Southern Maryland
Transit Corridor Preservation Study

Environmental Inventory

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Office of Planning
6 St. Paul Street
Baltimore, Maryland 21202-1614

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I. Introduction

The Maryland Transit Administration (MTA) has initiated a corridor preservation study to identify potential alignments for future Light Rail Transit or Bus Rapid Transit in the US 301/MD 5 corridor from De Marr Road in Charles County to the Branch Avenue Metro Station in Prince George's County. The overall Study Area for the Southern Maryland Transit Corridor is approximately one mile from the centerline of US 301/MD 5 for a distance of approximately 18 miles (**Figure A**). An inventory of environmental resources was conducted within the overall Study Area.

Within the overall Study Area, five alternatives, nine options, and six optional alignments (called "beltway options" to connect to the Branch Avenue Metro Station) were identified (**Figure B1-B10**). The limit of disturbance (LOD) associated with each alternative, option, and beltway option is 64 feet from the centerline of each alignment (128 feet total). The impacts discussed in this inventory are the environmental resources located within the 128-foot LOD (**Table 1 through Table 3**).

The information contained in this Environmental Overview is based on available information, including Geographic Information System (GIS) data and information provided by Charles and Prince George's Counties (**Appendix 3**). This overview is not intended for use in obtaining environmental permits or clearances, and does not fulfill National Environmental Policy Act (NEPA) or other regulatory requirements. Impacts calculated in this overview are based on preliminary LODs for each alternative/option. Once the preferred alternative has been selected, more detailed field studies will need to be conducted to verify the extent of environmental resources and associated impacts.

Table 1. Environmental Impacts of Alternatives for the Southern Maryland Corridor Study

	Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5	
Environmental/Community Impacts										
Socio-Economic	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Properties/Resources Affected										
Residential (No. of structures)	20	15	6	15	22	7	20	15	20	7
Other Business/Commercial (No. of structures)	25	18	38	30	7	47	27	30	27	39
Environmental Justice Areas (No.)	3	1	3	1	1	1	3	1	3	1
Churches (No.)	2	0	2	0	0	1	2	0	2	1
Schools (No.)	0	0	0	1	0	0	0	1	0	1
Cemeteries (No.)	0	0	0	0	0	0	0	0	0	0
Natural Environment	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Stream Crossings										
New Stream Crossing (No.)	0	2	0	0	0	0	0	0	0	0
Existing Stream Crossing (No.)	2	4	2	5	3	5	2	5	2	5
Wetland (Acres)	4.49	3.15	1.11	2.05	6.17	0.92	5.08	2.05	5.08	1.65
FEMA 100-year floodplain (Acres)	1.88	7.74	0.50	8.12	2.85	7.14	0.50	8.10	0.50	7.27
Forest (Acres)	40.99	74.43	8.60	53.77	35.67	58.57	38.45	53.72	38.45	49.82
Potential FIDS habitat (Acres)	9.14	36.08	1.31	8.30	13.53	28.26	7.68	8.29	7.68	8.29
Hazardous Material Sites (No.)	2	3	45	6	4	9	2	6	2	8
Sensitive Species Project Review Areas (No.)	0	0	1	0	1	0	0	0	0	0
County Parks (Acres)	0	0	0	0	0	0	0	0	0	0
State Parks (Acres)	0	0	0	0	0	0	0	0	0	0
Cultural Resources	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Historic Sites										
NR Sites or MIHP Recommended Eligible (No.)	0	0	0	2	0	1	0	2	0	2
MIHP Not on File (No.)	1	1	12	1	0	1	1	1	1	1
MIHP Eligibility Not Recommended (No.)	0	0	2	1	0	3	0	1	0	2
MIHP Not Evaluated (No.)	0	0	0	0	0	0	0	0	0	0
MIHP Demolished (No.)	0	0	0	1	0	0	0	1	0	1
Previous Archaeology Survey Areas (No.)	0	6	0	5	0	5	0	5	0	5

Table 2. Environmental Impacts of Options for the Southern Maryland Corridor Study

	Option 1		Option 2		Option 3		Option 4		Option 5	
Environmental/Community Impacts										
Socio-Economic	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Properties/Resources Affected										
Residential (No. of structures)	0	0	0	8	0	0	0	0	0	19
Other Business/Commercial (No. of structures)	1	0	0	0	0	1	0	4	0	5
Environmental Justice Areas (No.)	2	0	0	0	0	0	0	0	0	0
Churches (No.)	0	0	0	0	0	0	0	0	0	0
Schools (No.)	0	0	0	0	0	0	0	0	0	0
Cemeteries (No.)	0	0	0	0	0	0	0	0	0	0
Natural Environment	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Stream Crossings										
New Stream Crossing (No.)	0	0	0	0	0	0	0	0	0	0
Existing Stream Crossing (No.)	0	0	0	1	0	1	0	1	0	0
Wetland (Acres)	0.08	0	0	0.90	0	0.33	0	0	0	0
FEMA 100-year floodplain (Acres)	0	0	0	1.12	0	0.82	0	0.78	0	0
Forest (Acres)	1.86	0	0	24.83	0	4.40	0	9.73	0	4.29
Potential FIDS habitat (Acres)	0	0	0	18.19	0	0.53	0	0	0	0
Hazardous Material Sites (No.)	0	0	0	0	0	0	0	1	0	7
Sensitive Species Project Review Areas (No.)	0	0	0	0	0	0	0	0	0	0
County Parks (Acres)	0	0	0	0	0	0	0	0	0	0
State Parks (Acres)	0	0	0	0	0	0	0	0	0	0
Cultural Resources	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Historic Sites										
NR Sites or MIHP Recommended Eligible (No.)	0	0	0	1	0	0	0	0	0	0
MIHP Not on File (No.)	0	0	0	0	0	0	0	0	0	0
MIHP Eligibility Not Recommended (No.)	0	0	0	1	0	0	0	1	0	0
MIHP Not Evaluated (No.)	0	0	0	0	0	0	0	0	0	0
MIHP Demolished (No.)	0	0	0	0	0	0	0	0	0	0
Previous Archaeology Survey Areas (No.)	0	0	0	1	0	0	0	1	0	1

Table 2. Environmental Impacts of Options for the Southern Maryland Corridor Study, Continued

	Option 6		Option 7		Option 8		Option 9	
Environmental/Community Impacts								
Socio-Economic	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Properties/Resources Affected								
Residential (No. of structures)	0	10	0	0	0	0	0	3
Other Business/Commercial (No. of structures)	0	0	3	0	2	0	0	0
Environmental Justice Areas (No.)	0	1	1	0	1	0	0	0
Churches (No.)	0	0	0	0	0	0	0	0
Schools (No.)	0	0	0	0	0	0	0	0
Cemeteries (No.)	0	0	0	0	0	0	0	0
Natural Environment	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Stream Crossings								
New Stream Crossing (No.)	0	0	0	0	0	0	0	0
Existing Stream Crossing (No.)	0	1	0	0	0	0	0	0
Wetland (Acres)	0	0	0	0	0	0	0	0
FEMA 100-year floodplain (Acres)	0	0.14	0	0	0	0	0	0
Forest (Acres)	0	1.24	0	0	0	0	0	1.98
Potential FIDS habitat (Acres)	0	0	0	0	0	0	0	0
Hazardous Material Sites (No.)	0	2	0	0	0	0	0	0
Sensitive Species Project Review Areas (No.)	0	0	0	0	0	0	0	0
County Parks (Acres)	0	0	0	0	0	0	0	0
State Parks (Acres)	0	0	0	0	0	0	0	0
Cultural Resources	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**	**Charles**	**Prince George's**
Historic Sites								
NR Sites or MIHP Recommended Eligible (No.)	0	0	0	0	0	0	0	0
MIHP Not on File (No.)	0	1	0	0	0	0	0	0
MIHP Eligibility Not Recommended (No.)	0	0	0	0	0	0	0	0
MIHP Not Evaluated (No.)	0	1	0	0	0	0	0	0
MIHP Demolished (No.)	0	0	0	0	0	0	0	0
Previous Archaeology Survey Areas (No.)	0	0	0	0	0	0	0	0

Table 3. Environmental Impacts of Beltway Options for the Southern Maryland Corridor Study

	Beltway Option 1	Beltway Option 2	Beltway Option 3	Beltway Option 4	Beltway Option 5	Beltway Option 6
Environmental/Community Impacts						
Socio-Economic						
Properties/Resources Affected						
Residential (No. of structures)	12	10	10	40	7	39
Other Business/Commercial (No. of structures)	4	5	5	7	5	8
Environmental Justice Areas (No.)	1	1	1	1	1	4
Churches (No.)	3	1	1	1	2	2
Schools (No.)	1	0	0	1	0	1
Cemeteries (No.)	0	0	0	1	0	1
Natural Environment						
Stream Crossings						
New Stream Crossing (No.)	0	0	1	0	1	1
Existing Stream Crossing (No.)	1	1	0	0	0	2
Wetland (Acres)	0	0	0	2.04	2.04	2.04
FEMA 100-year floodplain (Acres)	0	0	0	0	0	9.46
Forest (Acres)	14.40	14.97	16.88	2.14	6.66	13.36
Potential FIDS habitat (Acres)	0	0	0	0	0	5.13
Hazardous Material Sites (No.)	2	0	1	3	5	0
Sensitive Species Project Review Areas (No.)	0	0	0	0	0	1
County Parks (Acres)	0	0	0	6.04	0	1.87
State Parks (Acres)	0	0	0	0	0	0
Natural Environment						
Historic Sites						
NR Sites or MIHP Recommended Eligible (No.)	0	0	0	1	0	3
MIHP Not on File (No.)	2	0	0	0	0	0
MIHP Eligibility Not Recommended (No.)	1	0	0	2	0	1
MIHP Not Evaluated (No.)	0	0	0	2	0	0
MIHP Demolished (No.)	0	0	0	0	0	0
Previous Archaeology Survey Areas (No.)	0	0	0	0	0	0

1.1 Studied Alignments

Early in the planning study, five alternatives, nine options and six beltway options were identified. Each alternative/option is described below:

Alternatives

Five alternatives were developed to provide transit options from Charles County to the Branch Avenue Metro Station. Each alternative alignment was developed, with input from the counties, to connect existing and planned development and activity centers, while avoiding sensitive socioeconomic and environmental resources. Each alternative is described below:

Alternative 1: The southern terminus of Alternative 1 begins in Charles County and follows Pope's Creek Railroad from DeMarr Road over Mattawoman Creek, entering into Prince George's County. In Prince George's County, Alternative 1 merges off the Pope's Creek Railroad and follows Prince George's County's proposed Spine Road over Timothy Branch. Alternative 1 follows the proposed Spine Road past the Gwynn Park Middle School, and then continues along the east side of MD 5 from south of Moore's Road to Allentown Road. At Allentown Road, Alternative 1 connects with Beltway Option 2, Beltway Option 3, Beltway Option 4, Beltway Option 5, and Beltway Option 6 which connect to the Branch Avenue Metrorail station.

Alternative 2: Initiating in Charles County, Alternative 2 is located in the median of Old Washington Road from DeMarr Road to Sub Station Road. It then merges over to the east side of US 301 and continues over Mattawoman Creek entering into Prince George's County. In Prince George's County, Alternative 2 follows the east side of US 301/MD 5 ending near Allentown Road. At Allentown Road, Alternative 2 connects with Beltway Option 2, Beltway Option 3, Beltway Option 4, Beltway Option 5, and Beltway Option 6 which connect to the Branch Avenue Metrorail station.

Alternative 3: Initiating in Charles County, Alternative 3 begins at DeMarr Road, follows the east side of US 301, crosses at Smallwood Drive, and enters into the St. Charles Towne Center. Alternative 3 then follows the west side Western Parkway crossing Mattawoman Drive, and enters Prince George's County. Alternative 3 then follows the

west side of US 301/ MD 5, ending at Allentown Road. At Allentown Road, Alternative 3 connects with Beltway Option 1, which connects to the Branch Avenue Metrorail station.

Alternative 4: Initiating in Charles County, Alternative 4 begins at De Marr Road, and follows Pope's Creek Railroad from DeMarr Road to Sub Station Road. At Sub Station Road, Alternative 4 crosses to the east side of US 301 (Option 7), over Mattawoman Creek continuing into Prince George's County. In Prince George's County, Alternative 4 follows the east side of US 301/MD 5 ending near Allentown Road. At Allentown Road, Alternative 4 connects with Beltway Option 2, Beltway Option 3, Beltway Option 4, Beltway Option 5, and Beltway Option 6 which all connect to the Branch Avenue Metrorail station.

Alternative 5: Initiating in Charles County, Alternative 5 begins at DeMarr Road, and follows Pope's Creek Railroad from De Marr Road to Sub Station Road. At Sub Station Road Alternative 5 crosses to the east side of US 301 (Option 7), over Mattawoman Creek continuing into Prince George's County. In Prince George's County, Alternative 5 follows the east side of US 301/MD 5 until shortly after Surratts Road where it crosses to the west side of MD 5 (Option 9), ending near Allentown Road. At Allentown Road, Alternative 5 connects with Beltway Option 1, which connects to the Branch Avenue Metrorail station.

Options

Nine options that connect to an Alternative were developed after reviewing potential alignments with the Counties. These options either provide a transition from one of the alternatives to another, provide an alignment that coordinates with proposed development, or were designed to minimize impacts in certain areas. Out of the nine options initially studied, only Option 7 and Option 9 were retained and incorporated into Alternatives 4 and 5. The remaining options were dropped after further discussions with the Counties. Because the various options are no longer under consideration as individual components to the corridor preservation study, specific environmental impacts associated with the options were not evaluated as part of this inventory. A description of each of the nine options is provided below:

Option 1: Located in Charles County, Option 1 is a crossover from Alternative 1 to Alternative 2 just south of the intersection of Smallwood Drive and Old Washington Road.

Option 2: Located in Prince George's County, Option 2 provides a variation for Alternative 3. Option 2 extends from McKendree Road to the intersection of MD 5 and US 301, running along Prince George's County's proposed Spine Road on the west side of US 301.

Option 3: Located in Prince George's County, Option 3 a crossover from Alternatives 2, 4 and 5 to Alternative 1. Option 3 begins after the crossing of Timothy Branch, turning off US 301 to run behind the Brandywine Crossing development on Mattapeake Business Drive. Option 3 ties into Alternative 1 after Alternative 1 crosses Timothy Branch

Option 4: Located in Prince George's County, Option 4 is a crossover from Alternatives 2, 4 and 5 to Alternative 1. Option 4 begins near the intersection of US 301 and Cedarville Road and follows Prince George's County's proposed Spine Road on the east side of US 301. Option 4 ties into Alternative 1 prior to crossing Timothy Branch.

Option 5: Located in Prince George's County, Option 5 provides a variation for Alternatives 1, 2 and 4. Option 5 veers off of MD 5 at Malcolm Road, then follows Old Alexandria Ferry Road, and connects back to the east side of MD 5 after the Old Alexandria Ferry on-ramp.

Option 6: Located in Prince George's County, Option 6 provides a variation for Beltway Option 1. Option 6 runs along Old Branch Avenue from the intersection of Old Branch Avenue and Trueman Drive to north of Manchester Drive where it ties into Beltway Option 1.

Option 7: Located in Charles County, Option 7 crosses over from Popes Creek Railroad to Old Washington Road at Sub Station Road to connect Alternative 1 with Alternative 2. Option 7 has been incorporated into Alternatives 4 and 5.

Option 8: Located in Charles County, Option 8 crosses over from Old Washington Road to Pope's Creek Railroad at Sub Station Road to connect Alternative 2 with Alternative 1.

Option 9: Located north of Surratts Road in Prince George's County, Option 9 crosses over from the east side of MD 5, west of Foxbranch Court, to the west side of MD 5 at Jordan Lane. Option 9 has been incorporated into Alternative 5.

Beltway Options

Six beltway options were developed to connect the proposed alternatives to the Branch Avenue Metro Station. Each beltway option is described below:

Beltway Option 1: Located in Prince George's County, Beltway Option 1 extends from the west side of MD 5 at Allentown Road (at the northern end of Alternatives 3 and 5), tunnels underneath the I-495/MD 5 interchange, and then extends along Auth Road at-grade into the Branch Avenue Metrorail station.

Beltway Option 2: Located in Prince George's County, Beltway Option 2 extends from the east side of MD 5 at Allentown Road (at the northern end of Alternatives 1, 2, and 4), tunnels underneath the I-495/MD 5 interchange, and then extends along Auth Road at-grade into the Branch Avenue Metrorail station.

Beltway Option 3: Located in Prince George's County, Beltway Option 3 extends from the east side of MD 5 at Allentown Road (at the northern end of Alternatives 1, 2, and 4), goes aerial over the I-495/MD 5 interchange, and then extends along Auth Road at-grade into the Branch Avenue Metrorail station.

Beltway Option 4: Located in Prince George's County, Beltway Option 4 extends from the east side of MD 5 at Allentown Road (at the northern end of Alternatives 1, 2, and 4), turns right onto Allentown Road and then turns left onto Auth Road, and continues into the Branch Avenue Metrorail station. This alternative runs at-grade except for an overpass at the I-495 Beltway.

Beltway Option 5: Located in Prince George's County, Beltway Option 5 extends from the east side of MD 5 at Allentown Road (at the northern end of Alternatives 1, 2, and 4),

goes aerial over the I-495/MD 5 interchange, and then extends along the proposed Metro Access Road at-grade into the Branch Avenue Metrorail station.

Beltway Option 6: Located in Prince George's County, Beltway Option 6 extends from the east side of MD 5 at Allentown Road (at the northern end of Alternatives 1, 2, and 4), turns right onto Allentown Road, left onto Suitland Road, and then runs adjacent to Suitland Parkway into the Branch Avenue Metrorail station. This alternative runs at-grade.

2. Natural Resources

Information on natural resources within the Study Area was derived from existing mapping, GIS data, data provided by Charles and Prince George's Counties, and information provided through consultation with regulatory agencies. More detailed studies and coordination with agencies would be required during a NEPA planning study for the selected corridor.

2.1 Wetlands and Waters of the United States (WUS)

A desktop review was conducted to assist in the identification of potential wetlands and waterways in the Study Area. Information reviewed included the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory maps (NWI), Maryland Department of Natural Resources (MD DNR) wetland mapping, the soil survey reports for Prince George's County (1967) and Charles County (1974), and topographic maps of the Study Area.

