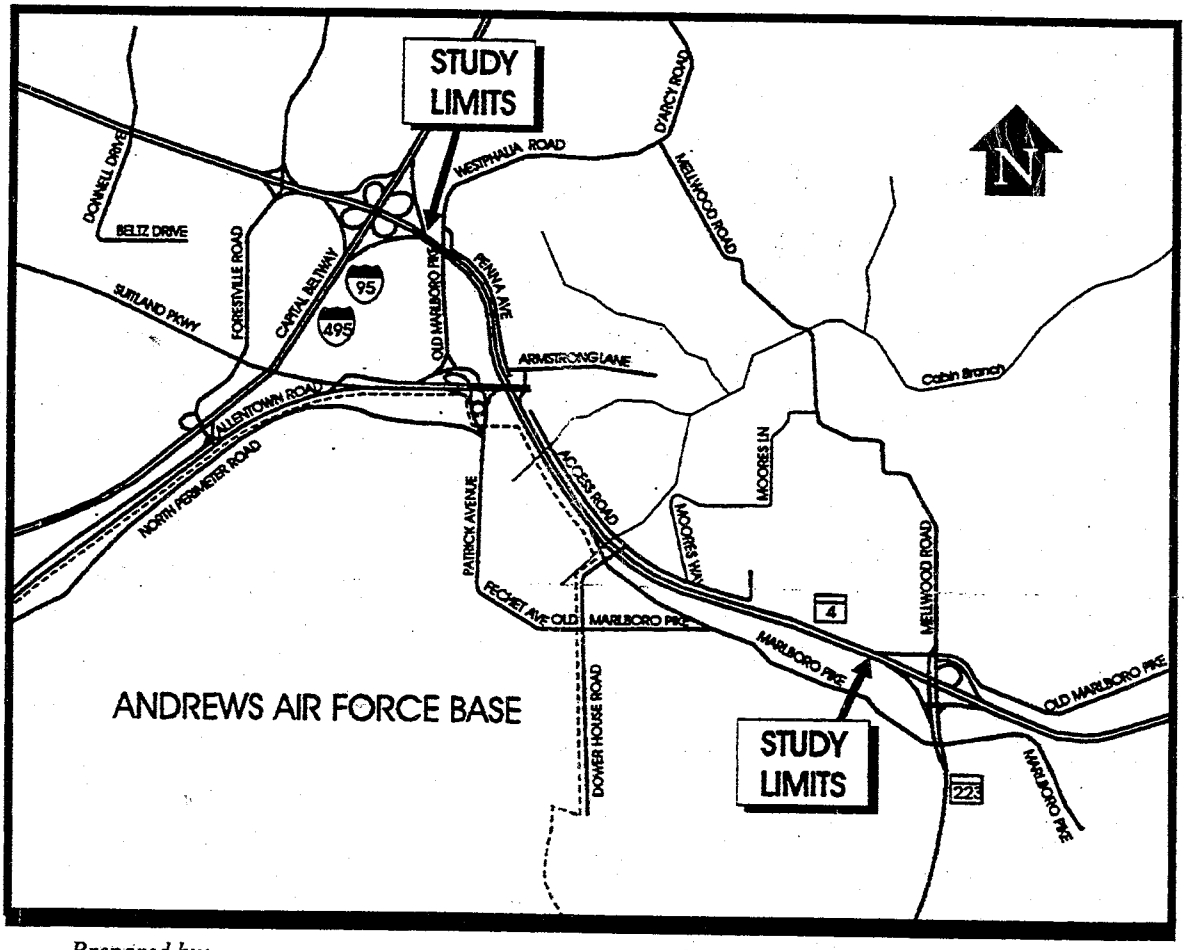
Finding of No Significant Impact/ Section 4(f) Evaluation

Maryland Route 4: From East of the I-95/I-495 Interchange to West of Maryland Route 223

Prince George's County, Maryland



Prepared by:

U.S. Department of Transportation
Federal Highway Administration

and

Maryland Department of Transportation
State Highway Administration

FEDERAL HIGHWAY ADMINISTRATION
REGION III
FINDING OF NO SIGNIFICANT IMPACT/SECTION 4(f) EVALUATION
MD 4 FROM EAST OF THE I-95/I-495 INTERCHANGE
TO WEST OF MD 223
PRINCE GEORGE'S COUNTY, MARYLAND

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

The Federal Highway Administration (FHWA) has determined that the State Highway Administration's (SHA's) Selected Alternative for improvements to Maryland 4 from east of the I-95/I-495 interchange to west of Maryland 223, consisting of mainline widening (Alternative 5, Option 2) and interchange construction at Westphalia Road (Alternative 2, Option 2 modified), Suitland Parkway (Alternative 3, Option 2 modified), and Dower House Road (Alternative 4, Option 5), will have no significant impact upon the environment.

The SHA Selected Alternative will impact approximately 1.2 acres (0.49 hectares) of wetlands and approximately 17 acres (6.7 hectares) of woodlands. The Suitland Parkway, owned and administered by the National Park Service, and listed on the National Register of Historic Places, would be adversely affected by SHA's Selected Alternative, which requires 8.8 acres (3.6 hectares) of right-of-way from this resource. However, a Memorandum of Agreement (MOA) has been developed between the FHWA, the National Park Service, the Maryland Historical Trust, the Advisory Council on Historic Preservation, and the S H A to mitigate these effects. This Finding of No Significant Impact (FONSI)/Section 4(f) Evaluation has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the Environmental Assessment (EA) and attached documentation.

Federal Highway Administration
Division Administrator

5/19/02
Date

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I.

RECORD OF DECISION

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor
John D. Porcari
Secretary
Parker F. Williams
Administrator

MEMORANDUM

TO: Mr. Neil J. Pedersen
Director
Office of Planning and
Preliminary Engineering

FROM: Louis H. Ege, Jr.
Deputy Director
Office of Planning and
Preliminary Engineering

DATE: May 20, 1999

SUBJECT: Contract No. PG917B11
MD 4
from I95/I495 to West of MD 223 (Woodyard Road)

RE: Alternative Selection Meeting

A meeting was held Tuesday, May 4, at the SHA Headquarters 707 building in the Administrator's Conference Room. The purpose of the meeting was for the team to recommend the alternatives to the Administrator for his concurrence. Those in attendance included:

Bill Carver	SHA Project Planning Division
Jason Groth	SHA Project Planning Division
Scott Holcomb	SHA Project Planning Division
Joe Kresslein	SHA Project Planning Division
Bob Martin	Department of Public Works & Transit
Linda Mott	SHA Project Planning Division
Heather Murphy	SHA Project Planning Division
Neil Pedersen	SHA Director Office of Planning Preliminary Engineering
Charlie Watkins	District #3
Parker Williams	SHA Administrator
Wendy Wolcott	SHA Landscape Architecture Division
Jim Wynn	SHA Project Planning Division

My telephone number is _____

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202

The meeting started with a brief review of the history and purpose of the project. Project planning started in the late eighties. A workshop was held in March of 1996. A number of alternatives for each location was presented. A Location Design Public Hearing was held in December of 1998. The No Build Alternative and one Build alternative for each location including a mainline alternative was presented. The build alternatives presented were the same ones presented to the public at the December 7, 1998 Location/Design Public Hearing. Eleven individuals spoke at the hearing and their was no opposition to the project. There was some citizen concern regarding business and residential access.

Scott Holcomb presented the traffic findings for the project. Traffic on MD 4 is expected to increase by approximately 50 percent by 2020. This is due to traffic from Calvert, Anne Arundel and Prince George's Counties along with local development including the East Gate development and Presidential Corp. The current intersections at Westphalia Road, Suitland Parkway and Dower House Road are at a failing Level of Service and will continue to do so by 2020. Interchanges at these locations will provide a LOS E or better. A LOS E is most likely to occur at I95/I495.

Accidents in the study area are overall, comparable to the statewide average rate, although fixed object, opposite direction, and left turns are significantly higher.

Bill Carver presented the alternatives proposed for each location. Alternative 2 Option 2 proposed a grade separation at Westphalia Road. This interchange was designed to have Westphalia Road go over MD 4. The movements associated with this alternative were designed to the west due to the close proximity of the ramps associated with the MD 4/I-95/I-495 interchange. Since the Location/Design Public Hearing, minor changes to the Penn Randall Industrial Park access were made to address the business owners concerns. During the Final Design Phase, the necessity and location of traffic signals will be decided. Mr. Williams questioned whether the turn onto the connection from the end of Old Marlboro Pike to MD 4 was adequate for trucks. The turning radius of this connection will be checked and revised if necessary to insure it can accommodate a WB-50 design vehicle.

Alternative 3 Option 2 (Modified) at Suitland Parkway proposed an interchange that is designed to have MD 4 go under Suitland Parkway. A two-lane diamond roundabout design is proposed. This alternative creates a smooth transition onto the Suitland Parkway, which is considered to be a gateway to the Capital Route. The continued flow design was also preferred by Andrews Air Force Base authorities, for safety and security reasons. The two-lane roundabout can support truck traffic from the industrial park as questioned by Mr. Williams.

Operational characteristics of the roundabouts may require a change in design to provide a full circle on each side of MD 4. This will be decided in the design phase. MD 4 would be slightly depressed and Suitland Parkway would be slightly raised to provide for this grade separation. Bypass ramps just outside the roundabouts are proposed to keep directional traffic from entering the roundabout. Coordination with the National Park Service (NPS) and the Maryland Historic Trust (MHT) is ongoing concerning impacts to Suitland Parkway.

The county master-plan alignment for a bike/pedestrian trail along Suitland Parkway calls for a connection through the Suitland Parkway interchange with MD 4. Due to the diamond roundabout interchange design, a pedestrian connection at this location would involve multiple ramp crossings. Due to the continuous flow characteristics associated with a roundabout, the team felt that the proposed bridge at Westphalia Road/Old Marlboro Pike location would best provide this bike/pedestrian trail connection over MD 4. A service road on the north side of MD 4 would provide the connection back to the north side of the Suitland Parkway interchange with MD 4.

Alternative 4 Option 5 at Dower House Road proposed an interchange that is designed to have MD 4 go over Dower House Road. A two-lane diamond roundabout design is proposed. This alternative is preferred due to lower construction cost and lower right-of-way impacts.

Alternative 5 Option 2 proposed to add a third lane in each direction from east of I95/I495 to 1 mile east of Dower House Road. This lane would be added on the inside of the eastbound lanes and on the outside of the westbound lanes. This option would allow for one future HOV lane in each direction within the existing median.

Jason Groth explained that a Finding of No Significant Impact (FONSI) environmental document was to be completed by Fall of 1999. A Memorandum of Agreement (MOA) with MHT and NPS was being prepared regarding aesthetic issues related to Suitland Parkway. Landscape concepts were created at the request of NPS and the Prince George's County Department of Public Works and Transit. These concepts were created to show a consistent landscaping theme for the project and to highlight Suitland Parkway as a gateway to the Capital.

During the construction of the interchanges, traffic on MD 4 is proposed to be maintained similarly to the way MD 5 at Allantown Road is handled.

The construction cost for this project is approximately $64 million dollars. The project is in the 1999-2004 CTP for project planning only. Coordination with elected officials concerning their support for the project is complete.

Mr. William's agreed with the study teams recommendation that Alternative 2 Option 2 at Westphalia Road with the subsequent modifications to the Penn Randall Industrial Park access, Alternative 3 Option 2 (Modified) at Suitland Parkway, Alternative 4 Option 5 at Dower House Road and Alternative 5 Option 2 for MD 4 mainline, be selected for seeking Location Approval.

If you have any questions or comments regarding this study, please contact the project manager, Mark Radloff at 410-545-8512.

CONCURRENCE:

I concur the above accurately represents decisions made by the Administrator at the Alternative Selection meeting.

Neil J Pedersen

Neil J. Pedersen, Director
Office of Planning and
Preliminary Engineering

5/23/99

Date

cc: Attendees
Project Planning Team

II.

SUMMARY OF ENVIRONMENTAL IMPACTS

TABLE II-1
MARYLAND ROUTE 4
FINDING OF NO SIGNIFICANT IMPACT (FONSI)/SECTION 4(f) EVALUATION
SUMMARY OF IMPACTS

	No Build Alt.1	MD 4/ Westphalia Rd. Alt.2	MD 4/ Suitland Pkwy. Alt.3		MD 4/ Dower House Rd. Alt.4		Mainline Alternative Alt. 5		Selected Alternatives Totals
		Opt.2 (Mod)[4]	Opt.1 (Mod)	Opt.2 (Mod)	Opt. 4	Opt. 5	Opt. 1	Opt. 2	*
Socioeconomic Impacts									
1.Displacements									
a. Residential	0	1	1	1	3	5			5
b. Business[1]	0	5	2	2	0	0			7
c. Community Facilities	0	0	0	0	0	0			0
TOTAL DISPLACEMENTS	**0**	6	**3**	3	**3**	5			12
2. Affected Properties[2]									
a. Residential	0	9	14	12	15	15			37
b. Business[1]	0	17	28	27	3	3			47
c. Community Facilities	0	0	0	0	0	0			0
TOTAL AFFECTED PROPERTIES	**0**	26	**42**	41	**18**	18			85
3. Required Right-of-Way - (acres)[3]									
a. Industrial	0.0	12.6	19.5	17.5	0.0	0.0			30.1
b. Mixed use	0.0	0.0	0.0	0.0	0.9	9.3			9.3
c. Residential	0.0	0.0	0.0	0.0	0.1	0.2			0.2
d. Commercial	0.0	0.0	0.0	0.0	8.5	8.3			8.3
e. AAFB	0.0	0.0	1.6	0.2	3.3	3.2			4.1
f. Suitland Parkway	0.0	0.0	8.8	8.8	0.0	0.0			8.8
TOTAL REQUIRED R-O-W (acres)	**0.0**	12.6	**29.9**	27.2	**12.8**	21.0			60.8
Natural Environmental Impacts									
a. Total Wetlands (acres)	0.00	0.29	1.00	0.88	0.05	0.04			1.21
Forested and Scrub/Shrub Wetlands (acres)	0.00	0.21	0.93	0.81	0.03	0.03			1.05
Emergent Wetlands (acres)	0.00	0.08	0.07	0.07	0.02	0.01			0.16
b. Woodland (acres)	0.00	0.5	5.3	3.6	12.5	13.2			17.3
c. Culvert/Fill Slope (linear feet)	0.00	300	740.0	5100	190.0	3300			910
d. Streams (linear feet)	0.00	0	180	2180	250	280			460
e. 100-year Floodplain (acres)	0.00	0.00	0.00	0.00	0.00	0.00			0
f. Threatened and Endangered Species (# of species)	0	0	0	0	0	0			0
g. Prime Farmland Soils (acres)	0.0	17.3	11.6	11.9	10.4	11.0			40.2
h. Historic Sites (# of sites)	0	0	1	1	0	0			1
Suitland Parkway (acres)	0.0	0.0	8.8	8.8	0.0	0.0			8.8
i. Archeological Sites (# of sites)	0	0	0	0	0	0			0
Noise									
Number NSAs exceeding abatement criteria or increasing 10 dBA or more over ambient	N/A	N/A	3	2	0	0			2
Air Quality									
CO violations of 1-hr or 8-hr standards	0	0	0	0	0	0			0
Cost of Preferred Alternates									
a. Total Preliminary Engineering (Millions)		2.2	1.1	2.5	1.1	2.0	2.9	2.9	9.4
b. Total Right-of-Way (Millions)		0.0	8.8	7.4	10.4	8.6	0.0	0.0	22.0
c. Total Construction (Millions)		15.0	18.0	15.5	17.6	13.5	23.4	19.6	63.6
TOTAL COST		23.2	**27.9**	25.2	**29.1**	24.1	**26.2**	22.5	**95.0**

Mainline Alternative impacts are incorporated into interchange Alternates

[1]Business displacement are total parcels with structure displacements.

[2]Based on ROW acquisition land use, landlocked areas counted as affected.

[3]Based on current zoning classification.

[4]Highlighted columns indicate selected alternatives.

III.

SUMMARY OF ACTIONS AND RECOMMENDATIONS

III. SUMMARY OF ACTIONS AND RECOMMENDATIONS

A. Purpose and Need

1. Purpose

The purpose and need for the improvements to Maryland (MD) 4 from east of the I-95/I-495 Interchange to west of MD Route 223 are to improve safety and provide sufficient capacity to address existing and projected travel demands throughout the corridor.

MD 4 connects southern Anne Arundel County and Calvert County with employment areas in Prince George's County and the District of Columbia. It also serves as a significant cross-county traffic function by connecting three major routes in Prince George's County: US 301, MD 223, and I-95/I-495 (Capital Beltway). In addition, it is the primary regional roadway in eastern Prince George's County, providing access to Andrews Air Force Base.

MD 4 is a fully controlled access highway with interchanges from US 301 to MD 223. The only section of MD 4, between US 301 and the Capital Beltway, that does not have full control of access is located between MD 223 and the Capital Beltway, which coincides with the limits of this project. The existing typical section between MD 223 and Dower House Road consists of two lanes in each direction with outside shoulder use permitted in the westbound direction as a travel lane during the morning peak hours when commuter traffic to the District of Columbia is heaviest. The existing typical section between a point just east of Dower House Road and the Capital Beltway is a five-lane section, three lanes in the westbound direction and two lanes in the eastbound direction. A variable width grass median is provided throughout the project limits.

MD 4 has a parallel two-lane service road on the north side between Moores Way and Westphalia Road. This service road is used as a relief valve for MD 4 when congestion levels are severe, especially during the morning peak hours.

The Melwood Community, located east of Andrews Air Force Base and along the east side of MD 223, is composed of a number of scattered subdivisions and employment sites. The area contained 650 dwelling units in 1992. The adopted Master Plan for the Melwood-Westphalia area forecasts employment development to expand from 116 acres (47 hectares) to 744 acres (301 hectares) with 3,140 potential employees in the future. In addition, located along MD 4, within the Melwood-Westphalia area, are an additional 1,300 acres (526 hectares) of land that can accommodate approximately 2,200 single-family detached units, 1,100 attached units, and 700 multi-family units in the future as recommended in the Master Plan.

Andrews Air Force Base consists of approximately 4,300 acres (1740 hectares) within the study area. The Base has approximately 3,200 civilian employees, 10,000 military personnel, and 10,000 dependents and is a major employment center in the county. Other than Andrews Air Force Base, there are no major existing attractions/destinations in the area (e.g., malls, shopping centers). Melwood Mall, containing 40,000 square feet of commercial space, is located along the south side of MD 4 near its intersection with Dower House Road. The mall, however, has a high turnover ratio and had a vacancy rate of 20 percent in 1992.

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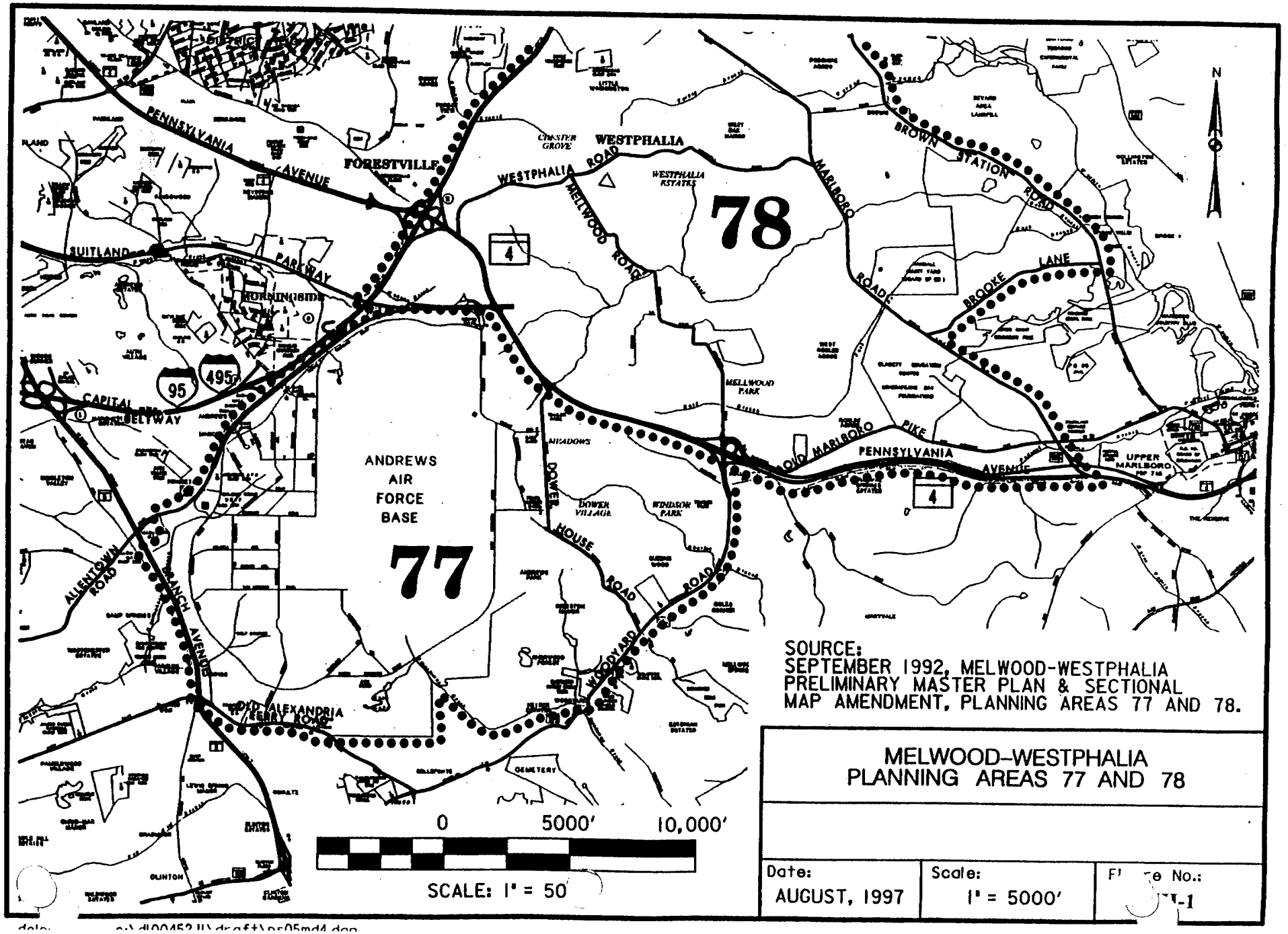


SOURCE:
SEPTEMBER 1992, MELWOOD-WESTPHALIA PRELIMINARY MASTER PLAN & SECTIONAL MAP AMENDMENT, PLANNING AREAS 77 AND 78.

MELWOOD-WESTPHALIA
PLANNING AREAS 77 AND 78

Date:	Scale:	Figure No.:
AUGUST, 1997	1" = 5000'	[illegible]-1

The existing established industrial areas in the area include the Penn Belt and Penn Randall Industrial Parks, which are bounded by the Capital Beltway, MD 4, and Suitland Parkway. These areas are the oldest fully developed employment areas within the Planning Area with 1.1 million square feet of warehouse, light industrial, office, and quasi-public uses. Current tenants include PEPCO, Murray's Steaks, and other various commercial companies.

Tables III-1 and III-2 present the Melwood-Westphalia planning areas population and employment figures for 1990 and 2010 (source: Round 5 Forecasts) by planning areas:

TABLE III-1
MELWOOD-WESTPHALIA PLANNING AREAS
POPULATION FIGURES FOR 1990 AND 2010

PLANNING AREA	*1990*	*2010*
77 (Melwood)	12,337	12,486
78 (Westphalia)	4,837	8,829

TABLE III-2
MELWOOD-WESTPHALIA PLANNING AREAS
EMPLOYED FIGURES FOR 1990 AND 2010

PLANNING AREA	*1990*	*2010*
77 (Melwood)	11,285	12,594
78 (Westphalia)	3,907	5,746

The Melwood-Westphalia planning area is divided into several neighborhoods with a major undeveloped area along the north side of MD 4, between Ritchie Marlboro Road and I-95/I-495. Excluding the Andrews Air Force Base, the Master Plan identifies approximately additional 2,500 dwelling units and mobile homes in these neighborhoods. The adopted Master Plan for the Melwood-Westphalia area also recommends residential land use for approximately 5,600 to 6,600 dwelling units (based on 1.6 to 2.6 dwelling units per acre) within this planning area in the future, but this has not been approved. Planned developments within the study limits include Auto Nation USA and the Presidential Corporate Center. Auto Nation USA is a major dealership (43.5 acres or 17.6 hectares) that is zoned light-industrial/commercial office. It will be located in the northeast quadrant of the MD 4/I-95 interchange (Westphalia Planning Area). It is currently in the detailed site plan review stage. At the time of issuance of this report, the Presidential Corporate Center has been partially constructed.

The Master Plan also proposes a multi-use activity center along northbound MD 4 in the vicinity of Dower House Road. The activity center will consist of a variety of land uses, including a mix of supermarket stores, office space, hotel, and clustering multi-family housing. To accommodate this, the plan recommends that approximately 81 acres (32.8 hectares) of land within the Presidential Corporate Center be rezoned from industrial to mixed use. The existing Mall, with 40,000 square feet of commercial space contains 20 small retail stores and is located along the south side of MD 4 east of Dower House Road.

The function and magnitude of the proposed activity center are defined in the Prince George's Master Plan as follows:

- Consists of 5 to 15 acres (2 to 6 hectares) of commercial development (50,000 to 75,000 square feet of gross leasable area).
- Consists of approximately 700 multi-family dwelling units with a density range between 10 to 48 dwelling units per gross acre.
- Serves a population of 10,000 to 12,000 persons.
- Has a service area of 2 miles in radius.
- Accessed by MD 4 and Presidential Parkway.
- Includes a small supermarket (10,000 to 15,000 square feet), restaurant/cafes (4,000 square feet), beauty/barber shop (3,000 square feet), drug store (4,000 square feet), medical/dental offices, real-estate/insurance, bank and financial offices, service station, liquor, cleaners, and religious establishments.
- Also, may have a day care center, recreational uses, and public uses such as a library and a post office.

The vacant developable employment area, including the Presidential Corporate Center, located along the north side of MD 4, between Westphalia Road and Woodyard Road Extended, totals approximately 485 acres (196 hectares).

2. Project History

Reconstructing MD 4 to a four-lane freeway appeared for the first time in the 1968-1988 State Highway Administration's 20-Year Highway Needs Study (HNS). The upgrade appeared again in the 1973-1992 HNS, which also recommended an ultimate eight-lane highway for this portion of MD 4. The limits for the MD 4 project were reduced to the limits of the existing proposed project in the 1979-1998 Highway Needs Inventory.

The study to upgrade MD 4 to a multi-lane freeway between MD 223 and I-95 was added to the Development and Evaluation portion of FY 1988-1993 Consolidated Transportation Program (CTP). The eastern limit of the project was extended to the Anne Arundel County line in the 1989-1994 CTP. The limits of this project were shortened to the proposed project in the

1993-1998 CTP. Currently the proposed project is included in the Development and Evaluation portion of the final 1995-2000 CTP.

These recommendations are consistent with the adopted Prince George's County Master Plan for the Melwood-Westphalia area. The Master Plan recommends that MD 4 be upgraded to a multi-lane freeway, with interchanges at all of the current at-grade intersections between MD 223 and the Capital Beltway.

The MD 4 Project Planning study was initiated in August 1988. Public participation has been encouraged throughout the project by means of direct public input into the project planning process via letter or telephone communications. In May 1995, a focus group composed of local residents, business owners, elected officials, and SHA team members was formed. This group has met regularly to assist in the development of possible solutions for traffic congestion and safety concerns along the MD 4 corridor. An Alternatives Public Workshop was held in March 1996 at Forestville High School, and a Location/Design Public Hearing was held at the same location on December 7, 1998. Citizen response has generally been favorable for the project throughout the process. Four alternatives were selected for seeking approval at the Alternatives Selection Meeting on May 4, 1999.

Since the Location/Design Public Hearing, minor changes to the Penn Randall Industrial Park access were made to address the business owners' concerns. The changes involved lowering the horizontal alignment of Old Marlboro Pike between Burtons Lane and Grey Eagle Drive in order to avoid two residential displacements identified in the original design. A second structure crossing located in the vicinity of Suitland Parkway was suggested by the Maryland National Capital Park and Planning Commission (MNCPPC) but was dropped from further consideration because of the associated costs of adding another structure.

3. Traffic Conditions and Level of Service Analysis

Levels-of-Service (LOS) on expressways and freeways with uninterrupted flow conditions are ranked from best (A) to worst (F) as follows: *

- Level A, free traffic flows at high speeds with low volume
- Level B, stable traffic flow at high to moderate speeds
- Level C, stable traffic flow at moderate speed with increasing traffic volumes
- Level D, approaching unstable flow at moderate to low speeds with heavy traffic volumes
- Level E, unstable traffic flow at low speeds with high traffic volumes approaching roadway capacity
- Level F, total breakdown of traffic flow with frequent delays at high traffic volumes

Table III-3 shows the growth in Average Daily Traffic (ADT) volumes and the corresponding LOS for the noted *segments** between 1988 and 1992 along MD 4. *(*Note: These*

segments operate with better LOS, V/C Ratios than the intersections themselves.) Table III-4 shows ADT volumes and corresponding LOS at the intersections for 1992.

TABLE III-3
GROWTH ADT VOLUMES
BETWEEN 1988 AND 1992 ALONG MD 4

SEGMENT	*1988*	*LOS*	*1992*	*LOS**
Ritchie Marlboro Road to Woodyard Road (MD 223)	35,200	C	37,250	C
Woodyard Road to Dower House Road	44,4000	D	47,100	D
Dower House Road to Suitland Parkway	52,300	C	59,000	C
Suitland Parkway to Westphalia Road	38,700	C	46,600	C
Westphalia Road to I-95/I-495 (Capital Beltway)	51,500	C	61,000	C

As previously stated, extensive commercial development is already occurring within the study area, with additional development proposed in the area surrounding MD 4. The most prominent of these developments is the Presidential Corporate Center located north of MD 4 from MD 223 to Armstrong Lane. This development has the potential to add seven million square feet of office park development. Adjacent to the Presidential Corporate Center to the west (east of Westphalia Road), the East Gate Industrial Park is proposed to contain a one-million square foot complex. Both the Presidential Corporate Center and the East Gate Industrial Park have been zoned and approved for construction.

TABLE III-4
1992 INTERSECTION ADT VOLUMES

(V/C Ratios Greater Than 1.0)

INTERSECTION	*1992 (ADT)*	*(LOS) AM/PM*
Westphalia Road	54,350	F/F
Suitland Parkway	56,625	F/F
Dower House Road	56,625	F/F

Tables III-5 and III-6 present the 2020 no-build and build projections, respectively, for MD 4 intersections within the study area (see Figure III-2). These traffic projections assume the full development of the Presidential Corporate Center and the other planned area developments. The build assumption is based on the construction of three through lanes in each direction with an overpass at Westphalia Road and roundabout interchanges at Suitland Parkway and Dower House Road.

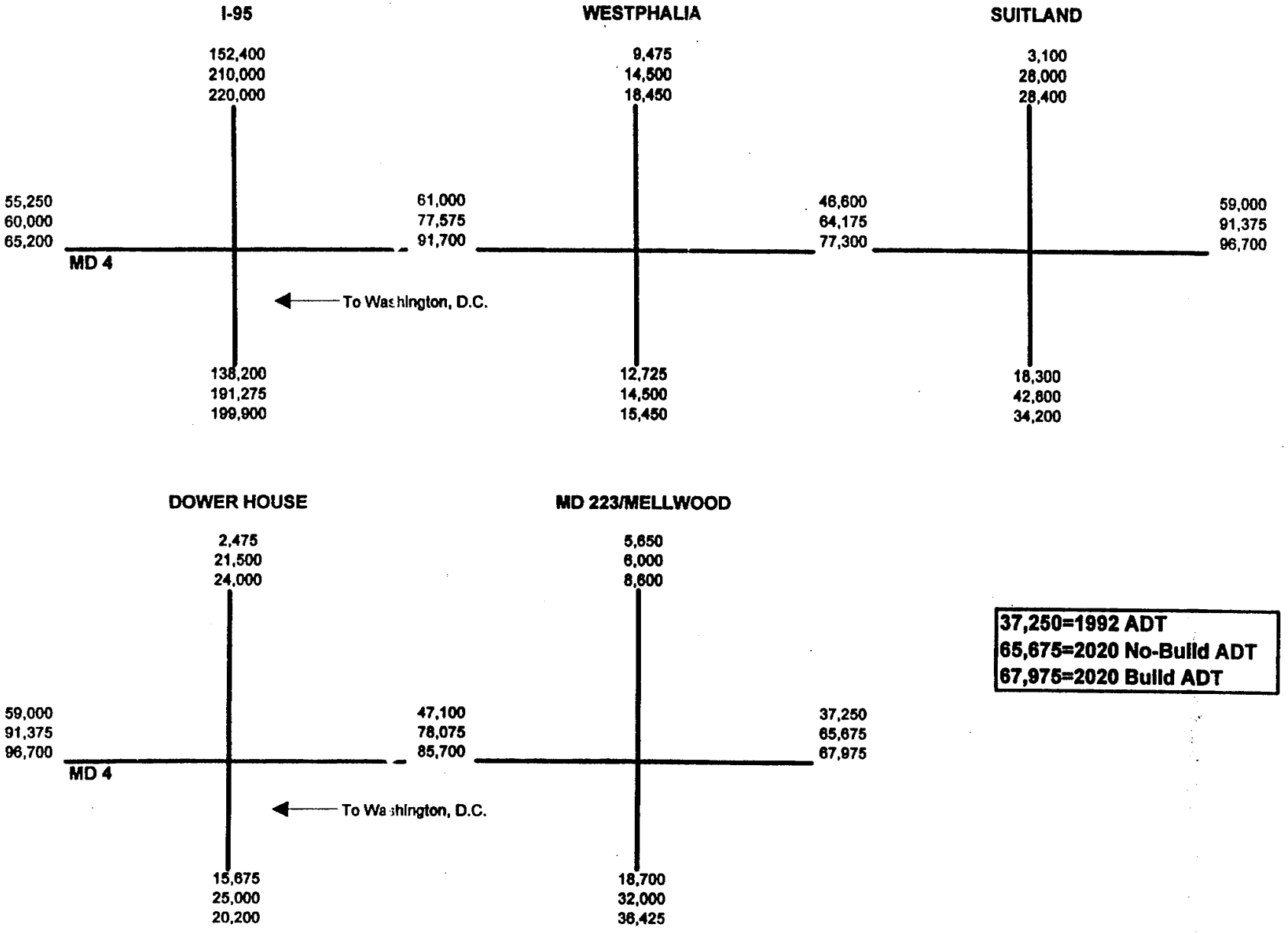

I-95
152,400
210,000
220,000
55,250
60,000
65,200
61,000
77,575
91,700
MD 4
To Washington, D.C.
138,200
191,275
199,900
WESTPHALIA
9,475
14,500
18,450
46,600
64,175
77,300
12,725
14,500
15,450
SUITLAND
3,100
26,000
28,400
59,000
91,375
96,700
18,300
42,600
34,200
DOWER HOUSE
2,475
21,500
24,000
59,000
91,375
96,700
47,100
78,075
85,700
MD 4
To Washington, D.C.
15,675
25,000
20,200
MD 223/MELLWOOD
5,650
6,000
8,600
37,250
65,675
67,975
18,700
32,000
36,425
37,250=1992 ADT
65,675=2020 No-Build ADT
67,975=2020 Build ADT

FIGURE III-2

TABLE III-5
2020 NO-BUILD PROJECTIONS

(V/C Ratios Greater Than 2.0)

INTERSECTION	*2020 No-Build (ADT)*	*(LOS) AM/PM*
Westphalia Road	77,575	F/F
Suitland Parkway	91,375	F/F
Dower House Road	91,375	F/F

TABLE III-6
2020 BUILD PROJECTIONS

INTERSECTION	*2020 Build (ADT)*	*(LOS) AM/PM*	*V/C Ratios*
Westphalia Road*	91,700	E/E	>1.0
Suitland Parkway	96,700	C/C	0.64
Dower House Road	96,700	D/D	0.83

**This intersection is complicated by the large amount of weaving lanes making a true LOS and V/C determination somewhat misleading.*

In addition to these unacceptable projected levels of service (LOS) for segments of MD 4, all the intersections along MD 4 between MD 223 and the Capital Beltway are currently operating at or near failing capacity.

