

- V. Final Section 4(f) Evaluation – H**
- 1. Parkland Mitigation**
 - 2. Historic Site Mitigation**
 - 3. Mitigation for the Corridor 1 Alternative**
 - 4. Mitigation for the Corridor 2 Alternative**

The following Section 4(f) resources are located within the Section 3 Project Area:

- Morris and Julia Quill House
- Old Gunpowder Road Community Park
- Little Paint Branch Stream Valley Park
- Susquehanna Transmission Company

The Corridor 1 and Corridor 2 Alternatives share a common alignment through this section and, through design modifications, avoid all Section 4(f) resources. Along southbound I-95, south of the proposed interchange with the ICC, two SWM facilities were relocated from within Little Paint Branch Stream Valley Park to avoid a Section 4(f) use of this resource and the area required for a third pond was reduced to avoid the Section 4(f) use of Old Gunpowder Road Community Park.

H. Measures to Minimize Harm

Section 4(f) requires that all possible planning to minimize harm to Section 4(f) resources be incorporated into transportation projects. All possible planning to minimize harm to Section 4(f) resources includes measures to avoid, minimize, or mitigate harm to Section 4(f) resources. Avoidance and minimization measures that have been incorporated into the design of the Build Alternatives were previously discussed in *Sections V.E.3, V.F.3, and V.G* of this chapter. In addition, proposed compensatory mitigation and environmental stewardship measures within Section 4(f) resources would also serve to minimize harm to these resources by improving their function and value. These measures could include stream restoration, wetland creation, stormwater management and fish blockage removal. Compensatory mitigation is discussed in more detail in *Chapter IV, Environmental Consequences* and environmental stewardship is discussed in more detail in *Chapter VI, Environmental Stewardship*. Since discussions of avoidance and minimization measures are included in *Sections V.E.3, V.F.3, and V.G* of this chapter, the remainder of this section focuses on mitigation.

All Section 4(f) mitigation should be determined through consultation with the officials having jurisdiction over each resource. For parklands and recreational facilities affected by this project, M-NCPFC is the jurisdictional agency with the exception of the Hampshire Greens Golf Course, where the Montgomery County Revenue Authority is the jurisdictional agency, and the T. Howard Duckett Watershed Property, where WSSC is the jurisdictional agency. For historic sites, the official with jurisdiction is MHT/MD SHPO and, as appropriate, the Advisory Council on Historic Preservation (ACHP). Section 4(f) mitigation measures to compensate for use of parks and historic sites are described below.

1. Parkland Mitigation

Mitigation for parks and recreational facilities typically includes a variety of actions such as replacing parkland, enhancing existing parkland, and providing new or replacement park amenities or facilities. Any or all of these types of measures could be considered for mitigation for parklands.

The mitigation for the Section 4(f) use of parklands associated with this project consists primarily of the replacement of parkland. Investigations have been conducted to identify candidate parkland replacement sites and sites that could be considered for required mitigation of natural resource impacts as well as State-required reforestation requirements. Candidate sites have been identified through the use of several sources. M-NCPPC, through coordination with the Lead Agencies, identified a series of properties as potential future parkland. The USACE has identified a series of candidate sites that would, if acquired and used for parkland mitigation, protect sensitive watersheds from future development. In addition, parcels that would become landlocked as a result of the ICC Build Alternatives and parcels that are already owned by SHA were identified as candidate parkland replacement sites.

The mitigation value of each of the sites identified through the sources described above was then assessed based on a series of evaluation factors. The sites were prioritized based on the assessment of all of the factors. The evaluation factors include the following:

- Environmental resource value including Forest Stands, Wetlands, Streams, Forest Interior Dwelling Species (FIDS) Habitat and overall environmental quality
- Location within the same Sub-Watershed or 3rd-Order Watershed as impact
- Location within the North Branch Rock Creek or Upper Paint Branch Special Protection Areas (SPA)
- Proximity to the area of impact
- Proximity to existing or planned park systems
- Master Plans showing priority park acquisition sites
- Future development plans
- Opportunities for Environmental Stewardship
- Size of parcel or parcels
- Land acquisition cost

The locations of candidate parkland replacement sites were compared to the locations of Section 4(f) parkland uses. The purpose of this comparison was to determine if high-priority, candidate parkland replacement sites were located adjacent to or within close proximity of the impacted park resources.