Because of the many important functions and values provided by wetlands and waters of the U.S., a comprehensive regulatory framework has been established at the Federal and State levels to protect these resources, including:

- **Clean Water Act (CWA):** This Act forms foundation for the federal government's authority to regulate use of water resources.
- **Maryland's Water Quality Standards:** Provides water quality standards for the State of Maryland.
- **Chesapeake Bay Critical Area Act of 1984:** Provides the state with the authority to regulate sensitive lands adjacent to Chesapeake Bay tidal waters.

- **Maryland Nontidal Wetlands Protection Act (COMAR 26.17.04) and Maryland Tidal Wetlands Act (COMAR Title 16):** This Act regulates waterways of the state, tidal and non-tidal wetlands, including their buffers (which may extend 20-50 feet depending on the type of wetland), and requires a permit review for proposed impacts. Compensatory mitigation must be provided for unavoidable impacts.

- **Wetlands of Special State Concern (COMAR 23.06.01):** Identifies those areas which support rare, threatened, and endangered species or that contain unique habitat. The Maryland Department of the Environment (MDE) affords these areas additional protection, including a 100-foot buffer from development.

- **Maryland Waterways Construction Act (COMAR 26.17.04):** Requires the project sponsor to obtain a permit for any construction in waters of the state and in floodplains.

- **Appropriation or Use of Waters, Reservoirs, and Dams (COMAR 26.17.06):** Requires the project sponsor to obtain a permit if it withdraws and uses surface water for any of its operational activities.

- **Erosion and Sediment Control (COMAR 26.17.01):** Requires preparation of erosion/sediment control (ESC) plans for new construction projects, which must be approved by MDE.

- **Stormwater Management (COMAR 26.17.02):** Requires preparation of Stormwater Management Plans in accordance with MDE's 2000 Stormwater Design Manual (or most current at this time), and the plan must be approved by MDE.

- **Wild and Scenic Rivers Act of the State of Maryland:** Identifies the rivers of Maryland or portions of them and their related land areas, that possess outstanding scenic, geologic, ecologic, historic, recreational, agricultural, fish, wildlife, cultural, and other similar resource values. Most types of development near designated rivers require a permit form the MD DNR.

- **Federal Wild and Scenic Rivers Act:** Identifies the rivers of the US, or portions of them and their related land areas, that possess outstanding scenic, geologic, ecologic, historic, recreational, agricultural, fish, wildlife, cultural, and other similar resource values. There are no federally designated Wild and Scenic Rivers in Maryland.

Study Area Resources:

The Study Area is within the Piscataway Creek, Potomac River Upper Tidal, and Lower Potomac River watersheds, which are part of the larger Middle Potomac River Basin. There are 12 named streams in the Study Area: Piney Branch, Mattawoman Creek, Timothy Branch, Piscataway Creek, Paynes Branch, Meetinghouse Branch, Tinkers Creek, Pea Hill Branch, Port Tobacco Creek, Zekiah Swamp Run, Burch Branch, and Henson Creek. Each of these streams also have unnamed tributaries associated with them. All streams eventually drain into the Potomac River. These streams and their tributaries are classified as Use I streams (Water Contact Recreation, and Protection of Aquatic Life) and are restricted from instream work from March 1 through June 15, inclusive, during any year.

Existing stream crossings, which are already culverted or bridged but would need expanded crossings, would range from a maximum of eight with Alternative 3, to six with Alternative 1. Two new stream crossings would be required for Alternative 1. Beltway option impacts to existing streams would range from two under Beltway Option 6, to none under Beltway Options 3, 4, and 5. New stream crossings would range from one under Beltway Options 3, 5, and 6, to none under Beltway Options 1, 2, and 4. Potential stream crossing impacts by alternative/option are presented in more detail in **Table 4**.

There are no federal or state designated Wild and Scenic Rivers located within the Study Area.

Table 4. Stream Crossings by Alternative/Beltway Option

Alternative/Option	Stream Crossings in Charles County*		Stream Crossings in Prince George's		Grand Total	
	Existing	New	Existing	New	Existing	New
Alternative 1	2	0	4	2	6	2
Alternative 2	2	0	5	0	7	0
Alternative 3	3	0	5	0	8	0
Alternative 4	2	0	5	0	7	0
Alternative 5	2	0	5	0	7	0
Beltway Option 1	0	0	1	0	1	0
Beltway Option 2	0	0	1	0	1	0
Beltway Option 3	0	0	0	1	0	1
Beltway Option 4	0	0	0	0	0	0
Beltway Option 5	0	0	0	1	0	1
Beltway Option 6	0	0	2	1	2	1

* Stream crossings are identified as “existing” or “new”. “Existing” means that the alternative or option would cross over a stream that is already culverted or bridged at or near that location, but would need to be widened or extended. “New” means that the alternative or option would cross a stream at a location where there is no existing crossing.

There are a total of 488 wetlands identified within the Study Area, 53 of which would be impacted by the proposed LODs. Alternative 1 would result in the greatest amount of wetland impact (8.04 acres), whereas Alternative 2 would result in the least amount of wetland impacts (3.16 acres). Potential wetland impacts for each alternative/option are provided in more detail in **Table 5**.

Table 5. Potential Wetland Impacts by Alternative/Beltway Option

Alternative/ Option	Wetland Class* Charles County (acres)						Wetland Class* Prince George's County (acres)						Grand Total (acres)
	POW	PFO	PEM	PSS	PUB	Total	POW	PFO	PEM	PSS	PUB	Total	
Alternative 1	0	3.98	0	0.36	0.15	4.49	0	3.03	0.05	0.04	0.43	3.55	8.04
Alternative 2	0	0.14	0.01	0	0.96	1.11	0	1.93	0.12	0	0	2.05	3.16
Alternative 3	0	3.57	2.04	0.32	0.24	6.17	0	0.46	0	0.46	0.01	0.92	7.10
Alternative 4	0	3.81	0	0.36	0.91	5.08	0	1.93	0.12	0	0	2.05	7.13
Alternative 5	0	3.81	0	0.36	0.91	5.08	0	1.07	0.12	0.46	0	1.65	6.73
Beltway Option 1	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltway Option 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltway Option 3	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltway Option 4	0	0	0	0	0	0	0	0	0	0	2.04	2.04	2.04
Beltway Option 5	0	0	0	0	0	0	0	0	0	0	2.04	2.04	2.04
Beltway Option 6	0	0	0	0	0	0	0	2.50	0.11	0	0.14	2.75	2.75

*POW: Palustrine Open Water; PFO: Palustrine Forested; PEM: Palustrine Emergent;PSS: Palustrine Scrub-Shrub; PUB: Palustrine Unconsolidated Bottom

2.2 FEMA 100-Year Floodplains

A review of Federal Emergency Management Agency (FEMA) *Flood Insurance Rate Maps* or *Flood Insurance Studies* (2006) was conducted to identify any designated 100-year floodplains within the Study Area.

To protect and maintain floodplains functions, Federal and State regulations have been enacted to preserve designated floodplain areas, including:

- **Executive Order (EO) 11988: Floodplain Management:** Requires the Federal government to avoid long- and short-term impacts to floodplains and to restore and preserve their natural beneficial values.
- **U.S. Department of Transportation (DOT) Order 5650.2, Floodplain Management and Protection**: Prescribes policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.
- **Maryland Waterways Construction Act (COMAR 26.17.04):** Requires the project sponsor to obtain a permit for any construction in waters of the state and in floodplains.

Study Area Resources:

There are FEMA 100-year floodplains associated with Piney Branch, Mattawoman Creek, Timothy Branch, Piscataway Creek, Zekiah Swamp Run, an unnamed tributary to Piscataway Creek, Meetinghouse Branch, Tinkers Branch, Burch Creek, Henson Creek, and Port Tobacco Creek occurring within the Study Area. Floodplain impacts would range from a maximum of 9.99 acres for Alternative 1, to 7.76 acres for Alternative 5. Of the beltway options, only Beltway Option 6 would result in floodplain impacts (9.46 acres). Potential floodplain impacts by alternative/option are provided in **Table 6** below.

Although statistically likely to occur once a century, areas can experience flooding more often. These 100-year floodplains are further classified by flood zone. Base Flood Elevations (BFEs) indicate the maximum extent of a 100-year flood. The “A” flood zone indicates Special Flood Hazard Areas (SFHAs) in which the BFEs are unknown or undetermined. The “AE” flood zone indicates SFHAs in which BFEs are known. Both zones require permitting for any floodplain altering activities, and are displayed in **Figures B1-B9** and in impact calculations below.

Table 6. Potential 100-year Floodplain Impacts by Alternative/Beltway Option

Alternative/Option	Floodplain Zone Charles County			Floodplain Zone Prince George's County			Grand Total (acres)
	"A"	"AE"	Total (acres)	"A"	"AE"	Total (acres)	
Alternative 1	0	1.88	1.88	6.79	0.95	7.74	9.62
Alternative 2	0	0.50	0.50	0.95	7.16	8.12	8.62
Alternative 3	1.87	0.99	2.85	0.70	6.44	7.14	9.99
Alternative 4	0	0.50	0.50	0.95	7.16	8.12	8.62
Alternative 5	0	0.50	0.50	0.19	7.07	7.26	7.76
Beltway Option 1	0	0	0	0	0	0	0
Beltway Option 2	0	0	0	0	0	0	0
Beltway Option 3	0	0	0	0	0	0	0
Beltway Option 4	0	0	0	0	0	0	0
Beltway Option 5	0	0	0	0	0	0	0
Beltway Option 6	0	0	0	0	9.46	9.46	9.46

2.3 Chesapeake Bay Critical Area

Available GIS mapping was reviewed to determine the presence of any Chesapeake Bay Critical Areas located within the Study Area. Chesapeake Bay Critical Area is defined as land located 1,000 feet landward from mean high tide or the edge of tidal wetlands, as designated on the State Tidal Wetland maps and all waters of and lands under the Chesapeake Bay and Atlantic Coastal Bays and tributaries.

Because of the importance of the Chesapeake Bay Critical Area and associated buffer to overall water quality, The Chesapeake Bay Critical Area Act (COMAR, Title 27) was passed by the Maryland General Assembly to establish land use policies for development within the Critical Area.

Study Area Resources:

There are no Chesapeake Bay Critical Areas located within the Study Area in Charles or Prince George's Counties.

2.4 Forest Habitat

Forested cover types were identified via existing GIS data (Prince George's Tree Canopy 2005, Charles County Forest 2002). The MD DNR Forest Interior Dwelling Species (FIDS) data was used to identify potential habitat. This data is the result of a model depicting where FIDS habitat might occur based on certain criteria. To be a FIDS habitat, the forested

area must be greater than 50 acres in size and contains at least 10 acres of forest interior habitat (forest greater than 300 feet from the nearest forest edge). It also consists of riparian forests that are, on average, at least 300 feet in total width and greater than 50 acres in total forest area. Forest resources in Maryland are protected and regulated by the following legislation:

- **The Maryland Forest Conservation Act (COMAR 8.19)**: Requires a Forest Stand Delineation (FSD) and Forest Conservation Plan (FCP) for any construction activities that disturb 40,000 square feet or more of land. This act also established reforestation and afforestation thresholds for proposed development.
- **Maryland Reforestation Law (Natural Resources Article, Section 5-103)**: Requires replacement of forest cleared for state funded highway construction.

Study Area Resources:

The Charles County portion of the Study Area is heavily developed, and the forest habitat is limited to Port Tobacco Creek and an unnamed tributary to Mattawoman Creek.

Most of the forested cover is located in the Prince George's County portion of the Study Area, along Piscataway Creek, Birch Branch and Timothy Branch. In the northern end of the Prince George's County portion of the Study Area there is moderate development, and there are fewer forested areas.

Potential forest and FIDS impacts range from a maximum of 160.64 acres under Alternative 1, to 71.98 acres under Alternative 2. Potential forest and FIDS impacts associated with the beltway options range from a maximum of 18.49 acres under Beltway Option 6 to 2.14 acres under Beltway Option 4. Potential impacts to forest and FIDS habitat are shown by alternative/option in **Table 7**.

Table 7. Potential Forest and FIDS Impacts by Alternative/Beltway Option

Alternative/Option	Charles County			Prince George's County			Grand Total (acres)
	Forest Impacts (acres)	FIDS Impacts (acres)	Total (acres)	Forest Impacts (acres)	FIDS Impacts (acres)	Total (acres)	
Alternative 1	40.99	9.14	50.13	74.43	36.08	110.51	160.64
Alternative 2	8.60	1.31	9.91	53.77	8.30	62.07	71.98
Alternative 3	35.67	13.53	49.20	58.57	28.26	86.83	136.03
Alternative 4	38.45	7.68	46.13	53.72	8.29	62.01	108.14
Alternative 5	38.45	7.68	46.13	49.82	8.29	58.11	104.24
Beltway Option 1	0	0	0	14.40	0	14.40	14.40
Beltway Option 2	0	0	0	14.97	0	14.97	14.97
Beltway Option 3	0	0	0	16.88	0	16.88	16.88
Beltway Option 4	0	0	0	2.14	0	2.14	2.14
Beltway Option 5	0	0	0	6.66	0	6.66	6.66
Beltway Option 6	0	0	0	13.36	5.13	18.49	18.49

Impacts shown in Table 7 likely represent an over-estimation because of recent development that has occurred between 2002/2005 and the present, which was not captured in the GIS data used for calculating impacts.

2.5 Soils

Soil data within the Study Area was obtained from the Charles County Soil Survey (1974), the Prince George's County Soil Survey (1967), and the Natural Resources Conservation Service (NCRS) website.

The conversion of soils designated as Prime Farmland Soils or Soils of Statewide Importance to nonagricultural use is regulated through the following legislation:

- **The Farmland Protection Policy Act of 1981 (FPPA)**: The FPPA authorizes the United States Department of Agriculture (USDA) to review any federal action that would contribute to the unnecessary and irreversible conversion of farmland to nonagricultural use.

Study Area Resources:

Table 8 includes soil information for the Charles County portion of the Study Area. In Charles County, there are seven Prime Farmland soils located within the Study Area, and two Soils of Statewide Importance.

Table 9 includes soil information for the Prince George's County portion of the Study Area. In Prince George's County, there are 18 Prime Farmland soils located with then Study Area, and 16 Soils of Statewide Importance.

Table 8. Study Area Soils (Charles County)

Soil Type Within the Study Area	Hydric Soil? (Y/N)	Prime Farmland Soil (Y/N)	Soil of Statewide Importance (Y/N)	Drainage Class
Beltsville silt loam, 2-5 percent slopes (BaB)	Y*	Y	N	Moderately well drained
Beltsville silt loam, 5-10 percent slopes (BaC)	Y*	N	Y	Moderately well drained
Beltsville-Aquasco complex, 0-2 percent slopes (BcA)	N	N	Y	Moderately well drained
Beltsville-Grosstown-Woodson complex, 0-5 percent slopes (BgB)	Y*	Y	N	Moderately well drained
Beltsville-Urban land complex, 0-5 percent slopes (BuB)	Y*	N	N	Moderately well drained
Grosstown gravelly silt loam, 2-5 percent slopes (GgB)	N	Y	N	well drained
Grosstown-Woodson-Beltsville complex, 5-15 percent slopes (GwD)	Y*	N	N	Moderately well drained
Hoghole-Groostown complex, 0-5 percent slopes (HgB)	N	N	N	excessively well drained
Lenni and Quindocqua soils, 0-2 percent slopes (LQA)	Y*	N	N	poorly drained
Liverpool silt loam, 2-5 percent slopes (LsB)	Y*	Y	N	Moderately well drained
Potobac-Issue complex, frequently flooded (Pu)	Y*	N	N	poorly drained
Reybold silt loam, 2-5 percent slopes (RsB)	N	Y	N	well drained
Urban land (UK)	N	N	N	unknown
Urban-land-Beltsville complex, 0-5 percent slopes (UmB)	Y*	N	N	Moderately well drained
Urban land-Groostown complex, 0-5 percent slopes (UoB)	N	N	N	well drained
Urban land-Groostown complex, 5-15 percent slopes (UoD)	N	N	N	well drained
Water (W)	N	N	N	
Woodstown sandy loam, 0-2 percent slopes (WdA)	Y*	Y	N	Moderately well drained
Woodstown sandy loam, 2-5 percent slopes (WdB)	Y*	Y	N	Moderately well drained

* Soils with hydric inclusions
Sources: Charles County Soil Survey (SCS 1974) and the NRCS website

Table 9. Study Area Soils (Prince George's County)

Soil Type Within the Study Area	Hydric Soil? (Y/N)	Prime Farmland Soil (Y/N)	Soil of Statewide Importance (Y/N)	Drainage Class
Aura gravelly loam, 2-6 percent slopes, moderately eroded (AuB2)	N	N	Y	Well drained
Aura gravelly loam, 12-20 percent slopes (AuD)	N	N	N	Well drained
Aura and Croom gravelly loams, 20-50 % slopes, (AvE)	N	N	N	Well drained
Beltsville fine sandy loam, 0-2 percent slopes (BeA)	Y*	N	Y	Moderately well drained
Beltsville fine sandy loam, 2-5 percent slopes (BeB2)	Y*	N	Y	Moderately well drained
Beltsville silt loam, 0-2 % slopes (BlA)	Y*	N	Y	Moderately well drained
Beltsville silt loam, 2-5 % slopes, moderately eroded (BlB2)	Y*	N	Y	Moderately well drained
Beltsville silt loam, 5-10 % slopes, severely eroded (BlC3)	Y*	N	N	Moderately well drained
Beltsville –Urban land complex, 0-5 % slopes (BmB)	Y*	N	N	Moderately well drained
Beltsville –Urban land complex, 5-15 % slopes (BmC)	Y*	N	N	Moderately well drained
Bibb silt loam (Bo)	Y	N	N	Poorly drained
Chillum silt loam, 0-6 % slopes, moderately eroded (CaB2)	N	Y	N	Well drained
Chillum-Urban land complex, 0-6 % slopes (CbB)	N	N	N	Well drained
Chillum-Urban land complex, 12-35 % slopes (CbE)	N	N	N	Well drained
Collington silt loam, 2-5 % slopes, moderately eroded (CoB2)	N	Y	N	Well drained
Croom gravelly sandy loam, 3-8 % slopes, moderately eroded (CtB2)	N	N	Y	Well drained
Croom-Urban land complex, 0-8 % slopes (CuB)	Y*	N	N	Well drained
Elkton silt loam (Ek)	Y	N	N	Poorly drained
Fallsington sandy loam (Fs)	Y	N	Y	Poorly drained
Galestown gravelly loamy sand, 0-8 % slopes (GaB)	N	N	Y	Somewhat excessively drained
Galestown gravelly loamy sand, 8-15 % slopes (GaC)	N	N	N	Somewhat excessively drained
Galestown-Evesboro loamy sands, 0-8 % slopes (GeB)	N	N	N	Somewhat excessively drained
Galestown-Evesboro loamy sands, 8-15 % slopes (GeC)	N	N	N	Somewhat excessively drained
Galestown-Urban land complex, 0-8 % slopes (GmB)	N	N	N	Somewhat excessively drained
Galestown-Urban land complex, 8-15 % slopes (GmC)	N	N	N	Somewhat excessively drained
Gravel and borrow pits (Gp)	Y*	N	N	
Iuka silt loam, local alluvium, 0-2 % slopes (IoB)	Y*	Y	N	Moderately well drained
Keyport silt loam, 0-2 % slopes (KpA)	Y*	N	Y	Moderately well drained
Leonardtown silt loam, 0-2 % slopes (LeA)	Y	N	N	Poorly drained
Leonardtown silt loam, 2-5 % slopes (LeB)	Y	N	N	Poorly drained
Made land (Ma)	N	N	N	
Marr fine sandy loam, 6-12 % slopes, moderately eroded (MlC2)	N	N	Y	Well drained
Marr fine sandy loam, 12-20 percent slopes, severely eroded (MlD3)	N	N	N	Well drained

