for the intersection of Eastern Avenue and Piney Branch Road and immediate area in Tacoma Park. All alternatives must be consistent with the purpose and significance of Rock Creek Park and the Fort Circle Parks Master Plan and meet the purpose of and need for action, as well as the management objectives. The preliminary alternatives address different MBT alignments to achieve specific objectives. The alternatives could be used individually or in some combination that would be appropriate for achieving the management objectives.

ELEMENTS COMMON TO ALL ALTERNATIVES

The following actions would be common to all alternatives.

- The trail would be 10-12 feet wide where possible if built as a separated side path. Signage and trail markings, lighting, and call boxes would also be provided as needed for each segment of trail on park property, coordinated to meet NPS standards. To avoid impacts to wildlife on NPS property, lighting in or around natural areas should be avoided or minimized and directed downward. All requests to increase lighting on NPS land will need to be individually considered (area by area, trail segment by segment) for the overall impacts on park lands.
- Waysides with seating and shade are also proposed at appropriate locations, such as overlooking the Fort Totten Metro tunnel, at the DC/MD border in Takoma, to the east and west of the Community Gardens, and along the Spur.
- The DDOT assumes all maintenance responsibility and costs for trail segments on park lands.
- Education and interpretive measures would be implemented and could involve various efforts including directional signage to historic areas of interest along NPS lands.

NO ACTION ALTERNATIVE

Under the no action alternative, no MBT alignments would be developed on any NPS lands. The no action alternative is the baseline alternative.

AREA A – SOUTH TO NORTH ALIGNMENTS

ALTERNATIVE A1

Under Alternative A1, the MBT would follow an alignment with the following segments (See Map 3: Area A Alignments):

- Encases and follows culvert east of trash transfer station and concrete plant to southeastern edge of NPS lands at Fort Totten; portions of the culvert would remain accessible for monitoring and occasional cleaning.
- Passes around Ft. Totten Metrorail Station outside the WMATA fence above the metro tunnel. Just north of the tunnel opening, it descends the hill – at a slope meeting ADA standards if practical (or following Outdoor Recreation Accessibility Standards), to a point west of and level with the sidewalk along First Place. A more direct stair system to the metro station with rolling grooves is also proposed.
- Proceeds parallel to the sidewalk on a widened sidewalk or on a separated path toward Riggs Road, moving to the sidewalk to bypass one building that abuts the sidewalk just before Riggs Road.
- Crosses Riggs Road at-grade and proceeds west on an improved sidewalk along Riggs Road.
- Beyond the end of the retaining wall along the sidewalk, turns north and proceeds behind houses on a social path that is also NPS property.
- Upon reaching Kennedy Street, proceeds to 1st Street, then northwest on 1st Street as a shared use street to Madison Street, where it either remains on the roadway, or transitions to a shared use path on NPS land.
- Crosses New Hampshire Avenue at-grade.
- Follows McDonald Place on road or sidewalk.
- Proceeds along Blair Road by a newly constructed path past the Community Gardens.

ALTERNATIVE A2

Under Alternative A2, the MBT would follow an alignment with the following segments (See Map 3):

- Encases and follows culvert east of trash transfer station and concrete plant to southeastern edge of NPS lands at Fort Totten; portions of the culvert would remain accessible for monitoring and occasional cleaning.
- Passes around Ft. Totten Metrorail Station outside the WMATA fence above the metro tunnel. Just north of the tunnel opening, it descends the hill – at a slope meeting ADA standards if practical (or using Outdoor Recreation Accessibility Standards), to a point west of and level with

the sidewalk along First Place. A more direct stair system to the metro station with rolling grooves is also proposed.

- Crosses Riggs Road at-grade and proceeds west on an improved sidewalk along Riggs Road.

MAP 3: ALTERNATIVES A1 THROUGH A4 –SOUTH TO NORTH ALIGNMENTS



Beyond the end of the retaining wall along the sidewalk, proceeds directly as a separated pathway to the vicinity of the CSX right-of-way/tracks, then parallel the CSX tracks through wooded parkland to a point where woods end, becoming grass.

- Then proceeds directly toward 1st Street, either entering the street or remaining a separated path (either side of 1st Street is an option – depending on the next segment’s endpoint), to an at-grade crossing of New Hampshire Avenue.
- Follows McDonald Place on road or sidewalk.
- Proceeds along Blair Road by a newly constructed path past the Community Gardens.

ALTERNATIVE A3

Under Alternative A3, the MBT would follow an alignment with the following segments (See Map 3: Area A Alignments):

- Encases and follows culvert east of trash transfer station and concrete plant to southeastern edge of NPS lands at Fort Totten; portions of the culvert would remain accessible for monitoring and occasional cleaning.
- Passes around Ft. Totten Metrorail Station outside the WMATA fence above the metro tunnel. Just north of the tunnel opening, it descends the hill – at a slope meeting ADA standards if practical, to a point west of and level with the sidewalk along First Place. A more direct stair system to the metro station with rolling grooves is also proposed.
- Proceeds on a widened sidewalk or parallel to the sidewalk on a separated path toward Riggs Road, moving to the sidewalk to bypass one building that abuts the sidewalk just before Riggs Road.
- Crosses Riggs Road at-grade and proceeds west on an improved sidewalk along Riggs Road.
- Beyond the end of the retaining wall along the sidewalk, turns north and proceeds behind houses on a social path that is also NPS property.
- Upon reaching Kennedy Street, proceeds to 1st Street, then northwest on 1st Street as a shared use street to Madison Street, where it either remains on the roadway, or transitions to a shared use path on NPS land.
- Crosses New Hampshire Avenue at-grade.
- Proceeds down South Dakota Avenue (which dead ends into Community Gardens), then turns onto a service road that diagonals back and down to Oglethorpe Street on a 10-12 foot wide path where possible.
- Adds sidewalk and proceeds on shared use-street along Oglethorpe Street to Blair Road.

ALTERNATIVE A4

Under Alternative A4, the MBT would follow an alignment with the following segments (See Map 3: Area A Alignments):

- Encases and follows culvert east of trash transfer station and concrete plant to southeastern edge of NPS lands at Fort Totten; portions of the culvert would remain accessible for monitoring and occasional cleaning.
- Passes around Ft. Totten Metrorail Station outside the WMATA fence above the metro tunnel. Just north of the tunnel opening, it descends the hill – at a slope meeting ADA standards if practical, to a point west of and level with the sidewalk along First Place. A more direct stair system to the metro station with rolling grooves is also proposed.
- Crosses Riggs Road at-grade and proceeds west on an improved sidewalk along Riggs Road.
- Beyond the end of the retaining wall along the sidewalk, proceeds directly as a separated pathway to the vicinity of the CSX right-of-way/tracks, then parallel the CSX tracks through wooded parkland to a point where woods end, becoming grass.
- Then proceeds directly toward 1st Street, either entering the street or remaining a separated path (either side of 1st Street is an option – depending on the next segment’s endpoint), to an at-grade crossing of New Hampshire Avenue.
- Proceeds down South Dakota Avenue (which dead ends into Community Gardens), then turns onto a service road that diagonals back and down to Oglethorpe Street on a 10-12 foot wide path where possible.
- Adds sidewalk and proceeds on shared use-street along Oglethorpe Street to Blair Road.

AREA B – PRINCE GEORGE’S COUNTY SPUR

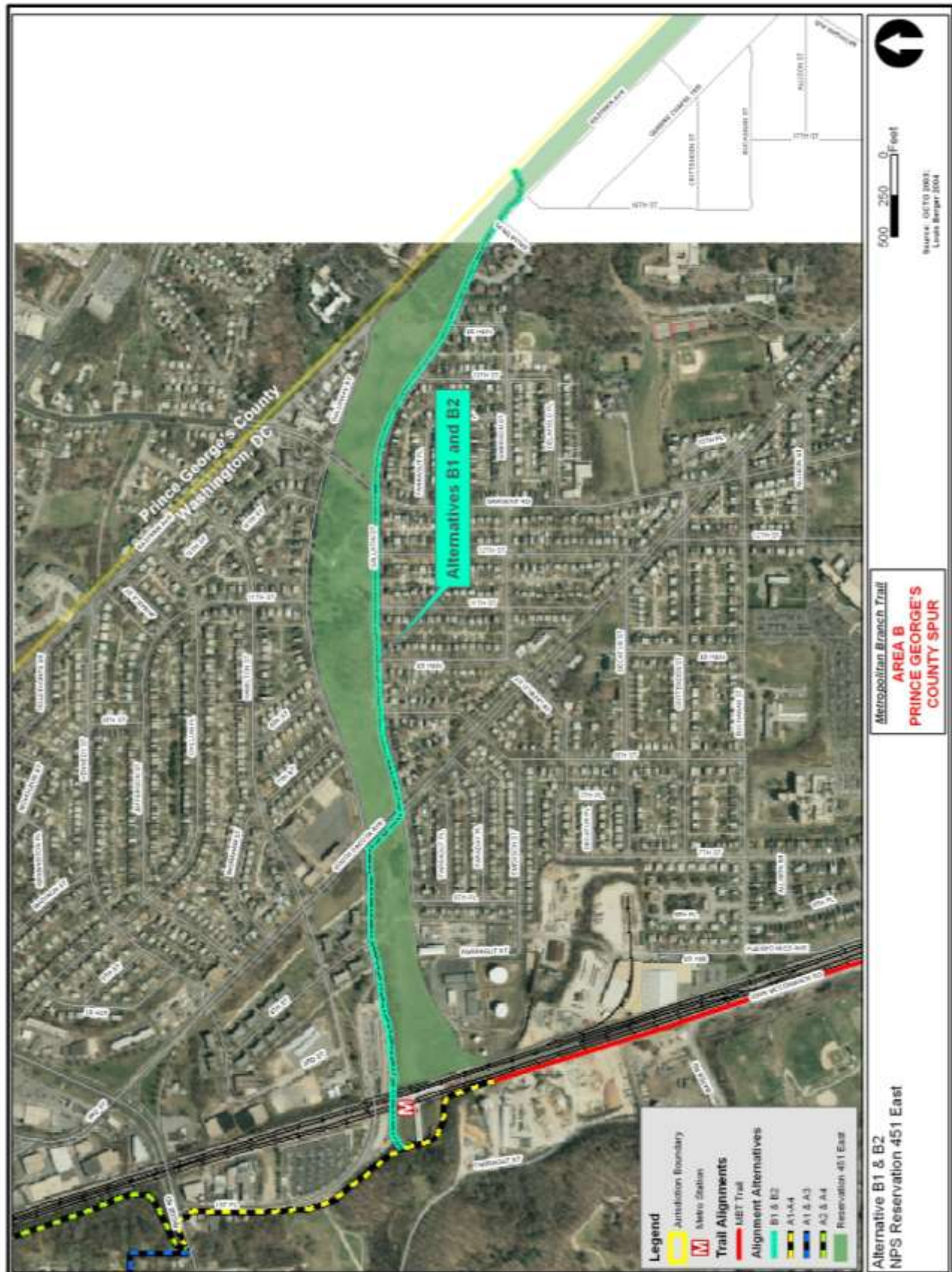
Two options have been developed for this segment of MBT trail, one of which is on NPS lands. It was determined during internal scoping that additional coordination between the National Park Service and D.C. Department of Transportation needs to occur before the segment between the Fort Totten Metro station and South Dakota Avenue moves forward for further analysis.

ALTERNATIVE B1

Under Alternative B1, the MBT would follow an alignment with the following segments (See Map 4: Area B – Prince George’s County Spur):

- Proceed from Fort Totten Metro Station to South Dakota Avenue along an alignment that will be determined at a future date.
- Cross South Dakota Avenue at-grade.
- Construct and follow a new 10-12 foot hard surface path where possible on NPS land adjacent to roadway for approximately 0.8 miles to Prince George’s County Border.
- Construct new trail for approximately 220 feet from Gallatin Street across NPS land to PG County trail north of St Ann’s driveway.

MAP 4: ALTERNATIVES B1 AND B2 – PRINCE GEORGE’S COUNTY SPUR



ALTERNATIVE B2

Under Alternative B2, which is preferred by the NPS for reasons of being less damaging to NPS lands than B1, the MBT would follow an alignment with the following segments (See Map 4: Area B – Prince George’s County Spur):

- Proceed from Fort Totten Metro Station to South Dakota Avenue along an alignment that will be determined at a future date.
- Cross South Dakota Avenue at-grade.
- Construct/stripe and follow on-road bike lane along Gallatin Street to Prince George’s County Border.
- Construct new trail for approximately 220 feet from Gallatin Street across NPS land to PG County trail north of St Ann’s driveway.

AREA C – PINEY BRANCH ROAD IN TAKOMA

NPS land exists at the intersection of Eastern Avenue and Piney Branch Road. Three options for traversing this area of Takoma with the MBT were developed during the Internal Scoping Meeting (See Map 5: Area C – Piney Branch Road in Takoma):

ALTERNATIVE C1

- Follow Eastern Avenue past Cady-Lee Mansion either on sidewalk (on western side) or on-street bike lane.
- Cross Piney Branch Road at-grade.

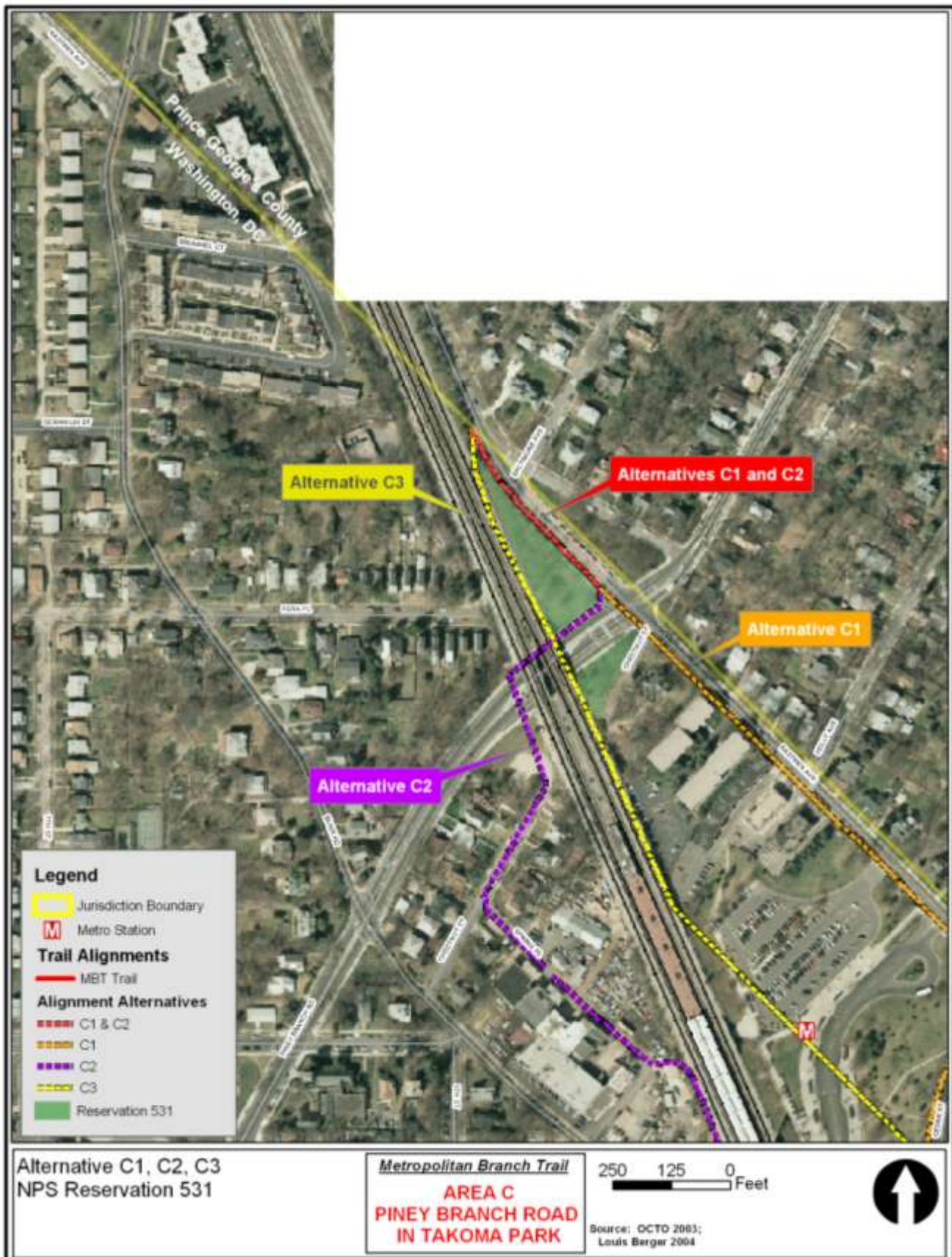
ALTERNATIVE C2

- Cross Piney Branch Road on a bridge to the west of the tracks – to be constructed – or descend to Piney Branch Road using a switchback alignment. Stairs on both sides of Piney Branch Road are also proposed.
- Depending on option selected, proceed along Piney Branch Road past Cady-Lee Mansion on sidewalk on northern side, or pass by Cady-Lee Mansion on sidewalk on southern side of Piney Branch Road, crossing Piney Branch at-grade at Eastern Avenue intersection.

ALTERNATIVE C3

- Follow a path on an elevated structure adjacent to metro tracks (but not attached) running behind cooperative apartments on Eastern Avenue and the Cady-Lee Mansion.
- Construct and cross Piney Branch Road on a bridge from NPS property adjacent to Cady-Lee Mansion south of Piney Branch Road to NPS land on the north side of Piney Branch Road.

MAP 5: ALTERNATIVES C1, C2, AND C3 – PINEY BRANCH ROAD IN TAKOMA PARK



ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

An alternative was initially evaluated that would have proceeded from John McCormack Road via Bates Road to Fort Totten Drive, crossing Riggs Road at-grade at its intersection with Blair Road, then following Blair Road past the Community Gardens. An additional option would have added a segment along the south sidewalk of Riggs Road for a pedestrian connection to the metro station via First Place. These options were not carried forward because they involve a gradient in excess of 11 percent along Fort Totten Drive, greatly exceeding ADA standards. However, it is possible that an interim option using this alignment along city streets, avoiding NPS lands, would be considered while the route along the culvert is developed. By staying on city streets, no impacts to NPS lands would occur.

Two south to north alternatives that included bisecting the Community Gardens with a new path (instead of an existing service path) were considered but not carried forward. Discussion of these alternatives with park officials during the internal scoping meeting have warranted that they be dropped from further consideration in the EA. The Community Gardens were determined to have both historical and ethnographic value as well as strong community support for keeping current plots in tact. The historical and cultural impacts on the Community Gardens will continue to be evaluated in the EA as it relates to other south to north alignments.

A bridge over Riggs Road was considered and not carried forward. Such a bridge, to obtain the necessary clearance, would use park land and disturb vegetation in its approaches and abutments. Given the direct at grade crossing available at the intersection of First Place with Riggs Road, these impacts were considered unnecessary.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Each alternative was analyzed to determine the context, duration, and intensity of resource impacts. Table 2 presents the summary of environmental consequences for all trail alternatives being considered on NPS land.

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TABLE 2: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Topic	No Action Alternative	Area A Alternatives – South to North Alignments Through NPS Reservations 451 West and 497				Area B Alternatives – Prince George’s County Spur Through NPS Reservation 451 East		Area C Alternatives – Piney Branch Road in Takoma Through NPS Reservation 531		
		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Soils	<p>No impacts to soils are expected as a result of implementing the no action alternative.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to soils; impairment to soil resources would not be expected.</p>	<p>Negligible, adverse, short- and long-term impacts to soils are expected from trail construction.</p> <p>Erosion and sediment control Plans are particularly important around the Fort Totten Metro Green Line tunnel and the wooded area just to the north of the tunnel, where moderately steep slopes occur.</p> <p>Other development is on the other side of the tracks would not add cumulatively to these impacts.</p> <p>Impairment to soil resources would not occur.</p>	<p>Alternative A2 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>In addition to area around tunnel, erosion and sediment control is particularly important along the CSX tracks between Riggs Road and New Hampshire Ave.</p> <p>Impairment to soil resources would not occur.</p>	<p>Alternative A3 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>Impairment to soil resources would not occur</p>	<p>Alternative A4 impacts /cumulative impacts to soils are similar to Alt. A1 and expected to be negligible.</p> <p>In addition to area around tunnel, erosion and sediment control is particularly important along the CSX tracks between Riggs Road and New Hampshire Ave.</p> <p>Impairment to soil resources would not occur</p>	<p>Moderate long-term impacts to soils are expected from trail construction.</p> <p>Future development near the Fort Totten Metro Station, and PG County Trail construction would be expected to impact soils during construction, but the cumulative impacts to soils of these and MBT actions would be moderate.</p> <p>Impairment to soil resources would not occur.</p>	<p>The area of soil disturbed under alternative B2 would be less than under B1 because most consists of an on-road bike lane along Gallatin Street.</p> <p>Impacts/cumulative impacts would be negligible.</p> <p>Impairment to soil resources would not occur.</p>	<p>The trail is on-street; only a wayside would impact soils. These impacts to soils are negligible.</p> <p>No cumulative impacts to soils on NPS land would be expected under alternative C1.</p> <p>Impairment to soil resources would not occur.</p>	<p>Impacts/cumulative impacts on NPS lands, only from wayside construction, would be negligible.</p> <p>Impairment to soil resources would not occur.</p>	<p>Impacts/cumulative impacts to soils from a wayside and bridge construction would be negligible.</p> <p>Impairment to soil resources would not occur.</p>
Vegetation	<p>No impacts to vegetation are expected as a result of implementing the no action alternative.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to vegetation; impairment to vegetation would not be expected.</p>	<p>Minor, adverse, short- and long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., primarily grass and weeds along social path to Kennedy and along 1st St., and potentially some tree root impacts along Blair Rd.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment would not occur.</p>	<p>Moderate long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., some trees through woods along CSX tracks between Riggs Rd. and Madison St., grass to New Hampshire Ave., and potentially some tree root impacts along Blair Rd.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment to vegetation would not occur.</p>	<p>Minor, adverse, short- and long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., primarily grass and weeds along social path to Kennedy and along 1st St., and potentially some weeds along service road to Oglethorpe St.</p> <p>Cumulative impacts are also minor.</p> <p>Impairment to vegetation would not occur.</p>	<p>Moderate long-term impacts would be expected. These would include removal of exotic and invasive species above Metro tunnel, some trees along ridge to 1st Pl., some trees through woods along CSX tracks between Riggs Rd. and Madison St., grass to New Hampshire Ave., and potentially some weeds along service road to Oglethorpe St.</p> <p>Cumulative impacts are also moderate.</p> <p>Impairment to vegetation would not occur.</p>	<p>Moderate adverse, long-term impacts would be expected by the removal of lawn, tree, shrub and herbaceous species on off-road path along Gallatin St. and connector to PG County trail alignment through wooded area.</p> <p>Minor adverse, short- and long-term cumulative impacts are expected.</p> <p>Impairment to vegetation would not occur.</p>	<p>No impacts for on-road path along Gallatin St.; negligible impacts would be expected through wooded area near the DC/MD border.</p> <p>Cumulative impacts are negligible.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation, due to construction of a wayside, are negligible. Trail is on-street or sidewalk.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation on NPS lands due to construction of a wayside are negligible. Trail is on-street or sidewalk.</p> <p>Impairment to vegetation would not occur.</p>	<p>Impacts/cumulative impacts to vegetation due to construction of a wayside and a bridge are negligible.</p> <p>Impairment to vegetation would not occur.</p>
Wildlife and Wildlife Habitat	<p>No impacts would be expected. No disturbance of wildlife species or their habitat would occur.</p> <p>The no action alternative would include other development: near the Fort Totten Metro station with associated trail, the future Takoma Park Metro improvements, and the PG County trail. These would result in negligible, adverse, short-, and long-term cumulative impacts to wildlife/habitat; impairment to wildlife/habitat would not be expected.</p>	<p>Negligible, adverse, short- and long-term impacts would be expected. Impacts to wildlife and wildlife habitat are negligible because the areas along and adjacent to the trail currently experience a high level of pedestrian use.</p> <p>Negligible, adverse, short-, and long-term cumulative impacts would be expected from other projects.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Minor, adverse, short- and long-term impacts would be expected to wildlife and wildlife habitat due to the proposed trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497), which cuts through a wooded area paralleling the CSX tracks.</p> <p>Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Alternative A3 impacts /cumulative impacts to wildlife/habitat are similar to Alt. A1 and expected to be negligible.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Alternative A4 impacts /cumulative impacts to wildlife/habitat are similar to Alt. A2 and expected to be minor, adverse, short- and long-term.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Overall, impacts are expected to be negligible because the trail follows an alignment currently experiencing high levels of pedestrian and vehicle use. A wooded area along this alignment would be most impacted.</p> <p>Cumulative impacts are also expected to be negligible for the same reason.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>Impacts/cumulative impacts would be negligible and less than for Alt. B1 by staying on the road away from most of the wooded area.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>	<p>No impacts to wildlife or wildlife habitat on NPS land are expected.</p> <p>No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected.</p> <p>Impairment to wildlife or wildlife habitat would not occur.</p>