A parkland mitigation plan has been developed in accordance with guidance available from local, Federal and State resources agencies. This mitigation plan was agreed to by M-NCPPC in a letter dated September 21, 2005 included in Appendix B. The Section 4(f) mitigation would consist primarily of land that replaces the lost acreage and functions of the parklands incurring a Section 4(f) use.

2. Historic Site Mitigation

Mitigation for the Section 4(f) use of historic sites would include measures specific to the individual resources. Preliminary recommendations of mitigation measures were identified for

the Holland Store and James Holland House, Alloway Site and Cemetery, and Edgewood II properties. These preliminary recommendations were reviewed by the MHT/MD SHPO.

3. Mitigation for the Corridor 1 Alternative

Section 4(f) uses would occur at seven parks for the Corridor 1 Alternative: Mill Creek Stream Valley Park, Rock Creek Regional Park, and North Branch Stream Valley Park, Layhill Local Park, Northwest Branch Recreational Park, Northwest Branch Stream Valley Park - Unit 5, and Upper Paint Branch Stream Valley Park. There would be no Section 4(f) uses of historic sites for the Corridor 1 Alternative.

The mitigation package for the Corridor 1 Alternative has been negotiated with M-NCPPC and agreement has been reached between all agencies involved (FHWA, SHA, MdTA, and M-NCPPC). The mitigation package that has been agreed upon with M-NCPPC includes the following properties: the Dungan and Llewellyn properties, which are located in the Rock Creek and Northwest Branch watersheds, respectively, and the Peach Orchard Allnut, Southern Asia Adventist, and McNeill properties, which are all located in the Upper Paint Branch watershed. These mitigation sites are further described below.

- The Dungan Property North, which is a 44.9-acre parcel adjacent to North Branch Stream Valley Park (*Figure V-50*). This site would be purchased by SHA and donated to M-NCPPC as replacement parkland to mitigate the Section 4(f) use of Rock Creek Regional Park, as well as unavoidable uses of Mill Creek Stream Valley Park and North Branch Stream Valley Park. This property would provide stream valley protection, passive recreational opportunities, and community open space. It contains 738 linear feet of streams, 20 acres of forest, and 24.5 acres that would be reforested by SHA. Once reforested, there is potential in the future for up to 87 acres of new FIDS habitat on site and on adjacent lands in North Branch Stream Valley Park.
- The Llewellyn Property is a 23.2-acre parcel immediately adjacent to Northwest Branch Recreational Park. This property would be purchased by SHA and donated to M-NCPPC and would provide replacement parkland in the vicinity of Northwest Branch (*Figure V-50*). At this site, four baseball/softball fields and one soccer field would be provided. On-site parking and restrooms would also be provided. This site would provide additional community open space as well as 3.0 acres of reforestation land. The Llewellyn property would provide replacement fields that are far superior in quality than those that would be displaced. The replacement fields are located in upland areas that are less prone to flooding than the existing fields. Access to these replacement fields would be provided directly from MD 28, which is also an improvement over access to the existing fields from Layhill Road and Bonifant Road. The Peach Orchard Allnut Property is a 118-acre site, and is proposed as mitigation in the vicinity of Upper Paint Branch Stream Valley Park (*Figure V-50*). The Peach Orchard Allnut site would provide 15.9 acres of wetlands, 2,100 linear feet of streams, and 28.3 acres of forest. There would also be approximately 90 acres of potential reforestation land and 67 acres of potential future FIDS habitat. Also, because it is at the headwaters of the Paint Branch, it would serve to protect this portion of the stream.

- The Southern Asia Adventist Property is a 23.2 acre site that would be donated to serve as additional mitigation in the vicinity of Upper Paint Branch Stream Valley Park. The McNeill Property is a 36.2-acre site that would also be donated to serve as additional mitigation in the vicinity of Upper Paint Branch Stream Valley Park.⁵ These two adjacent properties contain extensive areas of stream valley buffer and good quality forest. These sites also contain the critical headwater wetland complexes of the Left Fork of the Paint Branch.

The five sites described above would provide much more acreage than that which would adequately replace the parkland used under the Corridor 1 Alternative. These sites were also selected because they would replace the stream valley protection and passive recreation functions within the sensitive Upper Rock Creek and Upper Paint Branch Watersheds.

In addition to the proposed mitigation package agreed upon by M-NCPPC, SHA would also donate the Santini Road properties to WSSC. These two properties are located adjacent to each other within the Rocky Gorge Watershed and combine to total 49.2 acres. Though not directly adjacent to the T. Howard Duckett Watershed Property, these properties would be conserved as parkland and protected from future development. Therefore, they would continue to offer additional protection for the T. Howard Duckett (Rocky Gorge) Watershed. These sites contain 35.2 acres of existing forest and an additional 14 acres would be reforested.