Because of the development of the surrounding areas and the associated traffic growth into the District of Columbia, all of these intersections are expected to be failing in both the AM and PM peak hours by the year 2020.

MD 4 from I-95 to east of Dower House Road was analyzed using the different build scenarios. The operation of the interchanges will not vary from option to option.

The roadway itself currently operates at an acceptable LOS from I-95 to Dower House Road. From Dower House Road to MD 223 the LOS has deteriorated to E in both the morning and evening peak hours, in the peak direction.

The only other part of the study area that may experience some delay is in the vicinity of the I-95/I-495 interchange. In the morning, the weaving vehicles to and from Westphalia Road (between Westphalia and I-95/I-495), as well as the non-weaving vehicles moving toward I-95, will be at LOS E. In the evening, only the weaving and non-weaving vehicles leaving the I-95/I-495 interchange toward the Westphalia Road off ramp will be at an unacceptable LOS E. At the I-95/I-495 interchange, the weave between the two sets of loop ramps will be failing in both the morning and evening peak hours in both directions.

All three interchanges being proposed are anticipated to operate at acceptable LOS during both the 2020 morning and evening peak hours. This includes the merges, diverges, and the roundabouts. See Figures III-3 and III-4 for the specific eastbound (EB) and westbound (WB) LOS results, respectively.

4. Safety Conditions

The accident analyses presented in this report are compiled from data collected between January 1991 and December 1996 for the MD 4 corridor from MD 223 to the Capital Beltway. Similar to the traffic analysis, the study area was split into sections (see Figure III-5).

Within the study period, the entire project area had a total of 399 reported accidents, of which six were fatal accidents with nine persons killed, 219 injury related and 174 property damage accidents. The overall accident rate (109 accidents/100 million vehicle miles (mvm)) for the corridor is comparable to the statewide average rate (119 acc/100 mvm) for similar state maintained highways. Of the accident types, the *fixed object** (17 acc/100 mvm) accident rate is higher than the statewide average rate (16 acc/100 mvm), as is the rear end collision rate (51 acc/100 mvm compared to the state average of 45 acc/100 mvm). The rear end collision rate was statistically significantly higher than the statewide average from 1995 to 1996 (62 acc/100 mvm).

** Fixed object accidents are a collision category that indicates that a vehicle has struck a physical object accessible from the highway. Some examples of fixed objects are: bridges, buildings, culverts, curbs, guardrails, embankments, fences, poles, trees, construction barriers and crash attenuatores. The total number of fixed object accidents is included in the total number of accidents, angle accidents, etc. Contributing conditions to the fixed object accidents are driver speed, road geometrics and weather conditions.*

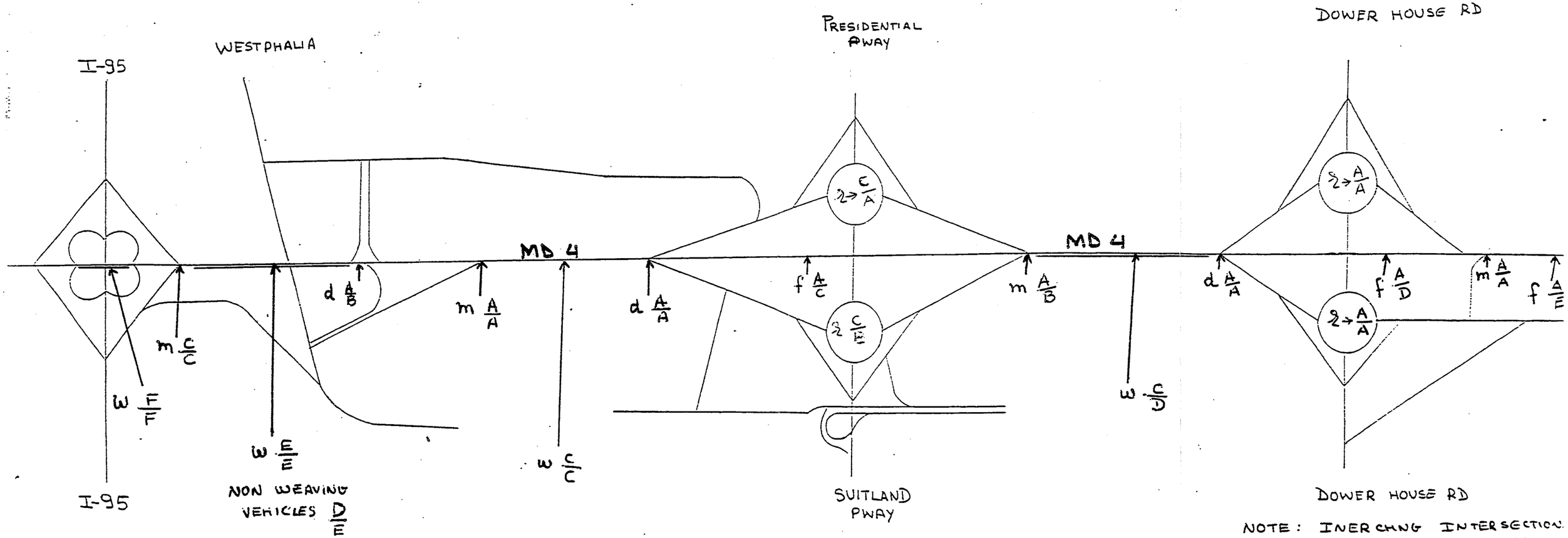
There were no high accident locations during the study period.

There was one ***wet surface accident section**** from 1990 to 1992 on MD 4, from 0.5 mile south of Dower House Road to 0.3 mile south of Allentown Road/Suitland Parkway, which is a distance of approximately 1 mile.

*** A sliding scale computer program was used to identify roadway sections between 1990 and 1992 that were up to a mile in length with 10 or more accidents. Those sections that had at least 60% of their total accidents during wet surface conditions were termed WET SURFACE HIGH ACCIDENT LOCATIONS. Those sections having at least 50% total wet surface under the same parameters were classified as NOTABLE WET SURFACE ACCIDENT LOCATIONS. Those locations with at least 40% of their accidents during wet surface conditions under the same guidelines qualified as WET SURFACE ACCIDENT LOCATIONS. MD 4 from 0.5 mile south of Dower House Road to 0.3 mile south of MD 337 from 1990 to 1992 had 40% of its total accident (60 accidents) occur under wet surface conditions and as such was classified as a WET SURFACE ACCIDENT LOCATION.*

EB MD 4, 2020 ANALYSIS

FIGURE III-3



NOTE: INERCHNG INTERSECTION WOULD OPERATE AT A LOS "B" FOR ALTERNATE OPTION-4.

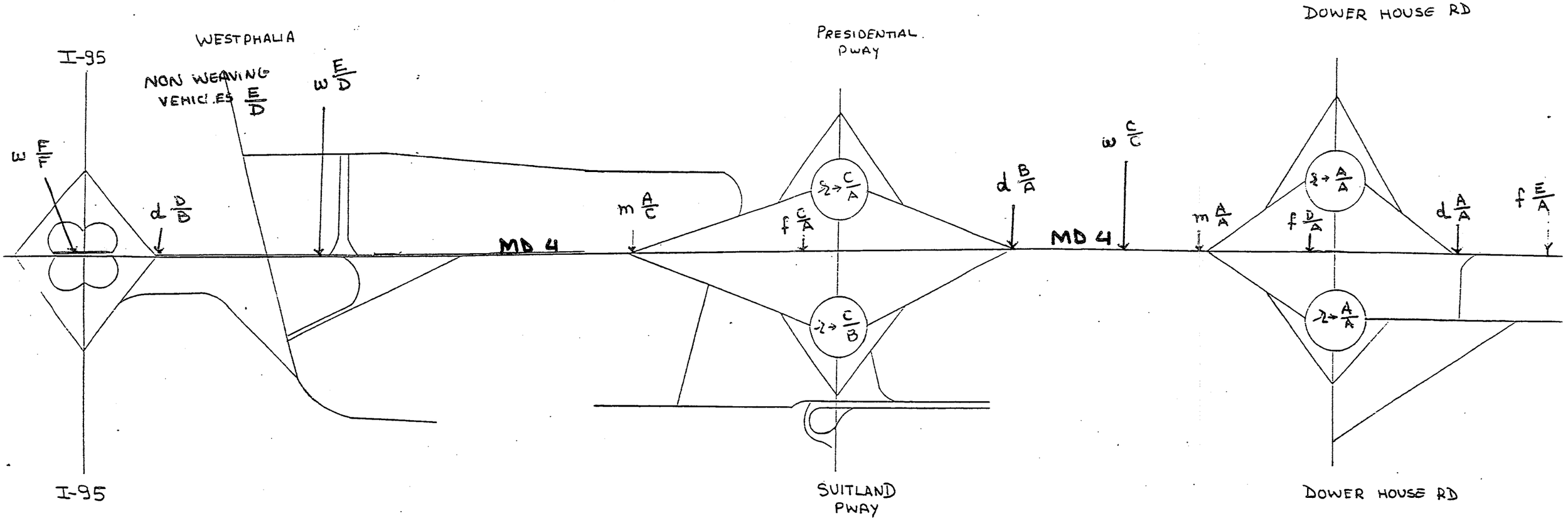
f → FREEWAY
m → MERGE
d → DIVERGE
ω → WEAVE
↻ → ROUNDABOUT
A → LOS AM PK

DILIP PATEL
OOTS / TDSD
7-17-97

MD 4, 2020 ANA-1

FIGURE III-4

WB MD 4, 2020 ANALYSIS



f → FREEWAY
m → MERGE
d → DIVERGE
ω → WEAVE
↻ → ROUNDABOUT
A → AM PEAK LOS

DILIP PATEL
OOTS / TDSD
7-17-97

MD 4, 2020 ANALYSIS

MD 4
I-95 TO MD 223
ACCIDENT DATA
(1991 TO 1996)

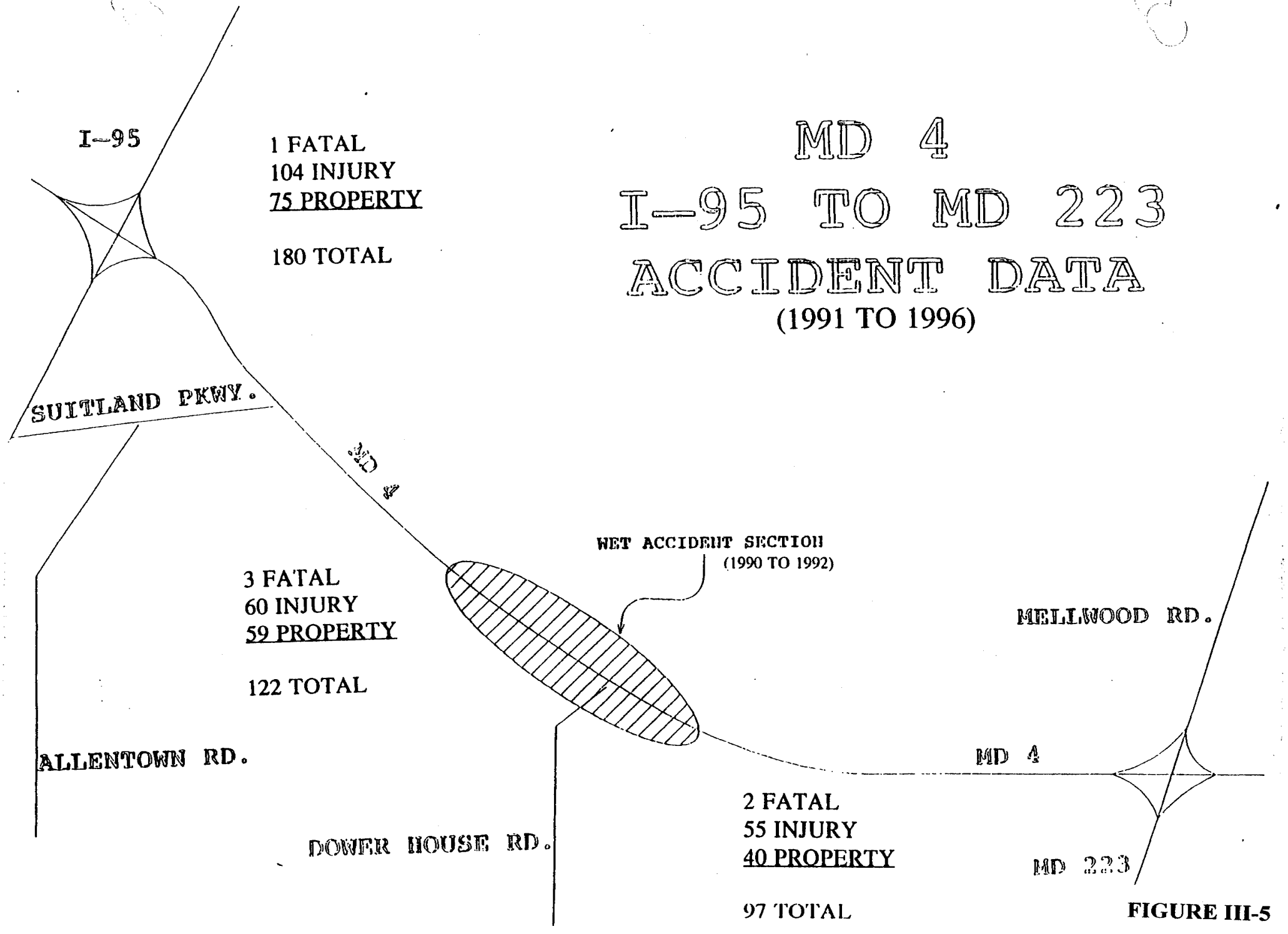


FIGURE III-5

The study area is split into three sections. The following is a breakdown of accident statistics for each section.

The first section is from MD 223 to Dower House Road. This is the first signalized intersection between US 301 and the Capital Beltway, following a freeway condition to the east. This section had a total of 97 reported accidents. There were 2 fatal, 55 injury, and 40 property damage accidents during the study period. The total accident rate (69 acc/100 mvm) for this section exceeded the statewide average rate (57 acc/100 mvm) for similarly maintained state highways. During the period 1995 to 1996, the rate was statistically significantly higher than the statewide rate (92.6 acc/100 mvm compared to 60 acc/100 mvm). The fixed object accident rate (23 acc/100 mvm) was statistically significantly higher in this area than the statewide average rate (14 acc/100 mvm) for similarly maintained state highways. Contributing conditions to the fixed object accidents are driver speed, road geometrics, and weather conditions. The rear end collision rate was also higher than the statewide rate (27 acc/100 mvm vs. 21 acc/100 mvm).

It should be noted that the westbound traffic along this segment is permitted to use the shoulder as a travel lane in the morning peak hour. As such, this eliminates the shoulder use as a recovery area for out-of-control vehicles, increasing the chance of fixed object and rear end collisions.

The second section is from Dower House Road to Allentown Road/Suitland Parkway. It had a total of 122 reported accidents during the study period. There were 3 fatal, 60 injury, and 59 property damage accidents reported. In this section, the total accident study rate (133 acc/100 mvm) was lower than the statewide average rate (162 acc/100 mvm). The accident rate for fixed object collisions (19 acc/100 mvm) was comparable to the statewide average rate (17 acc/100 mvm) for similarly maintained state highways.

The third section was from Allentown Road/Suitland Parkway to the Capital Beltway, which had a total of 180 reported accidents 1 of which was fatal, 104 were injury, and 75 were property damage accidents. The rear end collision rate was statistically significantly higher than the statewide rate for the years 1995 to 1996 (120 acc/100 mvm compared to the state rate of 60 acc/100 mvm).

This project will result in a safer future roadway by going from intersections to interchanges, resulting in fewer traffic conflicts (for example, traffic will not have to stop at lights or make left turns), and, therefore, less accidents.

5. Intermodal Relationships

MD 4 is the primary regional facility in eastern Prince George's County, bringing traffic into and out of Andrews Air Force Base. In addition to its military value, Andrews Air Force Base is the aerial gateway for the President of the United States and visiting foreign dignitaries.

Transit service within the corridor is currently very limited. WMATA bus service extends up to the north gate of Andrews Air Force Base. A privately operated commuter bus service under contract to MTA (Route 904) provides service from the Chesapeake Beach area in Calvert County to Washington, D.C., via Upper Marlboro (Prince George's County Equestrian Center). In addition, Prince George's County's "The Bus" operates a local bus route (Route #20)

from the Addison Road Metrorail Station to Upper Marlboro that travels along the segment of MD 4 from west of I-495 to MD 223.

WMATA is proposing to build a new Metrorail station off of Suitland Parkway at MD 458 (Silver Hill Road), west of the study area, as part of the Branch Avenue "F" Route. The Branch Avenue "F" Route is programmed for construction and is scheduled to open for service in 2001. MD 4 and the Suitland Parkway will be the primary highway access for Calvert County and Upper Marlboro commuters to the proposed Suitland Metrorail Station and, in turn, to the overall Washington DC metrorail system.

MD 4 has no formal park and ride lots within the project limits. Motorists are currently using adjacent roadways as informal park and ride sites. SHA will continue to evaluate feasible options for park and ride facilities that result from the entire MD 4 Congestion Management Systems (CMS) Corridor Study; however, experience indicates that park and ride facilities situated a relatively long distance from final destination points are more successful than facilities with short commuting travel time or distance. Due to the proximity of the project area to Washington, D.C., park and ride lots are not included in this project.

6. Conclusions

The functional needs for travel demand for the forecasted development areas between Dower House Road and the Suitland Parkway have to be addressed. The developments in this area include the Presidential Corporate Center, consisting of 7 million square feet, and the East Gate Industrial Park consisting of 1 million square feet. Both of these developments have been zoned and approved by the county. In addition, the traffic generated from the growth of the surrounding areas (Anne Arundel County and Calvert County) needs to be accommodated.

In order to address these concerns, and to improve the safety along this section of MD 4, the State Highway Administration recommends that MD 4 be upgraded to a controlled access multi-lane freeway. This upgrade will increase capacity and improve safety along MD 4 with new interchanges at Dower House Road, Suitland Parkway, and Westphalia Road, and the upgrade of the existing interchange at MD 223.

B. Alternatives Considered

1. Alternatives Retained for Detailed Study

The following Alternatives were retained for detailed study and presented in the Environmental Assessment:

Alternative 1 (No-Build)

Alternative 1 (no-build) would not provide any significant improvements to MD 4 within the study limits. The study portion of MD 4 consists of two different roadway sections. The section from I-95/I-495 to the east of Dower House Road consists of three 12-foot westbound lanes and two 12-foot eastbound lanes separated by a variable width (40 to 100 feet) depressed grass median. The section just east of Dower House Road to MD 223 (Woodyard Road) consists of two 12-foot lanes in each direction. The use of the 10-foot outside shoulder as a travel lane is permitted in the westbound direction during the morning rush hours. This section is also separated by a variable

width (100 to112 feet) depressed grass median. Minor improvements that would occur as part of normal maintenance and safety operations would not be expected to measurably affect roadway capacity or accident rates.

Because of the ongoing and proposed development in the area surrounding MD 4 and the growth of traffic volumes from Anne Arundel and southern Prince George's Counties into Washington, D.C., all of the intersections and the mainline roadway of MD 4 within the study area are expected to operate at a level of service (LOS) below LOS D in both the morning and evening peak hours by the design year (2020). Fixed object and rear-end accidents already exceed the statewide average for similarly designed highways. It can be expected that, as the magnitude of congestion increases over time, the rate of accidents will also increase under the no-build alternative.

Alternative 2, Option 2 (modified)

Alternative 2, Option 2 (modified) proposes eliminating the at-grade intersection through construction of a bridge that would result in Westphalia Road/Old Marlboro Pike crossing over MD 4. The proposed bridge would be shifted approximately 150 feet east of the existing intersection. Access to the Penn Randall Industrial Park would be accommodated via a loop ramp from eastbound MD 4, terminating at an at-grade intersection with Old Marlboro Pike. The proposed typical section on Old Marlboro Pike between MD 4 and Suitland Parkway has been expanded from two to three lanes, providing a continuous left turn lane and a 10-foot shoulder on the west side to accommodate parking. Since the Location/Design Public Hearing, minor changes to the Penn Randall Industrial Park access were made to address the business owners' concerns. The changes involved lowering the horizontal alignment of Old Marlboro Pike between Burtons Lane and Grey Eagle Drive in order to avoid two residential displacements identified with the original design. A second structure crossing located in the vicinity of Suitland Parkway was suggested by MNCPPC, but was dropped from further consideration because of the associated costs of adding another structure.

Alternative 3, Option 1 (modified)

Alternative 3, Option 1 (modified) proposes to construct a diamond roundabout interchange at the MD 4/Suitland Parkway intersection. MD 4 would travel over Suitland Parkway. Traffic entering westbound MD 4 from Westphalia Road would continue on a two-way service road that parallels Presidential Parkway, follows the Prince George's County Master Plan alignment A-67, and ties into A-66. This would provide a continuous service road to the north of MD 4 from Presidential Parkway to Westphalia Road and the future A-66 and would accommodate the businesses in the Penn Randall Business Park and the Presidential Corporate Center.

Alternative 3, Option 2 (modified)

Alternative 3, Option 2 (modified) proposes to construct a diamond roundabout interchange at the MD 4/Suitland Parkway intersection. Suitland Parkway would travel over MD 4. Traffic entering westbound MD 4 from Westphalia Road would continue on a two-way service road that parallels Presidential Parkway, follows the Prince George's County Master Plan alignment A-67, and ties into A-66. This would provide a continuous service road to the north of MD 4 from Presidential Parkway to Westphalia Road and the future A-66 and would accommodate the businesses in the Penn Randall Business Park and the Presidential Corporate Center.

Alternative 4, Options 4 and 5

Alternative 4, Options 4 and 5 propose to grade-separate the MD 4/Dower House Road intersection with a two-lane diamond roundabout design that allows direct access to Marlboro Pike. Alternative 4, Option 4 has Dower House Road crossing over MD 4, while Alternative 4, Option 5 has MD 4 crossing over Dower House Road. These options were well received at the Alternatives Public Workshop, held on March 13, 1996 at Forestville High School, because of the direct access to Marlboro Pike.

Alternative 5, Options 1 and 2

Alternative 5, Option 1 proposes mainline widening, adding a third travel lane in each direction. The lanes would be added within the existing median heading eastbound and on the outside of the westbound lane. This option would accommodate one future High Occupancy Vehicle (HOV) lane in each direction within the existing median. Two options were initially developed to differentiate between the two vertical alignments at Suitland Parkway. Alternative 5, Option 1 proposed MD 4 going over Suitland Parkway. Option 2 is the same as Option 1, but Suitland Parkway would travel over MD 4.

2. SHA Selected Alternatives

The following Alternatives were selected for seeking Location approval at the Alternative Selection Meeting on May 4, 1999. Subsequent to the Location/Design Public Hearing, minor modifications were made to Alternative 2, Option 2 (modified). To address business owner concerns, minor changes were made to improve access to the Penn Randall Industrial Park. The need for and location of traffic signals will be decided during the Final Design Phase.

Alternative 2, Option 2 (modified)

MD 4; Westphalia Road; Old Marlboro Pike (Figure III-6). This option was selected over Alternative 1 (No-Action) due to better maintenance of traffic during and after construction.

Alternative 3, Option 2 (modified)

MD 4; Suitland Parkway; Andrews Air Force Space (Figure III-7). This option was selected over Alternative 3, Option 1 due to preference of the National Park Service, which is the agency with jurisdiction over Suitland Parkway.

Alternative 4, Option 5

MD 4; Dower House Road (Figure III-8). This option was selected over Alternative 4, Option 5 due to lower construction cost and lower right-of-way (ROW) impacts.

Alternative 5, Option 2

Mainline Alternative. This mainline option was selected over Alternative 5, Option 1 to coincide with the selection of Alternative 3, Option 2 (modified) at Suitland Parkway, which proposes MD 4 passing under Suitland Parkway.

C. Environmental Consequences

The following section presents the direct, indirect, and cumulative impacts that may result from implementation of the SHA Alternatives.

1. Social, Economic, and Land Use Impacts

a. Displacements and Relocations

A preliminary relocation and right-of-way acquisition report was prepared for the build alternatives under consideration by the Maryland State Highway Administration. The SHA selected alternatives would require five residential relocations and seven commercial displacements. Table III-7 contains a comparison of the anticipated relocations associated with SHA's selected alternatives, as well as those associated with other alternatives and options considered.

TABLE III-7
SUMMARY OF RESIDENTIAL AND BUSINESS REPLACEMENTS

	Alternative 2 Option 2 (modified)	***Alternative 3 Option 2 (modified)***	***Alternative 4 Option 5***	***Alternative 5 Option 2***	***Total***
Residential	1	1	3	0	5
Business	5	2	0	0	7
Total	6	3	3	0	12
Right-of-Way	12.6 Acres (5.10 Hectares)	27.2 Acres (11.1 Hectares)	21.0 Acres (8.50 Hectares)	0 Acres (0 Hectares)	51.1 Acres (20.7 Hectares)

Note: Mainline replacements/ROW are incorporated into Intersection impacts

Sufficient housing and commercial stocks exist for owner and lease holder relocations to be absorbed. The relocation process is anticipated to take 12 to 18 months.

SHA selected Alternative 2, Option 2 (modified) would require one residential and five business displacements. One of the business displacements is a service station. The required right-of-way area is primarily zoned for industrial use. A total of 26 properties would be affected by the proposed work. No right-of-way is required from Andrews Air Force Base.

SHA selected Alternative 3, Option 2 (modified) would require one residential and two business displacements. One of the business displacements is a service station. The required right-of-way is primarily zoned for industrial use. A total of 41 properties would be affected by the proposed work, and 0.9 acre (0.4 hectare) of right-of-way is required from Andrews Air Force Base. The displaced residential property is zoned for industrial use. Approximately 8.8 acres (3.6 hectares) of right-of-way around Suitland Parkway is required from the National Park Service.

SHA selected Alternative 4, Option 5 would require three residential and no business displacements. The required right-of-way is primarily zoned for mixed and commercial uses. A total of 18 properties would be affected by the proposed work, and 3.2 acres (1.3 hectares) of right-of-way is required from Andrews Air Force Base.

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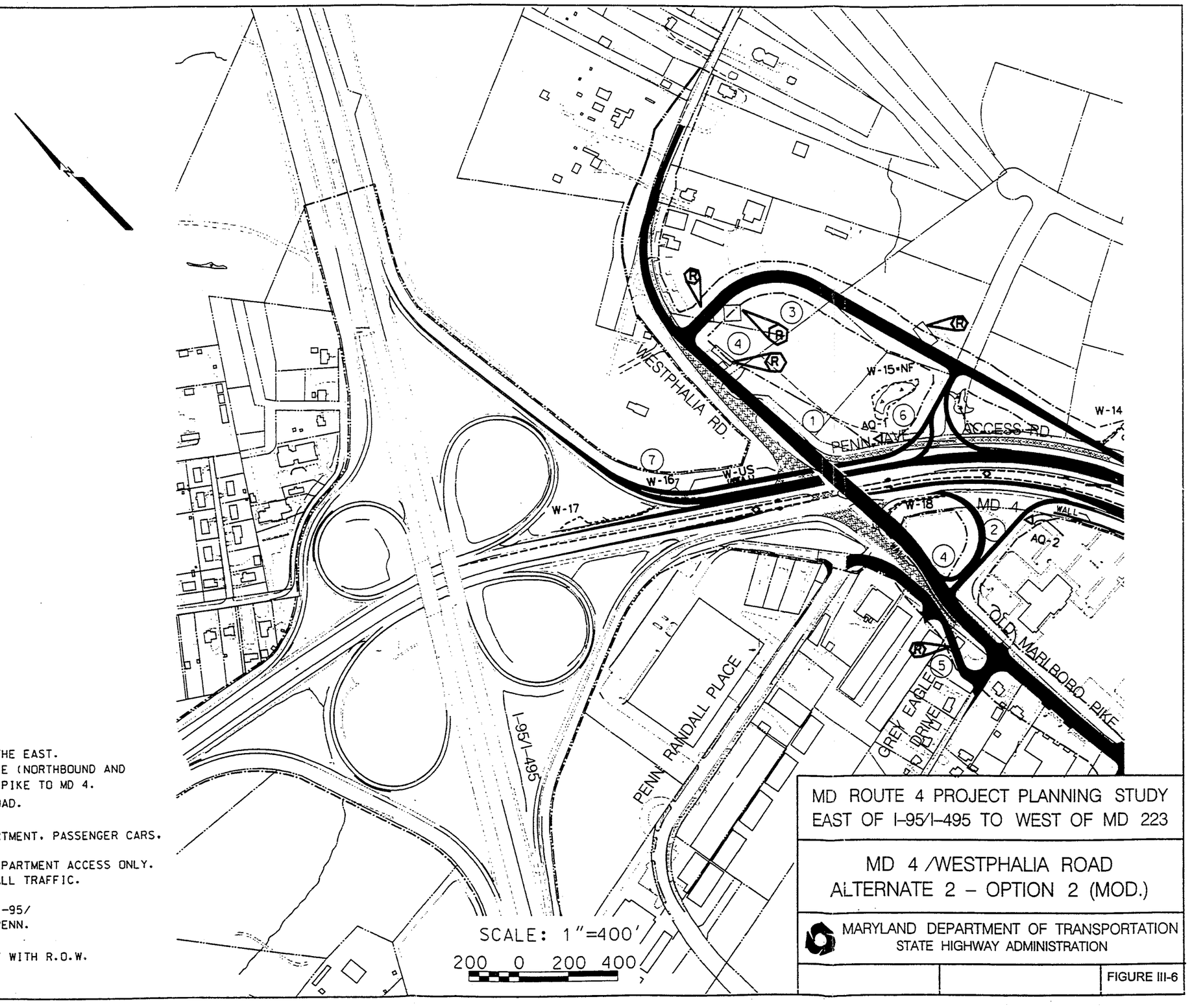
LEGEND

- PROPOSED PAVEMENT
- PROPOSED BRIDGE
- PROPOSED PAVEMENT WITH FUTURE HOV LANE
- EXIST. R.O.W.
- PROP. R.O.W.
- EXISTING PAVEMENT
- EXIST. PAVEMENT TO BE REMOVED
- (R) RELOCATION
- WATERWAY
- W14 WETLAND/WATERS OF THE US
- ACOE JURISDICTIONAL DETERMINATION LIMIT LINE
- ▽AQ-1 AIR RECEPTOR LOCATIONS
- N.S.A.-1 NOISE SENSITIVE LOCATIONS



KEY ELEMENTS:

1. BRIDGE OVER MD 4 SHIFTED 150' TO THE EAST.
2. RAMP FROM MD 4 TO OLD MARLBORO PIKE (NORTHBOUND AND SOUTHBOUND) AND FROM OLD MARLBORO PIKE TO MD 4.
3. REALIGNMENT OF THE NORTH ACCESS ROAD.
4. SIGNAL REQUIRED.
5. TWO-WAY ACCESS ROAD FOR FIRE DEPARTMENT, PASSENGER CARS, AND SMALL TRUCKS.
6. MIDDLE RAMP TO MD 4 IS FOR FIRE DEPARTMENT ACCESS ONLY. OTHER RAMPS FROM/TO MD 4 OPEN TO ALL TRAFFIC. FROM/TO MD 4 OPEN TO ALL TRAFFIC.
7. ONE ADDITIONAL LANE FROM MD 4 TO I-95/I-495 & ONE ADDITIONAL LANE FROM PENN. AVE. ACCESS ROAD TO I-95/I-495.
8. ACOE J.D. LIMIT LINE IS CONCURRENT WITH R.O.W. UNLESS OTHERWISE SHOWN.

MD ROUTE 4 PROJECT PLANNING STUDY
EAST OF I-95/I-495 TO WEST OF MD 223

MD 4 /WESTPHALIA ROAD
ALTERNATE 2 – OPTION 2 (MOD.)