Table 9. Study Area Soils (Prince George's County), continued

Soil Type Within the Study Area	Hydric Soil? (Y/N)	Prime Farmland Soil (Y/N)	Soil of Statewide Importance (Y/N)	Drainage Class
Marr fine sandy loam, 20-25 % slopes (MlE)	N	N	N	Well drained
Sassafras sandy loam, 0-2 % slopes (ShA)	N	Y	N	Well drained
Sassafras sandy loam, 2-5 % slopes, moderately eroded (ShB2)	N	Y	N	Well drained
Sassafras sandy loam, 5-10 % slopes, severely eroded (ShC3)	N	N	N	Well drained
Sassafras-Urban land complex, 0-5 % slopes (SkB)	N	N	N	Well drained
Sassafras-Urban land complex, 5-15 % slopes (SkC)	N	N	N	Well drained
Westphila-Evesboro complex, 2-6 % slopes, moderately eroded (WeB2)	N	Y	N	Well drained
Westphila-Evesboro complex, 6-12 % slopes, severely eroded (WeC3)	N	N	N	Well drained
Westphila-Evesboro complex, 12-20 % slopes, severely eroded (WeD3)	N	N	N	Well drained
Sassafras-Urban land complex, 0-5 % slopes (SkB)	N	N	N	Well drained

* Soils with hydric inclusions

2.6 Rare, Threatened, and Endangered Species

The MD DNR, National Marine Fisheries Service (NMFS) and the USFWS were contacted to determine if there any records of rare, threatened or endangered species in the Study Area. At the time of the initial coordination, the Study Area was one mile wide and 18 miles long. This area has since been reduced to the five alternatives and six beltway options, greatly reducing the area of potential impact. Pertinent Federal and State legislation governing rare, threatened, and endangered species includes:

- **Federal Rare, Threatened, and Endangered Species Act**: Section 7 of this Act requires each Federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat of such species.

- **Maryland Nongame and Endangered Species Conservation Act**: Requires the MD DNR Wildlife and Heritage Division to review State funded projects to ensure that they do not have the potential to negatively impact any state listed rare,

threatened, or endangered species of habitat that may support populations or individuals of such species.

Study Area Resources:

According to the USFWS, none of the proposed alternatives/beltway options would affect federally proposed or listed threatened or endangered species other than the occasional transient species. The USFWS noted the Chesapeake Bay Program of no overall loss to the remaining Chesapeake Basin's wetlands. USFWS noted that all wetlands in the Study Area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers Baltimore District should be contacted for permit requirements. NMFS documented spawning activities of white perch and herring (anadromous species) in the following streams: Meetinghouse Branch, Paynes Branch, Pea Hill Branch, Henson Creek, Tinkers Creek, and Piscataway Creek. Piscataway Creek is a high quality spawning ground for anadromous fish including blueback herring, white perch, and yellow perch. American eel and sea lamprey have been documented in Piney Branch immediately upstream of Middleton Road.

The MD DNR indicated that a state rare tall nutrush (*Scleria triglomeratea*) occurs near Andrews Air Force Base at the edge of an oak-maple community habitat. This population should be avoided during any disturbance proposed for this area, and the species could potentially occur at other locations in the Study Area if the appropriate habitat is present. While this area is close to the alternatives, it will not be affected by any of the proposed alternatives.

At Fox Run, located at Route 5 and Surratts Road intersection, there are records of a rare, threatened and endangered fish. These species may be vulnerable to changes in water quality and therefore the entire drainage of this stream system should be taken into consideration.

At several crossings of Piscataway Creek, there are records of rare, threatened and endangered fish. These species may be vulnerable to changes in water quality and therefore the entire drainage of this stream system should be taken into consideration.

The portion of Upper Mattawoman Creek is known to support the state rare primrose willow (*Ludwigia decurrens*), located between Cedarville Road and the Charles and Prince George's County line. This population should be avoided during any disturbance proposed for this area, and the species could potentially occur at other locations in the Study Area if the appropriate habitat is present. A more detailed investigation of the area would need to be completed to determine if any primrose willow are located within the Study Area.

In the St. Charles area there are several populations of the state endangered Dwarf iris (*Iris verna*), located on the west side of US 301 between Billingsley Road and Smallwood Drive. This population should be avoided during any disturbance proposed for this area, and the species could potentially occur at other locations in the Study Area if the appropriate habitat is present. A more detailed investigation of the area would need to be completed to determine if any dwarf iris is located within the Study Area.

The portion of Piney Branch in the Study Area supports an occurrence of the state endangered swollen bladderwort (*Utricularia inflate*), located between Middletown Road and Western Parkway Road. This population would not be affected by any of the proposed alternatives.

For the overall project site, MD DNR suggests that the forested area on or adjacent to the project site contains FIDS habitat. Populations of many FIDS species are declining in Maryland. The conservation of FIDS habitat is strongly encouraged by the DNR, and the following guidelines will help minimize impacts on FIDS and other native forest plants and wildlife:

1. Avoid placement of new roads or related construction in the forest interior. If the forest loss or disturbance is absolutely unavoidable, restrict development to the perimeter of the forest (within 300 feet of the existing forest edge), and avoid road placement in areas of high quality FIDS habitat.
2. Do not disturb forest habitat during April-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred owl) are present.
3. Maintain forest habitat as close as possible to the road, and maintain canopy closure where possible.

4. Maintain grass height at least 10 inches during the breeding season (April-August).

Because specific occurrences of rare, threatened, and endangered species have been previously documented within the Study Area, additional coordination with MD DNR will need to occur in the NEPA planning process.

2.7 Hazardous Waste

A hazardous waste search was conducted in the Study Area, which included an Environmental First Search, Inc. database search of potential hazardous waste sites along the corridor.

Properties where hazardous materials are generated, stored, or where reports of previous incidents have occurred carry the potential for construction related exposures or contaminant releases. Federal laws and regulations pertaining to hazardous materials include:

- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**: This purpose of this law is to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.
- **Resource Conservation and Recovery Act (RCRA)**: This law protects human health and the environment by regulating treatment, storage, transportation, and disposal of hazardous waste.

Study Area Resources:

There were a total of 1,983 hits from the search within the Study Area. Of the 1,983 hits, duplicate hits were identified at the same property and were removed. Sites outside the LODs of the alternatives/beltway options were also removed, leaving a total of 73 sites: 51 of which are in Charles County and 22 of which are in Prince George's County.

Impacts to potential hazardous materials sites range from a maximum of 51 potential sites with Alternative 2 to five potential sites with Alternative 1. The beltway options would impact between five potential sites with Beltway Option 5, to none with Beltway Options 2 and 6.

Impacts to potential hazardous materials sites are shown by alternative/beltway option in **Table 10**. More detailed studies and coordination with agencies would be required during a planning study for the selected corridor to determine the presence and extent of hazardous materials at these locations.

Additional information can be found in **Appendix 2**, which summarizes the hazardous waste sites within the LOD, with the address of each site and the alternative that could potentially impact each site.

Table 10. Potential Hazardous Materials Sites by Alternative/Beltway Option

Alternative/Option	Potential Sites in Charles County	Potential Sites in Prince George's County	Grand Total
Alternative 1	2	3	5
Alternative 2	45	6	51
Alternative 3	4	9	13
Alternative 4	2	6	8
Alternative 5	2	8	10
Beltway Option 1	0	2	2
Beltway Option 2	0	0	0
Beltway Option 3	0	1	1
Beltway Option 4	0	3	2
Beltway Option 5	0	5	5
Beltway Option 6	0	0	0

2.8 Maryland DNR Green Infrastructure

The Green Infrastructure Program recognizes lands that are most critical to the long-term ecological health of Maryland. These lands are large and intact enough to provide a full range of environmental functions. Green infrastructure was mapped in 2001 using satellite imagery, road and stream locations, biological data, and other information, with the results reviewed by scientists, local government officials, and conservation groups. The heart of green infrastructure, known as "hubs", has been identified. Hubs are unfragmented lands one hundred to thousands of acres in size that are vital to maintaining ecological health. The hubs are connected through corridors, which are linear remnants of land that allow for movement of animals, seeds and pollen, and contribute to the long term survival of many species.

While the Green Infrastructure Program does not enact additional legislative requirements, Land planners and developers can use the green infrastructure maps as a reference in the development of site plans and management objectives. Using green infrastructure maps and data, local governments can enhance their efforts to provide open space, recreation lands, and natural areas that retain the unique character of their communities and rural landscapes. This can complement their efforts to direct growth to specified areas.

Study Area Resources:

Within the Charles County portion of the Study Area, the proposed alternatives would impact both green corridors and hubs. Green corridors are located in between Billingsley Road and De Marr Road. Green hubs are located near Port Tobacco Creek and Pages Swamp, south of De Marr Road and along Mattawoman Creek.

Within the Prince George's County portion of the Study Area, the proposed alternatives would also impact both green corridors and hubs. Green corridors are located at Timothy Branch off Mckendree Road, near Accokeek and Brandywine Road intersection, and at the Piscataway Creek Stream Valley Park. Hubs in Prince George's County are located along Mattawoman Creek, Timothy Branch near Mattawoman Drive and McKendree Road, Birch Branch off Accokeek Road, Marbury Road, Piscataway Creek, Meetinghouse Branch, Paynes Branch and Henson Creek.

Potential impacts to MD DNR Green Infrastructure range from a maximum of 62.51 acres under Alternative 1 to 30.04 acres under Alternative 2. None of the proposed beltway options would impact MD DNR Green Infrastructure. Potential impacts to MD DNR Green Infrastructure are shown by alternative/beltway option in **Table 11**.

Table 11. Potential Green Infrastructure Impacts by Alternative/Beltway Option

Alternative/Option	Charles County			Prince George's County			Grand Total (acres)
	Green Corridor	Hub	Total (acres)	Green Corridor	Hub	Total (acres)	
Alternative 1	4.14	3.50	7.64	22.16	32.71	54.87	62.51
Alternative 2	3.44	2.49	5.93	14.26	9.85	24.11	30.04
Alternative 3	3.44	2.54	5.98	14.27	18.96	33.23	39.21
Alternative 4	4.14	2.49	6.63	14.25	9.84	24.09	30.72
Alternative 5	4.14	2.49	6.63	14.25	9.86	24.11	30.74
Beltway Option 1	0	0	0	0	0	0	0
Beltway Option 2	0	0	0	0	0	0	0
Beltway Option 3	0	0	0	0	0	0	0
Beltway Option 4	0	0	0	0	0	0	0
Beltway Option 5	0	0	0	0	0	0	0
Beltway Option 6	0	0	0	0	0	0	0

Impacts shown in Table 11 likely represent an over-estimation because of recent development that has occurred between 2002/2005 and the present, which was not captured in the GIS data used for calculating impacts.

2.9 Land Easements

A land easement is a legal agreement between a landowner and a land trust or government agency that limits uses of the land in order to protect its conservation values. Several types of land easements were reviewed, including: Maryland Historic Trust (MHT) Preservation Easements, Maryland Environmental Trust (MET) Easements, Rural Legacy Areas, Forest Legacy Program, and Agricultural Land Preservation.

While these land easements have no additional legislative requirements, they are an effective tool to preserve important natural resources and open space through voluntary property acquisition or the purchasing of development rights.

Maryland Historic Trust Preservation Easement

Owners of properties listed on, or eligible for the *National Register of Historic Places (NRHP)*, or located within a locally certified or Register-listed historic district, may convey a perpetual historic preservation easement as a gift to the MHT. An easement does not seek to freeze a building in time but rather to manage the changes that may

occur. Not only does an easement provide for the future of the property, it may also provide financial incentives to the property owner.

Study Area Resources:

The Charles County portion of the Study Area has one Historic Trust Preservation Easement at Waldorf Elementary School (3090 Crain Highway), which would not be affected by any alternative or option.

The Prince George's County portion of the Study Area also has one Historic Trust Preservation Easement at the Surratt house (9100 Brandywine Road), which would not be affected by any alternative or option.

Maryland Environmental Trust Easement

The MET conservation easements limit the development rights for lands. These easements are perpetual and will continue to conserve and protect the land in the future. Lands with MET conservation easements are protected from condemnation from the county, local, and state government. The property is still subject to condemnation from the federal government, but landowners are to be paid at fair market value for the land.

Study Area Resources:

Neither the Charles County or Prince George's County portions of the Study Area have any MET easements.

Rural Legacy Areas

Maryland's Rural Legacy Program provides the focus and funding necessary to protect large contiguous tracts of lands from sprawl development. Protection is offered through the acquisition of easements and fee estates from landowners. The program encourages local governments and private land trusts to identify Rural Legacy Areas, and to apply for funds to complement existing land preservation efforts or to develop new ones.

Study Area Resources:

There are no Rural Legacy Areas located within the Charles or Prince George's County portions of the Study Area.

Forest Legacy Program

Maryland's Forest Legacy Program is designed to identify and protect environmentally important areas that are threatened by present or future conversion to non-forest use. These areas are identified in Maryland's Forest Legacy Assessment of need. Forest Legacy Lands are protected through perpetual conservation easements. Only private lands are eligible for protection through the Forest Legacy Program.

Study Area Resources:

There are no Forest Legacy Program lands within the Charles or Prince George's County portions of the Study Area.

Agricultural Land Preservation

The Maryland Agricultural Land Preservation Foundation (MALPF) was established in 1977 as part of the Maryland Department of Agriculture. The foundation's mission is to preserve productive farmland and woodland for the continued production of agricultural products in Maryland. Through the acquisition of easements, MALPF seeks to preserve valuable farmlands that may be threatened by sprawl development, and to protect wildlife.

Study Area Resources:

There are no Agricultural Land Preservation lands within the Charles or Prince George's County portions of the Study Area.

2.10 Air Quality

Air quality is an important health issue in the United States. Generally, transportation projects such as light rail/rapid bus serve to improve regional air quality by reducing the overall amount of vehicle miles traveled (VMT) in the region, therefore reducing regional pollutant emissions. Air quality standards are governed by:

- **The Federal Clean Air Act (CAA) and Revisions - which initially established the National Ambient Air Quality Standards (NAAQS) and provides for periodic updates to pollutant impact levels.** The CAA also established specific procedures and limitations for evaluating transportation projects in designated air quality non-

attainment/maintenance areas. These procedures, generally referred to as the "conformity regulations", are outlined in 42 USC Part 7401 and further detailed in 40 CFR Parts 51 and 93. Additionally, analysis of human impacts to air quality is required under the National Environmental Policy Act (NEPA) as specified in 23 CFR Part 771. If a region does not meet the NAAQS, the regional planning organization is required to develop a State Implementation Plan (SIP) to demonstrate how it will establish conformity with these standards. The SIP includes a long range forecast of all activities that contribute to emissions, including transportation projects. Regionally significant transportation projects must undergo a transportation conformity evaluation unless they are exempt from air quality conformity as outlined in 40 CFR Part 93.126. According to the CAA, transportation plans, programs, and projects must not create new NAAQS violations, increase the frequency or severity of existing NAAQS violations, or delay attainment of the NAAQS.

The Environmental Protection Agency (EPA) has established NAAQS for seven pollutants, five of which are considered pollutants of concern for transportation air quality analyses. Two of them (ozone and nitrogen dioxide) are considered only as “regional pollutants,” whereas the other three must be considered at the project level. Those three pollutants are: carbon monoxide (CO), “coarse” particulate matter of 10 microns or less in size (PM10), and “fine” particulate matter of 2.5 microns or less in size (PM2.5).

Charles County is currently listed by the EPA as a non-attainment area for ozone and PM2.5. Prince George’s County is currently listed by the EPA as a non-attainment area for ozone and PM2.5, a maintenance area for CO, and not in non-attainment for nitrogen dioxide and PM10.

The Southern Maryland Transit Corridor Preservation Study is not currently listed in the Metropolitan Washington Council of Governments Transportation Improvement Program (MWCOG TIP), and would require inclusion in the regional conformity modeling to determine the potential effect of the project on regional attainment of NAAQS and demonstrate conformity with the SIP.

2.11 Noise Quality

High levels of noise have been demonstrated to contribute to hearing loss and other health effects. Transportation projects may increase noise in some areas to levels that are considered harmful to human health and well-being. Laws and regulations pertaining to noise quality include:

- **Noise Control Act of 1972:** Initial legislation that established noise exposure standards for existing and future proposed conditions.
- **FTA Transit and Vibration Impact Assessment Manual:** Provides general guidance on noise for light rail systems. FTA noise impact criteria are used to compare the existing outdoor noise levels with future outdoor noise levels associated with the proposed project.

A detailed Noise Analysis would be required to determine the noise levels and potential impacts associated with this project.

3. Socioeconomic Resources

A review of U.S. Census (2000) data for the Study Area revealed that the total population of the Study Area census tracts was 151,549, with 60,686 residing in Charles County, and 90,863 in Prince George's County. The total percentage of minority populations within the Charles County portion of the study is approximately 31 percent, while the percentage of minorities within the Prince George's County portion of the study is 60 percent. The reported median household income in 1999 for the Charles County portion of the Study Area was $63,040, while the Prince George's County portion of the Study Area was $60,245. Additional population statistics are depicted in **Table 12**.