Impact Topic	No Action Alternative	Area A Alternatives – South to North Alignments Through NPS Reservations 451 West and 497				Area B Alternatives – Prince George’s County Spur Through NPS Reservation 451 East		Area C Alternatives – Piney Branch Road in Takoma Through NPS Reservation 531		
		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Threatened, Endangered, or Species of Special Concern	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	There are no known occurrences of listed species in the vicinity of the trail alignments.	Because of developed nature of area, no impacts/cumulative impacts are expected.	Because of developed nature of area, no impacts/cumulative impacts are expected.	Because of developed nature of area, no impacts/cumulative impacts are expected.
Cultural and Historic Resources	<p>No cultural or historic resources would be impacted.</p> <p>Other foreseeable development would not be expected to have cumulative impacts on historical and cultural resources.</p> <p>Impairments to cultural and historic resources would not occur.</p>	<p>Trail would be distant from earthworks at Fort Totten and the disturbed nature of area makes cultural resources along the alignment unlikely. This alternative avoids the Community Gardens.</p> <p>Impacts/cumulative impacts to cultural and historic resources are therefore expected to be negligible.</p> <p>Impairments to cultural and historic resources would not be expected.</p>	<p>Alt. A2, like Alt. A1, is distant from earthworks and avoids the Community Gardens. Alignment parallel to CSX and Metro rail tracks passes through a less disturbed area, but previous disturbance of the landscape is likely to have destroyed or severely compromised the integrity of any historic or prehistoric deposits in this area.</p> <p>Impacts/cumulative impacts to cultural and historic resources are expected to be negligible. Impairments to cultural and historic resources would not be expected.</p>	<p>Alt. A3 impacts, similar to Alt. A1, would be negligible except for segment passing through the Community Gardens. For this segment, moderate short- and long-term adverse impacts would be expected due to the ethnographic (human culture) value of the Gardens.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A3.</p> <p>Impairments to cultural and historic resources would not be expected.</p>	<p>Alt. A4, like Alt. A1, is distant from earthworks, and like Alt. A2, passes along CSX tracks; these segments would have negligible impacts. For segment traversing Community Gardens, moderate short- and long-term adverse impacts would be expected due to the ethnographic (human culture) value of the Gardens.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A3. Impairment to cultural and historic resources would not be expected.</p>	<p>No short- or long-term adverse impacts to cultural and historic resources would occur; no sites within Alt. B1 study area are listed on the National Register of Historical Places and the NPS land is delineated as a connecting corridor management zone. There are no historic earthworks in this management zone.</p> <p>Other projects do not add cumulatively to the impacts of Alt. B1.</p> <p>Impairments to cultural and historic resources would not occur.</p>	<p>Alt. B2 impacts are the same as for Alt. B1.</p>	<p>Minor short- and long-term adverse impacts to cultural and historic resources (the Cady-Lee Mansion) would be expected from an expected increase in pedestrian traffic.</p> <p>Other projects do not add cumulatively to the impacts of Alt. C1.</p> <p>Impairments to cultural and historic resources would not occur.</p>	<p>Alt. C2 impacts are the same as for Alt. C1.</p>	<p>Moderate short- and long-term adverse impacts to cultural and historic resources would occur from introduction of traffic between Cady-Lee Mansion and tracks, and from construction of a bridge near the Mansion.</p> <p>Other projects do not add cumulatively to the impacts of Alt. C3.</p> <p>Impairments to cultural and historic resources would not occur.</p>
Viewsheds	<p>Impacts to viewsheds would not occur under the no action alternative.</p> <p>There would be no cumulative impacts to viewsheds under the no action alternative.</p> <p>Impairments to existing viewsheds would not occur.</p>	<p>Impacts would be negligible adverse and long-term. This area does not provide a high point for the views and vistas of the area. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A1. Impairments to existing viewsheds would not occur.</p>	<p>Alternative A2 impacts /cumulative impacts to viewsheds are similar to Alt. A1 and expected to be negligible.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A2. Impairments to existing viewsheds would not occur.</p>	<p>Alternative A3 impacts /cumulative impacts to viewsheds are similar to Alt. A1 except in the area of the Community Gardens, where moderate, long-term adverse impacts would be expected. Within the Community Gardens, the MBT would introduce a new visual element to the historic garden plots.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A3. Impairments to existing viewsheds would not occur.</p>	<p>Alternative A4 impacts /cumulative impacts to viewsheds are similar to Alt. A3; in the area of the Community Gardens, moderate, long-term adverse impacts would be expected. Within the Community Gardens, the MBT would introduce a new visual element to the historic garden plots.</p> <p>Other projects do not add cumulatively to the impacts of Alt. A4. Impairments to existing viewsheds would not occur.</p>	<p>Negligible long-term adverse impacts are expected, as the character of the viewshed would not be altered under this alternative.</p> <p>Other projects do not add cumulatively to the impacts of Alt. B1. Impairments to existing viewsheds would not occur.</p>	<p>Alt. B2 impacts are the same as for Alt. B1.</p>	<p>The MBT would either be on the existing roadway or sidewalk. Long-term minor impacts could occur if the trail is placed on the sidewalk and adjustments to the sidewalk are required. Other features (wayside, crossing improvements, lighting) would be in character with the viewshed.</p> <p>Cumulative impacts under other projects do not add cumulatively to the impacts of Alt. C1. Impairments to existing viewsheds would not occur.</p>	<p>A potential bridge on the other side of the tracks would have negligible viewshed impacts; impacts from the trail passing by on the sidewalk would also be negligible. Other features (wayside, crossing improvements, lighting) would be in character with the viewshed.</p> <p>Cumulative impacts under other projects do not add cumulatively to the impacts of Alt. C2. Impairments to existing viewsheds would not occur.</p>	<p>Moderate to major adverse long-term impacts to the viewshed of the Cady-Lee Mansion could occur from placement of the trail and a bridge in the vicinity of the Mansion, depending upon how well features could be made to blend with their surroundings.</p> <p>Other projects do not add cumulatively to the impacts of Alt. C3. Impairments to existing viewsheds would not occur.</p>
Land Use	<p>Under the no action alternative there would be no impacts or cumulative impacts.</p> <p>Impairments to existing land use would not occur.</p>	<p>Long-term adverse minor impacts would be expected in converting social path, sidewalks on McDonald Pl., and added Blair Road pedestrians. Converting Natural Zone area to path entails moderate adverse impacts. Improved access to Metro and adherence to the <i>Fort Circle Parks Management Plan</i> and <i>Comprehensive Plan for the National Capital</i> are minor to moderate beneficial impacts. Other projects would not add cumulatively to the land use impacts under Alt. A1.</p>	<p>Impacts/cumulative impacts under Alt. A2 are the same as under Alt. A1, with the exception that additional areas delineated as a Natural Zone (along CSX tracks) would incur moderate impacts in conversion to path.</p>	<p>Impacts/cumulative impacts under Alt. A3 are the same as under Alt. A1, with exception that minor adverse impacts could occur in converting service road through Community Gardens to path.</p>	<p>Impacts/cumulative impacts under Alt. A4 are the same as under Alt. A2, with exception that minor adverse impacts could occur in converting service road through Community Gardens to path.</p>	<p>Long-term moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Metro station, increased recreational opportunities, and adherence to the <i>Fort Circle Parks Management Plan</i> and the <i>Comprehensive Plan for the National Capital</i> with regards to the Fort Circle Parks Trail.</p> <p>Moderately beneficial cumulative impacts to individuals in new development would occur.</p>	<p>Impacts under Alt. B2 would be the same as under Alt. B1.</p>	<p>Long-term minor to moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of Takoma Park and the increase in recreational opportunities. Development of the MBT is supported by the Takoma Central District Plan.</p> <p>Other foreseeable development is consistent with the Takoma Central District Plan and would not add adverse cumulative impacts in conjunction with MBT.</p>	<p>Impacts under alternative C2 would be the same as those described under alternative C1 with the exception of the construction of a bridge to the west of the railroad tracks on Piney Branch Road. Short-term minor adverse impacts to local traffic and land use as the bridge is being constructed are expected.</p> <p>Cumulative impacts under alternative C2 would be the same as those under alternative C1.</p>	<p>Impacts under Alt. C3 would be the same as under Alt. C1 with the exception that the construction of an elevated structure adjacent to metro tracks behind cooperative apartments on Eastern Avenue and bridge by the Cady-Lee Mansion would cause short-term minor adverse impacts to local traffic and land use as the bridge is being constructed.</p> <p>Cumulative impacts under alternative C3 would be the same as those under alternative C1.</p>

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		Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative B1	Alternative B2	Alternative C1	Alternative C2	Alternative C3
Visitor Use and Experience	Impacts under the no action alternative would be minor. The trail would not be constructed and additional recreational opportunities would not be provided. Visitor satisfaction would remain stable, but the added benefits of the trail would not be realized. Cumulative impacts under the no action alternative would be minor adverse. The MBT would not be constructed and would not link up to the Prince George’s County Trail in the vicinity of 16 th Street NE.	Short-term minor impacts caused by inconvenience to visitors during construction would be offset by moderate to major long-term beneficial impacts from enhancing access to NPS-owned lands and additional recreational opportunities. Cumulative long-term moderate to major beneficial impacts would occur in linking other planned trail networks and the remainder of MBT.	Impacts/cumulative impacts under alternative A2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative A3 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative A4 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative B1 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative B2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C1 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C2 would be the same as those described under alternative A1.	Impacts/cumulative impacts under alternative C3 would be the same as those described under alternative A1.

AFFECTED ENVIRONMENT

This chapter of the environmental assessment describes existing environmental conditions in the areas potentially affected by the alternatives evaluated. This section will describe the following resource areas: soils, wildlife and wildlife habitats, vegetation, historic and cultural resources, viewsheds, land use, visitor use and experience, and park management and operations. Potential impacts are discussed in the “Environmental Consequences” section following the same order. Discussion of the resource areas will be divided into three parts: Area A, B, and C. Area A is geographically defined as Park Service Reservation 451 West located northeast of Fort Totten and 497, which includes the Community Gardens. Area B is located in the eastern section of Reservation 451 and Area C is defined by two small parcels of Park Service land within Reservation 531.

SOILS

The Soil Survey of the District of Columbia (USDA 1976) shows twenty-one soil mapping units occurring along the alignments of the Metropolitan Branch Trail project area on NPS land. The following discussion provides general characteristics of the mapping units occurring in Areas A, B, and C. Map 6, Map 7, and Map 8 show the locations of soil mapping units in and adjacent to the project areas.

Area A (Reservation 451 West and 497)

Christiana silt loam, 15 to 40 percent slopes (CeD). The Christiana series has slow to moderately slow permeability. Runoff is rapid to very rapid, and internal drainage is medium. The hazard of erosion is severe. This phase of the Christiana series is strongly sloping to steep slope and is found on the higher elevations of the Coastal Plain. Recreational development capability on this soil type is considered severe because of slope (USDA 1976).

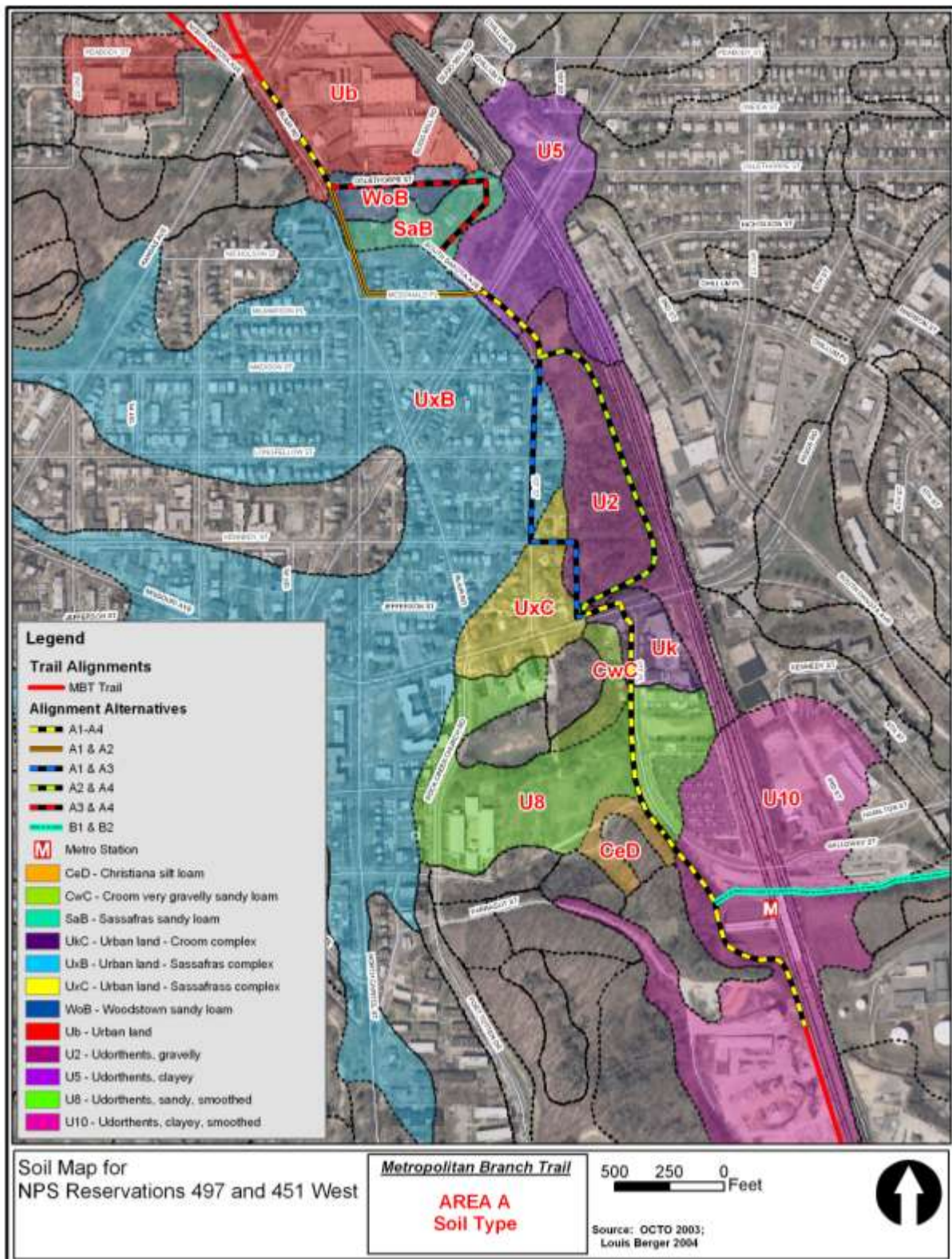
Croom very gravelly sandy loam, 8 to 15 percent slopes (CwC). The Croom series consists of well drained soils located on ridge tops of strongly dissected upland areas of the Coastal Plain. Permeability is moderate to moderately slow. Runoff is medium, and the hazard of erosion is severe. This soil has fair to poor potential for most recreational uses because of small stones (USDA 1976).

Sassafras sandy loam, 0 to 8 percent slopes (SaB). The Sassafras series consists of well drained soils that formed from marine deposits of sandy sediment that contains moderate amounts of silt and clay. This phase of the Sassafras series consists of nearly level to gently sloping soils that occur on side slopes in strongly dissected upland areas of the Coastal Plain. Permeability is moderate in this soil, and runoff is medium. The hazard of erosion is moderate. This soil has good potential for most building purposes. Path and trail development is slightly limited (USDA 1976).

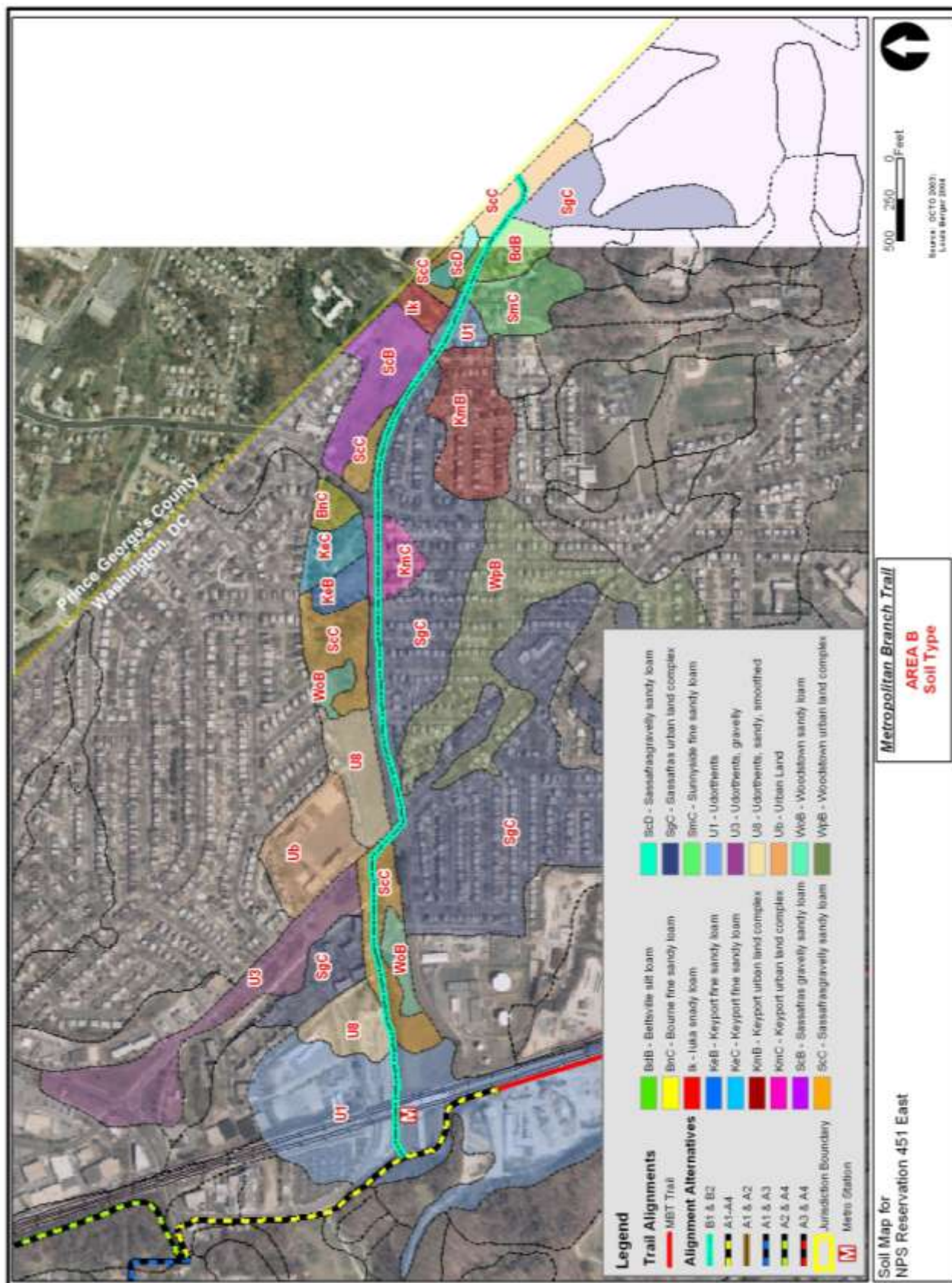
Udorthents, gravelly (U2). The Udorthents, gravelly mapping unit, includes areas consisting of mostly gravelly fill material that has been placed on soils of various drainage classes in uplands, terraces, and flood plains on the Coastal Plain. Permeability, runoff, and internal drainage are quite variable. The hazard of erosion is severe. Most areas where this mapping unit occurs are subject to subsidence, and detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit (USDA 1976).

Udorthents, clayey (U5). The Udorthents, clayey mapping unit, consists of mostly clayey fill material that has been placed on soils of various drainage classes in uplands, terraces, and floodplains on the Coastal Plain. Permeability is slow and runoff and internal drainage are quite variable. The hazard of erosion is severe. Most areas of this unit are very unstable and are subject to subsidence. This soil is very sticky on the surface and has poor trafficability and, thus, has poor potential for most recreational uses.

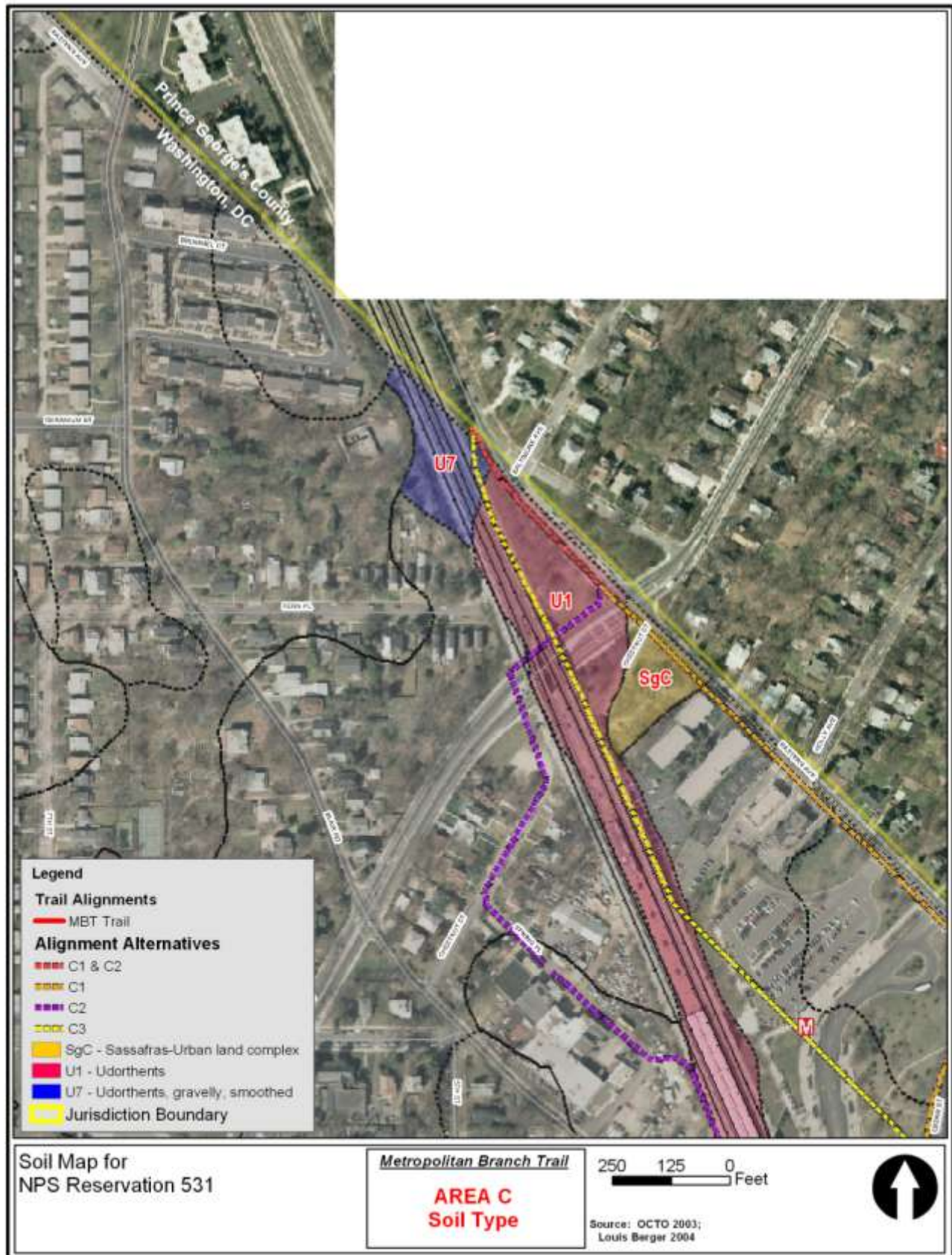
MAP 6: SOIL MAP – AREA A: RESERVATION 451 WEST AND 497



MAP 7: SOIL MAP – AREA B: RESERVATION 451 EAST



MAP 8: SOIL MAP – AREA C: RESERVATION 531



Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit (USDA 1976).

Udorthents, sandy, smoothed (U8). This mapping unit consists of areas that have been cut or filled during grading for roads, railroads, housing developments, recreation areas, and similar uses. Permeability is moderate to rapid. Runoff is slow to rapid, and internal drainage is variable. The hazard for erosion is slight to moderate. Areas in this mapping unit where fill occurs are subject to subsidence. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit (USDA 1976).

Udorthents, clayey, smoothed (U10). The Udorthents mapping unit consists of heterogeneous, earthy fill material that has been placed on poorly drained to somewhat excessively drained soils on uplands, terraces, and flood plains of Coastal Plain and Piedmont. Permeability is slow, runoff is medium to very rapid, and internal drainage is quite variable. The hazard of erosion is severe. Most areas of this unit are very unstable and are subject to subsidence. This soil is very clayey and sticky on the surface and has poor trafficability and, thus, has poor potential for most recreational uses. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit (USDA 1976).

Urban land (Ub). The Urban land mapping unit consists of areas where more than 80 percent of the surface is covered by asphalt, concrete, buildings, or other impervious surfaces. Urban land includes large areas consisting of miscellaneous artificial fill. Examination and identification of soils or soil-like materials in this mapping unit is impractical. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit (USDA 1976).

Urban land-Croom complex, 8 to 15 percent (UkC). This complex consists of areas of Urban land and Croom soils. The Urban land (Ub) component, which comprises about 70 percent of the complex, is described above. Croom soils occurring in this complex have been graded, cut, filled, or otherwise disturbed during urbanization. Where undisturbed, the Croom series consists of moderately sloping, well drained soils that formed in old deposits of sandy and clayey material. These soils formed on ridge tops and side slopes in strongly dissected uplands of the Coastal Plain. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit for any proposed use (USDA 1976).

Urban land-Sassafras complex, 0 to 8 percent (UxB). This complex consists of Urban land and Sassafras soils. The Urban land (Ub) component, which comprises about 70 percent of the complex, is described above. Sassafras soils occurring in this complex have been graded, cut, filled, or otherwise disturbed during urbanization. This complex occurs in upland areas of the Coastal Plain. Where undisturbed, the Sassafras series consists of moderately sloping, well drained soils that formed in marine deposits of sandy sediments containing moderate amounts of silt and clay. The 0 to 8 percent slope phase of the Sassafras series occurs on urbanized upland areas of the Coastal Plain. Permeability is moderate in undisturbed areas of the Sassafras series, and runoff is medium to rapid. The hazard of erosion is moderate to severe. Due to disturbance in this complex, detailed onsite characterizations are necessary to determine potential uses and limitations of the mapping unit (USDA 1976).

Urban land-Sassafras complex, 8 to 15 percent (UxC). See above for a description of the Urban land-Sassafras series. The 8 to 15 percent slope phase of the Sassafras series occurs on ridge tops and side slopes in strongly dissected upland areas of the Coastal Plain. Permeability is moderate in undisturbed areas of the Sassafras series, and runoff is medium. The hazard of erosion is moderate. Due to disturbance in this complex, detailed onsite characterizations are necessary to determine potential uses and limitations of the mapping unit (USDA 1976).

Woodstown sandy loam, 0 to 8 percent slopes (WoB). This Woodstown series consists of deep and moderately well drained soils that formed in unconsolidated deposits of very old, sandy marine

sediments. This phase of the Woodstown series is nearly level to gently sloping and occurs in upland areas of the Coastal Plain. Permeability in the soil is moderate and runoff is slow to medium. Seasonal wetness occurs in the soil due to a high water table that occurs in the winter and early spring. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Area B (Reservation 451 East)

Beltsville silt loam, 0 to 8 percent slopes (BdB). The Beltsville series consists of deep, moderately well drained soils that formed in silty material deposited over very old sandy or gravelly deposits on uplands of the Coastal Plain. The Beltsville silt loam has slow permeability and a seasonal perched water table due to the occurrence of a fragipan at about two feet. The 0 to 8 percent slopes phase of the Beltsville silt loam occurs on nearly level to gently sloping upland areas. Runoff is slow to medium and the hazard of erosion is moderate. The soil becomes saturated quickly following rain or snowmelt and normally remains wet for an extended period of time. Nearly level areas of the soil have a tendency to pond after heavy rainfall. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Bourne fine sandy loam, 8 to 15 percent slopes (BnC). The Bourne series consists of deep, moderately well drained soils that formed in thick sandy sediment containing moderate amounts of clay and silt. Permeability in the Bourne series is slow to very slow and there is a fragipan that occurs from 18 to 24 inches below the surface. The 8 to 15 percent slopes phase of the Bourns fine sandy loam occurs on moderately sloping broad ridge tops. Runoff is medium and there is a seasonal perched water table as a result of the occurrence of the fragipan. Path and trail development is moderately limited due to seasonal wetness (USDA 1976).

Iuka sandy loam (Ik). The Iuka sandy loam is a deep and moderately well drained soil that formed in alluvium on flood plains of the Coastal Plain. Permeability in the soil is moderate, and runoff is slow. There is little or no hazard of erosion. Path and trail development is slightly limited.