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

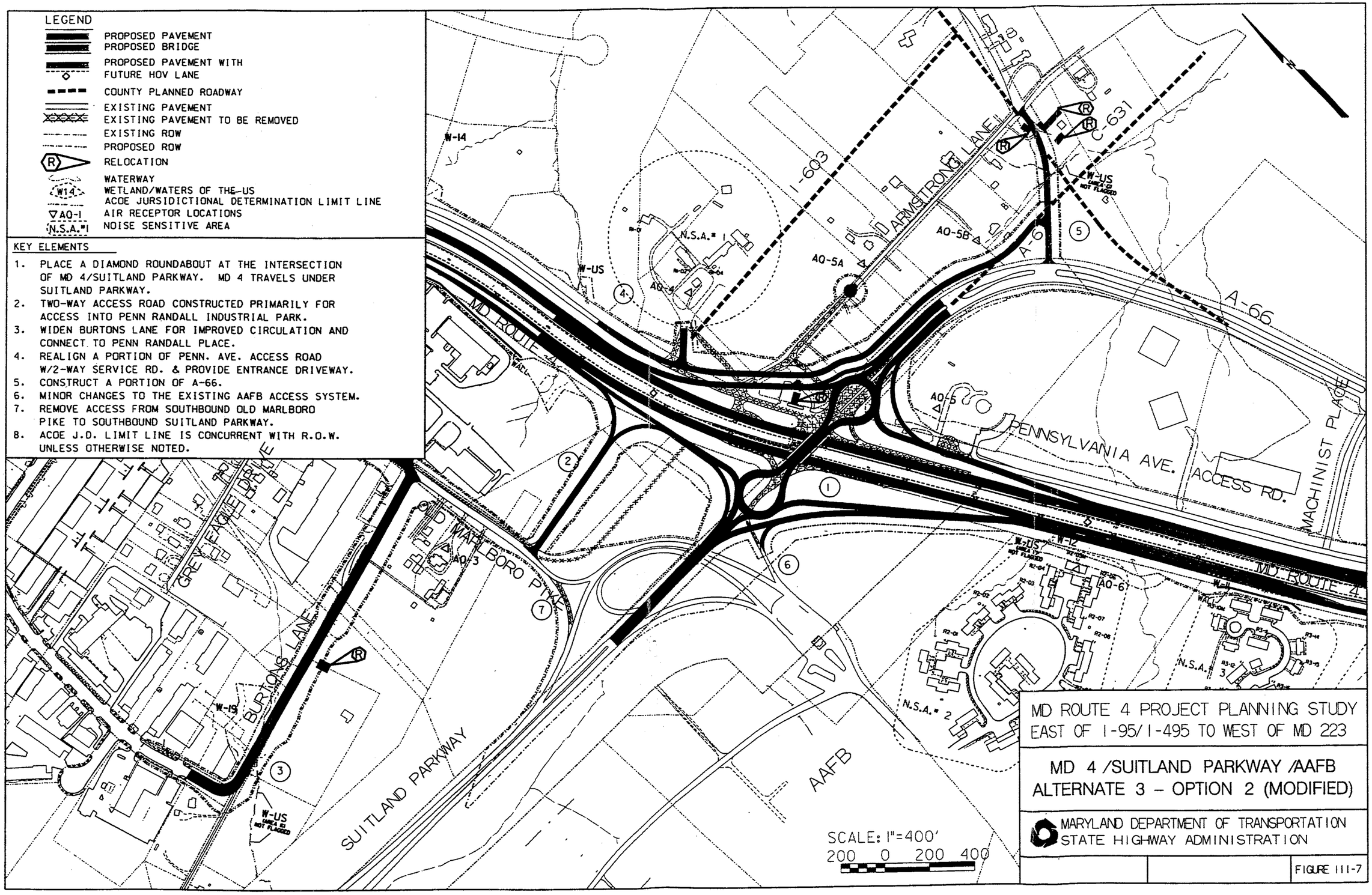
FIGURE III-6

LEGEND

- PROPOSED PAVEMENT
- PROPOSED BRIDGE
- PROPOSED PAVEMENT WITH FUTURE HOV LANE
- COUNTY PLANNED ROADWAY
- EXISTING PAVEMENT
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING ROW
- PROPOSED ROW
- (R) RELOCATION
- WATERWAY
- W14 WETLAND/WATERS OF THE US
- ACOE JURSIDICTIONAL DETERMINATION LIMIT LINE
- ▽AQ-1 AIR RECEPTOR LOCATIONS
- N.S.A.*1 NOISE SENSITIVE AREA

KEY ELEMENTS

1. PLACE A DIAMOND ROUNDABOUT AT THE INTERSECTION OF MD 4/SUITLAND PARKWAY. MD 4 TRAVELS UNDER SUITLAND PARKWAY.
2. TWO-WAY ACCESS ROAD CONSTRUCTED PRIMARILY FOR ACCESS INTO PENN RANDALL INDUSTRIAL PARK.
3. WIDEN BURTONS LANE FOR IMPROVED CIRCULATION AND CONNECT TO PENN RANDALL PLACE.
4. REALIGN A PORTION OF PENN. AVE. ACCESS ROAD W/2-WAY SERVICE RD. & PROVIDE ENTRANCE DRIVEWAY.
5. CONSTRUCT A PORTION OF A-66.
6. MINOR CHANGES TO THE EXISTING AAFB ACCESS SYSTEM.
7. REMOVE ACCESS FROM SOUTHBOUND OLD MARLBORO PIKE TO SOUTHBOUND SUITLAND PARKWAY.
8. ACOE J.D. LIMIT LINE IS CONCURRENT WITH R.O.W. UNLESS OTHERWISE NOTED.

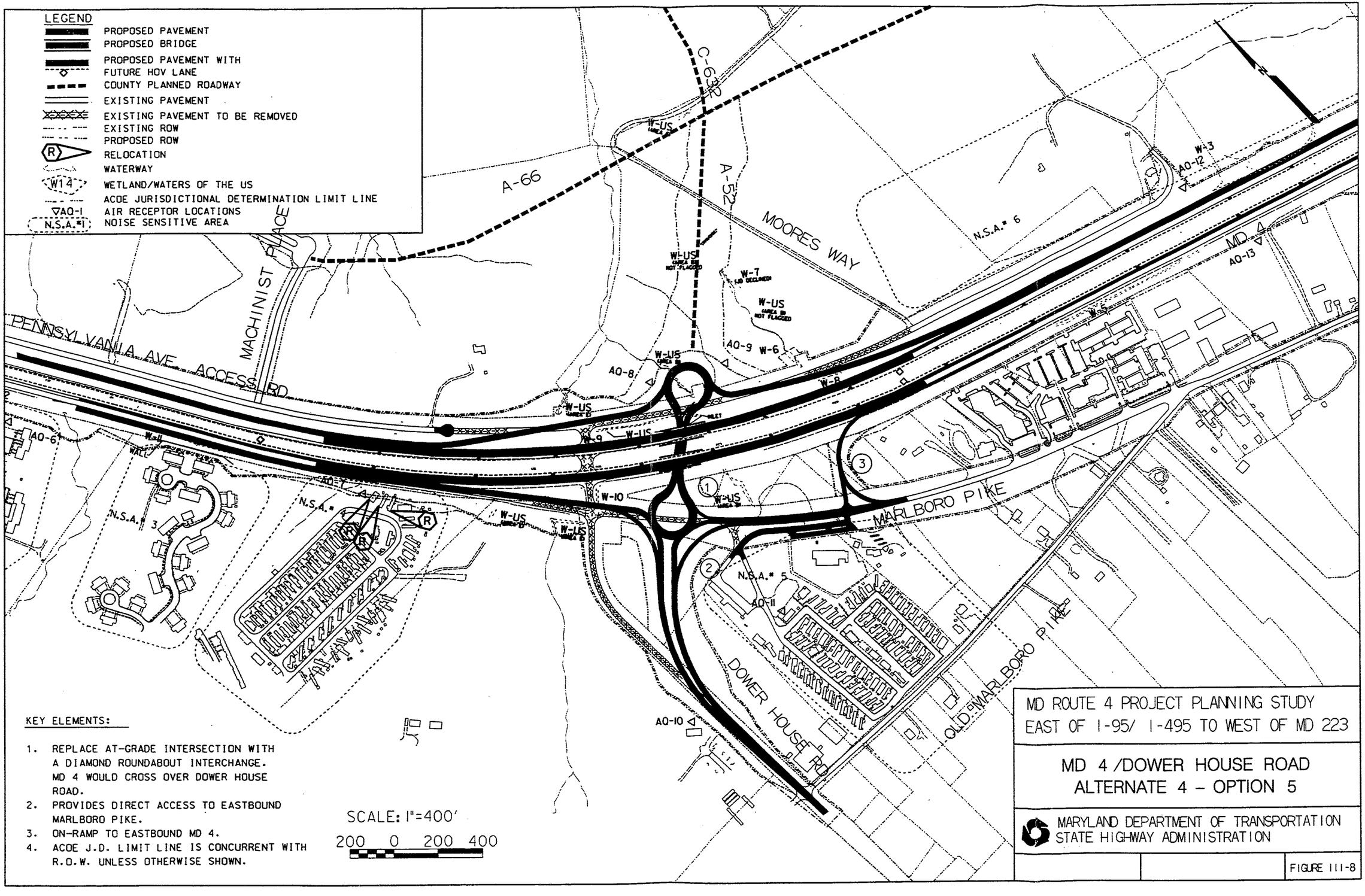


MD ROUTE 4 PROJECT PLANNING STUDY
EAST OF I-95/I-495 TO WEST OF MD 223

MD 4 /SUITLAND PARKWAY /AAFB
ALTERNATE 3 – OPTION 2 (MODIFIED)

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

FIGURE III-7


LEGEND
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED PAVEMENT WITH FUTURE HOV LANE
COUNTY PLANNED ROADWAY
EXISTING PAVEMENT
EXISTING PAVEMENT TO BE REMOVED
EXISTING ROW
PROPOSED ROW
RELOCATION
WATERWAY
WETLAND/WATERS OF THE US
ACOE JURISDICTIONAL DETERMINATION LIMIT LINE
AIR RECEPTOR LOCATIONS
NOISE SENSITIVE AREA
A-66
C-63R
A-52
MOORES WAY
MACHINIST PLACE
PENNSYLVANIA AVE ACCESS RD
MD 4
MARLBORO PIKE
DOWER HOUSE RD
OLD MARLBORO PIKE
N.S.A.* 1
N.S.A.* 2
N.S.A.* 3
N.S.A.* 5
N.S.A.* 6
W-US
W-1
W-2
W-3
W-5
W-6
W-7
W-8
W-9
W-10
AO-1
AO-2
AO-3
AO-6
AO-7
AO-8
AO-9
AO-10
AO-11
AO-12
AO-13
KEY ELEMENTS:
1. REPLACE AT-GRADE INTERSECTION WITH A DIAMOND ROUNDABOUT INTERCHANGE. MD 4 WOULD CROSS OVER DOWER HOUSE ROAD.
2. PROVIDES DIRECT ACCESS TO EASTBOUND MARLBORO PIKE.
3. ON-RAMP TO EASTBOUND MD 4.
4. ACOE J.D. LIMIT LINE IS CONCURRENT WITH R.O.W. UNLESS OTHERWISE SHOWN.
SCALE: 1"=400'
200 0 200 400
MD ROUTE 4 PROJECT PLANNING STUDY
EAST OF I-95/ I-495 TO WEST OF MD 223
MD 4 /DOWER HOUSE ROAD
ALTERNATE 4 – OPTION 5
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
FIGURE III-8

All relocations of individuals and families associated with this project will be completed in accordance with the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987." It is anticipated that all families will be provided decent, safe, and sanitary housing within their financial means. No permanent adverse impacts to these families or the neighborhoods into which they are relocated are expected. All relocations are expected to occur in a timely, satisfactory, and humane manner without undue hardship to those affected.

b. Environmental Justice/Title VI Statement

Executive Order (EO) 12898 "Federal Actions to Address Environmental Justice in the Minority and Low-Income Populations" was signed on February 11, 1994. The EO requires the assessment of disproportionately high and adverse human health and environmental impacts 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. Title VI requires federal agencies to ensure that their programs, policies, and activities do not have the effect of excluding populations from the benefits of, or subject persons and populations to discrimination based on race, color, or national origin. The EO adds low-income to the list of populations that should be investigated to ensure that they are not excluded from the benefits of or subject to discrimination caused by federal programs, policies, and activities.

To comply with the EO 12898, the United States Department of Transportation (USDOT) published on June 29, 1995, an environmental justice strategy in the Federal Register (60 FR 33986). A component of the strategy is the establishment of a USDOT Order, which was published in proposed form for comment (60 FR 33899). The proposed strategy states that the USDOT and its operating administrations will integrate the implementation of the EO into the existing guidelines for NEPA, Title VI of the 1964 Civil Rights Act and other statutes concerning planning, public participation, social and economic factors, and health issues. The USDOT strategy promotes the public participation process by echoing the policies expressed in the Intermodal Surface Transportation Efficiency Act and stressing the timely and meaningful participation of low-income and minority communities in transportation decisions affecting them. Participation by these groups in the planning process includes access to general information and input in determining research and data collection needs, project design, and mitigation. Environmental justice public participation includes outreach to and partnership efforts with affected communities.

During this study, there have been meetings of an established focus group composed of community representatives. The focus group first met on May 23, 1995, and continued to meet on a regular basis to get community input. Subsequent meetings were held June 20, 1995, July 27, 1995, August 30, 1995, September 13, 1995, September 27, 1995, November 13 1995, December 29, 1995, June 12, 1996, and August 7, 1997. Although the study area is mainly commercial, the community and civic groups participated in the focus group. Meetings were also held with the businesses, Fire Department, and various citizens. These meetings have been held in public buildings and in the Westphalia Baptist Church, representing the minority population of the community throughout the process. A meeting with the minority population at the Westphalia

Baptist Church was followed by an informal meeting at the MD SHA with the new pastor and the SHA Equal Opportunity Division in the spring of 1999.

An investigation into the ownership of property and businesses in the affected area indicates that the proposed roadway improvements would not disproportionally impact low income or minority populations.

To determine the effect of the construction of the proposed roadway improvements on minority and low income populations in the study area, the 1990 U.S. Census data were researched for the four census tracts of the study area. These data show that the percentage of the minority population is 38 percent. Because the proposed improvements are in generally the same location as the existing transportation facility, minority populations will not be adversely affected by the project.

Title VI Statement

Relocation of any individuals, families, or businesses displaced by this project would be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and could be effected in a timely and humane fashion. In the event comparable replacement housing is not available for displaced persons or available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. An investigation into the characteristics of the individuals affected by the proposed roadway improvements resulted in a finding that there would not be a disproportionate impact to low income or minority populations. Displacement of military personnel on AAFB would be the responsibility of AAFB housing personnel, but, at this time, these relocations would not disproportionately affect low income or minority populations.

Summary of the Maryland State Highway Administration's Equal Opportunity Program

It is the policy of the Maryland State Highway Administration (SHA) to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964, and related civil rights laws and regulations that prohibit discrimination on the grounds of race, color, sex, national origin, age, religion, or physical or mental handicap in all Maryland SHA projects funded in whole or in part by the Federal Highway Administration (FHWA). The Maryland SHA will not discriminate in highway planning, highway design, highway construction, right-of-way acquisition, or the provision of relocation advisory assistance.

This policy has been incorporated into all levels of the highway planning process in order that proper consideration may be given to the social, economic, and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland SHA, 707 North Calvert Street, Baltimore, MD 21202 for investigation.

Community Disruption

The proposed relocations associated with the SHA selected alternatives will not permanently or directly affect elderly, minority, or handicapped persons. The right-of-way and acquisition report prepared by the Maryland State Highway Administration will determine the

minority status of the impacted owners, operators, and/or leaseholders of the impacted properties. The social environment of elderly, minority, or handicapped persons will be affected to differing degrees throughout the study area.

The population of persons 65 and older comprises only 2.5 percent of the total population within the study area. However, the elderly represent 6.6 percent of the population that resides outside of Andrews Air Force Base and within the study area. Prince George's County operates several paratransit services throughout the county for the elderly and handicapped. The Call-A-Bus (301-499-8603)/Call-A-Cab (301-883-5656) transit service is a subsidized door to door transportation service for elderly and handicapped persons living within the county. In addition, the Metro-Rail and Metro-Bus transit services, which operate throughout the Washington Metropolitan area, are accessible to handicapped persons. Transit services operating within the project area, supporting the elderly and handicapped, will benefit positively from the project due to reduced traffic congestion and the related access improvements.

The population of minorities within the study area includes the U.S. Census defined categories of African Americans, Native Americans, Asians, and Hispanics. The largest minority population within the study area is composed of African Americans located in the Chester Grove community. The selected MD 4 capacity and safety improvements will increase access to and encourage the development of the planned employment areas along the MD 4 transportation corridor, thus providing a benefit to Chester Grove and the other community neighborhoods within the study area.

The impacts of roadway projects on community cohesion can include the taking of land, homes and/or businesses; physical or psychological barriers dividing an existing community; or disruption of access within a community. The selected MD 4 safety and capacity improvements require the acquisition of residences and businesses; however, the existing communities will not be divided and vehicular access will not only be maintained, but improved.

c. Effects on Access to Community Services and Facilities

There are a limited number of public facilities located within the project study area. The proposed safety and capacity improvements to MD 4 will not impact any of the existing public facilities directly and should improve traffic operations within the study area, thereby providing safer and expeditious access to community facilities and services.

On the north side of MD 4, between Westphalia Road and Woodyard Road, the March 1994, *Melwood-Westphalia Approved Master Plan & Sectional Amendment Planning Areas 77 and 78* anticipates that the ultimate buildout of the Presidential Corporate Center would include a new school, library, and parkland/open space. The proposed MD 4 crossing at Suitland Parkway will provide an additional link between the Melwood-Westphalia Planning Areas 77 and 78. The proposed MD 4 capacity and safety improvements will improve the accessibility of the proposed community facilities from within and outside of the project area.

Pedestrians and Bicycles

The Washington, D.C., Regional Bike Map produced by the American Drafting Company notes that, within the project area, MD 4 is "an unofficial route, recommended by

experienced bicyclists for scenic quality or linkage to other bike routes." The use of the existing MD 4 shoulders for biking and jogging would be terminated by the selected improvements. There are no anticipated impacts to the existing portions of the planned Presidential Parkway hiker/biker facility or the Countywide Trails Plan (1975).

Maryland SHA, in conjunction with the National Park Service's (NPS's) 1994 Master Plan, will consider the adjoining NPS pedestrian/bicycle way along Suitland Parkway and the planned Prince George's County facility as part of any "functional replacement" negotiated with NPS.

Schools

The proposed MD 4 safety and capacity improvements should improve the study area communities' access to the existing schools. The selected improvements will have no direct impact to schools.

Emergency Services and Law Enforcement

The selected MD 4 safety and capacity improvements will provide emergency services with improved access to the study area. The improved accessibility to the communities within the study area should result in reduced emergency service response times. Except for the Forestville Volunteer Fire Company Number 23, Station 1, all emergency services are based outside the project area. The Forestville Fire Station's direct access to and from MD 4 is impacted by Alternative 2, Option 2 (modified). Through coordination with the Fire Company staff, further accommodations for emergency services have been provided. Proposed accommodations include one-way turnarounds to be specifically marked for emergency vehicles only. The proposed routing for emergency vehicles stationed at Station 1 increases the travel distance from the station house to MD 4 by approximately 500 feet. The proposed Alternative 3 and 4 improvements will not directly affect the Fire Company's operation.

Health Care Facilities

All public health care facilities are located outside the study area. The selected MD 4 safety and capacity improvements should improve the study area communities' access to the existing health care facilities.

Libraries

All public libraries are located outside the study area. The selected MD 4 safety and capacity improvements should improve the study area communities' access to the existing libraries. In addition, the 1994 Master Plan anticipates a new library will be located within the planned Presidential Corporate Center. Alternative 3, Option 2 (modified) will provide improved access from MD 4 to Suitland Parkway. These improvements will provide direct access to the planned Presidential Corporate Center from the communities located south of MD 4 within Planning Area 77.

Churches

The selected MD 4 capacity and safety improvements will not impact any place of worship directly and should improve the access to the places of worship located within the study area.

d. Effects on Parks and Recreational Facilities

Selected Alternative 3, Option 2 (modified) proposes the reconstruction of the existing MD 4/Suitland Parkway intersection into a "diamond" or "diamond roundabout" interchange. The existing intersection does not accommodate an eastbound movement from Armstrong Lane or Presidential Parkway. The new interchange will include access to all directions of travel, as well as an underpass that will facilitate movement across MD 4. Other than the Suitland Parkway impacts, there are no other parkland impacts anticipated. Approximately 8.8 acres (3.6 hectares) of parkway property including property acquired by SHA would be impacted by the selected improvements. A clear definition of the pedestrian/bicycle linkage from Suitland Parkland on the south side of MD 4 to the planned facilities of Prince George's County north of MD 4 will be made during refinements in final design.

During this study, an agreement has been reached with the National Park Service (NPS) for mitigation of permanent loss of parkland along Suitland Parkway. Mitigation will include NPS involvement in the final design of structures and landscape. Features that will be incorporated for mitigation into the final design will include:

- Interchange design commensurate with a symbolic entrance to Washington D.C.
- Roundabouts at each end of the overpass
- Low stone walls
- Distinctive bridge design including dressings of stone or with stone abutments
- Appropriate landscaping, including reforestation
- Timber or stone guardrails
- Minimal signage at the roundabouts
- Signage compatible with NPS standards for size and color

In addition, design criteria will be developed pertaining to design, material selection, plantings and screenings, grading, construction access and operation, and post-maintenance activities.

A copy of the Memorandum of Agreement (MOA) is included in Section V-B of this document.

e. Regional and Local Economic Impacts

Effects on Businesses

None of the identified relocations involve a non-profit organization. The proposed project does not include any relocation of driveways from one roadway to another; therefore, access impacts to businesses will be limited to construction delays caused by detours, temporary closures, or congestion. The selected MD 4 capacity and safety improvements should improve access to all businesses and non-profit organizations within the project area by minimizing delay, removing direction of travel conflict points, and increasing the capacity of the roadways into and out of the project area.

On the north side of MD 4, between Westphalia Road and Woodyard Road, the March 1994, *Melwood-Westphalia Approved Master Plan & Sectional Amendment Planning Areas 77 & 78* anticipates that the ultimate buildout of the Presidential Corporate Center would include new housing and employment opportunities. The selected MD 4 capacity and safety improvements will improve access to the planned Presidential Corporate Center area, thus accommodating the planned growth in the Presidential Corporate Center development. The continued development of the Presidential Corporate Center would have a positive effect on the county's tax base.

For the SHA selected alternatives, a total of seven business displacements are required. Alternative 2, Option 2 (modified) will require five business displacements, Alternative 3, Option 2 (modified) will require two business displacements, and Alternative 4, Option 5, would require no business displacements.

A study of the ownership of the businesses impacted either directly or indirectly by the construction of the selected improvements indicates that there would not be a disproportionate impact to low income or minority owners within the study area.

Effects on the Tax Base

The proposed effects on the tax base associated with the selected MD 4 build alternatives anticipate improvement in safety and operations along the MD 4 study area. These improvements will enhance the opportunity for local and long-term business operations that can be anticipated to occur in conjunction with the 1994 Master Plan recommendations and guidelines. The growth areas identified in the 1994 Master Plan could be developed in concert with or following the proposed improvements along MD 4. Due to previously stated attractiveness of the location and existing industrial resources along MD 4, the area is expected to continue to attract new businesses. This trend will continue and will not be deterred by the selected improvements.

f. Land Use Impacts

The selected build alternatives are consistent with future land uses as identified in the March 1994, *Melwood-Westphalia Approved Master Plan and Sectional Amendment Planning Areas 77 and 78.* The proposed roadway improvements will enhance the safety and operations

along the MD 4 corridor, which will attract the types of businesses and land uses that are currently proposed by the county (see Figure III-16).

g. Impacts on Cultural Resources

Historic Sites

One historic site that is listed on the National Register of Historic Places has been identified in the project area. The site is Suitland Parkway (PGA-22). SHA's selected Alternative 3, Option 2 (modified) will require 8.8 acres (3.56 hectares) of right-of-way from Suitland Parkway. The Maryland Historical Trust concurred that Alternative 3, Option 2 (modified) would have an adverse effect on Suitland Parkway. A MOA has been developed that proposes measures to mitigate the impacts of the SHA selected Alternative (see Section V-B). These mitigation measures include (1) an interchange design commensurate with a symbolic entrance to Washington D.C.; (2) roundabouts at each end of the overpass; (3) the construction of low stone walls; (4) distinctive bridge design, including dressings of stone or with stone abutments; (5) appropriate landscaping including reforestation; (6) timber or stone guardrails; (7) minimal signage at the roundabouts; and (8) signage compatible with the NPS standards for size and color. A team composed of MD SHA, the SHPO, FHWA, and the NPS will review the design proposals for the MD 4/Suitland Parkway Interchange.

The MD SHA and the NPS shall develop a land exchange, consistent with producing a greenspace along the Suitland Parkway and the Presidential Parkway.

Archeological Sites

A Phase IB archeological survey was conducted within the Area of Potential Effect (APE) for the Alternatives. All undisturbed areas with high archeological potential were investigated and no National Register Eligible archeological resources were identified in the project's APE. One isolated find location (18PRX150) was documented and interpreted as a secondarily deposited historic scatter. The survey indicated that no further archeological investigations are needed. On March 6, 1998, the Maryland Historical Trust concurred that no further archeological investigations are warranted for this project

2. Impacts on Natural Environment

a. Topography and Geology

Implementation of the SHA selected alternatives could possibly result in a noticeable change to the topography of the study corridor, since all of these propose construction on new alignment (creation of access roads/ramps where currently there are none). Topography may also be altered by cuts and fills needed to cross waterways, construct access roads, and/or construct interchange ramps. Alternative 2, Option 2 (modified), Alternative 3, Option 2 (modified), and Alternative 4, Option 5 would involve new construction totaling approximately 3,048 meters (10,000 feet), 4,328 meters (14,200 feet), and 4,420 meters (14,500 feet) in length, respectively.

No impacts to unique geologic features or economically significant deposits would occur, as such features are not present in the study corridor.

Soils

Each of the selected Alternatives would affect soils through displacement and/or disturbance. Displacement impacts would result from widening of the mainline roadway (Alternative 5) and/or construction of side roads and access ramps (Alternatives 2, 3, 4). Cut and fill activities would also contribute to soils impacts. Amounts (approximate) of total soil disturbance for each Alternative would be as follows:

Alternative 2, Option 2 (mod)	=	19.5 acres (8.0 hectares)
Alternative 3, Option 2 (mod)	=	26.3 acres (10.6 hectares)
Alternative 4, Option 5	=	30.7 acres (12.4 hectares)
Alternative 5, Option 2	=	10.4 acres (4.2 hectares)

Soil erosion and sedimentation may result from construction and demolition activities. Implementation of a Soil Erosion/Sediment Control (SE/SC) Plan would prevent increased sediment yields from run-off to sensitive features such as streams and wetland areas. Mitigative measures typically included in a SE/SC Plan are: establishment of temporary or permanent vegetative cover and/or mulch on exposed soils; slope protection structures; channel stabilization of open channels and existing streams or ditches; erection of sediment barriers across or at the toe of slopes; and/or protection of storm sewer inlets to intercept and retain sediment.

The SHA selected Alternative would affect Prime and Important Farmland Soils. Table III-8 summarizes the approximate impact of each alternative. Even though certain areas within the study corridor have been identified as containing Prime Farmland Soils, as classified by the USDA-NRCS (United States Department of Agriculture – Natural Resource Conservation Service), they would not be considered as areas of Prime Farmland and would not be subject to the regulations set forth in the Farmland Protection Policy Act (FPPA) of 1984 (7 U.S.C. 4201 *et seq.*). According to the FPPA, Prime Farmland does not include land already in or committed to urban development or water storage. Prime Farmland also does not include lands designated for industrial, commercial, or residential uses that are not, in a zoning ordinance or land use plan, intended to protect farmland. The areas within the study corridor on which Prime Farmland Soils occur are currently zoned for residential and commercial use and are not included in a zoning ordinance or land use plan intended to protect farmland.

TABLE III-8
SOILS IMPACT

Agricultural Soil Classification	*Alt. 2 Option 2-mod*	*Alt. 3 Option 2-mod*	*Alt. 4 Option 5*	*Alt. 5 Option 2*	*Total*
	Acres (Hectares)				
Prime Farmland Soils	17.3 (7.0)	11.9 (4.8)	11.0(4.45)	2.4 (0.97)	42.6(17.2)
Important Farmland Soils	1.1 (0.5)	2.0 (0.8)	7.9 (3.2)	0.39(0.16)	11.4 (4.7)
Unclassified Soils	1.1 (0.5)	8.0 (3.2)	8.2 (3.3)	3.6 (1.5)	20.9 (8.5)
Unsurveyed Soils *	N/A	4.4 (1.8)	3.6 (1.5)	4.0 (1.6)	12.0 (4.9)
Study Corridor Totals	19.5 (8.0)	26.3 (10.6)	30.7(12.5)	10.4 (4.2)	86.9(35.3)

Notes: Impact amounts were rounded up to the nearest tenth (0.1) and, therefore, may not convert exactly from hectares to acres.

** Certain areas within and adjacent to the study corridor were never soil-surveyed by the USDA-NRCS.*
N/A = Not Applicable - unsurveyed soil not present within Alternative/Option.

Climate

The proposed Alternatives would not result in any beneficial or adverse effects on the climate of the study corridor.

b. Surface Water and Groundwater

Permanent effects to Henson Creek, and the tributaries of Cabin Branch and Back Branch, would result from implementation of SHA selected Alternatives 2 (Option 2, modifed), 3 (Option 2, modified), and 4 (Option 5). Alternative 5 (Option 2) would not involve direct impacts to these surface waters. Ritchie Branch would not be affected by any of the Alternatives selected. Surface water impacts would consist of the extension or modification of existing culverts, addition of new culverts, and/or the regrading/modifying of waterways to accommodate the proposed access roads/ramps and the widened highway. Surface waters do not include wetland ditches or open water areas, for the purposes of this impact assessment.

Alternative 2, Option 2 (mod)	=	24.4	linear meters (80 linear feet)
Alternative 3, Option 2 (mod)	=	207.3	linear meters (680 linear feet)
Alternative 4, Option 5	=	307.8	linear meters (1,010 linear feet)

Temporary impacts to these surface waters may occur during construction of the proposed project. Soil erosion, sedimentation, and stream bank destruction could temporarily affect the water quality of the subject waterways. To minimize these surface water impacts, especially in terms of their effect on fisheries resources, there is a time restriction that would be followed. Generally, no in-stream work is permitted in Use I waters during the period of March

1 through June 15, inclusive, during any year. These restrictions would be applied for in-stream work within the Cabin Branch, Back Branch, and/or Henson Creek watersheds. Drainage areas would also be affected by implementation of selected Alternatives 2, Option 2 (modifed), 3, Option 2 (modified) and 4, Option 5, since additional ROW would be required for construction of side roads and access ramps and/or for slope construction. The total amount of proposed ROW within each drainage area was calculated by Alternative and is presented in Table III-9.

TABLE III-9
DRAINAGE AREA IMPACTS

Drainage Area	***Alternative 2 Option 2-mod***	***Alternative 3 Option 2-mod***	***Alternative 4 Option 5***	***Alternative 5 Option 1***
		Acres (Hectares)		
Cabin Branch	11.6 (4.7)	15.8 (6.4)	16.8 (6.8)	---
Back Branch	N/A	N/A	0.3 (0.12)	---
Henson Creek	0.07 (0.03)	5.3 (2.1)	N/A	---
Ritchie Branch	0	N/A	N/A	---
Totals	11.67 (4.73)	21.1(8.5)	17.1 (6.92)	---

Notes:

1. *Impact amounts were rounded up to the nearest tenth (0.1) and, therefore, may not convert exactly from hectares to acres.*
2. *Alternative 5 (Option 1) - drainage area impacts were not calculated, since no proposed ROW is present within the mainline Alternative boundaries.*
3. *0=Drainage Area located within Alternative/Option, but no proposed ROW present in that drainage area.*

N/A = Not Applicable - Drainage Area not located within Alternative/Option.

There are no community water supply wells within the study corridor, according to the County Public Works Department. Individual water supply wells were identified within the study corridor, but they are situated outside of (and not downgradient of) the proposed construction areas. Because the majority of the study corridor is served by a public water supply system that obtains its water from surface sources, and because the existing individual well records indicate that the wells are not situated within the proposed project impact zone, significant impacts to individual water supply wells would not be expected.

The proposed project would reduce the potential recharge area for the Pliocene and Calvert aquifers. Construction of the highway, interchange ramps, and access ramps would increase the net area of impervious surfaces in the study corridor; therefore, the potential area available for infiltration of precipitation into these aquifers would be reduced.

Highway runoff contaminants and potential hazardous spill materials would not pose a serious threat to the local carbonate aquifers, provided that adequate precautions were taken. In general, all drainage facilities should, to the greatest extent practical, be located approximately 30 meters (100 feet) away from undrained depressions. Where such features are encountered within the required right-of-way, remedial measures would be undertaken during construction.

c. Floodplains

There would be no impacts to regulated 100-year floodplains from implementation of the SHA selected alternatives, since these areas are located at least 305 meters (1,000 feet) beyond project construction limits.

d. Ecological Conditions

Wetlands

Nontidal freshwater wetlands would be affected by SHA selected alternatives. Potential impacts to wetlands within and immediately adjacent to the proposed construction limits would include both direct and indirect impacts.

Implementation of Alternatives 2, Option 2 (modified), 3 Option 2 (modified), and 4 (Option 5) would involve direct impacts resulting from cut and fill activities, construction of side roads and access ramps, replacement in-kind of ditched wetlands, culvert extensions/modifications, and inadvertent trampling onto wetland soils and vegetation during construction. Alternative 5, Option 2 would not involve direct impacts to wetlands.

Adjacent wetlands (including those with drainage areas within Alternative 5, Option 2 could be indirectly affected during these same types of construction activities. Sedimentation of adjacent wetland waters and/or disturbance to adjacent wetland vegetation could occur. Best management practices would be employed to minimize these adverse effects.

A summary of wetland impacts is presented in Table III-10.

Terrestrial, Wildlife and Aquatic Habitat

Terrestrial

Impacts to terrestrial habitat were calculated for each of the six vegetative community types identified within the project study corridor. These include the following: Red Maple-Sweetgum-Black Gum Association; Pignut Hickory-Yellow Poplar-American Beech Association (mixed hardwood forested uplands); Sweetgum-Black Cherry-Virginia Pine Association (transitional scrub/shrub uplands); Palustrine Emergent Wetland Association; Agricultural Land; and Transitional (Disturbed) Area. The effects of the selected alternatives on terrestrial habitat (foraging, breeding, nesting, resting) would include conversion of vegetation to highway use, inadvertent trampling and disturbance of soil/vegetation/burrows during construction, soil erosion and sedimentation, and dust pollution. Direct impacts to habitat types are quantified in Table III-11.

Wildlife

While it is possible that some wildlife may be killed during construction of the proposed project, as well as afterwards from animal-vehicle collisions, the numbers of individuals within a population are not expected to be significantly reduced. Additionally, individuals are not expected to be permanently displaced from familiar habitats. Wildlife species typical of the

study corridor have the ability to readily exploit various habitat types and, therefore, are expected to adapt to the "new" roads and reestablish themselves within the vicinity upon completion of construction. Many wildlife species (e.g., white-tailed deer, red fox, woodchuck) may benefit from the "edge effect" created by the construction of grass- and shrub-covered slopes through previously-wooded lands.

