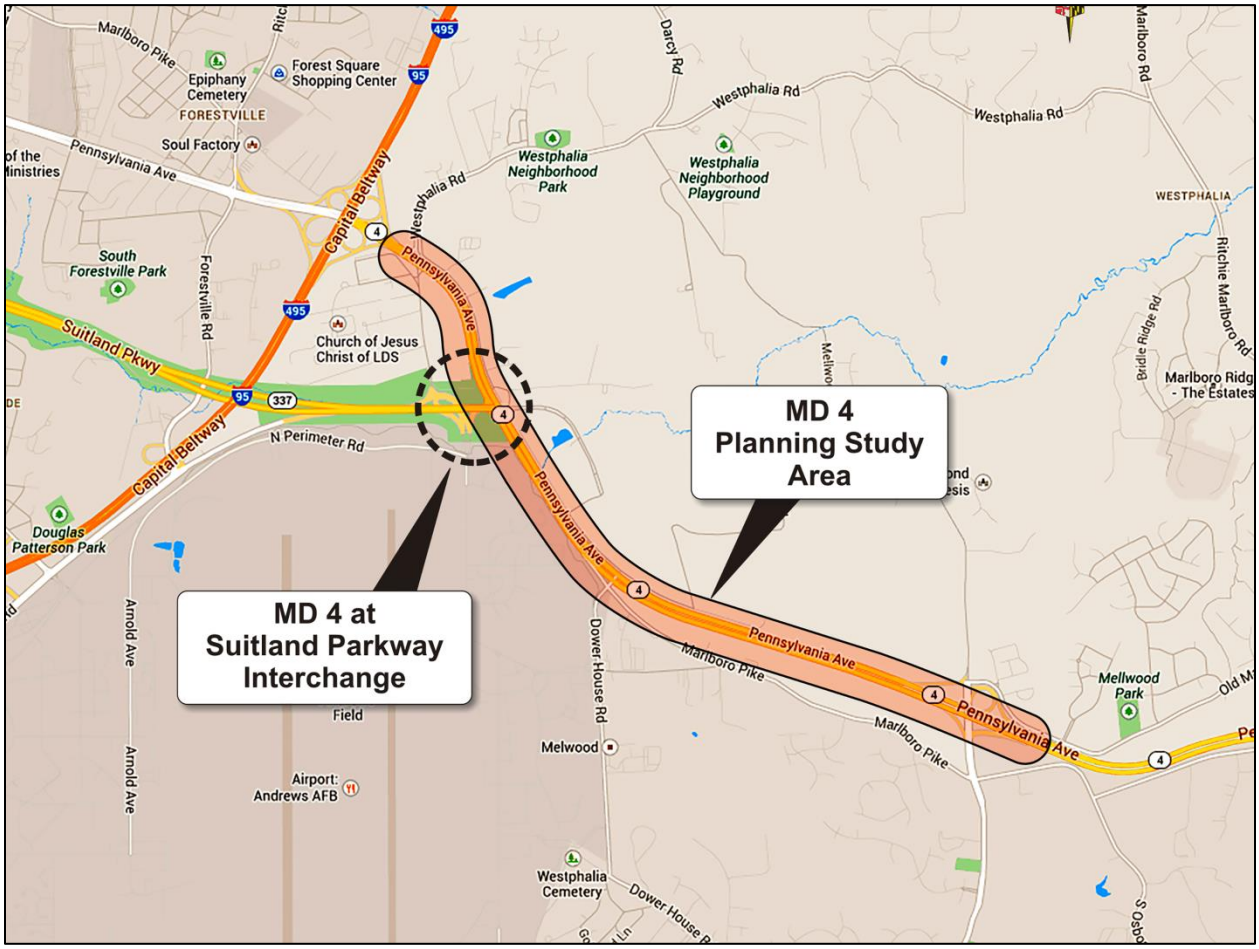
MD 4 at Suitland Parkway

Prince George's County, Maryland



Draft Section 4(f) Evaluation

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Maryland State Highway Administration

MD 4 at Suitland Parkway
Prince George's County, Maryland

Project No. PG618C21

ADMINISTRATIVE ACTION

Draft Section 4(f) Evaluation

U.S. Department of Transportation
Federal Highway Administration

and

State of Maryland
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I. INTRODUCTION

Section 4(f) of the U.S. Department of Transportation Act of 1966 as amended (49 USC Section 303) stipulates that the Federal Highway Administration (FHWA) and other U.S. Department of Transportation (USDOT) agencies cannot approve the use of land from a significant publicly owned public park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless the following conditions apply:

- There is no feasible and prudent avoidance alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use; or
- The use of the Section 4(f) properties, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact on the property.

This draft Section 4(f) Evaluation has been prepared in accordance with 23 CFR Part 774 and 49 U.S.C. 303 to assess the likely impacts of the proposed action upon Section 4(f) resources, and evaluate options that avoid or minimize impacts to those resources resulting from the proposed action. After careful consideration of any comments received on the draft Section 4(f) Evaluation, a final Section 4(f) evaluation will provide a final determination on whether feasible and prudent avoidance alternatives to the use exist, and whether the proposed action includes all possible planning to minimize harm to Section 4(f) resources.

The Maryland State Highway Administration (SHA) and FHWA are proposing roadway improvements at the intersection of MD 4 and Suitland Parkway, located approximately one mile southeast of the MD 4/Capital Beltway (I-95/I-495) interchange in Prince George's County (**Figure 1**). The MD 4/Suitland Parkway Interchange project would upgrade the existing MD 4 and Suitland Parkway/Presidential Parkway intersection to a grade-separated, signalized diamond interchange with a directional ramp. This is the first phase of the MD 4 Planning Study to receive design funding. The MD 4 Planning Study received Location Approval on May 19, 2000 when the Federal Highway Administration (FHWA) approved the Finding of No Significant Impact/Section 4(f) Evaluation (FONSI/4(f)).

The FONSI-Selected Alternative includes three grade-separated interchanges along the three-mile study area where MD 4 currently intersects with Westphalia Road, Suitland Parkway, and Dower House Road. The MD 4 corridor is classified as an Urban Freeway/Expressway and is included in the State Primary and National Highway System. This section of MD 4 is the only portion of MD 4 east of the Capital Beltway that is not fully access-controlled. MD 4 generally runs in a northwest-southeast direction.

This Section 4(f) evaluation updates the Section 4(f) evaluation completed in 2000 in consideration of recent guidance from FHWA's Final Rule on Section 4(f) (23 CFR 774) as well as more detailed project information resulting from detailed engineering. The evaluation describes Section 4(f) lands within the MD 4/Suitland Parkway interchange project area, potential use of those lands, avoidance alternatives to use of the land, identification of the alternative with the least overall harm, and a discussion of all possible planning to minimize harm.

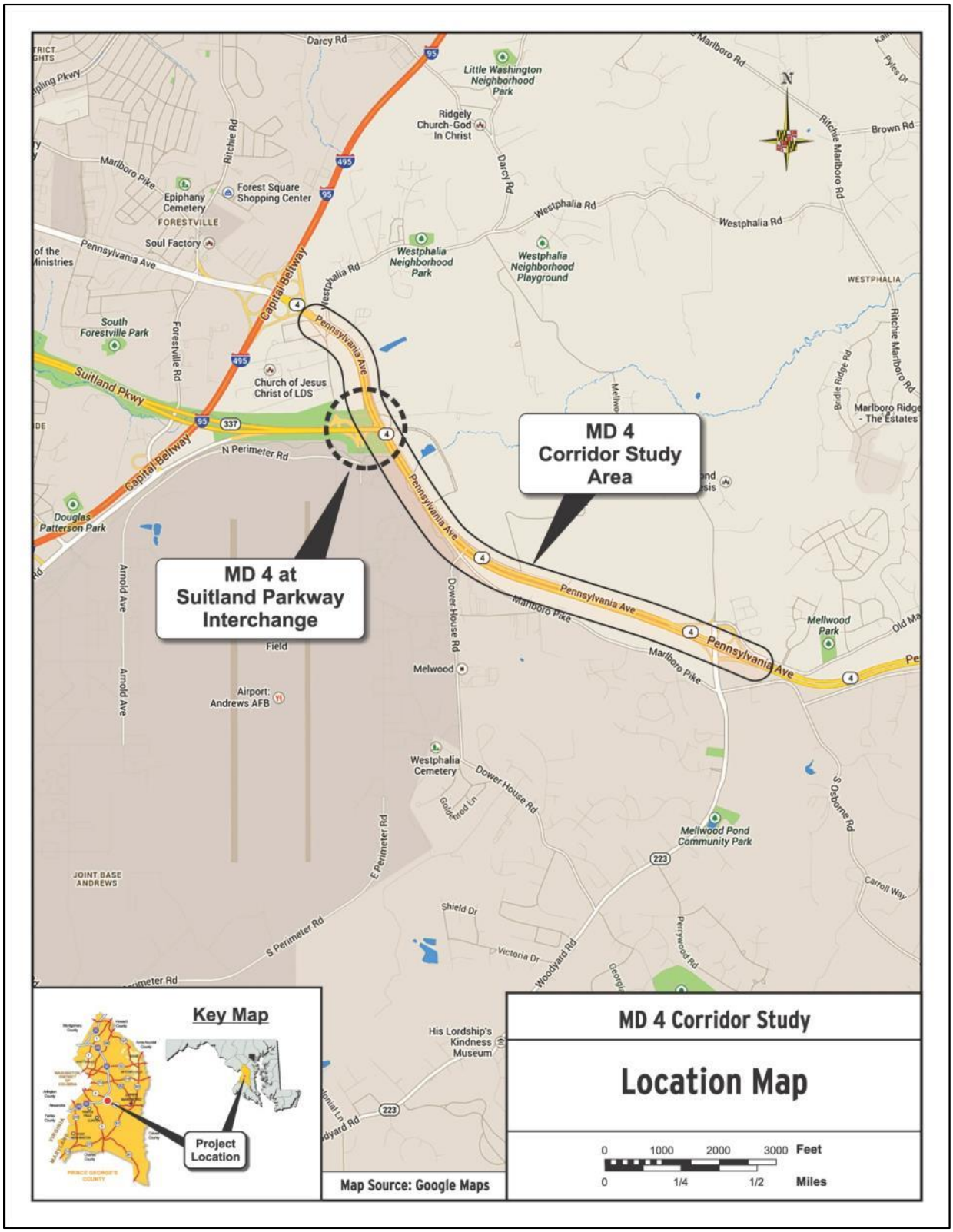

Figure 1: Location Map

II. PROPOSED ACTION

A. Description of Action

The MD 4/Suitland Parkway Interchange is located approximately one mile southeast of the MD 4/Capital Beltway (I-95/I-495) interchange. Suitland Parkway intersects MD 4 in an east-west direction and is the only Section 4(f) property located within the MD 4 Planning Study project area. The proposed action includes construction of a grade-separated, signalized diamond interchange with a directional ramp at the intersection of MD 4 and Suitland Parkway/Presidential Parkway (**Figure 2**). The profile of Suitland Parkway and existing Presidential Parkway would be raised, while the profile of MD 4 would be lowered, allowing Suitland Parkway and existing Presidential Parkway to travel over MD 4. The centerline of MD 4 would be shifted approximately 75 feet east to reduce impacts to Suitland Parkway. Three four-way signalized intersections would be constructed. One signalized four-way intersection would be constructed on the west side of the MD 4 overpass to control traffic between Suitland Parkway and the southbound MD 4 on- and off-ramps. The eastern leg of the interchange (existing Presidential Parkway) would be extended east as outlined in Prince George's County approved developer plans for the area. The extended east-west route would be renamed Central Park Drive. A second four-way signalized intersection would be constructed on the east side of the MD 4 overpass to control traffic between Central Park Drive and the northbound MD 4 on- and off-ramps. Presidential Parkway would be realigned to connect with Central Park Drive via a third signalized intersection, east of the intersection with northbound MD 4 on- and off-ramps.

In addition, Suitland Parkway would be widened as it approaches MD 4. In the proposed typical section, the two existing 12-foot westbound lanes of Suitland Parkway would remain unaltered; however, in the eastbound direction the two existing 12-foot lanes would be widened to four 12-foot lanes. This widening would result in the reconstruction of the south side of the Suitland Parkway Bridge over the entrance ramp to Joint Base Andrews Naval Air Facility Washington (JBA) North Gate. The four lanes would include two through lanes, a shared through-right turn lane, and an exclusive right turn lane which would then proceed onto southbound MD 4 via a free-flowing right turn ramp.

From the northbound MD 4 off-ramp, a two-lane directional ramp would be constructed to facilitate a free-flow movement from northbound MD 4 to westbound Suitland Parkway, crossing over existing Presidential Parkway then curving west to cross over MD 4, descending to a tie-in with westbound Suitland Parkway immediately west of the existing ramp from Old Marlboro Pike and the JBA North Gate.

The proposed action would require utility relocations, including the relocation of approximately 8,800 linear feet of an existing high pressure fuel line crossing Suitland Parkway and serving JBA.

The proposed action includes the construction of a bike/multi-use path connecting Presidential Parkway and developments north of the project with Old Marlboro Pike parallel to the westbound lanes of Suitland Parkway. The existing ramp from Old Marlboro Pike to westbound Suitland Parkway would be removed.