Under the Corridor 1 Alternative, SHA would ensure that the Santini Road properties would be protected. These properties are currently State-owned and have been retained for the potential construction of the ICC along a Corridor 2 alignment. Because the Corridor 1 Alternative would not utilize the property, the State would no longer need to retain ownership of the land. However, to protect the property from future development, SHA has proposed to donate the properties to WSSC, thus providing additional protection for the Patuxent watershed.

In addition, the mitigation package for Corridor 1 would include the Casey Property, which is located outside of the project area, but within Montgomery County in Poolesville. This site would provide M-NCPPC with an additional 458.8 acres of parkland adjacent to several existing parks. The Casey Property contains many features such as 10.4 acres of wetlands, 9,401 linear feet of streams, 340.8 acres of forest, and 214 acres of existing forest interior dwelling species (FIDS) habitat, which would all be protected as a result of this site being provided as mitigation. In addition, this site provides an additional 118 acres of reforestation land, and, thus would eventually yield an additional 341.3 acres of FIDS habitat. The compensatory wetlands mitigation package also includes three wetland creation sites and five stormwater management retrofit sites that would benefit parklands.

The proposed alignment of the Corridor 1 Alternative would utilize Designated Transportation Areas in several parks throughout the study area. In some of these locations, such as Mill Creek Stream Valley Park, Northwest Branch Stream Valley Park, and Upper Paint Branch Stream

⁵ It is expected that approximately six acres of land located on the Southern Asia Adventist and McNeill Properties would be used for the planned widening of MD 198. This acreage would be subtracted from the total acreage of these properties as shown above and the remainder of the land would be provided as mitigation for the ICC project.

Valley Park, portions of the Designated Transportation Areas adjacent to the parks would not be utilized by the ICC. M-NCPPC has informed SHA that, if Corridor 1 is selected, M-NCPPC will convert the unused portions of the Designated Transportation Areas that are adjacent to existing parks to parkland.⁶ The conversion of these lands to parkland would allow these lands to be permanently protected as parkland and would result in additional land within the Montgomery County park system.

Many mitigation measures were developed as part of the ICC project to replace and enhance the natural resources impacted within the parks. There are nine proposed stream improvement projects that would benefit the parks impacted by Corridor 1, including two fish passage restorations along the mainstem of Rock Creek, one fish passage restoration along Paint Branch, two stream restorations along the mainstem of Indian Creek, one stream restoration along the mainstem of Northwest Branch and three stream restorations along tributaries to or along Paint Branch. Forest loss would be mitigated acre-for-acre at various sites within the project area, in many cases within parkland.

There are also 72 Environmental Stewardship sites⁷ proposed along the Corridor 1 Alternative that will enhance many of the resources that Section 4(f) resources are intended to protect (see *Figure VI-1*). These 72 sites include seven community or cultural sites that include improving pedestrian and bicycle connectivity in and around Rock Creek Regional Park, providing wayfinding signage throughout the study area to help identify and guide the public to parks, historic sites or other points of interest, and renovations to historic properties. The 72 sites also include 26 stream restoration sites including one in the Rock Creek Watershed, three in the North Branch watershed, five in the Paint Branch Watershed, eight in the Northwest Branch watershed, one in the Patuxent River Watershed and eight in the Indian Creek Watershed. There is one wetland creation site in the Little Paint Branch watershed and one in the Rock Creek watershed. The 72 sites also include 21 Special Protection Area Best Management Practices proposals for the Paint Branch Watershed. Of the 72 sites, sixteen are stormwater management retrofit sites including two in the Rock Creek Watershed, seven in the Northwest Branch Watershed, four in North Branch Rock Creek Watershed, two in Indian Creek Watershed and one in the Patuxent River Watershed. Improvements associated with these Environmental Stewardship projects would enhance the functions and values of the parks they would enhance and are consistent with the desires of the park owners. These environmental stewardship projects are solely for the

⁶ M-NCPPC has stated that if Corridor 2 is selected, the Designated Transportation Area for Corridor 1 could be put to any combination of uses such as development, trails, parkland, or a parkway; it would not necessarily become parkland. Such decisions would be made by Montgomery County only after further analyses and public hearings.