TABLE III-10
WETLAND IMPACTS

Wetland No./ Classification Symbol	*Alternative 2 Option 2-mod*	*Alternative 3 Option 2-mod*	*Alternative 4 Option 5*	*Alternative 5 Option 2*	*Total Impact*
			Acres (Hectares)		
WL #1 PFO1	0	0	0	0	0
WL #2 PFO1	0	0	0	0	0
WL #3 PEM1/PSS/PFO1	0	0	0	0	0
WL #5 PSS1	0	0	0	0	0
WL #6* PEM2	0	0	0	0	0
WL #8 PFO1	0	0	0	0	0
WL #9* PEM1	0	0	0.03 (0.01)	0	0.03 (0.01)
WL #10* PEM1	0	0	0.01 (0.005)	0	0.01(0.005)
WL #11* PEM1	0	0.05(0.02)	0	0	0.05(0.02)
WL #12* PEM2	0	0.02(0.01)	0	0	0.02(0.01)
WL #13 PFO1	0	0	0	0	0
WL #14 PFO1	0.21(0.08)	0	0	0	0.21(0.08)
WL #16* PEM1	0.03(0.01)	0	0	0	0.03(0.01)
WL #17* PEM1	0	0	0	0	0
WL #18* PEM1	0.05(0.02)	0	0	0	0.05(0.02)
WL #19 PFO1	N/A	0.81(0.33)	0	0	0.81(0.33)
Total Impact	0.29(0.12)	0.88(0.36)	0.04(0.015)	0	1.21(0.49)

Notes: *1) N/A = Not Applicable - wetland not present within Alternative/Option.*
2) 0 = Wetland present within Alternative/Option, but no impact would result.
3) Impact amounts were rounded up to the nearest hundredth(0.01) and, therefore, may not convert exactly from hectares to acres.
** = Wetland Nos. 6,9,10,11,12,15,16,17, and 18 are roadside ditched wetlands.*
4) First number indicates the property impacts in hectares; second number indicates impacts in acres (*).
5) Acreage affected was determined from the Army Corps of Engineers – Jurisdictional Determination wetlands that were plotted upon the base mapping (scale: 1"=100') provided by Maryland SHA.

Impacts to Waters of the United States have been summarized earlier in the section on Surface Water and Groundwater.

Alternative 4, Option 5 would cause the most displacement/disturbance to potential and known wildlife habitat. Of the total 32.8 acres (13.3 hectares) of impact, approximately 19.9 acres (8.1 hectares) would be lost from deciduous forested uplands, 0.66 acre (0.3 hectare) from wetlands (forested and nonforested), and 12.2 acres (4.9 hectares) from scrub/shrub uplands. Alternative 3, Option 2 (modified) would affect the most wetland habitat - about 0.86 acre (0.35 hectare) total. Although certain wildlife individuals would be unavoidably displaced from their current niches, these habitat displacement amounts are basically negligible in terms of adversely

affecting the viability of their populations. Ample contiguous forested and nonforested areas would remain within and adjacent to the study area, and would provide sufficient food and cover. Additionally, as mentioned above, many wildlife individuals would be expected to reestablish themselves within the vicinity of the "new" roads.

TABLE III-11
VEGETATION COMMUNITY/TERRESTRIAL HABITAT IMPACTS

VEGETATIVE COMMUNITY TYPE	*Alt. 2 Option 2- (mod)*	*Alt. 3 Option 2- (mod)*	*Alt. 4 Option 5*	*Alt. 5 Option 2*	*Total Impact*
	Acres (Hectares)				
Red Maple-Sweetgum-Black Gum Association	0.2 (0.08)	2.8 (1.1)	0.65(0.3)	N/A	3.65(1.48)
Pignut Hickory-Yellow Poplar-American Beech Association	0.5(0.2)	0.9(0.4)	19.9(8.1)	0.65(0.3)	21.95(9)
Sweetgum-Black Cherry-VA Pine Assoc. (trans. scrub/shrub upland)	10.6 (4.3)	11.2 (4.5)	12.2 (4.9)	0.9(0.4)	34.9(14.1)
Palustrine Emergent Wetland Association	0.07(0.03)	0.11(0.04)	0.01(0.004)	N/A	0.13(0.08)
Agricultural Land	N/A	0.7(0.3)	N/A	N/A	0.7(0.3)
Transitional (Disturbed) Area	3.9 (1.6)	N/A	N/A	N/A	3.9 (1.6)
Total Impact	15.3 (6.2)	15.7 (6.3)	32.8 (13.3)	1.6 (0.7)	65.2(26.6)

Notes:
1)N/A =Not Applicable - vegetative community type not present within Alternative/Option.
2)Impact amounts may not convert exactly from hectares to acres due to rounding.

Aquatic

Aquatic biota (fish, crustaceans, insects, etc.) could also be adversely affected during construction activities, but best management practices would be employed to minimize this effect as much as possible. Other temporary effects expected to occur during construction could include streambank disturbance, sedimentation, and water pollution (from machinery oils, lubricants, etc.). Standard construction practices would be employed to minimize these effects to aquatic resources. Heavy machinery would be kept out of waterways as much as possible, and soil erosion and sediment controls (including hay bales, silt fencing and/or turbidity barriers) would be set in place to minimize waterway siltation. In terms of the fish, specifically, instream work would be restricted during March 1 through June 15, inclusive.

Endangered and Threatened Species

It is expected that the proposed project would not affect any endangered or threatened plant or animal species, since no documented sightings of such species have been recorded in either the state or federal databases.

Unique, Sensitive and Aesthetic Areas

There would be no impacts to unique, sensitive, or aesthetic areas, as no such areas were identified within or immediately adjacent to the study corridor. The SHA has coordinated extensively with the Maryland SHPO and the NPS in the development of alternatives and mitigation measures that minimize harm to Suitland Parkway and help ensure that the proposed improvements are constructed in such a way that will preserve the historic integrity of this resource.

3. Noise Impacts

a. FHWA Noise Abatement Criteria

The highway traffic noise prediction requirements, noise analyses, noise abatement criteria, and requirements for informing local officials constitute the noise standards mandated by 23 U.S.C. 109(i). All highway projects that are developed in conformance with this directive are deemed to be in conformance with the FHWA noise standards.

The purpose of the FHWA procedures is to provide for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and control of development.

Noise abatement criteria for various land uses have been established by the FHWA in 23 CFR, Part 772. The FHWA criteria are based on specific land uses, and are used in determining the need for studying noise attenuation. The activity category for this project area has been defined as Landuse Category B (picnic areas, recreation areas, playgrounds, active sports areas, parks, motels, hotels, schools, churches, libraries, and hospitals). The noise abatement criterion for this category is 67 dBA, $L_{eq}(h)$. Future year noise levels for the project area were predicted using the STAMINA2.0/OPTIMA Barrier Cost Reduction Procedure.

According to the procedures described in 23 CFR, Part 772, noise impacts occur when predicted noise levels for the design year (2020) approach or exceed the noise abatement criterion for a particular land use category, or when predicted noise levels are substantially higher than the existing ambient noise levels. The Maryland State Highway Administration and FHWA define "approach" as 66 dBA or above, and use a 10 dBA increase to define a substantial increase.

Under the current SHA Noise Policy, several factors are evaluated to determine whether noise abatement is feasible and reasonable. According to this policy, feasibility deals with engineering, acoustical, and physical considerations such as:

- Can a noise reduction of at least 3 dBA be achieved at the locations(s) warranting abatement?

- Will placement of a noise wall/barrier restrict access to vehicular or pedestrian travel?
- Will construction of a noise wall result in utility impacts?
- Will construction of a noise wall have an impact upon existing drainage?
- Will impacts occur to Section 4 (f) properties?
- Are there other non-highway noise sources in the area that would reduce the effectiveness of a noise barrier?

Reasonableness is based on a number of factors, including:

- Acceptability of proposed abatement to the impacted and benefited residences?
- A 3 dBA or greater change in design year build noise levels over design year no-build noise levels will result from the proposed highway improvements.
- Costs do not exceed $50,000 per benefited residence.
- The relative size and appearance (aesthetics) of the proposed noise barrier to the receptors protected.
- The control of new noise sensitive development adjacent to state highways in high noise zones at the local level.
- Special circumstances, such as historical significance and/ or cultural value.

An effective barrier should provide a 7-10 dBA reduction in noise levels as a primary design goal for "first row" residences. However, any impacted noise receptor that will receive a 3 dBA or greater reduction is considered when determining the cost reasonableness of a barrier. SHA will also include all receptors that are <u>not</u> impacted, but receive a 5 dBA or greater reduction from a noise barrier.

Cost reasonableness is determined by dividing the total number of impacted receptors in a noise sensitive area that will receive a 3 dBA or greater reduction of noise levels, into the total cost of the noise mitigation. A cost of $\$16.54/ft^2$ [$\$178/m^2$] is assumed to estimate barrier cost. This cost figure is based upon current costs of panels, footings, and installation.

b. Noise Prediction Methodology Using FHWA Model

The computer models used to predict noise levels represent those models and techniques currently acceptable to the FHWA and the Maryland SHA. All traffic noise predictions were performed in accordance with the FHWA Highway Traffic Noise Prediction Model (Report No. FHWA-RD-77-108). Specifically, the STAMINA2.0/OPTIMA Noise Barrier Cost Reduction Procedure (Report No. FHWA-DP-58-1) was used for all noise predictions and conceptual noise barrier evaluations.

STAMINA2.0

The STAMINA2.0 Noise Prediction Model performs the highway noise predictions by estimating the sum of the acoustic intensity from a series of straight line roadway segments, or source(s), at a receiver location. The source characteristics are defined by the speed-dependent reference noise emission levels, and the number of vehicles of each vehicle type. The geometry is three-dimensional and considers the net characteristic of the source-receiver path by including the effects of intervening barriers, topography, ground attenuation effects, and atmospheric absorption.

OPTIMA

OPTIMA is an interactive barrier design program that requires (1) the "acoustic" output from the STAMINA2.0 program and (2) user supplied information via a computer terminal keyboard to prompts (questions) from OPTIMA about material type assignments for the barrier, the number of people at the receptor location, and the desired noise level after abatement. These variables are then weighted to produce an intermediate output. The intermediate output, or effectiveness/cost (E/C) ratios, provides information for several height options for each barrier analyzed. The designer may then select the most efficient combinations of barrier segment heights for a given receiver location.

TrafficNoiseCAD

TrafficNoiseCAD (TNC) was used during analysis and conceptual design of mitigation measures. The TrafficNoiseCAD program is a microcomputer based processor to quickly convert existing STAMINA 2.0 data files to AutoCAD drawing files for display, analysis and design, and graphical editing. Editing done in the AutoCAD environment is retained by rewriting the STAMINA 2.0 data files as updated STAMINA 2.0 files. Graphic output of the TNC AutoCAD system may be easily integrated into the highway design CADD process.

c. Summary of Traffic Parameters

Traffic data for the MD 4 project, including LOS C volumes, speeds, and truck distribution, were provided by MD SHA. Future year 2020 no-build and build alternative LOS C traffic volumes were used as the input to STAMINA2.0.

d. Noise Prediction Results

Table III-12 presents a summary of future noise predictions at measurement sites in each of the NSAs (Noise Sensitive Areas) studied. Future noise levels were predicted for Alternative 3, Option 2 (modified) in NSA 1 through NSA 4, and for Alternative 4, Option 5 in NSA 5. Noise levels in NSA 6 were not affected by alignment modifications associated with the various Alternatives. The impact analysis indicated that approximately 50 sensitive receptors in three of the NSAs would approach or exceed the FHWA NAC (Noise Abatement Criteria) of 67 dBA by the year 2020 as a result of traffic noise from the MD 4 widening project.

The consideration of mitigation measures was identified based upon comparisons of existing and predicted noise levels with the FHWA NAC and the Maryland SHA Noise Policy. Consideration of mitigation was warranted for NSA 2, NSA 3, and NSA 4. These three NSAs were combined and evaluated as one study area for mitigation analysis. Three barrier scenarios were developed in order to present mitigation options utilizing walls and wall/berm combinations. Barrier effectiveness at any location within the project area would occasionally be compromised because of noise associated with Andrews Air Force Base. A summary of mitigation results is presented in Table III-13.

Noise Sensitive Area 1

NSA 1 includes one residence and several commercial establishments located along the access road bordering the westbound lanes of MD 4. Predicted future 2020 noise levels would not approach nor exceed the FHWA NAC in NSA 1. Consideration of mitigation measures would not be warranted.

Noise Sensitive Areas 2, 3,and 4

NSAs 2, 3, and 4, located on Andrews Air Force Base between Suitland Parkway and Dower House Road, represent housing for base personnel. NSA 2 represents a community of approximately 100 apartment units located along Tyler Road to the east of the Suitland Parkway Interchange. NSA 3 includes approximately 50 apartment units located along Michigan Avenue. NSA 4 represents approximately 85 residences located along Forest Court to the west of the Dower House Road Interchange. Receptors in each of the areas bordered the eastbound lanes of MD 4, and future predicted unabated noise levels would range from 60 to 72 dBA. Front row receptors in each of these areas would approach and exceed the FHWA NAC of 67 dBA. NSAs 2, 3, and 4 were combined and analyzed as one mitigation study area.

Barriers were investigated for Alternative 3, Option 2 (modified) to compare abated noise levels and costs. Three barrier options were developed and the length of each was approximately 884 m (2,900 ft).

Barrier 1 would include a wall along the eastbound shoulder of MD 4 with a maximum height of 8.2 m (27 ft). Abated noise levels would range from 56 to 64 dBA. The total cost of the Alternative 3, Option 2 (modified) barrier would be approximately $922,000 or $15,600 per residence.

Barrier 2 would utilize available right-of-way for construction of an earth berm at NSA 2 and NSA 3. The berm would transition to a wall along the eastbound shoulder of MD 4 at NSA 4. The height of Barrier 2 would range from 3.6 to 7.3 m (12 to 24 ft). Abated noise levels would range from 57 to 67 dBA with Alternative 3, Option 2 (modified). The total cost of the berm and wall would be approximately $639,000 or $15,200 per residence with Alternative 3, Option 2 (modified).

Barrier 3 would combine a wall on top of the Barrier 2 earth berm to improve abatement for receptors in NSA 2 and 3. The berm/wall combination would transition to a wall at NSA 4 as with Barrier 2. Abated noise levels would range from 57 to 64 dBA. Maximum height of the berm/wall

combination and the wall along the eastbound shoulder of MD 4 would be 8.2 m (27 ft). The total cost of Barrier 3 would be $716,000 or $13,000 per residence.

SHA obtained 24-hour noise monitoring measurements at locations near these areas to determine the influence of military aircraft operations on the overall noise environment. These data indicate that, although there are periodic peaks into the 90 decibel range from aircraft flyovers, these peaks are for a very short duration. Based on the monitoring data collected thus far, it appears that the influence of military aircraft may be minimal and may not overshadow the highway noise levels particularly at peak highway traffic hours. However, given the variable hours of aircraft activities at AAFB, it is likely that barrier effectiveness would be compromised by aircraft noise.

Based on the noise analysis results, noise abatement is reasonable and feasible, and the construction of noise barriers to protect the impacted residences at these locations will be considered. These noise abatement measures will be investigated further during the design phase of the project. Coordination has been initiated with Andrews Air Force Base regarding their position on the construction of noise abatement measures.

Noise Sensitive Area 5

NSA 5 represents approximately 90 residences located in the Mobile Home Park, south of the existing Dower House Road/MD 4 Interchange. Noise from relocated Dower House Road would be more dominant at NSA 5 than noise from MD 4. Predicted future 2020 noise levels would not approach nor exceed the FHWA NAC in NSA 5. Consideration of mitigation measures would not be warranted.

Noise Sensitive Area 6

NSA 6 represents a segment of undeveloped land on the east end of the study area to the north of MD 4. Noise levels of 66 and 67 dBA would occur at 272 ft (82.9 m) and 174 ft (53.0 m), respectively, from the near edge of the MD 4 westbound lanes. Predicted future noise levels are presented for the undeveloped lands to assist local officials in land use planning activities. Consideration of mitigation measures would not be warranted in NSA 6 at this time.

Existing noise level in NSA 1 is modeled value. Existing measured noise level was not representative of ambient because of unusually loud Andrews Air Force Base activities.

This noise sensitive area represents undeveloped land along MD 4 near Andrews Air Force Base. The Master Plan for Andrews Air Force Base is being updated. According to the planners, at this time, no major redevelopment efforts are planned for this area. Noise levels presented at this location are for land use planning purposes only.

TABLE III-12
SUMMARY OF NOISE PREDICTION RESULTS
AT MEASUREMENT LOCATIONS

			Noise Level (Leq, dBA)			
Noise Sensitive Area (NSA)	***Receptor Number***	***Alternative***	***Measured Existing***	***Modeled 2020 No-Build***	***Difference Between No-Build & Build***	***Modeled 2020 Build***
1	R1_03	3-2	61[1]	61	3	64
2	R2_05	3-2	67	69	3	72
3	R3_10	3-2	65	66	3	69
4	R4_30	3-2	68	70	1	71
5	R5_01	4-5	62	58	5	63
6[2]	R6_05	Build	64	66	3	69

TABLE III-13
DESIGN YEAR 2020 NOISE BARRIER
ABATEMENT ANALYSIS

			Range of Noise Levels (Leq)				
Barrier	Noise Sensitive Areas	Residences Impacted and Benefited	Ambient	No Build	Build	With Barriers	Dimensions (length x height) (m)
1	2	22	67	58 - 69	60 - 72	56 - 63	884
	3	9	65	61 - 70	63 - 69	58 - 62	x
	4	17	68	58 - 72	60 - 71	57 - 64	3.7-8.2
2	2	16	67	58 - 69	60 - 72	58 - 67	884
	3	9	65	61 - 70	63 - 69	60 - 65	x
	4	17	68	58 - 72	60 - 71	57 - 64	3.6-7.3
3	2	26	67	58 - 69	60 - 72	57 - 63	884
	3	9	65	61 - 70	63 - 69	59 - 63	x
	4	17	68	58 - 72	60 - 71	57 - 64	4.6-8.2

4. Air Quality

a. Objectives and Type of Analysis

This air quality analysis has been prepared in accordance with the U.S. Environmental Protection Agency (US EPA), the FHWA, and Maryland SHA guidelines. Carbon monoxide (CO) impacts were analyzed as the accepted indicator of vehicle-generated air pollution. The years of analysis were 2000 and 2020. The EPA's CAL3QHC dispersion model was used to predict CO concentrations at air quality sensitive receptors. These detailed analyses predict air quality impacts from carbon monoxide vehicular emissions for both the No-Build and Build Alternatives for each analysis year. Modeled 1-hour and 8-hour average CO concentrations were added to the background CO concentrations for comparison to the State and National Ambient Air Quality Standards (S/NAAQS).

b. Construction Impacts

The construction phase of the proposed project has the potential to impact the local ambient air quality by generating fugitive dust through activities such as demolition and materials handling. The Maryland SHA has addressed this possibility by establishing "Standard Specifications for Construction and Materials" that specify procedures to be followed by contractors involved in site work.

The Maryland Air Management Administration was consulted to determine the adequacy of the "Specifications" in terms of satisfying the requirements of the "Regulations Governing the Control of Air Pollution in the State of Maryland". The Maryland Air Management Administration found the specifications to be consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 10.18.06.03D) would be incorporated to minimize the impact of the proposed transportation improvements on the air quality of the area.

c. Receptor Site Locations

Fifteen air receptor locations were selected to represent air quality sensitive locations within the study area. Receptors AQ-1 and AQ-2 were used to analyze the Westphalia Road Interchange (Alternative 2, Option 2 (modified). Receptors AQ-3 through AQ-6 were used to analyze the Suitland Parkway interchange (Alternative 3, Option 2, modified). Receptors AQ-7 through AQ-13 were used to analyze the Dower House Road Interchange (Alternative 4, Option 5).

d. Results of Microscale Analysis

A summary of the CO concentrations is shown in Table III-14. The values shown consist of predicted CO concentrations attributable to traffic on various roadway links plus projected background levels. The concentrations at all receptors are below the State and National Ambient Air Quality Standards for the 1-hour and 8-hour analyses of 35 ppm and 9 ppm, respectively. For the 1-hour case, the maximum a.m. or p.m. concentration is shown.

A relative comparison of the no-build alternative versus all the various build alternatives show a decrease in CO concentrations at receptor sites. This decrease is caused by the elimination of signalized intersections and increased vehicle speeds on MD 4. Both of these factors cause a decrease in vehicle emissions. A slight increase occurs at receptor AQ-2 in 2020 and AQ-13 in 2000 (1 hour only). These increases are due to the new roadway configurations that move traffic closer to these receptors in the build models. The air quality analysis indicates that carbon monoxide concentrations resulting from the implementation of either the no-build or any of the build alternatives would not result in a violation of the S/NAAQS 1-hour CO concentration of 35 ppm or the 8-hour CO concentration of 9 ppm, at any air quality receptor location, in either analysis year.

The MD 4 project is located in Prince George's County, Maryland, which is a serious ozone nonattainment area, but is not a nonattainment area for carbon monoxide. Since the project is located in an ozone nonattainment area, conformity to the State Implementation Plans (SIPs) is determined through a regional air quality analysis performed on the Transportation Improvement Program (TIP) and transportation plan. This project is included in the constrained long range plan for the National Capital Region and conforms to the SIP as it originates from a conforming TIP and transportation plan.

TABLE III-14
MD 4, PRINCE GEORGE'S COUNTY, MARYLAND
CO CONCENTRATIONS FROM CAL3QHC IN 2000

ALTERNATIVE	*Receptor*	*No-Build*		*Build*	
		1-Hr.	*8-Hr.*	*1-Hr.*	*8-Hr.*
Alternative 2, Option 2 (mod)	AQ-1	11.5	4.4	9.6	3.9
	AQ-2	9.3	3.7	9.0	3.5
Alternative 3, Option 2 (mod)	AQ-3	9.0	3.6	7.6	2.9
	AQ-4	8.5	3.7	7.5	2.9
	AQ-5	11.7	4.4	8.3	3.2
	AQ-5a	9.4	3.6	7.3	3.0
	AQ-5b	9.8	3.5	8.6	3.2
	AQ-6	10.9	3.7	8.9	3.4
Alternative 4, Option 5	AQ-7	14.6	4.7	10.2	3.8
	AQ-8	10.8	3.7	7.9	3.0
	AQ-9	9.4	3.3	8.2	3.0
	AQ-10	9.4	3.5	7.0	2.8
	AQ-11	8.6	3.1	7.2	2.9
	AQ-12	8.4	3.2	8.6	3.3
	AQ-13	9.1	3.6	9.3	3.5

Notes: 1-hour average CO conc. incl. a 6.1 ppm background conc. Worst case (a.m. or p.m.) shown.
8-hour average CO concentrations include a 2.6 ppm background concentration.
The S/NAAQS: 1-hour average is 35.0 ppm; 8-hour average is 9.0 ppm.

TABLE III-15
MD 4, PRINCE GEORGE'S COUNTY, MARYLAND
CO CONCENTRATIONS FROM CAL3QHC IN 2020

ALTERNATIVE	*Receptor*	*No-Build*		*Build*	
		1-Hr.	*8-Hr.*	*1-Hr.*	*8-Hr.*
Alternative 2, Option 2 (mod)	AQ-1	11.2	4.6	9.8	4.0
	AQ-2	9.3	3.7	9.4	3.9
Alternative 3, Option 2 (mod)	AQ-3	9.0	3.8	7.8	3.0
	AQ-4	8.5	3.4	7.6	3.0
	AQ-5	12.3	5.1	8.6	3.4
	AQ-5a	9.5	3.9	7.5	3.1
	AQ-5b	10.2	4.0	8.8	3.4
	AQ-6	12.3	4.5	8.8	3.5
Alternative 4, Option 5	AQ-7	22.0	7.5	9.8	4.0
	AQ-8	11.0	4.1	8.1	3.3
	AQ-9	9.9	3.7	8.2	3.2
	AQ-10	9.7	3.8	7.1	2.9
	AQ-11	8.7	3.4	7.3	3.0
	AQ-12	9.3	3.3	8.3	3.3
	AQ-13	9.8	3.9	8.8	3.6

Notes: 1-hour average CO concentrations include. a 6.1 ppm background conc.. Worst case (a.m. or p.m.) shown.
8-hour average CO concentrations include a 2.6 ppm background concentration.
The S/NAAQS: 1-hour average is 35.0 ppm; 8-hour average is 9.0 ppm.

5. Secondary and Cumulative Effects Analysis

a. Introduction

This section discusses the potential secondary and cumulative effects on the environmental resources as the result of the proposed construction of three interchanges and mainline widening along MD 4 in Prince George's County. As required in 40 CFR Part 1508.7, all past, present, and reasonably foreseeable future actions have been included in the secondary and cumulative effects evaluation.

The cumulative and secondary, or indirect, effects to the natural, social and economic environment of the MD 4 interchanges project are included. A secondary and cumulative boundary was delineated in order to evaluate the impacts of the project in the context of the surrounding communities. This expanded Secondary and Cumulative Effects Analysis (SCEA) boundary is shown in Figure III-9. The boundary was presented to the commenting State and Federal agencies at the March 1998 Interagency meeting.

The SCEA boundary is primarily located within the Patuxent River watershed and, to a lesser degree, in the Potomac River drainage basins. The geographic limits of the SCEA boundary are also coterminous with the associated census tracts, County Planning Areas, and community boundaries. Bisected by MD 4, the SCEA boundary lies within the proximity of several major roads southeast of the Capital Beltway as the census tracts and watersheds coincide with these roadways. Major roads near or adjacent to the boundary include US 301 to the southeast, Brown Station and Marlboro Roads to the east, White House Road to the north, Donnell Drive, Wintergreen Avenue and I-95/I-495 (Capital Beltway) to the west, and the southern limits of Andrews Air Force Base and Rosaryville Road to the south. The SCEA boundary encompasses four Planning Areas (75A/B, 77, 78 and 82A) within the limits of three master planning districts. The three community master planning districts, from smallest to largest, within the SCEA boundary, are Suitland-District Heights and Vicinity, Subregion VI, and Melwood-Westphalia. Figure III-10 shows the limits of the Planning Areas and the master planning districts within the SCEA boundary. A small part of the Suitland-District Heights community within the SCEA boundary lies outside of the Capital Beltway and straddles MD 4. Subregion VI encompasses the southeastern quarter, of the SCEA boundary, south of MD 4 and east of MD 223. Melwood-Westphalia, generally east of the Capital Beltway, makes up the remainder and encompasses the central and largest portion of the SCEA boundary.

b. Methodology

The methodology incorporates consideration of the past and present land use and socio-economic changes, as well as reasonably foreseeable potential future land use patterns influenced by the project. Planned future growth is projected by the county in its master planning process. An overlay approach was used for this analysis. Data provided land use conditions prior to the completion of the Capital Beltway in 1963-64 and periodically for the subsequent three decades. The methodology employed for development of the land use map overlays included a comparison of Prince George's County land use plans for 1973, 1985 and 1994, and a 1963 aerial photograph. The changes in land use establish a pattern of development for a period prior to the area's connection to the interstate transportation network and through to the present time. With this trends analysis of past and present land uses and the identified future land uses, an estimate of the secondary and cumulative effects is made for each resource.

The methodology for evaluating secondary and cumulative effects related to the proposed interchanges consisted of a review of the community master plans for the three planning districts that exist within the MD 4 SCEA boundary. Each of the three master plans provide direction for the growth of their respective communities. Land use recommendations detailed in the master plans are either mandated by law or are strongly supported by the County Planning Board. Future land use provided in the community master plans was used to predict potential future land use changes supported by the construction of the three interchanges. This future land use map was used as a base to qualify or quantify the secondary and cumulative impacts.

This analysis also included determining the governmental programs, policies, or regulations affecting the individual resources that would protect those resources over time.

c. Summary of Reasonably Foreseeable Future Projects

In the assessment of cumulative effects, it is necessary to identify all reasonably foreseeable projects that will likely occur within the SCEA boundary. For the purpose of this analysis, reasonably foreseeable future actions (RFFAs) are based on county and area Master Plans or planning documents; State, Federal and local agency plans for future projects; and known private actions. Impacts can be evaluated based on the proximity of the action or project to a resource. The following projects are culled from private sources and County and State capital improvement plans.

Transportation improvement projects that are proposed by the Maryland Department of Transportation (MDOT) are traversed by or are located within the SCEA boundary. MDOT lists four such transportation projects in its Consolidated Transportation Program FY 1997 - 2002 (CTP), an annual report that presents descriptions of projects proposed for construction or evaluation over a 6-year period.

The majority of the MDOT transportation projects are proposed to address current congestion during morning and evening rush hours. There are two studies underway in the US 301 (Blue Star Memorial Highway) corridor. The first is a study to upgrade and widen this principal arterial highway from MD 197 to US 50. Overlapping the previous study is the US 301 South Corridor Transportation Study from US 50 to the Governor Nice Bridge including a portion of MD 5 from T.B. to I-95/I-495. The latter project is a multi-modal corridor study. In addition to these projects, the I-95/I-495 Interchange with Ritchie Marlboro Road project would relieve capacity problems at the I-95/I-495 interchanges with MD 214 and MD 4 and improve access to planned growth areas. The fourth project is a feasibility study of providing high occupancy vehicle lanes in each direction on the I-95/I-495 (Capital Beltway) from the American Legion Bridge to the Woodrow Wilson Bridge.

The projects listed in the County's Capital Improvement Program include improvements to MD 223 from Rosaryville Road to Dower House Road, the construction of the Rena Road/Suitland Parkway Interchange, and the replacement or reconstruction of Ritchie Road from Alberta Lane to MD 4.

Planned private development projects are centered on the Presidential Corporate Center located between MD 223 and Armstrong Lane, and the East Gate Industrial Park, located east of Westphalia Road. A component of the Presidential Corporate Center is the construction of Presidential Parkway that would begin at the terminus of Suitland Parkway and continue north of, and parallel to, MD 4.

Each of these development and transportation improvements projects, including improvements to the MD 4 corridor, is consistent with the area master plans.

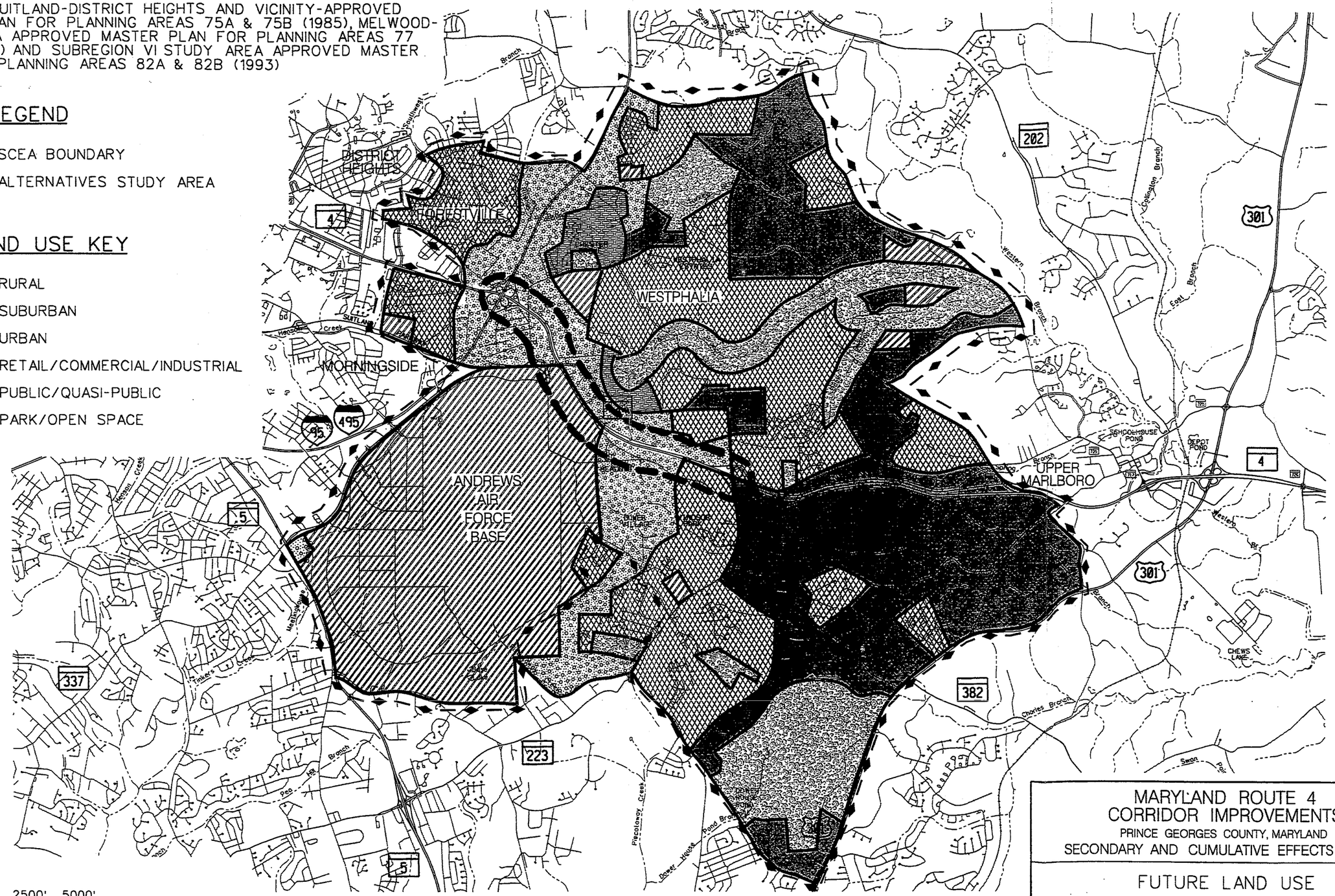
SOURCES: SUITLAND-DISTRICT HEIGHTS AND VICINITY-APPROVED MASTER PLAN FOR PLANNING AREAS 75A & 75B (1985), MELWOOD-WESTPHALIA APPROVED MASTER PLAN FOR PLANNING AREAS 77 & 78 (1994) AND SUBREGION VI STUDY AREA APPROVED MASTER PLAN FOR PLANNING AREAS 82A & 82B (1993)

LEGEND

- SCEA BOUNDARY
- ALTERNATIVES STUDY AREA

LAND USE KEY

- RURAL
- SUBURBAN
- URBAN
- RETAIL/COMMERCIAL/INDUSTRIAL
- PUBLIC/QUASI-PUBLIC
- PARK/OPEN SPACE



2500' 0 2500' 5000'

SCALE: 1" - 5000'

MARYLAND ROUTE 4 CORRIDOR IMPROVEMENTS

PRINCE GEORGES COUNTY, MARYLAND

SECONDARY AND CUMULATIVE EFFECTS STUDY

FUTURE LAND USE

Date:	Scale:	Figure No.:
AUGUST, 1998	1" = 5000'	III-9

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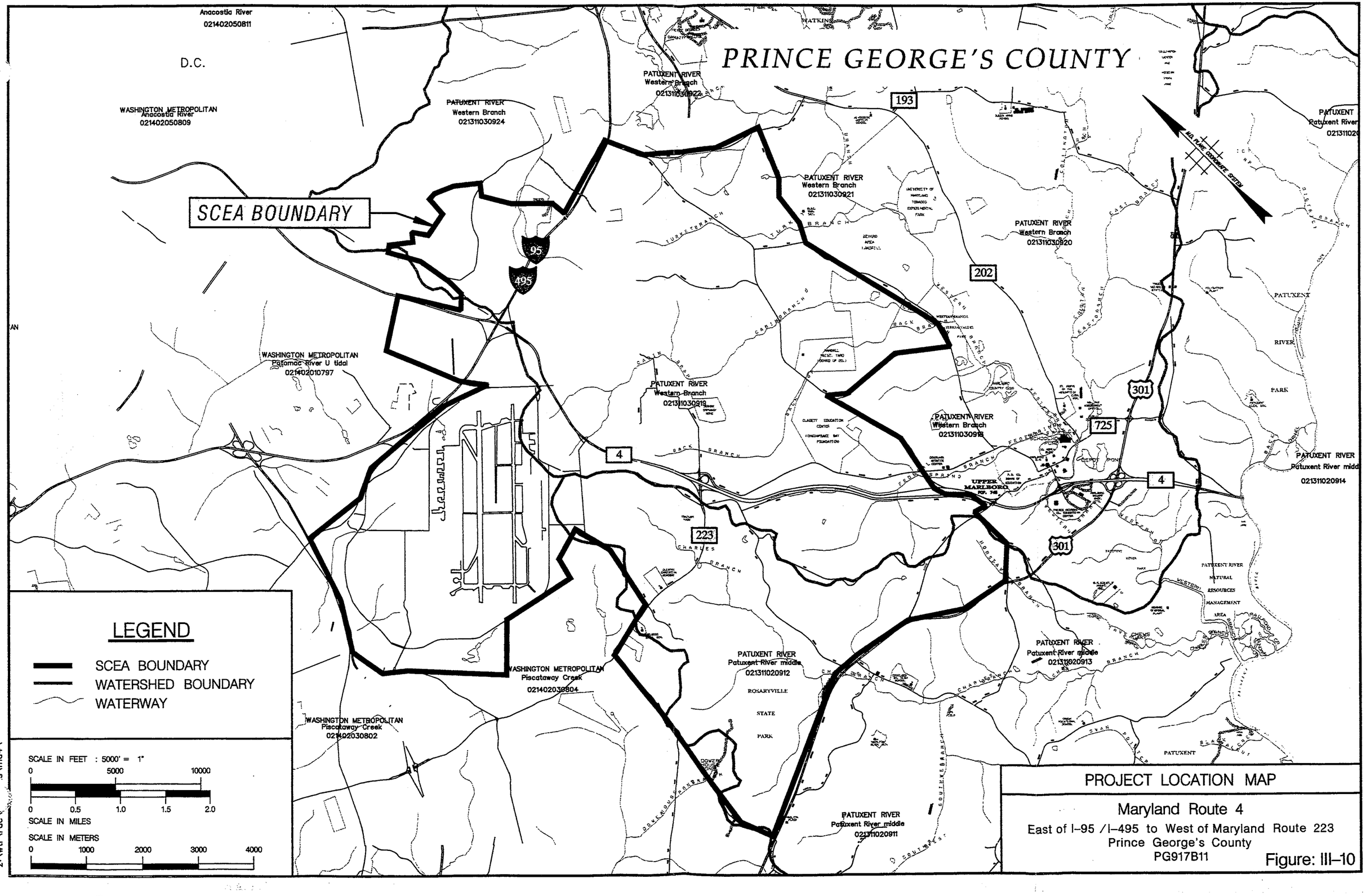

PROJECT LOCATION MAP

Maryland Route 4

East of I–95 /I–495 to West of Maryland Route 223
Prince George's County
PG917B11

Figure: III–10

Social and Economic Environment

The following sections provide an evaluation of past trends and present conditions as a guide for assessing potential future resource effects as the result of the reasonably forseeable future development projects. With these trends analyses and the identified future land uses, an estimate of the secondary and cumulative effects is made for each resource category.