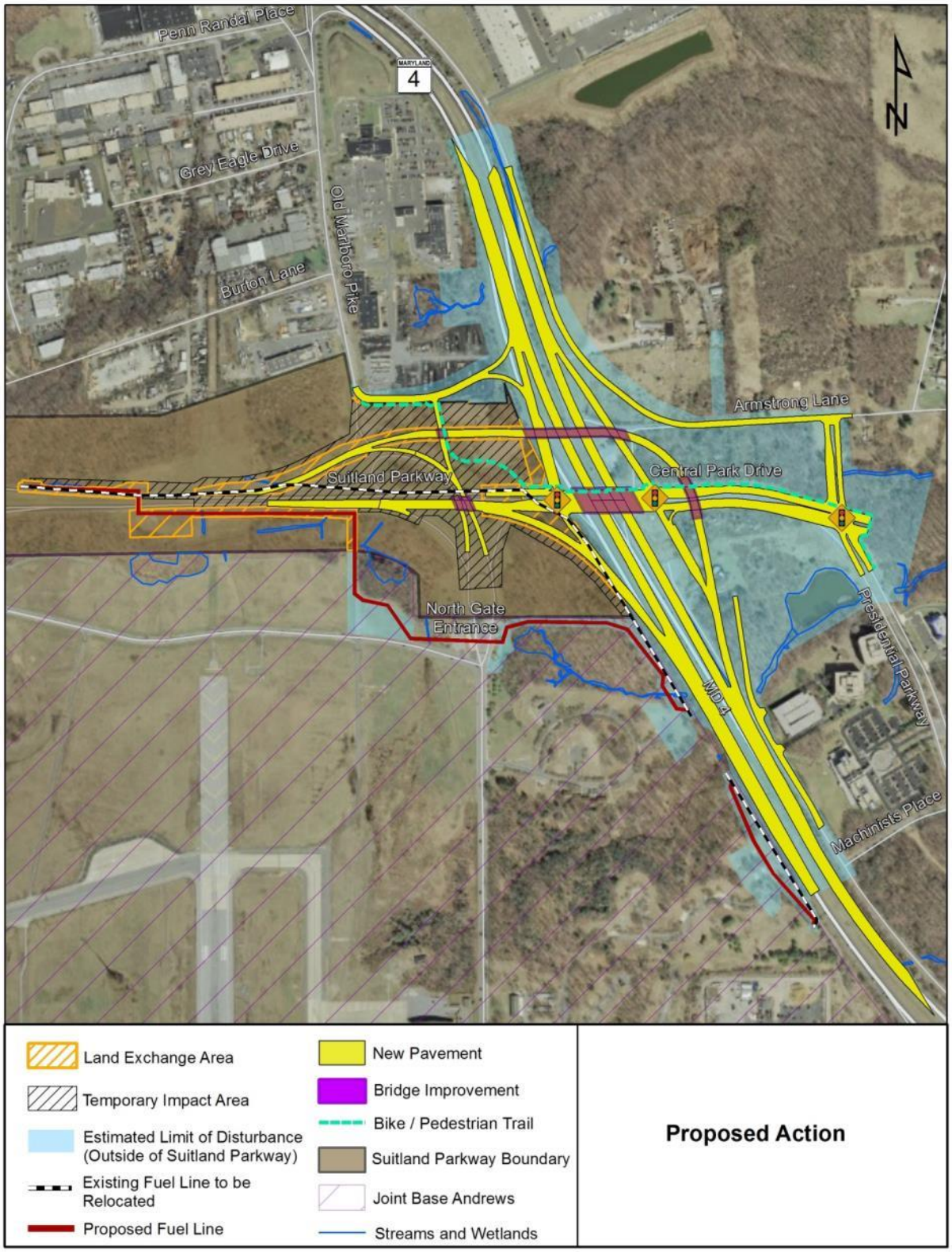

Figure 2: Proposed Action

The proposed action also includes removal of the existing loop ramp from westbound Suitland Parkway to the JBA North Gate. Access to the JBA North Gate would be provided via a newly constructed road extending from the Old Marlboro Pike access road south, under the directional ramp and the Suitland Parkway Bridge over the entrance ramp to JBA North Gate. The existing ramp from JBA North Gate to southbound MD 4 via Suitland Parkway would be removed. Access to southbound MD 4 would be provided via the aforementioned access road providing a connection to Old Marlboro Pike. By way of this road drivers would have the option to continue, via a right-hand turn, onto southbound MD 4. The access ramp from JBA North Gate to westbound Suitland Parkway would be reconstructed to align with the directional ramp tie-in to westbound Suitland Parkway. Interchange construction would require the temporary and intermittent closure of access to the JBA North Gate. All closures would be coordinated with appropriate JBA personnel.

The overall right-of-way (ROW) needs for the proposed action are 44.1 acres, including: the permanent transfer of approximately seven acres of NPS lands to SHA, as detailed in **Section IV**; and two business displacements. Both of the businesses that would be displaced are located on the eastern portion of the proposed interchange. Displacements include an Exxon Service Station and the Presidential Corporate Center Visitor's Pavilion. The proposed action would impact an estimated 2,500 linear feet of streams, less than 0.1 acre of wetlands, and 17.9 acres of forested area. Impacts to resources on NPS lands are outlined in **Section IV**. The estimated construction cost for the proposed action is $111.8 million. ROW acquisition would be an additional $8.7 million.

The elimination of an at-grade intersection in favor of a grade-separated interchange would reduce the conflicts and the severity of crashes on MD 4. This is due both to the elimination of the signal on MD 4 as well as the separation of through traffic on MD 4 and Suitland Parkway. Providing a separated free flow lane for the main movements – from northbound MD 4 to westbound Suitland Parkway and from eastbound Suitland Parkway to southbound MD 4 – would further reduce the opportunity for conflicts. Also, the left-turns at the ramp terminal signalized intersections on the overpass would have fewer opposing vehicles because of the grade separation from MD 4.

B. Purpose and Need

The purpose of the proposed action is to increase the roadway capacity to meet existing and 2030 projected travel demands at the intersection of MD 4 and Suitland Parkway and to address safety concerns. This action is needed because the project area currently experiences excessive traffic congestion, which is only projected to increase as future development will bring more commuters to the area.

Background

The project area is the only section of MD 4 between the Capital Beltway and US 301 without full access control. The existing MD 4 typical section from the Capital Beltway east to Dower House Road is four lanes: two lanes in each direction. Outside shoulder use is permitted in the northbound direction during the morning peak hours, when commuter traffic is heaviest. A variable width grass median is provided throughout the project limits. A two-lane service road (Westphalia Center Court North) runs parallel to

the north side of MD 4 between Armstrong Lane and Westphalia Road. This service road is used as relief for MD 4 when congestion levels are severe, especially during the morning peak hours.

The intersection of MD 4 and Suitland Parkway is currently a four-legged, at-grade signalized intersection. MD 4 forms the northern and southern legs of the intersection; Suitland Parkway approaches from the west; and Presidential Parkway approaches from the east. The intersection includes two left turn lanes at both the northbound approach of MD 4 and the westbound approach of Presidential Parkway. A right-turn lane from MD 4 northbound accesses Armstrong Lane and Westphalia Center Court North approximately 300 feet north of the Suitland Parkway intersection. Additionally, Suitland Parkway provides access to the JBA North Gate via a trumpet interchange approximately 0.3 mile west of the MD 4 intersection. A sidewalk along the west side of Presidential Parkway provides pedestrian access between businesses along this route and connects to Westphalia Center Court North; however, no cross-walks or pedestrian friendly signage exists at the intersection of MD 4 and Suitland Parkway/Presidential Parkway.

The *2005 Westphalia Comprehensive Concept Plan* (WCCP) study promotes construction of a high-density, mixed-use development core northeast of MD 4 to Ritchie Marlboro Road, from the Rural Gateway to the Capital Beltway. Its overall Development Concept Plan calls for 6,000 total acres of development, including approximately 15,000 new residential units, up to 4.6 million employment square footage, and around 700,000 retail square footage. Seven new schools, and new police, fire and rescue, library, and health facilities are also expected. The *2007 Approved Westphalia Sector Plan and Sectional Map Amendment* supports and guides this development pattern concept. Because the MD 4/Suitland Parkway interchange has been included in the current Consolidated Transportation Program, the urban development in Westphalia has been approved with the assumption that the interchange project would proceed.

JBA consists of approximately 4,300 acres within the study area. The *Joint Land Use Study*, completed by JBA in 2009 estimated that the 2008 Base population included approximately 17,000 active duty military and civilian employees and military dependents; an additional 2,400 personnel are expected to come from the closure of other bases under the Base Realignment and Closure (BRAC) Program. JBA is a major employment center in Prince George's County.

The area around the MD 4/Suitland Parkway intersection lacks adequate bike and pedestrian facilities to provide continuity and connections between existing and future bicycle facilities in the region. Additionally, the *Preliminary Plan Prince George's 2035* (September 2013) identifies pedestrian and bicyclist safety as a paramount concern for the county. This document goes further to explain that Prince George's County has the highest number of pedestrian deaths per 100,000 residents of any county in Maryland. While MD 4 is not identified as a bikeway, existing and planned development in the area would result in increased bike and pedestrian usage of roadways, including those bisecting MD 4.

Project Need

Level-of-Service (LOS) on expressways and freeways with uninterrupted flow conditions are ranked from LOS A (free traffic flows at high speeds with low volume) to LOS F (total breakdown of traffic flow with frequent delays at high traffic volumes).

Traffic congestion occurs along the MD 4 corridor as a result of ongoing development and growth in commuter traffic volumes from Anne Arundel County, Calvert County, and Southern Prince George's County to Washington, D.C. A 2011 traffic analysis indicated that MD 4 at Suitland Parkway had an Annual Average Daily Traffic (ADT) of 60,500 vehicles and operated at LOS F during the AM and PM peak hours; eight percent of the existing and future volumes are comprised of truck traffic. The 2011 traffic analysis considered further residential, mixed-use, and military development proximal to the study area that has been approved by Prince George's County since completion of the 2000 FONSI. Based on the 2011 traffic analysis for the MD 4/Suitland Parkway intersection, by 2030 ADT at the MD 4/Suitland Parkway intersection is projected to reach 84,450 vehicles. This traffic volume increase would increase roadway congestion and travel time. The 2030 projected volumes, which were developed in 2009, indicate that the peak hour turning movement volumes would be highest for the northbound MD 4 to westbound Suitland Parkway movement, with AM volumes exceeding 2,100 vehicles per hour; and for the eastbound Suitland Parkway to southbound MD 4 movement, with PM volumes exceeding 1,900 vehicles per hour. The intersection currently operates at LOS F during AM and PM peak hours, a condition that will be exacerbated by planned and approved growth along the project corridor.

Crash data was collected for the MD 4 corridor from Dower House Road to I-495 for the time period between January 2010 and December 2012. Within this period, the study area had a total of 171 reported crashes. There were no fatal crashes, 64 injury-related crashes, and 107 property-damaging crashes. The overall crash rate (123.7 crashes/100 million vehicle miles (mvm)) for the corridor is comparable to the statewide average rate (125.9 crashes/100 mvm) for similar state-maintained highways. Of the crash types, the study area's "*Other Cause"* crash rate (11.6 crashes/100 mvm) is higher than the statewide average rate (1.9 crashes/100 mvm). Rear end collisions occur at a higher rate (60 crashes/100 mvm compared to the statewide average of 54.6 crashes/100 mvm), but was not found to be significantly different. Sideswipe and angle crashes were the second and third leading types of crashes. Key factors contributing to the high crash rates are the high volume of vehicles at intersections, weave movements, the high number of conflict points, and the lack of access controls.

The crash experience in the vicinity of the MD 4 intersection at Suitland Parkway (within 0.5 mile) was 22 crashes in 2010, 26 in 2011, and 13 in 2012. Approximately half of the crashes along the study corridor occurred at this intersection. The predominant intersection crash type was rear end crashes and "following too closely" and "failing to obey the traffic signal" were the cause for most of the crashes. Almost half of the crashes occurred at night.

III. SECTION 4(f) PROPERTY

One Section 4(f) property, Suitland Parkway, is located in the western portion of the study area along MD 4. The eastern terminus of the Parkway is located at MD 4 approximately one mile south of the MD 4/Capital Beltway interchange, near the JBA North Gate; the western terminus is located in the District of Columbia at I-295 and the northbound approach to the Frederick Douglass Memorial Bridge (South Capitol Street Bridge over the Anacostia River).

Suitland Parkway spans a total of 9.18 miles, including 6.38 miles through Prince George's County, Maryland, and 2.8 miles through the District of Columbia. The park surrounding the Suitland Parkway

corridor comprises 418.9 acres and is managed by the National Park Service (NPS). Suitland Parkway is owned by United States Government and under the jurisdiction of NPS National Capital Parks-East.

The entirety of Suitland Parkway is a historic district listed in the National Register of Historic Places (NRHP), as part of the multiple property submission for the "Parkways of the National Capital Region, 1913-1965," under both Criterion A for its association with events that have made a significant contribution to the broad patterns of our history; and Criterion C for its embodiment of the distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, or possession of high artistic values, or representation of a significant and distinguishable entity whose components may lack individual distinction. Per 23 CFR §774.11, Suitland Parkway's NRHP designation as an historic property qualifies it as a Section 4(f) property subject to the Section 4(f) Evaluation process provided in this document.

Conceived by the National Capital Park and Planning Commission (NCP&PC) in 1937, the Suitland Parkway was one of several parkways built in the Washington, D.C. area. It was constructed during World War II to improve transportation for defense industry employees, and opened to traffic on December 9, 1944. The Parkway corridor is extensively landscaped, with larger trees left standing in the medians, grassy areas, and developments screened where necessary to present a rural-like setting. It has hosted both triumphal and mournful processions of public officials: from presidents returning from diplomatic achievements to the funeral procession of President John F. Kennedy. Presently it is used primarily by commuters and local traffic.

The Suitland Parkway is a nationally significant resource eligible under Criterion A for transportation and Criterion C for landscape architecture related to the parkway system developed during the first half of the twentieth century. The various parkways of the national capital reflect the culmination of several national trends after the turn of the twentieth century: the City Beautiful movements' emphasis on integrated urban green space; automobile proliferation and the rapid development of road systems; and the decline in the quality of city living and resulting popularity of outdoor recreation. Suitland Parkway represents a utilitarian roadway with design features intended to move traffic expeditiously, but with elements of design intended to convey a scenic driving experience characteristic of earlier parkways.

As with other parkways in the Washington, D.C. area, Suitland Parkway is also historically significant because it is associated with key historical figures who played important roles in planning and design, including Gilmore D. Clarke and Jay Downer, principal designers of the Westchester County and Virginia parkways. NCP&PC Chairman Frederick Delano and Thomas Jeffers of the Maryland-NCP&PC also had substantial roles in the origins of the Parkway, especially as funding sources seemed exhausted because of the Great Depression and World War II.

The Suitland Parkway Bridge over the entrance ramp to JBA North Gate is a contributing element of the NRHP-listed Parkway. It is one of the seven bridges the Public Roads Administration contracted for and had constructed on the alignment of the Suitland Parkway in 1944. These bridges consist of double-reinforced concrete rigid frame structures that have stone-faced wing wall and spandrels trimmed with granite dimensioned masonry.

MD 4 provides direct access to the eastern end of Suitland Parkway. Other proximal routes by which users can access Suitland Parkway include Old Marlboro Pike and the JBA North Gate within the study area, and Forestville Road which is located about a mile west of the study area. Presently, there is no designated bikeway accessing this portion of Suitland Parkway.

As previously discussed, there are similar historic parkways in the region, each owned by the United States Government and under the jurisdiction of NPS. These include the Baltimore-Washington Parkway, the George Washington Memorial Parkway, and the Rock Creek and Potomac Parkway. The Baltimore-Washington Parkway is a scenic highway that opened in 1954. It extends north-south between Baltimore, Maryland and Washington, D.C. a distance of 29 miles, and is located approximately ten miles north of the project area. The George Washington Memorial Parkway extends west-east for a distance of 25 miles through Fairfax and Arlington Counties in northern Virginia, hugging the southern shore of the Potomac River, approximately 14 miles west of the project area. The Rock Creek and Potomac Parkway is a north-south route traversing Rock Creek Park in northwest Washington, D.C. for approximately 5 miles from Beach Drive, near the National Zoological Park south to the Lincoln Memorial and Arlington Memorial Bridge; located approximately 13 miles northwest of the project area. Each of these parkways provides scenic access between major points within the National Capital Region serving regional visitors, residents, and commuters.