Keyport fine sandy loam, 0 to 8 percent slopes (KeB). The Keyport series consists of deep and moderately well drained soils that formed in a thin mantle of fine sandy loam material over much older, more clayey deposits. This phase of the Keyport series has a moderate slope and is found on dissected uplands of the Coastal Plain. The soil has slow permeability and runoff is medium. The hazard of erosion is moderate to severe. The soil has fair potential for recreational uses because of slope. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Keyport fine sandy loam, 8 to 15 percent slopes (KeC). See above for a description of the Keyport series. The 8 to 15 percent slopes phase of the soil occur moderately sloping dissected uplands on the Coastal Plain. The hazard for erosion in this phase of the series is moderate to severe. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Keyport urban land complex, 0 to 8 percent slopes (KmB). This complex consists of moderately sloping and moderately well drained soils of the Keyport series which, for the most part, have been graded or filled during urban development. Permeability is slow in areas where the soil has been relatively undisturbed. Runoff is medium to rapid, and the hazard of erosion is severe. Characteristics of undisturbed areas of the Keyport series within the complex are described above. Characteristics of the Urban land component of the complex are also described above in the Area A soils discussion. Suitability of the complex for path and trail development is slightly limited (USDA 1976).

Keyport urban land complex, 8 to 15 percent slopes (KmC). This complex consists of moderately sloping and moderately well drained soils of the Keyport series which, for the most part, have been graded or filled during urban development. Permeability is slow in areas where the soil has been relatively undisturbed. Runoff is rapid, and the hazard of erosion is severe. Characteristics of undisturbed areas of the Keyport series within the complex are described above. Characteristics of the

Urban land component of the complex are also described above in the Area A soils discussion. Suitability of the complex for path and trail development is slightly limited (USDA 1976).

Sassafras gravelly sandy loam, 0 to 8 percent slopes (ScB). The Sassafras series consists of well drained soils that formed from marine deposits of sandy sediments, which contain moderate amounts of silt and clay. This phase of the Sassafras series consists of nearly level to gently sloping soils that occur on ridge tops and side slopes of strongly dissected upland areas of the Coastal Plain. Permeability is moderate in this soil, and runoff is slow to medium. The hazard of erosion is moderate. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Sassafras gravelly sandy loam, 8 to 15 percent slopes (ScC). See above for a description of the Sassafras series. This phase of the Sassafras series consists of moderately sloping soils that occur on ridge tops and side slopes of strongly dissected upland areas of the Coastal Plain. Permeability is moderate in this soil, and runoff is medium. The hazard of erosion is severe. Because of slope and a gravelly surface layer, this soil has only fair potential for most recreational uses. Path and trail development is slightly limited (USDA 1976).

Sassafras gravelly sandy loam, 15 to 40 percent slopes (ScD). See above for a description of the Sassafras series. Permeability is moderate in this soil, and runoff is rapid. The hazard of erosion is severe. Because of slope and a gravelly surface layer, this soil has only fair potential for most recreational uses. Path and trail development is severely limited due to slope (USDA 1976).

Sassafras-Urban land complex, 8 to 15 percent slopes (SgC). This complex consists of moderately sloping and moderately well drained soils of the Sassafras series which, for the most part, have been graded or filled during urban development. Characteristics of undisturbed areas of the Sassafras series within the complex are described above. Characteristics of the Urban land component of the complex are also described above in the Area A soils discussion. This soil complex is found in the upland areas of the Coastal Plain that have been urbanized. Permeability is moderate in areas of this complex where the soils are relatively undisturbed, and it is variable in areas dominated by cuts, fills, and urban land. Runoff is rapid, and the hazard of erosion is severe. Suitability of the complex for path and trail development is slightly limited (USDA 1976).

Sunnyside fine sandy loam, 8 to 15 percent slopes (SmC). The Sunnyside series consists of deep, well drained soils that formed in unconsolidated deposits of very old, dominantly sandy sediment. This phase of the Sunnyside series occurs on moderately sloping ridge tops and side slopes in strongly dissected upland areas of the Coastal Plain. Permeability is moderate in this soil, and runoff is medium. The hazard of erosion is moderate to severe. Suitability of the soil for path and trail development is slightly limited (USDA 1976).

Udorthents (U1). See the description of Udorthents in the Area A discussion above.

Udorthents, sandy (U3). This mapping unit consists of mostly sandy filled areas that have been cut or filled during grading for roads, railroads, housing developments, recreation areas, and similar uses. Permeability is variable in the mapping unit. Runoff and internal drainage is also variable. Areas in this mapping unit where fill occurs are subject to subsidence. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit for any proposed use (USDA 1976).

Udorthents, sandy, smoothed (U8). See the description of Udorthents, sandy, smoothed in the Area A discussion above.

Urban land (Ub). See the description of Urban land in the Area A discussion above.

Urban land-Sassafras complex, 8 to 15 percent slopes (UxC). See the description of the Urban land-Sassafras complex in the Area A discussion above.

Woodstown sandy loam, 0 to 8 percent slopes (WoB). See the description of the Woodstown sandy loam, 0 to 8 percent slopes in the Area A discussion above.

Woodstown-Urban land complex, 0 to 8 percent slopes (WpB). See the description of the Woodstown sandy loam, 0 to 8 percent slopes and Urban land in the Area A discussion above. This mapping unit consists of moderately well drain Woodstown soils; however, most areas have been graded, cut, filled, or otherwise disturbed due to urbanization. Permeability is moderate in the relatively undisturbed areas of this complex, and it is variable in disturbed areas. Runoff is medium to rapid, and the hazard of erosion is moderate to severe. Because of seasonal wetness and limited open space, this complex has poor potential for most recreational uses. However, detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit for any proposed use (USDA 1976).

Area C (Reservation 531)

Sassafras-Urban land complex, 8 to 15 percent slopes (SgC). See the description of the Sassafras-Urban land complex in the Area B discussion above.

Udorthents (U1). See the description of Udorthents in the Area A discussion above.

Udorthents, gravelly, smoothed (U7). This mapping unit consists of areas that have been cut or filled during grading for roads, railroads, housing developments, recreation areas, and similar uses. Permeability is variable in the mapping unit. Runoff and internal drainage is also variable and the hazard for erosion is moderate to severe. Areas in this mapping unit where fill occurs are subject to subsidence. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit for any proposed use (USDA 1976).

PRIME FARMLAND

The Sassafras sandy loam, 0 to 8 percent slopes; Sassafras gravelly sandy loam, 0 to 8 percent slopes; and Woodstown sandy loam 0 to 8 percent slopes are considered prime farmland soils by the United States Department of Agriculture, Natural Resources Conservation Service. The Keyport fine sandy loam, 0 to 8 percent slopes and the Iuka sandy loam are considered farmland of statewide importance. The presence of prime farmland soil is a necessary component of prime farmland and is the primary indicator used to determine where potential prime farmland occurs. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil to produce a sustained high yield of crops in an economic manner. The land could be cropland, pasture, rangeland, or other land, but not urban built-up land or water.

Prime farmland is protected under the Farmland Protection Policy Act of 1981. The intent of the act is to minimize the extent to which federal programs contribute to the unnecessary or irreversible conversion of farmland to nonagricultural uses. The act also ensures that federal programs are administered in a manner that, to the extent practicable, will be compatible with private, state, and local government programs and policies to protect farmland. The Natural Resources Conservation Service is responsible for overseeing compliance with the Farmland Protection Policy Act and has developed the rules and regulations for implementation of the act (7 CFR Part 658).

The implementing procedures of the Farmland Protection Policy Act and Natural Resources Conservation Service require federal agencies to evaluate the adverse effects (direct and indirect) of their activities on prime and unique farmland, as well as farmland of statewide and local importance, and to consider alternative actions that could avoid adverse effects. Determination of whether an area is considered prime or unique farmland and potential impacts associated with a proposed action is based on preparation of the farmland conversion impact rating form AD-1006 for areas where prime farmland soils occur and by applying criteria established at section 658.5 of the Farmland Protection Policy Act (7 CFR 658).

VEGETATION AND WILDLIFE

VEGETATION

Area A (Reservation 451 West and 497)

The trail alignment within Fort Totten Park adjacent to the Metro Station (Reservation 451W) is located on land that has been previously disturbed as a result of the construction of the station. Vegetation along the proposed alignment between the southern park boundary at the concrete plant drainage ditch and the wooded area located to the north of the Metro Green Line tunnel is characterized by wooded and scrub habitats dominated by invasive and exotic and invasive species. Overstory vegetation in the wooded areas is dominated by black locust (*Robinia pseudoacacia*), primarily along the southern stretch of the alignment, and tree of heaven (*Ailanthus altissima*). The shrub layer, both in wooded and scrub areas, is dominated by amur honeysuckle (*Lonicera maackii*), with Japanese honeysuckle (*Lonicera japonica*) and wild grapes (*Vitis* spp.) occurring as dominant vines.

Vegetation in the wooded area to the north of the Metro Green Line tunnel along the proposed trail alignment is dominated by black locust in the overstory with box elder (*Acer negundo*), tulip poplar (*Liriodendron tulipifera*), tree of heaven, elm (*Ulmus* spp.), chestnut oak (*Quercus prinus*), pin oak (*Quercus palustris*), red maple (*Acer rubrum*), northern catalpa (*Catalpa speciosa*), and Norway maple (*Acer platanoides*) also occurring. Red maple occurs as a dominant species in the sub-canopy layer. Amur honeysuckle is the dominant species in the shrub layer along with some blackberries (*Rubus* spp.). Vine species occurring in the wooded area are characterized by honeysuckle and wild grapes. Herbaceous coverage in the wooded area is sparse to absent. Vegetation within the park to the north of the wooded area is characterized by maintained lawn with sparse landscaped trees including pin oak and Siberian elm (*Ulmus pumila*) along the existing sidewalk.

The proposed trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) follows a social path on the west side of the park property for a short distance before joining Kennedy Avenue (Alternatives A1 and A3), or cuts east to the eastern boundary of the park then north, parallel to the CSX tracks, up to New Hampshire Avenue (Alternatives A2 and A4). The NPS property between Riggs Road and New Hampshire Avenue is characterized primarily by forested habitat that has been disturbed in areas. Overstory species occurring in the southern area of the property are characterized by post oak (*Quercus stellata*), willow oak (*Q. phellos*), pin oak, tulip poplar, Norway maple, red maple, and tree of heaven, with Japanese honeysuckle, English ivy (*Hedera helix*), green briar (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), and Virginia creeper (*Parthenocissus quinquefolia*) characterizing the understory. Vegetation occurring along the eastern boundary of the park parallel to the CSX tracks is characterized by a dominance of black locust, tree of heaven, and black cherry in the overstory, with Japanese honeysuckle, blackberries, green briar, poison ivy, oriental bittersweet (*Celastrus orbiculatus*), and trumpet creeper in the understory. The northern section of the wooded area is characterized by a dominance of Norway maple, black locust and black cherry in the overstory with an understory characterized by species occurring along the eastern boundary. Pachysandra (*Pachysandra terminalis*) occurs as a ground cover at several locations in the wooded area. The northeastern corner of the NPS property between Riggs Road and New Hampshire Avenue is characterized by a maintained lawn with widely spaced black locust.

The proposed alignment of the trail in the vicinity of Community Gardens (Alternatives A3 and A4) follows existing service roads. Vegetation occurring on the unpaved service roads is characterized by grasses and herbaceous weedy species that have survived foot and occasional vehicle traffic on the roads.

Area B (Reservation 451 East)

Under Alternative B1, the connector from Fort Totten to DC/MD border would parallel Gallatin Street up to St. Anne's Church, then cuts through a wooded area along an existing trail to the DC/MD border. Vegetation along the trail alignment from near the Metro Station to the intersection of 14th Street and Gallatin Street is characterized by open maintained lawn. From 14th Street to St. Anne's Church, vegetation is characterized by an eight to ten foot wide maintained lawn shoulder bordered by woods. The wooded area is characterized by sweet gum, mulberry, box elder, basswood (*Tilia americana*), willow oak, and tree of heaven in the overstory, with grapes, staghorn sumac (*Rhus typhina*), poison ivy, and Virginia creeper occurring in the understory. The wooded area along the trail alignment adjacent to St. Anne's Church is characterized by black locust, black cherry, Norway maple, sweet gum, tulip poplar, pin oak, white oak (*Quercus alba*), southern red oak (*Quercus falcata*), sassafras, and mulberry in the overstory with Virginia creeper, grapes, poison ivy, green briar, Japanese honeysuckle, and mile a minute weed (*Polygonum perfoliatum*) characterizing the understory. The trail to the south and east of St. Anne's Church follows an existing trail through the wooded area.

Area C (Reservation 531)

Vegetation on NPS Land in Area C is characterized by maintained lawn with sparse landscaped trees.

WILDLIFE AND WILDLIFE HABITAT**Area A (Reservation 451 West and 497)**

The trail alignment within Fort Totten Park adjacent to the Metro Station (Reservation 451 West) is located on land that has been previously disturbed as a result of the construction of the Metro Station. Common fauna likely to occur in the vicinity of the Metro station would be expected to include species adapted to disturbed habitats associated with a high use urban environment and transient species associated with the adjacent forested habitats. Examples of wildlife species likely to occur in the area around the Metro station include grey squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), and eastern chipmunk (*Tamias striatus*). Examples of avian species likely to occur in the area include English sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), common grackle (*Quiscalus quiscula*), northern cardinal (*Cardinalis cardinalis*), mocking bird (*Mimus polyglottos*), American robin (*Turdus migratorius*), and pigeon (*Columba livia*).

Common fauna likely to occur on the trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) includes the gray squirrel, raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*), field mouse (*Apodemus sylvaticus*) and other small mammals along with American toad (*Bufo americanus*), black rat snake (*Elaphe obsoleta*), and eastern garter snake (*Thamnophis sirtalis*). Examples of avian species likely to occur in the area include English sparrow, European starling, common grackle, northern cardinal, mocking bird, American robin, mourning dove (*Zenaida macroura*), Carolina wren (*Thryothorus ludovicianus*), tufted titmouse (*Parus bicolor*), chickadee (*Poecile atricapilla*), nut hatch (*Sitta carolinensis*) and other transient species that may utilize the isolated wooded habitat for resting as they pass through the area on migrations. Additionally, the forested area adjacent to the CSX tracks is isolated from adjacent forested habitats; therefore, the diversity of wildlife species occurring in the area is likely limited.

The proposed trail alignment in the area of Community Gardens contains species that are similar to those likely to be found in the wooded area between Riggs Road and New Hampshire Avenue.

Area B (Reservation 451 East)

Under Alternative B1, the connector from Fort Totten to the DC/MD border parallels Gallatin Street (Reservation 451 East) up to St. Anne's Church, then cuts through a wooded area along an existing trail to the DC/MD border. The proposed trail alignment from near the Metro Station to the intersection of 14th Street and Gallatin Street is located in an open area adjacent to Gallatin Street that is characterized as maintained lawn. The south side of Gallatin Street borders a residential neighborhood. Wildlife use of the area would be expected to be minimal due to the open character of the habitat and its location adjacent to the road. Grey squirrels and avian species similar to those listed for the Fort Totten Metro Station probably occasionally occur in this area of the trail alignment. The trail alignment to the south and east of 14th Street borders a wooded area up to St. Anne's Church, then cuts through the woods along an existing trail to the DC/MD border. Wildlife species similar to those listed for the wooded area between Riggs Road and New Hampshire Avenue also probably occur in these woods. In addition, white-tail deer probably also occur in this area due to the larger more connected nature of these woods.

Area C (Reservation 531)

Park land on the north side of Piney Branch Road in Area C is characterized by maintained lawn with sparse trees including willow oak, southern red oak, northern red oak (*Quercus rubra*), pin oak, and scarlet oak (*Q. coccinea*). The western boundary of the park land adjacent to Piney Branch Road is characterized primarily by amur honeysuckle with white mulberry and English ivy.

National Park Land on the south side of Piney Branch Road adjacent to the Cady-Lee Mansion is characterized by a maintained lawn and garden habitats with willow oak, pin oak, Norway pine (*Pinus resinosa*), flowering dogwood (*Cornus florida*), amur honeysuckle, Japanese honeysuckle, and English ivy.

THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN

The Endangered Species Act (16 USC 1531 et seq.) mandates that all federal agencies consider the potential affects of their actions on species listed as threatened or endangered. Section 7 of the Endangered Species Act requires federal agencies that fund, authorize, or carry out an action to ensure that their action is not likely to jeopardize the continued existence of any threatened or endangered species (including plant species) or result in the destruction or adverse modification of designated critical habitats. If NPS determines that an action may adversely affect a federally listed species, consultation with the U.S. Fish and Wildlife Service (USFWS) would be conducted to ensure minimization of potential adverse impacts to the species or its designated critical habitat.

Informal consultation was initiated with the USFWS for information regarding species of special status with the potential to occur on or in the vicinity of the proposed trail alignments. In addition, Rock Creek Park was contacted regarding D.C. listed species with the potential to occur in the vicinity of the proposed trail alignments. There are no known occurrences of listed species in the vicinity of the trail alignments.

CULTURAL AND HISTORIC RESOURCES

Historic and cultural resources are buildings, structures, objects, sites, and districts that possess prehistoric or historic significance. Significance is further defined as those buildings, structures, objects, sites, and districts that are listed or meet eligibility criteria for listing on the National Register of Historic Places. Rock Creek Park is listed on the National Register of Historic Places as an historic district. The historic district boundaries are co-terminus with the park's boundaries.

The assessment of impacts to cultural resources under NEPA integrates analyses required by the *National Historic Preservation Act of 1966*, as amended. Section 106 of the *National Historic Preservation Act* requires federal agencies to take into account the effects of their undertakings on significant cultural

resources, or historic properties, and to provide the Advisory Council on Historic Preservation an opportunity to comment on an undertaking's adverse effects. An adverse effect or impact is found if a federal undertaking alters, either directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion on the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association [36 CFR 800(a)(1)].

Consultation was initiated with the District's State Historic Preservation Officer (SHPO) as required by Section 106. Responses from THE District's SHPO are included in Appendix A

Area A (Reservation 451 West and 497)

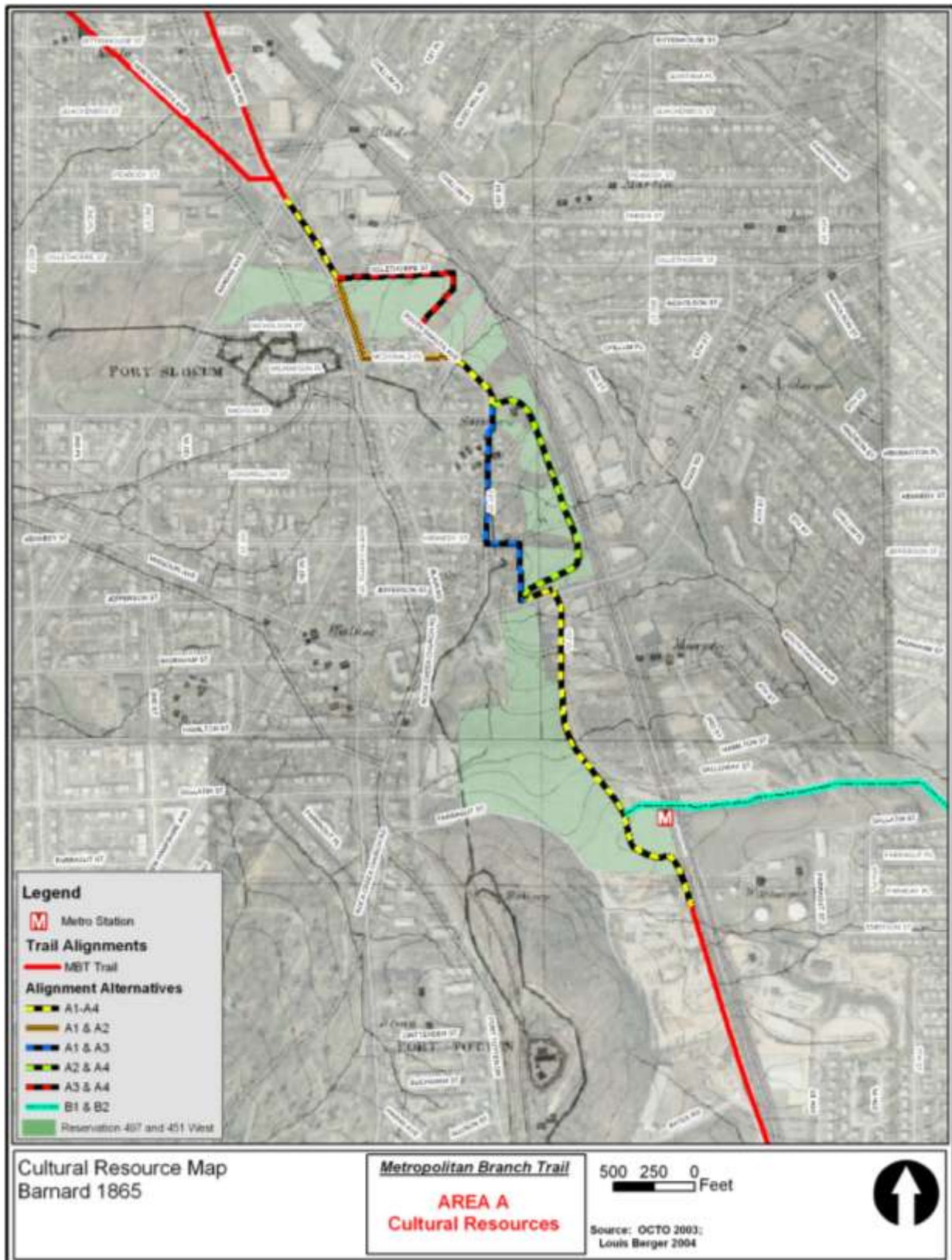
Reservations 451 West and 497 are part of the Fort Circle Parks, which are administered by Rock Creek Park. Specifically, Reservations 451 West and 497 are part of the Fort Totten and Fort Slocum Parks. According to the Draft Fort Circle Parks Management Plan, both Reservations are not delineated as Cultural Zones. Historic earthworks of Fort Slocum and Fort Totten are located in Reservation 435 and Reservation 544, respectively. There are no known earthworks located in Reservations 451 West or 497.

Fort Totten was built during the summer and fall of 1861 as part of a system of fortifications encircling the capital. The perimeter of the fort measured about 272 yards, and it held 20 guns and mortars. A garrison comprising 350 officers and men, including 180 artillerymen, occupied the fort. Fort Totten's long-range artillery participated in the shelling of Jubal Early's troops during the Battle of Fort Stevens in July of 1864. The fort was abandoned soon after the end of the Civil War and the complex of wooden structures (barracks, mess hall, etc.) located south of the earthworks was handed over to the local landowner, George Thomas (Cooling and Owen 1988:167-172).

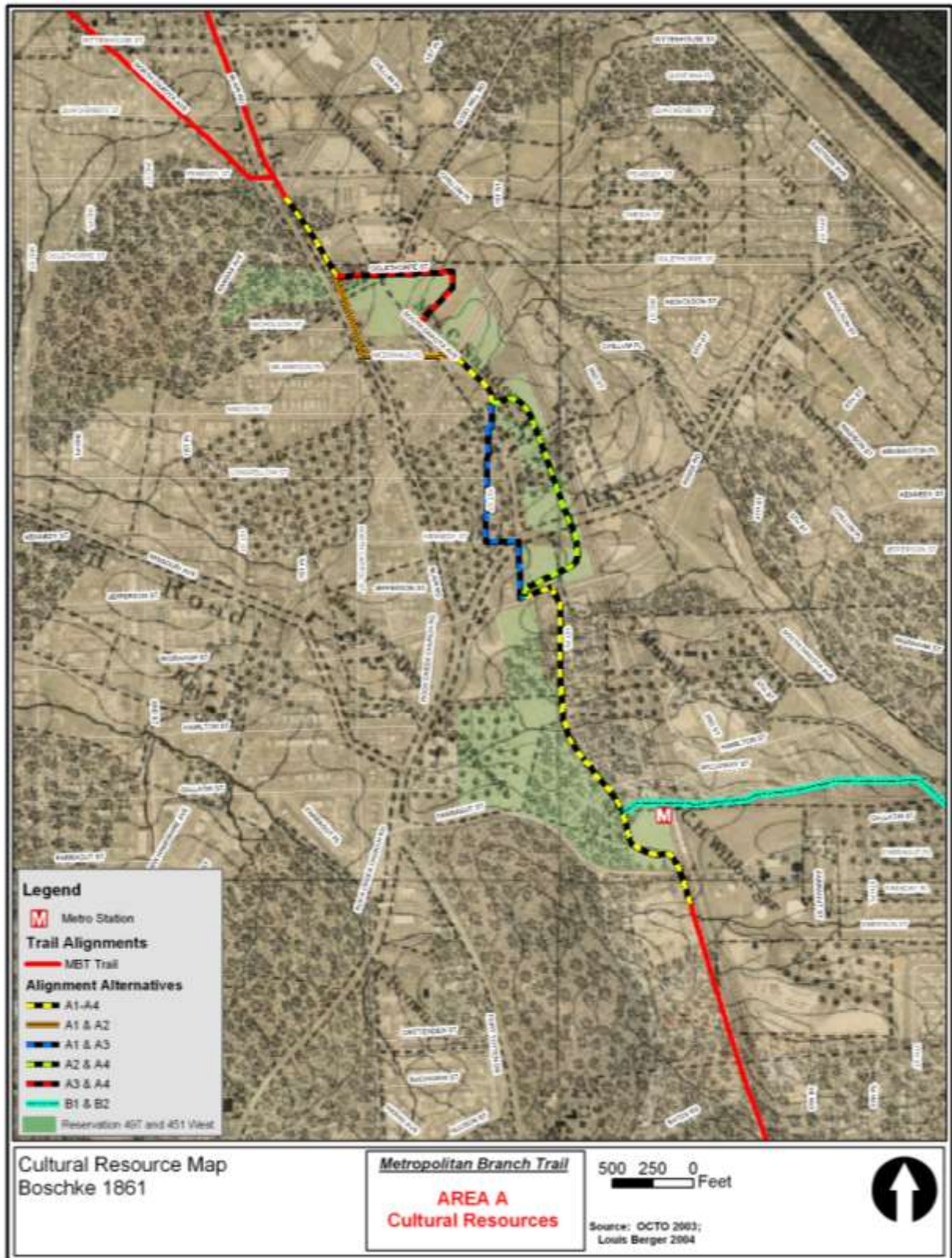
The fort and surrounding structures are depicted on the 1865 Barnard map of the defenses of Washington (Map 9), and another map from the 1860s or 1870s, also in the National Archives (reproduced, without source citation, by Cooling and Owen 1988:171). The earthworks of Fort Totten are still present today; however, the surrounding works and structures shown on the historic maps are no longer evident.