Land Use

Prince George's County lies predominantly east of Washington, D.C., and occupies approximately 310,400 acres (125,670 hectares) of land and 7,000 acres (2,835 hectares) of water. Agriculture, primarily tobacco growing, was the county's main cash crop and the basis for the region's economy. In the development boom after World War II (1954 to 1959), the areas planted with tobacco decreased approximately 30 percent, primarily due to residential, commercial, and military installation developments. It was at about this time that the planners of the National Capital region developed the General Plan "on wedges and corridors." This plan was used as a basis for each area in the region to develop a master plan that would guide the development of land use, transportation, environmental protection, and other needed infrastructure.

In its transformation from rural to suburban land use, the county primarily developed along its transportation corridors. In the recent past, suburban development has concentrated along major transportation routes within the area to accommodate an increasing population associated with the activity centers and densely populated areas of metropolitan Washington, D.C. This tendency for development to occur along transportation corridors is expected to carry into the future and is a critical component to the concepts developed in the General and master plans.

A comparison of Prince George's County Land Use/Land Cover Maps for 1973, 1985, and 1994, and an aerial photograph taken in 1963 illustrate the changes in land uses over time. In the period from 1963 to 1973, the period just after the Capital Beltway was constructed, there appeared to be a dramatic increase in high density residential and commercial development in the Suitland-District Heights area. A total of approximately 600 acres (245 hectares) were converted to low and high density residential and commercial uses within the SCEA boundary. Approximately 400 of the 600 developed acres were within the Suitland-District Heights planning district. During this period, there were no substantial changes in the other planning districts. Only a few, scattered low density residential and commercial developments appeared in the rest of the SCEA boundary over that period. Additionally, there appeared to be numerous conversions of forest to agriculture (128 acres or 52 hectares total) and agriculture to forest (760 acres or 308 hectares total) primarily in the southeastern portion of the boundary.

Few land use changes were evident in the planning districts in the period between 1973 and 1985. In all, only 200 additional acres (81 hectares) were converted from agricultural or forested uses to a higher use. A concentration of land use changes appeared along the Capital Beltway, where approximately 50 acres (20 hectares) were converted to commercial uses. Additional small scattered residential and commercial developments appeared in the eastern and southern portions of the SCEA boundary.

There was an obvious increase in low density residential land uses in the SCEA boundary between 1985 and 1994. Approximately 300 acres (120 hectares) were converted to low density residential developments scattered throughout the eastern half of the boundary. Another notable change during this period was the increase in medium density residential developments in the Suitland-District Heights planning district. Table III-16 summarizes the land use changes between 1963 and 1994. This level and concentration of development seemed to be consistent with the master plans of the area.

The changes in land uses over the period from 1963 to 1994 appeared to coincide with the improvement of the transportation network, including the construction of the Capital Beltway, in those areas. Immediately after the Capital Beltway was constructed through the SCEA boundary, residential and commercial development increased dramatically according to plans. In the years between 1973 and 1994, there appeared to be a slower pace of development within the SCEA boundary. General development patterns persist during the three-decade study period, with development moving in an easterly direction away from Washington, D.C. Therefore, the increase in development may actually be linked to the proximity to the Washington, D.C., metropolitan area, the primary employment center for the region. The lack of available developable land within the Capital Beltway area appears to promote the movement of the population further into adjacent undeveloped land.

TABLE III-16
LAND USE CHANGE FROM 1963 TO 1994

LAND USE/ LAND COVER	***Changes from 1963 to 1973 in***	***Changes from 1973 to 1985 in***	***Changes from 1985 to 1994 in***
	Acres (Hectares)		
Low Density Residential	+ 90(36)	+64 (26)	+300 (121)
Medium Density Residential	- 1 (0.4)	0	+50 (20)
High Density Residential	+190 (77)	+60 (24)	0
Commercial	+301(122)	+61 (25)	+50 (20)
Industrial	0	+23 (9.3)	+50 (20)
Institutional	-1 (0.4)	0	0
Agriculture	-902 (365)	-166 (67)	-200 (81)
Forest	+323 (131)	-42 (17)	-250 (101)
Total Change in Land Use	1,593 (645)	317 (128)	450 (182)

Source for 1973, 1985, and 1994: Land Use/Land Cover Maps (Maryland Office of Planning)

Conceptual designs of the proposed interchanges along MD 4 were incorporated into the Melwood-Westphalia Master Plan and were used by county planners to determine planned land use changes within the district. A generalized map of the land use recommendations made in each of the most recent master plans is shown in Figure III-11. The rate of development will be

dependent on many factors, the most important of which will be the state of the local and national economy. Market conditions and land values would likely drive the acceleration or deceleration of the pace of future development projects. Therefore, the amount of land to be occupied by a given future land use is approximated.

Summary of Secondary and Cumulative Effects - Land Use

Land use changes expected to occur in the immediate vicinity of MD 4 and the SCEA boundary as a whole will generally conform in intensity and geography to those presented in the three community master plans. The Melwood-Westphalia master plan designates six employment areas within its limits. The total size of 6,180 acres (2,500 hectares), of which 4,663 are developed. The remaining 1,517 acres (614 hectares) are vacant developable lands. Employment Area 3 encompasses a half-mile wide area north of MD 4 along its length within the planning district limits, approximately 3 miles. This area coincides with the approximate limits of the planned interchanges and generally lies within the study limits of the SCES Study Area shown in Figure III-11.

The developments expected within Employment Area 3 include the Presidential Corporate Center and the East Gate Industrial Park. Approximately 150 acres (61 hectares) in this area are proposed to be converted to industrial zoning as part of the recommendations made in the master plan for a planned mixed use community activity center. Additionally, planned residential developments associated with this community activity center will increase residential land uses above current conditions.

As indicated in current land use plans, the proposed interchanges along MD 4 will likely facilitate the expansion of the Presidential Corporate Center. The county currently has limitations placed on the amount of development permitted in this area due to the inadequate level of service provided by MD 4 and Westphalia Road. Therefore, it is expected that implementation of the proposed interchanges at MD 4 would help alleviate congestion and facilitate the planned development.

In addition to the commercial developments, the master plan estimates that an additional 2,500 dwelling units/mobile home sites will be accommodated in the undeveloped area north of MD 4 and recommends an additional 5,600 to 6,600 dwelling units within the Planning Areas 77 and 78. With a base residential density of 10 dwelling units per acre designated for this mixed use development, the 6,600 recommended dwelling units would occupy approximately 660 acres (267 hectares) within the area north of MD 4.

Other public service amenities will likely influence the rate of development in the SCEA boundary. With the extension of sewer service into rural areas with adequate zoning, there would likely be a continued trend toward an increase in low density housing in the eastern half of the SCEA boundary. As shown in Figure III-11, more than half of the area zoned as rural is planned to receive public water and sewer. Rural zoning and the lack of water and sewer service would limit development south of MD 4 in the easternmost limits of the SCEA boundary.

Socioeconomic Environment

In 1900, the population of Prince George's County was approximately 30,000 people. By 1940, it was approximately 90,000 people and by 1960 the population was nearly 360,000 citizens. In 1964, the population increased an average of 700 people per week. In 1995, the population was 765,260, more than double the 1960 population. The vast majority of the population of Prince George's County is concentrated in the areas closest to Washington, D.C.

The pace of growth in the SCEA boundary was much slower than that of the county as a whole. An evaluation of the population and employment statistics available from the U.S. Census Bureau and county documents revealed a trend in the movement of the population and jobs toward less populated regions. Historic data compiled from census files indicate that the number of households and jobs steadily increased from 1970 to 1990.

Table III-17 summarizes the historic and forecasted household and employment data culled from census files and State of Maryland projections. The figures support the assumption that the past trends, showing an increase, will continue. Forecasts indicate steady growth in the local population and economy.

TABLE III-17
TOTAL NUMBER OF HOUSEHOLDS AND JOBS IN SCEA BOUNDARY
1970 TO 2020

CENSUS DATA	*1970*		*1980*		*1990*		*2020*	
	Number	***Change***	***Number***	***Change***	***Number***	***Change***	***Number***	***Change***
Households	2,520	n/a	4,317	+1,797	5,850	+1,533	7,373	+1,523
Jobs	2,857	n/a	4,382	+1,525	12,348	+7,966	19,297	+6,949

Source: U.S. Bureau of the Census, 1970, 1980, and 1990; 2020 forecasts from Maryland SHA.

According to the master plan, the population of the Suitland-District Heights planning district increased from just under 25,000 in 1950 to a peak of 78,000 in 1970. The district experienced a -4.8% change in population over the period from 1970 to 1980. This was attributed to a 16% decrease in the population of the Washington, D.C. metropolitan area.

Within Subregion VI, Planning Area 82A extends southward from MD 4. According to the master plan for that planning district, the population of Planning Areas 82A within Subregion VI grew by 26.4% between 1980 and 1990, as compared to 39% for all of Subregion VI. According to the master plan for Subregion VI, the population of the Planning Area is expected to grow 83.5% between 1990 and 2010.

The majority of planned growth within Melwood-Westphalia is centered on the Presidential Corporate Center. The master plan anticipates that the ultimate build-out of the Presidential Corporate Center will include a new school, library, and parkland/open space.

Historically, there has been an adequate amount of parkland in the Melwood-Westphalia and Region VI planning districts, perhaps due to their rural nature. Both of these districts expect to acquire a surplus of parkland to serve the projected population. However, the urban nature of the Suitland-District Heights planning district presents difficulties in meeting their target parkland to population ratio of 15 acres (6 hectares) for every 1,000 people. Thus, this district has been, and will continue to be, deficient in parkland by approximately 100 acres (40 hectares), based on the ratio of park acreage to population (based on forecasted 1990 population). This deficiency is due to the lack of undeveloped land within the planning district and funding constraints.

Summary of Secondary and Cumulative Effects - Socioeconomic Environment

In terms of reasonably foreseeable future development, it appears reasonable to assume that the Melwood-Westphalia portion of the SCEA boundary will continue to develop in the immediate vicinity of MD 4 and the proposed interchanges. The master plan for that district included a large, mixed-use development, Presidential Corporate Center, to be located in the area north of MD 4 and south of Westphalia Road. Secondary effects on the socioeconomic environment will be most evident in the increase in population and jobs related to the planned mixed-use development. Substantial residential development is anticipated to occur in the future with a corresponding increase in population, as detailed in Table III-17. Additional parkland and public services, such as schools and libraries, are also planned as part of that development project.

The construction of the SHA selected Alternative will support the planned growth as forecasted in the three master plans. The job producing industrial and commercial developments will be concentrated in the area adjacent to MD 4, Suitland Parkway and east of Andrews Air Force Base. The improvement of the traffic level of service related to the interchange construction will likely have a positive effect on the local and regional economy. Current rush hour gridlock has prompted the county to withhold approval of planned employment centers, primarily those associated with the Presidential Corporate Center. Its completion is expected to contribute to the economic benefit of the community and the region.

Suitland Parkway, which is maintained by the U.S. Department of the Interior's National Park Service, will be directly impacted as the result of its planned connection to a proposed MD 4 interchange as discussed in Section 2. The amount of existing parkland is not expected to be reduced further by secondary and cumulative development resulting from the construction of the three interchanges at MD 4 or any planned new development. In addition, consistent with the master plans for areas in the SCEA boundary, future parkland areas to support planned growth in the area based on population will be provided.

In the Suitland-District Heights Planning Area, the promotion of the industrial land uses around the Capital Beltway will likewise provide economic benefits to the community and the county. In addition, the previously mentioned transportation improvements planned by the State of Maryland and Prince George's County are, in part, intended to accommodate the planned population and economic growth in the region. In addition, these planned transportation improvements are expected to relieve current, local congestion and may result in an increased desirability of employment in the area.

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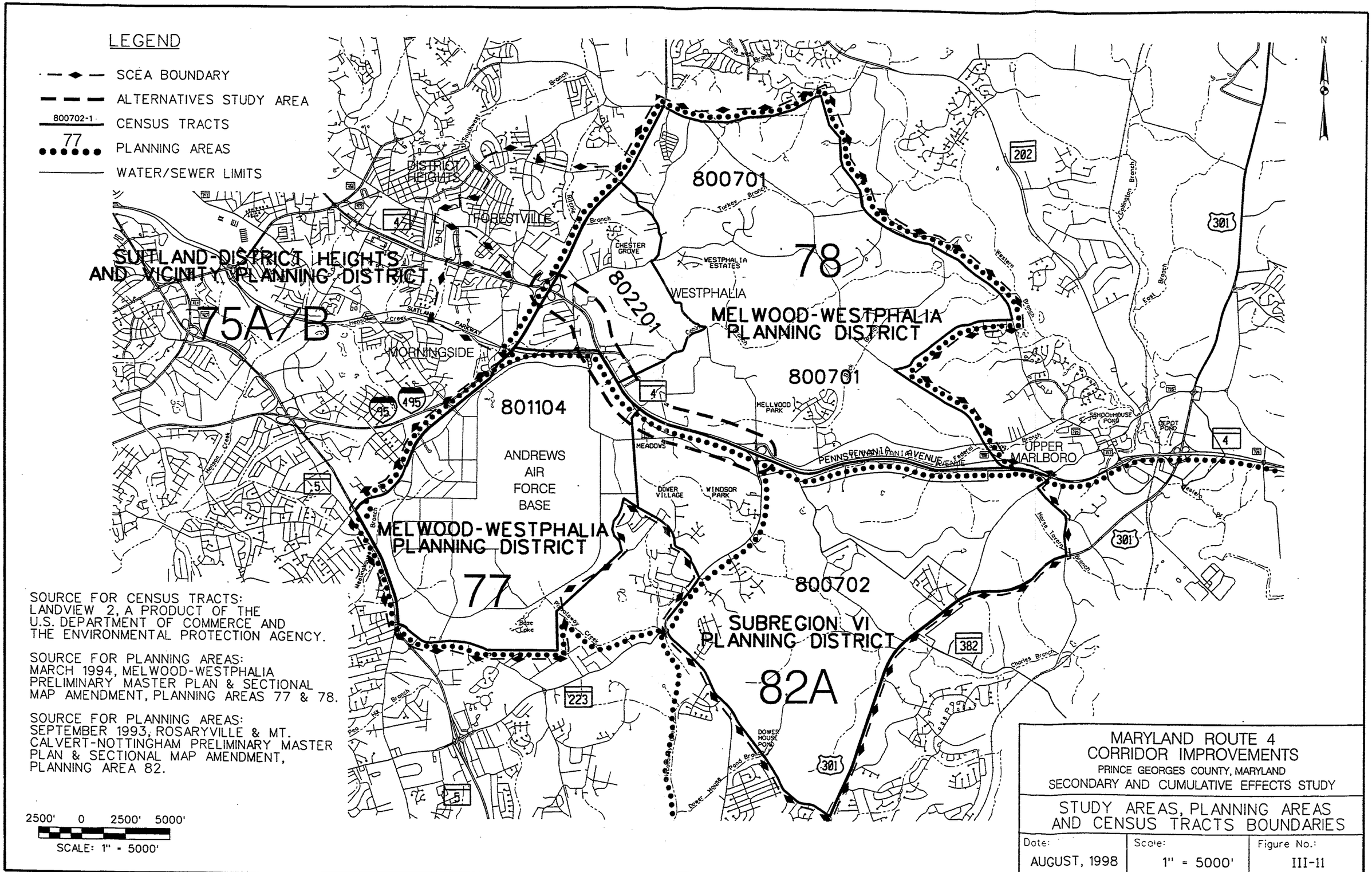

SOURCE FOR CENSUS TRACTS:
LANDVIEW 2, A PRODUCT OF THE U.S. DEPARTMENT OF COMMERCE AND THE ENVIRONMENTAL PROTECTION AGENCY.

SOURCE FOR PLANNING AREAS:
MARCH 1994, MELWOOD-WESTPHALIA PRELIMINARY MASTER PLAN & SECTIONAL MAP AMENDMENT, PLANNING AREAS 77 & 78.

SOURCE FOR PLANNING AREAS:
SEPTEMBER 1993, ROSARYVILLE & MT. CALVERT-NOTTINGHAM PRELIMINARY MASTER PLAN & SECTIONAL MAP AMENDMENT, PLANNING AREA 82.

MARYLAND ROUTE 4
CORRIDOR IMPROVEMENTS
PRINCE GEORGES COUNTY, MARYLAND
SECONDARY AND CUMULATIVE EFFECTS STUDY

STUDY AREAS, PLANNING AREAS AND CENSUS TRACTS BOUNDARIES

Date:	Scale:	Figure No.:
AUGUST, 1998	1" = 5000'	III-11

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d. Natural Environment

Water Resources

Surface Water

Water quality of surface waters is regulated by the Maryland Department of the Environment (MDE) pursuant to the COMAR 26.08.02 (Water Quality), revised February 7, 1995 (ACM, Environment Article, Sections 9-13 through 9-316, 9-319, 9-320, and 9-325). The purpose of these regulations is to protect surface water quality through the adoption and implementation of water quality standards. The surface water quality standards consist of designated uses of the State waters, and criteria to protect the designated uses. One regional initiative to protect surface waters and control nonpoint source (NPS) pollution is the Stormwater Management Program (implemented in 1984), which requires that stormwater from urban land be treated using best management practices. Prince George's County government, as well as other county governments in the Patuxent River watershed, have been delegated authority over this program. The Federal Program in place to regulate NPS pollution is the National Pollutant Discharge Elimination System (NPDES) Permits for Municipal Separate Storm Sewer Systems (implemented in 1990). This federal program, resulting from 1987 amendments to the Clean Water Act, mandates that local jurisdictions with populations greater than 100,000 are required to inventory, monitor, and assess their stormwater management programs.

Stresses to surface water quality in the Secondary and Cumulative Effects Analysis (SCEA) boundary have varied during the study timeframe (1964-2020). Prior to implementation of improved sewage disposal systems in the 1970s and 1980s as a result of the Federal Water Pollution Control Act of 1972, the major stress on surface water quality in the study area was discharge of poorly and/or untreated domestic sewage and industrial sewage. Major current and anticipated future stresses on surface water quality are stormwater runoff from urbanized areas and sedimentation/siltation from soil erosion/disturbance due to residential and commercial development.

Approximately 50 percent of the land area within the SCEA boundary is served by public sewers; this equates to about 90-95 percent of the population. Areas inside the Beltway are served by the Blue Plains STP (Washington, D.C.), while areas in the Piscataway Creek and Western Branch watersheds are served by the Washington Suburban Sanitary Commission (WSSC). The majority of the SCEA boundary is within the Western Branch watershed; the collection system for this watershed area conveys wastewater to the Western Branch Wastewater Treatment Plant (WWTP), which discharges its effluent into Western Branch south of the MD 4/U.S. 301 interchange. This 30 million gallon per day (MGD) facility is an advanced WWTP, which has been upgraded numerous times since the 1960s for additional capacity and treatment level. Most recently, the plant was upgraded in 1987 to incorporate nutrient removal in response to legislation to improve water quality of the Patuxent River and Chesapeake Bay watersheds.

The Maryland Department of the Environment (MDE) has documented an overall improvement in water quality in the Patuxent River basin since the mid 1980s as a result of declines in point source nutrient loads from WWTPs. In the early 1980s, point source loads from municipal WWTPs were a significant nutrient source to the river. Declines in point source

phosphorous loads are attributed to implementation of the phosphate detergent ban and numerous WWTP upgrades in the mid 1980s. Declines in point source nitrogen loads became evident starting in 1991 as a result of implementation of biological nutrient removal at eight major WWTPs in the watershed. Nutrient concentration declines at head of tide monitoring stations of the Patuxent River for the period 1984-1994 have been 40 and 60 percent, for total nitrogen and total phosphorus, respectively.

Numerous sources were consulted for availability of historic surface water quality data for the SCE study area. These include: Prince George's County Department of Environmental Resources (no readily available data for study area or vicinity), Prince George's County Health Department (Anacostia River data only; not available to the public), the Maryland Department of Natural Resources (MDNR) Maryland Biological Stream Survey (MBSS; limited to data since 1993), various water quality pages on the USGS Web Page (no data for study area), USEPA's STORET Program and the USGS, Water Resource Division's QWDATA Program.

Water quality data for Water Years 1985-1995 inclusive, for two monitoring stations on Western Branch, are presented in Tables III-18 and III-19. These data were provided by the USGS, Water Resources Division's QWDATA Program and USEPA's STORET Program, and include a tidal location (WXT0045; USGS and USEPA data) and a non-tidal location (01594526; USGS data). Monitoring Station No. 01594526 is located about 0.2 mile south of Upper Marlboro and 1,000 feet upstream from the Water Street Bridge. Monitoring Station WXT0045 is located at the Water Street Bridge. The data shown are mean values of multiple sampling efforts. It should be noted that both of these monitoring stations are located upstream of the Western Branch WWTP. Monitoring data for waterways draining the SCEA boundary were not available for years prior to 1985. Monitoring data for waterways outside of the SCEA boundary (i.e., various locations along the Patuxent River main branch and tributaries) were available for years prior to 1985; however, these data were not deemed representative of water quality trends for the subject study area.

Regarding Monitoring Station 01594526 (non-tidal), the general trend, based on the parameters examined, is a decline in water quality over the 11-year period for the Western Branch watershed. This trend contradicts the Patuxent River trend of overall improvement in water quality for the approximately same time period as noted above. This difference is explained by the fact that the WWTP discharge location (i.e., Western Branch WWTP) and Patuxent River monitoring locations are situated downstream of the monitoring locations for Western Branch. Dissolved oxygen (DO) levels have shown a slight decreasing trend, while total nitrogen and total phosphorous levels have shown a general increasing trend. The most striking trend was shown for the suspended sediment parameter, which showed a mean value of 28.5 mg/l for the last 5 years, as compared to a mean value of 65 mg/l for the first 6 years of monitoring. The data for Monitoring Station WXT0045 (tidal, fresh) do not indicate the significant declining water quality trend as noted for the non-tidal station. The only readily discernible trends in data from this location are a slight increase in suspended sediment, and a slight decrease in DO; no trends for nutrient levels were apparent. Although the data do not cover an extensive period, a general decline in water quality of the Western Branch watershed is evident. The causes of this decline cannot be accurately determined within the scope of this study; however, it is speculated that the primary causes are sediment loading in stormwater from land clearing/disturbance for development and urban stormwater runoff.

TABLE III-18
WATER QUALITY DATA (USGS)
WESTERN BRANCH – NON-TIDAL

Monitoring Station: 01594526 (non-tidal)
Location: Upstream of Water Street Bridge at Upper Marlboro

Water Year	*DO (mg/l)*	*Nitrolgen (total) (mg/l as N)*	*Nitrogen Ammonia (dissolved) (mg/l as N)*	*Phosphorus (total) (mg/l as P)*	*Suspended Sediment (mg/l)*
1985-86	10.0	1.08	0.06	0.16	32.0
1986-87	9.7	1.13	0.07	0.13	30.0
1987-88	10.2	1.09	0.06	0.14	72.4
1988-89	10.2	1.40	0.08	0.24	178.0
1989-90	10.9	0.89	0.06	0.08	----
1990-91	9.4	0.97	0.06	0.09	12.0
1991-92	10.2	1.00	0.06	0.35	170.3
1992-93	9.9	1.50	0.08	0.47	287.8
1993-94	9.2	1.80	0.17	0.50	346.0
1994-95	9.5	1.52	0.08	0.44	331.5
1995-96	9.5	1.65	0.06	0.39	309.8

TABLE III-19
WATER QUALITY DATA (USGS AND USEPA)
WESTERN BRANCH - TIDAL

Monitoring Station: WXT0045 (tidal fresh)
Location: At Water Street Bridge, 400 feet north of MD 4, at Upper Marlboro

Water Year	*DO (mg/l)*	*Nitrolgen (total) (mg/l as N)*	*Nitrogen Ammonia (dissolved) (mg/l as N)*	*Phosphorus (total) (mg/l as P)*	*Suspended Sediment (mg/l)*
1985-86	10.1	1.38	0.50	0.18	15.7
1986-87	9.7	1.11	0.42	0.12	15.1
1987-88	10.4	1.03	----	0.08	8.2
1988-89	10.3	1.25	----	0.12	15.5
1989-90	10.1	0.94	----	0.09	12.6
1990-91	9.8	0.93	0.38	0.09	12.3
1991-92	10.1	0.71	0.28	0.06	5.9
1992-93	9.9	0.96	0.41	0.09	11.9
1993-94	9.2	1.13	0.44	0.10	25.6
1994-95	9.5	1.05	0.38	0.10	19.3
1995-96	9.8	1.10	0.33	0.16	28.5

Summary of Secondary and Cumulative Effects-Surface Waters

Readily available data on water quality trends for the SCEA study area and timeframe were limited to a relatively short (i.e., 11 years) time span for two monitoring locations on the Western Branch, the primary watershed of the SCEA boundary. The start of this date (Water Year 1985) coincides with the approximate period of water quality improvements in the Patuxent River watershed as evidenced by a decline in phosphorous loadings and, subsequently, by a decline in nitrogen loadings. This decline in loadings was in direct response to the Federal and State initiatives to improve water quality of the Chesapeake Bay watershed. Recent water quality data for the Western Branch watershed indicates a general decline in water quality, even though there has been an overall improvement of water quality in the Patuxent River watershed.

Implementation of the SHA selected alternative for MD 4 is expected to result in direct impacts to surface waters from extension modification of existing culverts and addition of new culverts and potential temporary water quality degradation from soil erosion and sedimentation due to construction activities (i.e., clearing and grading). Incorporation of Best Management Practices (BMPs), such as grassed swales and detention/retention basins, is expected to mitigate long-term water quality degradation from stormwater runoff from the new roadway facility. Incorporation of soil erosion and sediment control measures, as part of an approved Soil Erosion and Sediment Control Plan, is expected to minimize the extent and duration of temporary soil erosion and sedimentation impacts of the project.

The construction of the SHA selected Alternative for MD 4 will support the planned expansion of the Presidential Corporate Center from its current extent (about 20 acres or 8 hectares) to an approximate 66 acre (27 hectares) office complex (Prince George's County currently has limitations placed on the amount of development permitted in the MD 4 corridor due to an inadequate level of service provided). The county has also received development applications and zoning change requests for seven additional parcels totaling 93.6 acres (37.9 hectares) within the MD 4 corridor. As with the Presidential Corporate Center, these other development proposals will likely occur with implementation of the proposed MD 4 project. Collectively, these developments would increase non-point source pollutant loading to surface waters in the SCEA boundary.

While control of point source nutrient pollution has been successful and goals for point source nutrient reduction have largely been met in the Patuxent watershed, non-point source (NPS) pollution continues to be a problem that will likely worsen as the watershed becomes more populated (the population is expected to increase by 54 percent during the period 1990-2020). Non-point source pollution entails diffuse discharges (i.e., those that enter receiving waters as sheet or overland flow rather than individual "end of pipe" discharges). Major non-point sources of water pollution include runoff from urban/suburban development (metals, oil/grease, rubber particles, sediment), construction runoff (soil erosion and sedimentation from land clearing for development), and agricultural runoff (soil erosion/sedimentation, pesticides, and fertilizers). Nutrient concentrations remain elevated in the upper and middle reaches of the tidal portion of the Patuxent, and freshwater streams continue to show signs of degradation of uncontrolled stormwater runoff (Patuxent River Commission, 1998).

In 1984, the Patuxent River Commission developed the Patuxent River Policy Plan, which included ten recommendations for land management strategy to control NPS pollution. These strategies include, but are not limited to, implementing best management practices and vegetative buffers to control stormwater impacts, increasing recreation and open space, and retrofitting existing development. There have been a variety of Federal and State initiatives since 1984 that have provided regulatory support for implementing these and other Policy Plan strategies. Examples of these initiatives are the Chesapeake Bay Critical Area Management Act (1984); State Economic Growth, Resource Protection, and Planning Act of 1992 (Smart Growth); and the State Phosphate Ban (1985). These initiatives have, to a certain extent, been offset by the tremendous increases in population growth, and resultant residential and commercial development noted between 1970 and the present and expected to occur to the year 2020. According to the 1997 Annual Report and Patuxent River Policy Plan, prepared by the Patuxent River Commission, forested lands will decrease from 44 percent to about 35 percent of the watershed's land cover and agricultural lands will decrease from 27 to 20 percent, so that developed land will become the major land use category (43 percent) in the watershed by the year 2020. Existing and even enhanced levels of management activities will not be able to maintain the Patuxent's 40 percent nutrient reduction goal into and beyond the year 2010 (Patuxent River Commission 1998).

Groundwater

Groundwater withdrawals and discharges in Prince George's County are regulated by the County Health Department and the MDE. The Prince George's County Health Department (PGCHD) has the responsibility of enforcing State regulations pertaining to individual residential water supply wells that pump less than 5,000 gallons per day (gpd). The PGCHD issues well permits and issues certificates of potability (Kohl, 6/1/98). Regulatory authority over construction and operation of public wells (serving 25 or more persons for periods of six months or more during the year), commercial wells, and any other water supply wells which pump 5,000 gpd or more rests with the MDE Individual Well and Septics Program. This agency issues water appropriation permits and well drilling permits and monitors quality of public water supply wells. Individual on-site sewage disposal systems are regulated by the PGCHD. This regulation includes witness of percolation and other soils testing procedures, review and approval of on-site disposal system designs, and inspection of on-site disposal system construction (Adams, 6/3/98). Review and approval of community on-site disposal systems (with discharges of 5,000 gpd or more) designs is under the jurisdiction of the MDE Individual Well and Septics Program.

Overall, groundwater is not a major source of drinking water in Prince George's County. In 1963, approximately 75 percent of the water usage in the county was from surface water sources (MDNR 1966). Public-supply water withdrawals for Prince George's County for 1991 were 93 percent and 7 percent for surface water and groundwater sources, respectively, (USGS 1995). The WSSC has a well-established water treatment/distribution system that serves Prince George's and Montgomery Counties. The supply source for this system is entirely surface water, with the primary sources being the Potomac River (85 percent of supply) and the Patuxent River (15 percent of supply) (Watkins, 5/27/98). Estimates of the percentage of County residents served by this system range from 95 to 98 percent (Spoon, 5/20/98). According to the Prince George's County Department of Environmental Resources, Programs and Planning Division's Water and Sewer Plan, approximately 50 percent of the SCEA boundary is presently serviced by

the WSSC system (estimates of the number of persons or percentage of population within the study area served by the WSSC were not available, though it is assumed that the percentage served is at least 75 percent, based on zoning). The remainder of the land within the SCEA boundary is served by on-site wells. The Magothy Formation is the most important groundwater aquifer in southern Prince George's County, though the Aquia, Patapsco and the Patuxent Formations are also utilized. All of these formations are confined groundwater aquifers. Shallow wells in Lowland and Upland deposits of Recent/Pleistocene age and Pliocene age, respectively, provide groundwater yields adequate for domestic and agricultural uses. These shallow wells are known to have sporadic, localized drawdown and contamination problems (Wise, 6/1/98). Other than occasional naturally high iron and dissolved solids concentrations, there are no documented water quality problems with any of the confined aquifers that are used in Prince George's County. There are documented cones of depression in the Magothy and Upper and Lower Patapsco Aquifers in Charles County and the Aquia Aquifer in St. Mary's and Calvert Counties (Curtin, 1997), well to the south of the SCE study area. There are no salt water intrusion problems in or near the SCE study area due to the distance of same from brackish or salt water tidal waterways (Mack, 6/10/98).