⁷ Environmental stewardship measures have been incorporated into both of the Build Alternatives (Corridor 1 and Corridor 2). The environmental stewardship measures for each alternative are specifically listed in Chapter VI, *Environmental Stewardship*, Table VI-6, "Environmental Stewardship Package." In addition to those measures, there is also a "back-up" list of other potential stewardship measures for each of the Build Alternatives. See Chapter VI, *Environmental Stewardship*, Table VI-7, "Backup ES Sites for Corridor 1" and Table VI-8, "Backup ES Sites for Corridor 2." Individual stewardship elements from the back-up list will be implemented if any individual elements from the primary list (as shown in Table VI-6) cannot be implemented because of technical or other difficulties. Any substitution of elements from the back-up list will be done in consultation with appropriate resource agencies and will ensure a consistent overall level of environmental protection.

purpose of enhancement of the resource. Therefore, the improvements associated with these projects would not be considered Section 4(f) uses.

4. Mitigation for the Corridor 2 Alternative

Section 4(f) uses associated with the Corridor 2 Alternative would vary depending on which options are selected. There would be uses of four to six parks and recreational facilities including Mill Creek Stream Valley Park, Rock Creek Regional Park, North Branch Stream Valley Park, Hampshire Greens Golf Course, Patuxent River Watershed Conservation Park, and T. Howard Duckett Watershed Property. There would also be Section 4(f) uses of two to three historic sites including Holland Store and James Holland House, Alloway Site and Cemetery, and Edgewood II.

Since the Corridor 1 and Corridor 2 Alternatives are identical west of MD 97, the mitigation proposed for the Corridor 2 Alternative in the vicinity of Mill Creek Stream Valley Park, Rock Creek Regional Park and North Branch Stream Valley Park is the same as that proposed for Corridor 1 and would consist of the Dungan Property North.

Impacts to the Hampshire Greens Golf Course would be very minor and would not affect the use of the golf course. These impacts have been minimized through design modifications.

The proposed mitigation for the Corridor 2 Alternative, if Burtonsville Option B is selected, would include the 118-acre Peach Orchard Allnut site described under the Corridor 1 mitigation package. This site would be preserved in public ownership as protected open space in the Upper Paint Branch Special Protection Area, and would help preserve the stream valley and create passive recreational opportunities within the sensitive Upper Paint Branch Watershed.

In addition, SHA has also proposed to donate the Santini Road properties to WSSC. These two properties are located adjacent to each other within the Rocky Gorge Watershed and combine to total 49.2 acres. Though not directly adjacent to the T. Howard Duckett Watershed Property, these properties would be conserved and protected from future development. Therefore, they would continue to offer additional protection for the Rocky Gorge Watershed. These sites contain 35.2 acres of existing forest and an additional 14 acres would be reforested. Under Burtonsville Option A or Burtonsville Option X, the full acreage of these properties would not be preserved. An 8.7-acre portion of the property would be utilized as highway right-of-way for the ICC and the remaining 40.5 acres would be preserved.

Mitigation measures were developed for Corridor 2 in cooperation with the park owners and resource agencies to replace and enhance the natural resources impacted within the parks. There are eight proposed stream improvement projects that would benefit the parks impacted by the Corridor 2 Alternative, including two fish passage restorations along the mainstem of Rock Creek, one fish passage restoration along Paint Branch, two stream restorations along the mainstem of Indian Creek, one stream restoration along the mainstem of Northwest Branch, one stream restoration along a tributary to Paint Branch (Good Hope Tributary) and one stream restoration along the Lower James Creek (tributary to Hawlings River). Forest loss would be

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2. Mitigation

Table V-15
Section 4(f) Use - Corridor 2DB

Section 4(f) Resources	Total Section 4(f) Use Acreage	Total Resource Acreage	Percent of Park Impacted
Mill Creek Stream Valley Park	4.0	111.8	3.6%
Rock Creek Regional Park	8.0	1,778.0	0.4%
North Branch Stream Valley Park	17.7	275.2	6.4%
Holland Store (HS) and James Holland House	2.1	96.7	N/A
Hampshire Greens Golf Course	0.1	213.0	less than 0.1%
Alloway Site and Cemetery	0.4	25.0	N/A
Patuxent River Watershed Conservation Park	12.9	314.4	4.1%
T. Howard Duckett Watershed Property	2.6	1,400.0	0.2%
Total Section 4(f) Use	47.8 acres	4,214.1 acres	N/A
Portion of the Total Section 4(f) Use Occurring on Parkland	45.3 acres	4,170.3 acres	1.1%

Therefore, since one of the primary purposes of these parks is the conservation of the stream valleys and their associated natural resources, following the preferred alignments and using more parkland would actually minimize harm to the parks.