IV. IMPACTS TO SECTION 4(f) PROPERTY

Impacts to Suitland Parkway include the permanent transfer of NPS lands to SHA, temporary construction impacts, and impacts that would result in a change in the features and attributes of Suitland Parkway.

The proposed action, including the interchange construction and requisite utility relocations, would require the permanent transfer of approximately seven acres from NPS to SHA. The land transfer would occur via a land exchange of fee simple ROW of NPS lands to SHA. Areas identified for transfer include:

- The land that would be occupied by the directional ramp from MD 4 northbound to Suitland Parkway westbound as it traverses Suitland Parkway property, north of the Suitland Parkway mainline;
- Suitland Parkway approaches to the proposed interchange from immediately east of the bridge over the entrance ramp to JBA to the existing SHA ROW; and
- The land that would be occupied by the directional ramp connecting eastbound Suitland Parkway with southbound MD 4.

In exchange for these lands SHA would transfer fee simple ROW of 12.8 acres located at 8801 Fort Foote Road to NPS – National Capital Parks East, as further discussed in **Section VII**.

An estimated 12-acre area of NPS land along the Suitland Parkway would be impacted by temporary construction activities that would span four to five years. This 12-acre area would encompass: staging areas, areas for grading and drainage, the resurfacing and reconstruction of the approach roadways, construction of the bike/multi-use path, and areas for re-vegetation. In addition, SHA would conduct vegetation monitoring and invasive species management for five years following construction within this

area. Temporary use would require the issuance of a Special Use Permit by NPS. There would be no permanent change in the ownership of this area.

Access to and from the JBA North Gate would be modified, as described in Section I of this evaluation. The transportation function and operation of Suitland Parkway would be improved by the increased mobility afforded through the channelized right turn lane from eastbound Suitland Parkway onto southbound MD 4.

Construction of the directional ramp traversing the northwest quadrant of the proposed action would require clearing of the existing NPS storage area. This area would be cleared of accumulated debris and construction stockpiles to accommodate the directional ramp. A bike/multi-use path trail would be constructed along westbound Suitland Parkway from Presidential Parkway to a tie-in with Old Marlboro Pike. It is anticipated that the portions of this trail located on NPS lands could be managed and maintained by NPS following construction.

Impacts to natural resources on park property include approximately 4.7 acres of forest clearing. Waters of the U.S. located within the Suitland Parkway project area include an unnamed tributary to Henson Creek and associated wetlands west of the North Gate (**Figure 2**). Henson Creek is classified as Use I waters (support of estuarine and marine aquatic life and shellfish harvesting) by the Maryland Department of Natural Resources. The proposed action would impact less than 0.1 acre of wetlands and water resources within the park property.

The Suitland Parkway Bridge over the entrance ramp to JBA North Gate, identified as a contributing element to the historic district, would be reconstructed as described in **Section VII**.

Views from Suitland Parkway east toward MD 4 would be permanently impacted by the widening of the roadway; furthermore, the profile of Suitland Parkway would be elevated to cross over MD 4. The directional ramp would contribute to new hardscape within the viewshed of Suitland Parkway, particularly views east and north, as the ramp crosses over Presidential Parkway, MD 4, and the northbound access road exiting the JBA North Gate. The views exiting the JBA North Gate would be impacted by the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

Approximately 8,800 linear feet of the high pressure fuel line traversing Suitland Parkway and serving JBA would be relocated to accommodate the interchange construction. Although the fuel line is currently located within NPS ROW, approximately one acre of the aforementioned land transfer is needed to accommodate the fuel line relocation. This property is being included in the land transfer to SHA in accordance with NPS desires and guidance.

The physical and visual impacts of the proposed action would result in an *adverse effect* to Suitland Parkway, as determined by FHWA on March 31, 2010, with the concurrence of the Maryland State Historic Preservation Officer (MD SHPO) dated July 9, 2010, pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended. Measures to mitigate the *adverse effect* are outlined in the draft MOA, as described in **Section VII**.

V. AVOIDANCE ANALYSIS

A *feasible and prudent avoidance alternative* avoids using a Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property (23 CFR 774.17). In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute. The preservation purpose of Section 4(f) is described in 49 U.S.C. §303(a), which states: "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

An alternative is not *feasible* if it cannot be built as a matter of sound engineering judgment.

An alternative is not *prudent* if:

- It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- It results in unacceptable safety or operational problems;
- It causes severe social, economic, or environmental impacts even after reasonable mitigation; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; or severe impacts to environmental resources protected under other Federal statutes;
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- It causes other unique problems or unusual factors; or
- It involves multiple factors above that while individually minor, cumulatively cause unique problems, or impacts of extraordinary magnitude.

Four avoidance alternatives have been developed and are discussed below. Each of these alternatives would completely avoid the Section 4(f) use of Suitland Parkway. Each is analyzed in accordance with the definition of *feasible and prudent avoidance alternative* found in 23 CFR §774.17.

A. Avoidance Alternative 1: No Build

Avoidance Alternative 1 would avoid all Section 4(f) property impacts. Under this alternative there would be no changes to the existing at-grade signalized MD 4/Suitland Parkway intersection beyond routine maintenance and repairs. Planned development along the MD 4 corridor would continue as approved by Prince George's County, as would other transportation improvements programmed by Prince George's County or the Maryland State Highway Administration.

There would be no operational improvements or increased capacity at the intersection of MD 4 and Suitland Parkway, so existing and future traffic volumes would not be accommodated at this location. Approved residential, mixed-use, and military development proximal to the study area would continue to cause increased traffic volume along MD 4, with an estimated increase of 39.6 percent between 2011 (ADT 60,500) and 2030 (ADT 84,450). The number of conflict points would remain unchanged. The

intersection would continue to cause substantial difficulties for pedestrians and bicyclists navigating across MD 4. Therefore, Avoidance Alternative 1 would not address the project's purpose and need.

Although Avoidance Alternative 1 would avoid impacts to the Section 4(f) property, it is not prudent because it would 1) be unreasonable to proceed with the alternative in light of the project's stated purpose and need; and 2) result in unacceptable safety or operational problems. Avoidance Alternative 1 therefore causes other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

B. Avoidance Alternative 2: Upgrade Existing MD 4 and Suitland Parkway Intersection East of Existing Intersection

Under Avoidance Alternative 2 the intersection of MD 4 and Suitland Parkway would be expanded in order to accommodate existing and future traffic volumes to the extent possible while avoiding impacts to Suitland Parkway (**Figure 3**). The entire intersection would be realigned east of its current location to allow these upgrades and still avoid impacts to the Section 4(f) property. To ensure that Suitland Parkway is avoided, the expansion of the intersection would be limited to adding a left-turn lane from MD 4 northbound to Suitland Parkway westbound, resulting in three left-turn lanes. The alignment shift would allow the three left-turn lanes to merge to two lanes prior to merging with Suitland Parkway. Additionally, two channelized right-turn lanes from eastbound Suitland Parkway to southbound MD 4 could be constructed without impacting the Section 4(f) property. The intersection alignment shift would also allow for increased weave distances between MD 4 and the JBA North Gate.

The construction cost of Avoidance Alternative 2 would be between $19.2 and $22.1 million. The realigned MD 4 mainline would also require an estimated 0.5 acre of ROW from at least five parcels east of existing MD 4. This area is currently zoned for mixed-use development; however the majority of these parcels are currently undeveloped. One business/commercial property displacement would be required. The cost of this additional ROW is estimated to be $108,900. This alternative would provide some increase in capacity at the MD 4 and Suitland Parkway intersection; however, the minor intersection improvements would not address the substantial increase in traffic volumes anticipated from future development. The intersection would also maintain the same number of conflict points. The addition of turn lanes would further exacerbate the existing difficulties for pedestrians and bicyclists navigating across MD 4. Therefore, Avoidance Alternative 2 would not address the project's purpose and need.

Avoidance Alternative 2 would impact approximately 2.0 acres of forest. Stream impacts would total approximately 1,200 linear feet and wetland impacts would be less than 0.1 acre.

Although Avoidance Alternative 2 would avoid impacts to the Section 4(f) property, it is not prudent because it would 1) be unreasonable to proceed with the alternative in light of the project's stated purpose and need; and 2) result in unacceptable safety or operational problems. Avoidance Alternative 2 therefore causes other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property.

Figure 3: Avoidance Alternative 2

C. Avoidance Alternative 3: Shift Signalized Diamond Interchange with Directional Ramp East

Under Avoidance Alternative 3 the alignment of MD 4 would be shifted east and an interchange would be constructed at MD 4 and Suitland Parkway/Central Park Drive with a configuration that is similar to the proposed action (**Figure 4**). The shift in the alignment of mainline MD 4 would avoid permanent impacts to the Section 4(f) property. Shifting the alignment of the interchange east would require the realignment of Presidential Parkway, which would intersect with Central Park Drive at an at-grade intersection east of the directional ramp. Because of the re-alignment of MD 4, the construction cost of this alternative would be between $82.2 million and $94.5 million. Additionally, the realigned MD 4 mainline would require approximately 26.5 acres of ROW from at least 32 individual parcels east of existing MD 4, the majority of which are currently undeveloped, though the area is currently zoned for mixed-use development. The estimated cost of this additional ROW is $5.7 million. This alternative would displace at least four office buildings, two more than the proposed action. Further, the stormwater management pond maintained by Prince George's County, southeast of Presidential Parkway would need to be reconstructed. Access to Central Park Drive, Presidential Parkway and future developments east of the existing intersection would be provided. These impacts to existing businesses and planned development would constitute a severe economic impact.

Similar to the proposed action, interchange construction with this alternative would provide capacity and operational improvements that would address the project's need to accommodate existing and future travel demand. The interchange would also eliminate a number of vehicle conflict points that exist with the current intersection. Pedestrians and bicycle safety would be improved by providing grade-separated access across MD 4. Therefore, Avoidance Alternative 3 would address the project's purpose and need.

Approximately 12.2 acres of forest clearing would occur with this alternative. Stream impacts would total an estimated 1,000 linear feet and approximately 0.4 acre of wetlands would be impacted, 0.3 acre more than the proposed action.

Although Avoidance Alternative 3 would avoid impacts to the Section 4(f) property, it is not prudent because it would have severe social, economic, and environmental impacts. Avoidance Alternative 3 therefore causes other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

D. Avoidance Alternative 4: Extending Presidential Parkway to Connect to an Expanded Dower House Road Interchange

Under Avoidance Alternative 4, MD 4 would be depressed similar to the proposed action and a new bridge would carry Suitland Parkway over MD 4; however, no access would be provided between MD 4 and Suitland Parkway. Suitland Parkway would tie into Central Park Drive and Presidential Parkway. Presidential Parkway would be extended south to connect with MD 4 at a proposed interchange with Dower House Road (**Figure 5**).

Figure 4: Avoidance Alternative 3

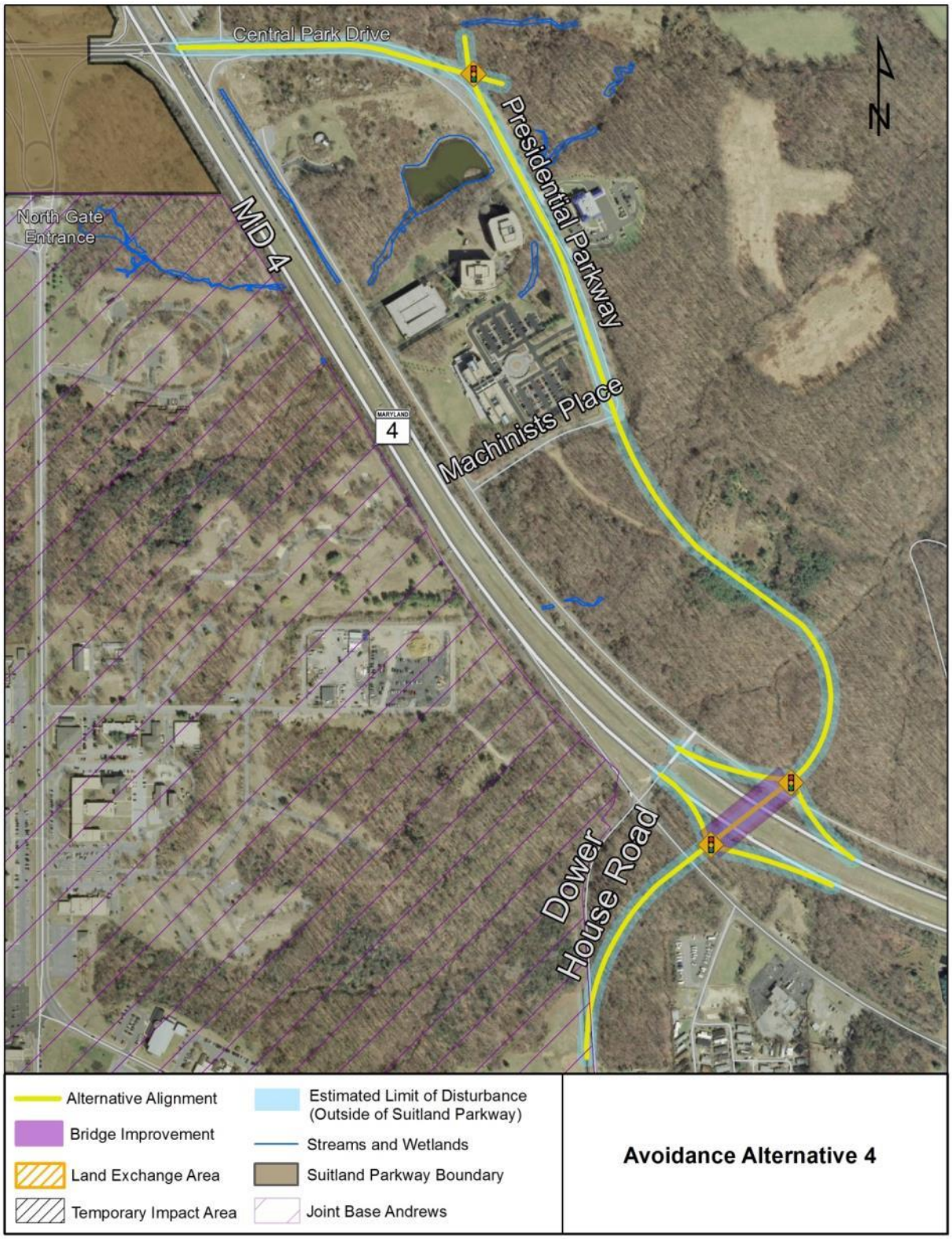

Figure 5: Avoidance Alternative 4

Under this alternative, the MD 4 and Dower House Road interchange – the design for which was identified in the 2000 FONSI – would be re-designed to accommodate existing and future travel demand for Suitland Parkway, Central Park Drive, Presidential Parkway, and Dower House Road. The interchange would eliminate a number of vehicle conflict points that exist at the current MD 4/Suitland Parkway intersection by consolidating movements from the two proposed interchanges into a single interchange. Pedestrian and bike safety would be improved at the MD 4/Suitland Parkway interchange by providing grade-separated access across MD 4.