Historic groundwater quality data for several aquifers tapped by wells in the study area were gleaned from two Maryland Geological Survey Water Resources Basic Data Reports - Nos. 10 and 13. Limited groundwater quality data are presented in Section IV.E.4 of the EA/4(f) for the project study area. The data presented in Table III-20 are intended to be representative historic data for the aquifers serving the SCEA boundary and environs.

TABLE III-20
SELECTED WATER CHEMICAL QUALITY
DATA FOR VARIOUS AQUIFIERS IN THE SCEA BOUNDARY

Well#	*Formation (Aquifer)*	*Date of Sample*	*Specific Conductance (micromhos)*	*pH*	*Hardness (mg/l)*	*Chlo-rides (mg/l)*	*Sul-fates (mg/l)*	*Iron, Total (ug/l)*	*Total Dissolved Solids (mg/l)*
ED 50	Patapsco	6/8/79	315	7.6	150	2.4	7.3	320	177
ED 4	Patapsco	3/31/49	264	7.7	140	2	8.5	620	177
ED 8	Magothy	4/17/50	296	8	150	2	8.3	690	181
ED 17	Upland	4/13/50	83	5.4	18	9.9	9.2	2000	52
ED 52	Patapsco	3/6/51	236	7.7	80	1.6	22	200	138
DE 19	Magothy	2/28/58	273	8.4	--	3	--	--	--
DE 20	Aquia	2/28/58	128	6.5	28	19	14	10	--

Well Nos. ED 17 and DE 20 are shallow wells (<40 feet) that tap Upland Deposits and the Aquia Formation, respectively, while the remaining wells are deeper wells that tap the confined Magothy and Patapsco Aquifers. The data indicate some general trends when the two

types of wells are compared. These differences are due to the chemical character of the geologic formations. Generally, the shallow wells produce water of lower conductivity, pH, hardness and dissolved solids, while having higher chloride and sulfate levels. Iron content is highly variable in groundwater from all of the noted aquifers, especially so in water table aquifers.

Water quality data for the SCEA boundary for present conditions were obtained from the MDE Water Management Administration, Public Drinking Water Program. Table III-21 presents water quality data for four public supply wells within or near the SCE study area that tap the Magothy Aquifer. Recent water quality data were available for several other public supply wells; however, these data were not presented because the testing parameters were limited to pH. It should be noted that the MDE considers any well that serves the public as a public well; a public well does not necessarily have to serve a community.

According to the PGCHD, soil conditions within the SCEA boundary are generally good for construction and operation of on-site sewage disposal systems (Kirshner, 6/9/98). Consultation with Health Department officials, and review of the *Soil Survey of Prince George's County, Maryland* (USDA, SCS 1967), indicates that virtually all of the currently unsewered portions of the SCEA boundary (i.e., those areas that are currently served by on-site disposal systems) are composed of soils of the Westphalia - Evesboro - Sassafras Association. These soils are deep, well to excessively drained soils of uplands and, according to Health Department officials, are ideal for on-site disposal systems. Historically, septic problem areas (i.e., areas that had documented water quality problems and/or system malfunctions due to percolation problems) have typically been rectified by connection to public sewers or redesign of on-site systems (Meyer, 6/10/98).

TABLE III-21
WATER QUALITY DATA FOR PUBLIC WATER WELLS
WITHIN OR NEAR THE SCEA BOUNDARY

		Sampling	*Parameters*[2]				
PWSID[1]	***Source Name***	***Dates (range)***	***pH (units)***	***Iron (mg/l)***	***Sulfate (mg/l)***	***Chlorides (mg/l)***	***Hardness (mg/l)***
160201	Second Generation	12/6/94 – 4/3/97	7.7	0.23	8	--	--
1160007	Bob Hall Distributors	4/3/97	8.0	0.13	17.8	--	--
1160035	WSSC Western Branch	12/15/94 – 10/3/95	7.5	0.50	--	1.6	169
1160040	Bob Bell Chevrolet	8/6/96 - 1/14/97	7.4	0.75	14.5	--	--

Public Water System Identification Number
Values are means of multiple samplings

Summary of Secondary and Cumulative Effects-Groundwater

Groundwater quality and quantity within the SCEA boundary have not been significantly affected during the SCEA timeframe (1963 to the present). Localized drawdown and contamination problems with domestic (i.e., individual household) wells have been documented on a sporadic basis. Historically, groundwater has not been a major supplier of drinking water in the study area and in Prince George's County. Groundwater withdrawals and discharges in the county (hence the study area) are regulated primarily by the PGCHD, with regulation of certain withdrawals and discharges by the MDE Individual Well and Septics Program. These regulatory programs have, in conjunction with land use planning controls and other regulatory programs, effectively protected groundwater resources in the study area.

Implementation of the proposed MD 4 project is not expected to cause significant adverse impacts to groundwater resources. The majority of the study corridor is served by a public water supply system that obtains its water from surface sources and existing well records indicate that water supply wells are not situated within the project impact area. The project would, however, reduce the potential recharge area for wells tapping the Lowland and Upland Deposits of Recent/Plustocene and Pliocene, respectively; these deposits serve as an aquifer that provides small to moderate yields of groundwater for residential (domestic) and agricultural uses.

As previously noted in Section IV-C, Land Use, the construction of the proposed MD 4 project will generate certain secondary development along the MD 4 corridor from Westphalia Road to the Melwood area. With the exception of two (of a total of eight proposed developments) proposed development parcels, all of these identified secondary development areas are within zones currently having public water service (the WSSC system, which obtains its drinking water entirely from surface sources). As with potential impacts due to implementation of the MD 4 project itself, potential impacts to groundwater resources due to secondary development are not expected to be significant. This development will rely on surface water sources for drinking water (areas currently not served by the WSSC system will, upon development, almost certainly be connected to this system). Though implementation of this secondary development will effectively reduce the potential recharge area for the local water table aquifers, it is expected that current Prince George's County and MDE regulatory programs pertaining to groundwater withdrawals/discharges, and other regulatory programs (e.g., State Forest Conservation Act, Non-tidal Wetlands Act, etc.) will effectively protect groundwater resources.

Groundwater resources are not expected to be significantly affected in the future (i.e., present to year 2020) in either quality or quantity. While approximately 50 percent of the study area is currently served by public water and sewer systems (corresponding to about 75 percent of the population), under the proposed County Water and Sewer Plan, about 90 percent of the SCEA boundary area could potentially be served by public water and sewer. Though it is not known when, if ever, the public water and sewer systems will encompass this portion of the SCEA boundary, the extent of this service will undoubtedly increase over the study timeframe (to year 2020), with a corresponding increase in population and percent of population served. It is expected that current Prince George's County and MDE regulatory programs pertaining to groundwater withdrawals and discharges, and other regulatory programs (e.g, State Forest

Conservation Act, Non-tidal Wetlands Act, etc.) will effectively protect groundwater resources within the SCEA boundary.

Floodplains

Development in floodplains in Prince George's County is regulated by the Prince George's County Department of Environmental Resources (PGCDER), Programs and Planning Division. The regulatory authority is a County Floodplain Ordinance enacted in 1989. Under this ordinance, development is discouraged in the regulatory (i.e., 100-year) floodplain. If development encroaches upon the regulatory floodplain, appropriate hydrologic studies must show that the peak stormwater discharge of the post-development condition does not exceed that of the pre-development condition and that the water surface elevation of the regulatory flood does not increase on upstream properties. If there is a documented flooding problem on properties downstream of proposed development, certain development restrictions may apply. The State (i.e., MDE) has essentially delegated authority to county governments for regulation of development in floodplains. The MDE does, however, review and approve of floodplain studies performed by county agencies (Colgan, 6/10/98).

Past stresses to floodplains in the SCEA boundary have entailed filling and building construction for residential and commercial development and infrastructure construction (i.e., roads, bridges, railroads, etc.). Most of these stresses were apparent prior to 1989, the year that the comprehensive county-wide floodplain ordinance was enacted. Since this time, development in, hence impacts to, floodplains have been rigorously controlled in the county. Generally, filling and/or construction within the regulatory (i.e., 100-year) floodplain is prohibited and, if permitted, certain conditions as noted above must be met, including implementation of floodplain mitigation measures, if warranted.

Floodplain studies for waterways and tributaries in the SCEA boundary were conducted in various years since 1979. These waterways (year of study in parentheses) are: Tinkers Creek (1979), Western Branch (1981), Piscataway Creek (1986), Henson Creek (1986) and Charles Branch (1992). These studies were completed by a stormwater management group composed of staff from the WSSC, Maryland National Capital Parks and Planning Commission (MNCPPC) and the Prince George's County Department of Public Works. The studies delineated the 100-year floodplains of these waterways based on TR-20 and HEC-2 methods with the assumption of full build-out of development based on the zoning at that time. Regulatory floodplains established per the 1989 County Floodplain Ordinance floodplain studies total approximately 2,300 acres (930 hectares) within the SCEA boundary. The Federal Emergency Management Agency (FEMA) conducted floodplain studies under the National Flood Insurance Program for the SCEA boundary in the early 1970s. Prince George's County performed floodplain studies that supersede the FEMA studies. Regulatory floodplains established by the county in their studies are more extensive than those established by both FEMA and previous county floodplain regulations. The extent of FEMA regulated floodplains (estimated at about 420 acres or 170 hectares within the SCEA boundary) was established based on existing land use conditions at the time of the studies (i.e., about 1972). Previous county floodplain regulations established regulatory floodplains of a lesser storm frequency (10 or 50-year vs. 100-year). Thus, the current regulatory floodplains are more extensive, and therefore more conservative, than previously established floodplains. Because of this, some development within floodprone areas has

undoubtedly occurred prior to enactment of the County Floodplain Ordinance in 1989 (Colgan, 6/10/98). The PGCDER has no data, however, on the extent of this development in currently established floodprone areas (Colgan, 6/10/98).

Summary of Secondary and Cumulative Effects - Floodplains

Implementation of the MD 4 project will not adversely affect regulated 100-year floodplains.

Future secondary and cumulative effects to floodplains are expected to be negligible to none. An assessment of future impacts to floodplains from development was not made as floodplain impacts are very project specific. The rationale for the assessment that future secondary and cumulative effects to floodplains will be essentially none is based on the current county floodplain regulations per the 1989 Floodplain Ordinance. As previously noted, development (including construction of buildings, bridge, or other structures; and placement of fill materials) is generally prohibited and strongly discouraged. If development in the floodplain cannot be avoided, the development cannot increase the peak stormwater discharge (post-development does not exceed pre-development) and the water surface elevation of the regulatory flood does not increase on upstream properties. The ordinance also provides conditions for floodplain mitigation (e.g., net fill requirements) and development restrictions on proposed projects that are upstream of documented flooding problem areas.

Wetlands

Wetlands of the SCEA boundary are principally palustrine, forested wetlands associated with the various non-tidal waterways that traverse the approximately 21,000-acre geographic study boundary. These non-tidal waterways include Turkey Branch, Cabin Branch, Back Branch and Federal Springs Branch (Patuxent River-Western Branch Watershed), Charles Branch (Patuxent River - Middle Watershed), and Meeting House Branch (Piscataway Creek Watershed). Palustrine emergent and palustrine shrub-scrub wetland classes are represented in these stream corridors (USFWS, NWI, 4/81 and 4/88). Non-tidal wetlands are regulated by the State of Maryland Non-Tidal Wetlands Act (State) and Section 404 of the Clean Water Act (Federal). Sections 8-1201 through 8-1211 of the Natural Resources Article of the Annotated Code of Maryland require that a non-tidal wetland permit be obtained from the MDE for grading, filling, excavating, destroying or removing vegetation, altering the water level, or placing structures in a non-tidal wetland or its buffer (25-foot (7.6 m), or expanded 100-foot (30.5 m)). With the exception of certain activities (designated Category 1 activities), implementation of these types of activities in non-tidal wetlands requires submittal of a State of Maryland/US Army Corps of Engineers Joint Permit Application (Joint Permit Application) to the MDE, Wetlands and Waterways Program. A Joint Permit Application is also required for the above-noted activities in tidal waterways and wetlands and non-tidal waterways (including 100-year floodplains). The Non-Tidal Wetlands Act was passed in 1989, and became effective in January 1991. Prior to this effective date, activities within non-tidal wetlands in Maryland were regulated solely by the Federal Section 404 program.

While the Non-Tidal Wetlands Act provides for permit exemptions for forestry and agriculture, these activities must also incorporate best management practices into soil conservation plans and water quality plans and sediment and erosion plans, respectively. Certain other activities, considered minor impacts, are exempt from the permit process; however, the goal of the Act is no overall net loss of non-tidal wetland acreage and function. This has been accomplished by adoption of mitigation practices, including wetland creation, restoration and/or enhancement, or monetary compensation.

Stresses to wetlands in the SCEA boundary have varied over time, according to changes in land use and/or regulatory programs. These stresses were identified by review of wetlands trends studies documented in USFWS publications. As discussed more thoroughly below, quantitative wetlands trends data were not readily available for the SCEA boundary proper. Readily available data for statewide trends for 1955-1978, State and Prince George's County trends for 1981/82 to 1988/89 and watershed trends (non-tidal wetlands only), for 1991 through 1997 indicate how the relative importance of different wetland stresses have changed over time. During the period 1955-1978, about 15,000 acres (6,000 hectares) of palustrine vegetated wetlands were lost statewide (Tiner and Burke 1995). Over this period, about 2/3 of this wetland loss was attributed to agriculture and channelization related to agriculture, while pond construction accounted for about 30 percent of these losses. Urban development, however, only accounted for about 8 percent of wetland losses during this period. The trends data for 1981-1988/89, specific to Prince George's County, indicate that the major causes of wetland loss were road/highway construction (26 percent) commercial/industrial development (26 percent) housing (12 percent) and sand/gravel pits (15 percent) (Tiner and Foulis 1992). While caution should be exercised in comparing these two periods (one is based on statewide data, while one is specific to Prince George's County), the trend in wetlands stresses is primarily from agriculture-related impacts to transportation facilities, and land development and auxiliary activities (i.e., sand/gravel mining activity is related to land development activity).

As noted above, quantitative wetland trends data for the SCEA boundary were not readily available. Expectations were that mapped data could be used to assess wetland trends within the study area; that is, wetland areas for different time periods could be measured (by planimetry or other recognized methods) and compared to show trends. This method was not appropriate as a consistent database was not available to show trends. Evaluation of wetland trends with aerial photography is very labor intensive and was therefore determined to be outside the scope of this study. For the purposes of this analysis, an approximation of wetland losses in the SCEA boundary for the period from 1963 (about the beginning of the SCEA timeframe) to 1988 was made by comparison of acreage of hydric soils as mapped in the *Soil Survey of Prince George's County, Maryland* (USDA, SCS 1967) to wetlands on National Wetland Inventory (NWI) mapping prepared by the US Department of the Interior, Fish and Wildlife Service (USDI, FWS, 4/88). Hydric soils in the SCEA boundary (Bibb silt and sandy loams, Fallsington loams and sandy loams, and Shrewsbury sand loams and silt loams) were identified per the document *Hydric Soils of the United States* (USDA, SCS 1991) and demarcated on copies of soils mapping contained in the soil survey. The acreage of hydric soils was then determined by planimetry and grid measurement. The effective date of soils mapping (hence approximate acreage of wetlands as defined by the extent of hydric soils) is 1963; this is the year of the aerial photography upon which the Soil Survey was based. The 1963 estimated wetland acreage in the SCE study area defined by the extent of hydric soils in 975 acres (395 hectares). Aerial photography for NWI

mapping covers the 1980s (date of photography 4/88). These data were determined to be the most appropriate, readily available source of the wetland acreage in the study area. The estimated 1988 acreage of wetlands in the SCE study area, based on NWI mapping, is about 550 acres (220 hectares).

Comparison of these figures indicates that, during the 25-year period between 1963 and 1988, approximately 44 percent of wetlands within the SCEA boundary were lost. This figure should likely be considered as high, since hydric soils are typically considered a conservatively high estimate of wetlands, while NWI mapping is typically a conservatively low estimate of wetlands. To augment this rather gross estimate, quantitative trends for areas beyond (i.e., including and outside of) the SCEA boundary were evaluated.

Trends in wetland losses for the period from just prior to the SCEA timeframe (1964-2020) through the late 1970s were taken from *Wetlands of Maryland* (Tiner and Burke 1995). This publication provides statewide wetland trends for 1955-1978 as well as limited data for 1982-1989 for the Chesapeake Bay Watershed (which covers 90% of the land area in Maryland). Though these trends extend outside the study timeframe, they are presented here for the purpose of noting general trends in wetland losses.

During the 1955-1978 period (23 years), an estimated 10,300 acres (4,170 hectares) of estuarine vegetated wetlands (8% of total) and 15,000 acres (6,000 hectares) of palustrine vegetated wetlands, (6% of total) were lost statewide. These figures equal annual wetland losses of 450 and 650 acres/year (180 and 265 hectares/year), respectively. About 2/3 of the estuarine wetland loss was attributed to conversion of tidal marshes to deep water habitats. As noted above, agriculture accounted for most of the palustrine wetland losses, with urban development accounting for a relatively low 8 percent of these losses. Pond construction accounted for an estimated 30 percent of palustrine vegetated wetland losses during the period; pond acreage increased by 366 percent, equaling over 14,000 acres (5,700 hectares). Chesapeake Bay watershed wetland trends for the 1982-1989 period indicate that Maryland experienced a net loss of 4,324 acres (1,751 hectares) of palustrine vegetated wetlands (1.4% of total) and 562 acres (228 hectares) of estuarine vegetated wetlands (0.5% of total), with net gains of 1,074 acres (435 hectares) of estuarine nonvegetated wetlands and 3,236 acres (1,310 hectares) of ponds. More acres of palustrine forested wetlands (2,534 acres or 1,026 hectares) were destroyed than any other type. Data for approximately the same timeframe (1981-1988/89) specific to Prince George's County (Tiner and Foulis 1992), showed generally the same trends. During this period, there was a net gain in all wetlands (vegetated and nonvegetated) of 338 acres (137 hectares) (data not available for net gain/loss of all wetlands statewide for this period). Like the statewide trends, there was a net loss in vegetated wetlands (156 acres or 63 hectares); and in palustrine forested wetlands (255 acres or 103 hectares), these losses were attributed to road/highway construction, commercial and industrial development and sand and gravel pit operation. During the period, there was an increase in nonvegetated wetlands (196 acres or 79 hectares), attributed primarily to pond construction.

More recent trends data have been obtained from the MDE (permit data) for non-tidal wetlands on a watershed segment basis. For the period January 1991 through December 1997 (7 years), the MDE records indicate a net gain for all wetlands of 7.5 acres (3.0 hectares) and 5.7 acres (2.3 hectares) for the Patuxent River Middle Area and the Western Branch Drainages,

respectively (within the SCEA boundary, the Piscataway Creek Drainage consists of primarily Andrews AFB, and the Potomac River Upper Tidal Drainage consists of a relatively small, heavily urbanized area). These figures likely reflect the implementation of the goal of no overall net loss of non-tidal wetland acreage and function per the Maryland Non-Tidal Wetlands Act.

Evaluation of the above trends data indicates that the enactment of various wetlands regulations has had a major impact in the reduction of wetland losses. Table III-22 shows a comparison of these trends for the State of Maryland.

The significant reduction in the annual loss rate of estuarine wetlands, especially emergent classes, can be largely attributed to strong regulation of coastal wetlands through Maryland's Tidal Wetlands Act (1970) and Federal regulations per the Clean Water Act. The trends for inland (non-tidal) wetlands also show reductions in losses, presumably as a result of increased regulation of these wetlands by the Federal government since 1975 (Tiner and Burke 1995). The trends presented largely reflect trends in wetlands loss prior to 1989. In this year, the Non-Tidal Wetlands Act was passed, and became effective in 1991. Also in 1989, the US Army Corps of Engineers strengthened their jurisdiction in non-tidal wetlands (Tiner and Burke 1995). As shown in the MDE nontidal wetland impact data for the period 1991-1997, the effect of these additional regulatory programs has been a significant reduction in wetland losses.

TABLE III-22
WETLAND TRENDS IN MARYLAND

Wetland Type	*Net Average Change 1955-78*	*Average Annual Net Change 1955-78*	*Net Average Change 1982-89*	*Average Annual Net Change 1982-89*
		Acres (Hectares)		
Estuarine Emergent	-9,845 (3986)	-428 (173)	-72 (29)	-10 (4.0)
Estuarine Shrub/Scrub	-183 (74)	-8 (3.2)	+279 (113)	+40 (16)
Estuarine Forested	No data	N/A	-766 (310)	-109 (44)
Estuarine Nonvegetated	+1,049 (425)	+46 (19)	+1,074 (435)	+153 (62)
Palustrine Emergent	-11,496 (4,654)	-500 (202)	-1,638 (663)	-234 (95)
Palustrine Shrub/Scrub	-5,557 (2,250)	-242 (98)	+5,178 (2,096)	+740 (300)
Palustrine Forested	-9,125 (3,694)	-397 (161)	-2,534 (1,026)	-362 (147)
Palustrine Nonvegetated (ponds)	+14,435 (5,844)	+628 (254)	-3,236 (1,310)	+462 (187)

Note: Trends for 1955-78 are for entire State of Maryland.
Trends for 1982-89 are for the Chesepeake Bay watershed (amounts to 90 percent of state).

Summary of Secondary and Cumulative Effects - Wetlands

An accurate assessment of quantitative wetlands historic trends (i.e., impacts) for the SCEA boundary was not possible within the limited scope of this study. An approximation of wetland losses for the 1963 to 1988 period was made by comparison of the extent of 1963 mapped hydric soils and 1988 mapped NWI wetlands. This analysis resulted in an estimate of a 44 percent wetland loss in the study area during this period. This estimate is considered overly conservative for various reasons as previously discussed. Given these considerations, a reasonable estimate of wetland losses in the study area for the period 1963-1988/89 is 20 percent, which equates to about 140-160 acres (57-65 hectares). The trends for non-tidal wetlands losses for watersheds draining the SCEA boundary indicate minor wetlands gains for the 1991-1997 period. These trends are attributable to enactment of the Non-Tidal Wetlands Act and concurrently stronger enforcement of regulations by the Corps of Engineers in non-tidal wetland areas. Implementation of the SHA Selected Alternative for MD 4 will require a total of approximately 1.2 acres of non-tidal wetlands. In accordance with the goal of the Maryland Non-tidal Wetlands Act to attain no net overall loss in non-tidal wetland acreage and function, the mitigation requirements outlined in COMAR 26.23.04 will be a condition of a Non-tidal Wetland Wetlands Permit for the proposed project. As a general rule, the MDE considers mitigation requirements for replacing a loss on non-tidal wetlands to be fulfilled when acreage replacement ratios have been met through in-kind creation or restoration (these ratios are 1:1 for emergent wetlands and 2:1 for scrub/shrub and forested wetlands). Enhancement activities may also be acceptable for meeting the mitigation requirements for a Permit. As noted above, non-tidal wetland trends data provided by the MDE for the period 1991-1997 demonstrate the effect of the Maryland Non-tidal Wetlands Act and implementing regulations on nontidal wetlands losses in the State (during the period, there was a net gain in non-tidal wetlands in the Western Branch and Patuxent River Middle watersheds). The Maryland Non-Tidal Wetlands Act, the Section 404 program and other regulatory programs that directly or indirectly protect wetlands/water resources are expected to result in a minimal to no net loss of wetlands (all non-tidal) in the SCEA boundary in the future (present to year 2020).

Terrestrial and Wildlife Habitat

Terrestrial Habitat

Forest habitats of the SCEA boundary are primarily present as forested corridors alongside the streams and larger rivers within the study area, and as fragmented patches interspersed with highway, commercial, residential, and agricultural development. The USEPA Landscape Atlas Maps (1990 data) indicate that both the Patuxent and Potomac watersheds are less than 48 percent forested, and that greater than 21 percent of these forests are fragmented. Furthermore, these two watersheds have less than 24 percent of forest interior habitat- large tracts of contiguous forest cover (USEPA 1997). Dawson, *et al.* (1993) states that, although a relatively high percentage of Prince George's County is still forested, the forest occurs in more than 4,000 tracts, resulting in a highly fragmented landscape. The total acreage of forest habitat (wetland and upland) within the SCEA boundary for the present (1993) conditions is 8,142 acres (3,296 hectares), equivalent to approximately 40 percent of the study area (Maryland-National Capital Parks and Planning Commission-Natural Resources Division; M-NCPPC-NRD 1998). This forest habitat occurs in more than 250 tracts. Two fairly extensive state parks are also

present within the SCEA boundary. These are the Rosaryville State Park (~1,000 acres or 405 hectares) and the Randall Tract Recreation Area (~130 acres or 53 hectares). These parks provide a refuge for plants and wildlife and their habitats, while also providing recreational opportunities for people. Scrub/shrub, herbaceous/grassland, and active and fallow agricultural field habitats are also present within the SCEA boundary, but data were not readily available to conduct a trend analysis on, or to determine cumulative effects to, these habitat types.

The Prince George's County Woodland Conservation and Tree Preservation Ordinance was enacted by the Prince George's County Council in 1989 to reduce the loss of its forest resources. The Council also adopted, by reference, the Prince George's County Woodland Conservation and Tree Preservation Policy Document. Proposals for development of wooded properties must include provisions to set aside a specified proportion (15-50 percent, depending on zoning status) of the site as woodland preservation area. Currently designated as priorities for preservation are wooded 100-year floodplains, wooded non-tidal wetlands, wooded stream corridors, wooded slopes, large contiguous wooded areas and critical woodland habitats, and specimen and historic trees (P.G. County 1992). A Forest Stand Delineation (FSD) is required as part of the submittal package for all development plans and grading permits where the land parcel is greater than 40,000 square feet and the wooded areas on the property total more than 10,000 square feet. An approved Tree Conservation Plan must also be obtained prior to the issuance of grading permits.

The State Forest Conservation Act of 1991 (ACM, Natural Resources Article, Sections 5-1601 through 5-1613) was modeled after the county ordinance and was enacted to protect the forests of Maryland by making forest conditions and character an integral part of the planning process. The Act seeks to maximize the benefits of forests and slow the loss of forest land in Maryland while allowing development to take place. Similar to the county's Conservation/Preservation program, the two major requirements of the State Forest Conservation Act are submittal of a FSD and a Forest Conservation Plan for applications for development on land areas 40,000 square feet or more. The Act is regulated by the MDNR, but is implemented and administered by local governments. The State Act required revisions to the county's program so that it would comply fully with the new State standards. As part of these legislative revisions, the Prince George's County Council adopted the revised-October 1992-Prince George's County Woodland Conservation and Tree Preservation Policy Document (P.G. County 1992).

Stresses to terrestrial habitats include development (e.g., highway, commercial, residential, agricultural), forest fragmentation, changing agricultural practices, pesticide applications, and natural plant succession. The population in the Patuxent River watershed has more than doubled since 1970 and, as of 1990, it is expected to grow more than 54 percent by the year 2020 (Patuxent River Commission 1998). During the 1980s in the Patuxent River watershed, there was a 15 percent loss in forested lands and a 21 percent loss in agricultural lands, while there was a 92 percent increase in areas being developed. Between 1990 and 2020, developed land is projected to increase by 77 percent, while agricultural land is projected to decrease by 28 percent and forested land is projected to decrease by 26 percent. By the year 2020, developed land will become the major land use category in this watershed (Patuxent River Commission 1998).

Quantitative data regarding terrestrial habitat were only readily available to assess the cumulative effects on forest habitat (wetland and upland). These data were obtained from the M-NCPPC-NRD through their Geographical Information System (GIS). Total acreage amounts of forest habitat within the SCE study area were obtained for both the 1966-70 time frame and for 1993. Also obtained were the total amount of forest habitat net loss or gain, forest habitat cleared, and forest habitat regenerated over this time period. To quantify forest fragmentation of these forests for both the past and present conditions, the total number of forest tracts were determined using the M-NCPPC GIS maps.

For the 1966-70 timeframe, the total acreage amount of forest habitat within the SCEA boundary was 6,255 acres (2,532 hectares) (30 percent of the SCEA boundary), while in 1993 it was 8,142 acres (3,296 hectares) (40 percent of the SCEA boundary); a net gain of 1,887 acres (764 hectares) of forest habitat over the 27-year period. Although 1,219 acres (494 hectares) of forest habitat have been cleared since the 1966-70 time frame, 3,106 acres (1,257 hectares) have been regenerated (through natural succession) since then. Of the 8,142 acres (3,296 hectares) of present (1993) forest habitat, 5,036 acres (2,039 hectares) are forest habitat that is over 30 years old. Even though the data show an overall net gain of forest habitat within the study area, these data also show that there are a greater number of isolated (fragmented) tracts of forest now (1993) than were in the past (1966-70). It was roughly estimated that the present (1993) forest habitat occurs in more than 250 tracts, while in the 1966-70 timeframe, forest habitat occurs in only 230 tracts.

Summary of Secondary and Cumulative Effects - Terrestrial Habitat

The SHA Selected Alternative for MD 4 would displace approximately 25 acres (10 hectares) of forest habitat. Mitigation of this impact will be consistent with the requirement of the MD Forest Conservation Act, which requires 1:1 replacement of impacted woodlands. Although this law requires mitigation, there is the likelihood that forest habitats will continue to be developed and become highly fragmented, as is indicated by the population and development projections mentioned previously. Natural succession will continue to offset some of these losses, however, as will afforestation or reforestation mitigation requirements of approved Tree Conservation Plans pursuant to the County's Woodland Conservation and Tree Preservation Policy Document.

The "Approved Comprehensive Plan" map (dated March 1994), along with other approved Prince George's County Master Plan maps, depicts certain land areas within the SCEA boundary with residential, commercial, or industrial zoning designations. Forested areas in these zoning designations are vulnerable to development and fragmentation over the next 20 years, as is indicated by the population and development projections mentioned previously. The county forest regulations and natural succession, however, will offset some of these losses.

Proposed development will likely occur once the MD 4 project is constructed. These developments, totalling approximately 160 acres (65 hectares), will occur on areas of currently (1993) forested lands totalling 125 acres (51 hectares), and will increase forest habitat fragmentation. However, because of current regulations and standards that protect forests/forest buffer zones, some of the known and/or potential terrestrial habitat areas within the proposed development sites will remain undeveloped.

Wildlife Habitat

Stresses to many wildlife species include habitat loss, forest fragmentation, increases in noise pollution and road mortalities resulting from development, human disturbance during breeding and nesting seasons, changing agricultural practices, and pesticide applications.

Data were only readily available to assess the cumulative effects on Forest Interior Dwelling Bird Species (FIDS) and other breeding bird species (and their habitats). No data were readily available for mammals, herptiles, or other types of wildlife. FIDS habitat is conservatively defined as: 1) contiguous upland forests of 50 acres or greater; 2) riparian forests greater than 300 feet in width that border a stream for at least 600 feet; 3) riparian forests at least 150 feet wide and connected to one of the above; or 4) forest patches 10 acres or larger and within 300 feet of the first two definitions (MDNR 1998). Breeding Bird Survey (BBS) data (1966 through 1996) were obtained from the USFWS's BBS Program, and from the Breeding Bird Atlas Project in Maryland and the District of Columbia. The latter is a joint effort of the Maryland Ornithological Society (MOS), the MDNR, and the USGS – Patuxent Wildlife Research Center (PWRC) .

According to Breeding Bird Atlas Project data specific to the SCEA boundary, there are many breeding bird species that are not experiencing adverse effects from development or changes in land and agricultural practices. In fact, certain bird species have increased their breeding populations within the SCEA boundary (e.g., great blue heron, Canada goose, mourning dove, killdeer, red-bellied woodpecker, and others). The following 25 bird species, however, are showing a generally decreasing trend in their breeding populations within the SCEA boundary (as well as within Prince George's County).

<u>FIDS</u>

Whip-poor-will

Ruby-throated Hummingbird

Great-crested Flycatcher (*)

Eastern Wood Peewee (*)

Scarlet Tanager (*)

Baltimore Oriole

Yellow-throated Vireo (*)

Louisiana Waterthrush

Kentucky Warbler

Wood Thrush (*)

American Redstart

The primary reasons for the general decline in breeding populations of FIDS are from: 1) forest habitat loss and fragmentation, and wintering habitat loss due to development; 2) loss of food sources (mainly insects) due to pesticide applications (especially to control gypsy moths); 3) human disturbance; and/or 4) Brown-headed Cowbird parasitism. As noted in the *Terrestrial Habitat* section above, there is the likelihood that forest habitats will continue to be developed and become highly fragmented. Data from the USGS-PWRC indicate a general negative trend

estimate in Maryland between the 1966-1996 BBS period for many species in the Woodland Breeding Species Group. The five species noted above with (*) are listed as significant declining breeding species (USGS-PWRC web page-BBS Summary of Trends Data 1998).

Other Breeding Bird Species

Eastern Kingbird	Field Sparrow
Horned Lark	White-eyed Vireo
Eastern Meadowlark (*)	Yellow-breasted Chat
American Goldfinch	Eastern Towhee
Vesper Sparrow (*)	Brown Thrasher
Grasshopper Sparrow (*)	Green Heron
Northern Bobwhite	Hooded Merganser

The primary reasons for the general decline in breeding populations of these bird species are: 1) loss of scrub/shrub land, grassland, or wetland habitat due to development (especially suburban sprawl); 2) changing agricultural practices; 3) loss of food sources (mainly insects) due to pesticide applications; 4) human disturbance; and/or 5) Brown-headed Cowbird parasitism. Loss of agricultural/grassland habitat has also been significant in Maryland (USGS-PWRC web page-BBS Summary of Trends Data). The Grassland Breeding Species Group is listed as having a significant negative trend estimate throughout the entire 1966-1996 BBS period. The three species noted above with (*) are listed as significant declining breeding species.