3.1 Property Impacts

Impacts to residential and commercial properties would result from the proposed project alternatives/beltway options. Impacts to residential structures would range from a maximum of 35 residential structures being impacted under Alternatives 1 and 4, to 21 being impacted by Alternative 2. Impacts to commercial structures range from 68 structures being impacted under Alternative 2, to 43 commercial structures being impacted under Alternative 1.

Table 12. Socioeconomic Data by Census Tract within the Study Area (Charles County)

Census Tracts within the Study Area	Total Population	Total Population: White	Total Population: Minority	Percent Minority	Population for whom poverty status is determined	Income in 1999 below poverty level for whom status is determined	Percent of Population in poverty whom the status is determined	Median Household Income (1999)	Potential EJ Concern?
Charles County	120,546	85,587	34,959	29.00%	60,213	3,350	5.56%	67,602	No
8506.00	3,470	2,628	842	24.27%	3,456	124	3.59%	68,559	No
8507.02	14,296	7,968	6,328	44.26%	14,227	565	3.97%	70,122	Yes
8507.04	7,839	5,279	2,560	32.66%	7,807	155	1.99%	61,324	No
8507.05	5,917	3,676	2,241	37.87%	5,847	178	3.04%	63,125	No
8508.01	4,938	3,769	1,169	23.67%	4,938	139	2.81%	76,207	No
8508.02	4,187	2,821	1,366	32.62%	4,162	276	6.63%	57,104	Yes
8509.01	5,418	3,055	2,363	43.61%	5,418	954	17.61%	37,040	Yes
8509.02	5,848	4,101	1,747	29.87%	5,739	292	5.09%	63,469	No
8509.04	1,444	1,199	245	16.97%	1,473	33	2.24%	70,511	No
8510.02	7,329	5,636	1,693	23.10%	7146	634	8.87%	58,381	Yes
Total	**60,686**	**40,132**	**20,554**	**30.72%**	**60,213**	**3,350**	**5.58%**	**63,040**	**4**

Table 12 Continued. Socioeconomic Data by Census Tract within the Study Area (Prince George's County)

Census Tracts within the Study Area	Total Population	Total Population: White	Total Population: Minority	Percent Minority	Population for whom poverty status is determined	Income in 1999 below poverty level for whom status is determined	Percent of Population in poverty whom the status is determined	Median Household Income (1999)	Potential EJ Concern?
Prince George's County	801,515	216,729	584,786	72.96%	782,291	60,196	7.69%	62,467	No
8010.01	5,131	2,838	2,293	44.69%	4,769	232	4.86%	59,057	No
8011.04	7,925	5,175	2,750	34.70%	6,551	157	2.40%	44,310	No
8012.02	6,861	1,683	5,178	75.47%	6,432	199	3.09%	71,552	No
8012.03	6,779	1,341	5,438	80.22%	6,755	208	3.08%	73,375	No
8012.04	7,043	1,340	5,703	80.97%	6,924	122	1.76%	75,695	No
8012.05	5,727	1,870	3,857	67.35%	5,695	357	6.27%	60,123	No
8012.06	7,409	960	6,449	87.04%	7,372	76	1.03%	72,407	Yes
8012.07	4,465	1,161	3,304	74.00%	4,153	220	5.30%	72,684	No
8019.01	4,706	1,088	3,618	76.88%	4,682	96	2.05%	74,158	No
8019.02	7,392	403	6,989	94.55%	7,311	544	7.44%	42,121	Yes
8019.04	3,355	669	2,686	80.06%	3,265	326	9.98%	51,366	Yes
8019.05	3,425	644	2,781	81.20%	3,416	51	1.49%	63,170	No
8019.06	2,379	629	1,750	73.56%	2,376	157	6.61%	49,071	No
8020.01	5,595	260	5,335	95.35%	5,585	781	13.98%	41,145	Yes
8020.02	3,936	289	3,647	92.66%	3,936	334	8.49%	52,052	Yes
8021.05	8,735	133	8,602	98.48%	8,657	1383	15.98%	38,247	Yes
Total	**90,863**	**60,615**	**90,934**	**60.00%**	**148,092**	**8,593**	**5.80%**	**60,245**	**6**

The number of impacted residential and commercial structures does not represent the number or acreage of individual parcels being affected, only the buildings present on these parcels. Land impacts were not calculated as part of this study, but would need to be evaluated within the NEPA planning study.

Additionally, the proposed beltway options would result in residential and commercial impacts. Impacts would range from 40 residential structures being impacted by Beltway Option 4, to seven structures being impacted by Beltway Option 5. Commercial structure impacts would range from eight structures being impacted by Beltway Option 6, to four structures being impacted by Beltway Option 1. A complete breakdown of potential residential and commercial impacts by alternative/option can be found in **Tables 1 through 3**.

3.2 Environmental Justice Areas

It is the policy of the MTA to ensure that no disproportionately high or adverse effects result to minority or low-income populations as a result of MTA funded projects. The legal basis for the protection of environmental justice communities is found in the following EO:

- **EO 12898: Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, February 11, 1994**: The EO requires the assessment of disproportionately high and adverse human health and environmental effects on minority and low-income populations resulting from proposed federal actions. The EO reaffirms the provisions of Title VI of the Civil Rights Act of 1964 and related statutes, emphasizing the incorporation of those provisions with existing planning and environmental processes.

Study Area Resources:

To address this EO, census tract data was used to determine potential minority and poverty populations within the Study Area. Potential environmental justice populations were identified as those census tracts within the Study Area having either of the following:

1. Portions of low income populations living below the poverty level greater than one percent over the county average. The county averages for Charles County and Prince George's County are 5.56 percent and 7.69 percent, respectively.

2. Portions of minority populations greater than 10 percent over the county average. The county averages for Charles County and Prince George's County are 29 percent and 72.9 percent, respectively.

Based on the above criteria, ten census tracts were identified as having potential environmental justice concerns (**Table 12**). The Charles County portion of the Study Area includes four of these potential environmental justice tracts. Alternatives 1, 2, 4, 5 are located within three potential environmental justice census tracts, while Alternative 3 is located within one potential environmental justice tract.

Within Prince George's County, six census tracts were identified as having potential environmental justice concerns (**Table 12**). Alternatives 1 through 5, and Beltway Options 1 through 5 each enter one potential environmental justice tract. Beltway Option 6 would enter four potential environmental justice tracts.

Although these ten census tracts (four in Charles County, and six in Prince George's County) have been identified as potentially containing environmental justice populations, additional analysis will be necessary to determine if environmental justice populations actually exist within the Study Area, and to determine if they would be impacted by the proposed project.

3.3 Communities

Communities in close proximity to highways, light rails, and other types of transportation facilities may be adversely affected, experiencing direct impacts resulting from property acquisition and displacements, or secondary impacts to community cohesion, access, mobility, and overall quality of life. Laws and regulations related to a transportation effect on people and communities include:

- **Title V1 of the 1964 Civil Rights Act**. Decrees that federal funds may not be expended in a manner that discriminates on basis of race, creed, sex, or age. Future planning efforts must be conducted in a manner that complies with Title VI.

- **Uniform Relocation Assistance and Real Property Acquisition Act of 1970:** Amended by Title VI of the Surface Transportation Policies Act of 1987, is a necessary part of addressing the relocation of any displaced individuals and families.

Study Area Resources:

Communities and neighborhoods exist in a variety of different scales in and surrounding the project area. The Charles County portion of the Study Area includes communities such as: Maryland Woods, Victoria Park, Action Village, Holly Tree Park, Gillespie mobile Home Court and Keystone Estates.

The Prince George's County portion of the Study Area includes communities such as: Clinton Acres, Auburn Hills, Cedar Pointe, Fox Run Estates, Surratts Manor, Lewis Spring Manor, Manchester Knolls, Woods Corner, Gibbs Manor, Darcey Manor, and Andrews Estate.

3.4 Community Facilities

Community facilities and services located within or serving the Study Area include schools, places of worship, cemeteries, and State- and County-owned land.

Schools

The locations of schools were identified within the Study Area using available Environmental Systems Resources Institute (ESRI) data. No schools are located within the Charles County portion of the Study Area. In Prince George's County, there are two schools located within the Study Area: the T. B. School and Bells School. The T.B. School is located at 14000 Crain Highway, just south of the MD 5/ US 301 split, and would be impacted by Alternatives 2, 4, and 5. The T.B. School is no longer in operational use, and has been converted to an automotive salvage yard and business. The Bells Schools is located at 6016 Allentown Road, and would be impacted by Beltway Options 4 and 6. Based on available data, it appears that the Bells School is still in use.

All impacts to schools would be through property acquisition, and displacement of the school would not be required.

Places of Worship

The locations of places of worship were identified within the Study Area using ESRI data. In the Charles County portion of the Study Area, three places of worship would be affected: First Baptist Church (by Alternatives 1, 4, and 5), Pilgrim Holiness Church (by Alternatives 1, 2, 4, and 5), and Waldorf Church of God (by Alternative 2). In the Prince George's County portion of the Study Area eight places of worship would be impacted: Lords Church of God (by Alternatives 3 and 5), Nativity Episcopal Church & School (by Beltway Option 1), the Evangel Assembly of God (by Beltway Option 1), Kirkland Memorial Second Church (by Beltway Options 2, 3, and 5), Bells United Methodist Church (by Beltway Options 4 and 6), the Church of Jesus Christ of Latter Day Saints (by Beltway Option 5), and the Suitland Road Baptist Church (by Beltway Option 6),

All impacts to places of worship would be through property acquisition, and displacement of the place of worship would not be required.

Cemeteries

The locations of cemeteries within the Study Area were identified using ESRI data. In the Charles County portion of the Study Area, there would be no cemeteries affected by the proposed alternatives. In the Prince George's County portion of the Study Area, two cemeteries were identified within the vicinity of the proposed alternatives/beltway options: the Bells Cemetery and the Soper Family Cemetery. Alternatives 2, 4, and 5, and Beltway Options 4, and 6 are each located in close proximity to the Bells Cemetery. Additionally, Beltway Options 6 is located in close proximity to the Soper Family Cemetery. More detailed study of the location and extent of the cemetery boundaries are needed, before impacts can be calculated. Should potential impacts be identified, MTA would explore design modifications to avoid these resources.

State and County Owned Lands

State and county owned lands include property owned or operated by the State of Maryland, Charles County, Prince George's County, or other municipal authorities. There are 24 state and county owned lands within the Study Area, however only two would be impacted by any of the proposed alternatives/beltway options. The Waldorf Natural Resources Police Barracks, located at 2160 Old Washington Road, would be

impacted by Alternative 2 (approximately 0.47 acre). In Prince George's County, Beltway Option 6 would impact 1.87 acres of the Henson Creek Stream Valley Park.

4. Land Use/Zoning

Land use data can help to indicate which areas may benefit from or be most sensitive to the effects of transit projects. Land use mapping, zoning maps, and Master Plans provide insight into future land use plans and allow analysis of compatibility with future planned land uses.

Study Area Resources:

Based on Maryland Department of Planning (MDP) land use mapping, both the Prince George's and Charles County portions of the Study Area are dominated by low- to medium-density residential, commercial, institutional, and undeveloped/wooded land uses.

A review of the *2006 Charles County Comprehensive Plan* indicates that the project is consistent with the County's plan to study and develop a full-range of transit options along the US 301 corridor. Similarly, the proposed project is consistent with the *2002 Prince George's County Approved General Plan* which seeks to increase transportation infrastructure, transit, and transit oriented development along the MD 5 corridor.

4.1 Priority Funding Areas

The 1997 Maryland General Assembly passed five pieces of legislation collectively known as "Smart Growth." Smart Growth directs the State to target programs and funding to support established communities and locally designated growth areas, and to protect rural areas. A component of the Smart Growth legislation, the Priority Funding Areas (PFA) Act, provides a geographic focus for the State's investment in growth-related infrastructure, by requiring all counties to identify and map PFAs that meet the requirements of the legislation. The remaining components compliment this geographic focus by targeting specific State resources to preserve land outside of PFAs, to encourage growth inside PFAs, and to ensure that existing communities continue to provide a high quality of life for their residents. In both Charles and Prince George's County, about half of the Study Area is located within PFAs (**Figure A**).

In Charles County, most of the Study Area is in PFA except a small portion south of Billingsley Road.

In Prince George's County, the PFA southern boundary is located at Cedarville Road extending west to US 301, and east to Popes Creek Railroad. The northern boundary is at Brandywine Community Park off Missouri Avenue, extending west to US 301. There is an isolated PFA area east of Lusbys Lane near the Piscataway Creek Stream Valley Park. In the northern end of the county, the PFA area covers the entire Study Area extending south to Burch Hill Road, west to Birchview Drive, and east of MD 5 covering Clinton Acres and Earnshaw Estate.

5. Cultural/Historic Resources

The preservation of cultural and historic resources is an important consideration in the planning process of this and other MTA funded projects. Cultural and historic resources include previously recorded archeological sites and historic sites listed in the NRHP and/or the Maryland Inventory of Historic Places (MIHP). Significant cultural/historical resources are protected under two federal laws:

- **Section 106 of the National Historic Preservation Act of 1966**: Requires Federal agencies to consider the effects of all their undertakings on historic properties that are listed or determined eligible for listing on the National Register of Historic Places (NRHP).
- **Section 4(f) of the Department of Transportation Act of 1966 [49 U.S.C. 303(c)]:** Section 4(f) requires the project sponsor to demonstrate that there is no prudent or feasible alternative to the use of land containing Section 4(f) resources before such use can be approved. Section 4(f) resources include any archeological site of historic property listed on or eligible for listing on the NRHP.

5.1 Previous Archeology Survey Areas

MHT files of previously recorded archeology survey areas were reviewed for the Study Area. Because of the sensitive nature of archeological sites, MHT provides the information in grid format (each grid measuring 700 meters by 700 meters), rather than site specific locations. A positive grid indicates that an archeological site was identified and recorded within that grid. An absence of data does not necessarily confirm that an archeological site is not present, only that no sites had been recorded in that grid at the time the file was published.

In Charles County, there were four positive grids identified within the Study Area. The Prince George's County portion of the Study Area contains 21 positive grids.

Alternative 1 would impact portions of six positive grids, whereas Alternatives 2, 3, 4, and 5 would each impacts portions of five positive grids. None of the Beltway Options are located in grids where previous archeological resources were recorded.

5.2 Historic Sites

A search of the NRHP and the MIHP was used to determine the status of historic properties within the LODs of the alternatives/beltway options. The NRHP is a list of properties identified by the Federal Government as significant in American History and culture. NRHP properties include districts, buildings, sites and objects of significance to their local community, state or nation. There are no properties located within the proposed LODs of the alternatives/beltway options that are listed on, or eligible for listing in the NRHP.

Properties listed in the MIHP are listed as eligibility recommended for the NRHP, eligibility not recommended for the NRHP, not evaluated, "not on file", or demolished. A property that is listed as "not on file" indicates that it was identified to the MHT, however, no documentation on the site was provided. There is no information on whether it has been evaluated or recommended as eligible or not, and it is therefore treated as not evaluated.

In the Charles County portion of the Study Area there are no sites where eligibility is recommended (**Table 13**). There are four sites where eligibility is not recommended, and no sites that were not evaluated. Twenty sites were "not on file", and one site was demolished.

Table 13. Maryland Inventory of Historic Properties Located Within 200' of the LOD in Charles County

Site Id	Eligibility Recommended	Eligibility Not Recommended	Not Evaluated	Not on File	Demolished	Alternative/ Option	Site Name (if available)
CH-342*		X				Alternative 3	Molly's Delight
CH-624*		X				Alternatives 1,4,5	Old Waldorf Store & Post Office
CH-623		X				Alternative 2	Old Waldorf Theater
CH-643		X				Alternative 2	Culvert under Old Washington Road
CH-750*					X	Alternatives 1,4,5	MD Tobacco Growers Association Building
CH-805				X		Alternatives 1,2,4,5	
CH-576				X		Alternative 2	
CH-577				X		Alternative 2	
CH-578				X		Alternative 2	
CH-579				X		Alternative 2	
CH-581*				X		Alternative 2	
CH-582*				X		Alternative 2	
CH-583				X		Alternative 2	
CH-584				X		Alternative 2	
CH-915				X		Alternative 2	
CH-916				X		Alternative 2	
CH-918*				X		Alternative 2	
CH-919*				X		Alternative 2	
CH-920*				X		Alternative 2	
CH-921				X		Alternative 2	
CH-922*				X		Alternative 2	
CH-923*				X		Alternative 2	
CH-924				X		Alternative 2	
CH-925				X		Alternative 2	
CH-926				X		Alternative 2	

***** MIHP sites that are not directly within the LOD, but are within 200 feet of the LOD.

In the Prince George's County portion of the Study Area, nine sites are recommended eligible for the NRHP, twenty-one sites are listed as Eligibility Not Recommended, five sites were listed as "not on file", one site demolished, eight sites were not evaluated, and one was demolished (**Table 14**).

More detailed studies would be necessary to evaluate areas of potential archaeology sites and potentially historic sites that are not listed on MIHP or NRHP, but are over 50 years old. In addition, this study only looked at potential historic sites within the LODs of the

alternatives/beltway options. There may be historic sites located adjacent to the LODs which could experience indirect impacts, such as noise or visual impacts. Those sites would also need to be evaluated in the NEPA study.