Extending Presidential Parkway would be consistent with the *2007 Approved Westphalia Sector Plan and Section Map Amendment*, which shows an extension of this roadway southeast to connect with extension of Dower House Road. However, the alignment would be shifted to provide a direct tie-in with the Dower House Road Interchange, potentially impacting future approved mixed use development proximal to this interchange.

Because the Presidential Parkway extension would occur mostly on existing roadway alignment, the alternative would require 6.5 acres of ROW from at least 12 individual parcels east of existing MD 4, the majority of which are currently undeveloped, though the area is currently zoned for mixed-use development. This estimate does not include acquiring Presidential Parkway from Prince George's County. The estimated cost of the additional ROW is $1.4 million. However, moving the projected traffic from Central Park Drive and Suitland Parkway onto Presidential Parkway would substantially exceed the functional classification of this roadway. Approximately 2 additional lanes in each direction would be needed along Presidential Parkway, and signalized intersections may be required at the entrances to businesses. Increased traffic volumes combined with current access to existing and proposed development would increase vehicular conflict points, as well as present a condition that is inconsistent with drivers' expectations as they travel off of the limited-access Suitland Parkway.

In addition to the existing offices and businesses to which direct access is provided via Presidential Parkway, the approved development plan identifies additional office space to be accessed by the extended Presidential Parkway. Increased capacity along the route would be inconsistent with existing and planned access to and from development.

Based on cursory traffic analysis of the interchange, access from northbound Presidential Parkway onto westbound Suitland Parkway would operate at an LOS F in the AM peak hour; similarly the movement from southbound Presidential Parkway to southbound MD 4 would operate at an LOS F in the PM peak hour. Operational failure of these intersections would cause the MD 4 corridor to become gridlocked. Therefore, Avoidance Alternative 4 would not address the project's purpose and need.

The construction cost of extending Presidential Parkway in addition to any capacity upgrades and construction of the Dower House Road interchange would be between $59.4 million and $68.3 million.

Based on a review of aerial imagery, approximately 7.2 acres of forest clearing would occur with this alternative. Stream impacts would total approximately 500 linear feet. It is anticipated that no wetlands would be impacted, based on a review of National Wetland Inventory (NWI) mapping.

Although Avoidance Alternative 4 would avoid impacts to the Section 4(f) property, it is not prudent because it would 1) be unreasonable to proceed with the alternative in light of the projects stated purpose and need; 2) result in unacceptable safety or operational problems; and 3) have severe social, economic, and environmental impacts. Avoidance Alternative 4 therefore causes other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

VI. LEAST OVERALL HARM

Pursuant to 23 CFR §774.3(c), if the avoidance analysis determines that there is no feasible and prudent avoidance alternative, then only the alternative that causes the least overall harm to Section 4(f) properties may be approved. All remaining alternatives are evaluated to determine which alternative would cause the least overall harm to the Section 4(f) property, Suitland Parkway. This chapter evaluates those alternatives, including alternatives that would avoid or reduce the use of specific contributing elements of the Suitland Parkway.

The remaining alternatives are generally similar to the proposed action, but involve either different interchange configurations for the MD 4/Suitland Parkway interchange, or modifications to the proposed action interchange design.

There are seven factors to be considered in identifying the alternative that would cause the least overall harm (see 23 CFR 774.3(c)(1)). **Table 1** presents a comparison of the alternatives by each factor in relation to the proposed action.

A. Interchange Configuration Alternatives

The following alternatives involve variations to the MD 4/Suitland Parkway interchange configuration that have been developed to compare the relative severity of harm to Section 4(f) property. Each would minimize harm to Suitland Parkway either by reducing the area of impact or eliminating the directional ramp. Although these minimization alternatives would result in less harm pursuant to Section 4(f), they would likely result in an adverse effect to Suitland Parkway pursuant to Section 106 (36 CFR 800.5).

Minimization Alternative 1: Single-Point Urban Interchange

Minimization Alternative 1 consists of a single point urban interchange (SPUI) at the MD 4/Suitland Parkway interchange (**Figure 6**). Similar to the proposed action, MD 4 would be slightly depressed, while Suitland Parkway would be raised to cross over MD 4 via a new bridge. This alternative would reduce the footprint of the interchange by constructing retaining walls to allow the placement of the interchange ramps closer to MD 4. By lessening the distance between the north and southbound on- and off-ramps, access at these ramps would be controlled through a single signalized intersection. Relocation of the existing fuel line would be required to facilitate construction of this alternative. Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 6.4 acres. In addition to reducing the estimated area of impact within the boundary of Suitland Parkway, Minimization Alternative 1 would not likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate. However, the construction of concrete retaining walls would introduce hardscape that would be inconsistent with the Suitland Parkway setting.

Table 1: Least Overall Harm Analysis

	Factors for Evaluation of Least Overall Harm per 23 CFR 774.3(c)(1)						
Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)*	vii. Substantial differences in costs among the alternatives
Proposed Action	Strong ability to mitigate impacts, as proposed in the current MOA, and commitment of land transfer to NPS. Refer to Section 7 of evaluation	Harm to Suitland Parkway: • 7 acres of permanent acquisition • Would impact historic bridge • Visual impacts from directional ramp	Only one Section 4(f) property would be impacted	NPS – National Capital Parks East and Maryland Historical Trust agree that the proposed action will have an adverse effect on Section 4(f) properties. An MOA is being developed with these officials to resolve the adverse effect.	Meets the project purpose and need	44.1 acres of ROW 2 Businesses Displaced 2,500 lf of streams 0.1 acre of wetlands 17.9 acres of forest	Construction cost = approximately $111.8 million Estimated additional ROW cost = $8.7 million **Total estimated cost = $120.5 million**
Interchange Configuration Alternatives							
Minimization Alternative 1: SPUI	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 6.4 acres of permanent acquisition • Would not impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted	Through their review of the draft Section 4(f) evaluation, NPS and MHT will have an opportunity to comment on this alternative	Would not provide adequate capacity, therefore, does not meet the project purpose and need	16.3 acres of ROW 1 Business Displaced 600 lf of streams <0.1 acre of wetlands 5.7 acres of forest	Construction cost = $73.9 – 85. 0 million Estimated additional ROW cost = $3.0 million **Total estimated cost = $76.9 – 88.0 million**

	Factors for Evaluation of Least Overall Harm per 23 CFR 774.3(c)(1)						
Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)*	vii. Substantial differences in costs among the alternatives
Minimization Alternative 2: Diverging Diamond Interchange	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 6.3 acres of permanent acquisition • Would not impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS and MHT will have an opportunity to comment on this alternative through their review of this draft Section 4(f) evaluation	Would not provide adequate capacity, therefore, does not meet the project purpose and need	16.6 acres of ROW 1 Business Displaced 400 lf of streams <0.1 acre of wetlands 5.9 acres of forest	Construction cost = $77.0 – 88.6 million Estimated additional ROW cost = $3.6 million **Total estimated cost = $80.6 – 92.2 million**
Minimization Alternative 3: Urban Diamond	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 4.6 acres of permanent acquisition • Would impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS and MHT will have an opportunity to comment on this alternative through their review of this draft Section 4(f) evaluation	Would not provide adequate capacity, therefore, does not meet the project purpose and need	15.7 acres of ROW 1 Business Displaced 1,300 lf of streams <0.1 acre of wetlands 6.2 acres of forest	Construction cost = $133.8 – 153.9 million Estimated additional ROW cost = $3.4 million **Total estimated cost = $137.2 – 157.3 million**
Minimization Alternative 4: Table Roundabout	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 6.4 acres of permanent acquisition • Would not impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS reviewed this alternative and based on the analysis completed by FHWA-EFLHD, determined that this alternative was not preferable to the proposed action.	Would not provide adequate capacity, therefore, does not meet the project purpose and need	20.3 acres of ROW 1 Business Displaced 1,300 lf of streams <0.1 acre of wetlands 9.2 acres of forest	Construction cost = $100.2 – 115.2 million Estimated additional ROW cost = $6.8 million **Total estimated cost = $107.0 – 122.0 million**

	Factors for Evaluation of Least Overall Harm per 23 CFR 774.3(c)(1)						
Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)*	vii. Substantial differences in costs among the alternatives
Minimization Alternative 5: Partial Cloverleaf	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 5.3 acres of permanent acquisition • Would not impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS reviewed this alternative and based on the analysis completed by FHWA-EFLHD, determined that this alternative was not preferable to the proposed action.	Would not provide adequate capacity, therefore, does not meet the project purpose and need	20.5 acres of ROW 2 Businesses Displaced 1,300 lf of streams <0.1 acre of wetlands 9.1 acres of forest	Construction cost = $122.1 – 140.4 million Estimated additional ROW cost = $4.5 million **Total estimated cost = $126.6 – 144.6 million**
Minimization Alternative 6: Folded Diamond	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 8.4 acres of permanent acquisition • Would impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS reviewed this alternative and based on the analysis completed by FHWA-EFLHD, determined that this alternative was not preferable to the proposed action.	Provides capacity and operation improvements to a lesser degree than the proposed action; therefore, does not fully meet the project purpose and need	23.3 acres of ROW 1 Business Displaced 1,300 lf of streams <0.1 acre of wetlands 11.4 acres of forest	Construction cost = $93.3 – 107.3 million Estimated additional ROW cost = $5.1 million **Total estimated cost = $98.4 – 112.4 million**
Interchange Modification Alternatives							

	Factors for Evaluation of Least Overall Harm per 23 CFR 774.3(c)(1)						
Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)*	vii. Substantial differences in costs among the alternatives
Minimization Alternative 7: Diamond Roundabout	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 10.9 acres of permanent acquisition • Would not impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS and MHT will have an opportunity to comment on this alternative through their review of this draft Section 4(f) evaluation	Would not provide adequate capacity, therefore, does not meet the project purpose and need	39.0 acres of ROW 1 Business Displaced 1,900 lf of streams 0.1 acre of wetlands 18.9 acres of forest	Construction cost = $113.8 – 130.9 million Estimated additional ROW cost = $8.5 million **Total estimated cost = $122.3– 139.4 million**
Minimization Alternative 8: Eliminate Directional Ramp	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 3.4 acres of permanent acquisition. • Would impact historic bridge • No visual impacts from directional ramp	Only one Section 4(f) property would be impacted.	NPS and MHT will have an opportunity to comment on this alternative through their review of this draft Section 4(f) evaluation	Would not provide adequate capacity, therefore, does not meet the project purpose and need	40.6 acres of ROW 2 Businesses Displaced 2,500 lf of streams 0.1 acre of wetlands 17.3 acres of forest	Construction cost = $107.3 million Estimated additional ROW cost = $8.1 million **Total estimated cost = $115.4 million**
Minimization Alternative 9: Eliminate Channelized Right Turn Ramp	Similar to proposed action	Less harm to Suitland Parkway compared to the proposed action: • 5.1 acres of permanent acquisition • Would not impact historic bridge	Only one Section 4(f) property would be impacted.	NPS and MHT will have an opportunity to comment on this alternative through their review of this draft Section 4(f) evaluation	Would not provide adequate capacity, therefore, does not meet the project purpose and need	42.3 acres of ROW 2 Businesses Displaced 2,500 lf of streams 0.1 acre of wetlands 16.5 acres of forest	Construction cost = $111.5 million Estimated additional ROW cost = $8.4 million **Total estimated cost = $119.9 million**

	Factors for Evaluation of Least Overall Harm per 23 CFR 774.3(c)(1)						
Alternative	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)*	vii. Substantial differences in costs among the alternatives
ANALYSIS RESULTS	All alternatives provide similar ability to mitigate adverse impacts	Minimization Alternative 3 would have the least impact to Suitland Parkway. Each of the remaining minimization alternatives decreases the severity of impacts to Suitland Parkway, by varying degrees.	Only one Section 4(f) property would be impacted, regardless of alternative. Suitland Parkway has a high degree of significance that is important for consideration in the alternatives evaluation.	Both NPS and MHT will have an opportunity to review and comment on this Draft Section 4(f) Evaluation, including the alternatives presented herein.	Only the proposed action fully meets the project purpose and need.	Each of the minimization alternatives offers varying degrees of fewer impacts than the proposed action.	The proposed action would be similar in cost to minimization alternatives 4, 8, and 9. Minimization alternatives 1, 2, and 6 would be less costly than the proposed action; minimization alternatives 3, 5, and 7 would be more costly than the proposed action.

* Impacts quantified here are estimated for the entire interchange construction and include impacts to resources located on NPS lands.