It should be noted that a portion of the total Section 4(f) use acreage for Corridor 1 and both variations of Corridor 2 would be located within the ICC Master Plan Corridor described in *Section V.C.1.b* of this chapter. For Corridor 1, 12.3 acres of the 83.4-acre total would be located within the ICC Master Plan Corridor. For both Corridor 2AX and Corridor 2DB, 11.8 acres of the total Section 4(f) use would be located within the ICC Master Plan Corridor. As stated previously, M-NCPPC considers the area within the ICC Master Plan Corridor to be designated for transportation use and does not consider it to be parkland.

Based on the fact that 33.0 acres of the total 83.4 acres of Section 4(f) use along Corridor 1 is recognized as being necessary to minimize harm to Section 4(f) resources, it would be misleading to compare Corridor 1 and Corridor 2 based solely on the number of acres of Section 4(f) impact for each alternative (83.4 acres for Corridor 1, 32.3 acres for Corridor 2AX, and 47.8 acres for Corridor 2DB). This comparison must take into account the qualitative nature of the impacts including the harm the alternatives would have on the functions and values of the resources. This type of comparison must also be made in light of proposed mitigation, which is described below.

2. Mitigation

a. Corridor 1

The proposed mitigation for the Corridor 1 Alternative would consist of replacement parklands at the Dungan Property North, the Llewellyn Property, the Peach Orchard Allnutt Property, the Southern Asia Adventist Property, and the McNeill Property (*Figure V-50*), all of which are

described in *Section H*. These five properties were selected as parkland replacement sites due to their proximity to the impacted parklands and their ability to replace the functions and values of the parkland used by this alternative. Furthermore, additional benefits to the county park system would result from this replacement parkland. For instance, active recreational uses within Layhill Local Park and Northwest Branch Recreational Park would be replaced at improved sites that are less prone to flooding and have better user access.

In addition, the unused portion of the Northwest Branch Option B Designated Transportation Area would become part of Northwest Branch Stream Valley Park - Unit 5 as SHA is committed to ensuring that this land is converted from its current use to parkland. This would result in 21.3 additional acres of parkland being added to the park, which would nearly balance the 23.4 acres of parkland used under Corridor 1 and render the total size of Northwest Branch Stream Valley Park - Unit 5 nearly equal to what it is today.

Similarly, portions of the Designated Transportation Areas adjacent to Mill Creek Stream Valley Park and Upper Paint Branch Stream Valley Park would not be utilized by the ICC. M-NCPPC has, at the State's request, committed to converting all unused portions of those Designated Transportation Areas that are adjacent to existing parks to parkland. The conversion of these lands to parkland would allow these lands to be permanently protected as parkland and would result in additional land within the Montgomery County park system that is protected as parkland.

Under the Corridor 1 Alternative, SHA would ensure that the Santini Road properties would be protected. These properties are currently State-owned and have been retained for the potential construction of the ICC along a Corridor 2 alignment. Because the Corridor 1 Alternative would not utilize the property, the State would no longer need to retain ownership of the land. However, to protect the property from future development, SHA has proposed to donate the properties to WSSC, thus providing additional protection for the Patuxent watershed.

Many additional mitigation measures were developed for the Corridor 1 Alternative to replace and enhance the natural resources impacted within the parks. As part of this alternative they would serve to minimize harm to parklands and must be considered when assessing the total harm associated with this alternative. There are nine proposed stream improvement projects that would benefit the parks impacted by Corridor 1, including two fish passage restorations along the mainstem of Rock Creek, one fish passage restoration along Paint Branch, two stream restorations along the mainstem of Indian Creek, one stream restoration along the mainstem of Northwest Branch and three stream restorations along tributaries to or along Paint Branch. Forest loss would be mitigated acre-for-acre at various publicly owned sites within the project area, in many cases within parkland. Off-site mitigation for FIDS habitat impacted by Corridor 1 would be at the Casey Property, located outside of the project area, but within Montgomery County in Poolesville. This site would provide M-NCPPC with an additional 458.8 acres of parkland adjacent to several existing parks. The Casey Property contains many features such as 10.4 acres of wetlands, 9,401 linear feet of streams, 340.8 acres of forest, and 214 acres of existing FIDS habitat, which would all be protected as a result of this site being provided as mitigation. In addition, this site provides an additional 118 acres of reforestation land, and, thus

would eventually yield an additional 341.3 acres of FIDS habitat. The compensatory wetlands mitigation package includes three wetland creation sites and five stormwater management retrofit sites that will benefit parklands.