Table 14. Maryland Inventory of Historic Properties Located Within 200' of the LOD in Prince George's County

Site Id	Eligibility Recommended	Eligibility Not Recommended	Not Evaluated	Not on File	Demolished	Alternative/ Option	Site Name (if available)
PG:76B-17	X					Beltway Option 4, 6	Bells Methodist Church
PG:85A-14	X					Alternative 2,4,5	Marlow-Huntt Store (Gay's Antique Store)
PG:85A-15	X					Alternative 2,4,5	Huntt Casket Shop (T.B. Funeral Parlor)
PG:85A-16	X					Alternative 2,3,4,5	Marlow-MacPherson House
PG:85A-17	X					Alternative 3	J.E. Huntt Residence
PG:85A-26	X					Alternative 2,4,5	T.B. Colored School #1
PG:85A-36*	X					Alternative 2,3,4,5	Brandywine Patio Commercial Property
PG:76A-22	X					Beltway Option 6	Suitland Parkway
PG:76A-39	X					Beltway Option 6	Morningside
PG:76A-32		X				Beltway Option 4	Roland Darcey Houses
PG:76A-38		X				Beltway Option 4	Auth Village
PG:76A-8		X				Alternative 3, 5, Beltway Option 1	Pyles Lumber Warehouse & Residence, site
PG:77-15		X				Beltway Option 4, 6	Family Housing (AAFB Bldg. #01025)
PG:77-46*		X				Alternative 1,2,4	Farm House (Family Quarters, AAFB Bldg. #04002)
PG:77-47*		X				Alternative 1,2,4	Farm House (Family Quarters, AAFB Bldg. #04242)

Table 14. Maryland Inventory of Historic Properties Located Within 200' of the LOD in Prince George's County

Site Id	Eligibility Recommended	Eligibility Not Recommended	Not Evaluated	Not on File	Demolished	Alternative/ Option	Site Name (if available)
PG:77-48*		X				Alternative 1,2,4	Farm House (Family Quarters, AAFB Bldg. #04252)
PG:77-49*		X				Alternative 1,2,4	Farm House (Family Quarters, AAFB Bldg. #04261)
PG:77-53*		X				Alternative 1,2,4	Storage Shed (AAFB Bldg. #04689)
PG:77-54*		X				Alternative 1,2,4	Storage Shed (AAFB Bldg. #04690)
PG:77-85*		X				Alternative 1,2,4	Building 4691, Andrews AFB
PG:85A-3		X				Alternative 1,2,3,4,5	Tobacco Barn (Spring Lake Restaurant Advertisement)
PG:85A-33		X				Alternative 2,3,4,5	Tee Bee Historic Survey Area
PG:85A-34*		X				Alternative 1	Otto C.A. & Selma Schwein House
PG:85A-35*		X				Alternative 1	Burroughs Tobacco Barn at Brandywine Road
PG:85A-37*		X				Alternative 2,4,5	William & Margaret Ellen Smoot Property
PG:85A-38*		X				Alternative 2,4,5	Denis & Gregory Alley Property
PG:85A-39		X				Alternative 3	Vincent Commercial Property
PG:85A-43		X				Alternative 3	J. Henry & Margaret Murray Property (Reamy Property)
PG:85A-49*		X				Alternative 3	Charles & Grace Potter Property (Jenking Property II)

Table 14. Maryland Inventory of Historic Properties Located Within 200' of the LOD in Prince George's County

Site Id	Eligibility Recommended	Eligibility Not Recommended	Not Evaluated	Not on File	Demolished	Alternative/ Option	Site Name (if available)
PG:85A-55		X				Alternative 2,4,5	Huntt/Luckett Property (Trahan Property)
PG:76A-21			X			Beltway Option 4	Marescalco House
PG:76A-26*			X			Beltway Options 1,2,3,4, and 5	Helen Knox House
PG:76A-27*			X			Beltway Options 1,2,3	Milstead House
PG:76A-28*			X			Beltway Options 1,2,3	Eugene Darcy House
PG:76A-29			X			Beltway Option 4	John Mulloy House
PG:76A-31*			X			Beltway Option 4	John & Marie Darcey Houses
PG:76A-33			X			Beltway Option 4	Warren Amann House
PG:76A-34*			X			Beltway Option 4	Anthony Soper House
PG:76B-24				X		Beltway Option 1	
PG:76B-25				X		Beltway Option 1	
PG:76B-26*				X		Alternative 3,5	
PG:76B-27				X		Alternative 1,2,3,4,5	
PG:81A-23				X		Alternative 1,2,3,4,5	
PG:85A-31					X	Alternative 2,3,4,5	William Boswell House, site

***** MIHP sites that are not directly within the LOD, but are within 200 feet of the LOD.

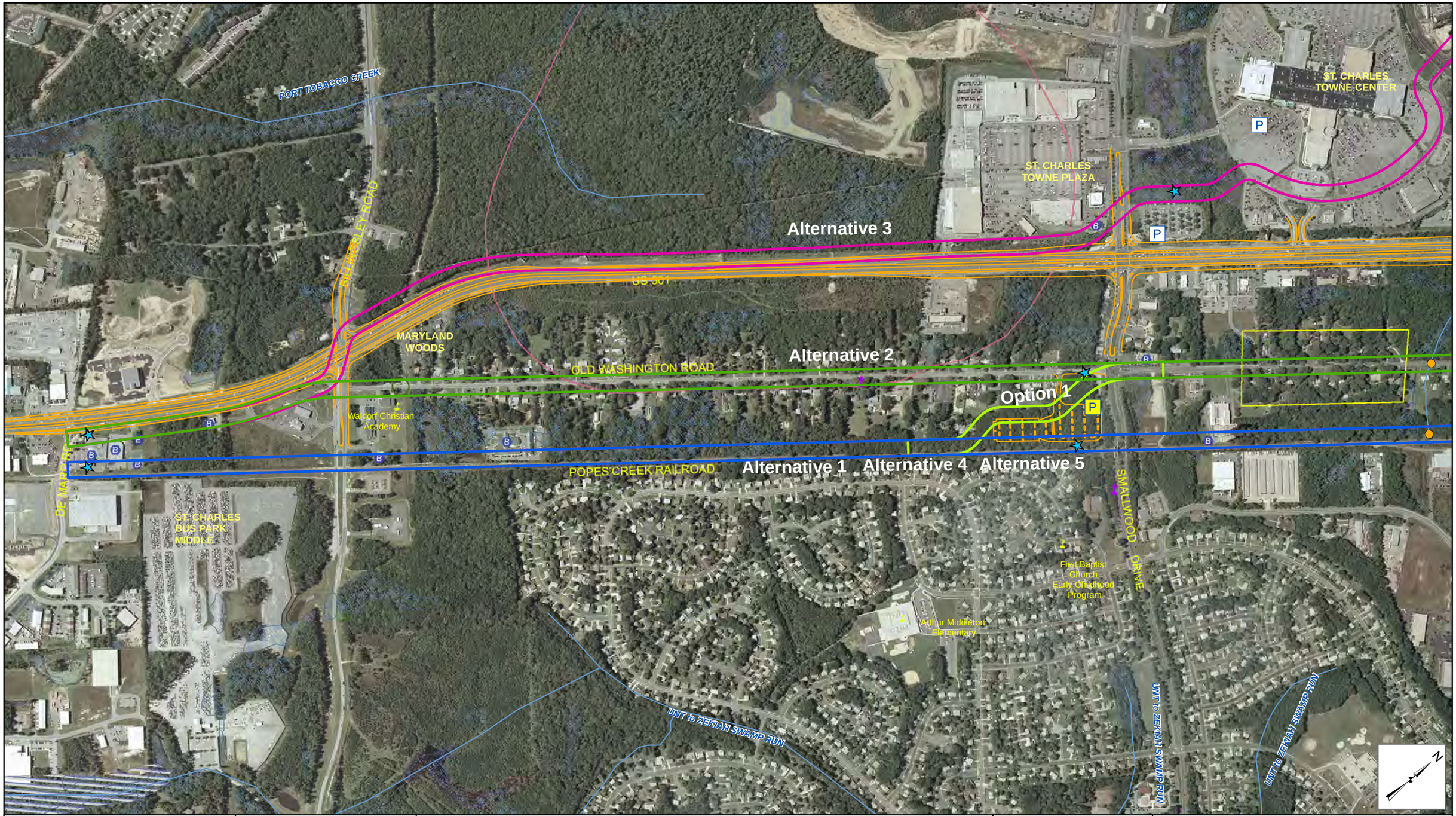
6. Conclusion

This Environmental Inventory was prepared to identify potential environmental impacts associated with each of the proposed alternatives and beltway options. While this Environmental Inventory does not fulfill NEPA or other regulatory requirements, it is intended to

help decision makers select a corridor to preserve for future transit options in Charles and Prince George's Counties, by identifying critical environmental resources that would need to be addressed in subsequent NEPA documentation. The goal of this Environmental Inventory is to identify potential environmental concerns early in the planning process, so that avoidance and minimization measures can be incorporated into the continuing design efforts.

The impacts presented in this Environmental Inventory are based on the preliminary LODs for each alternative/beltway option, and represent a worst-case scenario of potential impacts. It is anticipated that, as the corridor preservation study progresses, the extent of the impacts identified herein will be refined, and specific avoidance and minimization measures will be evaluated.

Appendix 1
Figures



MARYLAND DEPARTMENT OF TRANSPORTATION

MTA

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LEGEND

- FEMA 100 YR Floodplain
- Sensitive Species Project Review Area
- Residential Property Affected
- Business/Comm Property Affected
- Proposed Stream Crossing
- Existing Stream Crossing
- Potential Station
- Limit of Disturbance
- Wetland
- Church
- School
- Federal Land
- NR sites or MIHP Recommended Eligible
- MIHP Not on File
- MIHP Eligibility not Recommended
- MIHP Not Evaluated
- MIHP Demolished (regardless of status)

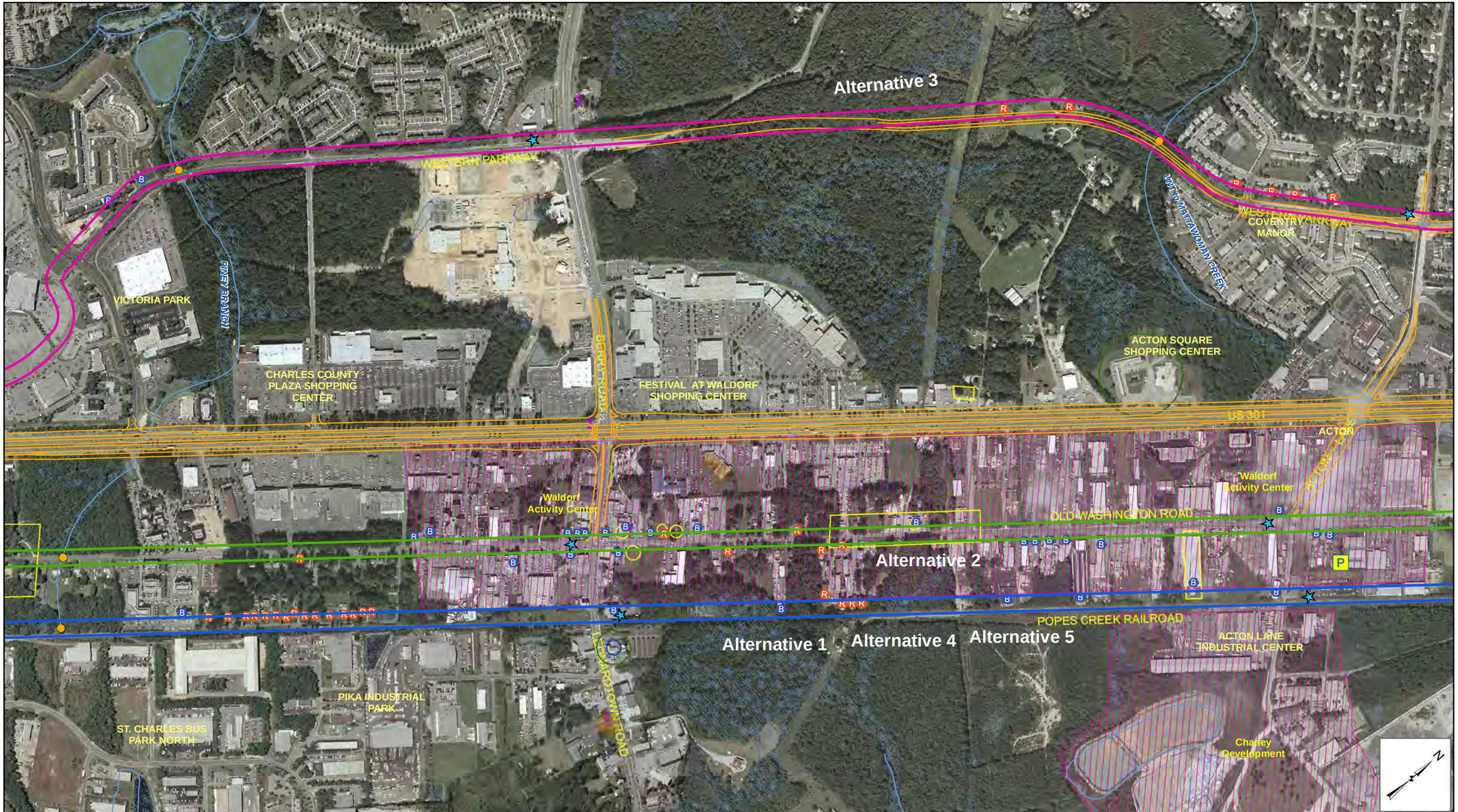
350' 0' 350' 700'

Scale 1" = 700'

SOUTHERN MARYLAND TRANSIT CORRIDOR PRESERVATION STUDY

ENVIRONMENTAL & COMMUNITY IMPACTS

DATE: AUGUST 2010



MARYLAND DEPARTMENT OF TRANSPORTATION

MTA

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LEGEND

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350' 0' 350' 700'

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- Federal Land
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- MIHP Not on File
- MIHP Eligibility not Recommended
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- MIHP Demolished (regardless of status)

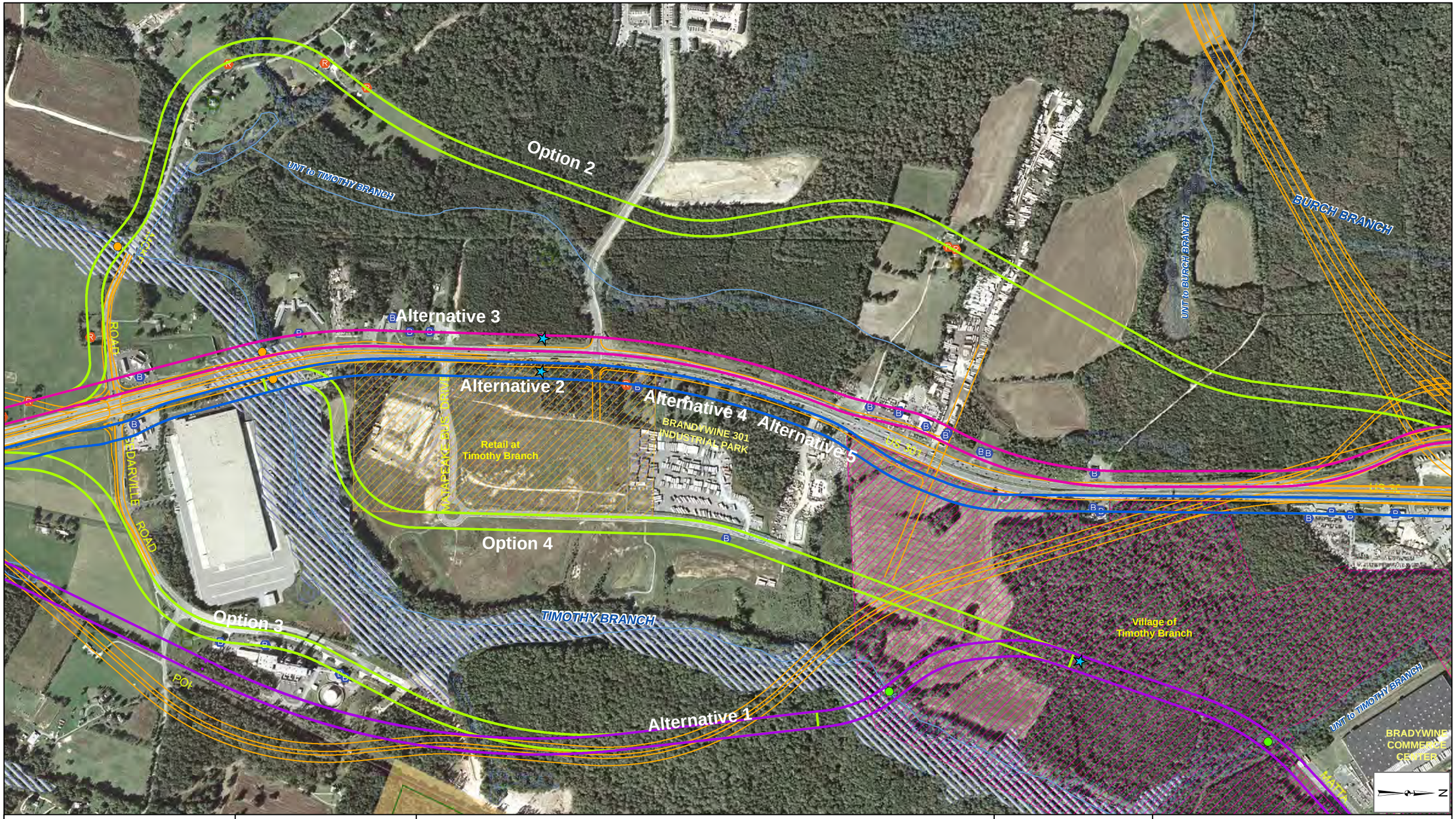
350' 0' 350' 700'

Scale 1" = 700'