The area containing the Blair Community Gardens (NPS Reservation 497) is located about 5,000 feet to the north of Fort Totten. NPS Reservation 497 is bordered by McDonald Place, Blair Road, Oglethorpe Street, and New Hampshire Avenue. Examination of the Barnard map and the 1861 Boschke map of this area (overlaid on current streets, Map 9) raises two issues of archeological concern. Both maps depict a residence and a cluster of associated outbuildings near the present-day intersection of 1st Street and South Dakota Avenue. These structures were located approximately 250 feet southeast of the current location of the Blair Road Community Gardens. This residential cluster is assigned to "Mrs. C. Sanders" in 1861, and to "Sanders" in 1865. The outbuildings have doubtless been destroyed by urban development in the area that would be crossed by the trail under alternatives A1 and A3.

MAP 9: BARNARD 1865 MAP



MAP 10: BOSCHKE 1861 MAP



However, the residence stood to the northeast, adjacent to the trail as delineated under alternatives A2 and A4. cursory site inspection has shown that there are no obvious above-ground remnants of this structure. The surrounding area, though now overgrown and not developed, has some indications of substantial earth movement in the past. Although survival of significant archeological deposits from the mid-nineteenth-century occupation seems unlikely under these circumstances, available evidence does not preclude the possibility.

An additional concern is that the historic maps show that the proposed trail in this area (under alternatives A2 and A4) crosses what was originally a gently sloping upland ridge traversed by a small stream flowing eastward. Also, a historic road, called Right Fork, once paralleled the stream and also crossed the proposed trail. In this region, it would not be unusual to find evidence of prehistoric activity in such a setting, particularly if cobbles of quartz or quartzite, usable for tool manufacture, were available in the vicinity. As in the case of the historic residence, apparent extensive previous disturbance of the landscape has probably destroyed or at least severely compromised the integrity of any prehistoric archeological deposits that may once have existed here. However, the possible existence of such deposits has not yet been definitely precluded.

Along most of the rest of its proposed route, the trail would be situated in areas that have been severely graded and disturbed to accommodate previous construction of the Fort Totten Metro station and residential development. If there were ever any prehistoric or historic occupation sites in these areas, the previous grading would have destroyed them or at least severely compromised their integrity. Additionally, review of the District's Inventory of Historic Sites Map (dated 2003), which also includes District properties listed on the National Register of Historic Places, did not indicate the presence of any historic sites within Reservation 451 West or Reservation 497.

Area B (Reservation 451 East)

Reservation 451 East is also part of the Fort Circle Parks, which is administered by Rock Creek Park. Reservation 451 East is listed as a Connecting Corridor Zone in the Fort Circle Parks Management Plan. There are no known fortification earthworks within this reservation. Additionally, review of the District's Inventory of Historic Sites Map (dated 2003), which also includes District properties listed on the National Register of Historic Places, did not indicate the presence of any historic sites within Reservation 451 East.

Area C (Reservation 531)

The District of Columbia's Takoma Park Historic District was designated by the District in November 1980, with listing on the National Register in June 1983. Under the D.C. Historic Landmark and Historic District Protection Act, all new development and exterior alterations to existing structures within the Takoma Park Historic District must be reviewed and approved by the D.C. Historic Preservation Review Board. The Takoma Park Historic District contains approximately 160 contributing buildings dating from 1883 to 1940, and is generally bounded by Aspen Street on the south, Piney Branch Road and 7th Street on the west and Eastern Avenue on the northeast (Map 11).

The Cady-Lee Mansion (Figure 1) is a well known D.C. Historic Landmark and is listed on the National Register of Historic Places. The mansion is located at 7064 Eastern Ave, NW, within the Takoma Park Historic District. Alternatives C1, C2, and C3 would all pass near the Cady-Lee Mansion. Alternative C1 would pass the Mansion on the western side of Eastern Avenue, Alternative C2 would run along the north side of Piney Branch Road, and C3 would pass just west of the Mansion along the tracks.

MAP 11: TAKOMA PARK HISTORIC DISTRICT



FIGURE 1: PHOTOGRAPH OF CADY-LEE MANSION FROM EASTERN AVENUE

In 2002, the D.C. Office of Planning's Historic Preservation Division and Historic Takoma, Inc. are jointly funding and conducting a survey of historic properties within the traditional Takoma, D.C. community that are not already included in the original historic district. An estimated 1,000 properties are located in the survey area, which extends from the existing district west to Georgia Avenue and south to Van Buren Street. About 80-100 of these will be selected for more detailed study, and approximately 40 properties will be documented and photographed to the standards of the National Register of Historic Places. This survey may lead to eventual expansion of the Takoma Park Historic District and protection of additional historic resources.

VIEWSHEDS

Due to the historic use of the Fort Circle Parks, the earthworks constructed during the Civil War were located and constructed based on their site lines so that soldiers could look out from the high ground toward Maryland and Virginia to protect the city. This allowed views between the forts that were essential for communication using signaling flags. Over time, this vantage point has become reversed (possibly due to cutting and filling) so that now citizens look up at the forested ridge. Due to these changes, the original views from some Fort Circle Park earthworks are no longer available; however, several of the high points at these forts still offer panoramic views of the city. Due to the historic nature of these sites and the views they offer, the Fort Circle Parks Management Plan calls for the NPS to work with the District of Columbia Zoning Commission and Office of Planning to preserve these views, as well as reciprocal views used for signaling, from being obscured by development on the park perimeters (NPS 2003b).

Field reconnaissance was conducted in September 2004 to determine the existing conditions of the viewsheds on and around NPS lands located in the vicinity of the proposed trail.

Area A (Reservation 451 West and 497)

Reservation 451 West includes the area of trail west of the Fort Totten Metro station and Metro parking. As the proposed trail passes around the Metro tunnel, the elevation provides an excellent view to the east over the Metro tracks and station. The trail as proposed would be cut into the hillside and would enjoy the view and would not obstruct it. Lighting would be constructed with the trail; existing lighting is around the Metro facilities and First Place.

Reservation 497 is the location of the Blair Road Community Gardens, which have been located in the community since World War II. Land uses surrounding the Community gardens include single-family homes and religious institutions. Existing lighting in the vicinity of the Blair Road Community Gardens includes street lights from the surrounding roadway network and lights from adjacent single-family homes. Due to the topography and vegetation growth at the gardens, views to adjacent land uses are slightly obstructed. Figures 2, 3, and 4 show the view from the Blair Road Community Gardens to the surrounding land uses.

The remainder of Reservation 497 that is not part of the Community Gardens, proposed for the trail is composed of open space and forested areas. These NPS lands are surrounded by single-family homes and the surrounding roadway network. Portions of this area proposed for the trail are completely located inside wooded areas and not visible from surrounding land uses. Existing lighting in the area include street and house lights associated with the adjacent single-family homes.

**FIGURE 2: VIEW FROM ENTRANCE TO BLAIR ROAD COMMUNITY GARDENS,
LOOKING WEST**



**FIGURE 3: VIEW FROM ENTRANCE TO BLAIR ROAD COMMUNITY GARDENS,
LOOKING NORTH**



**FIGURE 4: VIEW FROM ENTRANCE TO BLAIR ROAD COMMUNITY GARDENS,
LOOKING NORTHEAST**



Area B (Reservation 451 East)

Reservation 451 is largely open space with pockets of forested areas. These open spaces are surrounded by the local roadway network (Galloway Street to the north and Gallatin Street to the south) as well as single-family residences. Lighting in this area occurs in association with the roadway network and surrounding residences. This area is relatively low lying and does not offer views of the city such as those at the Fort Circle Park earthworks. Figure 5 and Figure 6 show Reservation 451 and the surrounding viewshed.

Area C (Reservation 531)

Reservation 531 is located to the northwest of Cady-Lee Mansion. Reservation 531 is bordered by Eastern Avenue to the northeast, Cady-Lee Mansion and Piney Branch Road to the southeast, and the Metro tracks to the southwest. Surrounding land uses include the roadways, Cady-Lee Mansion, Metro tracks, multi-family residences, and single family residences on the Maryland side of Eastern Avenue. Existing lighting from the surrounding land uses includes street lights along Eastern Avenue, lights from single and multi-family housing, and lighting from the Metro tracks. Figure 7 shows the location for a bridge along the eastern side of the tracks across Piney Branch Road. Figure 8 provides a view from NPS property of the side yard of the Cady-Lee Mansion looking toward the Metro tracks.

LAND USE

For the purpose of describing the affected environment pertaining to land use, wherever the MBT ran adjacent to, or through, a specific NPS reservation, land use immediately adjacent to the MBT (within 500 feet of the center line of the Reservation) was described.

Additionally, the NPS uses zoning to provide a framework for decisions on use and development within reservations. The Draft Fort Circle Parks Management plan has divided park land into the following seven management zones: Administrative Zone, Cultural Zone, Connecting Corridor Zone, Natural Zone, Recreational Zone, Special Use Zone, and Visitor Zone. The NPS zoning for each for each reservation the MBT encounters has also been described in this document.

For each zone, “management prescriptions” were developed in the Management Plan. As defined by the NPS, “management prescriptions are an approach for administering or treating the resources or uses of a specified area based on desired outcomes.” Management prescriptions include target goals or objectives for one or more resources and/or visitor experiences that are present within the prescription area. The Fort Circle Parks consist of multiple zones with different management prescriptions (NPS 2003b).

Area A (Reservation 451 West and 497)

Areas immediately adjacent to Reservation 451 West include mostly low-density residential housing with areas of mixed-use. Located south of Riggs Road, and on the western edge of Reservation 451 West is the Mamie Lee School. The proposed trail enters Reservation 451 West from the north 550 feet south of the intersection of Riggs Road and 1st Place, running south to the Fort Totten Metro station, where it splits south and east. Located on the southeastern and southwestern corner of Riggs Road and 1st Place are two buildings owned by the Dominion Church of Washington D.C. As the trail runs along 1st Place, the area immediately to the east of the trail contains several multi-use buildings, including a union halls and the MCI Tech Center, and to the west, a Metro Transit Police facility, another union hall, and The Lighthouse: Center for Healing. A parking lot for the Fort Totten Metro Station is located just south of these buildings. As the proposed trail branches south at the Fort Totten Metro Station, Reservation 451 West is located west of the trail as it goes past the Fort Totten Metro Station. After about 250 feet, the trail leaves NPS lands and enters an area of mixed commercial and production facilities, with the Trash Transfer Station west of the trail and the Aggregate Industries Concrete plant to the east.

FIGURE 5: VIEW OF RESERVATION 451, THE PRINCE GEORGE'S COUNTY SPUR, AND SURROUNDING VIEWSHED



FIGURE 6: VIEW OF RESERVATION 451, THE PRINCE GEORGE'S COUNTY SPUR, AND SURROUNDING VIEWSHED



FIGURE 7: VIEW OF LOCATION FOR ALTERNATIVE C3 BRIDGE OVER PINEY BRANCH ROAD, TO SIDE OF CADY-LEE MANSION



FIGURE 8: VIEW FROM NPS PROPERTY OF SIDE YARD OF THE CADY- LEE MANSION PROPERTY



The Draft Fort Circle Parks Management Plan divides Reservation 451 West into two management zones. The northern section of Reservation 451 West is delineated as a Recreational Zone and the southern section of the reservation is designated as a Natural Zone (NPS 2003b).

A Recreational Zone is defined in the Management Plan as areas where facilities for recreation have been developed or where specific activities have been designated. Examples include picnic areas, baseball, basketball, or softball/soccer fields, and community gardens. It would also include associated areas of parking. These would be relatively small nodes of intense activity within portions of the Fort Circle Parks that are not associated with the Civil War defenses and do not contain earthworks or other historic or archeological resources. The background setting would consist of heavily manicured lawns and well-maintained vegetation and structures. The community gardens would be set aside for use by neighborhood gardeners. Trails around or through this zone would provide visitors with a connection to other zones within Fort Circle Parks (NPS 2003b).

A Natural Zone is defined in the Management Plan as areas of the Fort Circle Parks that are managed primarily to maintain forests and natural scenery but may contain cultural resources. Natural processes would predominate except where intervention is needed to protect or restore disturbed systems or to preserve cultural resources. Such areas would include stream valleys, woods, prominent forest corridors, and other sensitive natural areas not included within the cultural resource zone. Resources could be minimally modified for essential visitor needs such as trail improvements or for visitor safety, but only following careful review of alternatives consistent with the environmental compliance process. The tolerance for resource degradation would be low. This would be the largest zone in the Fort Circle Parks (NPS 2003b).

Refer to Map 12 for a map of land use adjacent to the proposed MBT alignment and Reservation 451 West and management zones associated with Reservation 451 West.

The trail enters Reservation 497 from the north via Blair Road. Oglethorpe Street forms the northern boundary of this reservation. Directly north of Oglethorpe Street is the Washington Animal Rescue League and several commercial properties including: the Jarboe Printing Company and Kolb Electric,. Also located along the northern boundary of the reservation, west of Blair Road, at the corner of Kansas and North Dakota Avenues, lies the District of Columbia Public Schools, Rabaut Administration Building (which currently includes the Ideal Academy Public Charter School). Land use south of Oglethorpe Street is mostly low-density residential housing along the western edge of the reservation and industrial warehouses along the eastern boundary of the reservation, east of the Metro tracks. A line to the south of and parallel to Riggs Road forms the southern boundary of Reservation 497.

The Draft Fort Circle Parks Management Plan divides Reservation 497 into three management zones. The northwest section of Reservation 497 is delineated as a Connecting Corridor Zone, the north section is designated as a Recreational Zone, and the central and southern sections of the reservation are listed as a Natural Zone (NPS 2003b). Refer to the above text for a description of a Recreational and Natural Zone.

Connecting Corridor Zones are areas of the Fort Circle Parks that were purchased for construction of a parkway trail system connecting fort resources. Historic earthworks would not be included in this zone. It would be made up mainly of small parcels of manicured lawn and trees maintained as green space. This zone would provide a pleasant corridor through a mix of trees and open spaces with limited views of the surrounding city. Landscapes would be maintained in a sustainable fashion, and the defining features of this zone would be preserved (NPS 2003b).

Refer to Map 12 for a map of land use adjacent to MBT trail and Reservation 497 and management zones associated with Reservation 497.

MAP 12: LAND USE – RESERVATIONS 451 WEST AND 497



Area B (Reservation 451 East)

The proposed eastern spur follows Galloway Street for roughly 1,000 feet (on an alignment yet to be decided), goes south a short distance along South Dakota Avenue, then east again along Gallatin Street. Land use north of Galloway Street is made up of a parking lot for the Fort Totten Metro Station, medium and low-density residential, with Backus Middle School (being renovated into a University of the District of Columbia facility) located on the northeast corner of South Dakota and Galloway. Land south of Galloway and north of Gallatin streets is NPS Reservation 451, while the area immediately adjacent of the trail south of Gallatin Street is entirely low-density residential.

The Draft Fort Circle Parks Management Plan designates Reservation 451 East as a Connecting Corridor Zone (NPS 2003). Refer to the above text for a description of a Connecting Corridor Zone.

Refer to Map 13 for a map of land use for the MBT and Reservation 451 East and management zones associated with Reservation 451 East.

Area C (Reservation 531)

NPS Reservation 531 is relatively small in size and is divided into two separate parcels by Piney Branch Road. The northern portion forms a triangle and is bounded on the southwestern side by Metro tracks, the northeastern side by Eastern Avenue, and Piney Branch Road on the southeast. The southern portion of the reservation is bounded by Metro tracks, Piney Branch Road, and a private residence.

Land use in the immediate vicinity of the trail and NPS Reservation 531, north of Piney Branch Road, consists of low-density residential housing. The area south of Piney Branch Road is mixed-use, made up of both low-density residential housing and various commercial buildings.

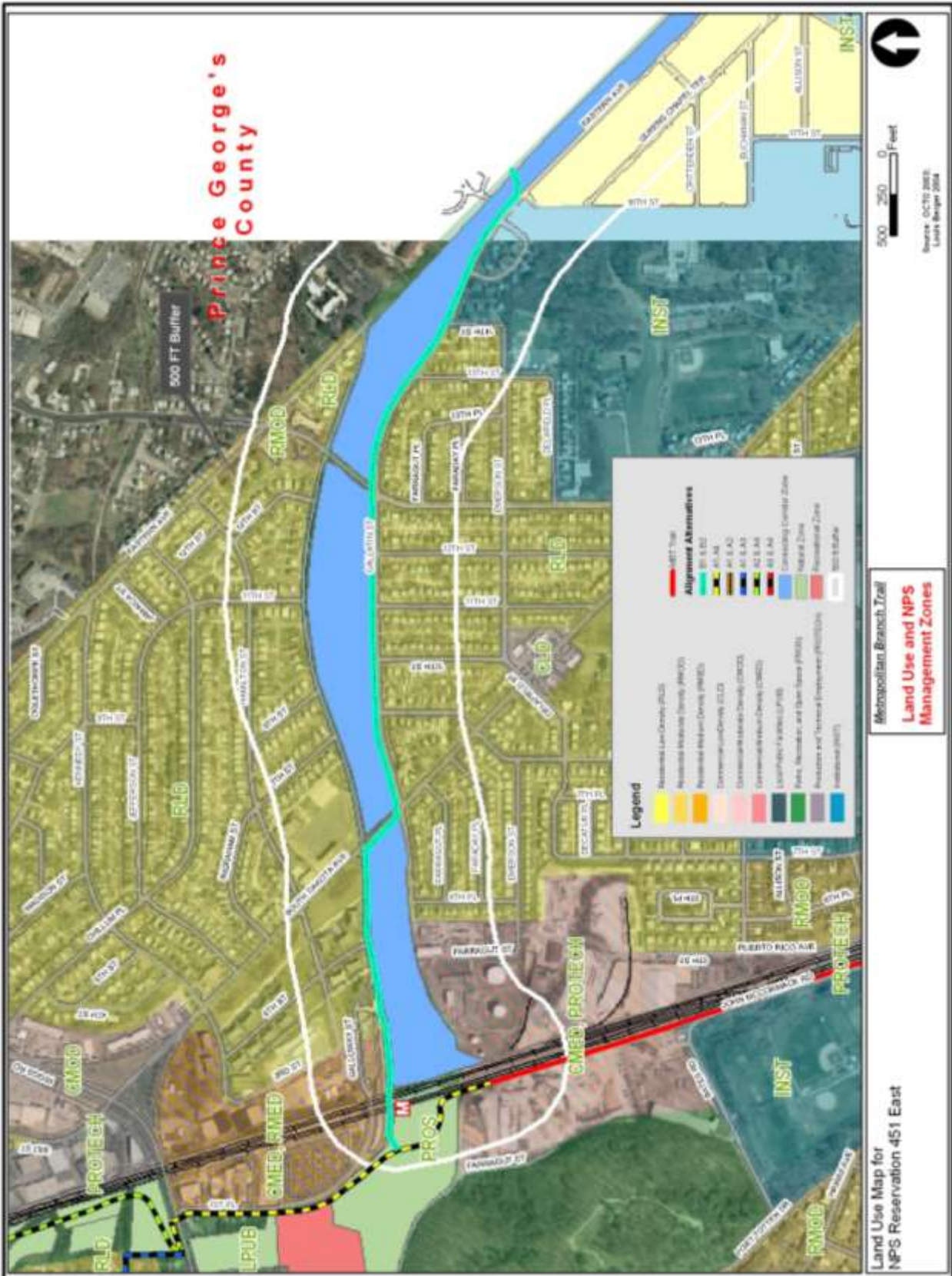
Refer to Map 14 for a map of land use for the MBT and Reservation 531.

VISITOR USE AND EXPERIENCE

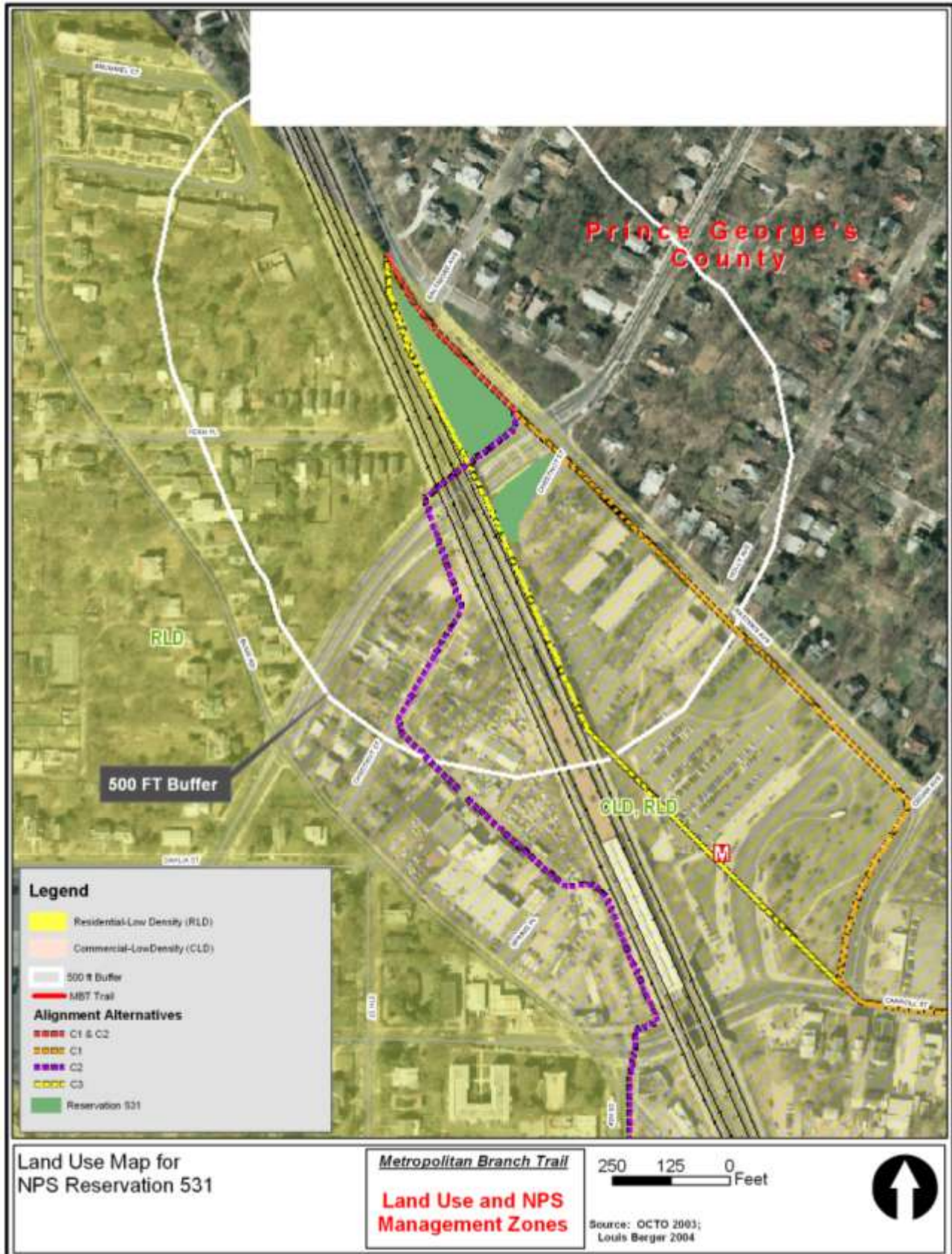
The NPS is committed to protect existing and future recreational opportunities at Rock Creek Park and the Fort Circle Parks. The NPS is committed to providing visitors at these sites with the opportunity to:

- Interact with the cultural and natural resources of the parks in ways that do not damage or derogate those resources and provide safe, satisfying experiences
- Readily access orientation and activity-planning information and easily find their way around park sites
- Enjoy the park sites through passive and active recreational experiences in social or solitary ways
- Learn about or simply enjoy the diversity of the sites' natural resources
- Learn about the important role that the Civil War defenses played in the war
- Appreciate the vulnerability of the sites' natural and cultural resources to human activities inside and outside park boundaries, and actively participate in helping to preserve and protect park resources
- Interact with park employees and/or volunteers who are courteous and knowledgeable
- Access interpretive information about the parks without visiting them

MAP 13: LAND USE – RESERVATION 451 EAST



MAP 14: LAND USE – RESERVATION 531



- Continue learning about park resources after visiting the parks (NPS 2003b)

No formal counts of visitor use for the Fort Circle Parks have been conducted and accurate counts of visitation are not possible due to the nature of use. The Fort Circle Parks are used mostly by members of the local community who use the parks on a regular basis for passive recreational activities. The parks offer a variety of recreational activities, including walking, jogging, Tai Chi, meditation, drawing and painting, bird watching, bicycling, and picnicking. Fort Totten contains open fields, picnic tables, community gardens, an interpretive sign and earthworks, making it conducive to a wide array of recreational activities. It is adjacent to the Fort Totten Metro station, providing visitors with access to the park. In addition, the Fort Circle Parks are used for organized sports such as soccer, softball, basketball, cross country, and track. The parks are also used for educational and interpretive purposes by out of town visitors who have an interest in the Civil War and the fort system. There are no entrance fees to use the Fort Circle Parks (NPS 2003b).

In 1997, the NPS published the Rapid Ethnographic Assessment, Park Users and Neighbors, Civil War Defenses of Washington and Anacostia Park, District of Columbia for Park Management Plans. This study examined the Fort Circle Parks for historical and contemporary links between parks and communities, categories of park users and non-users, the resources visitors used, the meanings and values they attached to those resources, their relations with the NPS, and the changes they would like to see. This information was used to categorize the Fort Circle Parks into four types: multiple use, neighborhood, serendipitous, and orphan parks. Fort Totten was classified as an orphan park that appears to receive little care or use. Recommendations in this study included investing financial resources in the orphan parks so that visitors find them clean, safe, interesting, and welcoming (NPS 1997).

Although the majority of visitor use at the Fort Circle Parks is for passive recreation, community gardens are available at Fort Reno, Fort Stevens, and Fort Totten (Blair Road). Currently the Blair Road Community Gardens contain 200 plots with an average of 200 members. The majority of these members are elderly citizens and there is very little turnover of the garden plots, with many people who have moved out of the area, including into Maryland, returning to D.C. to tend to their plots. Gardening occurs year round when there is a mild winter. In order to obtain a garden plot at the community gardens, a written request must be submitted to the garden manager (H. Williams, Blair Road Community Gardens, Manager, personal communication by telephone, 9/20/04).

Although not on NPS land, the Cady-Lee Mansion is located adjacent to NPS land and adjacent to proposed MBT alignments. The Cady-Lee Mansion is a Victorian home built in 1887 that today serves as the organizational home of the Forum for Youth Investment and the headquarters of Impact Strategies, Inc. The home is listed on the National Register of Historic Places (Forum for Youth Investment, undated).

ENVIRONMENTAL CONSEQUENCES

Potential impacts of the various alternatives are discussed in this chapter in the same order as the Affected Environment.

SUMMARY OF LAWS AND POLICIES

The analysis of impacts was based on four overarching environmental protection laws and policies that guide the DDOT in this action: NEPA, and its implementing regulations; the *USDOT FHWA Environmental Impact and Related Procedures*, the *National Parks Omnibus Management Act of 1998* (NPOMA); and the *NPS Organic Act*.