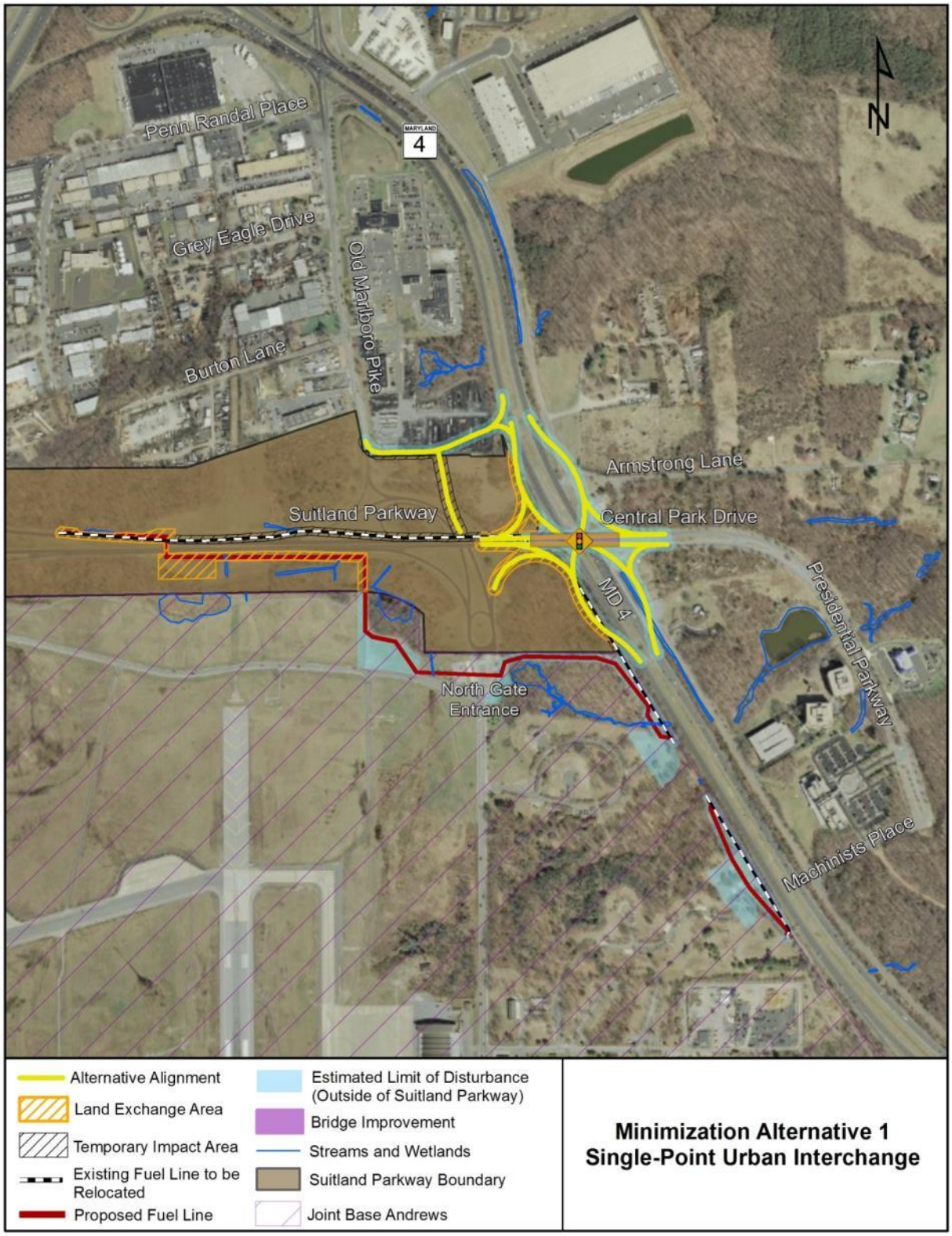

Figure 6: Minimization Alternative 1

Despite the reduction from two signalized intersections to one, the SPUI design would not provide adequate capacity for the peak hour movement from northbound MD 4 to westbound Suitland Parkway. Additionally, because vehicles must be able to cross the same intersection area in six different ways, a SPUI would have a very large area of pavement in the middle of the intersection. The large pavement area offers little space for pedestrian refuge and it can take up to four cycles to walk through the entire length of a SPUI. Additionally, the large pavement area presents challenges for bikes attempting to get through the entire intersection before the signal changes. Because the traffic lights are mounted in the middle of intersection, the bicyclist cannot see when the light changes and traffic begins coming from a different direction. Therefore, the SPUI design would not be compatible with pedestrian or bike access. Minimization Alternative 1 would not address the project's purpose and need.

The overall ROW needs for the SPUI design would be reduced compared to the proposed action. It is estimated that approximately 16.3 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 1 would impact an estimated 600 linear feet of streams and 5.7 acres of forest. Based on NWI wetland mapping, wetland impacts would be less than 0.1 acre.

Cursory estimates of the conceptual design indicate that this alternative would cost between $73.9 million and $85.0 million to construct. The estimated ROW cost for this alternative would be an additional $3.6 million.

Minimization Alternative 2: Diverging Diamond Interchange

Minimization Alternative 2 consists of a Diverging Diamond Interchange (DDI) at the intersection of MD 4 and Suitland Parkway (**Figure 7**). The DDI would be similar to a diamond interchange (the proposed action) in that MD 4 would be slightly depressed, while Suitland Parkway would be raised to cross over MD 4 via a new bridge. Interchange ramps would converge with the Suitland Parkway/Central Park Drive main route at signalized intersections on either side of the MD 4 overpass. The DDI would require traffic on the Suitland Parkway/Central Park Drive overpass to drive on the left side of the road. Signals on either side of the overpass would control this movement. This would allow vehicles from the MD 4 off-ramps a continuous flow turn lane regardless of whether they are turning right or left onto Suitland Parkway/Central Park Drive. Also allowed would be two-phase operation at all signalized intersections within the interchange. Based on the location of the existing fuel line, its relocation would be required to facilitate construction of this alternative.

Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 6.3 acres. In addition to reducing the estimated area of impact within the boundary of Suitland Parkway, Minimization Alternative 2 would not likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

With this interchange configuration, no left turns would be required to clear opposing traffic, which would reduce vehicular conflict points within the interchange. Additionally, this design increases the capacity of the turning movements to and from the MD 4 on- and off-ramps because each of these would be a continuous flow turn lane. However, a disadvantage of this design is that extensive driver education would be needed to familiarize users with the operations of this interchange, presenting potential safety

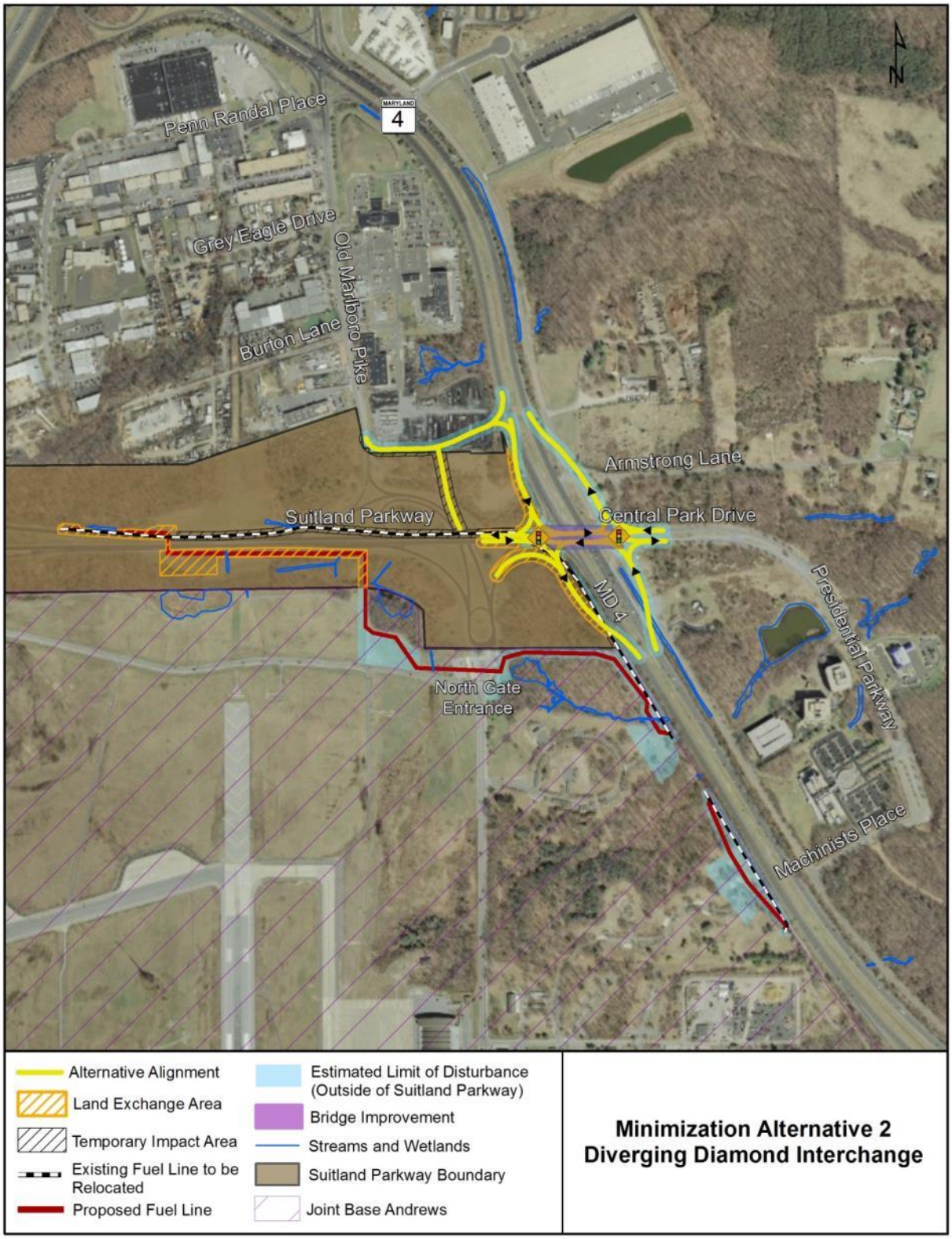

Figure 7: Minimization Alternative 2

concerns. Additional signage, lighting, and pavement would be needed, beyond those typical of a standard diamond interchange. Also, because of unfamiliarity with traffic operations of the DDI, pedestrian usage of Minimization Alternative 2 presents further potential safety concerns. Therefore, Minimization Alternative 2 would not address the project's purpose and need.

Approximately 16.6 acres of ROW would be required to construct this alternative, less than the proposed action. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 2 would impact approximately 5.9 acres of forested area, 400 linear feet of streams and less than 0.1 acre of wetlands based on NWI mapping.

Cursory estimates of the conceptual design indicate that this alternative would cost between $77.0 million and $88.6 million to construct. The estimated ROW cost for this alternative would be an additional $3.6 million.

Minimization Alternative 3: Urban Diamond Interchange

Minimization Alternative 3 is similar to the proposed action in that MD 4 would be slightly depressed, while Suitland Parkway would be raised to cross over MD 4 via a new bridge (**Figure 8**). This alternative would slightly reduce the footprint of the interchange as compared to the proposed action by placing the interchange ramps closer to MD 4. This would be accomplished through the use of retaining walls between each ramp and the MD 4 mainline. The ramps would meet at signalized intersections located above and on either side of MD 4. Because this alternative would not include the directional ramp as included with the proposed action, all traffic traveling from northbound MD 4 onto westbound Suitland Parkway would be required to make a left turn at the signalized intersection located on the east side of the interchange.

Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 4.6 acres for Minimization Alternative 3. However, construction of retaining walls would introduce hardscape that would be inconsistent with the Suitland Parkway setting. Based on conceptual design, Minimization Alternative 3 would likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

The signals at the interchange ramp termini would not accommodate the existing and future traffic volumes for this movement, resulting in lengthy intersection queues along the ramp from northbound MD 4. Pedestrians and bike safety would be improved by providing grade-separated access across MD 4. Therefore, Minimization Alternative 3 would not address the project's purpose and need.

The overall ROW needs for the Urban Diamond interchange design would be less than the proposed action. It is estimated that approximately 15.7 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 3 would impact an estimated 1,300 linear feet of streams, less than 0.1 acre of wetlands and 6.2 acres of forested area. Cursory estimates of the conceptual design indicate that this alternative would cost between $133.9 million and $153.9 million to construct. The estimated ROW cost for this alternative would be an additional $3.4 million.

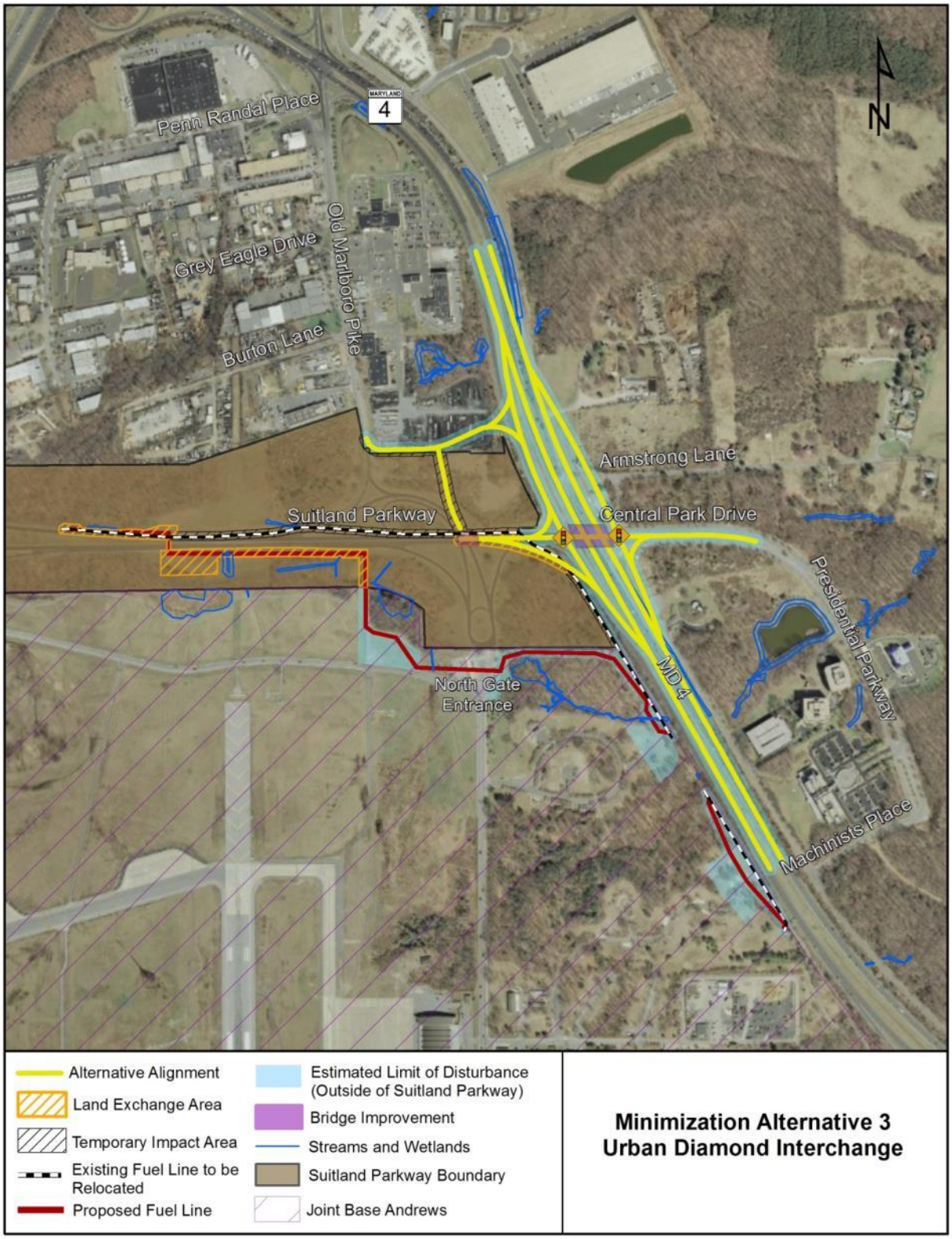

Figure 8: Minimization Alternative 3

Minimization Alternative 4: Table Roundabout Interchange

This alternative was originally developed by the Federal Highway Administration Eastern Federal Lands Highway Division (EFLHD) in 2011. The configuration would include a large roundabout at the center of the MD 4/Suitland Parkway interchange that would address all turning movements (**Figure 9**). A direct ramp from Suitland Parkway eastbound to MD 4 southbound would be provided. The MD 4 mainline would be shifted approximately 75-feet east of its existing alignment and its profile would be lowered; the roundabout would be constructed at an elevated grade, over MD 4, requiring the construction of two bridges spanning MD 4.

Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 6.4 acres. In addition to reducing the estimated area of impact within the boundary of Suitland Parkway, Minimization Alternative 4 would not likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

Based on EFLHD's review, this design would fail to meet the purpose and need for the project due to an operational breakdown as a result of the high volume of traffic entering the roundabout. Additionally, bike and pedestrian circulation through or around a roundabout presents safety concerns from the multiple conflict points. The construction of two major bridges spanning MD 4 would contribute to the cost of this alternative. In 2011 EFHLD determined that this alternative should be eliminated from further detailed study. Therefore, Minimization Alternative 4 would not address the project's purpose and need.

The overall ROW needs for the Table Roundabout design would be reduced compared to the proposed action. It is estimated that approximately 20.3 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 4 would impact an estimated 1,300 linear feet of streams, less than 0.1 acre of wetlands and 9.2 acres of forested area.

Cursory estimates of the conceptual design indicate that this alternative would cost between $100.2 million and $115.2 million to construct. The estimated ROW cost for this alternative would be an additional $4.4 million.

Minimization Alternative 5: Partial Cloverleaf Interchange

Minimization Alternative 5 was also developed by the EFLHD in 2011. The partial cloverleaf design would shift the MD 4 mainline 75 feet east of its existing alignment. Loop ramps would be constructed in both the north and south quadrants on the west side of MD 4 (**Figure 10**).

Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 5.3 acres. In addition to reducing the estimated area of impact within the boundary of Suitland Parkway, Minimization Alternative 5 would not likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

According to the analysis completed by EFLHD, this design breaks down in the AM peak hour, as adequate capacity would not be provided for the volume of traffic circumnavigating the interchange from northbound MD 4 to westbound Suitland Parkway. Further, weaving areas compromise the operations of this design. The complex design and numerous ramps present additional cost and constructability

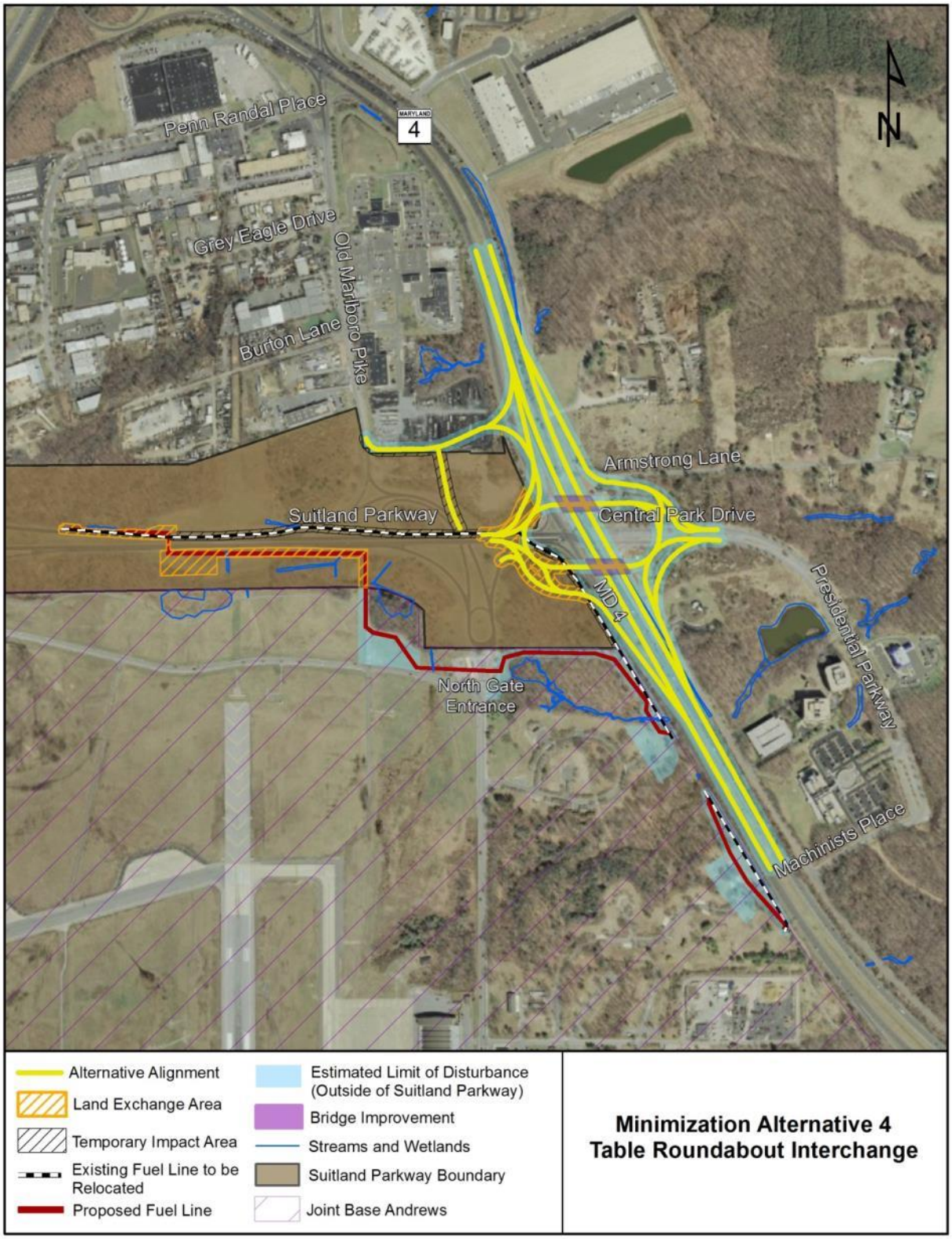

Figure 9: Minimization Alternative 4

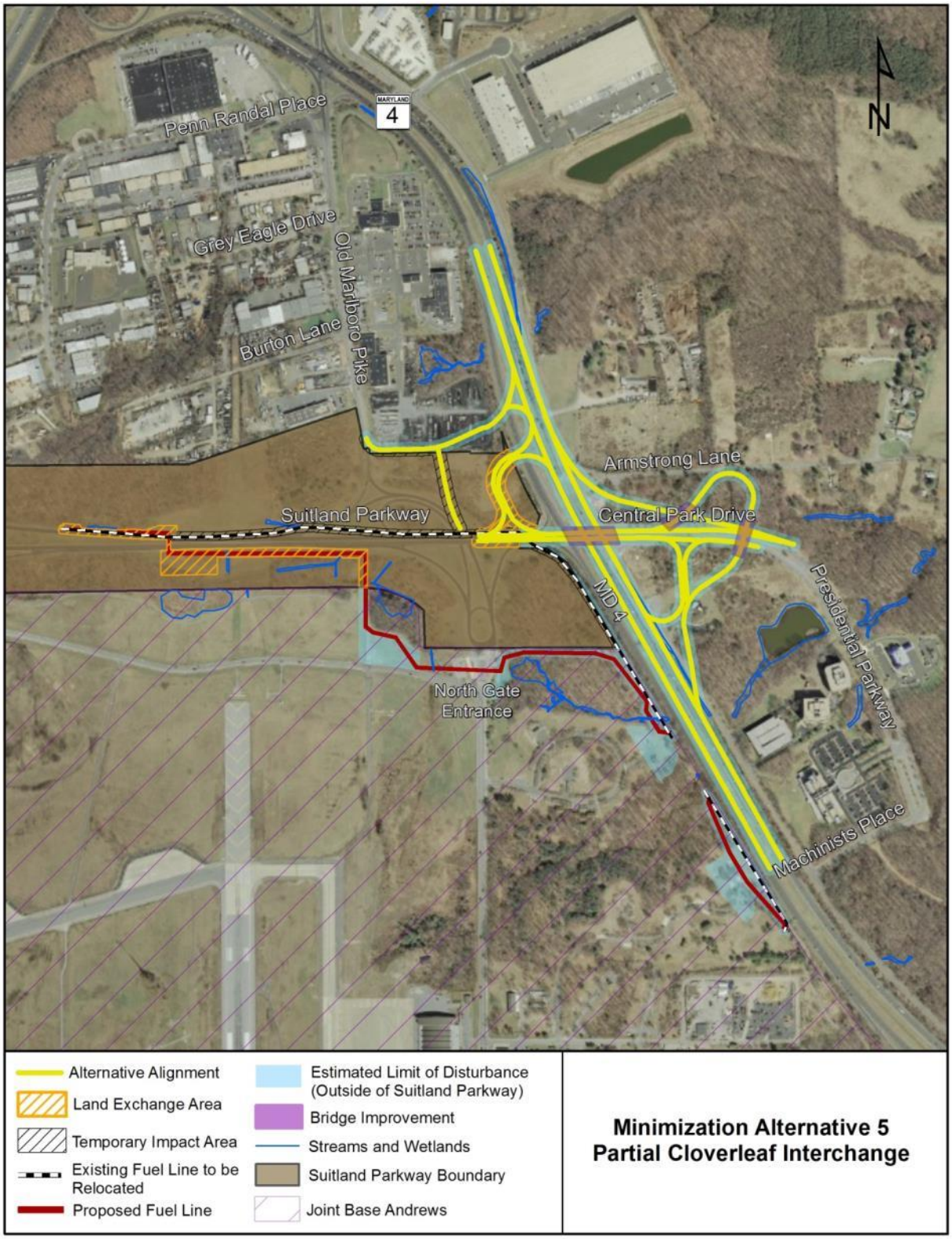

Figure 10: Minimization Alternative 5

obstacles as well. In their 2011 study, EFHLD determined that this alternative should be eliminated from further detailed study. Therefore, Minimization Alternative 5 would not address the project's purpose and need.

The overall ROW needs for the Partial Cloverleaf Interchange design would be reduced compared to the proposed action. It is estimated that approximately 20.5 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 5 would impact an estimated 1,300 linear feet of streams, less than 0.1 acre of wetlands and 9.1 acres of forested area.

Minimization Alternative 5 would require three separate bridges in addition to numerous access ramps. Cursory estimates of the conceptual design indicate that this alternative would cost between $122.1 million and $140.4 million to construct. The estimated ROW cost for this alternative would be an additional $4.5 million.

Minimization Alternative 6: Folded Diamond Interchange

Another alternative originally developed by the EFLHD in 2011, the folded diamond interchange would construct double ramps in both the northeast and southwest quadrants of the interchange (**Figure 11**). The approaches of Suitland Parkway and Presidential Parkway would each be widened to ten lanes in order to allow for adequate navigation of the ramps on either side of MD 4. Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 8.4 acres. Minimization Alternative 6 would likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate.

While Minimization Alternative 6 would meet the project's purpose and need by allowing adequate traffic capacity and improving safety for vehicles, bikes, and pedestrians, this alternative would result in a full reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate. The wide roadway, complex design and numerous ramps would reduce the area of impact to Suitland Parkway, but would cause greater harm to the character of the Parkway. The design would also be difficult to construct while maintaining traffic flow. During their 2011 analysis EFHLD determined that this alternative should be eliminated from further detailed study.

The overall ROW needs for the Folded Diamond Interchange design would be reduced compared to the proposed action. It is estimated that approximately 23.3 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 6 would impact an estimated 1,300 linear feet of streams, less than 0.1 acre of wetlands and 11.4 acres of forested area.

Minimization Alternative 6 would require a single wider and longer bridge over MD 4 in addition to numerous access and loop ramps. As a result, cursory estimates of the conceptual design indicate that this alternative would cost between $93.3 million and $107.3 million to construct. The estimated ROW cost for this alternative would be an additional $5.1 million.

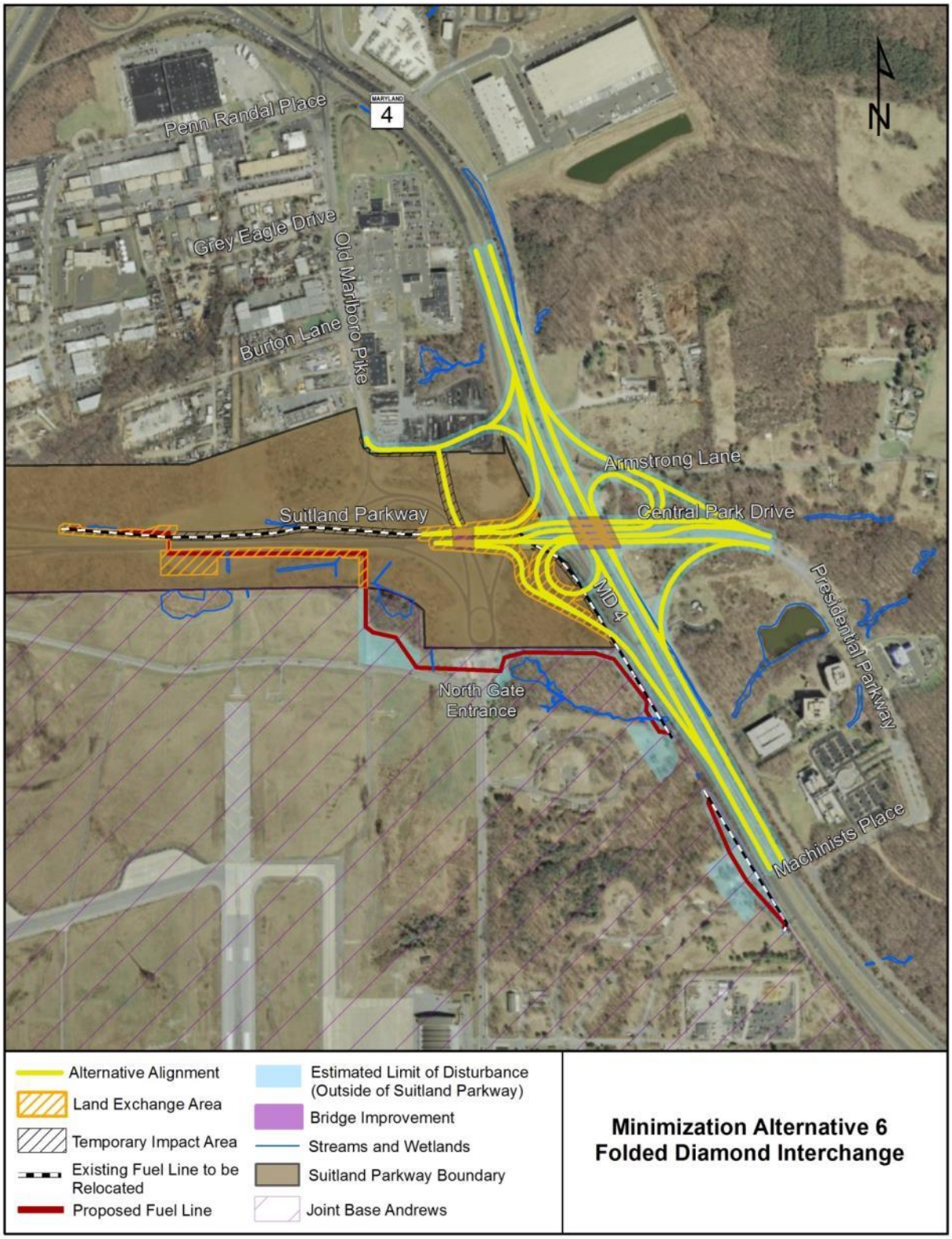

Figure 11: Minimization Alternative 6

B. Interchange Modification Alternatives

The following alternatives modify the design of the MD 4/Suitland Parkway interchange included in the proposed action in order to minimize impacts to Suitland Parkway. Minimization Alternative 7 is depicted in **Figure 12**, while **Figure 13** depicts Minimization Alternatives 8 and 9.