Summary of Secondary and Cumulative Effects - Wildlife Habitat

The proposed MD 4 project is not expected to have significant negative effects on breeding bird populations. With the exception of minor acreages of agricultural land (<1 acre or 0.4 hectares) for Alternative 3, Option 2 (modified), and 3.9 acres (1.6 hectares) of transitional (disturbed) land for Alternative 2, Option 2 (modified), virtually all of this habitat loss is from three forested habitat types. Due to the highly-developed character of the project study area, forest habitat has been fragmented into many small (i.e., 5 acres /2 hectares or less) parcels. Therefore, the impact acreages for the project Alternatives entail cumulative impacts from one or more small parcels. The cumulative effects of this highway project coupled with other highway or non-highway development projects would likely be that certain species of concern (such as FIDS and grassland breeding bird species) would become rare, to the point where they may even be placed on the list of *Rare, Threatened and Endangered Animals of Maryland* (MDNR 1997). Dawson *et al.* (1993) state that FIDS in Prince George's County will be most affected by continued forest habitat fragmentation. Furthermore, to stress the importance of preserving large tracts of contiguous forest cover for many bird species, Robbins *et al.* (1989) state that evidence (from their Patuxent River watershed study) suggests 7,400 acres (3,000 hectares) as the minimum forest size to retain FIDS. Finally, Robbins and Blom (1996) state that grassland bird species have been and will continue to be highly vulnerable to losses of grassland habitat and changes in agricultural practices throughout Maryland, and BBS data show a significant negative trend estimate in the Grassland Breeding Species Group in Maryland.

Implementation of the proposed MD 4 project is expected to result in secondary effects to wildlife since, as described in the *Terrestrial Habitat* section above, proposed development will likely occur once the MD 4 project is constructed. These developments will displace up to 125 acres (51 hectares) or up to 50 acres (20 hectares) of wildlife habitat from forested or agricultural/grassland areas, respectively. Implementation of the MD 4 project will also contribute to the increase in forest habitat fragmentation, which significantly affects wildlife species that depend on forest interior habitats.

Endangered and Threatened Species

Consultation with the MDNR Wildlife & Heritage Division (WHD) has revealed that their Natural Heritage database has both historical and recent records for many State-listed Endangered/Threatened (E/T) and/or Rare species of plants and/or animals known to have occurred within or in the immediate vicinity of the SCEA boundary. These are:

COMMON NAME	STATE STATUS
Hooded Merganser	Highly Rare (Breeding)
Stripeback Darter	Endangered (Extirpated)
Sandplain Gerardia	Endangered (also Fed. Endangered)
Curtiss' Three-awn	Unknown
Tall Nutrush	Rare
Dense-flowered Knotweed	Endangered
Mosquito FernHighly	Rare
Red Turtlehead	Threatened
Anglepod	Endangered
Velvety Tick-trefoil	Watch List
Small Skullcap	Endangered (Extirpated)
Short-fruited Rush	Highly Rare
Swamp Beggar-ticks	Watch List

[Note: The term "immediate vicinity" as it applies to MDNR-WHD consultations for E/T or Rare species or Sensitive Areas does not refer to a specific distance from a defined study area boundary. Rather, what constitutes "immediate vicinity" is somewhat subjective in that the person accessing the Natural Heritage database (that is, reponding to the database request) has a certain amount of leeway in interpreting "immediate vicinity".]

Through analyzing BBS data, the whip-poor-will and vesper sparrow were revealed as occurring within the SCEA boundary. These two species are on the list of *Rare, Threatened and Endangered Animals of Maryland* (MDNR 1997). They are designated with a State Status of Watch List (Breeding), which means that their breeding population is rare to uncommon in the State and should be monitored.

The USDI, Fish and Wildlife Service (FWS) was contacted for information on Federally-listed rare species within or immediately adjacent to the SCEA boundary. They revealed that, except for occasional transient individuals, no Federally-listed rare species are known to exist within the SCEA boundary.

The MDNR Chesapeake and Coastal Watershed Service has indicated on their Sensitive Species Project Review Areas map (dated July 1997) that a Sensitive Area, which primarily contains State-listed Rare and E/T species and significant natural communities, is present within the SCEA boundary. This Sensitive Area is an approximate 1,480-acre (or 2.3 square-mile) area that is situated mostly (about 90^{+} percent) within Andrews Air Force Base, occupying a sizable portion of the Base's runway. That portion of this Sensitive Area within Andrews Air Force Base is publicly owned. Though the Sensitive Species Project Review Areas map depicts only generalized areas to be used only for guidance, the subject Sensitive Area is not within the MD 4 project impact area.

Endangered/Threatened species are regulated by the Federal government pursuant to the Endangered Species Act of 1973 (P.L. 93-205, 87 Stat. 884), and the State of Maryland pursuant to the Maryland Endangered Species Act of 1973 (ACM, Natural Resources Article, Section 10-210). The Maryland Nongame and Endangered Species Conservation Act of 1975 (ACM Natural Resources Article, Section 10-2A01 *et seq.*) further protects Endangered/Threatened species. This Act mandates the investigation, management, and protection of both nongame wildlife and Endangered/Threatened species of wildlife and plants through the MDNR-WHD, Heritage and Biological Conservation Program (HBCP). Certain State permitting programs, such as the wetlands and hazardous waste discharge permit programs, require review of public development permit applications by the MDNR-WHD, HBCP before public development is permitted. On private lands that are within State designated Critical Areas, the County government regulates development with regards to rare species, and requests MDNR-WHD, HBCP to review the private development permit applications. For private development permit applications that are outside of the State Critical Areas, there is no enforcement policy currently in place; it is hoped that the private landowner in these cases will coordinate with the appropriate County and/or State governments to determine the presence/absence of rare species.

Stresses to E/T species populations arise from development, resulting in habitat loss/fragmentation and wetland/water quality degradation. Other stresses to E/T species populations include human disturbance (especially during the breeding and nesting season), illegal collecting, and an increase in road mortalities and noise pollution due to increases in development and subsequent road traffic.

Summary of Secondary and Cumulative Effects - E/T Species

Over time, forest interior habitat has been significantly reduced (fragmented) or altered, as has agricultural/grassland habitat. This has resulted in a declining trend of FIDS, and grassland and scrub/shrub bird species, within the SCEA boundary. The whip-poor-will and vesper sparrow (Watch List species) are declining as breeders within and near the SCEA boundary. Over time, wetland habitat has also been reduced or changed from one type to another. Hooded Merganser has declined as a breeding species within and near the SCEA boundary, due to the loss of wetland habitat. Wooded swamps should continue to be protected and an active program of nest box construction/maintenance should be initiated, to help sustain this bird as a breeder in Maryland (Robbins and Blom 1996).

Although the proposed MD 4 project is not expected to have any negative effects on Rare, E/T species or their habitats (since none were recorded in the State or Federal databases within or immediately adjacent to the impact zone of this specific project area), the cumulative effects of this highway project coupled with other highway or non-highway development projects would likely be that certain species of concern would become even more rare, and especially vulnerable to extirpation, as their habitats continue to succumb to development, and as new highway construction and development continue to result in forest fragmentation.

Implementation of the proposed MD 4 project is expected to result in secondary effects to Rare and E/T species (i.e., increased vulnerability to extirpation from habitat loss and fragmentation), since development will likely occur once the MD 4 project is constructed (as described previously in the *Wildlife Habitat* section).

D. Section 4(f) Evaluation

1. Introduction

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. 303(c)) permits the use of land from a publicly owned public park or recreation area, wildlife or waterfowl refuge, or land from any significant historic site (as determined by the officials having jurisdiction over the park, recreation area, refuge or historic site) only if there is no feasible and prudent alternative to the use of land from the property and that the action includes all possible planning to minimize harm to the property resulting from such use.

2. Description of Proposed Action

This project proposes improving safety and traffic operations along the section of MD 4 (Pennsylvania Avenue) from east of the I-95/I-495 interchange (Capital Beltway) to west of MD 223 (Woodyard Road) in Prince George's County by improving at-grade intersections and increasing through capacity. The objective of the proposed action is to alleviate existing deficiencies while accommodating projected traffic increases resulting from planned growth in the area.

As a result of ongoing development and growth in traffic volumes from Anne Arundel and southern Prince George's Counties into Washington, D.C., traffic congestion occurs along

MD 4 within the project area. Safety problems have resulted in high accident rates along this segment of MD 4. Future increases in commercial and residential development projected in the project area will increase travel delays, and the number of accidents. A detailed discussion of the purpose and need justification for this project can be found in Section III-A of this document.

To improve safety and traffic operations along this section of MD 4, build alternatives at four locations have been selected: eliminating the at-grade intersection at Westphalia Road (Alternative 2, Option 2 (modified)), constructing a diamond roundabout at the MD 4/Suitland Parkway intersection (Alternative 3, Option 2 (modified)), grade separation of the MD 4/Dower House Road intersection (Alternative 4, Option 5), and mainline widening which includes provisions for future HOV lanes (Alternative 5, Option 2). Alternatives 1, 2, and 4 would not require the acquisition of property from any Section 4(f) resource. Alternative 3 and Alternative 5 would require right-of-way from Suitland Parkway, which is owned by the National Park Service and is listed on the National Register of Historic Places. All of the Build Alternatives provide for upgrading MD 4 to an access controlled, multi-lane freeway. The proposed improvements adequately address the forecasted traffic between Dower House and Suitland Parkway, as well as serve the planned growth in the surrounding areas (Anne Arundel County and Calvert County), and improve safety along the study portion of MD 4. A detailed description of the alternatives is contained in Section III-B of this document.

3. Description of 4(f) Resource

Suitland Parkway (PGA-22)

In 1949, an act of Congress officially provided funds for the construction, development, administration, and maintenance of the Suitland Parkway as part of the park system of the District of Columbia. It is a limited access road developed, operated, and administered to provide a dignified, protected, safe, and suitable approach for passenger-vehicle traffic to the National Capital and for an uninterrupted means of access between the several suburban Federal establishments and the District of Columbia.

The NPS administers the section of the Parkway from the eastern approaches of the South Capitol Street Bridge in the District of Columbia and the vicinity of the entrance to Andrews Air Force Base.

The National Capital Park and Planning Commission (NCPPC) conceived the Suitland Parkway, one of several parkways in the Washington, D.C. area, as an appropriate entryway into Washington, D.C. This Parkway is a descendant of the parkways built earlier in the century in Westchester County, New York, and subsequently in Virginia, North Carolina, and Mississippi (Mount Vernon Memorial Highway, Blue Ridge Parkway, and Natchez Trace Parkway, respectively). Unlike the forenamed, however, Suitland Parkway is principally a route of travel between federal installations: it connects Bolling Air Force Base and the District of Columbia to Andrews Air Force Base. Not originally designed as a recreational drive, it falls on the parkway end of the continuum of parkway to freeway. Like the Baltimore-Washington Parkway, Suitland Parkway represents a utilitarian roadway with design features intended to move traffic expeditiously, but with elements of design intended to convey a scenic driving experience characteristic of earlier parkways.

As with other parkways in the Washington, D.C. area, Suitland Parkway is historically significant because it is associated with key historical figures who played important roles in planning and design including Gilmore D. Clarke and Jay Downer, principal designers of the Westchester County and Virginia parkways. NCP&PC Chairman Frederick Delano and Thomas Jeffers of the Maryland National Capital Park and Planning Commission also had substantial roles in the origins of the Parkway, especially when funding sources seemed exhausted because of the depression and World War II. In addition, it has historically hosted both triumphal and mournful processions of public officials; from presidents returning from diplomatic achievements to the funeral procession of President John F. Kennedy.

4. Impacts to 4(f) Properties

The No-Build Alternative, as well as interchange Alternatives 2 and 4 would not require the acquisition of right-of-way from Suitland Parkway. However, under the No-Build Alternative, increasing peak hour traffic congestion may ultimately result in a change in driving conditions on Suitland Parkway, and may alter the historic purpose of the Parkway, which is the provision of a dignified, safe and suitable access to Washington, D.C., as well as an uninterrupted means of access between Federal establishments and the seat of government.

The design of Alternative 3, Option 2 (modified) will require approximately 8.8 acres (3.6 hectares) of right-of-way acquisition from Suitland Parkway. Approximately 6.7 acres (2.7 hectares) of this total are required from Suitland Parkway to transfer ownership of the existing MD 4 alignment to the SHA. The existing intersection of Suitland Parkway and MD 4 was constructed on National Park Service right-of-way. The proposed improvements to the Suitland Parkway/MD 4 interchange require only an additional 2.1 acres (0.85 hectares) of NPS property. The right-of-way required for the proposed improvements is located in the southeast quadrant of the proposed interchange (see Figure III-7) and is needed for construction and maintenance of a MD 4/Suitland Parkway interchange. Construction of an interchange at MD 4/Suitland Parkway would result in permanent visual changes in that portion of the Parkway. Temporary clearing of vegetation would alter the visual aesthetics of the Parkway during construction. A landscaping plan will be developed in coordination with the NPS and MHT to re-vegetate the construction impact zone, consistent with the rest of Suitland Parkway (see Section III-C-1, Effects on Parks and Recreational Facilities).

The construction of Alternative 5 (mainline widening) would also result in impacts to Suitland Parkway. The MD 4/Suitland Parkway intersection was constructed within Suitland Parkway right-of-way, and thus would require 0.22 acres (0.09 hectares) of the NPS property to widen MD 4 within the median. This alternative would also require the 6.7 acres (2.7 hectares) of NPS land for the transfer of ownership.

The air quality analysis indicates that carbon monoxide concentrations resulting from the implementation of the No-Build and any of the Build Alternativess would not result in a violation of the S/NAAQS 1-hour CO concentration of 35 ppm or the 8-hour CO concentration of 9 ppm, at any air quality receptor location, in either analysis year. There are no noise sensitive areas on the Suitland Parkway right of way, as the facility is used for transportation purposes only and the nearest residential area is located on Andrews Air Force Base.

5. Avoidance and Minimization Alternatives

Due to the nature of the Section 4(f) resource in this instance (a historically significant roadway), the No-Build (Alternative 1) is the only alternative that completely avoids the use of property from the resource for proposed improvements. Any improvement, which would improve the existing at-grade intersection at MD 4 and Suitland Parkway, would require right of way acquisition from the Parkway for this purpose. Implementation of the No-Build Alternative would result in additional traffic congestion and safety problems as traffic volume increase. As the traffic increases along MD 4, the roadway and associated intersections will no longer be able to accommodate the traffic.

Build Alternatives 2 and 4 would not impact Suitland Parkway; however, in order to upgrade MD 4 to a fully controlled access freeway, the Suitland Parkway intersection needs to be improved as well. By providing widening improvements only along MD 4, traffic capacity and safety would be improved; however, traffic congestion along MD 4 would not be completely alleviated, and therefore, this option would not provide the necessary improvements in traffic capacity and safety on MD 4 in the project area.

A total of six interchange options were considered for improving the existing MD 4/Suitland Parkway interchange. However, all six alternatives utilize similar design and required the same amount of right-of-way (approximately 8.8 acres or 3.6 hectares) for the proposed improvements. The NPS has indicated a preference for MD 4 passing beneath Suitland Parkway, as proposed with Alternative 3, Option 2 (modified). They feel that this design would better complement the historic character of the Parkway.

Eliminating the loop ramp south of MD 4, and the ramps from northbound Suitland Parkway to eastbound MD 4 would minimize impacts. However, these ramps are essential to the design and operation of the interchange and without them the interchange would not be able to adequately accommodate the traffic demands associated with the current and future development proposed north of the interchange.

6. Measures to Minimize Harm

The NPS has stated their preference for Alternative 3, Option 2 (modified), which would allow Suitland Parkway to cross over MD 4 because it would reduce the cost of the project and complement the historic character of the parkway and its terminus in relation to the projected adjacent surrounding development within the county. NPS also committed to work with the State to execute an exchange of property interests that will give the State the required right-of-way to maintain its road system upon completion of the project and provide the NPS with a comparable amount of property in exchange.

Potential mitigation measures such as landscaping and signing were discussed with representatives of the NPS and the Maryland Historical Trust (MHT). As a result of meetings with these agencies, a Memorandum of Agreement (MOA), was developed between the MHT, NPS, FHWA, and SHA, which identifies more specific measures to minimize harm. It was agreed that the materials similar to those used for the construction of the Baltimore Washington Parkway (MD 295) are preferred for use along Suitland Parkway. These materials include stone

facings on bridge abutments, the use of low stone walls and brown timber guardrail, and signage consistent with existing Suitland Parkway (brown). The landscaping plan will be developed in cooperation with the NPS and incorporated into the design of the project. The design will be submitted to the NPS at the intermediate and final review stage for comments. In addition, any modification of the interchange, associated structures, and signing will be consistent with the design and character of the existing facility. Coordination will continue through the remaining phases of the project to ensure the proposed action will maintain the existing character of the Parkway.

The MOA seeks to maintain this historic character of the Parkway through the development of mutually agreed upon designs, both for structures and landscape, which will incorporate the current features of the Parkway. The following interchange and bridge features will be considered:

- Interchange design commensurate with a symbolic entrance to Washington, D.C.
- Roundabouts at each end of the overpass
- Low stone walls
- Distinctive bridge design including dressings of stone or with stone abutments
- Appropriate landscaping including reforestation
- Timber or stone guardrails
- Minimal signage at the roundabout
- Signage compatible with NPS's standards for size and color.

7. Coordination

During the planning of the project, meetings have been held with representatives of the NPS. A meeting was held on May 29, 1997, with the NPS, Federal Highway Administration, and MHT to update the agencies on the current status of the project, present the options that were being retained for detailed study, and solicit their input on measures to minimize harm to the resource. A subsequent meeting was held on July 8 with representatives of the NPS. The purpose of this meeting was to update Gentry Davis, NPS Superintendent on the current status of the project, and to get his concurrence on the options developed in response to NPS comments, and to discuss issues related to the Suitland Parkway and NPS lands.

A letter from the United States Department of the Interior, National Park Service to SHA on June 16, 1996, affirmed grade separating the Suitland Parkway/MD 4 intersection utilizing a roundabout design, indicating that the concept has considerable merit and will greatly improve traffic operations for the Parkway and MD 4.

A MOA was signed and completed on August 20, 1999 (see Section V-B). The design review is as follows:

- A team composed of representatives from FHWA, the MDSHPO, NPS, and the MD SHA shall meet on a regular basis to review the design proposals for the MD 4/Parkway Interchange.

- The MD SHA shall prepare a schedule for coordination during final engineering design and final landscape design that identifies the appropriate times for addressing design, construction, and restoration issues. This schedule shall be updated throughout the design and construction periods.

- MD SHA shall submit to NPS and the MDSHPO plans and specifications for the design of all elements of the proposed undertaking, which could affect features of the Parkway, which contribute to its historic significance. Such elements shall maintain the boulevard-like quality of the Parkway and the open vista to the north. The same elements shall also maintain the historic character of the Parkway.

- MD SHA agrees to enter negotiation for the acquisition of a scenic easement over the Presidential Corporate Center property for the eventual assignment to the United States. Consideration would be given to limited building heights, a plan for the implementation of landscaped buffer.

- Land exchange: The MD SHA and the NPS shall develop a land exchange, consistent with producing a green space along the Parkway and the Presidential Parkway.

8. Conclusions

As stated previously, only the No-Build Alternative would avoid impacts to the use of the Suitland Parkway. Implementation of the No-Build Alternative would result in additional traffic congestion and safety problems as traffic volumes increase. Eventually MD 4 and its associated intersections will no longer be able to accommodate the traffic. Therefore, avoidance of the Section 4(f) resource is not prudent and feasible.

Any improvements to Suitland Parkway present unique problems and unusual factors not normally associated with developing prudent and feasible alternatives that avoid the use of 4(f) land. Suitland Parkway not only provides a vital transportation link to the nation's capital, but is also a significant historic resource owned by the NPS. Any improvements to ensure that this roadway will continue to serve its primary purpose as a safe and efficient transportation will, out of necessity, require the use of Section 4 (f) land.

All interchange options studied for the MD4/Suitland Parkway interchange would require the same amount of right-of-way. Elimination of one loop ramp would not allow the interchange to function properly.

The Selected Alternative for the MD 4/Suitland Parkway interchange (Alternative 3 Option 2 (modified)) would reduce the cost of the project and would compliment the historic character of the parkway and its terminus in relation to the projected adjacent surrounding development within Prince George's County.

The SHA has coordinated extensively with the Maryland SHPO and the NPS in the development of alternatives and mitigation measures that minimize harm to Suitland Parkway and help to ensure that the proposed improvements are constructed in such a way that will preserve the historic integrity of this resource.

A signed MOA between the Federal Highway Administration, the Maryland State Historic Preservation Officer (the Maryland Historical Trust), and the National Park Service is included as Section V-B of this document.

Based upon the above considerations, there is no prudent and feasible alternative to the use of land from the Suitland Parkway and the proposed action includes all possible planning to minimize harm to the Suitland Parkway resulting from such use.

E. Summary of Public Involvement

Public participation has been encouraged throughout the project by means of direct public input into the project planning process via letter or telephone communications. In May 1995, a focus group composed of local residents, business owners, elected officials, and SHA team members was formed. This group has met regularly to assist in the development of possible solutions for traffic congestion and safety concerns along the MD 4 corridor. An Alternatives Public Workshop was held in March 1996 at Forestville High School. Five alternatives and eight options were presented and citizen response was generally favorable for the project.

Issues brought forth by the public included:

- Concern with complexity of the MD 4/Suitland Parkway interchange
- Access to Burton's Lane
- Access to businesses

Coordination with local, State, and Federal agencies was also conducted throughout the study process. The project was presented at Interagency Review Meetings and field reviews were conducted to obtain agency input. The following is an overview of these activities and concerns raised by the agencies:

- Interagency Review Meeting - November 20, 1991. Purpose and Need presented.
- Interagency Review Meeting - November 17, 1993. Reduced project limits were presented and the Purpose and Need was again presented.
- Field Review - July 7 and August 3, 1994. Review wetlands and potential stream crossings.
- Interagency Review Meeting - November 1996. Alternatives Retained for Detailed Study presented.
- Jurisdictional Wetland Field Review - September 25, 1997.

- Combined Location/Design Public Hearing - December 7, 1998.
- Interagency Alternative Selection Meeting - May 4, 1999.

General issues raised by agencies included:

- the level of improvements needed to meet potential development in the area.
- impacts to wetlands and streams from proposed interchanges.
- the need to study express bus, HOV, and park and ride lots.

IV.

PUBLIC HEARING COMMENTS

IV. PUBLIC HEARING COMMENTS

The No-Build Alternative and one Build Alternative for each location, including the mainline Alternative, were presented at the Location/Design Public Hearing held on December 7, 1998. The purpose of the hearing was to present the results of the engineering and environmental studies and to receive public comment on the project. Testimony provided by 11 speakers are summarized below and includes SHA responses to the comments.

1. Ed Dorsev, Citizen:

Stated that his wife owns property on Burton Lane. Asked about the schedule for completion of the project.

SHA Response:

The project is currently in Project Planning Phase. If the project is funded, Final Design Phase can take 2 to 3 years. Right-of-way acquisition can take another year and a half to two years, which means construction could start at the earliest in four to five years.

2. Waiter Zevereski, Citizen:

Stated that he owns property on Old Marlboro Pike within the project area and requested clarification on the terms "project," "Alternatives," and "options." Also asked if the project in total is scheduled to proceed, if funded?

SHA Response:

The project will proceed as a package if funded. The Alternatives presented at the hearing refer to improvements proposed for various locations sections in the project area, and are not intended to represent alternatives to one another. The various options represent different design concepts for each Alternative.

3. Georgia Shanks, Citizen:

Stated that she lives on Flower Road. Asked if residential homes in a right-of-way area under Alternative 2, Option 2 (modified) and zoned as industrial in the Master Plan, are given special consideration when impacted by the project? Also asked how these homes are assessed for acquisition?

SHA Response:

No individual cases have been considered. If a property is acquired, appraisals will be based on highest and best use of property, in this case industrial. SHA offered to have a representative from the Office of Real Estate come to Ms. Shank's home to discuss specific cases.

4. Rodney Clavbom, Citizen:

Stated that he lives off of Westphalia Road. Asked if the ramp to the Beltway will be upgraded as a part of the project, and if proposed development on the corner of Westphalia have been taken into consideration in the plans.

SHA Response:

The Beltway access ramp will have two lanes within the project area, but will go down to one lane outside the project area. SHA have been in contact with the developers of the property on the corner of Westphalia, and are considering the proposed development in the plans.

5. Dale Antosh, Citizen:

Stated that he lives on Ryan Road. Asked about exact location of Armstrong Lane cul-de-sac (Alternative 3, Option 2), and expressed concern about the loss of residential areas to the right-of-way. Also asked if any compensation exists for homes that are not directly impacted by the right-of-way, but whose viewsheds or value of neighborhood is reduced because of project.

SHA Response:

There is no compensation for properties that are not directly impacted by the right-of-way; however, citizens do have the option of writing to the Administration and put forth their case. If the Administration authorizes the Office of Real Estate, the properties can be purchased.

6. Vern Crocker, Citizen:

Stated that he owns the Texaco Station impacted by Alternative 3, Option 2. Asked for definition of the term "relocation."

SHA Response:

Acquisition and relocation is the same thing. If a property is impacted by the project, the owner is compensated for the value of the property and cost of relocation.

7. Richard Soday, Citizen:

Stated that he lives on Chester Grove Road. Asked if Alternative 2, Option 2 would be selected for construction first, since this Alternative has the least impacts and the lowest cost. Also asked if there are any plans to upgrade roads with signs, road repair, etc., based on increased truck traffic on roads outside of project area? Also asked about the timing of lights when coming towards MD 4? Also had a question about bluebird population and spring peepers in the Presidential Parkway area. Mr. Soday also had a question about how Andrews Air Force Base reduces the effectiveness of sound barriers. He expressed that aircraft landings and take-off are mostly reduced to daytime, and that traffic noise is more constant. Asked if emergency access or response time will be reduced during the construction phase?

SHA Response:

The Alternatives will be advertised as one project, and start of construction may depend on the construction contractor. There will not be any improvements to state roadways outside the limits of the project. However, all roads are constantly being evaluated for upgrades and the Safety and Resurfacing Program is well funded this year. Mr. Sodav was advised to write Charlie Watkins at SHA about issues about signs or any traffic indicators. When county and state roads intersect each other, SHA will work together with the county on timing of lights. The lights are timed to most efficiently deal with congestion, traffic flow and peak hours. Four interior dwelling birds were identified and studied for the Environmental Assessment, and copies are available to the public. Sound barriers were found not to be reasonable in areas close to the Air Force Base because the current noise from the aircrafts exceeds that of the noise expected from the roadway traffic. Three out of six areas were found to be noise sensitive in the noise study done for this project. All three areas are on the southern side of MD 4 and are associated with Andrews Air Force Base. The noise levels may be re-evaluated when the project enters the design phase. There will be no physical obstacles preventing emergency vehicles from going through the project area, but there may be some minor impact from the construction.

8. Glen Mitchell, Citizen:

Stated that he owns property on Old Marlboro Pike. Asked about relocation of property?

SHA Response:

In case of a business, SHA help to pay search fees for another location and moving cost, including packing and unpacking. If you choose to go out of business, SHA will pay a "in lieu of' payment, which is a one-time payment of a maximum of thirty-five thousand dollars ($35.000.00). When businesses or people are being relocated they choose where to move, not SHA.

9. Bill Sigman, Citizen:

Stated that he owns property on Old Marlboro Pike and represents Pindell Condo Association. Asked about duration of construction, and needed clarification on the right-of-way alignment on Old Marlboro Pike under Alternative 2, Option 2. Under this alternative three businesses will be relocated on the west side of Old Marlboro Pike. Mr. Sigman expressed the opinion that it seems a better choice to straighten road and move alignment east towards Pepco property in order to avoid relocating the businesses.

SHA Response:

The construction of all three intersections will take approximately two to 2 and ½ years. Could not currently give explanation for right-of-way on Old Marlboro Pike, but offered to meet with Mr. Sigman to discuss the profiles.

10. Joan Young, Citizen:

Stated that she lives on Westphalia Road, and that the Westphalia Road overpass is an inconvenience to people living in the Westphalia Road Community area because they will have no direct access to MD 4 under the Selected Alternatives.

SHA Response:

A series of Alternatives and options have been considered for the Westphalia Road intersection. After intensive traffic analysis and public input at the Alternatives Workshop in March 1996, Alternative 2, Option 2 was found to be the best design.

11. Pat Butler, Citizen:

Stated that she lives on Ryan Road. Expressed concern about traffic from the access road and the impact on the community, and is opposed to the access road "dumping" traffic into a residential area.

SHA Response:

Concern noted.

V.

CORRESPONDENCE

A. Written Comments Submitted by the Public

QUESTIONS AND/OR COMMENTS

Project No. PG 917B11
Combined Location/Design Public Hearing
MD 4
From West of MD 223 to I-495/I-95

Monday, December 7, 1998 6:00 - 9:00 pm
Forestville High School

PLEASE PRINT

NAME Robert F. & Antonette Spillman DATE 11/12/1998
T/A Spillman Insurance Agency for Allstate Insurance
ADDRESS 9450 Pennsylvania Av. Ste 16
CITY/TOWN Upper Marlboro STATE MD ZIP CODE 20772

I/We wish to comment or inquire about the following aspects of this project:

Please see attached inquiry.

* Persons who have received a copy of this brochure through the mail are already on the project Mailing List

__ Please add my/our name(s) to the Mailing List.

__ Please delete my/our name(s) from the Mailing List.

Allstate
You're in good hands.

November 12, 1998

R. FRED SPILLMAN
BRIAN F. SPILLMAN
9450 PENNSYLVANIA AV
#16 MELWOOD PROF CTR
UPPER MARLBORO, MD 20772
301 599-2000

Sirs:

We have two primary concerns at this time. If "alternate 4-option 5" is accepted, it is our view that road noise will be greatly increased due to Rt 4 going over Dower House Road and the Easterly downhill grade resulting in increased vehicular speed. This increase in vehicular speed will result in an increase in road noise as regards businesses adjacent to Rt 4. Since our offices and building are situated directly adjacent to Rt 4, just past Dower House Road, this will have a dramatic road noise impact on our business. Our business relies on phones and face to face interviews to exchange accurate information. Therefore, it is imperative that road noise be held to a minimum. A possible solution consistent with "alternate 3-option 2 (modified)" is that Rt 4 travel under Dower House Rd.

Another concern is related to safety as well as road noise. If "alternate 5-option 2" of Mainline Widening is accepted, this third high speed lane would increase road noise with the ability to handle more vehicular traffic. This without relief of the ingress egress of the Dower House Road and other roads interacting with Rt 4 we feel would be a major safety concern. Employees of businesses as well as our customers and clients rely on a safe ingress and egress to Rt 4.

Therefore, we are inquiring as to how the SHA will address the increased noise levels for "alternate 4-option 5" if adopted. Also, if "alternate 5-option 2" Mainstream Widening is adopted, how will the SHA address the safety concerns expressed above for ingress and egress as to Rt 4.
We look forward to your reply.

Very truly yours,

R Fred & Antonette Spillman
T/A Allstate Insurance Co-The Spillman Insurance Agency

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 11, 1998

Mr. & Mrs. R. Fred Spillman
9450 Pennsylvania Avenue
Melwood Professional Center
Suite 16
Upper Marlboro MD 20772

Dear Mr. & Mrs. Spillman:

Thank you for expressing interest in our planning study to improve safety and capacity along MD 4.

An Alternates Public Workshop was held in March of 1996. Several alternates presented at the workshop provided a bridge over MD 4 at Dower House Road. As a result of comments received at the workshop, environmental impacts, a comparison of traffic handling ability and a greater cost, these options were not retained for detailed study. Alternate 4 Option 5 was selected as the alternate retained for detailed study for the Dower House Road/MD 4 intersection.

The State Highway Administration follows the American Association of State Highway and Transportation Officials (AASHTO) guidelines when designing a highway. The grades along this area of MD 4 will provide a safe design speed for this type of facility.

Safety and traffic circulation was taken into consideration in the design of this interchange with the current Alternative 4 Option 5 providing a low speed diamond roundabout to handle movements to Marlboro Pike and Dower House Road. Separate ramps would be provided to access Marlboro Pike and Dower House Road. This keeps some local travel out of the roundabout while improving both ingress and egress to MD 4 and surrounding roadways.

A noise analysis was completed subsequent to the Alternates Workshop. The analysis has concluded that noise abatement measures may be warranted in some areas. Further evaluation of noise abatement measures will be considered during the design phase of the project.

V B-19

My telephone number is _____

Again thank you for your interest in our project planning activities, and if you should have any questions or concerns, please feel free to call me Mr. Mark Radloff, Project Manager, at 410-545-8512 or toll free 1-800-548-5026.

Very truly yours,

Louis H. Ege, Jr.
Deputy Director
Office of Planning and
Preliminary Engineering

By:
Mark C. Radloff
Project Manager
Project Planning Division

cc: PPD-ADC's
Ms. Cynthia Simpson
Jason Groth (w/ incoming)
Mr. Charlie Watkins (w/incoming)

DAVID B. STARR
LAND DEVELOPMENT CONSULTANT
723 14th Street N.W.
Albuquerque, N.M. 97104
(505)246-8987 FAX 242-6496
December 1, 1998

Mr. Mark C. Radloff, Project Manager
Project Planning Division
State Highway Administration
P.O. Box 717
Baltimore, MD 21203-0717

SUBJECT: LOCATION DESIGN PUBLIC HEARING DOWER HOUSE ROAD

Dear Mr. Radloff,

I am writing you in support of a plan to provide an interchange at Dower House Road and Pennsylvania Avenue. My family has 13 acres on the South side of Old Marlboro Pike, about a block East of Dower House Road. The property was zoned I-4 in the 70's and has been taxed as such for these many years even though it has not been developed (still just raw land).

The property has been out of the sight of the main stream traffic for years and access from Pennsylvania Avenue has not been convenient during this period. An interchange would help open up the area to industrial users. Also, on my recent visit in November, I traveled North West on Marlboro Pike to Dower House Road and I found the present intersection to be rather confusing and dangerous.

I hope that this letter will assist you in getting the approval needed for this project.

Please feel free to call me if you have any questions.

Sincerely,

Dave Starr

David B. Starr

DBS/ms

V B-21

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor
David L. Winstead
Secretary
Parker F. Williams
Administrator

December 28, 1998

Mr. David B. Starr
Land Developer Consultant
723 14th Street N.W.
Albuquerque N.M. 97104

Dear Mr. Starr:

Thank you for your recent letter supporting improvements to MD 4, specifically an interchange at MD 4 (Pennsylvania Avenue) and Dower House Road.

Alternate 4 Option 5 proposes to construct a low speed diamond roundabout to handle movements to Marlboro Pike and Dower House Road. MD 4 would go over Dower House Road. Separate ramps just outside the roundabout would provide for movements between MD 4, Marlboro Pike and Dower House Road to facilitate travel within the roundabout. A separate ramp would be provided from Marlboro Pike to eastbound MD 4 to separate that movement from the roundabout.