SOUTHERN MARYLAND TRANSIT CORRIDOR PRESERVATION STUDY

ENVIRONMENTAL & COMMUNITY IMPACTS

DATE: AUGUST 2010



MARYLAND DEPARTMENT OF TRANSPORTATION

MTA

JACOBS™

LEGEND

- FEMA 100 YR Floodplain
- Sensitive Species Project Review Area
- Residential Property Affected
- Business/Comm Property Affected
- Proposed Stream Crossing
- Existing Stream Crossing
- Potential Station
- Limit of Disturbance
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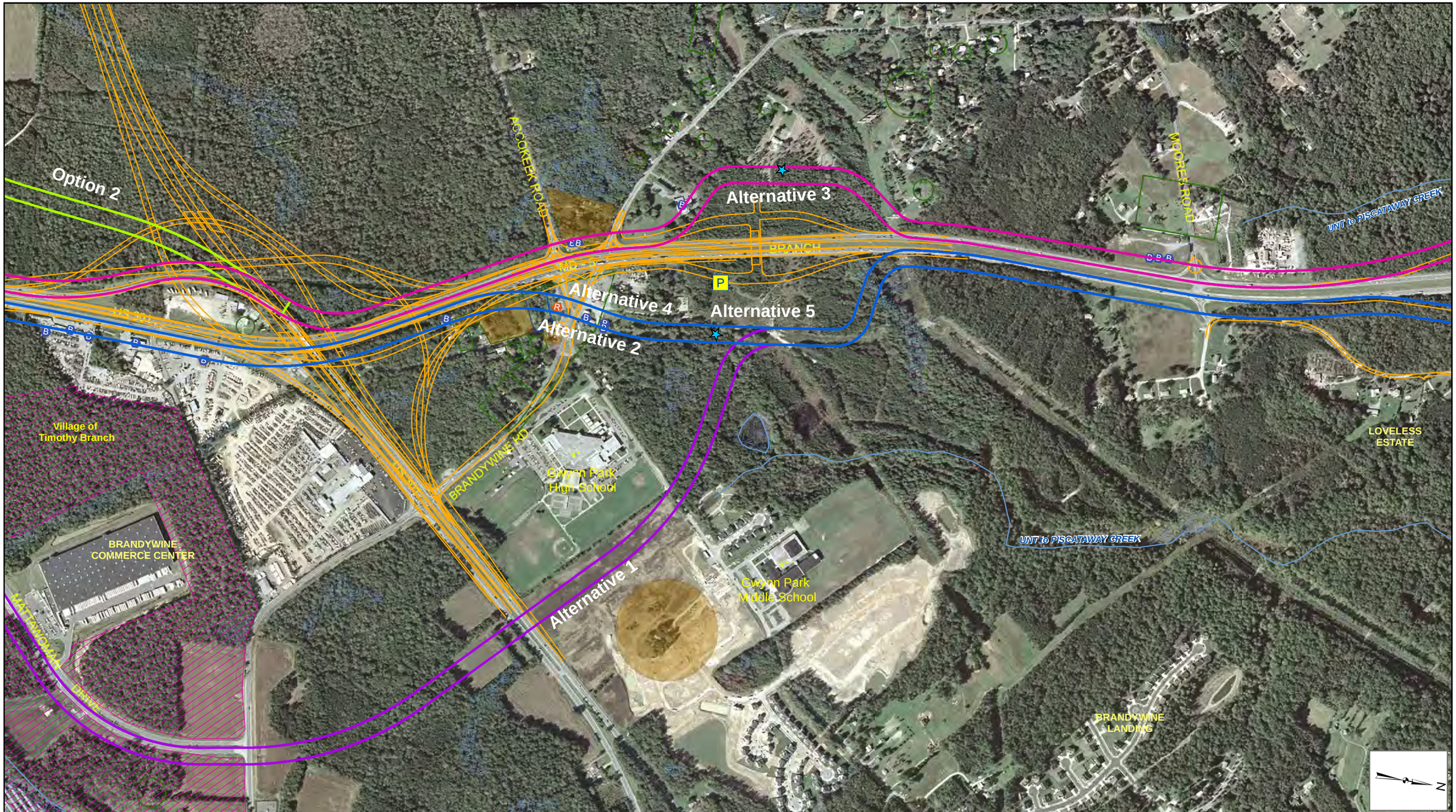

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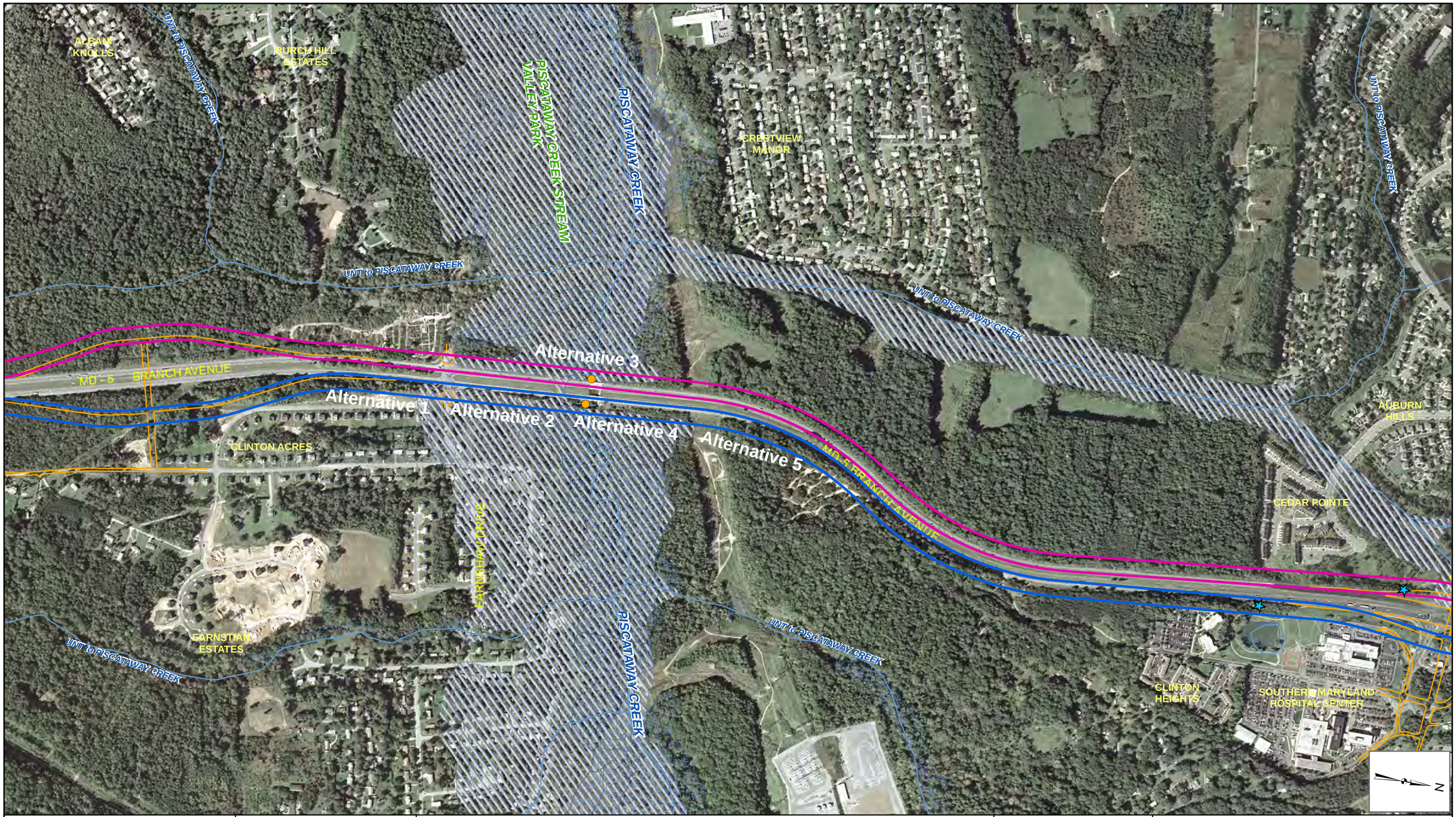

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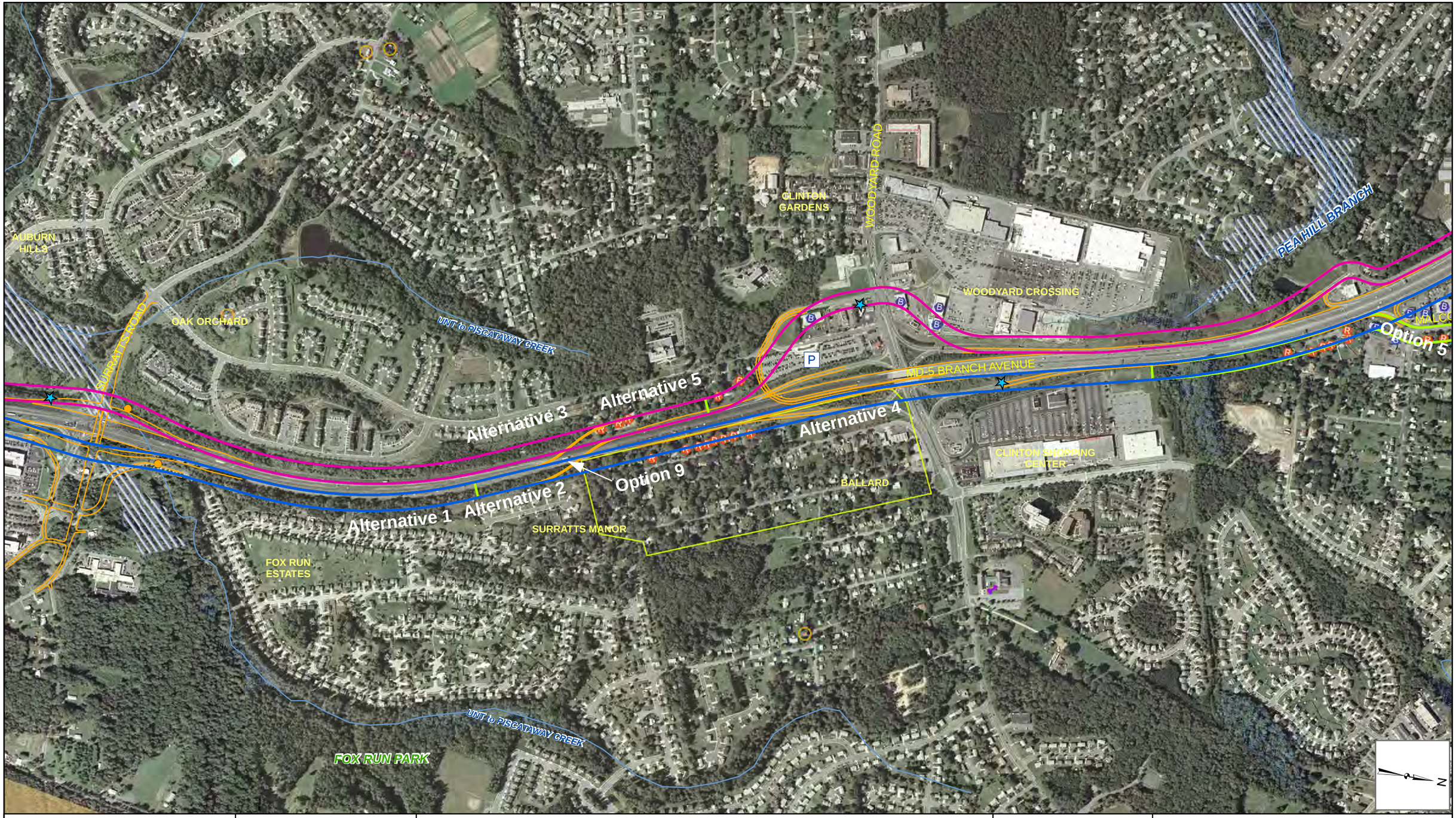

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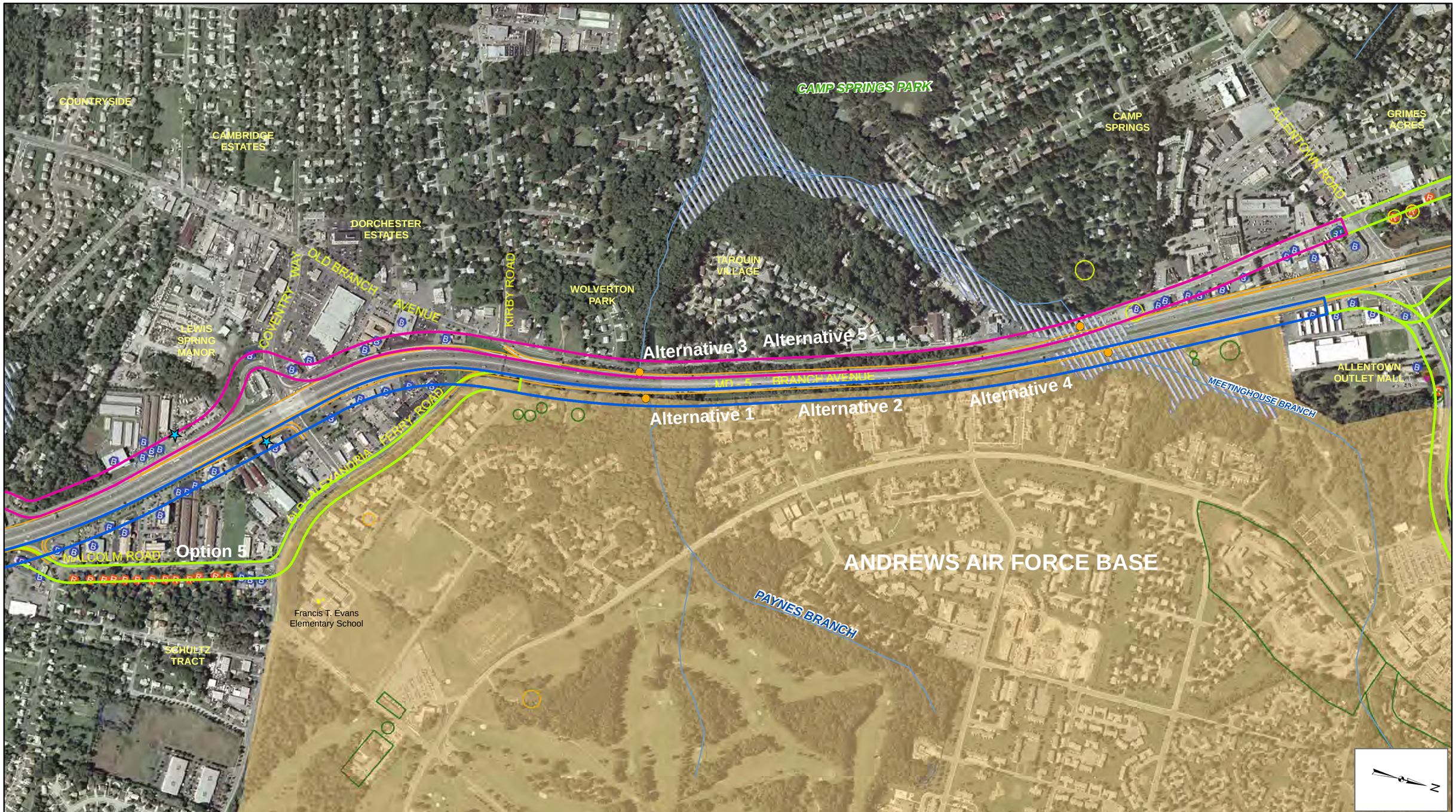

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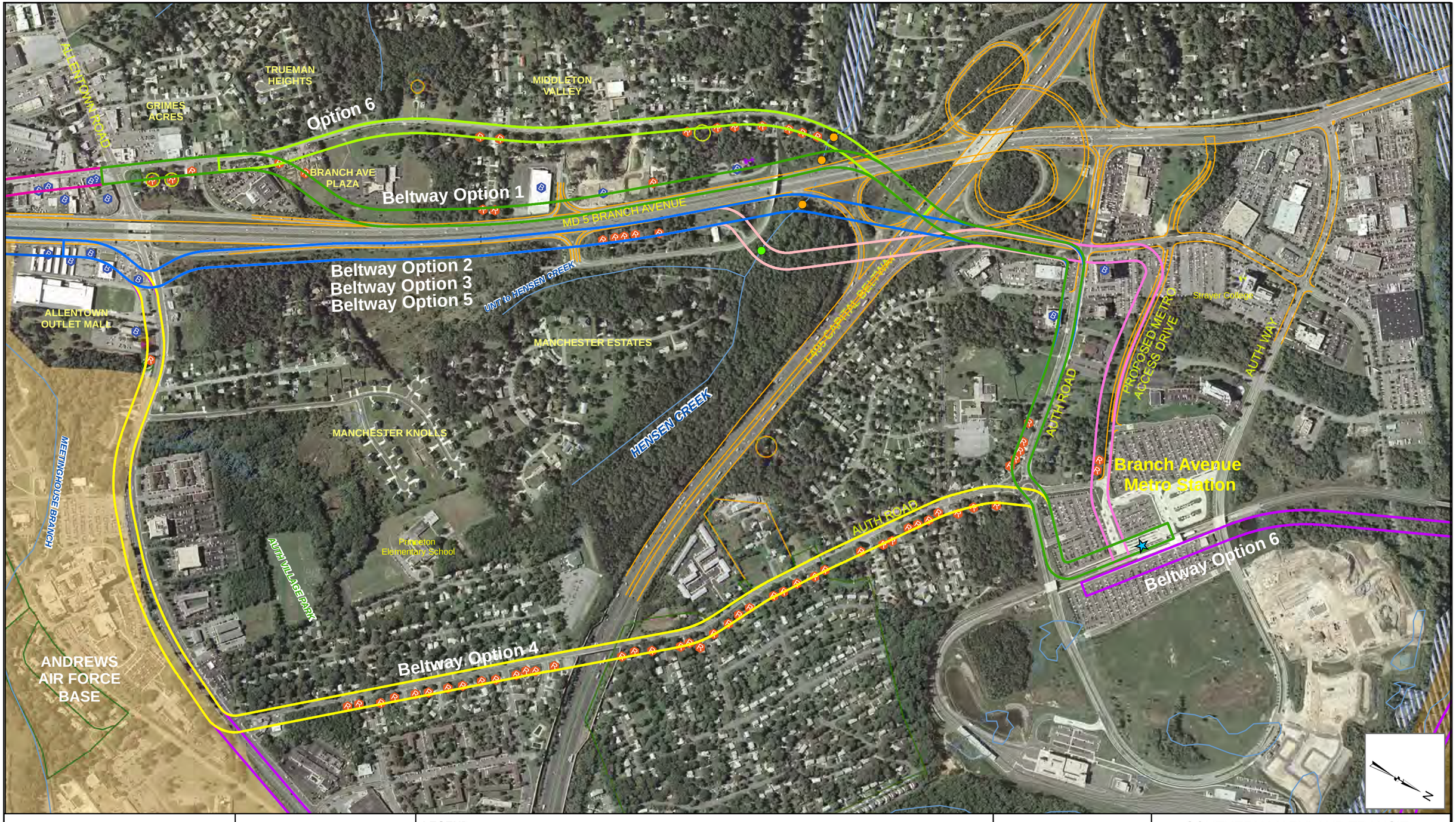