There are also 72 Environmental Stewardship sites proposed along the Corridor 1 Alternative that will enhance Section 4(f) resources. These 72 sites include seven community or cultural sites that include improving pedestrian and bicycle connectivity in and around Rock Creek Regional Park, providing wayfinding signage throughout the study area to help identify and guide the public to parks, historic sites or other points of interest, and renovations to historic properties. The 72 sites also include 26 stream restoration sites including one in the Rock Creek Watershed, three in the North Branch watershed, five in the Paint Branch Watershed, eight in the Northwest Branch watershed, one in the Patuxent River Watershed and eight in the Indian Creek Watershed. Of the 72 sites there is one wetland creation site in the Little Paint Branch watershed and one in the Rock Creek watershed. The 72 sites also include 21 Special Protection Area Best Management Practices proposals for the Paint Branch Watershed. Also, the 72 sites include sixteen stormwater management retrofit sites including two in the Rock Creek Watershed, seven in the Northwest Branch Watershed, four in North Branch Rock Creek Watershed, two in Indian Creek Watershed and one in the Patuxent River Watershed. Improvements associated with these Environmental Stewardship projects would contribute to the functions and values of the parks they would enhance and are consistent with the desires of the park owners. Therefore, the improvements associated with these projects would not be considered Section 4(f) uses.

With the mitigation proposed for the Corridor 1 Alternative as well as all other factors serving to reduce harm to Section 4(f) resources, the county park system would encompass substantially more acres of parkland than that which exists today, thus preserving this land and protecting it from development (*Table V-16*). A total of 719.8 acres of parkland would be added to the park system including 239.7 acres of replacement parkland, 21.3 acres of land designated for transportation use that would be converted to parkland, and 458.8 acres of land provided for other natural resources mitigation that would become parkland. Subtracting the 83.4 acres of Section 4(f) parkland used yields a net gain of 636.9 acres of parkland.

Table V-16
Summary of Parkland Impacts Versus Proposed Parkland Mitigation

Alternative	Parkland Impacts	Proposed Replacement Parkland	Total Parkland Gain	Ratio of Replacement
Corridor 1	83.4	719.8	+636.4	8.6:1
Corridor 2AX	29.8	544.2	+514.4	18.3:1
Corridor 2DB	45.3	671.1	+625.8	14.8:1

Collectively, the mitigation proposed for the Corridor 1 Alternative would adequately replace the function and value of the resources impacted by this alternative. *Table V-17* summarizes the ability of each alternative to replace the impacted resources. This table compares the amounts of

Table V-17
Summary of Natural Resource Impacts Versus Proposed Mitigation

Resource	Corridor 1		Corridor 2AX		Corridor 2DB	
	Impact	Mitigation	Impact	Mitigation	Impact	Mitigation
Forest (ac.)	745.9	1,250 - 1,300	630.9	1,100 - 1,150	636.6	1,200 - 1,250
FIDS (ac.)	87.5	439.2	36.4	375.1	33.9	443.4
Wetlands (ac.)	47.47	125.9	50.51	98.9	53.57	114.8
Streams (l.f.)	37,961	18,205 (plus 75,800 l.f. of stream restoration)	33,442	10,835 (plus 58,900 l.f. of stream restoration)	37,438	12,960 (plus 58,900 l.f. of stream restoration)

impacted natural resources to the amounts of replaced or enhanced resources of the same kind. Since the harm that each of the alternatives would cause is assessed based on a comprehensive analysis that considers the minimization of harm resulting from various project activities, the numbers shown in this table reflect the total amount of each resource that would be replaced or enhanced by the project as a whole. The replacement or enhancement of these resources, in many cases, would serve to reduce harm to parklands that are intended to protect these resources.

The range of acreages shown under Forest Mitigation reflects the estimated total of forest acreage that would be protected or replaced as a result of each alternative. This total includes the following:

- Existing forests on all parkland replacement sites
- All potential reforestation sites

The potential reforestation sites will be further coordinated with the appropriate agencies following the approval of a Record of Decision for this project. At that time, reforestation sites will be verified and more precise reforestation acreages would be determined. It should be noted that, although the range of acreages shown are not yet final, the Maryland Reforestation Law would require the replacement of all forest impacted on a 1:1 basis.