1. NEPA is implemented through regulations of the Council on Environmental Quality (40 CFR 1500–1508).
2. USDOT FHWA Environmental Impact and Related Procedures (23 CFR 771), established in 1987, prescribes the policies and procedures of FHWA for implementing the NEPA and the regulations of the CEQ, 40 CFR Parts 1500-1508. This regulation sets forth all requirements under NEPA for all FHWA actions/projects.

FHWA technical advisory T6640.8A – *Guidance for Preparing and Processing Environmental and Section 4(F) Documents*, dated October 30, 1987 was created to guide FHWA field offices through the environmental document and Section 4(F) process. Although this technical document is not a regulation, it was developed to provide guidance for uniformity and consistency in the format, content and processing of various environmental studies and documents pursuant to NEPA and 23 U.S.C. 138 (Section f(F) of the USDOT Act) and the reporting requirements of 23 U.S.C. 128.

3. The NPS has adopted procedures to comply with NEPA and the Council on Environmental Quality regulations in *Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making* (2001), and its accompanying handbook.

NPOMA (16 U.S.C. 5901 et seq.) underscores NEPA in that both are fundamental to NPS park management decisions. Both acts provide direction for articulating and connecting the ultimate resource management decision to the analysis of impacts, using appropriate technical and scientific information. Both also recognize that such data may not be readily available and provide options for resource impact analysis should this be the case.

The *Omnibus Act* directs the NPS to obtain scientific and technical information for analysis. The NPS handbook for *Director's Order 12* states that if “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected” (section 4.4).

Section 4.5 of *Director's Order 12* adds to this guidance by stating “when it is not possible to modify alternatives to eliminate an activity with unknown or uncertain potential impacts, and such information is essential to making a well-reasoned decision, the NPS will follow the provisions of the regulations of CEQ (40 CFR 1502.22).” In summary, the Park Service must state in an environmental assessment or impact statement (1) whether such information is incomplete or unavailable; (2) the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific adverse impacts which is relevant to evaluating the

reasonably foreseeable significant adverse impacts; and (4) an evaluation of such impacts based on theoretical approaches or research methods generally accepted in the scientific community.

4. The 1916 *NPS Organic Act* (16 U.S.C. 1) commits the NPS to making informed decisions that perpetuate the conservation and protection of park resources unimpaired for the benefit and enjoyment of future generations.

GENERAL METHODOLOGY FOR ESTABLISHING IMPACT THRESHOLDS AND MEASURING EFFECTS

The Environmental Consequences section addresses the potential impacts to each of the resource areas discussed under the Affected Environment section for each of the alternatives. For each resource area, the analysis of impacts begins with determining the guiding regulations and policies on which the analysis is based. After the regulations are provided, the methodology of assumptions for the analysis is stated. Next, the study area for the resource area is defined and the resource specific impact thresholds are determined. The final section for each resource area addresses the impacts to the resource area from each of the alternatives.

In general, National Park System units are directed to assess the extent of impacts to park resources as defined by the context, duration, and intensity of the effect. While measurement by quantitative means is useful, it is even more crucial for the public and decision-makers to understand the implications of those impacts in the short- and long-term, cumulatively, and within context, based on an understanding and interpretation by resource professionals and specialists. With interpretation, one can ascertain whether a certain impact intensity to a park resource is “minor” compared to “major” and what criteria were used to draw that conclusion.

In the absence of quantitative data, best professional judgment was used. In general, the thresholds used come from existing literature on facilities, federal and state standards, and consultation with subject matter experts and appropriate agencies.

Each resource impact is assessed in direct relationship to those resources affected both inside and outside the park, to the extent that the impacts can be substantially traced, linked, or connected to the facilities inside park boundaries. Each impact topic, therefore, has a study area relative to the resource being assessed, and it is further defined in the impact methodology. For the purposes of analysis, the following assumptions are used for all impact topics:

Short-term impacts — Those impacts resulting from construction of the MBT that are temporary in nature.

Long-term impacts — Those impacts resulting from construction of the MBT that are of a long duration or permanent, or that are as a result of the operation and maintenance of the MBT and will thus occur on a continuing basis.

Direct impacts — Those impacts caused by actual construction, operation, and maintenance of the MBT that occur at the same time and place.

Indirect impacts — Those impacts caused by the MBT that are later in time or farther removed in distance, but are still reasonably foreseeable.

CUMULATIVE IMPACTS

A cumulative impact results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person

undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The following plans, policies, and actions will be considered in determining cumulative impacts.

In the vicinity of the Fort Totten Metro Station Cafriz developers intends to construct a project within the next 2-3 years. The project is bounded by South Dakota Ave, Galloway St, Hamilton St, and 4th St. The project is a mixed use development that will include low-income housing, a day care center, senior housing, retail space, and a community space with 529 residential units; 52,000 s.f. of retail; a 7,200 s.f. daycare facility; a 19,000 s.f. flex use space (community space included); and 681 parking spaces.

Another foreseeable project is at the Takoma Metro Station, where Eakin Youngentob (EYA) has proposed an 80 unit residential development with structured parking and a 1-acre greenspace.

IMPAIRMENT ANALYSIS

The NPS is prohibited from impairing park resources and values by the *NPS Organic Act*. The *NPS Management Policies 2001* (section 1.4.5) state “an impairment . . . is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.” In addition, the *Management Policies* state “whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.”

SOILS

GUIDING REGULATIONS AND POLICIES

The District of Columbia’s Soil Erosion and Sediment Control Program implements and enforces D.C. Law 2-23, (D.C. Erosion and Sedimentation Control Act of 1977), which regulates all land-disturbing activities to prevent accelerated erosion and transport of sediment to its receiving waters. The program reviews and approves all construction and grading plans submitted to the District of Columbia Government for compliance with the regulations. Plans may call for the use of measures such as straw bale dikes, silt fences, brush barriers, mulches, sediment tanks or temporary sedimentation ponds, seeding or sodding, earth dikes, brickbats, stabilized construction entrances, vehicle wash racks, or a combination of measures to reduce the amount of soil washing away from construction sites during storm events. Inspections are conducted to ensure that erosion and sediment control best management practices are constructed in accordance with approved plans and are properly maintained. The sediment control program complements the water management program in an effort to meet the goals and objectives of the U.S. Environmental Protection Agency (USEPA) Chesapeake Bay Program. The District strengthened its sediment control law by enacting D.C. Law 10-166 (D.C. Erosion and Sedimentation Control Amendment Act of 1994) to specifically remove the exemption provision for sediment control compliance associated with construction activities by federal agencies.

METHODOLOGY AND ASSUMPTIONS

Potential impacts to soils are assessed based on the extent of disturbance to natural undisturbed soils, the potential for soil erosion resulting from disturbance, and limitations associated with the soils. Impact analysis and the conclusions for possible impacts to the resource was based upon on-site inspection of the resource within the project area, review of existing literature and maps, and information provided by the NPS and other agencies. This section assesses the potential effects of the alternative rehabilitation

scenarios on soil resources in the project area and the potential for the resource characteristics to affect implementation of the alternative considered.

STUDY AREA

The geographic study area for soils includes the proposed footprint of the trail as well as the area 50 feet to either side of the trail. It is expected that construction and operation activities would not occur outside this area.

IMPACTS TO SOILS FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

The following thresholds were used to determine the magnitude of effects on soil resources:

Negligible – Soils would not be affected or the effects to soils would be below or at the lower levels of detection. Any effects to soils would be slight.

Minor – The effects to soils would be detectable. Effects to undisturbed soil area would be small. Mitigation may be needed to offset adverse effects and would be relatively simple to implement and likely be successful.

Moderate – The effect on soil would be readily apparent and result in a change to the soil character over a relatively wide area. Mitigation measures would be necessary to offset adverse effects and would likely be successful.

Major – The effect on soil would be readily apparent and substantially change the character of the soils over a large area both in and out of the park. Mitigation measures necessary to offset adverse effects would be needed, would be extensive, and their success would not be guaranteed.

Impairment – A permanent adverse change would occur to soil resources in a portion of the park, affecting the resource to the point that the park's purpose could not be fulfilled and enjoyment by future generations of these natural physical resources would be precluded.

Duration – Short-term effects last for part or all of the duration of trail development; long-term effects extend beyond the completion of the road rehabilitation.

Impacts of the No Action Alternative

Analysis. No impacts to soils are expected as a result of implementing the no action alternative. No grading, excavation, placement of fill, compaction, mixing, or augmentation to accommodate trail development would occur under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under the no action alternative. The Cafritz development would be expected to impact soils as a result of grading, excavation, placement of fill, compaction, mixing and augmentation to accommodate project development. Erosion and sediment control plans would be required pursuant to the D.C.'s Soil Erosion and Sediment Control Program and D.C. Law 2-23. Building permits in D.C. are not issued for proposed projects unless they include an approved plan. Inspections are conducted by the D.C. Department of the Environment to ensure that erosion and sediment control best management practices are constructed in accordance with approved plans and are properly maintained. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during development of these projects.

Conclusions. No impacts to soils are expected as a result of implementing the no action alternative. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under the no action alternative. Impairment to soil resources would not occur under this alternative.

Impacts of Alternatives in Area A

Impacts to Soils of Alternative A1

Analysis. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A1. Soils mapped on park property in the alignment under alternative A1, for the most part, have been disturbed as a result of past land use and development. Impacts under alternative A1 would result primarily from grading, excavation, placement of fill, compaction, mixing and augmentation of previously disturbed soils to accommodate trail development. Removal of vegetation during site preparation could result in erosion of soils, particularly in the area around the Fort Totten Metro Green Line tunnel and the wooded area just to the north of the tunnel where moderately steep slopes occur. Excavation would also occur for the new pathway between Riggs Road and Kennedy Street, potentially for a path adjacent to 1st Street between Madison Street and New Hampshire Avenue, and for a sidewalk along Blair Road. However, these areas are level and erosion can easily be controlled during construction. The D.C.'s Soil Erosion and Sediment Control Program implements and enforces D.C. Law 2-23, which regulates all land-disturbing activities to prevent accelerated erosion and transport of sediment to its receiving waters. Erosion and sediment control plans are required as a component of building permits applications. Building permits are not issued for proposed projects unless they include an approved plan. Inspections are conducted by the D.C. Department of the Environment to ensure that erosion and sediment control best management practices are constructed in accordance with approved plans and are properly maintained. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during project development. Appropriate soil engineering studies would be conducted along the trail alignment to assure proper trail design and location.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under alternative A1. The Cafritz development would be expected to impact soils as a result of grading, excavation, placement of fill, compaction, mixing and augmentation to accommodate project development. However, these actions are separated from the location of MBT construction by the Metrorail and would not interact with the proposed MBT actions for cumulative effect. Erosion and sediment control plans would be required, as discussed above, as a component of building permit applications. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during development of these projects.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A1. Negligible, adverse, short-, and long-term cumulative impacts to soils are also expected under alternative A1. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative A2

Analysis. Alternative A2 differs from A1 by following an alignment parallel to the tracks between Riggs Road and Madison Street, then makes its way across open space to or adjacent to 1st Street. These should not add impacts. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A2. Soils mapped on park property in the alignment under alternative A2, for the most part, have been disturbed as a result of past land use and development. Impacts and implementation of management practices similar to those discussed under alternative A1 would be expected under alternative A2.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under alternative A2. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A2.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A2. Negligible, adverse, short-, and long-term cumulative impacts to soils are also expected under alternative A2. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative A3

Analysis. Alternative A3 differs from A1 or A2 by following the service road through the Community Gardens to Oglethorpe Street, and constructs a sidewalk along Oglethorpe Street. Proper soil erosion control techniques again should control impacts. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A3. Soils mapped on park property in the alignment under alternative A3, for the most part, have been disturbed as a result of past land use and development. Impacts and implementation of management practices similar to those discussed under alternative A1 would be expected under alternative A3.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under alternative A3. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A3.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A3. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under alternative A3. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative A4

Analysis. All segments of alternative A4 are in alternatives A1, A2, or A3. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A4. Soils mapped on park property in the alignment under alternative A4, for the most part, have been disturbed as a result of past land use and development. Impacts and implementation of management practices similar to those discussed under alternative A1 would be expected under alternative A4.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils are expected under alternative A4. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A4.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative A4. Negligible, adverse, short-, and long-term cumulative impacts to soils are also expected under alternative A4. Impairment to soil resources would not occur under this alternative.

Impacts of Alternatives in Area B

Impacts to Soils of Alternative B1

Analysis. Adding 3,200 +/- feet of impervious surface is considered a moderate impact to park resources under alternative B1. Impacts under alternative B1 would result primarily from grading, excavation, placement of fill, compaction, mixing and augmentation of soils to accommodate trail development. Removal of vegetation during site preparation could result in erosion of soils, particularly during high storm flow events. The D.C.'s Soil Erosion and Sediment Control Program implements and enforces D.C. Law 2-23, which regulates all land-disturbing activities to prevent accelerated erosion and transport of sediment to its receiving waters. Erosion and sediment control plans are required as a component of building permits applications. Building permits are not issued for proposed projects unless they include an

approved plan. Inspections are conducted by the D.C. Department of the Environment to ensure that erosion and sediment control best management practices are constructed in accordance with approved plans and are properly maintained. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during project development. Appropriate soil engineering studies would be conducted along the trail alignment to assure proper trail design and location.

Cumulative Impacts. Moderate long-term cumulative impacts to soils would be expected under alternative B1. The Cafritz development would be expected to impact soils as a result of grading, excavation, placement of fill, compaction, mixing and augmentation to accommodate project development. Erosion and sediment control plans would be required, as discussed under alternative A1, as a component of building permit applications. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during development of these projects.

Conclusions. Moderate long-term impacts to soils are expected under alternative B1. Moderate adverse, long-term cumulative impacts to soils would also be expected under alternative B1. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative B2

Analysis. Negligible, adverse, short- and long-term impacts to soils are expected under alternative B2. The area of soil disturbed under alternative B2 would be less than under B1 because the trail for the most part consists of an on-road bike lane along Gallatin Street. Impacts and implementation of management practices similar to those discussed under alternative B1 would be expected under alternative B2 where the trail cuts across park land on an existing trail to the north of St. Ann's driveway.

Cumulative Impacts. Negligible to minor adverse, short- and long-term cumulative impacts to soils would be expected under alternative B2. Cumulative impacts similar to those discussed under alternative B1, but less due to the on-road portion along Gallatin Street, would be expected under alternative B2.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative B2. Negligible to minor adverse, short- and long-term cumulative impacts to soils would also be expected under alternative B2. Impairment to soil resources would not occur under this alternative.

Impacts of Alternatives in Area C

Impacts to Soils of Alternative C1

Analysis. Negligible effects to soils would be expected under alternative C1. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation, grading, excavation, placement of fill, compaction, mixing, or augmentation to accommodate trail development under this alternative would occur for a wayside.

Cumulative Impacts. Negligible cumulative impacts to soils on NPS land would be expected under alternative C1. Only the wayside under alternative C1 would occur on NPS land.

Conclusions. Negligible effects to soils would be expected under alternative C1. No cumulative impacts to soils on NPS land would be expected under alternative C1. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative C2

Analysis. Negligible effects to soils would be expected under alternative C2. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation, grading, excavation, placement of fill, compaction, mixing, or augmentation to accommodate trail development on NPS lands under this alternative would occur for a wayside.

Cumulative Impacts. Negligible cumulative impacts to soils on NPS land would be expected under alternative C2. Only the wayside under alternative C2 would occur on NPS land.

Conclusions. Negligible effects to soils would be expected under alternative C2. No cumulative impacts to soils on NPS land would be expected under alternative C2. Impairment to soil resources would not occur under this alternative.

Impacts to Soils of Alternative C3

Analysis. Negligible, adverse, short- and long-term impacts to soils are expected under alternative C3. Soils mapped on park property in the alignment under alternative C3 have been disturbed as a result of past land use and development. Impacts under alternative C3 would result primarily from grading, excavation, placement of fill, compaction, mixing and augmentation of previously disturbed soils to accommodate trail development. Removal of vegetation during site preparation could result in erosion of soils. The District of Columbia's Soil Erosion and Sediment Control Program implements and enforces D.C. Law 2-23, which regulates all land-disturbing activities to prevent accelerated erosion and transport of sediment to its receiving waters. Erosion and sediment control plans are required as discussed under alternative A1. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during project development. Appropriate soil engineering studies would be conducted along the trail alignment to assure proper trail design and location.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to soils would be expected under alternative C3. Future development of Metro station improvements would be expected to impact soils as a result of grading, excavation, placement of fill, compaction, mixing and augmentation to accommodate project development. Erosion and sediment control plans would be required, as discussed under alternative A1, as a component of building permit applications. Properly designed and maintained erosion and sedimentation best management practices would be implemented to minimize potential for uncontrolled erosion and sedimentation during development of these projects.

Conclusions. Negligible, adverse, short- and long-term impacts to soils are expected under alternative C3. Negligible, adverse, short-, and long-term cumulative impacts to soils would also be expected under alternative C3. Impairment to soil resources would not occur under this alternative.

VEGETATION AND WILDLIFE

VEGETATION

GUIDING REGULATIONS AND POLICIES

The NPS *Management Policies 2001* states that the NPS will maintain, as parts of the natural ecosystems of parks, all native plants and animals (sec. 4.4.1). The NPS will achieve this by:

- preserving and restoring the natural abundance, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and communities and ecosystems in which they occur;

- restoring native plant and animal populations in parks when they have been extirpated by past human-caused actions; and
- minimizing human impacts on native plants, animal populations, communities, and ecosystems, and the processes that sustain them.

The purpose of Rock Creek Park is to “to provide for recreation that is compatible with the park and to protect its natural and cultural resources.” In addition, the park’s enabling legislation calls for retaining timber, animals and curiosities in as natural condition as possible.

METHODOLOGY AND ASSUMPTIONS

Available information on vegetation and vegetative communities potentially impacted in the project area was compiled and reviewed. In addition, vegetation occurring in the areas of proposed trail alignments was characterized in the field. Exotic invasive species observed during field studies were documented.

Predictions about short- and long-term project impacts on vegetation were based on general vegetative characteristics along the trail alignments, and proposed encroachment into vegetated areas associated with the trail alignments.

STUDY AREA

The geographic study area for vegetation includes the footprint of the proposed trail as well as the area 50-feet to either side of the trail. It is expected that construction and operation activities would not occur outside this area.

IMPACT TO VEGETATION FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

The following thresholds were used to determine the magnitude of effects on vegetation:

Negligible – Individual native plants may be affected, but measurable or perceptible changes in plant community size, integrity, or continuity would not occur. No species of special concern would be affected.

Minor – Effects on native plants would be measurable or perceptible, but would affect a small area. The viability of the plant community would not be affected and the community, if left alone, would recover. Special measures to avoid affecting species of special concern could be required and would be effective.

Moderate – A change would occur over a relatively large area in the native plant community that would be readily measurable in terms of abundance, distribution, quantity, or quality. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful. Some species of special concern could also be affected.

Major – Effects on native plant communities would be readily apparent, and would substantially change vegetation community types over a large area in and out of the park. Plant communities could include species of special concern. Extensive mitigation would be needed to offset adverse effects, and its success would not be assured.

Impairment – A permanent change in native plant communities would occur in a large area of the park. The change would be highly noticeable, could not be mitigated, and would affect vegetation

to the point that the park's purpose could not be fulfilled and enjoyment of the vegetation resource by future generations would be precluded.

Duration – Short-term effects would last less than one year; long-term effects would be those lasting longer than one year.

Impacts of the No Action Alternative

Analysis. No impacts to vegetation would be expected under the no action alternative. No removal or impacts to vegetation would occur under this alternative.

Cumulative Impacts. Negligible adverse, short- and long-term cumulative impacts to vegetation would be expected under the no action alternative. The Cafritz and EYA developments would be expected to impact vegetation as a result of direct removal, breakage, or root damage during construction. Impacts to native vegetation would also be expected if management practices to prevent spread of exotic invasive species were not implemented during and following the development of these projects.

Conclusions. No impacts to vegetation would be expected under the no action alternative. Negligible adverse, short- and long-term cumulative impacts to vegetation would be expected under the no action alternative. Impairment to wildlife or wildlife habitat would not occur under the no action alternative.

Impacts of Alternatives in Area A

Impacts to Vegetation of Alternative A1

Analysis. Minor, adverse, long-term impacts to vegetation would be expected under alternative A1. The trail alignment within Fort Circle Park Reservation 451 W adjacent to the Metro Station is located on land that has been previously disturbed as a result of the construction of the station. Vegetation along the proposed alignment between the southern park boundary at the concrete plant drainage ditch and the wooded area located to the north of the Metro Green Line tunnel is characterized by wooded and scrub habitats dominated by invasive and exotic and invasive species. Deciduous forested habitat associated with Fort Circle Park Reservation 451 W borders the proposed alignment of the trail along its west side. The trail alignment to the north of the Metro Green Line tunnel cuts through a wooded area for a short distance as it descends to the existing Metro access sidewalk then parallels the existing sidewalk through a maintained lawn area before joining the existing sidewalk to the north. The trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) follows a social path on the west side of the park property for a short distance before joining Kennedy Avenue under alternative A1. Impacts to vegetation in the vicinity and to the south of the Metro Green Line tunnel would involve removal of primarily exotic invasive species. To the north of the tunnel the trail is aligned through a wooded area for a short distance and it is likely that several trees would be impacted directly as a result of removal to accommodate the trail alignment, or indirectly as a result of collision with construction equipment or damage to root systems. To the north of the wooded area impacts to vegetation would involve removal of maintained lawn species. The trail alignment would be expected to avoid the sparse trees that occur along this stretch of the trail alignment. Development of the trail along the social path between Riggs Road and New Hampshire Avenue (Reservation 497), and potentially on a path adjacent to 1st Street beyond Madison Street, would be expected to result in the removal of primarily herbaceous weed and grass species that characterize the social path. As the trail proceeds as a path along Blair Road, impacts to tree roots and vegetation, primarily weed and grass species, could occur. The planned use of boardwalks where tree roots are endangered could mitigate tree damage.

Impacts to trees and other vegetation outside of the footprint of the trail could also occur as a result of root damage. Additional impacts to vegetation immediately adjacent to the trail could also occur in association with removal, breakage, or root damage associated with staging for construction. Removal of vegetation for safety purposes within the project area would be expected to be limited to hazard trees.

Several species of exotic invasive plants occur along the trail alignment. Many invasive species proliferate when existing ground cover is disturbed. Vegetated areas disturbed as a result of road rehabilitation would be replanted with native species and maintained to ensure their establishment following rehabilitation activities. Erosion and sediment control practices would also be implemented to minimize potential for the spread of exotic invasive species resulting from development of the trail.

Cumulative Impacts. Minor adverse, short- and long-term cumulative impacts to vegetation would be expected under alternative A1. Impacts to native vegetation would also be expected if management practices to prevent spread of exotic invasive species were not implemented during and following the development of these projects.

Conclusions. Minor, adverse, long-term impacts to vegetation would be expected under alternative A1. Impairment to vegetation would not occur under alternative A1.

Impacts to Vegetation of Alternative A2

Analysis. Moderate, adverse, short-, and long-term impacts to vegetation would be expected under alternative A2. Impacts similar to those discussed under alternative A1 would be expected under alternative A2 in segments on Reservation 451 West to Riggs Road and along Blair Road. The trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) cuts east through a wooded area to the eastern boundary of the park then north through the wooded area, parallel to the CSX tracks, up to 1st Street and New Hampshire Avenue under alternative A2. Additional impacts to trees would be expected under alternative A2 when compared with alternative A1. The nature of the impacts to trees would be similar to those discussed under alternative A1, but more trees would be impacted.

Cumulative Impacts. Moderate adverse, long-term cumulative impacts to vegetation would be expected under alternative A2. Cumulative impacts similar to those discussed under alternative A1 would be expected under A2.

Conclusions. Moderate adverse, long-term impacts to vegetation would be expected under alternative A2. Moderate adverse, short- and long-term cumulative impacts to vegetation would also be expected under alternative A2. Impairment to vegetation would not occur under alternative A2.

Impacts to Vegetation of Alternative A3

Analysis. Minor, adverse, short-, and long-term impacts to vegetation would be expected under alternative A3. Impacts similar to those discussed under alternative A1 would be expected under alternative A3 in segments on Reservation 451 West to Riggs Road and between Riggs Road and New Hampshire Avenue. The proposed alignment of the trail in the vicinity of Community Gardens follows existing service roads. Vegetation along the proposed trail alignment in the vicinity of Community Gardens is characterized by grasses and herbaceous weedy species that have survived foot and occasional vehicle traffic on the roads. Negligible additional impacts to primarily weedy vegetation would be expected under alternative A3 when compared to A1.

Cumulative Impacts. Minor adverse, short- and long-term cumulative impacts to vegetation would be expected under alternative A3. Cumulative impacts similar to those discussed under alternative A1 would be expected under A3.

Conclusions. Minor, adverse, short-, and long-term impacts to vegetation would be expected under alternative A3. Minor adverse, short- and long-term cumulative impacts to vegetation would also be expected under alternative A3. Impairment to vegetation would not occur under alternative A3.

Impacts to Vegetation of Alternative A4

Analysis. Moderate adverse, long-term impacts to vegetation would be expected under alternative A4. South of New Hampshire Avenue, impacts similar to those discussed under alternative A2 would be expected under alternative A4. The proposed alignment of the trail in the vicinity of Community Gardens follows existing service roads under alternative A4. Vegetation along the proposed trail alignment in the vicinity of Community Gardens is characterized by grasses and herbaceous weedy species that have survived foot and occasional vehicle traffic on the roads. Negligible additional impacts to primarily weedy vegetation would be expected under alternative A4 when compared to A2.

Cumulative Impacts. Moderate adverse, long-term cumulative impacts to vegetation would be expected under alternative A4. Cumulative impacts similar to those discussed under alternative A1 would be expected under A4.

Conclusions. Moderate adverse, long-term impacts to vegetation would be expected under alternative A4. Moderate adverse, short- and long-term cumulative impacts to vegetation would also be expected under alternative A4. Impairment to vegetation would not occur under alternative A4.

Impacts of Alternatives in Area B

Impacts to Vegetation of Alternative B1

Analysis. Moderate long-term impacts to vegetation would be expected under alternative B1. The proposed trail alignment in Fort Circle Park Reservation 451 E from near the Metro Station to the intersection of 14th Street and Gallatin Street is located in an open area adjacent to Gallatin Street that is characterized as maintained lawn. The trail alignment to the south and east of 14th Street borders a wooded area up to St. Anne's driveway, then cuts through the woods along an existing trail to the DC/MD border. Between the western end of the alignment and 14th Street, impacts to vegetation would involve removal of maintained lawn species. The trail alignment would be expected to avoid the sparse trees that occur along this stretch of the trail alignment. The trail between 14th Street and St. Anne's Home would be designed to avoid impacts to trees that border the alignment, however some tree and shrub species would likely be impacted as a result of removal to accommodate the trail alignment, or as a result of collision with construction equipment or damage to root systems. The trail alignment between St. Anne's Home and the DC/MD border follows an existing trail characterized by herbaceous, weed and grass species. Herbaceous species occurring along the existing trail would be impacted as a result of removal to accommodate trail alignment.