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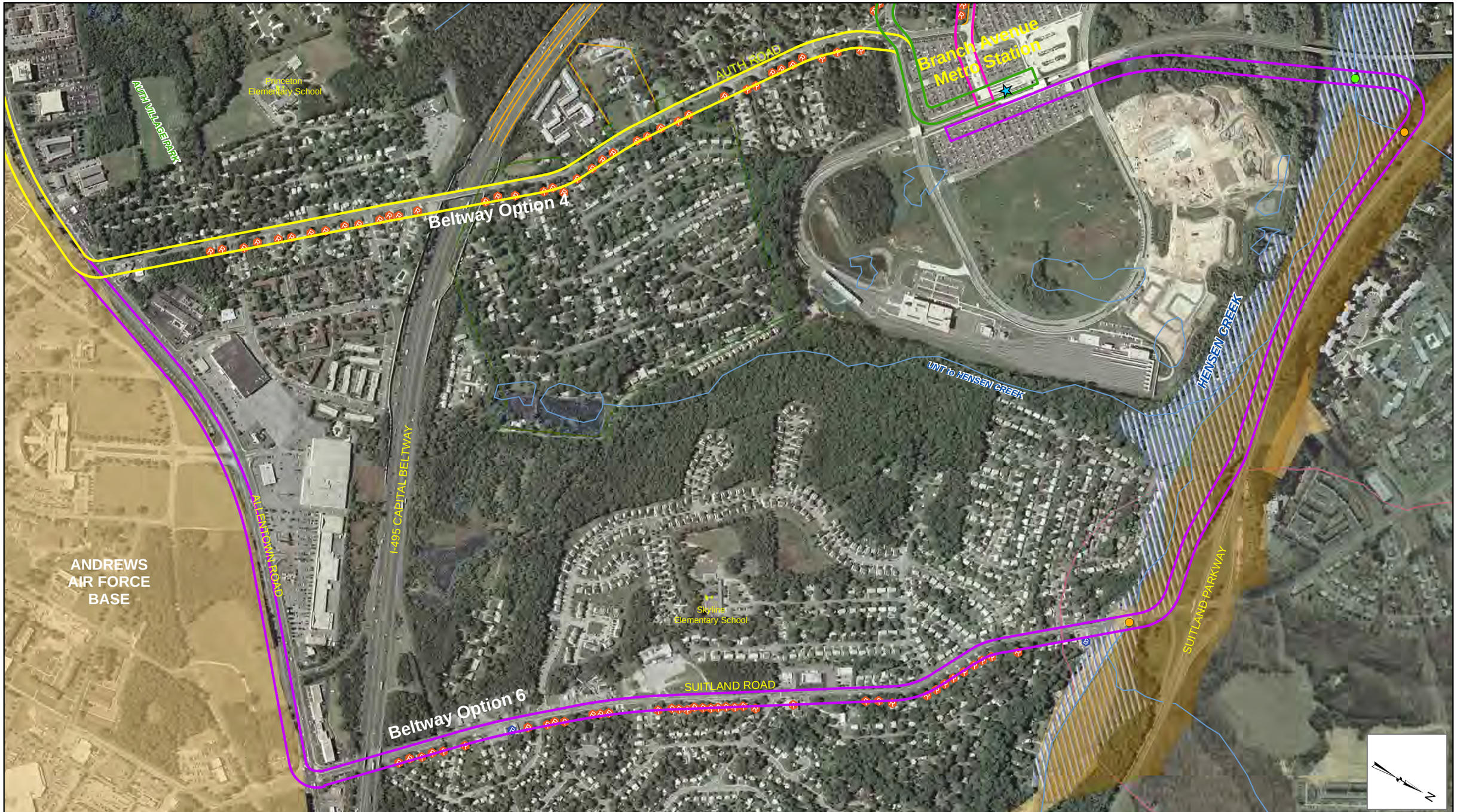

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SOUTHERN MARYLAND TRANSIT CORRIDOR PRESERVATION STUDY

ENVIRONMENTAL & COMMUNITY IMPACTS

DATE: AUGUST 2010

Appendix 2
Hazardous Waste Sites

Hazardous Waste Material Sites Located in Charles County, MD.

Property	Address	Alternative with Potential Impacts
M & S Auto Parts and Graphics	MD Route 5 North (3200 Leonardtown Road)	Alternative 1,4,5
Custom Wood Designs	P.O. Box 155 A-3, MD Route 925 North	Alternative 1,4,5
Duron Paint	12370 Waldorf Square Business Center Route 925N	Alternative 2
Fancy Vans - Unit 309	12375 Waldorf Square Business Center Route 925N	Alternative 2
U. S. Floors - Unit 103	12378 Waldorf Square Business Center Route 925N	Alternative 2
Texas Ribs - Unit 308	12379 Waldorf Square Business Center Route 925N	Alternative 2
Atlantic Refinishing- Unit 104	12382 Waldorf Square Business Center Route 925N	Alternative 2
Advin Electric	12387 Waldorf Square Business Square	Alternative 2
All Star Auto	12391 Waldorf Square Business Square	Alternative 2
Automotive Technical Services - Unit 304	12395 Waldorf Square Business Center Route 925N	Alternative 2
Arbor Real Estate & Auction Company, Unit 108	12398 Waldorf Square Business Center	Alternative 2
Teds Auto - Unit 303	12399 Waldorf Square Business Center Route 925N	Alternative 2
The Electric Company - Unit 109	12402 Waldorf Square Business Center Route 925N	Alternative 2
Yates Welding - Unit 302	12403 Waldorf Square Business Center Route 925N	Alternative 2
Battery Warehouse – Unit 110	12406 Waldorf Square Business Center Route 925N	Alternative 2
Cheung Ming Property	12407 Waldorf Square Business Square	Alternative 2
Tri County Electric - Unit 203	12410 Waldorf Square Business Center Route 925N	Alternative 2
Free State Office - Unit 202	12414 Waldorf Square Business Center Route 925N	Alternative 2
Daves Auto Body Inc	12415 Kaine Place Unit 10	Alternative 2
Custom Performance	2250 Old Washington Road	Alternative 2
Parker Door Company	2280 Old Washington Road	Alternative 2
Free State Business Machines Inc	2320 Old Washington Road	Alternative 2
Complete Auto Body and Service	2360 Crain Highway	Alternative 2
Transfix T/A Aamco Transmissions	2455 Old Washington Road	Alternative 2

Property	Address	Alternative with Potential Impacts
International Transmission Service	2580 Old Washington Road	Alternative 2
Mega Auto Sales	2584 Old Washington Road	Alternative 2
Stohlman Auto Body Inc.	2756 Old Washington Road	Alternative 2
County Florist	3040 Old Washington Road	Alternative 2
Besche Oil	3045 Old Washington Road	Alternative 2
Gordon R. Moreland	3055 Old Washington Road P.O. Box 735	Alternative 2
The Catherine Foundation	3065 Old Washington Road	Alternative 2
Mikes Auto Body	307 MD Route 925 North	Alternative 2
Wood Stickle Association T/A Korner Liquors	3120 Old Washington Road	Alternative 2
Suburbane Propane	3230 Old Washington Road	Alternative 2
Waldorf Body & Frame	Corner of MD Route 925 & Action Lane	Alternative 2
Deen S Little Store (McKinnys)	MD Route 295	Alternative 2
Stohlman Autobody	MD Route 925 North	Alternative 2
CPM Construction Corporation	MD Route 925 North & Oak Manor Drive	Alternative 2
Freestate Office Machines	MD Route 925 North (2320 Old Washington Road)	Alternative 2
Automotive Service Center	MD Route 925 North P.O. Box 155A4	Alternative 2
Waldorf Signs Inc.	MD Route 925 North P.O. Box 276	Alternative 2
Maryland Supple Company Inc	MD Route 925 North P.O. Box 2776	Alternative 2
Guardian Storage Inc.	Old Washington Road	Alternative 2
Advanced Automotive	P.O. Box 308 MD Route 925N	Alternative 2
Wawa Food Market #568	4210 Crain Highway	Alternative 2,3
Gillespie Trailer Park	12220 Gillespie Circle	Alternative 3
Embassy Dairy	12435 Mattawoman Drive	Alternative 3
MD State Police Barracks	2160 Old Washington Road	Alternative 2
Target	Saint Patricks Drive/Western Parkway	Alternative 3
Charles County Mens Homeless Shelter	10785 Jackpot Court	Alternative 2

Hazardous Waste Material Sites Located in Prince George's County, MD.

Property	Address	Alternative with Potential Impacts
7 Eleven #27411	6560 Crain Highway	Alternative 1,2,3,4,5
Paik S Inc. Young's Auto Service	7807 Malcolm Road	Alternative 1,2,4
Unknown	Branch Avenue & Malcolm Road	Alternative 1,2,4
NB Crain Highway/Ernest Woodie	15502 Crain Highway	Alternative 2,4,5
7 Eleven #32240	16400 Crain Highway	Alternative 2,4,5
Ryder Truck Rental	7812 Cedarville Road	Alternative 2,4,5
Charles & Company	12611 Branch Avenue	Alternative 3
Allied Trailers Sales & Rental	15101 Crain Highway	Alternative 3
Atlas Pontiac	15113-15 Crain Highway	Alternative 3
MD Motor Court	16001 Crain Highway	Alternative 3
Norge Village Cleaners	6422 Old Branch Avenue	Alternative 3,5
Clinton Cycle	6709 Old Branch Avenue	Alternative 3,5
Wal-Mart Store #2799	8745 Branch Avenue	Alternative 3,5
Camp Springs Exxon	6211 Old Branch Avenue	Beltway Option 1
Pyles Lumber Company Inc.	6210 Allentown Road	Beltway Option 1
Hayman Property	5313 Manchester Drive	Beltway Options 3,5
Residence	6317 Auth Road	Beltway Option 4
Shell Service Station	6408 Auth Road	Beltway Option 4
Clemente/Colon Property	5606 Auth Avenue	Beltway Option 4
Kenwood Management	4710 Auth Place	Beltway Option 5
Sam Wood Property	4801 Auth Place	Beltway Option 5
A.P. Woodson Oil Company	5200 Auth Road	Beltway Option 5
Metropolitan Motorcars, Inc.	5201 Auth Road	Beltway Option 5

Appendix 3

GIS Data Layers Reference Sheet

File Name/Title	Author	Publication Date	Description/ Comments
DNRwets_StudyArea.shp - DNR wetlands (polygon only)	Maryland Department of Natural Resources-Geographic Information Services Division. ADM created this file using DNR data.	01/01/1993	These digital data files are records of wetlands location and classifications. These wetlands were mapped by Maryland Department of Natural Resources (MD DNR) using Maryland's Digital Orthophoto Quarter Quads.
Anaco1p6.shp and Anaco2p6.shp - DNR Wetlands	Maryland Department of Natural Resources-Geographic Information Services Division	01/01/1993	These digital data files are records of wetlands location and classifications. These wetlands were mapped by MD DNR using Maryland's Digital Orthophoto Quarter Quads.
Mdtrct.shp- Maryland Census Tracts	U.S. Census Bureau This is the file that the EJ tracts link to.	9/20/2000	Maryland Tracts represents the U.S. Census Tracts and block numbering areas (BNA) of Maryland. It provides boundaries and demographic information for U.S. Census Tracts and block numbering areas within Maryland. The boundaries are consistent with the county and state data sets.

File Name/Title	Author	Publication Date	Description/ Comments
MHTIHPCH.SHP-Maryland Inventory of Historic Properties, 2008 (MIHP 2008)	Maryland Historic Trust (MHT), Maryland Department of Planning (MDP)	01/17/2008	Charles County- The Maryland Inventory of Historic Properties (MIHP) vector layers are depictions of the approximate locations of historic structures, monuments, districts, and other properties that are listed on the Maryland Inventory of Historic Properties. The inventory is maintained by Maryland Historical Trust's (MHT) Office of Research, Survey and Registration.
MHTIHPPR.SHP- Maryland Inventory of Historic Properties, 2008 (MIHP 2008)	Maryland Historic Trust (MHT), Maryland Department of Planning (MDP)	12/14/2007	Prince George's County- The MIHP vector layers are depictions of the approximate locations of historic structures, monuments, districts, and other properties that are listed on the MIHP. As of 01/24/2008, 32,493 of 39,328 locations statewide have been digitized. Of the properties which were not digitized, approximately 5098 occur in Baltimore City, where resources are too concentrated to map at the 1:24000 scale. The remainder are unmapped due to poor locational information, and other reasons (about 1,737).

File Name/Title	Author	Publication Date	Description/ Comments
MDARCHEO_GRID.SHP - Statewide ArchaeoGrid	Maryland Historic Trust (MHT), Maryland Department of Planning	11/05/2007	Includes archeological sites recorded in the Maryland Archeological Site Survey by the MHT. As of October 2007 12,164 of 12,346 sites were digitized. Some sites have been excluded due to their sensitive nature. About 300 new sites area added annually to the survey, so at any time the data may be out of date. Only portions of the state have been surveyed, so an absence of data does not necessarily confirm that archaeological site is not present.
SWEase3m.shp- Maryland Historic Trust Preservation Easements, 2007 (EASE2007)	Maryland Historic Trust (MHT), Maryland Department of Planning (MDP)	10/15/2007	MHT administers a program of Historic Preservation Easements. Under this program, owners of properties individually listed on the National Register of Historic Places (NHRP) or located within locally certified or Register-listed historic districts may convey perpetual historic preservation easements as a gift to MHT. As of September 2007, there were 611 properties with active easements, 589 of which have been digitally mapped. There are also 9 expired easements in the database that are not digitized, 3 that have been combines with other easements, 2 in progress and 22 that need better locational information.

File Name/Title	Author	Publication Date	Description/ Comments
Swnrhp3m.shp- National Register of Historic Places- Maryland Coverage, 2008 (NRHP 2008)	Maryland Historic Trust (MHT), Maryland Department of Planning (MDP)	1/10/2008	The MHT has created a vector layer map of the NRHP properties listed in Maryland. A database table of associated information on these properties has been produced and linked with the vector layer. File includes all Maryland properties listed as of December 31, 2007 in the NRHP. The NRHP is a list of properties identified by the Federal Government as significant in American history and culture. NRHP properties include districts, buildings, sites and objects of significance to their local community, state or the nation.
Swforleg.shp -Forest Legacy Easements	Maryland Department of Natural Resources (MD DNR)	2007	This Forest Legacy data layer was created for the planning purposes of the MD DNR. The Forest Legacy program is designed to identify and protect environmentally important forest lands through the use of perpetual conservation easements between willing buyers and sellers. Only private forest land in a Forest Legacy Area is eligible for the program.

File Name/Title	Author	Publication Date	Description/ Comments
SWGICor.shp - Green Infrastructure Corridors	Maryland Department of Natural Resources (MD DNR)	3/23/2001	These data provide ecological rankings and attributes associated with green infrastructure corridors. The Green Infrastructure Assessment was developed to provide decision support for MD DNR land conservation programs. Green Infrastructure “hubs” are connected through “corridors”, which are linear remnants of land that allow for movement of animals, seeds and pollen, and contribute to the long term survival of many species.
SWGIHub.shp - Green Infrastructure Hubs	Maryland Department of Natural Resources (MD DNR)	3/23/2001	These data provide ecological rankings and attributes associated with green infrastructure hubs. The Green Infrastructure Assessment was developed to provide decision support for MD DNR land conservation programs. The heart of green infrastructure, known as “hubs”, has been identified. Hubs are unfragmented lands 100-1000s of acres in size that are vital to maintaining Maryland’s ecological health.
SWGIHubCor.shp- Green Infrastructure Hubs and Corridors Shapefile	Maryland Department of Natural Resources (MD DNR)	3/23/2001	These data map hub and corridor elements within the green infrastructure. The Green Infrastructure Assessment was developed to provide decision support for MD DNR land conservation programs.

File Name/Title	Author	Publication Date	Description/ Comments
Swpagdist.shp- Maryland Agricultural Land Preservation Foundation (MALPF) Districts	Maryland Department of Natural Resources (MD DNR)	2005	The Maryland Agricultural Land Preservation Foundation (MALPF), housed within the Maryland Department of Agriculture (MDA), was created by the Maryland General Assembly in 1977 to protect agricultural lands through the use of perpetual easements. The preservation process begins with an interested, qualified landowner voluntarily creating a district, containing one or more tracts of land. Easements may then be donated or purchased, protecting in perpetuity the land for agricultural purposes. There is a formal process for obtaining these designations, including the Maryland Board of Public Works approval.
Swplagease.shp- Maryland Agricultural Land Preservation Foundation (MALPF) Easements	Maryland Department of Natural Resources (MD DNR)	2005	The MALPF, housed within the MDA, was created by the Maryland General Assembly in 1977 to protect agricultural lands through the use of perpetual easements. The preservation process begins with an interested, qualified landowner voluntarily creating a district, containing one or more tracts of land. Easements may then be donated or purchased, protecting in perpetuity the land for agricultural purposes. There is a formal process for obtaining these designations, including the Maryland Board of Public Works approval.

File Name/Title	Author	Publication Date	Description/ Comments
Swplco.shp- State Wide County Owned Properties (County parks)	Maryland Department of Natural Resources (MD DNR)	2006	The County Owned Properties data consists of land areas that are run and maintained by county and municipal authorities.
Swpldnr.shp- DNR lands	Maryland Department of Natural Resources (MD DNR)	1999	The MD DNR manages over 446,000 acres of public lands and protected open space in the state. The DNR Lands data (part of Technology Toolbox Protected Lands data set) consists of mapped information that represent those lands that are owned by the MD DNR. NOTE: Adjacent land may also be represented for topological completeness (in holdings) or because of their potential for natural resource protection (owned by federal, other state agency or local government) - see "ownedby" attribute for details.
Swplfe.shp- State Wide Federal Lands	Maryland Department of Natural Resources (MD DNR) Wildlife and Heritage Division	2002	The Federal Lands data consists of land areas that are run and maintained by U.S. Governmental authorities.

File Name/Title	Author	Publication Date	Description/ Comments
Swplmet.shp- Maryland Environmental Trust (MET) Easements	Maryland Department of Natural Resources (MD DNR)	2007	The Maryland Environmental Trust (MET) is a statewide local land trust governed by a citizen Board of Trustees. Since its creation by the General Assembly in 1967, MET's main goal is the preservation of open land, such as farmland, forest land, and significant natural resources. The primary tool for doing this is the conservation easement, a voluntary agreement between a landowner and the MET Board of Trustees.
Swrleg.shp- Rural Legacy Areas	Maryland Department of Natural Resources (MD DNR) Geographic Information Services	11/27/2006	In 1997, the Maryland General Assembly approved the Rural Legacy Program. The purpose of this program is to protect Maryland's best remaining rural landscapes and natural areas through the purchase of land or conservation easements. The Rural Legacy Areas file is a digital, polygon layer showing Maryland's designated Rural Legacy areas. The file was compiled by the MD DNR using data supplied by Rural Legacy Area sponsors. Data updated annually, Includes data through 1/4/2006.