The acreages shown under FIDS Habitat Mitigation reflect the total FIDS Habitat that would be protected or replaced as a result of each alternative. These totals include:

- Existing FIDS habitat located on parkland replacement sites
- New FIDS habitat that would be available in the future as a result of reforestation of the parkland replacement sites

The acreages shown under Wetlands Mitigation reflect the total of all wetlands that would be protected or replaced as a result of each alternative. These totals include:

- All existing wetlands located on parkland replacement sites
- All wetland creation sites identified in the Compensatory Mitigation Packages
- All wetland creation sites identified in the Environmental Stewardship Packages

The linear footage of streams shown under Streams Mitigation reflects the total of all streams that would be protected or replaced as a result of each alternative. These totals include:

- All existing streams located on the parkland replacement sites
- The linear feet of stream restoration included in the Compensatory Mitigation and Environmental Stewardship

b. Corridors 2AX and 2DB

The proposed mitigation for the Corridor 2AX Alternative would consist of the Dungan Property North and a portion of the Santini Road properties (*Figure V-50*). The alignment of Corridor 2AX would pass through the Santini Road properties and would use a portion of those properties. The Dungan Property North and Santini Road properties would provide a total of 85.4 acres of replacement parkland to replace the 29.8 acres lost. These properties would also provide additional watershed protection in the vicinity of North Branch and the Rocky Gorge Reservoirs.

The proposed mitigation for the Corridor 2DB Alternative would consist of the Dungan Property North and Santini Road properties as described above for Corridor 2AX. The proposed mitigation for Corridor 2DB would also include the Peach Orchard Allnut property as described above for Corridor 1. Because the alignment of Corridor 2DB would not pass through the Santini Road properties, the full acreage of these properties would become parkland, thus providing a total of 212.3 acres of replacement parkland to replace the 45.3 acres lost.

In addition to the replacement parkland, many additional mitigation measures were developed in cooperation with the park owners and resource agencies to replace and enhance the natural resources impacted within the parks. There are eight proposed stream improvement projects that would benefit the parks impacted by either Corridor 2AX or 2DB, including two fish passage restorations along the mainstem of Rock Creek, one fish passage restoration along Paint Branch, two stream restorations along the mainstem of Indian Creek, one stream restoration along the mainstem of Northwest Branch, one stream restoration along a tributary to Paint Branch (Good Hope Tributary) and one stream restoration along the Lower James Creek (tributary to Hawlings River). Forest loss would be mitigated acre-for-acre at various publicly owned sites within the project area, in many cases within parkland. The compensatory wetlands mitigation package includes three wetland creation sites and five stormwater management retrofit sites that will benefit parklands. Similar to the Corridor 1 Alternative, off-site mitigation for FIDS habitat impacted by Corridor 2AX and Corridor 2DB would be provided at the previously described Casey Property, providing M-NCPPC with an additional 458.8 acres of parkland adjacent to several existing parks.

The proposed Environmental Stewardship package for both variations of the Corridor 2 Alternative would include 13 stream restoration sites benefiting parkland including one in the Rock Creek Watershed, three in the North Branch Rock Creek Watershed, four in the Paint Branch Watershed, three in the Northwest Branch Watershed, one in Indian Creek Watershed, and one in the Patuxent River Watershed. There is one wetland creation site included in the Rock Creek Watershed and one in the Little Paint Branch Watershed. There are 21 Special

Protection Area Best Management Practices proposals for the Paint Branch Watershed. Also, there are sixteen stormwater management retrofit sites including one in the Rock Creek Watershed, six in the Northwest Branch Watershed, four in North Branch Rock Creek Watershed, two in Indian Creek Watershed and three in the Patuxent River Watershed. These sites are shown on *Figure VI-2*. Improvements associated with these Environmental Stewardship projects would contribute to the functions and values of the parks they would enhance and are consistent with the desires of the park owners. Therefore, the improvements associated with these projects would not be considered Section 4(f) uses.

With the Corridor 2AX and 2DB alternatives, the overall benefit to the Montgomery County park system would include the replacement of parkland, the enhancement of natural resources within existing parks due to compensatory mitigation and environmental stewardship features, and the replacement of FIDS habitat with property that would become parkland. The total parkland added to the park system under Corridor 2AX would be 544.2 acres, which includes 85.4 acres of replacement parkland and 458.8 acres of land to mitigate for the loss of FIDS habitat. Subtracting the 29.8 acres of parkland used under Corridor 2AX yields a net gain of 514.4 acres of parkland (*Table V-16*). The total parkland added to the park system under Corridor 2DB would be 671.1 acres, which includes 212.3 acres of replacement parkland and 458.8 acres of land to mitigate for the loss of FIDS habitat. Subtracting the 45.3 acres of parkland used under Corridor 2DB yields a net gain of 625.8 acres of parkland.