Minimization Alternative 7: Diamond Roundabout Interchange
This alternative is the interchange design that was selected in the 2000 FONSI (**Figure 12**). This alternative would construct a diamond interchange that provides all of the directional movements of the proposed action. However, there are several interchange elements that differ from the proposed action which influence the impact to Suitland Parkway, including the following:

- There would be no directional ramp from northbound MD 4 to Suitland Parkway;
- Two roundabouts would be located on Suitland Parkway at the end of the ramps from MD 4 (instead of the signalized intersections at the ramp termini); and
- The JBA North Entrance would not be modified, and a short directional ramp would be provided from the JBA North Entrance to MD 4 southbound.

Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 10.9 acres. Minimization Alternative 7 would not likely require the reconstruction of the Suitland Parkway Bridge over the entrance ramp to JBA North Gate. This is principally because Minimization Alternative 7 would not include the directional ramp included with the proposed action

Without the directional ramp all traffic traveling from northbound MD 4 to westbound Suitland Parkway would circumnavigate the two roundabouts located at the ramp terminals of the interchange. The roundabouts would not accommodate the existing and future traffic volumes for this movement, resulting in lengthy queues along the ramp from northbound MD 4. Moreover, the east-west movement along Suitland Parkway through the interchange would be affected as the volume of traffic entering from the peak flow legs would consume the available capacity of the roundabout and prevent other traffic from entering the roundabout. The interchange would also operate with less efficient weave conditions for traffic leaving JBA toward southbound MD 4, creating additional potential conflict points and reducing the effective management of congestion for this movement. Further, the roundabout design would be difficult for pedestrians and bicycles to navigate safely. Therefore, Minimization Alternative 7 would not address the project's purpose and need.

The overall ROW needs for the Diamond Roundabout design would be reduced compared to the proposed action. It is estimated that approximately 39.0 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 7 would impact an estimated 1,900 linear feet of streams, 0.1 acre of wetlands and approximately 18.9 acres of forested area.

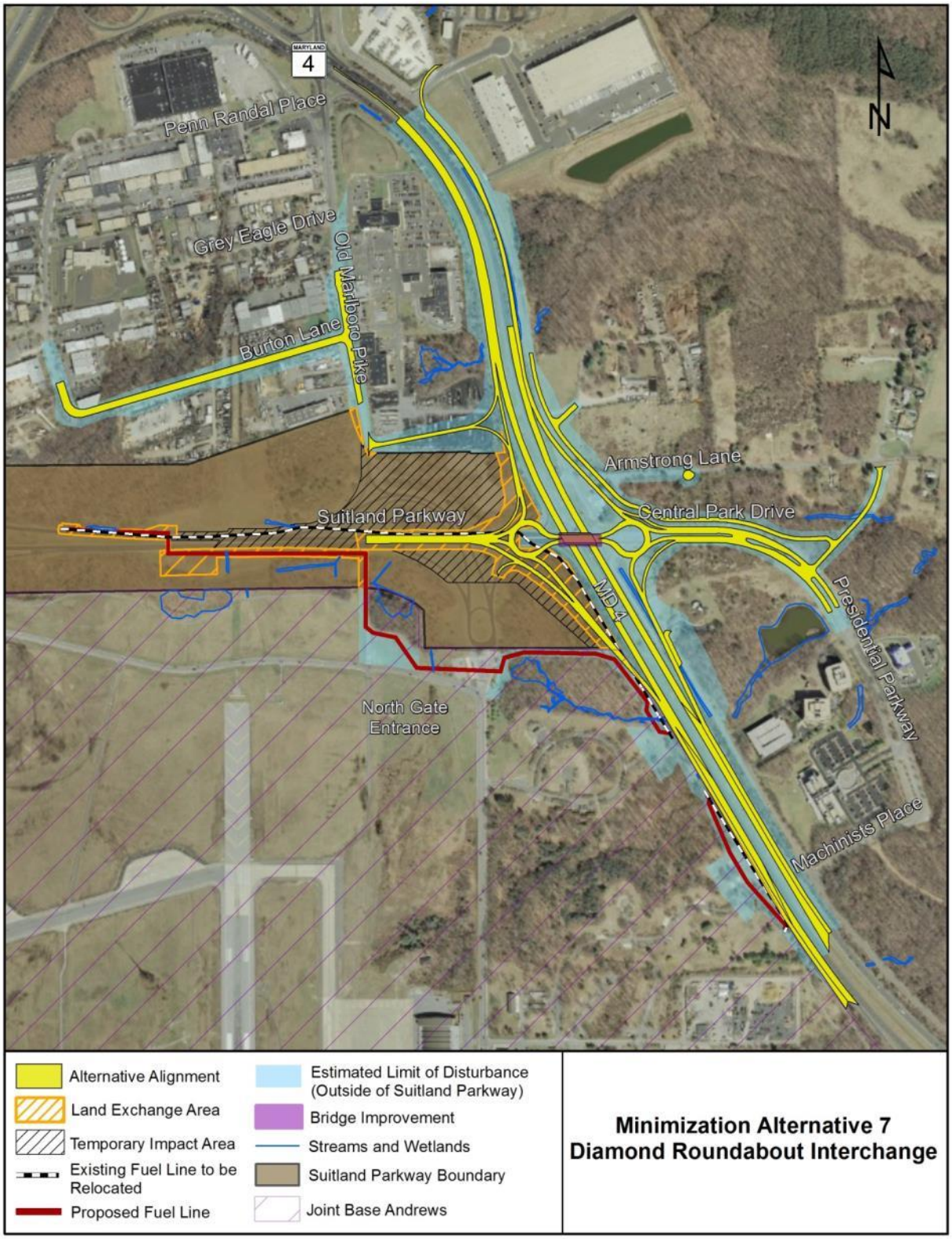

Figure 12: Minimization Alternative 7

Minimization Alternative 7 would cost less than the proposed action because it would not include the directional ramp from northbound MD 4 to westbound Suitland Parkway. Cursory estimates of the conceptual design indicate that this alternative would cost between $113.8 million and $130.9 million to construct. The estimated ROW cost for this alternative would be an additional $8.5 million.

Minimization Alternative 8: Eliminate Northbound MD 4 to Suitland Parkway Directional Ramp
This alternative would be a traditional diamond interchange without the directional ramp that to facilitate travel from northbound MD 4 to Suitland Parkway (**Figure 13**). This modification would eliminate the direct impact to Suitland Parkway at the stockpile yard, and would remove the elevated hardscape from the viewshed of Suitland Parkway. Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 3.4 acres.

Similar to Minimization Alternative 3, this alternative would require that all traffic traveling from northbound MD 4 onto westbound Suitland Parkway make a left turn at the signalized intersection located on the east side of the interchange. The signal would not accommodate the existing and future traffic volumes for this movement, resulting in lengthy intersection queues along the ramp from MD 4. Therefore, this alternative would not address the project's purpose and need.

The overall ROW needs for the Minimization Alternative 8 would be reduced compared to the proposed action because of elimination of the directional ramp. It is estimated that approximately 40.6acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 8 would impact an estimated 2,500 linear feet of streams, 0.1 acre of wetlands and 17.3 acres of forested area.

Minimization Alternative 8 would cost less than the proposed action because it would not include the directional ramp from northbound MD 4 to westbound Suitland Parkway. Cursory estimates of the conceptual design indicate that this alternative would cost $107.3 million to construct. The estimated ROW cost for this alternative would be an additional $8.1 million.

Minimization Alternative 9: Eliminate Channelized Right Turn Ramp
This alternative would be identical to the proposed action design for the MD 4/Suitland Parkway interchange, but would not include the channelized directional ramp from Suitland Parkway to southbound MD 4 (**Figure 13**). This modification would reduce the amount of Suitland Parkway land that is incorporated into the proposed action in the southwest quadrant of the interchange. Based on conceptual design it is estimated that the permanent impact to the Section 4(f) property would be approximately 5.1 acres.

With this alternative, all traffic traveling from eastbound Suitland Parkway to southbound MD 4 would need to turn right at the signalized intersection on the west side of MD 4. The signal would not accommodate the existing and future traffic volumes for this movement, resulting in lengthy intersection queues along Suitland Parkway. Therefore, Minimization Alternative 9 would not address the project's purpose and need.

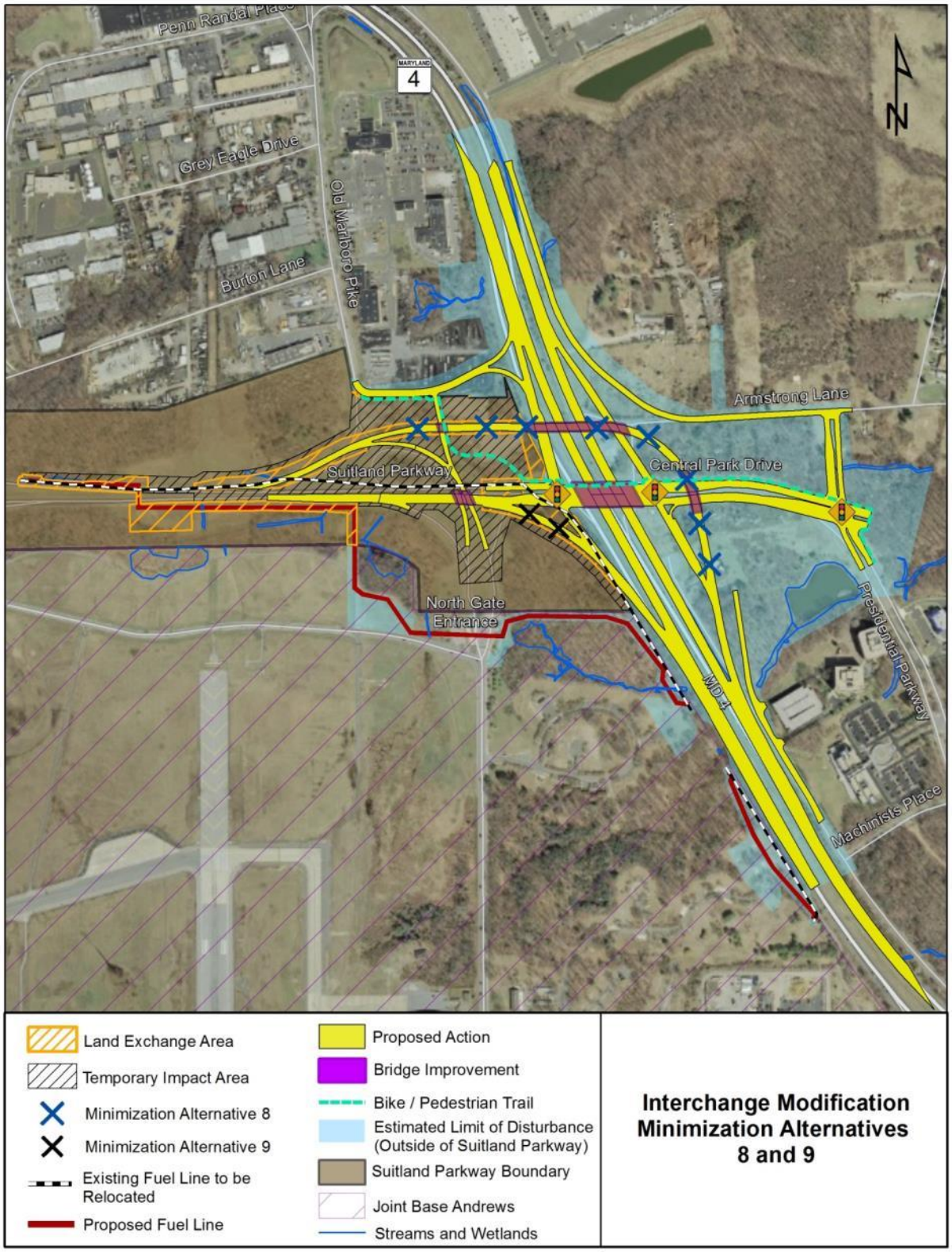

Figure 13: Minimization Alternatives 8 and 9

The ROW needs for Minimization Alternative 9 would be somewhat reduced compared to the proposed action because of elimination of the directional ramp from eastbound Suitland Parkway to southbound MD 4. It is estimated that approximately 42.3 acres of ROW would be required to construct this alternative. Access to Central Park Drive, Presidential Parkway, and proposed development east of the interchange would be provided similar to the proposed action. Minimization Alternative 9 would impact an estimated 2,500 linear feet of streams 0.1 acre of wetlands and 16.5 acres of forested area.

Minimization Alternative 9 would cost less than the proposed action because it would not include the channelized right-turn lanes from eastbound Suitland Parkway to southbound MD 4. Cursory estimates of the conceptual design indicate that this alternative would cost $111.5 million to construct. The estimated ROW cost for this alternative would be an additional $8.4 million.

VII. ALL POSSIBLE PLANNING TO MINIMIZE HARM

"All possible planning," as defined in 23 CFR §774.17, includes all reasonable measures to minimize harm and mitigate for adverse impacts and effects. The proposed action minimizes harm to Section 4(f) resources by incorporating measures into the project that minimize the impact on and the use of the resources. Planning to minimize harm has specifically involved a review of alignment shifts, roadway location in the landscape, retaining walls, other design elements, and mitigation.