File Name/Title	Author	Publication Date	Description/ Comments
SwPotFIDS.shp- Statewide Potential FIDS habitat	Maryland Department of Natural Resources (MD DNR)	2/11/2003	Potential Habitat layer for Forest Interior Dwelling Species (FIDS) in the State of Maryland. These data are only the results of a model depicting where FIDS habitat might occur based on certain criteria. These polygons have not been field tested or field verified for actual FIDS presence.
Swsspra.shp - Sensitive Species Project Review Areas	Maryland Department of Natural Resources (MD DNR)	11/5/2003	The statewide vector file shows buffered areas that primarily contain habitat for rare, threatened, and endangered species and rare natural community types. It was created over USGS 7.5 minute topographic quadrangle maps and it generally includes, but does not specifically delineate, such regulated areas as Natural Heritage Areas, Wetlands of Special State Concern, Colonial Waterbird Colonies, and Habitat Protection Areas.

File Name/Title	Author	Publication Date	Description/ Comments
Q3flooddata.shp- Q3 Flood Data, Charles County, Maryland	Maryland Department of the Environment (MDE)	2001	The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). The risk zones shown on the FIRMs are the basis for the establishment of rates for flood insurance coverage offered through the NFIP. Q3 Flood Data files convey certain key features from the existing hard copy FIRM. Edge-matching errors, overlaps and deficiencies in coverage, and similar problems are not corrected during digitizing or post-processing.
Tree_Canopy_2005_Poly.shp - Tree Canopy	Prince George's County Government	unknown	Identifies tree canopy as of 2005 for Prince George's County.
Planning_Area_Poly.shp - Planning Areas	M-NCPPC	unknown	This coverage provides the current boundaries of the Planning Areas. This coverage was compiled at a scale of 1" = 1000', rectified to the Planning Department's Thematic Base and verified by The Community Planning Division of the Prince George's Planning Department.
ESRIdata_geometry.shp	Environmental Systems Research Institute, ESRI	2000	This data shows all cemeteries within North America and its territories.

File Name/Title	Author	Publication Date	Description/ Comments
Floodplain_FEMA_Poly.shp - FEMA floodplain	Maryland Department of Natural Resources (MD DNR)	unknown	This is a cover obtained from the MD DNR as part the State Technology Toolbox. This data was captured from the floodplain from the Federal Insurance Rate Maps as prepared the Federal Emergency Management Agency. The data was digitized from maps that were printed at a scale of 1" = 1000'. The covers were received from the State as the individual panels which were joined into a single coverage for the entire County. This coverage has polygon attributes but no user defined arc attributes.
Ches_Bay_Critical_Overlay_Poly.shp Chesapeake Bay Critical Area	Prince George's County Government	unknown	This is coverage of the Chesapeake Bay Critical Area for Charles and Prince George's County, MD. The Chesapeake Bay Critical Area is identified as land located 1,000 feet landward from mean high tide or the edge of tidal wetlands, as designated on the State Tidal Wetland maps and all waters of the Chesapeake Bay and its tributaries.
First Search Haz Database-simplified (removal of duplicate sites within one property)	A.D. Marble & Company	2008	Summarizes the results of an Environment First Search Database Review for Hazardous Materials in the project Study Area. 1983 sites of potential cause for environmental concern were identified in the Environmental FirstSearch Report, dated 3/26/2008.

File Name/Title	Author	Publication Date	Description/ Comments
ADMARBLE_GIS_point.shp	A.D. Marble & Company	2008	This data was gathered from a search of Hazardous Materials form Environmental Firstsearch Report for the Southern Maryland Transit Preservation Study.
Princpfa.shp and charcpfa.shp (file type: ArcInfo Coverage) - Priority Funding Areas (PFAs)	Maryland Department of Planning (MDP)	1998, edited 2003	This data shows the locations of Priority Funding Areas for Charles County, MD.
Min_tracts.lyr	A.D. Marble & Company	2008	Includes Census Tracts that have been identified as containing potential Environmental Justice concerns for having high minority populations.
Pov_tracts.lyr	A.D. Marble & Company	2008	Includes Census Tracts that have been identified as containing potential Environmental Justice concerns for having a high percent in poverty.
shastreams.shp	Maryland State Highway Administration	2004	This stream coverage was digitized by State Highway Administration (SHA) at a scale of 1:24000 on USGS grid maps of Maryland.
Chrls_LULC.Forest.shp	ADM created this file using MDP data. The file contains the forest potions of the 2002 Charles county LULC data.	2002	This coverage contains land use / land cover information for Charles County, Maryland. It uses a modified Anderson level II classification.

File Name/Title	Author	Publication Date	Description/ Comments
Study Area.shp – Southern Maryland Transit Preservation Study	A.D. Marble & Company	2008	A one mile corridor along the centerline of US 310/ MD 5, from De Marr Road in Charles County to I-495 in Prince George's County, plus an expanded area to cover all options to connect to Branch Avenue Metro Station.
Cemetery_Poly.shp - PG County cemetery	Prince George's County Government	unknown	This data shows cemetery boundaries within Prince George's County.
Religious_Institution_Point.shp - PG County religious institutions	Prince George's County Government	unknown	This data shows religious institutions within Prince George's County.
School_Point.shp - PG County schools	Prince George's County Government	unknown	This data shows schools within Prince George's County.
ESRIdata_church.shp	Environmental Systems Research Institute, ESRI	2000	This data shows all churches within North America and its territories.
ESRIdata_schools.shp	Environmental Systems Research Institute, ESRI	2000	This data shows all schools within North America and its territories.

Appendix 4

Environmental First Search Report

(Available Upon Request)

Appendix 5
Interagency Coordination

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573-4575

May 28, 2008

Dawnn McCLeary
Maryland Transit Administration
6 Saint Paul Street
Baltimore, MD 21202-1614

RE: Southern Maryland Transit Corridor Preservation Study P.G. and Charles County, MD.

Dear Ms. McCleary;

This responds to your letter, received May 15, 2008, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

Mary Ratnaswamy

Mary J. Ratnaswamy, Ph.D.
Program Supervisor, Threatened and Endangered Species

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
NOAA Bay Program Office
410 Severn Ave., Suite 107A
Annapolis, Maryland 21403

July 10, 2008

MEMORANDUM TO: Dawnn McCleary
Environmental Documentation, Office of Planning
Maryland Transit Admnistration

FROM: John Nichols JGN

SUBJECT: Transit Corridor Preservation Study

This pertains to you request, dated May 15, 2008, for information on National Marine Fisheries Service (NMFS) trust resources present within the Transit Corridor Preservation Study area extending along Maryland 5, from Branch Avenue Metro Station to Brandywine in Prince Georges County; and, along U.S. 301/MD 5, from Brandywine to White Plains in Charles County.

The portion of the corridor extending along MD 5 in Prince Georges County lies chiefly within the Piscataway Creek watershed. Piscataway Creek is a high quality spawning ground for several species of anadromous fish, including alewife, blueback herring, white perch, and yellow perch. Within the creek mainstem, alewife and blueback herring spawning has been documented a short distance downstream from the MD 5 crossing. Alewife and blueback spawning runs also occur in lower Tinkers Creek, and may extend into Pea Hill Branch and Meeting House Branch, both tributaries to Tinkers Creek (O'Dell et al, 1975). This portion of the study corridor also crosses Henson Creek, but upstream of documented migratory fish runs.

The portion of the corridor extending along U.S. 301/MD 5 in Prince Georges and Charles Counties lies chiefly within the Mattawoman Creek watershed. The corridor crosses Mattawoman Creek mainstem, and the Timothy Branch and Piney Branch tributaries. These crossings lie above the upstream extent of anadromous fish runs in the watershed (O'Dell et al., 1975). However, catadromous American eel, and anadromous sea lamprey have been documented in Piney Branch immediately upstream of the Middletown Road crossing of this tributary (MD State Highway Administration, 2006). The lower end of this corridor also crosses the extreme headwaters of Pages Swamp, upstream of migratory fish runs.

Both Piscataway Creek and Mattawoman watersheds are typical coastal plain systems, with sinuous channels, an abundance of sand/gravel substrate (ideal for migratory fish spawning), and active floodplains. Forested riparian zones also enhance the value of instream spawning habitat. These systems are vulnerable to impacts resulting from various forms of development, and particularly to changes in instream hydrology resulting from improperly managed stormwater runoff, and deforestation of the drainage basin.

There are no listed (threatened or endangered) species under NMFS jurisdiction in the study corridor.

If you have any questions, or need additional information, please contact me at (410) 267-5675; or, John.Nichols@NOAA.GOV.

LITERATURE CITED

O'Dell, Jay, J. Gabor, and R. Dintaman. 1975. Survey of anadromous fish spawning areas. Completion Report, Project ARC-8, *for*: Potomac River Drainage. Maryland Department of Natural Resources, Annapolis.

Maryland State Highway Administration. 2006. Results of Fish Community Surveys at Piney Branch and an unnamed tributary to Piney Branch. *For*: U.S. 301 – Waldorf Study.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Northeast Region
Habitat Conservation Division
410 Severn Avenue, Suite 107A
Annapolis, MD 21403
Commercial Phone: (410) 267-5675
FAX#: ~~(410) 267-5666~~ (410) 295-3154

FAX TRANSMITTAL

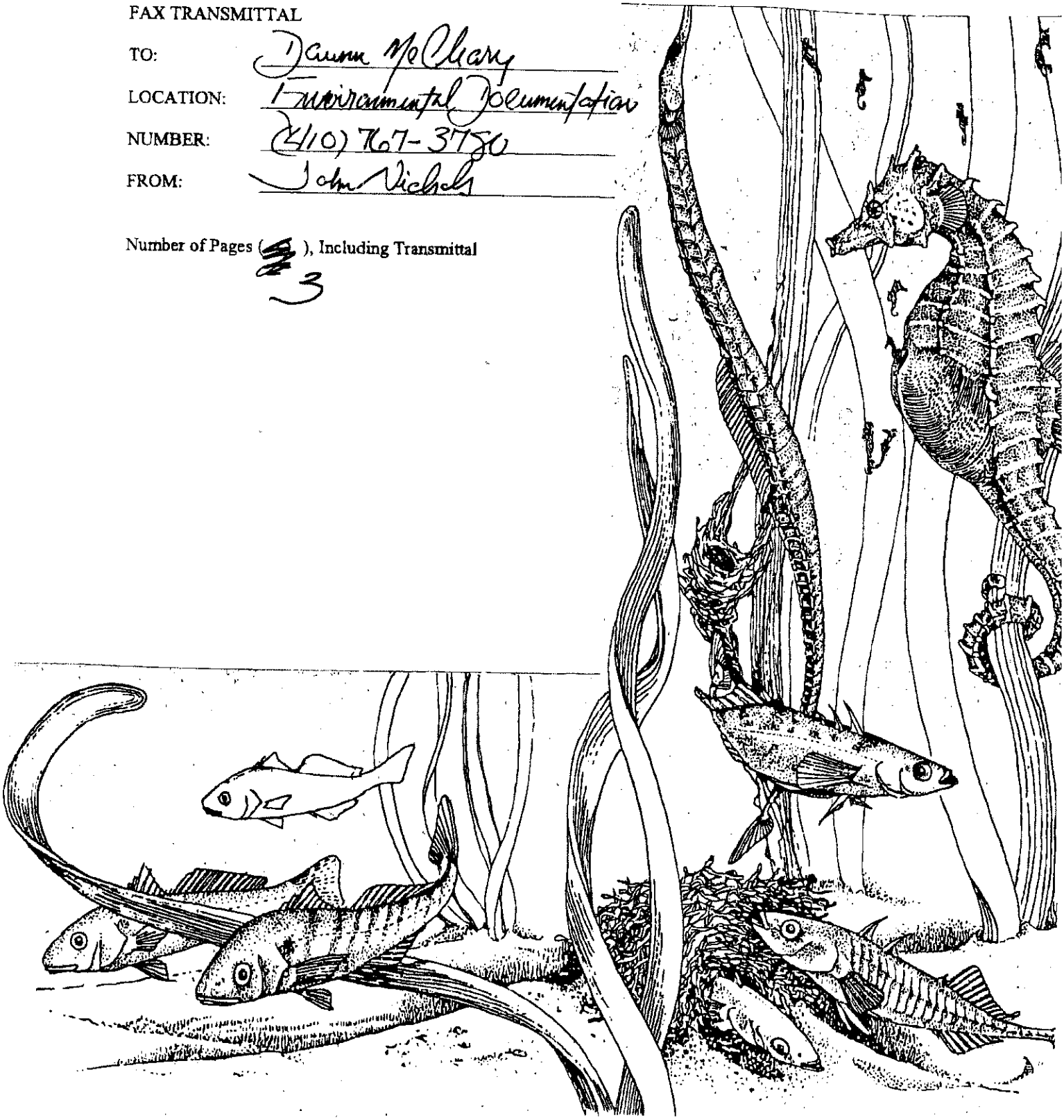
TO: Dawn McCleary

LOCATION: Environmental Documentation

NUMBER: (410) 767-3750

FROM: John Vicheli

Number of Pages (3), Including Transmittal



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573-4575

June 24, 2008

Dawnn McCleary
Maryland Transit Administration
Maryland Department of Transportation
6 Saint Paul Street
Baltimore, Maryland 21202 1614

RE: Southern Maryland Transit Corridor Preservation Study Prince Georges & Charles County, Maryland

Dear Ms. McCleary:

This responds to your letter, received May 20, 2008, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at: **http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.**

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

Leopoldo Miranda Castro
Field Supervisor

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Eric Schwaab, Deputy Secretary

January 22, 2009

Ms. Dawnn McCleary
Maryland Department of Transportation
Maryland Transit Administration
6 Saint Paul Street
Baltimore, MD 21202-1614

RE: Environmental Review for Southern Maryland Transit Corridor Preservation Study – Prince George's and Charles Counties, Maryland.

Dear Ms. McCleary:

The Wildlife and Heritage Service's database indicates that there are the following occurrences of rare, threatened and endangered (RT&E) species within the study area as delineated on your map:

- At Andrews Air Force Base, there is a record for state rare Tall Nutrush (*Scleria triglomerata*) occurring at the edge of oak-maple community habitat. This population should be avoided during any disturbance proposed for this area, and this species could potentially occur at other locations in the study area if the appropriate habitat is present. Habitat for Tall Nutrush is described as: Moist or dry sandy soil and pine-barrens (Gleason & Cronquist 1991); dry to moist thin woods and openings (Fernald 1950); swales, meadows, open moist woods (MDNHP).

- At Fox Run, located at Route 5 and Surratts Road intersection, there are records for RT&E fish occurring in the Fox Run stream system. These species may be especially vulnerable to changes in water quality and therefore the entire drainage of this stream system should be taken into consideration.

- At several crossings of Piscataway Creek, there are records for RT&E fish occurring in this stream system. These species may be especially vulnerable to changes in water quality and therefore the entire drainage of this stream system should be taken into consideration.

- At Brandywine Communications site there are records for the following RT&E species:

Scientific Name	Common Name	State Status
Polygala polygama	Racemed Milkwort	Threatened
Linum intercursum	Sandplain Flax	Threatened
Agalinis skinneriana	Midwestern Gerardia	Endangered
Carex buxbaumii	Buxbaum's Sedge	Threatened
Torreyochloa pallida	Pale Mannagrass	Endangered

These species are found in various habitats on the site, including grassland, woods, and wetlands. These populations should be avoided during any disturbance proposed for this area, and these species could potentially occur at other locations in the study area if the appropriate habitat is present. Habitat for Racemed Milkwort is described as: Dry, usually sandy soil (Gleason & Cronquist 1991); dry sandy woods and openings (Fernald 1950); dry, open or semi-open areas with shaley or sandy soil (MDNHP). Habitat for Sandplain Flax is described as: Dry soil (Tatnall 1946); argillaceous, siliceous or peaty shores, plains, and thickets (Fernald 1950); sandy soils and barrens (Gleason & Cronquist 1963). Habitat for Midwestern Gerardia is described as: Dry prairies, open woods, and barrens, especially in sandy soil (Gleason & Cronquist 1991); dry sands, bluffs and barrens (Fernald 1950). Habitat for Buxbaum's Sedge is described as: Bogs (Radford et al 1968); wet meadows and watersides, bogs, open swamps (Hough 1983); freshwater wetlands, including swamp forests, alder thickets, and sedge meadows (MDNHP). Habitat for Pale Mannagrass is described as: Bogs (Radford et al 1968); swamps and shallow water (Tatnall 1946); floodplain forests, swamps, marshy ponds (MDNHP).

- The portion of Upper Mattawoman Creek that falls within the study area is known to support a record of state rare Primrose Willow (*Ludwigia decurrens*), located between Cedarville Road and the Charles County/Prince George's County line. This population should be avoided during any disturbance proposed for this area, and this species could potentially occur at other locations in the study area if the appropriate habitat is present. Habitat for Primrose Willow is described as: Marshes and ditches (Radford et al 1968).

- In the St. Charles area there are several populations of the state-listed endangered Dwarf Iris (*Iris verna*), located on the west side of US Route 301 between Billingsley Road and Smallwood Drive. These populations should be avoided during any disturbance proposed for this area, and this species could potentially occur at other locations in the study area if the appropriate habitat is present. Habitat for Dwarf Iris is described as: Sandy or rocky woods, usually on sterile acid soil (Radford et al 1968); dry to mesic, sandy, open pine-oak woods and roadsides (MDNHP).

- The portion of Piney Branch that falls within the study area of this project site supports an occurrence of state-listed endangered Swollen Bladderwort (*Utricularia inflata),* located between Middletown Road and Western Parkway Road. This population should be avoided during any disturbance proposed for this area, and this species could potentially occur at other locations in the study area of the appropriate habitat is present. Habitat for Swollen Bladderwort is described as: Ponds and ditches (Tatnall 1946); Delmarva bays or Coastal Plain seasonal ponds, slow streams, flooded old sandpits and millponds (MDNHP).

For the overall project site, our analysis of the information provided also suggests that the forested area on or adjacent to the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird Species (FIDS) are declining in Maryland and throughout the eastern United States.

The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources. The following guidelines will help minimize the project's impacts on FIDS and other native forest plants and wildlife:

1. Avoid placement of new roads or related construction in the forest interior. If forest loss or disturbance is absolutely unavoidable, restrict development to the perimeter of the forest (i.e., within 300 feet of the existing forest edge), and avoid road placement in areas of high quality FIDS habitat (e.g., old-growth forest). Maximize the amount of remaining contiguous forested habitat.

2. Do not remove or disturb forest habitat during April-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred Owl) are present.

3. Maintain forest habitat as close as possible to the road, and maintain canopy closure where possible.

4. Maintain grass height at least 10" during the breeding season (April-August).

We look forward to working with you to address these concerns as the study progresses. Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2008.1025.ch/pg
Cc: K. McCarthy, DNR
G. Golden, DNR