Mitigation for the Holland Store and James Holland House and the Alloway Site and Cemetery would be identical for the Corridor 2AX and 2DB Alternatives, and would include developing landscaping to lessen visual impacts; developing design guidelines for bridge and ramp designs as well as sound barrier design; developing a plan to help restore the historic house; developing a plan to help restore the Red Door Store; improving parking at the Red Door Store; developing signage for the proposed bike trail; and more fully developed Maryland Inventory of Historic Properties (MIHP) form. Mitigation for the Alloway Site and Cemetery would include conducting a full architectural investigation to determine who the architect of the 1945-46 house was and, if important in Maryland's modern architecture, listing in the NRHP. However, these measures would not replace the lost property and would not fully mitigate for the permanent adverse effects that would occur. Mitigation for adverse effects due to noise would typically consist of sound barriers, which, if used to mitigate the impacts to these historic properties, would introduce visual elements that would likely constitute an adverse visual impact. In addition, the placement of a major highway in the vicinity of these historic sites would diminish their rural character, which is an unrecoverable feature.

3. Unusual, Unique, and Significant Problems

When comparing the alternatives under consideration, other unusual, unique, and significant problems must be considered. These problems include impacts on local land use control, growth development management, impacts on Montgomery County's agricultural heritage, secondary impacts, community disruption, impacts on historic resources, impacts on natural resources, and impacts to mobility.

Corridor 1 or the No-Action Alternative. The possible future intersection improvements could potentially result in the displacement of the Red Door Store, which is located on this historic property.

g. Impacts to Natural Resources

Differences in impacts to natural resources are summarized in *Table V-19*. The extensive mitigation measures described in *Chapter IV, Environmental Consequences* will satisfactorily mitigate natural resources impacted by the project with two exceptions. After mitigation, there would still be a risk of impacts to the brown trout in Paint Branch with Corridors 1 and 2AX, and there would still be a risk of impacts to the Rocky Gorge Reservoir with Corridors 2AX and 2DB.

Table V-19

Summary of Natural Resource Impacts for Corridor 1, 2AX, and 2DB Alternatives

Alternatives Under Consideration	Corridor 1	Corridor 2AX	Corridor 2DB
Wetlands (Acres)	47.47	50.51	53.57
Streams (Linear Feet)	37,961	33,442	37,438
Floodplain (Acres)	32.4	41.5	44.3
Forest (Acres)	745.9	630.9	636.6
FIDS Habitat (Acres Direct Impact)	87.5	36.4	33.9
FIDS Habitat (Acres Indirect Impact)	196.4	81.0	91.7

Corridors 1 and 2AX would cross the Upper Paint Branch watershed, and could impact Paint Branch by way of construction sediment loads in the near term and increased pollutant loads, including roadway deicers, in the long term. Paint Branch is among the cleanest streams in the study area, and it supports a population of naturally reproducing brown trout. While the brown trout are not native to Paint Branch and are not endangered, they are valued by many as an indicator of high water quality as Paint Branch supports the only naturally reproducing population in the suburban Washington area. SHA has committed to providing substantial measures to protect the brown trout population as part of this project.⁸ The Corridor 1 Alternative would have a greater potential impact on the Paint Branch brown trout by negatively affecting the spawning and nursery habitat of the Good Hope and Gum Springs tributaries. Corridor 2AX avoids the tributaries, but would cross the sensitive headwaters of the right and left fork tributaries. Corridor 2DB would not impact the brown trout in the Paint Branch.

⁸ In some settings, the brown trout are considered to be an invasive species because they compete with native trout species, such as brook trout. In those settings, which occur in some other parts of the country, DOI is engaged in efforts to control the brown trout and restore other trout species; those efforts are consistent with Executive Order 13112 (February 3, 1999), which requires Federal agencies to take steps to control invasive species and support the restoration of native species. However, the stream conditions in Paint Branch would not support native brook trout, which are highly sensitive to watershed impacts. Consequently, in the context of the Paint Branch, the brown trout are considered to be “non-native” but not an invasive species. The brown trout is considered to be valuable as an indication of the ability of the Paint Branch to support its state-designated Use Class (III-Natural Trout Waters).