Management practices as discussed under alternative A1 would be implemented to control the potential spread of exotic invasive species as a result of trail development.

Cumulative Impacts. Moderate long-term cumulative impacts to vegetation would be expected under alternative B1. The proposed trail alignment under alternative B1 would connect with the Prince George's County trail system at the DC/MD border. The proposed Prince George's County trail would connect the MBT trail with the existing Sligo Creek Trail in Maryland. Impacts to vegetation associated with proposed trail development under alternative B1 and development of the Prince George's County trail connector would be expected to result in moderate impacts similar to those discussed under alternative B1. The proposed Prince George's County connector trail does cross a wetland in the vicinity of the Metro rail just to the west of Chillum Road. Avoidance and mitigation of impacts to the wetland associated with the trail alignment would be expected minimize adverse effects to vegetation occurring in the habitat.

Conclusions. Moderate long-term impacts to vegetation would be expected under alternative B1. Moderate long-term cumulative impacts to vegetation would also be expected under alternative B1. Impairment to vegetation would not occur under alternative B1.

Impacts to Vegetation of Alternative B2

Analysis. Negligible, adverse, short- and long-term impacts to vegetation would be expected under alternative B2. The proposed trail alignment in Fort Circle Park Reservation 451 E from near the Metro Station to St. Anne's Home is located on Gallatin Street. The trail alignment to the northeast of St. Anne's driveway cuts through a wooded area along an existing trail to the DC/MD border. No impacts to vegetation would be expected as a result of trail development and use along Gallatin Street. Impacts similar to those discussed under alternative B1 would be expected for trail development and use in the wooded area to the northeast of St. Anne's Home.

Cumulative Impacts. Negligible, adverse, short- and long-term cumulative impacts to vegetation would be expected under alternative B2.

Conclusions. Negligible, adverse, short- and long-term impacts to vegetation would be expected under alternative B2. Negligible, adverse, short- and long-term cumulative impacts to vegetation would also be expected under alternative B2. Impairment to vegetation would not occur under alternative B2.

Impacts of Alternatives in Area C

Impacts to Vegetation of Alternative C1

Analysis. Negligible impacts to vegetation would be expected under alternative C1. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation that would occur as a component of trail development under this alternative would be for a wayside.

Cumulative Impacts. Negligible cumulative impacts to vegetation on NPS land would be expected under alternative C1. The trail alignment under alternative C1 does not occur on NPS land.

Other than the recent development of the Takoma Park Cedar Crossing condominiums and potential future improvements at the metro station, there are no projects currently being developed in the vicinity of the proposed trail alignment under alternative C1 that would have cumulative affects when considered with trail development.

Conclusions. Negligible impacts to vegetation on NPS land would be expected under alternative C1. Negligible cumulative impacts to vegetation on NPS land would be expected under alternative C1. Impairment to vegetation would not occur under alternative C1.

Impacts to Vegetation of Alternative C2

Analysis. Negligible impacts to vegetation on NPS land would be expected under alternative C2. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation that would occur as a component of trail development on NPS lands under this alternative would be for a wayside.

Cumulative Impacts. Negligible cumulative impacts to vegetation on NPS land would be expected under alternative C2. The trail alignment under alternative C2 does not occur on NPS land. There are no projects currently being developed in the vicinity of the proposed trail alignment under alternative C2 that would have cumulative affects when considered with trail development.

Conclusions. Negligible impacts to vegetation would be expected under alternative C2. Cumulative impacts to vegetation on NPS land would also not be expected under alternative C2. Impairment to vegetation would not occur under alternative C2.

Impacts to Vegetation of Alternative C3

Analysis. Negligible, adverse, short-, and long-term impacts to vegetation would be expected under alternative C3. The proposed trail alignment would cross Piney Branch Road on a bridge from NPS property adjacent to the Cady-Lee Mansion south of Piney Branch Road to NPS land on the north side of the road. Park property on both sides of the road is characterized by maintained lawn with sparse landscaped trees and shrubs. Minor disturbance of existing vegetation would be expected during trail development. Damage to any trees in the vicinity of the trail alignment would be avoided to the maximum extent possible. Areas disturbed during trail development would be replanted with native species following completion of construction and monitored to ensure success of planting.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to vegetation would be expected under alternative C3. Eakin Youngentob (EYA) has proposed an 80 unit residential development with structured parking and a 1-acre green space. Proposed residential development would be expected to have negligible cumulative impacts to vegetation in the area.

Conclusions. Negligible, adverse, short-, and long-term impacts to vegetation would be expected under alternative C3. Negligible, adverse, short-, and long-term cumulative impacts to vegetation would also be expected under alternative C3. Impairment to vegetation would not occur under alternative C3.

WILDLIFE AND WILDLIFE HABITAT

GUIDING REGULATIONS AND POLICIES

See the Guiding Regulations and Policies for Vegetation.

METHODOLOGY AND ASSUMPTIONS

Information on wildlife species likely to occur in the study area was based on observation of species made during reconnaissance surveys, review of available information, and consideration of common wildlife species likely to occur in the areas of proposed trail alignments. Analysis of potential impacts to wildlife was based on the potential for species to utilize the project impact area, or be affected by project activities or loss of habitat associated with trail development and use.

STUDY AREA

The geographic study area for wildlife includes the footprint of proposed trail as well as the area 50-feet to either side of the trails edge. It is expected that construction and operation activities would not occur outside this area.

IMPACTS TO WILDLIFE AND WILDLIFE HABITATS FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

The following thresholds were used to determine the magnitude of effects on wildlife and wildlife habitat (threatened, endangered, and species of special concern are assessed under separate headings):

Negligible — There would be no observable or measurable impacts to native species, their habitats, or the natural processes sustaining them. Impacts would be well within natural fluctuations.

Minor — Impacts would be detectable, but they would not be expected to be outside the natural range of variability of native species' populations, their habitats, or the natural processes

sustaining them. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

Moderate — Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or juvenile stages; mortality or interference with activities necessary for survival can be expected on an occasional basis, but is not expected to threaten the continued existence of the species in the park unit. Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they could be outside the natural range of variability. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

Major — Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they would be expected to be outside the natural range of variability. Key ecosystem processes might be disrupted. Loss of habitat might affect the viability of at least some native species. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Impairment — Some of the major impacts described above might be an impairment of park resources if their severity, duration, and timing resulted in the elimination of a native species or significant population declines in a native species, or they precluded the park's ability to meet recovery objectives for listed species. In addition, the change would be highly noticeable, could not be mitigated, and would affect wildlife resources to the point that the park's purpose could not be fulfilled and enjoyment of the wildlife and habitat resource by future generations would be precluded.

Duration — short-term effects would last less than one year; long-term effects would be those lasting longer than one year.

Impacts of the No Action Alternative

Analysis. No impacts to wildlife or wildlife habitats would be expected under the no action alternative. No disturbance of wildlife species or their habitat would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the no action alternative. The Cafritz development, and the EYA development at Takoma would be expected to impact wildlife and wildlife habitat as a result of loss of habitat. Wildlife species utilizing the habitats along and adjacent to these proposed projects would likely move out of the areas or to adjacent habitats during construction of the projects. Mortality of some smaller less mobile species could occur as a result of vegetation clearing or injury caused by construction equipment during project development. Following project development, some species would likely move back into the disturbed areas.

Conclusions. No impacts to wildlife or wildlife habitats would be expected under the no action alternative. Negligible, short-, and long-term impacts to wildlife and wildlife habitat would be expected under the no action alternative. Impairment to wildlife or wildlife habitat would not occur under the no action alternative.

Impacts of Alternatives in Area A

Impacts to Wildlife/Habitat of Alternative A1

Analysis. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A1. The trail alignment within Fort Circle Park Reservation 451 W adjacent to

the Metro Station is located on land that has been previously disturbed as a result of the construction of the station. Vegetation along the proposed alignment between the southern park boundary at the concrete plant drainage ditch and the wooded area located to the north of the Metro Green Line tunnel is characterized by wooded and scrub habitats dominated by invasive and exotic and invasive species. Deciduous forested habitat associated with Fort Circle Park Reservation 451 W borders the proposed alignment of the trail along its west side. The trail alignment to the north of the Metro Green Line tunnel cuts through a wooded area for a short distance as it descends to the existing Metro access sidewalk then parallels the existing sidewalk through a maintained lawn area before joining the existing sidewalk to the north. The area bordering the proposed trail alignment experiences a high level of pedestrian and vehicle traffic associated with the Fort Totten Metro Station along this section of the trail. The trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) follows a social path on the west side of wooded park property for a short distance before joining Kennedy Avenue. This area also experiences a moderate to high level of pedestrian traffic associated with the social path. Common fauna likely to occur in the vicinity of the Metro station and the trail alignment in Reservation 497 would be expected to include species adapted to disturbed habitats associated with a high use urban environment and transient species associated with the adjacent wooded habitats. Wildlife species utilizing the habitats along and adjacent to the proposed trail alignment under alternative A1 would likely move out of the area or to adjacent wooded habitats during construction of the trail. Mortality of some smaller less mobile species could occur as a result of vegetation clearing or injury caused by construction equipment during trail development. Following trail development, some species would likely move back into the area. Impacts to wildlife associated with use of the trail would be expected to be negligible because the areas along and adjacent to the trail alignments currently experience a high level of pedestrian use.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A1. The Cafritz development at Fort Totten , would be expected to impact wildlife and wildlife habitat as a result of loss of habitat. Wildlife species utilizing the habitats along and adjacent to these proposed projects would likely move out of the areas or to adjacent habitats during construction of the projects. Mortality of some smaller less mobile species could occur as a result of vegetation clearing or injury caused by construction equipment during project development. Following project development, some species would likely move back into the areas. When combined with impacts associated with alternative A1, alternative A1's cumulative impacts would be expected to be negligible, adverse, short-, and long-term.

Conclusions. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A1. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would also be expected under alternative A1.

Impairment to wildlife or wildlife habitat would not occur under alternative A1.

Impacts to Wildlife/Habitat of Alternative A2

Analysis. Minor, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A2. The trail alignment within Fort Circle Park Reservation 451 W adjacent to and just to the north of the Metro Station is the same as under alternative A1. The area bordering the proposed trail alignment experiences a high level of pedestrian and vehicle traffic associated with the Fort Totten Metro Station along this section of the trail. The trail alignment on NPS property between Riggs Road and New Hampshire Avenue (Reservation 497) cuts east through a wooded area to the eastern boundary of the park then north through the wooded area, parallel to the CSX tracks, up to New Hampshire Avenue. The NPS property between Riggs Road and New Hampshire Avenue is characterized primarily by forested habitat that has been disturbed in areas. The forested area is bordered on the north by New Hampshire Avenue and residential neighborhoods, on the south by Riggs Road and business and industrial development, on the east by a fence, the CSX Railroad tracks and industrial development, and on the west by residential

neighborhoods. As a result, the forested area is isolated from adjacent wooded habitats and the diversity of wildlife species occurring in the area is likely limited.

Common fauna likely to occur in the vicinity of the Metro station and the trail alignment in Reservation 497 would be expected to include species adapted to disturbed habitats associated with a high use urban environment and transient species associated with the adjacent wooded habitats. A higher diversity of species as discussed in the Affected Environment section would be expected to occur in Reservation 497.

Wildlife species utilizing the habitats along and adjacent to the proposed trail alignment under alternative A2 would likely move out of the area or to adjacent wooded habitats during construction of the trail. Mortality of some smaller less mobile species could occur as a result of vegetation clearing or injury caused by construction equipment during trail development. Following trail development, some species would likely move back into the areas. Impacts to wildlife associated with use of the trail would be expected to be negligible in the area of the Fort Totten Metro Station because the areas along and adjacent to the trail alignment currently experience a high level of pedestrian use. Impacts to wildlife associated with use of the trail in wooded area of Reservation 497 would be expected to be greater than those in the area of the Metro Station because the area currently experiences a lower level of pedestrian use and species more sensitive to human presence likely utilize the forested habitat.

Cumulative Impacts. Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A2. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A2.

Conclusions. Minor, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A2. Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would also be expected under alternative A2. Impairment to wildlife or wildlife habitat would not occur under alternative A2.

Impacts to Wildlife/Habitat of Alternative A3

Analysis. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A3. Impacts similar to those discussed under alternative A1 would be expected under alternative A3.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A3. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A3.

Conclusions. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A3. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A3. Impairment to wildlife or wildlife habitat would not occur under alternative A3.

Impacts to Wildlife/Habitat of Alternative A4

Analysis. Minor, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A4. Impacts similar to those discussed under alternative A2 would be expected under alternative A4.

Cumulative Impacts. Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A4. Cumulative impacts similar to those discussed under alternative A1 would be expected under alternative A4.

Conclusions. Minor, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative A4. Minor, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under the alternative A4. Impairment to wildlife or wildlife habitat would not occur under alternative A4.

Impacts of Alternatives in Area B

Impacts to Wildlife/Habitat of Alternative B1

Analysis. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative B1. The proposed trail alignment in Fort Circle Park Reservation 451 E from near the Metro Station to the intersection of 14th Street and Gallatin Street is located in an open area adjacent to Gallatin Street that is characterized as maintained lawn. The south side of Gallatin Street borders a residential neighborhood. The trail alignment to the south and east of 14th Street borders a wooded area up to St. Anne's Home then cuts through the woods along an existing trail to the DC/MD border. Wildlife use of the area to the north and west of 14th street along the proposed trail alignment would be expected to be minimal due to the open character of the habitat and its location adjacent to the road.

Common fauna likely to occur in the vicinity along the trail alignment under alternative B1 would be expected to include species adapted to disturbed habitats associated with a high use suburban environment and transient species associated with the adjacent wooded habitats. A higher diversity of species as discussed in the Affected Environment section would be expected to occur in the wooded area between St. Anne's Church and the DC/MD border.

Wildlife species utilizing the habitats along and adjacent to the proposed trail alignment under alternative B1 would likely move out of the area or to adjacent wooded habitats during construction of the trail. Mortality of some smaller less mobile species could occur as a result of vegetation clearing or injury caused by construction equipment during trail development. Following trail development, most species would likely move back into the areas. Impacts to wildlife associated with use of the trail would be expected to be negligible along Gallatin Street because the areas along and adjacent to the trail alignment currently experience a high level of pedestrian and vehicle use. Impacts to wildlife associated with use of the trail in wooded area of Reservation 451E would be expected to be greater than those along Gallatin Street because the area currently experiences a lower level of pedestrian use and species more sensitive to human presence likely utilize the forested habitat.

Cumulative Impacts. Negligible, adverse, short- and long-term cumulative impacts to wildlife and wildlife habitat would be expected under alternative B1. The proposed trail alignment under alternative B1 would connect with the Prince George's County trail system at the DC/MD border. The proposed Prince George's County trail would connect the MBT trail with the existing Sligo Creek Trail in Maryland. Impacts to wildlife species and habitat associated with proposed trail development under alternative B1 and development of the Prince George's County trail connector would be expected to result in negligible impacts similar to those discussed under alternative B1. The proposed Prince George's County connector trail does cross a wetland in the vicinity of the Metro rail just to the west of Chillum Road. Avoidance and mitigation of impacts to the wetland associated with the trail alignment would be expected minimize adverse effects to the habitat. The development and use of the trail would also be expected to have negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat similar to those discussed under alternative B1.

Conclusions. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative B1. Negligible, adverse, short- and long-term cumulative impacts to wildlife and wildlife habitat would also be expected under alternative B1. Impairment to wildlife or wildlife habitat would not occur under this alternative.

Impacts to Wildlife/Habitat of Alternative B2

Analysis. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative B2. The proposed trail alignment in Fort Circle Park Reservation 451 E from near the Metro Station to St. Anne's Home is located on Gallatin Street. The trail alignment to the northeast of St. Anne's driveway cuts through a wooded area along an existing trail to the DC/MD border. No impacts to wildlife species would be expected as a result of trail development and use along Gallatin Street. Impacts similar to those discussed under alternative B1 would be expected for trail development and use in the wooded area to the northeast of St. Anne's Home.

Cumulative Impacts. Negligible, adverse, short- and long-term cumulative impacts to wildlife habitat would be expected under alternative B2. Cumulative impacts similar to those discussed under alternative B1 would be expected under alternative B2.

Conclusions. Negligible, adverse, short- and long-term impacts to wildlife and wildlife habitat would be expected under alternative B2. Negligible, adverse, short- and long-term cumulative impacts to wildlife and wildlife habitat would also be expected under alternative B2. Impairment to wildlife or wildlife habitat would not occur under this alternative.

Impacts of Alternatives in Area C

Impacts to Wildlife/Habitat of Alternative C1

Analysis. No impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation that would occur as a component of trail development under this alternative would be for a wayside. The area along the proposed trail alignment experiences a high level of pedestrian and vehicle traffic. Fauna likely to occur in the vicinity of the proposed trail alignment under alternative C1 would be expected to include those adapted to a high use urban environment. Utilization of the trail in this area would not be expected to affect wildlife in the area.

Cumulative Impacts. No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1. The trail alignment under alternative C1 does not occur on NPS land.

Conclusions. No impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1. No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C1. Impairment to wildlife or wildlife habitat would not occur under alternative C1.

Impacts to Wildlife/Habitat of Alternative C2

Analysis. No impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C2. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. The only removal of vegetation that would occur as a component of trail development under this alternative would be for a wayside. The area along the proposed trail alignment experiences a high level of pedestrian and vehicle traffic. Fauna likely to occur in the vicinity of the proposed trail alignment under alternative C2 would be expected to include those adapted to a high use urban environment. Utilization of the trail in this area would not be expected to affect wildlife in the area.

Cumulative Impacts. No cumulative impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C2. The trail alignment under alternative C2 does not occur on NPS land.

Conclusions. No impacts to wildlife or wildlife habitat on NPS land would be expected under alternative C2. Cumulative impacts to wildlife or wildlife habitat on NPS land would also not be expected under alternative C2. Impairment to wildlife or wildlife habitat would not occur under alternative C2.

Impacts to Wildlife/Habitat of Alternative C3

Analysis. Negligible, adverse, short-, and long-term impacts to wildlife and wildlife habitat would be expected under alternative C3. The proposed trail alignment would cross Piney Branch Road on a bridge from NPS property adjacent to the Cady-Lee Mansion south of Piney Branch Road to NPS land on the north side of the road. Park property on both sides of the road is characterized by maintained lawn with sparse landscaped trees and shrubs. Wildlife use of the area would be expected to be minimal due to the highly developed character of the area and its location adjacent to Eastern Avenue and Piney Branch Road.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would be expected under alternative C3. Recent development of condominiums and potential future Metro station improvements in combination with proposed trail development would be expected to have negligible cumulative impacts to wildlife species and habitat in the area due to the current highly developed character of the area.

Conclusions. Negligible, adverse, short-, and long-term impacts to wildlife and wildlife habitat would be expected under alternative C3. Negligible, adverse, short-, and long-term cumulative impacts to wildlife and wildlife habitat would also be expected under alternative C3. Impairment to wildlife or wildlife habitat would not occur under alternative C3.

THREATENED, ENDANGERED, OR SPECIAL CONCERN SPECIES

GUIDING REGULATIONS AND POLICIES

The Endangered Species Act (16 USC 1531 et seq.) mandates all federal agencies consider the potential effects of their actions on species listed as threatened or endangered. If the NPS determines that an action may adversely affect a federally listed species, consultation with the US Fish and Wildlife Service is required to ensure that the action will not jeopardize the species' continued existence or result in the destruction or adverse modification of critical habitat. *NPS Management Policies 2001* state that potential effects of agency actions will also be considered on state or locally listed species. The NPS is required to control access to critical habitat of such species, and to perpetuate the natural distribution and abundance of these species and the ecosystems upon which they depend.

The US Fish and Wildlife Service and Rock Creek Park were contacted for a list of special status species and designated critical habitats with potential to occur within the project area or be affected by any of the alternatives (see Appendix A for the USFWS and Rock Creek Park response letters).

Primary steps in assessing impacts to listed species were to determine (1) which species are found in areas likely to be affected by management actions described in the alternatives, (2) habitat loss or alteration caused by the alternatives, and (3) displacement and disturbance potential of the actions and a species potential to be affected by the actions.

STUDY AREA

The study area includes the proposed trail alignment and the immediate vicinity where threatened, endangered, or sensitive species or habitat may occur.

IMPACT TO THREATENED, ENDANGERED, OR SPECIAL CONCERN SPECIES FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

The following thresholds were used to determine the magnitude of effects on threatened, endangered and other special status species. The thresholds of change for the intensity of an impact are defined as follows:

Negligible — The action could result in a change to a population or individuals of a species or designated critical habitat, but the change would be so small that it would not be of any measurable or perceptible consequence.

Minor — The action could result in a change to a population or individuals of a species or designated critical habitat. The change would be measurable but small and localized and of little consequence.

Moderate — The action would result in some change to a population or individuals of a species or designated critical habitat. The change would be measurable and of consequence.

Major — This action would result in a noticeable change to a population or individuals of a species or resource or designated critical habitat.

Impairment — Some of the major impacts described above might be an impairment of park resources if their severity, duration, and timing resulted in the elimination of a listed species or significant population declines in a listed species, or they precluded the park's ability to meet recovery objectives for listed species. In addition, the change would be highly noticeable, could not be mitigated, and would affect wildlife resources to the point that the park's purpose could not be fulfilled and enjoyment of the wildlife and habitat resource by future generations would be precluded.

Duration — Short-term effects would be those lasting less than one year and impacts would not be measurable or measurable only during the life of construction; long-term effects would be those requiring longer than one year for species, individual, or habitat to recover.

Impacts of the No Action Alternative

Analysis. No impacts to threatened, endangered, or special concern species would be expected under the no action alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under the no action alternative. Coordination with USFWS and Maryland Natural Heritage Program would be expected to minimize potential for adverse effects to listed species along the proposed connector trail alignment in Maryland. The Cafritz development at Fort Totten and the EYA development at Takoma are located in areas that are previously disturbed and occurrence of listed species in these areas would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under the no action alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts of Alternative A

Impacts to Threatened, Endangered, Special Concern Species of Alternative A1

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under the no action alternative.. The Cafritz at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this area would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts to Threatened, Endangered, Special Concern Species of Alternative A2

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under this alternative.. The Cafritz development at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this area would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts to Threatened, Endangered, Special Concern Species of Alternative A3

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under this alternative.. The Cafritz development at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this areas would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts to Threatened, Endangered, Special Concern Species of Alternative A4

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under this alternative. The Cafritz development at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this area would not be expected. .

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts of Alternative B

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under the no action alternative. Coordination with USFWS and Maryland Natural Heritage Program would be expected to minimize potential for adverse effects to listed species along the proposed connector trail alignment in Maryland. The Cafritz development at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this areas would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts to Threatened, Endangered, Special Concern Species of Alternative B2

Analysis. No impacts to threatened, endangered, or special concern species would be expected under this alternative. No disturbance of wildlife species, their habitat, or vegetation would occur in association with trail development under this alternative.

Cumulative Impacts. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would be expected under this alternative. Coordination with USFWS and Maryland Natural Heritage Program would be expected to minimize potential for adverse effects to listed species along the proposed connector trail alignment in Maryland. The Cafritz development at Fort Totten is located in an area that was previously disturbed and occurrence of listed species in this areas would not be expected.

Conclusions. No impacts to threatened, endangered, or special concern species would be expected under this alternative. Negligible, adverse, short-, and long-term cumulative impacts to threatened, endangered, or special concern species would also be expected under this alternative. Impairment to listed species would not occur under this alternative.

Impacts of Alternative C

Impacts to Threatened, Endangered, Special Concern Species of Alternative C1

Analysis. No impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C1. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. No removal of vegetation would occur as a component of trail development under this alternative.

Cumulative Impacts. No cumulative impacts to threatened, endangered, or special concern species would be expected under alternative C1. The trail alignment under alternative C1 does not occur on NPS land.

Conclusions. No impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C1. No cumulative impacts to threatened, endangered, or special concern species would be expected under alternative C1. Impairment to threatened, endangered, or special concern species would not occur under alternative C1.

Impacts to Threatened, Endangered, Special Concern Species of Alternative C2

Analysis. No impacts to threatened, endangered, or special concern species would be expected under alternative C2. The trail alignment does not occur on park property. The trail would be aligned on existing sidewalks or on the street. No removal of vegetation would occur as a component of trail development under this alternative. Utilization of the trail in this area would not be expected to effect wildlife in the area.

Cumulative Impacts. No cumulative impacts to threatened, endangered, or special concern species would be expected under alternative C2. The trail alignment under alternative C2 does not occur on NPS land.

Conclusions. No impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C2. Cumulative impacts to threatened, endangered, or special concern species would also not be expected under alternative C2. Impairment to threatened, endangered, or special concern species would not occur under alternative C2.

Impacts to Threatened, Endangered, Special Concern Species of Alternative C3

Analysis. No impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C3. The proposed trail alignment would cross Piney Branch Road on a bridge from NPS property adjacent to the Cady-Lee Mansion south of Piney Branch Road to NPS land on the north side of the road. Park property on both sides of the road is characterized by maintained lawn with sparse landscaped trees and shrubs.

Cumulative Impacts. No cumulative impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C3. Other than the planned development of the EYA project, there are no projects currently being developed in the vicinity of the proposed trail alignment under alternative C3 that would have cumulative affects when considered with trail development.

Conclusions. No impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C3. In addition, no cumulative impacts to threatened, endangered, or special concern species on NPS land would be expected under alternative C3. Impairment to threatened, endangered, or special concern species would not occur under alternative C3.

CULTURAL AND HISTORIC RESOURCES

GUIDING REGULATIONS AND POLICIES

The assessment of impacts to cultural resources conducted under NEPA integrates analyses required by the *National Historic Preservation Act of 1966*, as amended. Section 106 of the *National Historic Preservation Act* requires that federal agencies take into account the effects of their undertakings on historic properties, and that the Advisory Council on Historic Preservation be provided an opportunity to comment on an undertaking's adverse effects. Historic properties are buildings, structures, objects, sites,

and districts that are listed or meet eligibility criteria for listing on the National Register of Historic Places.

METHODOLOGY AND ASSUMPTIONS

The methodology for the analysis of potential effects to historic properties listed on the National Register within or adjacent to Rock Creek Park encompasses the identification of the potential effects and the application of the Criteria of Adverse Effect to the identified effects. The Criteria of Adverse Effect states,

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Examples of adverse effects include: the physical destruction of all or part of the historic property; an alteration of the property that is not consistent with the Secretary of Interior's standards for the treatment of historic properties (36 CFR 68); the removal of the property from its historic location; changing the character of the property's use or of physical features of its setting that contribute to its significance; and the introduction of visual, aural, and atmospheric elements that diminish the integrity of the property's significant historic features (36 CFR 800.5).