Thank you again for your support. Citizen involvement is strongly encouraged during the project planning process. If you have any additional comments or questions, please feel free to call me at 410-545-8512 or toll free at 1-800-548-5026.

Very truly yours,

Louis H. Ege, Jr.
Deputy Director
Office of Planning and
Preliminary Engineering

By: _____
Mark C. Radloff
Project Manager
Project Planning Division

cc: PPD-ADC's
Ms. Cynthia Simpson
Mr. Jason Groth (w/ incoming)
Mr. Charlie Watkins (w/incoming)

My telephone number is V B-22

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717

LAW OFFICES
MCCARTHY, BACON & COSTELLO
L.L.P.
WASHINGTON BUSINESS PARK
SUITE 300
4640 FORBES BOULEVARD
LANHAM, MARYLAND 20706-4323
(301) 306-1900
FAX (301) 306-1988

KEVIN J. McCARTHY
[illegible] C. BACON
[illegible]X. COSTELLO
[illegible]AEL McGOWAN
PATRICIA M. THORNTON
MARK D. PALMER
STAN DERWIN BROWN
JOHN T. BERGIN
TIMOTHY ALTEMUS
MICHAEL J. WINKELMAN

OF COUNSEL:
CHARLES E. CHANNING, JR

LARRY D. LAMSON
P.O. BOX 113 • 136 MAIN STREET
PRINCE FREDERICK, MD 20678
(301) 855-9099

EUGENE M. ZOGLIO
4309 NORTHVIEW DRIVE
BOWIE, MD 20716
(301) 262-7500

December 9, 1998

Maryland Department of Transportation
State Highway Administration
Office of Planning & Preliminary Engineering
Box 717
Baltimore, MD 21203

Re: Project No. PG-917B11
Combined Location/Design for Md. Rt. 4
From West of Md. Rt. 223 to I-495/I-95

Dear Sir or Madame:

Please add my name to the mailing list for the above-noted project.

Sincerely,

Stan Derwin Brown

StanDerwinBrown@worldnet.att.net

cc: Penn Belt Condominium Association
Mr. Bill Sigmon
Mr. John Ratti

SDB/la

V-B-23

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor
David L. Winstead
Secretary
Parker F. Williams
Administrator

December 17, 1998

Mr. Stan Derwin Brown
Law Offices McCarthy, Bacon & Costello L.L.P.
Washington Business Park, Suite #300
Lanham MD 20706-4323

Dear Mr. Brown:

Thank you for your interest in our MD 4 project.

Your name has been added to the project mailing list and you will be notified of future opportunities for involvement.

A brochure concerning the Combined Location Design Public Hearing that was held on December 7, 1998 is being sent for your information. A postage paid return mailer is included in the back of the brochure for your comments. The official comment period will remain open until January 7, 1999.

Thank you again for your interest in our project planning activities. Citizen involvement is strongly encouraged during the project planning process. If you have any additional comments or questions, please feel free to call me at 410-545-8512 or toll free at 1-800-548-5026.

Very truly yours,

Louis H. Ege, Jr.
Deputy Director
Office of Planning and
Preliminary Engineering

By: _____
Mark C. Radloff
Project Manager
Project Planning Division

cc: PPD-ADC's
Ms. Cynthia Simpson
Mr. Jason Groth (w/incoming)
Mr. Charlie Watkins (w/incoming)

My telephone number is V-B-24

American Auto Electric, Inc.
8411 Old Marlboro Pike · Unit 22
Upper Marlboro, MD 20772

(301) 420-4120

December 12, 1998

Mr. Neil Pedersen, Director
Office of Planning &
Preliminary Engineering
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Pedersen;

RE: Project No. PG 917B11 - MD 4 from west of MD 223 to I-495/I-95.

I own an auto repair business and building at the above address and have been at this location since April 1976. I also am the current President of the Penn Belt Condominium Association, of which there are 27 other units like ours at this address.

Construction of an overpass 150 feet east of the existing intersection over Route 4 and down ramp location on the Old Marlboro Pike side will have a negative impact on all traffic using this road except for its use by Pepco and its employees. Take note of the curvature of the down ramp. It causes the road and its Right of Way to impact 8 buildings, with the relocation of 3 and possibly 6, 1 of which is a condominium and the other is a firehouse.

I would like to offer three alternatives:

1. Widen Route 4 only.

2. That there be NO curvature from the overpass down ramp to continue to run straight rather than curved, using Pepco's property, thus lessening the impact on all traffic using Old Marlboro Pike.

3. That Old Marlboro Pike and Westphalia Road be blocked off at Route 4 intersection, remove the traffic light, build the roads at either end of Pepco's property as planned, relocate the firehouse, leave Old Marlboro Pike and Westphalia Road as they are and reconstruct the Suitland and Dower House intersections as planned, which will move traffic to and from Old Marlboro Pike and Westphalia Road. If you study the proposed plan, with the construction of the Old Marlboro Pike/Westphalia Road overpass, the Suitland intersection is used to move all traffic going south on I-95/I-495 and/or west on Route 4 from Old Marlboro Pike and Westphalia Road. It is feasible to move all of the traffic via the Suitland intersection.

I sincerely request that you consider these alternatives as you continue to develop the project planning in its next phase. Please contact me as to your thoughts on this matter. I look forward to hearing you.

Sincerely,

Bill Sigmon

V B-25

American Auto Electric, Inc.
8411 Old Marlboro Pike - Unit 22
Upper Marlboro, Maryland 20772

(301) 420-4120

December 12, 1998

ator Paul Sarbanes
.S. Senator
Hart Senate Office Building
shington, D.C. 20510

ear Senator Sarbanes:

I own an auto repair business and building at the above address and have been at this location since April 1976. I so am the current President of the Penn Belt Condominium Association, of which there are 27 other units like ours at this ddress.

The State Highway Administration and the Federal Highway Administration are proposing to reconstruct the aryland Route 4 corridor east of Interstate 95 - 495 (Contract No. PG 917B11). This will include widening Route 4 and the nstruction of three intersections east of I-95 / I-495. I am writing to express my concern with the proposed Route 4 and Marlboro Pike/Westphalia Road intersection. Enclosed is the project planning study.

Construction of an overpass 150 feet east of the existing intersection over Route 4 and do.n ramp location on the Marlboro Pike side will have a negative impact on all traffic using this road except for its use by Pepco a.. its loyees. Take note of the curvature of the down ramp. It causes the road and its Right of Way to impact 8 buildings, with e relocation of 3 and possibly 6, 1 of which is a condominium and the other is a firehouse. This project will impact pproximately 100 small businesses and their families, consisting of 100's of people who pay taxes and provide a number of ices to our community. Some of these businesses require public patronage, which will be difficult to maintain with any struction.

No one with the SHA can explain the curvature or the extra wide Right of Way on Old Marlboro Pike. I feel it has to do with economic discrimination. I have written Mr. Walter Owens Jr., Chief of the Equal Opportunity Division e SHA to express my concerns. I have also written other officials and engineers of the SHA and Maryland House elegates and a Maryland State Senator with the following alternatives.

I would like to offer three alternatives:

1. Widen Route 4 only.

2. That there be NO curvature from the overpass down ramp to continue to run straight rather than curved, using Pepco's property, thus lessening the impact on all traffic using Old Marlboro Pike.

3. That Old Marlboro Pike and Westphalia Road be blocked off at Route 4 intersection, remove the traffic light, build the roads at either end of Pepco's property as planned, relocate the firehouse, leave Old Marlboro Pike and Westphalia Road as they are and reconstruct the Suitland and Dower House intersections as planned, which will move traffic to and from Old Marlboro Pike and Westphalia Road. If you study the proposed plan, with the construction of the Old Marlboro Pike/Westphalia Road overpass, the Suitland intersection is used to move all traffic going south on I-95/I-495 and/or west on Route 4 from Old Marlboro Pike and Westphalia Road. It is feesible to move all of the traffic via the Suitland intersection.

As a member of the U.S. Congress, perhaps you could inquire in our behalf to Maryland State Legislature, Maryland Department of Transportation, and State Highway Administration.

I look forward to hearing you.

Sincerely,

Bill Sigmon

360807

V B-24

American Auto Electric, Inc.
8411 Old Marlboro Pike · Unit 22
Upper Marlboro, MD 20772

(301) 420-4120

December 12, 1998

RECEIVED

DEC 17 1998

STATE HIGHWAY ADMINISTRATION
DISTRICT #3 GREENBELT

Mr. Richard Ravenscroft,
District #3
Office of Real Estate
State Highway Administration
P.O. Box 327
Greenbelt, Maryland 20770

Dear Mr. Ravenscroft;

RE: Project No. PG 917B11 - MD 4 from west of MD 223 to I-495/I-95.

I own an auto repair business and building at the above address and have been at this location since April 1976. I also am the current President of the Penn Belt Condominium Association, of which there are 27 other units like ours at this address.

Construction of an overpass 150 feet east of the existing intersection over Route 4 and down ramp location on the Old Marlboro Pike side will have a negative impact on all traffic using this road except for its use by Pepco and its employees. Take note of the curvature of the down ramp. It causes the road and its Right of Way to impact 8 buildings, with the relocation of 3 and possibly 6, 1 of which is a condominium and the other is a firehouse.

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I sincerely request that you consider these alternatives as you continue to develop the project planning in its next phase. Please contact me as to your thoughts on this matter. I look forward to hearing you.

Sincerely,

Bill Sigmon

VB-27

American Auto Electric, Inc.
8411 Old Marlboro Pike - Unit 22
Upper Marlboro, MD 20772

(301) 420-4120
December 12, 1998

RECEIVED
DEC 1 7 1998
By

Mr. Walter Owens, Jr., Chief
Equal Opportunity Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

RE: Project No. PG 917B11 - MD 4 from west of MD 223 to I-495/I-95.

I own an auto repair business and building at the above address and have been at this location since April 1976. I also am the current President of the Penn Belt Condominium Association, of which there are 27 other units like ours at this address.

Construction of an overpass 150 feet east of the existing intersection over Route 4 and down ramp location on the Old Marlboro Pike side will have a negative impact on all traffic using this road except for its use by Pepco and its employees. Take note of the curvature of the down ramp. It causes the road and its Right of Way to impact 8 buildings, with the relocation of 3 and possibly 6, 1 of which is a condominium and the other is a firehouse.

Mr. Owens, I am concerned as to why the location of this ramp was curved away from Pepco's property, which would include: bushes, fences and 2 parking lots, over the relocation of at least 3 buildings having businesses operating out of them and possibly 1 condominium relocation or part of it. This does not include the negative impact and the remaining businesses. No one that I have talked to from SHA, which includes: Mr. Mark Radloff, Project Manager and Mr. Richard Ravenscroft, Office of Real Estate can explain the curvature of this ramp or the extra wide width of the Right of Way proposed in this project.

The only conclusion that I can come to is that it must have something to do with some form of economic discrimination. I have written to SHA Engineers, etc. with the following proposal and will write letters to our 3 members of the State of Maryland House of Delegates and our State Senator.

I would like to offer three alternatives:

1. Widen Route 4 only.

2. That there be **NO** curvature from the overpass down ramp to continue to run straight rather than curved, using Pepco's property, thus lessening the impact on all traffic using Old Marlboro Pike.

3. That Old Marlboro Pike and Westphalia Road be blocked off at Route 4 intersection, remove the traffic light, build the roads at either end of Pepco's property as planned, relocate the firehouse, leave Old Marlboro Pike and Westphalia Road as they are and reconstruct the Suitland and Dower House intersections as planned, which will move traffic to and from Old Marlboro Pike and Westphalia Road. If you study the proposed plan, with the construction of the Old Marlboro Pike/Westphalia Road overpass, the Suitland intersection is used to move all traffic going south on I-95/I-495 and/or west on Route 4 from Old Marlboro Pike and Westphalia Road. It is feasible to move all of the traffic via the Suitland intersection.

I sincerely request that you consider these alternatives as you continue to develop the project planning in its next phase. Please contact me as to your thoughts on this matter. I look forward to hearing you.

Sincerely,

Bill Sigmon

V B-28

American Auto Electric, Inc.
8411 Old Marlboro Pike - Unit 22
Upper Marlboro, MD 20772

(301) 420-4120

December 12, 1998

Mr. Mark Radloff, Project Manager
Project Planning Division
Mail Stop C301
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Radloff;

RE: Project No. PG 917B11 - MD 4 from west of MD 223 to I-495/I-95.

I own an auto repair business and building at the above address and have been at this location since April 1976. I also am the current President of the Penn Belt Condominium Association, of which there are 27 other units like ours at this address.

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I sincerely request that you consider these alternatives as you continue to develop the project planning in its next phase. Please contact me as to your thoughts on this matter. I look forward to hearing you.

Sincerely,

Bill Sigmon

V B-29

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor

Kathleen Kennedy Townsend
Lt. Governor

John D. Porcari
Secretary

January 11, 1999

Mr. Bill Sigmon
American Auto Electric, Inc.
8411 Old Marlboro Pike - Unit 22
Upper Marlboro MD 20772

Dear Mr. Sigmon:

Thank you for your recent comments to Chief of Staff Major F. Riddick, Jr., regarding improvements to MD 4. Mr. Riddick asked me to respond on his behalf. I am also responding on behalf of State Highway Administrator Parker F. Williams, Mr. Walter Owens, Jr., and other members of Mr. Williams' staff to whom you have also written. We are evaluating both written and oral comments received at the hearing and will incorporate them into the project where feasible. Please be assured your comments will be taken into account as we make decisions regarding the Westphalia Road/Old Marlboro Pike intersection.

The alternates and options presented at the hearing are subject to revision. If the project is funded for the next phase, Final Design, engineering refinements will be made to further minimize impacts. Socioeconomic resources such as retail areas, libraries and the like are recognized as important assets to the communities they serve. I can assure you these resources will be taken into account during the design process, if it is funded.

The proposed bridge at Westphalia Road was shifted approximately 150 feet to the east to allow Westphalia Road to remain open during construction. Again, the final alignment will be analyzed further to minimize impacts to resources in the area.

To widen MD 4 without the associated interchanges would conflict with the original purpose and need for the project. Traffic projections, future development, and increased through traffic dictate the need for these improvements, and the 1994 Prince George's County Master Plan calls for intersection improvements. Closing Westphalia Road/Old Marlboro Pike and routing all traffic to the proposed Suitland/MD 4 interchange would dramatically increase congestion in the Suitland Parkway roundabout. Traffic from existing and proposed development near Westphalia Road would be forced into the roundabout, as would commercial trucks serving the Penn Randall Industrial area. The Westphalia Road/Old Marlboro Pike concept was designed to work and be compatible with the Suitland Parkway alternate so local traffic can circulate between areas north and south of MD 4 without having to use the mainline MD 4 roadway.

V B-30

My telephone number is (410)-865-1000
Toll Free Number 1-888-713-1414 TTY For the Deaf: (410) 865-1342
Post Office Box 8755, Baltimore/Washington International Airport, Maryland 21240-0755

Thank you again for your participation in this project. Citizen involvement is strongly encouraged during the project planning process. If you have any further questions or concerns, please feel free to call the project manager, Mr. Mark Radloff, at 410-545-8512 or 1-800-548-5026.

Sincerely,

John D. Porcari
Secretary

cc: Mr. Louis H. Ege, Jr., Deputy Director of Planning and Preliminary Engineering, State Highway Administration
Mr. Walter Owens, Jr., Director of Equal Opportunity, State Highway Administration
Mr. Neil J. Pedersen, Director of Planning and Preliminary Engineering, State Highway Administration
Mr. Mark Radloff, Project Manager, State Highway Administration
Mr. Richard Ravenscroft, District Right of Way Chief, State Highway Administration
Mr. Major F. Riddick, Jr., Chief of Staff, Office of the Governor
Mr. Parker F. Williams, Administrator, State Highway Administration

bcc: Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Jason Groth, Environmental Manager, State Highway Administration (w/incoming)
Ms. Peggy Schafer, Administrative Assistant, State Highway Administration
(Serial #: 9775)
Mr. Charlie K. Watkins, District Engineer, State Highway Administration

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor
John D. Porcari
Secretary
Parker F. Williams
Administrator

January 13, 1999

Mr. Michael R. Macdonald
Macdonald Associates, Inc.
9205 Old Marlboro Pike
Upper Marlboro MD 20772

Dear Mr. Macdonald:

Thank you for your recent letter expressing interest in our planning study to improve safety and capacity along MD 4. The State Highway Administration (SHA) values the input of the traveling public regarding potential improvements to our highway system.

Numerous combinations of alternatives were investigated to meet the demand of the projected traffic for the project area. An Alternates Public Workshop was held in March of 1996. Several alternates were retained for detailed study based on comments received at the workshop, environmental impacts, traffic operation and cost comparison. The refinements and detailed environmental studies of the retained alternates were presented at the Combined Location and Design Hearing on December 7, 1998 at Forestville High School.

As described in your letter, a six lane reversible roadway would result in a very complex configuration to provide the necessary connections or restrictions at the I-95/I-495 interchange and at the proposed grade separations along MD 4. We have determined that projected traffic volumes will not warrant six lanes on MD 4 during peak hours, and that such a complex approach is not necessary for safety reasons.

Your suggestion to extend the Pennsylvania Avenue access road and to limit this road to north/west bound traffic only would result in through-traffic volumes mixing with local traffic. By limiting the Pennsylvania Avenue access road to north/west bound traffic only, we would not provide the level of local circulation necessary for the proposed commercial development to the north of the project area

My telephone number is 410-545-0400 or 1-800-206-0770
V B-34
Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202

Extension of the Pennsylvania Avenue access road to the Woodyard Road interchange is not warranted at this time. Access to existing development in the project area has been considered or provided where necessary. Future access to the north side of the Dower House Road interchange may be granted when the development of this area occurs.

Thank you again for your comments and interest in our project planning activities. If you have any questions or additional concerns, please feel free to call Mr. Mark Radloff, our Project Manager, at 410-545-8512 or 1-800-548-5026.

Sincerely,

Parker F. Williams
Administrator

cc: Mr. Mark Radloff, Project Engineer, State Highway Administration

S.M.L.A., INC.

DEVELOPERS MELWOOD COMPLEX
9672 PENNSYLVANIA AVENUE
UPPER MARLBORO, MD 20772
(301) 599-1630

ERTY MANAGEMENT
LES AND DEVELOPMENT

PROPERTY ACQUISITIONS
LEASING/SALES

January 22, 1999

Mr. Mark C. Radloff
Project Planning Division
Mail Stop C301
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

RE: Maryland 4 - Dower House Road

Dear Mr. Radloff:

I was unable to attend your hearing which was set for December 7 since I was in the hospital at that time. As you know, I am a quadriplegic and was in Craig Hospital during that entire week.

The position of the Melwood Office Complex is clear. All of our buildings: the Mall, First Virginia Bank Building, Melwood Professional Building and fourteen condominium buildings, all depend upon a critical access through Dower House Road. Our position should be clear since I have attended every single meeting that has been previously held, along with Dr. Francis Fowler, orthopaedic surgeon.

At this time I desire to receive confirmation that this access will remain open with one of the alternative plans that involve a diamond roundabout. Under this method traffic leaving our complex going west would travel under Route 4; traffic going east would use a ramp east of the roundabout; and traffic entering our complex from the west would use an exit ramp and go around the roundabout. This appears to have met everyone's needs, and at this time I desire to obtain confirmation that a decision has been made in favor of this plan.

I had called several times previously but have not been able to reach you, so I am taking the liberty of writing this letter to make it part of the record and would appreciate your prompt acknowledgement.

Very truly yours,

DICTATED, BUT NOT READ

GILBERT R. GIORDANO

GRG:tlp

V B-36

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor
John D. Porcari
Secretary
Parker F. Williams
Administrator

February 9, 1999

Mr. Gilbert R. Giordano
S.M.L.A., Inc.
Developers Melwood Complex
9672 Pennsylvania Ave
Upper Marlboro MD 20772

Dear Mr. Giordano:

Thank you for your recent letter supporting improvements to MD 4, specifically the diamond roundabout interchange at MD 4 (Pennsylvania Avenue) and Dower House Road.

Alternate 4 Option 5 proposes the improvements as outlined in your letter and proposes a low speed diamond roundabout to handle movements to Marlboro Pike and Dower House Road. MD 4 would go over Dower House Road. Separate ramps just outside the roundabout would provide for movements between MD 4, Marlboro Pike and Dower House Road to facilitate travel within the roundabout. A separate ramp would be provided from Marlboro Pike to eastbound MD 4 to separate that movement from the roundabout. This is the preferred alternate for this location and was presented at the Location Design Public Hearing held on December 7, 1998.

It is expected that the State Highway Administrator will receive location approval for this alternative for the MD 4 (Pennsylvania Avenue) and Dower House Road intersection, in the near future.

If you have any additional comments or questions, please feel free to call me at 410-545-8512 or toll free at 1-800-548-5026.

Very truly yours,

Louis H. Ege, Jr.
Deputy Director
Office of planning and
Preliminary Engineering

By: _____
Mark C. Radloff
Project Manager
Project Planning Division

cc: PPD-ADC's
Mr. Jason Groth (w/ incoming)
Ms. Cynthia Simpson
Mr. Charlie Watkins (w/incoming)

My telephone number is _____

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free
V B-37
Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202

There were no comments received from elected officials or resource agencies during the comment period for the E A.

B. Memorandum Of Agreement (MOA)

Jason

U.S. Department
of Transportation

**Federal Highway
Administration**

Region 3
Maryland Division

The Rotunda
Suite 220
711 West 40th Street
Baltimore, Maryland 21211-2187

SEP21'99 PM 1:25

September 20, 1999

IN REPLY REFER TO:

Project No. PG917B11
MD 4: East of I-95/I-495 to
West of MD 223
Prince George's County, Maryland

Maryland Department of Housing
and Community Development
Division of Historical and Cultural Programs
Maryland Historical Trust
100 Community Place
Crownsville, Maryland 21032

Attention: Ms. Anne Bruder

Dear Mr. J. Rodney Little:

The enclosed Memorandum of Agreement for the subject project has been accepted by the Advisory Council of Historic Preservation. This completes the requirements of Section 106 of the National Historic Preservation Act. A copy of the MOA has also been provided to Maryland State Highway Administration.

Sincerely,

Nelson J. Castellanos
Division Administrator

Enclosure

cc: Mr. Bruce Grey, SHA

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

SEP - 2 1999

Mr. Nelson J. Castellanos
Division Administrator
Federal Highway Administration
The Rotunda, Suite 220
711 West 40th Street
Baltimore, MD 21211-2187

REF: Proposed Highway Improvements Project (MD 4/Suitland Parkway)
Prince George's County, Maryland

Dear Mr. Castellanos:

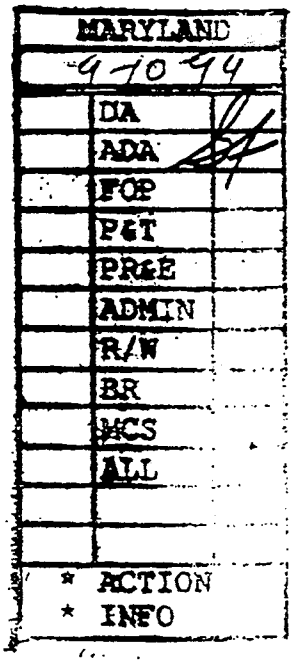
The enclosed Memorandum of Agreement (MOA) for the referenced project has been accepted by the Council. This acceptance completes the requirements of Section 106 of the National Historic Preservation Act and the Council's regulations. Please provide a copy of the Agreement to the Maryland State Historic Preservation Officer.

We appreciate your cooperation in reaching a satisfactory resolution of this matter.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Planning and Review



MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
MARYLAND STATE HISTORIC PRESERVATION OFFICER
AND NATIONAL PARK SERVICE
REGARDING THE SUITLAND PARKWAY
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
PURSUANT TO 36 C.F.R. §800.6(2)

WHEREAS, the Federal Highway Administration (FHWA) proposes to assist the Maryland State Highway Administration (MD SHA) with the improvement of MD 4 from I-95/I-495 to MD 223; and

WHEREAS, after detailed study of various alternates, the FHWA has selected for construction Alternate 3, Option 2 Modified, which would carry the Suitland Parkway over MD 4; and

WHEREAS, the FHWA has determined that the improvement of MD 4 from I-95/I-495 to MD 223 will have an adverse effect upon the Suitland Parkway, a property included in the National Register of Historic Places; and has consulted with the Maryland State Historic Preservation Officer (MDSHPO) pursuant to 36 C.F.R. §800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. §470f); and,

WHEREAS, the National Park Service (NPS) owns in fee the property on both sides of Maryland 4 which will contain the Suitland Parkway overpass bridge, and will undertake a transfer of jurisdiction to the MDSHA of the lands required for construciton, operations and maintenance of the bridge and roundabouts, issue a permit for construction of the bridge and roundabouts, and issue an Archeological Resources Protection Act permit, all constituting Federal undertakings by the NPS; and,

WHEREAS, the MD SHA has participated in the consultation and has been invited to concur in this Memorandum of Agreement (MOA);

NOW, THEREFORE, the FHWA, the NPS and the MD SHPO agree, upon acceptance by the Advisory Council on Historic Preservation (Council) that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The FHWA will ensure that prior to construction of the interchange of MD 4 with the Suitland Parkway (Parkway) [MD4/Parkway Interchange], the following measures are implemented:

I. PROJECT DESIGN AND REVIEW

A. **Design Goals** -- The historic character of the Parkway will be maintained through the development of mutually agreed upon designs, both for structures and landscape, which will incorporate the current features of the Parkway. Furthermore, because the eastern

terminus of the Parkway functions as a gateway to the Capital, the design of the proposed interchange will embody such an entrance. These interchange and bridge features will be considered:

1. Interchange design shall be commensurate with a symbolic entrance to the Nation's Capital;
2. Roundabouts at each end of the overpass;
3. Distinctive bridge design including dressings of stone or with stone abutments;
4. Low stone walls;
5. Timber or stone guardrails;
6. Appropriate landscaping including reforestation;
7. Signage:
   a) Minimal signage will be incorporated at the roundabouts;
   b) Signage will be developed that is compatible with NPS's standards for size and color.

B. **Design Review Coordination:**

1. A team composed of representatives from FHWA, the MDSHPO, NPS, and the MD SHA shall meet on a regular basis to review the design proposals for the MD 4/Parkway Interchange.
2. The MD SHA shall prepare a schedule for coordination during final engineering design and final landscape design which identifies the appropriate times for addressing design, construction and restoration issues. This schedule shall be updated throughout the design and construction periods.
3. MD SHA shall submit to NPS and the MDSHPO plans and specifications for the design of all elements of the proposed undertaking, which could affect features of the Parkway, which contribute to its historic significance. Such elements shall maintain the boulevard-like quality of the Parkway and the open vista to the north. These same elements shall also maintain the historic character of the Parkway.
4. Submissions shall be made by MD SHA to NPS and the SHPO at the intermediate (56 percent complete) and final review (95 percent complete) stages of final engineering design and final landscape design. The NPS and the SHPO shall provide written comments to MD SHA within thirty (30) days of receiving intermediate and thirty (30) days of receiving final review plans.

II. **LAND EXCHANGE:** The MD SHA and the NPS shall develop a land exchange, consistent with producing a green space along the Parkway and the Presidential Parkway.

A. As a means of establishing an equal value exchange of land or interests in land, the MD SHA agrees to enter negotiation for the acquisition of a scenic easement over the Presidential Corporate Center property for the eventual assignment to the United States. The proposed easement will protect and enhance the scenic and historic character of the Parkway. In creating a series of easement provisions designed to achieve the adequate protection of the Parkway and its resources, consideration would be given to limited building heights so as not to dominate the terminus of the Parkway and to providing a plan for the implementation of a landscaped buffer designed to blend with the landscape of the Parkway and effectively screen certain elements associated with development such as parking lots, storm water management facilities, etc. from the Parkway.

III. **AMENDMENT:** MD SHA shall report to the consulting parties every six months on measures that have been taken to implement the terms of this MOA. If a party to the MOA suggests that an amendment may be necessary, the parties to the agreement shall consult in accordance with 36 C.F.R. §800.5(e)(3).

IV. **REVIEW OF PLANS AND SPECIFICATIONS:** If any party receiving plans and specifications provided for review pursuant to this agreement does not provide written comments to MD SHA within the specified review period, then the plans and specifications so submitted shall be considered to have been approved by that party.

V. **DISPUTE RESOLUTION:** Should any party to this agreement object within thirty (30) days to any plans or actions provided for review pursuant to this MOA, the FHWA and the MD SHA shall consult with the said party to resolve the objection. If the FHWA, in consultation with MD SHA determines that the objection cannot be resolved, the FHWA shall request further comments from the Council pursuant to 36 C.F.R. §800.6(b). Within 30 days after receipt of all pertinent documentation , the Council shall either:

A. Provide FHWA with recommendations which FHWA shall take into account in reaching a final decision regarding the dispute; or

B. Notify FHWA that it will comment pursuant to 36 C.F.R. §800.6(b) and proceed to comment. Any Council comment provided in response to such a request shall be taken into account by FHWA in accordance with 36 C.F.R. §800.6(c)(2) with reference to the subject of the dispute.

C. Any recommendation or comment provided by the Council shall be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all actions under this MOA that are not the subjects of the dispute will remain unchanged.

Execution of the Memorandum of Agreement by FHWA, NPS and the MDSHPO, and its subsequent acceptance by the Council, and implementation of its terms, provides evidence that FHWA has afforded the Council an opportunity to comment on the MD I-95/I-495 to MD 223) project in Prince George's County, Maryland, and its effects on historic properties, and that FHWA has taken into account the effects of the undertaking on historic properties.

FEDERAL HIGHWAY ADMINISTRATION:

By: _____ Date: 8/9/99
Nelson J. Castellanos, Division Administrator

MARYLAND STATE HISTORIC PRESERVATION OFFICER:

By: _____ Date: 5-5-99
J. Rodney Little
State Historic Preservation Officer

NATIONAL PARK SERVICE:

By: _____ Date: 6/14/99
Terry Carlstrom, Regional Director,
National Capital Region

Concur:

MARYLAND STATE HIGHWAY ADMINISTRATION:

By: _____ Date: 5/21/99
Parker F. Williams, Administrator

Accepted for the ADVISORY COUNCIL ON HISTORIC PRESERVATION:

By: _____ Date: 8/20/99
(for) John M. Fowler, Executive Director

VI.

APPENDIX

Revised: December 24, 1996
State Highway Administration, Office of Real Estate

SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE STATE HIGHWAY ADMINISTRATION OF MARYLAND

All State Highway Administration projects must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) as amended by Title IV of the Surface Transportation & Uniform Relocation Assistance Act of 1987 (P.L. 100-17), the Annotated Code of Maryland entitled "Real Property Article" Section 12-112 and Subtitle 2, Sections 12-201 to 12-212. The Maryland Department of Transportation, State Highway Administration, Office of Real Estate administers the Transportation Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State laws require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments include replacement housing payments and moving costs. The maximum limits of the replacement housing payments are $22,500 for owner-occupants and $5,250 for tenant-occupants. Certain payments may also be made for increased mortgage interest costs and other incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe and sanitary replacement housing. In addition to these payments, there are also moving expense payments to persons, businesses, farms and non-profit organizations. Actual but reasonable moving expenses for residences are reimbursed for a move of up to 50 miles or a schedule moving payment of up to $1,300 may be used.

In the event comparable replacement housing is not available within the monetary limits for owners and tenants to rehouse persons displaced by public projects or available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies must be completed by the State Highway Administration before relocation "housing as a last resort" can be utilized.

The moving cost payments to businesses are broken down into several categories, which include actual moving expense payments, reestablishment expenses limited to $10,000 or fixed payments "in lieu of" actual moving expenses of $1,000 to $20,000. Actual moving expenses may also include actual direct losses of tangible personal property and expenses for searching for a replacement site up to $1,000.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Payments for the actual reasonable expenses are limited to a 50-mile radius unless the State determines a longer distance is necessary. The expenses claimed for actual cost moves must be supported by firm bids and receipted bills. An inventory of the items to be moved must be prepared in all cases. In self-moves, the State will negotiate an amount for payment, usually lower than the lowest acceptable bid. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost of using the business vehicles or equipment, wages paid to persons who participate in the move, the cost of actual supervision of the move, replacement insurance for the personal property moved, costs of licenses or permits required and other related expenses.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses.

If the business elects not to move or to discontinue the use of an item, the payment shall consist of the lesser of: the fair market value of the item for continued use at the displacement site, less the proceeds from its sale; or the estimated cost of moving the item.

If an item of personal property which is used as part of a business or farm operation is not moved and is promptly replaced with a substitute item that performs a comparable function at the replacement site, payment shall be of the lesser of: the cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item; or the estimated cost of moving and reinstalling the replaced item.

In addition to the moving payments described above, a business may be eligible for a payment up to $10,000 for the actual reasonable and necessary expenses of reestablishing at the replacement site. Generally, reestablishment expenses include certain repairs and improvements to the replacement site, increased operating costs, exterior signing, advertising the replacement location and other fees paid to reestablish. Receipted bills and other evidence of these expenses are required for payment. The total maximum reestablishment payment eligibility is $10,000.

In lieu of all moving payments described above, a business may elect to receive a fixed payment equal to the average annual net earnings of the business. This payment shall not be less than $1,000 nor more than $20,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage; the business is not part of a commercial enterprise having more than three other establishments in the same or similar business that are not being acquired; and the business contributes materially to the income of a displaced owner during the two taxable years prior to the year of the displacement. A business operated at the displacement site solely for the purpose of renting to others is not eligible. Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earnings of the business is to b/e one-half of the net earnings, before taxes during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State may use another two-year period that would be more representative. Average annual net earnings include any compensation paid by the business to the owner, owner's spouse, or dependents during the period. Should a business be in operation less than two years, the owner of the business may still be eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, or certified financial statements, for the tax years in question.

Displaced farms and non-profit organizations are also eligible for actual reasonable moving costs up to 50 miles, actual direct losses of tangible personal property, search costs up to $1,000 and reestablishment expenses up to $10,000 or a fixed payment "in lieu of actual moving expenses of $1,000 to $20,000. The State may determine that a displaced farm may be paid a minimum of $1,000 to a maximum of $20,000, based upon the net income of the farm, provided that the farm has been relocated or the partial acquisition caused a substantial change in the nature of the farm. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive a fixed payment or an "in lieu of" actual moving cost

payment, in the amount of $1,000 to $20,000 based on gross annual revenues less administrative expenses.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms and non-profit organizations is available in the "Relocation Assistance" brochure that will be distributed at the public hearing for this project and be given to displaced persons.

Federal and state laws require that the State Highway Administration shall not proceed with any phase of a project which will cause the relocation of any persons, or proceed with any construction project, until it has furnished satisfactory assurances that the above payments will be provided, and that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means, or that such housing is in place and has been made available to the displaced person.