Design considerations to minimize harm to Suitland Parkway include carrying Suitland Parkway over MD 4, thus reducing the visual effect of the new interchange at this eastern terminus of the Parkway. The MD 4 alignment has been shifted 75 feet east of its current alignment, minimizing the ROW required from NPS. In accordance with previous requests from NPS, the two-lane directional ramp is reduced to a single-lane prior to its tie in with westbound Suitland Parkway.

Lowering the elevation of the directional ramp as it crosses over Presidential Parkway and the JBA North Gate access road was considered at length. However, safety and constructability considerations, as well as overhead requirements of the routes being crossed dictate the necessary elevation of the ramp.

The use of 2:1 and 3:1 side slopes was a consideration during design of the roadway; however, based on the soil composition and maintenance needs of NPS, it was determined that use of steeper side slopes did not provide an improvement to the design in context of Suitland Parkways needs. Moreover, the Maryland Department of Environment regulations require that the slopes be no steeper than 2:1.

Defining the ROW to be acquired by SHA is the result of at-length discussions to identify areas to be maintained by SHA following construction of the proposed action. Included in the seven acres of property transfer, SHA will acquire the directional ramp as it crosses the Section 4(f) property and the area occupied by the relocated fuel line. The provision to include the fuel line relocation within the land transfer being obtained by SHA comes at the request of NPS. An additional 18-acre easement area would be required to facilitate construction including: staging areas, areas for grading and drainage, the resurfacing and reconstruction of the approach roadways, construction of the bike/multi-use path, areas for re-vegetation, and post-construction vegetation monitoring and invasive species management. There would be no permanent change in the ownership of the easement area.

A Memorandum of Agreement (MOA), signed and completed on August 20, 1999, proposed measures to mitigate impacts to Suitland Parkway based on the FONSI-Selected Alternative. Mitigation discussed in the 1999 MOA included the NPS involvement in the Final Review design of structures and landscaping. This commitment has continued through the project design stages and will continue through construction.

The proposed action also implements many additional design changes compared to the FONSI-Selected Alternative. In support of design discussions and considerations, a new MOA has been drafted for execution by FHWA, NPS, MD SHPO and SHA. The MOA is being developed in accordance with the provisions of Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800. The new MOA is presently under review by its signatories; measures included in the MOA will be addressed in the Final Section 4(f) Evaluation. The MOA stipulates the implementation of numerous measures to minimize harm to the Section 4(f) property, Suitland Parkway. The following are outlined as stipulations of the MOA:

- SHA will require its contractor to salvage and reuse the stone cladding from the historic Suitland Parkway Bridge over the entrance ramp to JBA North Gate. If it is not possible to remove the stone cladding, new stone for the cladding will match the original in color, size, and shape. The name of stone required will be included in the Contract Documents. The mortar used to reset the stone cladding on the south side of the historic Suitland Parkway Bridge will match in color and texture the original mortar on the south side of the bridge, and will be recessed to the same depth from the stone surface as the current mortar on the south side of the bridge. SHA shall make three samples of the new bridge's bonding pattern and mortar available to the MD SHPO and NPS for inspection and approval prior to installation by the Mason. All work resetting the stone façade on the historic bridge will be completed by a mason who has a minimum of five (5) years of experience with repointing historic masonry bridges.

- The exterior of the parapets (bridge rails) as well as the abutments (supporting ends of the bridge) of the Directional Ramp will be clad with a stone and mortar bonding pattern that is similar to, but not replicating the pattern on the historic Suitland Parkway Bridge. SHA will provide new stone for the cladding that is similar to color, size and shape of the stone used for the Suitland Parkway Bridge over the entrance ramp to JBA North Gate. The name of stone required will be included in SHA's Project Construction Contract. SHA shall make three samples of the new bridge's bonding pattern and mortar available to the MD SHPO and NPS for inspection and approval prior to installation by the Mason. All work setting the stone façade on the new bridge will be completed by a Mason who has at least five (5) years of experience with the pointing of stone structures.

- A landscaping plan is being developed in coordination with the NPS and MD SHPO. The landscaping plan will incorporate grading and planting trees, shrubbery and other plants that are visually and historically compatible with the existing historic landscape of the Suitland Parkway.

- As part of vegetative maintenance, SHA will, in consultation with the MD SHPO and NPS, develop and implement an invasive plant removal plan for the area within the MD 4/Suitland Parkway project limits, including the former NPS storage yard.

- NPS – National Capital Parks East will benefit through the acquisition of 12.8 acres located at 8801 Fort Foote Road, adjacent to the NRHP boundary of Fort Foote. While this acquisition will not directly benefit Suitland Parkway, substantial benefits will be generated to the regional park entity through the acquisition of the property. This property was identified by NPS, National Capital Parks East and would provide a necessary natural area buffer between the Fort Foote Park and surrounding residential development.

VIII. COORDINATION

- Department of Interior (DOI) – The Draft Section 4(f) Evaluation will be provided to the DOI for comment.

- National Park Service (NPS) – More than 20 coordination meetings have been held and attended by various representatives of NPS – National Capital Parks East to discuss design changes and considerations since reinitiating the project, following the FONSI/Section 4(f) approval in 2000. **Appendix A** includes a table summarizing meetings and correspondence since execution of the 1999 MOA. The Draft Section 4(f) Evaluation will be provided to the NPS for comment.

- Maryland Historical Trust (MHT) – Substantial coordination with the Maryland Historical Trust has occurred throughout this study. Coordination included efforts to determine the area of potential effects; identify historic properties within the area of potential effects; determine effects to historic properties; and develop minimization and mitigation measures.

- Advisory Council on Historic Preservation (ACHP) – The Advisory Council on Historic Preservation has been consulted during the study and is currently being consulted to resolve the adverse effects on historic properties pursuant to Section 106 of the National Historic Preservation Act.

- Public – The public will have an opportunity to review and comment on the Draft Section 4(f) Evaluation. Comments from the public related to the Section 4(f) analysis and responses to comments will be considered in the Final Section 4(f) Evaluation.

IX. CONCLUSION

This draft Section 4(f) Evaluation has been prepared in accordance with 23 CFR Part 774 and 49 U.S.C 303. Following a 45-day review period, the preceding alternatives evaluation along with any comments received will be considered as a basis for FHWA's final determination on whether feasible and prudent avoidance alternatives to the proposed use exist, and whether the proposed action includes all possible planning to minimize harm to Section 4(f) resources.

Appendix A

MD 4 – Suitland Parkway Interchange

National Park Service, Federal Highway Administration, and Maryland State Highway Administration Coordination

As of March 28, 2014

	Date	Description	Summary
1.	June 14, 1999	MOA - FHWA, NPS, SHA, MHT	This MOA was signed by NPS 6/14/1999, MHT 5/5, FHWA 8/9, SHA 5/21, and concurred with by ACHP 8/20.
2.	Jan. 19, 2005	FHWA, NPS, SHA	Discussed the Highway Design Div. Project after being on hold. SHA presented the directional ramp option to NPS and explained that changes in traffic volumes due to recent and planned development would cause the EA/FONSI Selected Alternate to fail. The 1999 MOA and potential revisions were discussed. NPS expressed concern for impacts to the gravel terrace forest, a unique vegetative community, and suggested that this design option would provide an opportunity for SHA to mitigate by rehabilitating an existing maintenance area located adjacent to the current intersection.
3.	Sep. 11, 2006	FHWA, NPS, SHA	Presented the direction ramp alternative. Future development and increased traffic volumes were discussed; including the rezoning of adjacent areas by PG County to accommodate multi-use development.
4.	Apr. 4, 2007	FHWA, NPS, SHA	Discussed revisions to the MOA with regard to project changes. A revised directional ramp option was presented that reduced impacts to park property, particularly the area previously cited by NPS as being of significant concern, the terrace gravel forest.
5.	Nov. 13, 2007	FHWA, NPS, SHA	Discussed NPS comments on the project MOA and requested revisions.
6.	Jan. 31, 2008	Letter – SHA to NPS	Provided NPS with information such as the current design plans for MD 4 at Suitland Parkway, environmental impact information, proposed landscaping plans, and a draft amendment to the 1999 MOA.
7.	Mar. 24, 2008	Letter – NPS to SHA	Provided SHA with comments on the project compliance including NEPA, Section 4(f), the Draft amendment to the MOA, and Section 106. Comments were also expressed regarding ROW acquisition, construction easements, property boundary information, future maintenance, the flyover ramp and other design aspects, mitigation, and the landscape plan.
8.	Apr. 2, 2008	Teleconference FHWA, NPS, SHA	Discussed NPS comments on the project MOA**.**
9.	July 22, 2008	NPS, SHA	Informal review introduced the new NPS Director to several ongoing improvement projects that have potential to impact NPS properties.
10.	Sep. 9, 2008	NPS, SHA	The SHA project team met with NPS staff representative, Tammy Stidham to review NPS comments based on the draft MOA and outstanding items to be addressed.

	Date	Description	Summary
11.	Oct. 28, 2008	NPS, EFHLD, SHA @ NPS	Discussion included a project overview for individuals new to the Suitland Parkway Project, ROW concerns, landscaping concerns and design suggestions. NPS committed to providing SHA with a scope of the FHWA plan review they had requested.
12.	Feb. 19, 2009	Report – SHA to NPS	Draft FONSI/Section 4(f) Reevaluation forwarded to NPS for review and comment concurrent with FHWA review of draft document.
13.	May 2, 2009	Letter – NPS to SHA	NPS provided comments on the draft reevaluation.
14.	Mar. 31, 2010	Letter – SHA to MHT	Re-coordination with MHT, requested concurrence with continued Adverse Effect.
15.	Jun. 2, 2010	FHWA, NPS, EFLHD, SHA	Review of 2 Alternatives proposed by EFLHD. Both eliminated flyover ramp design; one eliminated need to reconstruction bridge over AAFB entrance. SHA to evaluate traffic/LOS.
16.	Oct. 2010	EFLHD,SHA	Staff met to discuss the result of traffic and LOS analysis for the EFLHD proposed alternatives.
17.	July 9, 2010	MHT Response Letter	MHT concurs that the overall undertaking continues to adversely affect historic properties. Rather than amend the existing MOA, requests that a new agreement be developed and suggest a meeting with consulting parties to discuss mitigation opportunities.
18.	Feb. 28, 2011	FHWA, NPS, EFLHD, SHA	SHA and EFLHD presented Folded Diamond Interchange Alternative to NPS staff as an Alternative design which eliminated flyover ramp, but had larger footprint. NPS determined that more information would be needed to determine which Alternative would be preferable to them.
19.	Apr. 4, 2011	FHWA, NPS, EFLHD, SHA	SHA and Design Consultant presented additional impact evaluation as well as rendering of proposed directional ramp (formerly “flyover”) option. NPS consensus was received that directional ramp design would have less adverse impact than the folded diamond design. Project Team to pursue directional ramp design.
20.	June 21, 2011	FHWA, NPS, EFLHD, SHA	Follow-up meeting to discuss next steps as project and design proceeds. Determined that multiple sub-groups would be identified to meet and resolve concerns of interested stakeholders.
21.	July 29, 2011	FHWA, NPS, EFLHD, SHA – CR and Env Compliance Sub-Grp Mtg	Design coordination meeting
22.	Aug. 18, 2011	FHWA, NPS, EFLHD, SHA,	Design coordination meeting
23.	Oct. 13, 2011	FHWA, NPS, SHA @ NPS	Design coordination meeting
24.	Feb. 29, 2012	FHWA, NPS, SHA @ SHA D3	Design coordination meeting
25.	May 21, 2012	FHWA, NPS, SHA @ SHA D3	Design coordination meeting
26.	Dec. 6, 2012	FHWA, NPS, SHA @ NPS	Design coordination meeting

	Date	Description	Summary
27.	Jan. 22, 2013	FHWA, NPS, SHA – Field Meeting	Design coordination meeting
28.	March, 2013	Letter – NPS to SHA	Expressed support for acquisition of Fort Foote property for replacement for permanent impacts to NPS lands at Suitland Parkway.
29.	May 21, 2013 June 20, 2013	Report – SHA to NPS	Fort Foote Property Environmental Site Assessment and Checklist – Submitted for NPS review.
30.	Aug. 15, 2013	FHWA, NPS, SHA – Teleconference	Design coordination meeting
31.	Aug. 20, 2013	Letter – SHA to NPS	Requested the following by August 30, 2013: • Comments on the ESA and an opinion regarding the Fort Foote Property acceptability. • NPS concurrence that land required for the relocated pipeline be added to the project's permanent impacts and therefore be included in the land exchange (increasing perm impacts to 6.942 acres). • NPS comments on the MOA. • A decision from NPS regarding ability to adopt SHA's prepared documents. • Information from NPS regarding costs associated with permit oversight.
32.	Sep. 6, 2013	Letter – NPS to SHA	• Re-evaluation will not be sufficient to meet NPS NEPA requirements, new EA and Section 4(f) are necessary. • Land exchange of Fort Foote property is contingent on the successful completion of NEPA, Section 4(f) and Section 106. • NPS review of ESA and checklist anticipated by Sep 15. NPS notified of SHA of potential need to update ESA prior to NPS taking title of property. • Acknowledges advantages of expanding the SHA acquisition to include Fuel Line property. • Some elements of the MOA are also contingent on NEPA analysis. • Requested meeting with SHA
33.	Sep. 18, 2013	Letter – SHA to NPS	• SHA has initiated the acquisition process of Fort Foote property as a *protective buy.* • SHA requested formal response from NPS regarding approval of the ESA. • SHA requested a listing of specific requirements for DO-12 NEPA approval. • SHA requested NPS to provide next steps to successful land exchange for pipeline relocation. • SHA requested NPS comments on MOA by Sep. 27, 2013. • NPS to inform SHA of desire to have trail extension grading constructed as part of this project or eliminated (save 30" Sweet Gum) by Sep. 27, 2013. • SHA requested comments on landscape drawings by Sep. 27, 2013. • SHA requested senior level meeting with FHWA, NPS, and SHA staff.
34.	Nov. 5, 2013	FHWA, NPS, SHA	• DO-12 NEPA kick-off meeting

	Date	Description	Summary
35.	Dec. 12, 2013	FHWA, NPS, SHA	• DO-12 and Section 4(f) evaluation status meeting
36.	Jan. 28, 2014	FHWA, NPS, SHA	• DO-12 and Section 4(f) evaluation status meeting
37.	Feb 19, 2014	Interagency Group	• Agency Scoping presentation for DO-12 NEPA process
38.	Mar. 6, 2014	FHWA, NPS, SHA	• DO-12 and Section 4(f) evaluation status meeting