The District's SHPO and Rock Creek Park were contacted for consultation and to fulfill the requirements of Section 106.

The following objectives, with respect to cultural and historic resources, were established during the internal scoping process between NPS, USDOT, and DDOT:

- Ensure that qualities of historic properties, such as the earthworks in Fort Totten and the integrity of the Community Gardens, are protected during the construction, operation, and maintenance of a multi-use trail system;
- Ensure that actions related to the permitting, construction, operation, and maintenance of a multi-use trail system can be classified as having no adverse effect on the cultural resources of the park units as defined in the *National Historic Preservation Act*;
- Ensure that a multi-use trail is permitted in a manner that protects archeological sites in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.

STUDY AREA

The geographic study area for cultural and historic resources includes the footprint of proposed trail as well as the area 200 feet to either side of the trail's edge.

IMPACTS TO CULTURAL AND HISTORIC RESOURCES FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

The following thresholds were used to determine the magnitude of effects on cultural and historic resources:

Negligible – The impact would be at the lowest level of detection or barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Minor – The impact would not affect the character defining features of an historic resource(s) listed on or eligible for the National Register of Historic Places. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Moderate – The impact would alter a character defining feature(s) of an historic resource(s) but would not diminish the integrity of the resource to the extent that its National Register listing would be jeopardized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major – The impact would alter a character defining feature(s) of an historic resource(s), diminishing the integrity of the resource to the extent that it is no longer eligible for listing on the National Register. For purposes of Section 106, the determination of effect would be an *adverse effect*.

Impairment – A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of (park name); (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Duration – Short-term effects last for part or all of the duration of trail development; long-term effects extend beyond the completion of the trail.

Impacts of the No Action Alternative

Analysis. Under the no action alternative, no cultural or historic resources would be impacted. The MBT would not be constructed and additional recreational opportunities would not be provided.

Cumulative Impacts. Under the no action alternative, other projects that would be occurring in the vicinity of the MBT would include mixed-use developments at the Fort Totten and Takoma Park Metro stations, both of which include residential uses. The development of these projects would not have cumulative impacts on historical and cultural resources.

Conclusions. Under the no action alternative there would be no impacts or cumulative impacts.

Impacts of Alternatives in Area A

Impacts to Cultural and Historic Resources of Alternative A1 (NPS Preferred Alternative)

Analysis. Under alternative A1, the MBT would be constructed as described in the Alternatives section. The MBT under this alternative would be located roughly 1,000 feet from the earthworks of Fort Totten and outside the cultural management zone for Fort Totten as delineated by NPS. However, under alternative A1 the trail would cross land delineated as a natural management zone along 1st Place, 1st Street, and the current social path. As defined by NPS under the Fort Circle Parks Management Plan, a natural management zone is managed primarily to maintain forests and natural scenery but may also contain cultural resources. Surface and sub-surface prehistoric and historic artifacts could occur within the natural management zone.

In 1861, a residence and a cluster of associated outbuildings ascribed to “Mrs. C. Sanders” were located approximately 250 feet southeast of the current location of the Blair Community Gardens (NPS Reservation 497). The outbuildings have doubtless been destroyed by urban development in the area that would be crossed by the trail under alternatives A1 and A3. However, the residence stood to the

northeast, adjacent to the trail as delineated under alternatives A2 and A4. cursory site inspection has shown that there are no obvious above-ground remnants of this structure. The surrounding area, though now overgrown and not developed, has some indications of substantial earth movement in the past. Although available evidence does not preclude the possibility, survival of significant archeological deposits from the mid-nineteenth-century occupation seems unlikely under these circumstances.

Under alternative A1, the MBT would be situated in areas that have been severely graded and disturbed to accommodate previous construction of the Fort Totten Metro station and residential development. If there were ever any prehistoric occupation sites in these areas, the previous grading would have destroyed them or at least severely compromised their integrity. No NRHP-listed or eligible historic sites have been recorded previously within Reservation 451 West or Reservation 497. Therefore, adverse short-term impacts to cultural and historic resources under alternative A1 are considered negligible.

The MBT has the potential to increase visitor use and enhance recreational opportunities on NPS land. Clear wayfinding and restriction signage would direct MBT trail users to appropriate trail use to avoid damaging the earthworks at Fort Totten. As a result, long-term impacts to cultural and historic resources under alternative A1 are also considered negligible.

Cumulative Impacts.

Under alternative A1, other projects that would be occurring in the area include mixed-use developments at the Fort Totten Metro stations, which include residential uses. The development of alternative A1 would not have cumulative impacts on cultural and historic resources.

Conclusions.

Short-term and long-term impacts on cultural and historic resources under alternative A1 would be negligible. No cumulative impacts would occur under alternative A1.

Impacts to Cultural and Historic Resources of Alternative A2

Analysis. Impacts to cultural and historic resources under alternative A2 would be the same as those under alternative A1, with the exception of the area of the trail that runs parallel to CSX and Metro rail tracks through a wooded area on NPS land. This section of the trail would cross land delineated as a natural management zone. As defined by NPS under the Fort Circle Parks Management Plan, a natural management zone is managed primarily to maintain forests and natural scenery but may also contain cultural resources. Surface and sub-surface prehistoric and historic artifacts could occur within the natural management zone.

Historic maps show that the proposed trail in this area crosses what was originally a gently sloping upland ridge traversed by a small stream flowing eastward. Also, a historic road, called Right Fork, once paralleled the stream and also crossed the proposed trail. In this region, it would not be unusual to find evidence of prehistoric activity in such a setting, particularly if cobbles of quartz or quartzite, usable for tool manufacture, were available in the vicinity. As in the case of the historic residence, apparent extensive previous disturbance of the landscape has probably destroyed or at least severely compromised the integrity of any prehistoric archeological deposits that may once have existed here.

Although the possible existence of significant intact archeological deposits in this vicinity has not yet been definitely precluded, it is likely that extensive previous disturbance of the landscape has destroyed or at least severely compromised the integrity of any remnants of the mid-19th-century Sanders residence or of any prehistoric archeological deposits that may once have existed here. Therefore short-term impacts on previously unrecorded archeological resources within the wooded area on NPS land associated with alternative A2 are considered negligible.

Long-term impacts under alternative A2 would be the same as those described under alternative A1.

Cumulative Impacts. Cumulative impacts under alternative A2 would be the same as those described under alternative A1.

Conclusions. Short-term and long-term impacts on cultural and historic resources under alternative A2 would be negligible. No cumulative impacts would occur under alternative A2.

Impacts to Cultural and Historic Resources of Alternative A3

Analysis. Impacts to cultural and historic resources under alternative A3 would be the same as those under alternative A1, with the exception of the area of the Blair Road Community Garden. Under alternative A3, the MBT would be aligned along a service road on NPS lands that is located between several of the existing gardening plots.

Although the possible existence of significant intact archeological deposits in this vicinity has not yet been definitely precluded, it is likely that extensive previous disturbance of the landscape has destroyed or at least severely compromised the integrity of any remnants of the mid-19th-century Sanders residence or of any prehistoric archeological deposits that may once have existed here. Therefore short-term impacts on previously unrecorded archeological resources within the Community Gardens associated with alternative A3 are considered negligible.

Short and long-term moderate impacts to the ethnographic (human culture) value are expected. The impact would alter a characteristic of Community Gardens but would not diminish its integrity or overall function. The proposed alternative A3 alignment would convert the existing service road, which bisects the Community Gardens, into trail. This would increase pedestrian use of the site and increase foot or bike traffic in off-trail sections of the Community Gardens, which could adversely impact garden plots directly adjacent to the trail. The introduction of additional recreational uses may conflict with the existing use of the gardening plots and create a disturbance to the existing park visitor use.

Cumulative Impacts. Cumulative impacts under alternative A3 would be the same as those described under alternative A1.

Conclusions. Short- and long-term impacts to cultural and historic resources under alternative A3 would be negligible in all areas except the Blair Road Community Garden. Where the MBT utilizes the service road through the Community Garden, short- and long-term moderate impacts are expected. The development of alternative A3 would not have cumulative impacts on cultural and historic resources.

Impacts to Cultural and Historic Resources of Alternative A4

Analysis. Impacts under alternative A4 would be the same as those described under alternatives A1 and A3.

Cumulative Impacts. Cumulative impacts under alternative A4 would be the same as those described under alternative A1.

Conclusions. Short- and long-term impacts to cultural and historic resources under alternative A4 would be negligible in all areas except the Blair Road Community Garden. Where the MBT utilizes the service road through the Community Garden, short- and long-term moderate impacts are expected. The development of alternative A4 would not have cumulative impacts on cultural and historic resources.

Impacts of Alternatives in Area B

Impacts to Cultural and Historic Resources of Alternative B1

Analysis. Under alternative B1, the MBT would be constructed as described in the alternatives section. There are no sites within the alternative B1 study area that are listed on the National Register of Historical Places. The park service land within the study is delineated as a connecting corridor management zone. Connecting Corridor Zones are areas of the Fort Circle Parks that were purchased for construction of a parkway connecting fort resources. Historic earthworks would not be included in this zone. Therefore, short- and long-term impacts on cultural and historic resources resulting from alternative B1 are negligible.

Cumulative Impacts. Cumulative impacts under alternative B1 would be the same as those described under alternative A1.

Conclusions. No short- or long-term adverse impacts to cultural and historic resources would occur under alternative B1. The development of alternative B1 would not have cumulative impacts on cultural and historic resources.

Impacts to Cultural and Historic Resources of Alternative B2

Analysis. Impacts under alternative B2 would be the same as those described under alternative B1.

Cumulative Impacts. Cumulative impacts under alternative B2 would be the same as those described under alternative A1.

Conclusions. No short- or long-term adverse impacts to cultural and historic resources would occur under alternative B1. The development of alternative B1 would not have cumulative impacts on cultural and historic resources.

Impacts of Alternatives in Area C

Impacts to Cultural and Historic Resources of Alternative C1

Analysis. Under alternative C1, the MBT would be constructed as described in the alternatives section. The Cady-Lee Mansion, listed on both the National Register of Historic Places and D.C. Historic Landmarks, is situated at the corner of Piney Branch Road and Eastern Avenue. There are no other buildings located within the alternative C1 study area that are listed on the National Register of Historic Places or the D.C. Historic Landmarks. Under alternative C1, the proposed trail would run along the western side of or directly on Eastern Avenue adjacent to the Cady-Lee Mansion. Trail construction in the vicinity of the Cady-Lee Mansion would entail, at most, sidewalk widening, a wayside across the street, and crossing improvements under alternative C1; however, pedestrian traffic is likely to increase. Minor short- and long-term impacts to cultural and historical resources are expected under alternative C1, due to the increase in pedestrian traffic within vicinity of the Cady-Lee Mansion.

Additionally, alternative C1 is located in the Takoma Park Historic District which is governed by the D.C. Historic Preservation Review Board. The Takoma Park Historic District was listed on the National Register in 1983. All new development and exterior alterations to existing structures within the historic district must be reviewed and approved by the D.C. Historic Preservation Review Board.

Cumulative Impacts. Other projects would not be expected to add cumulatively to the effects of alternative C1.

Conclusions. Minor short- or long-term adverse impacts to cultural and historic resources would occur under alternative C1. There would not be a cumulative increase in effects beyond those of alternative C1 for cultural and historic resources. Viewshed impacts are discussed under the heading – *Viewsheds*.

Impacts to Cultural and Historic Resources of Alternative C2

Analysis. Impacts under alternative C2 would be the same as those described under alternative C1.

Cumulative Impacts. Other projects would not be expected to add cumulatively to the effects of alternative C2.

Conclusions. Minor short- or long-term adverse impacts to cultural and historic resources would occur under alternative C2. There would not be a cumulative increase in effects beyond those of alternative C2 for cultural and historic resources. Viewshed impacts are discussed under the heading – *Viewsheds*.

Impacts to Cultural and Historic Resources of Alternative C3

Analysis. Alternative C3 would introduce traffic to the side of the Mansion where none currently exists. It would also require excavation for a bridge abutment in the side yard. Impacts under alternative C3 would be greater than those described under alternatives C1 or C2, and are considered moderate; the presence of the trail, considering the existence of the Metro tracks, is not considered such a change as to be considered *major*.

Cumulative Impacts. Other projects would not be expected to add cumulatively to the effects of alternative C3.

Conclusions. Moderate short- or long-term adverse impacts to cultural and historic resources would occur under alternative C3. There would not be a cumulative increase in effects beyond those of alternative C3 for cultural and historic resources. Viewshed impacts are discussed under the heading – *Viewsheds*.

VIEWSHEDS

GUIDING REGULATIONS AND POLICIES

FHWA technical manual T6640.8A indicates that an FHWA NEPA assessment should determine whether a project's alternatives have a potential for visual quality impacts. A NEPA document should identify the impacts to the existing visual resource, the relationship of the impacts to potential viewers of and from the project, as well as measures to avoid, minimize, or reduce the adverse impacts.

The NPS is specifically directed to “emphasize the protection of natural lightscapes not only for the enjoyment and experience of visitors, but also for protection of ecological integrity (Management Policies 2001, sec. 4.10). The experience of a naturally dark night or a pristine starry night sky are important elements of “scenery” within national park units, which the NPS Organic Act directs to be conserved.

Additionally, Section 106 of the *National Historic Preservation Act* requires the determination of visual, atmospheric, or audible adverse effects of the proposed project's alternatives.

METHODOLOGY AND ASSUMPTIONS

The construction and operation of the MBT could potentially have an indirect effect on the identified historic properties and other areas of historical significance by introducing a visual element that may diminish the integrity of an individual resource's historic features. Therefore, a preliminary viewshed impact analysis was conducted to determine the extent to which the MBT may visually affect any of the identified historic properties or other culturally significant areas. Aspects taken into consideration include

the addition of lighting and structures and how these new elements would impact the area given the existing condition of the area as well as the topography, vegetation, or other elements that could provide visual barriers between the MBT and potentially impacted properties.

STUDY AREA

The study area for viewsheds includes four distinct reservations within Rock Creek Park, all of which are part of the Fort Circle Park system, and the views and vistas seen from these lands. These areas include Reservation 451 West – north and west of the Fort Totten Metro station, Reservation 497 including the Blair Road Community Gardens, Reservation 451 East – adjacent to and east of the Fort Totten Metro station, and Reservation 531 – located adjacent to the Cady-Lee Mansion.

IMPACTS TO VIEWSHEDS FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds

In order to evaluate the alternatives, the following criteria have been established to define the level of impacts to viewsheds:

Negligible – There would be no impacts to the views and vistas seen from or looking onto NPS lands from the trail and associated activities such as lighting, signage, etc.

Minor – Impacts to views and vistas of NPS lands are anticipated; however, these effects would be minor in number, extent, and/or duration. Minor impacts, for example, could include temporary visual disturbances that would not alter the character of the viewshed, and the viewshed would be returned to its original state following the action.

Moderate – Impacts to the views and vistas of NPS lands are anticipated, and these effects would be greater in number, extent, and/or duration than minor impacts. Moderate impacts, for example, could include disturbances (such as the long-term alteration of the viewshed that would require mitigation) that could alter the character of the viewshed, and the viewshed might not resume its original state following the action.

Major – Impacts to the views and vistas of NPS lands are anticipated, and these effects would be more substantial in number, extent, and/or duration than moderate impacts. Major impacts could result in the alteration of the character of the viewshed.

Impairment – A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of (park name); (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Duration – Short-term effects last for part or all of the duration of trail development; long-term effects extend beyond the completion of the road rehabilitation.

Impacts of the No Action Alternative

Analysis. Under the no action alternative, the MBT would not be constructed and the viewsheds from NPS lands would remain in their current state. No impacts would occur to viewsheds in the short- or long-term.

Cumulative Impacts. Under the no action alternative, other projects that would be occurring in the area include mixed-use developments at the Fort Totten and Takoma Park metro stations, both which include

residential uses. These buildings both occur in highly developed areas and are not expected to impact the viewshed. The development of the Prince George's County trail system in the vicinity of 16th Street, NE and Avondale Park would not be expected to have cumulative impacts under the no action alternative.

Conclusion. Impacts to viewsheds would not occur under the no action alternative. There would be no cumulative impacts to viewsheds under the no action alternative.

Impacts of Alternatives in Area A

Impacts to Viewsheds of Alternative A1

Analysis. Under alternative A1, the MBT would be aligned through an urban area that is a mix of multi- and single-family residential, commercial, and public services such as the Fort Totten Metro station. This area does not provide a high point for the views and vistas of the area. The introduction of the MBT would be consistent with surrounding mix of land uses and would be relatively unobtrusive visually. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system. Negligible long-term adverse impacts are expected to viewsheds under alternative A1, as the character of the viewshed would not be altered under this alternative.

Cumulative Impacts. Under alternative A1, other projects that would be occurring in the area include mixed-use developments at the Fort Totten Metro station, which includes residential uses. This development occurs in a highly developed area and is not expected to impact the viewshed.

Conclusion. Impacts under alternative A1 would be negligible adverse and long-term. There would be no cumulative impacts to viewsheds under alternative A1.

Impacts to Viewsheds of Alternative A2

Analysis. Impacts under alternative A2 would be the same as those described under alternative A1.

Cumulative Impacts. Cumulative impacts under alternative A2 would be the same as those under alternative A1.

Conclusion. Impacts under alternative A2 would be negligible adverse and long-term. There would be no cumulative impacts to viewsheds under alternative A2.

Impacts to Viewsheds of Alternative A3

Analysis. Under alternative A3, the MBT would be aligned through an urban area that is a mix of multi- and single-family residential, commercial, and public services such as the Fort Totten Metro station. This area does not provide a high point for the views and vistas of the area. In the vicinity of the Community Gardens, the topography of the NPS property and the vegetation growth would ensure that impacts to views and vistas from NPS lands to adjacent non NPS-owned properties would be negligible. Within the Community Gardens, impacts would be moderate and long-term as the MBT would introduce a new visual element to the historic garden plots. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system. Negligible to moderate long-term adverse impacts are expected to viewsheds under alternative A3.

Cumulative Impacts. Cumulative impacts under alternative A3 would be the same as those under alternative A1.

Conclusion. Alternative A3 would have negligible long-term adverse impacts to viewsheds, except in the area of the community gardens where there would be moderate long-term adverse impacts. There would be no cumulative impacts to viewsheds under alternative A3.

Impacts to Viewsheds of Alternative A4

Analysis. Impacts under alternative A4 would be the same as those described under alternative A3.

Cumulative Impacts. Cumulative impacts under alternative A4 would be the same as those under alternative A3.

Conclusion. Alternative A4 would have negligible long-term adverse impacts to viewsheds, except in the area of the Community Gardens, where there would be moderate long-term adverse impacts. There would be no cumulative impacts to viewsheds under alternative A4.

Impacts of Alternatives in Area B

Impacts to Viewsheds of Alternative B1

Analysis. Under alternative B1, the MBT would run along NPS lands in the Fort Circle Park system, known as the Prince George's County Spur, that are mainly open space with patches of forested areas. The surrounding land uses within the viewshed of the NPS property include the local transportation network and single-family residences. This area does not provide a high point for the views and vistas of the area. The introduction of the MBT would be consistent with surrounding land uses and would be relatively unobtrusive visually. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system. Negligible long-term adverse impacts are expected to viewsheds under alternative B1, as the character of the viewshed would not be altered under this alternative.

Cumulative Impacts. Under alternative B1, other projects that would be occurring in the area include mixed-use developments at the Fort Totten Metro station, which includes residential uses. This development occurs in a highly developed area and is not expected to impact the viewshed.

Conclusion. Negligible long-term adverse impacts to viewsheds would occur under alternative B1. There would be no cumulative impacts to viewsheds under alternative B1.

Impacts to Viewsheds of Alternative B2

Analysis. Impacts under alternative B2 would be the same as those described under alternative B1. In addition, the trail would be located along the existing roadway, which would not require the addition of paved area along NPS lands.

Cumulative Impacts. Cumulative impacts under alternative B2 would be the same as those under alternative B1.

Conclusion. Negligible long-term adverse impacts to viewsheds would occur under alternative B2. There would be no cumulative impacts to viewsheds under alternative B2.

Impacts of Alternative C

Impacts to Viewsheds of Alternative C1

Analysis. The surrounding land uses within the viewshed of the NPS property under alternative C1 include the local transportation network and single-family residences, as well as the Cady-Lee Mansion to the east of NPS lands. Under alternative C1, the MBT would be aligned along Eastern Avenue, past the

Cady-Lee Mansion, either on the sidewalk or as an on-street bike lane. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system. The introduction of the MBT would not alter the character of the viewshed from NPS lands, and would be expected to have negligible adverse impacts. The National Register listed Cady-Lee Mansion is located within the viewshed of this area. The location of the MBT along Eastern Avenue would introduce a new visual element to this historic structure; given the existing roadway and traffic along Eastern avenue, impacts would be considered negligible if the MBT is located on the existing roadway, but long-term minor impacts could occur if the trail is placed on the sidewalk and adjustments to the sidewalk are required.

Cumulative Impacts. Other projects would not be expected to add cumulatively to the effects of alternative C1.

Conclusion. Under alternative C1, long-term negligible to minor impacts would occur. There would be no cumulative impacts to viewsheds under alternative C1.

Impacts to Viewsheds of Alternative C2

Analysis. The surrounding land uses within the viewshed of the NPS property under alternative C2 include the local transportation network and single-family residences, as well as the Cady-Lee Mansion to the east of NPS lands. The introduction of the MBT would not alter the character of the viewshed from NPS lands, and would be expected to have negligible adverse impacts. The National Register listed Cady-Lee Mansion is located within the viewshed of this area. Under alternative C2, the MBT would be aligned across Piney Branch Road on a bridge to the west of the Metro tracks, to be constructed, or descend to Piney Branch Road using a switchback alignment. Visibility of the MBT under this alternative would be minimal to the viewshed of the Cady-Lee Mansion as the trail would be obstructed from the view of the property by the Metro tracks or topography. As a result, long-term impacts to the viewshed of the Cady-Lee Mansion are negligible. Lighting would be provided from existing street lights and any additional lighting needed would be in character with the existing lighting system.

Cumulative Impacts. Other projects would not be expected to add cumulatively to the effects of alternative C2.

Conclusion. Impacts to viewsheds, both from NPS lands and from the Cady-Lee Mansion, would be negligible under alternative C2. There would be no cumulative impacts to viewsheds alternative C2.

Impacts to Viewsheds of Alternative C3

Analysis. The surrounding land uses within the viewshed of the NPS property under alternative C3 include the local transportation network and single-family residences, as well as the Cady-Lee Mansion to the east of NPS lands. The introduction of the MBT would not alter the character of the viewshed from NPS lands, and would be expected to have only negligible adverse impacts. The National Register listed Cady-Lee Mansion is located within the viewshed of this area. Under alternative C3, the MBT would be aligned along an elevated structure adjacent to the Metro tracks, along the retaining wall running behind the cooperative apartments on Eastern Avenue and the Cady-Lee Mansion. It would also include a bridge across Piney Branch Road in the Mansion side yard, approximately 125 feet from the Mansion. This would impact the character of the viewshed. As a result, long-term viewshed impacts are considered to be moderate to major. Depending upon the features of the trail (such as lighting and fencing), and the care taken with architectural features of the bridge. Figure 7 shows the view of site for the proposed bridge across Piney Branch Road, approximately 125 feet to the west of the mansion; and Figure 8 shows the side yard of the Cady-Lee Mansion along the tracks. Lighting on the trail and bridge would be likely, but could be designed to be in character with the existing lighting system.

Cumulative Impacts. Other development would not add cumulative impacts under alternative C3 to those already discussed.

Conclusion. Impacts under alternative C3 would be moderate to major. Cumulative impacts would be the same.

LAND USE

GUIDING REGULATIONS AND POLICIES

The management of land within the Fort Circle Parks is guided by the *Fort Circle Park Management Plan*. The purpose of the management plan is “to provide a unifying management concept for significant historic resources associated with the Civil War defense of Washington that would allow these resources to be preserved for future generations, and interpreted in a coherent, easily understandable manner (NPS, 2003).” The plan will guide the management of cultural and natural resources, visitor use and development, park operations, and land use for the next 10 to 15 years. One major objective of the management plan is to continue the development of a continuous bikeway and foot trail, with interpretation of the historic fort sites. This trail would connect all the fort sites and create a green corridor, beginning at the base of Palisades Park near Fletcher’s Boat House on the C & O Canal and continuing to Fort Greble near the south end of the Shepherd Parkway.

The *Comprehensive Plan for the National Capital: Federal Elements* calls for the completion of a continuous trail that would link the historic Civil War Fort sites within the District. The Fort Circle Park system was created from the former Civil War Defenses of Washington, and the proposed Fort Drive to connect them was part of the McMillan Commission's plan for the parks of the nation's capital in 1902. Although never completed, starting in the 1930s the federal government acquired substantial amounts of the land for the proposed Fort Circle Drive. Finishing a continuous trail as originally proposed could serve local and regional needs and accommodate educational as well as recreational purposes for both residents and tourists. The *Comprehensive Plan for the National Capital* indicates that existing street rights-of-way will be used where delicate cultural and natural features do not support a trail alignment.

Furthermore the *Comprehensive Plan for the National Capital* supports the development of a continuous system of trails for hikers and bikers in the D.C. region, with an emphasis on bicycle commuting. The development of new trails and completion of partial trails that connect to parks, schools, businesses, and other community amenities would provide a system of contiguous regional trails for extensive recreational and transportation use. The *Comprehensive Plan for the National Capital* indicates the need for the completion of the following three trails: (1) Anacostia Riverwalk Trail; (2) Metropolitan Branch Trail; and (3) Potomac Heritage Trail.

The *Takoma Central District Plan* is the end product of a community-driven planning process for the Takoma neighborhood commercial district in D.C. This plan defines the near and mid-term strategies for the revitalization and articulates broad development goals, urban design guidelines and priority actions necessary to encourage and facilitate reinvestment in D.C. One of the transportation revitalization strategies incorporated in to the Takoma Central District Plan “is to support and incorporate the MBT into all transportation improvements for the Takoma Park area to ensure good access and connections to this regional resource (D.C. Office of Planning, 2002).”

METHODOLOGY AND ASSUMPTIONS

Environmental consequences to land use were assessed by determining the types of land uses in the project area and the NPS management zones for Reservations located in the Fort Circle Parks, then by evaluating these uses to determine their sensitivity to the short-term and long-term project effects.

STUDY AREA

The geographic study area for land use includes the proposed footprint of the trail as well as the Reservation 451 (east and west of the Metro rail line), Reservation 497 including the Blair Road Community Gardens, Reservation 531 located adjacent to the Cady-Lee Mansion and an area 500-feet buffer extending from the boundary of the NPS Reservations. Reservation 451 (east and west of the Metro rail line),

IMPACTS TO LAND USE FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds.

Negligible – There would be no impacts to the existing NPS or adjacent land uses from the trail.

Minor – Impacts to the existing NPS and adjacent land uses are anticipated; however, these effects would be minor in number, extent, and/or duration. Minor impacts, for example, could include temporary land use disturbances that would not alter the character of the existing land use, and the existing land use would be returned to its original state following the action.

Moderate – Impacts to the existing NPS and adjacent land uses are anticipated, and these effects would be greater in number, extent, and/or duration than minor impacts. Moderate impacts, for example, could include land use disturbances (such as the long-term alteration of the existing land use that would require mitigation) that could alter the character of the existing land use, and the land use might not resume its original state following the action.

Major – Impacts to the existing NPS and adjacent land uses are anticipated, and these effects would be more substantial in number, extent, and/or duration than moderate impacts. Major impacts could result in the alteration of the character of the existing land uses.

Impairment – A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of (park name); (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Duration – Short-term effects last for part or all of the duration of trail development; long-term effects extend beyond the completion of the road rehabilitation.

Impacts of the No Action Alternative

Analysis. Under the No Action Alternative, there would be no changes to the current land use as no MBT alignments would be developed. No adverse impacts would occur; however, beneficial impacts associated with meeting goals and objectives established in the *Comprehensive Plan for the National Capital: Federal Elements*, the *NPS Fort Circle Park Management Plan*, and the *Takoma Central District Plan* would not occur.

Cumulative Impacts. Other projects that would be occurring in the area include mixed-use developments at the Fort Totten and Takoma Park metro stations. These construction projects occur in highly developed areas and are consistent with the existing land uses in both the Fort Totten and Takoma Park areas. These development projects would not be expected to have cumulative impacts under the no action alternative.

Conclusions. Under the no action alternative there would be no impacts or cumulative impacts.

Impacts of Alternatives in Area A

Impacts to Land Use of Alternative A1

Analysis. Constructing a 10 to 12-foot wide path where possible and following the culvert that runs near the trash transfer station would have no adverse impacts to its current operation. The trail would be located near the Metro tracks, far from operations, and would not be in conflict with truck traffic. There would also be no adverse impacts to operations at the Aggregate Industries concrete plant because it is located on the eastern side of the Metro tracks, isolated from the trail.

The section of trail that passes around Fort Totten Metro station is consistent with the surrounding pedestrian transient oriented land uses; therefore, no adverse impacts to the current land use are expected in this area.

The proposed section of trail using the current social path would also be consistent with the existing land use in the area; however, formalizing the current social path running parallel to the lot lines of the residents living on the eastern side on New Hampshire, between Riggs Road and 1st Street, might increase access and public use of this area. This could potentially increase conflict with private residents (*e.g.* noise and privacy). As there is already a social path, the potential for increased use is considered to be a minor long-term impact.

Use of 1st Street and McDonald Place on-street would not impact land use; however, any conversion of sidewalks would entail minor long-term adverse impacts. The north section of alternative A1 follows and adds a shared use path along Blair Road past the Community Gardens. Minor long-term beneficial and adverse impacts are expected. Beneficial impacts result from the increased access to the site for both gardeners and the general public, and provision of a walkway that could be better maintained than the bare ground that currently exists. Minor long-term adverse impacts stem from the potential disturbance from increased foot/bike traffic.

The trail alignment under alternative A1 would cross two types of NPS management zones: Natural Zone and Recreational Zone. Trails are considered an appropriate activity within both designated Natural and Recreational Zones in the Fort Circle Parks Management Plan. Trails within Recreational Zones should provide visitors with a connection to other forts and zones within Fort Circle Parks. In Natural Zones it is recommended that any access road or new trail be left unpaved. Under alternative A1, a paved trail is proposed within a designated Natural Zone in the vicinity of the Fort Totten Metro. Due to previous land disturbance and current transit oriented land uses surrounding Fort Totten Metro, impacts resulting from the proposed paved trail within the Natural Zone are considered long-term but minor.

The proposed trail route under alternative A1 would assist in obtaining the objectives set forth in the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital: Federal Elements* regarding the development of a trail system that would connect the circle forts. The proposed alignment under alternative A1 would connect Fort Totten to Fort Slocum in a manner consistent with the conceptual trail route proposed under the *Fort Circle Parks Management Plan*. As a result, long-term moderate beneficial impacts would occur due to the development of recreational resources and creation of a green corridor.

Cumulative Impacts. Under alternative A1, the other project that would be occurring in the area is the mixed-use development at the Fort Totten Metro station, which includes residential uses. This construction project occurs in a highly developed area and is consistent with the existing land uses in the project area. The Cafritz development at Fort Totten in conjunction with the MBT would not be expected to have cumulative impacts under this alternative.

Conclusions. Adverse impacts to existing and foreseeable land uses under alternative A1 ranges from no impacts to long-term minor impacts. Long-term minor impacts occur within the area of the existing

social path, Community Gardens, and within Fort Circle Parks' management areas delineated as a Natural Zone. Beneficial impacts range from long-term minor to long-term moderate. Long-term minor beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Fort Totten Metro Station and long-term moderate beneficial impacts occur with adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts to Land Use of Alternative A2

Analysis. Impacts under alternative A2 would be the same as those described under alternative A1 with the exception of the section of the trail created within NPS Reservation 497 adjacent to the CSX right-of-way. Moderate, long-term adverse impacts to land use would be expected with the placement of a 10-12 foot hard where possible or soft path within this area of NPS Reservation 497. Currently there is no formal path that runs along the CSX right-of-way within the reservation. Additionally this proposed section of trail is isolated by tree cover from existing residential areas presenting potential security issues for use of trail during the day and evening. Special Metropolitan Police Department and NPS patrols (bike or scooter mounted) would be necessary throughout the day along this alignment option, with special emphasis provided at dusk. Special emergency call boxes are also recommended for this alignment.

Cumulative Impacts. Foreseeable future development in the area does not add cumulatively to impacts under alternative A2.

Conclusions. Adverse impacts to existing and foreseeable land uses under alternative A2 range from no impacts to long-term moderate impacts. Long-term minor impacts occur within the area of the Community Gardens and within Fort Circle Parks' management areas delineated as a Natural Zone. Long-term moderate impacts are expected due to security issues with placement of the trail in an isolated area surrounded by dense tree coverage. Beneficial impacts range from long-term minor to long-term moderate. Long-term minor beneficial impacts result from the improvement of pedestrian traffic within the vicinity of the Fort Totten Metro Station and long-term moderate beneficial impacts occur with adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts to Land Use of Alternative A3

Analysis. Impacts under alternative A3 would be the same as those described under alternative A1, with the exception that the north section of alternative A3 would follow the current service road that bisects the Community Gardens. Minor long-term beneficial and adverse impacts are expected. Beneficial impacts result from the increased access to the site for both gardeners and the general public. Minor long-term adverse impacts stem from the disturbance to gardeners and gardens from increased foot/bike traffic and the potential effects on garden plots located along the road.

Cumulative Impacts. Foreseeable future development in the area does not add cumulatively to impacts under alternative A3.

Conclusions. Adverse impacts to existing and foreseeable land uses under alternative A3 ranges from no impacts to long-term minor impacts. Long-term minor impacts occur within the area of the Community Gardens and within Fort Circle Parks' management areas delineated as a Natural Zone. Beneficial impacts range from long-term minor to long-term moderate. Long-term minor beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Fort Totten Metro Station and long-term moderate beneficial impacts occur with adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts to Land Use of Alternative A4

Analysis. Impacts under alternative A4 would be the same as those described for segments south of New Hampshire Avenue under alternative A2 and segments north of New Hampshire Avenue under alternative A3. Section paralleling the CSX tracks and following the current service road that bisects the Community Gardens would incur minor long-term adverse impacts from security issues and potential disturbance to gardeners. Beneficial impacts result from the increased access to the site for both gardeners and the general public.

Cumulative Impacts. Foreseeable future development in the area does not add cumulatively to impacts under alternative A4.

Conclusions. Adverse impacts to existing and foreseeable land uses under alternative A4 range from no impacts to long-term moderate impacts. Long-term minor impacts occur within the area of the Community Gardens and within Fort Circle Parks' management areas delineated as a Natural Zone. Long-term moderate impacts are expected due to security issues with placement of the trail in an isolated area surrounded by dense tree coverage. Beneficial impacts range from long-term minor to long-term moderate. Long-term minor beneficial impacts result from the improvement of pedestrian traffic within the vicinity of the Fort Totten Metro Station and long-term moderate beneficial impacts occur with adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts of Alternatives in Area B

Impacts to Land Use of Alternative B1

Analysis. Moderate long-term beneficial impacts would be expected with the construction of the MBT within NPS Reservation 451. Constructing a new 10-12 foot wide surface where possible on NPS land would have long-term benefits to land use by providing additional recreational opportunities within NPS Reservation 451. Also, Reservation 451 is listed as a Connecting Corridor Zone, which includes areas of the Fort Circle Parks that were purchased for construction of a parkway trail system connecting fort resources. Therefore, long-term moderate beneficial impacts occur with adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts.

Cumulative Impacts. Moderate cumulative beneficial impacts would occur under alternative B1 as individuals that come with the mixed-use development would benefit from the trail's transportation and recreational features.

Conclusions. Long-term moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Fort Totten Metro Station, increase recreational opportunities, and adherence to the *Fort Circle Parks Management Plan* and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts to Land Use of Alternative B2

Analysis. Impacts under alternative B2 would be the same as those described under alternative B1.

Cumulative Impacts. Cumulative impacts under alternative B2 would be the same as those under alternative B1.

Conclusions. Long-term moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of the Fort Totten Metro Station, increase recreational opportunities, and adherence to the

Fort Circle Parks Management Plan and the *Comprehensive Plan for the National Capital* with regards to the development of a contiguous trail connecting all the Circle Forts. No impairment would occur.

Impacts of Alternatives in Area C

Impacts to Land Use of Alternative C1

Analysis. The small parcels of land that make up the NPS Reservation 531 are landscaped with manicured grass and trees. The construction of the MBT adjacent to this Reservation would not adversely impact its current use. Also, the MBT is consistent with the current land uses in Takoma Park that surround the NPS Reservation 531. Long-term minor adverse impacts could occur under alternative C1 resulting from the loss of some parking along Eastern Avenue and the short-term disruption as crossing improvements are made at Piney Branch Road. Long-term minor to moderate beneficial impacts would occur under alternative C1 resulting from the increase in recreational opportunities and improved pedestrian transportation. One of the transportation revitalization strategies incorporated in to the Takoma Central District Plan *“is to support and incorporate the MBT into all transportation improvements for the Takoma Park area to ensure good access and connections to this regional resource (D.C. Office of Planning, 2002).”* This trail would allow the residents of Takoma Park to take advantage of a regional transportation and recreational source that would connect Takoma Park to other parts of D.C. and Montgomery County, Maryland (MD).

Cumulative Impacts. In the vicinity of alternative C1, Metro station improvements and mixed-use developments at the Takoma Park Metro station occur in an already highly-developed area and are consistent with the existing land uses in the project area. These developments in conjunction with the MBT would not be expected to have adverse cumulative impacts in conjunction with alternative C1. Furthermore, the MBT is consistent with the objectives and goals established in the Takoma Central District Plan.

Conclusions. Long-term minor adverse impacts might occur from a reduction in parking and moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of Takoma Park and the increase in recreational opportunities. Also, the development of the MBT is supported by the Takoma Central District Plan. No impairment would occur.

Impacts to Land Use of Alternative C2

Analysis. Beneficial impacts under alternative C2 would be the same as those described under alternative C1. The construction of a bridge to the west of the railroad tracks on Piney Branch Road would be expected to cause short-term minor adverse impacts to local traffic and land use as the bridge is being constructed. Impacts would occur only during the construction phase of the bridge, and would return to normal after construction has ended.

Cumulative Impacts. Cumulative impacts under alternative C2 would be the same as those under alternative C1.

Conclusions. Long-term minor to moderate beneficial impacts result from the improvement of pedestrian traffic within vicinity of Takoma Park and the increase in recreational opportunities. Also, the development of the MBT is supported by the Takoma Central District Plan. Crossing Piney Branch Road on a bridge to the west of the tracks or descending to Piney Branch Road using a switchback would be expected to produce minor short-term adverse impacts to both the local traffic and land use. No impairment would occur.

Impacts to Land Use of Alternative C3

Analysis. Impacts under alternative C3 would be similar to those described under alternative C1 with the exception of the section of the MBT constructed on an elevated structure adjacent to metro tracks (but not attached) running behind cooperative apartments on Eastern Avenue and the Cady-Lee Mansion, and crossing Piney Branch Road. Short-term minor adverse impacts to local traffic and land use as the bridge is being constructed would be expected. Impacts would occur only during the construction phase of the bridge, and would return to normal after construction has ended.

Cumulative Impacts. Cumulative impacts under alternative C3 would be similar to those under alternative C1.

Conclusions. Long-term minor to moderate beneficial impacts result from the improvement of pedestrian and bicyclist traffic within Takoma Park and the increase in recreational opportunities. Also, the development of the MBT is supported by the Takoma Central District Plan. Short-term minor adverse impacts to the existing land use would be expected as the bridge along the metro tracks is being constructed. No impairment would occur.

VISITOR USE AND EXPERIENCE

GUIDING REGULATIONS AND POLICIES

The NPS *Management Policies 2001* state that enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks. Because many forms of recreation do not require a National Park setting, the NPS will:

- Provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks; and
- Defer to local, state, and other federal agencies; private industry; and non-governmental organizations to meet the broader spectrum of recreational needs and demands.

Unless mandated by statute, the NPS will not allow visitors to conduct activities that would:

- impair park resources or values;
- create an unsafe or unhealthful environment for other visitors or employees;
- be contrary to the purposes for which the park was established;
- unreasonably interfere with the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park;
- interfere with NPS interpretive, visitor service, administrative, or other activities;
- interfere with NPS concessionaire or contractor operations or services; or
- interfere with other existing, appropriate park uses.

METHODOLOGY AND ASSUMPTIONS

The purpose of this impact analysis is to determine if the construction and operation of the MBT is compatible or in conflict with the purpose of the park, its visitor experience goals, and the direction provided by the NPS *Management Policies*. To determine impacts, the current and past uses of the Fort Circle Parks were considered and the potential effects of establishment and operation of a multi-use recreational trail on visitor experience analyzed. Other recreational activities and the type of visitor experiences that occur in other areas of the Fort Circle Parks that might be affected by the establishment of the MBT were also considered in the impacts analysis.

STUDY AREA

The study area for visitor experience includes three distinct reservations within Rock Creek Park, all of which are part of the Fort Circle Park system. These areas include Reservation 451 (east and west of the Metro rail line), Reservation 497 including the Blair Road Community Gardens, and Reservation 531 located adjacent to the Cady-Lee Mansion.

IMPACTS TO VISITOR USE AND EXPERIENCE FROM THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE METROPOLITAN BRANCH TRAIL

Impact Thresholds.

The following thresholds were defined:

Negligible — Visitors would likely be unaware of any effects associated with implementation of the alternative. There would be no noticeable change in visitor use and experience or in any defined indicators of visitor satisfaction or behavior.

Minor — Changes in visitor use and/or experience would be slight and detectable, but would not appreciably limit or enhance critical characteristics of the visitor experience. Visitor satisfaction would remain stable.

Moderate — Few critical characteristics of the desired visitor experience would change. The number of participants engaging in a specified activity would be altered. Some visitors who desire to continue their use and enjoyment of the activity/visitor experience might be required to pursue their choices in other available local or regional areas. The visitor would be aware of the effects associated with implementation of the alternative and would likely express an opinion about changes. Visitor satisfaction would begin to either decline or increase as a direct result of the effect.

Major — Multiple critical characteristics of the desired visitor experience would change and/or the number of participants engaging in an activity would be greatly reduced or increased. Some visitors who desire to continue their use and enjoyment of the activity/visitor experience would be required to pursue their choices in other available local or regional areas. The visitor would be aware of the effects associated with implementation of the alternative and would likely express a strong opinion about the change. Visitor satisfaction would markedly decline or increase.

Duration — Short-term recreation impacts are immediate and could occur up to one year after completion of the trail construction activities are complete. Long-term impacts would persist beyond one year after completion of the proposed trail project.

Impacts of the No Action Alternative

Analysis. Under the no action alternative, visitor use and experience would continue as is and would consist mainly of passive recreation, community gardens, and organized sports. The trail would not be constructed and additional recreational opportunities would not be provided. Visitor satisfaction would remain stable, but the added benefits of the trail would not be realized, resulting in minor impacts to visitor use and experience.

Cumulative Impacts. Under the no action alternative, other projects that would be occurring in the area include mixed-use developments at the Fort Totten and Takoma Park metro stations, both which include residential uses. The development of these projects would not have cumulative impacts on visitor use and experience. Under the no action alternative, the MBT would not be constructed and would not link up to Prince George's County Trail in Maryland to expand the trail network. Because these connections would not be created, minor adverse long-term impacts would occur to visitor use and experience from the lost recreational opportunity.

Conclusion. Impacts under the no action alternative would be minor and adverse. Cumulative impacts under the no action alternative would be minor and adverse.

Impacts of Alternatives in Area A

Impacts to Visitor Use and Experience of Alternative A1

Analysis. Under alternative A1, the MBT would be constructed as described in the Alternatives section. During the construction process, access to some NPS lands may be temporarily disturbed, creating short-term minor adverse impacts. These impacts would last only during the construction phase of the project. The construction of the trail would enhance access to NPS owned lands along and adjacent to the recreational trail. The MBT would also provide NPS visitors with an additional recreational amenity. Due to this increased access and additional recreational opportunities, impacts under alternative A1 would be long-term, moderate to major, and beneficial.

Cumulative Impacts. Under alternative A1, other projects that would be occurring in the area include mixed-use developments at the Fort Totten Metro stations, which include residential uses. The development of these projects would add to potential trail usage and have minor beneficial cumulative impacts on visitor use and experience. Under alternative A1, the MBT would be constructed and would link up to Prince George's County Trail in Maryland to expand the trail network. Because these connections would be created, moderate to major beneficial long-term impacts would be expected occur to visitor use and experience from the enhanced recreational opportunity and expanded trail network.

Conclusion. Short-term impacts to visitor use and experience under alternative A1 would be minor adverse and long-term impacts would be moderate to major and beneficial. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative A2

Analysis. Impacts under alternative A2 would be the same as those described under alternative A1.

Cumulative Impacts. Cumulative impacts under alternative A2 would be the same as those described under alternative A1.

Conclusion. Short-term impacts to visitor use and experience under alternative A1 would be minor adverse and long-term impacts would be moderate to major and beneficial. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative A3

Analysis. Impacts under alternative A3 would be the same as those under alternative A1, with the exception of the area of the Blair Road Community Garden. Under alternative A3, the MBT would be aligned along a service road on NPS lands that is located between several of the existing gardening plots. The introduction of additional recreational uses may conflict with the existing use of the gardening plots and create a disturbance to the existing park visitor use, creating long-term minor adverse impacts.

Cumulative Impacts. Cumulative impacts under alternative A3 would be the same as those described under alternative A1.

Conclusion. Short-term impacts to visitor use and experience under alternative A3 would be minor adverse and long-term impacts would be moderate to major and beneficial in all areas except the Blair Road Community Gardens. Where the MBT utilizes the service road through the Community Gardens, potential conflict of uses would create long-term minor adverse impacts. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative A4

Analysis. Impacts under alternative A4 would be the same as those described under alternative A3.

Cumulative Impacts. Cumulative impacts under alternative A4 would be the same as those described under alternative A3.

Conclusion. Short-term impacts to visitor use and experience under alternative A3 would be minor adverse and long-term impacts would be moderate to major and beneficial in all areas except the Blair Road Community Gardens. Where the MBT utilizes the service road through the Community Gardens, potential conflict of uses would create long-term minor adverse impacts. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts of Alternative B

Impacts to Visitor Use and Experience of Alternative B1

Analysis. Impacts under alternative B1 would be the same as those described under alternative A1. In addition, the construction and operation of the MBT along the Prince George's County Spur would complete a portion of the continuous bikeway and foot trail called for under the 1968 Fort Circle Parks Master Plan. A recreational trail in this area is also proposed under Alternative 2 (Reconnecting the Forts) in the *Fort Circle Parks Management Plan*. The consistency with past and current plans for the Prince George's County Spur (Reservation 451) would result in additional long-term, beneficial, moderate to major impacts.

Cumulative Impacts. Cumulative impacts under alternative B1 would be moderate to major and beneficial.

Conclusion. Short-term impacts to visitor use and experience under alternative B1 would be minor adverse and long-term impacts would be moderate to major and beneficial, and would be consistent with current and past NPS management Plans. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative B2

Analysis. Impacts under alternative B2 would be the same as those under alternative B1.

Cumulative Impacts. Cumulative impacts under alternative B2 would be the same as those under alternative B1.

Conclusion. Short-term impacts to visitor use and experience under alternative B2 would be minor adverse and long-term impacts would be moderate to major and beneficial, and would be consistent with current and past NPS management Plans. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts of Alternative C

Impacts to Visitor Use and Experience of Alternative C1

Analysis. The construction of the trail would enhance access to NPS owned lands along and adjacent to the recreational trail. The MBT would also provide NPS visitors with an additional recreational amenity. Due to this increased access and additional recreational opportunities, impacts under alternative C1 would be long-term, moderate to major, and beneficial. Additional long-term beneficial minor impacts to NPS visitors would occur due to the increased access to points of interest not owned by NPS, such as the Cady-Lee Mansion, and improved bicycle access to the Metro.

Cumulative Impacts. Because connections would be created, enhancing transportation and recreational opportunities for individuals involved in the mixed use development elsewhere, moderate to major cumulative beneficial long-term impacts would be expected occur to visitor use and experience.

Conclusion. Visitor and experience impacts would be long-term, moderate to major, and beneficial. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative C2

Analysis. Impacts under alternative C2 would be the same as those under alternative C1.

Cumulative Impacts. Cumulative impacts under alternative C2 would be the same as those under alternative C1.

Conclusion. Visitor and experience impacts would be long-term, moderate to major, and beneficial. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

Impacts to Visitor Use and Experience of Alternative C3

Analysis. Impacts under alternative C3 would be the same as those under alternative C1.

Cumulative Impacts. Cumulative impacts under alternative C3 would be the same as those under alternative C1.

Conclusion. Visitor and experience impacts would be long-term, moderate to major, and beneficial. Cumulative impacts would be moderate to major and beneficial from the improved linkages to other planned trail networks.

UNAVOIDABLE ADVERSE IMPACTS

Unavoidable impacts are impacts that cannot be avoided and cannot be mitigated, and therefore would remain throughout the duration of the action. The following describes potential impacts related to the implementation of the alternatives.

- Alternatives A2 and A4 would adversely impact forested covered land delineated as a Natural Zone by the NPS.
- Alternatives A3 and A4 would adversely impact the Community Gardens.

LOSS IN LONG-TERM AVAILABILITY OR PRODUCTIVITY TO ACHIEVE SHORT-TERM GAIN

Some resources could be degraded through implementation of the proposed alternatives. None of these resources would be impacted to the degree of “impairment” or long-term permanent loss.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

The discussion of irreversible and irretrievable commitments of resources that would be required by the MBT alternatives is a required topic in a NEPA document under the NPS and USDOT NEPA guidance. This section will present what important resources would be used and removed by the MBT alternatives, which could include:

- Materials, labor, and energy needed to building the MBT.
- Materials, labor and energy consumed in maintenance and operation of the MBT.
- Land, and present uses of that land, directly taken away for the MBT.
- Environmental conditions degraded or destroyed by the MBT (e.g., reduced wildlife populations, wildlife habitat).
- Properties indirectly used by the MBT (e.g., disposal sites).
- Public service capacities used up by the MBT operations (e.g., water supply, storm sewer capacity, or police patrol time committed).

The discussion of short-term, construction related impacts, are not presented because these impacts are not irreversible or irretrievable commitments to resources.

Impacts of the No Action Alternative

Analysis. This alternative would not require additional construction; therefore, no irreversible or irretrievable commitment of resources would be required.

Impacts of All Alternatives

Resources Used During Construction. A moderate amount of labor would be required for the construction of MBT under proposed alternatives. Construction energy used under alternative alignments would require the use of electrical power and oil for the operation of construction machinery (e.g., backhoes, rollers, pavers, trucks).

Resources Used for Maintenance and Operation. A minimal amount of additional labor and materials would be required to maintain the improvements associated with the MBT. Energy required for the maintenance of the MBT would require the use of electrical power and oil for the operation of construction machinery.

Land Uses Taken. Under alternatives A1-A4 there are two locations where the land use would be altered from its existing state. Under alternatives A2 and A4 there is a section of the proposed trail alignment that would be created within NPS Reservation 497 adjacent to the CSX right-of-way, converting forested area into a paved trail.

Environmental Conditions Degraded or Destroyed. Because of the minimum amount of construction and land requirements for construction of the MBT, impacts to the environment are considered limited.

Off-Site Properties Indirectly Used. Because of the minimum amount of construction and land requirements for construction of the MBT, disposal sites and local sediment basins would not be affected.

Public Service Capacities Affected. The proposed sections of the MBT around Fort Totten and Takoma Park areas are located in the MPD Police Service Areas (PSA) 405 and 401, respectively. MBT will provide the primary patrol force for both areas. Support could be provided by U.S. Park Police and WMATA transit police, especially in the areas near the Fort Totten Metro Station, along 1st Place to Riggs Road and along the connecting path to Gallatin Street. Because the trail is separated from the street along much of this segment, special patrols will be necessary. WMATA and MPD coordinated foot, bicycle or scooter patrols would be recommended for this trail segment, especially in the evening hours. Special emergency call boxes are also recommended for this trail segment.

The Takoma Park municipal police can also provide security support in the Takoma Park area of the MBT. Traditional motor vehicle or bike-mounted patrols will be effective in the section of trail through Takoma Park.

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AD	Administrative Document
ADA	American Disability Act
B & O	Baltimore and Ohio Railroad
C & O	Chesapeake and Ohio Canal
CEQ	Council of Environmental Quality
CFA	Commission of Fine Arts
CFR	Code of Federal Regulations
CMBT	Coalition for the Metropolitan Branch Trail
CSX	Chessie Seaboard Multiplier (Railroad Transportation Company)
D.C.	District of Columbia
DDOT	D.C. Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESF	Environmental Screening Form
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
MBT	Metropolitan Branch Trail
MD	Maryland
MNCPPC	Maryland National Capital Park & Planning Commission
NCPC	National Capital Planning Commission
NEPA	National Environmental Policy Act
NPOMA	National Parks Omnibus Management Act
NPS	National Park Service
NW	Northwest
SHPO	State Historic Preservation Officer/Office
TOD	Transit Oriented Development

USC U.S. Code

USDA U.S. Department of Agriculture

USDOT U.S. Department of Transportation

USEPA U.S. Environmental Protection Agency

USFWS U.S. Fish and Wildlife Service

WABA Washington Area Bicyclist Association

WMATA Washington Metropolitan Area Transit Authority

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