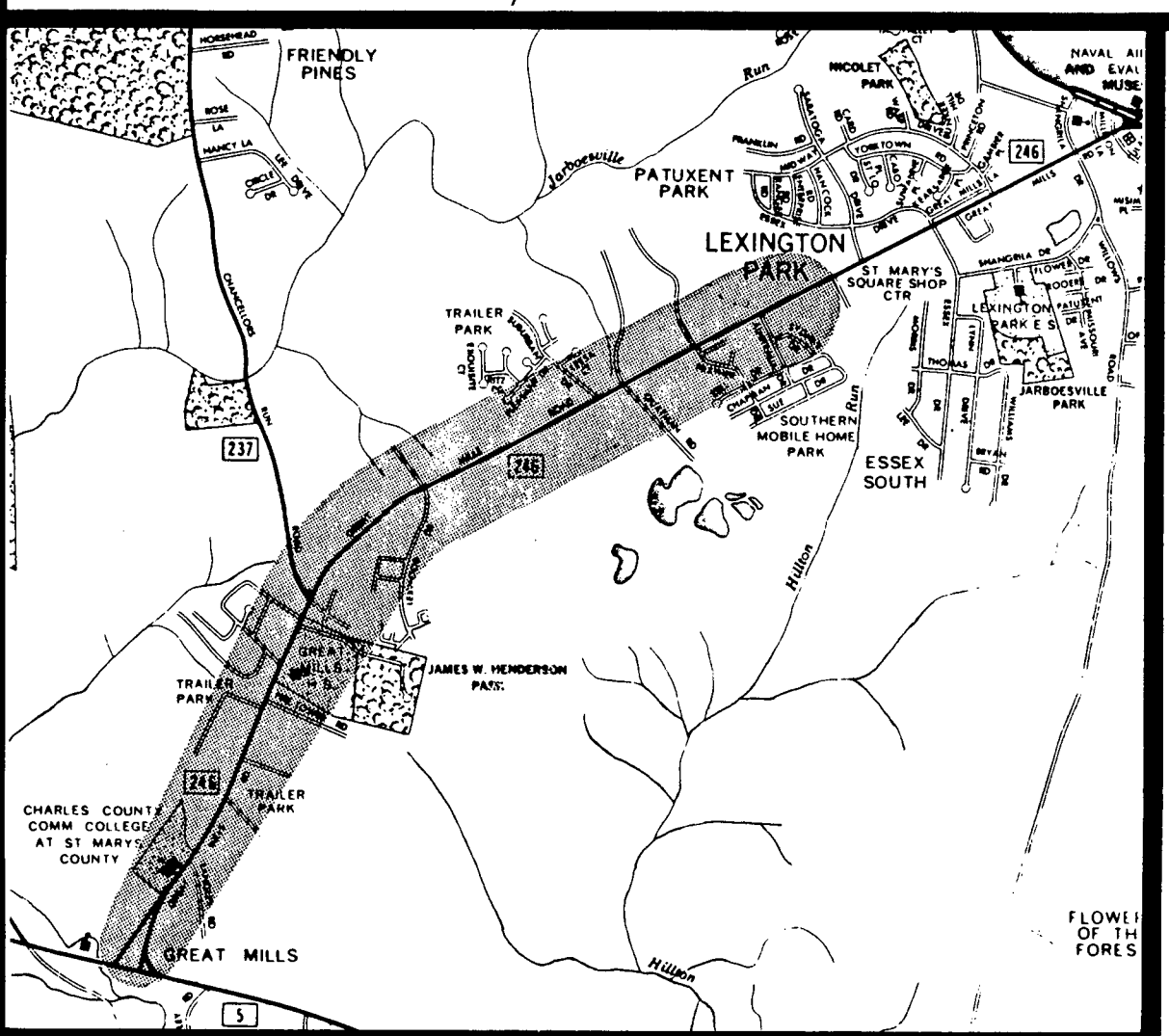
ENVIRONMENTAL ASSESSMENT

CONTRACT NO. SM 751-101-571

MARYLAND ROUTE 246

FROM MARYLAND ROUTE 5
TO WEST OF SARATOGA DRIVE
ST. MARY'S COUNTY, MARYLAND



prepared by:
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Report Number: FHWA MD-EA-88-01-D

FEDERAL HIGHWAY ADMINISTRATION

REGION III

Maryland Route 246
From Maryland Route 5 to 700 Feet West
of Saratoga Drive
St. Mary's County, Maryland

Administrative Action

ENVIRONMENTAL ASSESSMENT

U.S. Department of Transportation
Federal Highway Administration

and

State of Maryland
Department of Transportation
State Highway Administration

Submitted pursuant to 42 U.S.C. 4332 (s) (C), 23 U.S.C. 128 (a), and CEQ Regulations (40 CFR 1500 et seq.)

Hal Kassoff
Administrator

1/26/88
Date

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

1/28/88
Date

by: Emil Elinsky
Federal Highway Administration
Division Administrator

SUMMARY

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SUMMARY

1. Administrative Action

( ) Environmental Impact Statement
(X) Environmental Assessment
( ) Finding of No Significant Impact
( ) Section 4(f) Evaluation

2. Additional Information

Additional information concerning this project may be obtained by contacting:

Mr. Louis H. Ege, Jr.
Deputy Director
Project Development Division
Room 310
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202
Phone: (301) 333-1130
Hours: 8:15 a.m. - 4:15 p.m.

Mr. Edward Terry
District Engineer
Federal Highway Adminstration
The Rotunda - Suite 220
711 West 40th Street
Baltimore, Maryland 21211
Phone: (301) 962-4010
Hours: 7:45 a.m. - 4:15 p.m.

3. Description of Proposed Action

This project proposes upgrading Maryland Route 246 to a five-lane facility from Maryland Route 5 to approximately 700 feet west of Saratoga Drive in St. Mary's County, Maryland. The proposed improvement will consist of two lanes in each direction with a continuous left-turn lane in the center.

Intersection improvements are proposed throughout the project. Several options are proposed for the reconstruction of the Maryland Route 5/Maryland Route 246 and the Maryland Route 237/Maryland Route 246 intersections. Minor intersection improvements will be constructed where necessary.

This project is consistent with state and local plans.

4. Description of Alternates Considered

Four alternates were studied for the proposed improvement of Maryland Route 246. All build alternates will generally follow the centerline of existing Maryland Route 246 from Maryland Route 5 to 700 feet west of Saratoga Drive. The build alternates are differentiated by their typical sections, design speeds, and right-of-way impacts.

a. Alternates Dropped from Consideration

Alternates 3, 4 and 5 were dropped from consideration because of increased right-of-way impacts and displacements.

Alternate 3 (Including Alternate 3 Modified)

Alternate 3 proposed widening Maryland Route 246 to a five-lane open section with 10-foot shoulders along the existing horizontal and vertical alignments, with a design speed of 40 mph. Alternate 3 Modified possessed the same typical section and horizontal alignment as Alternate 3. However, the vertical profile for Alternate 3 Modified included improvements to comply with a 50 mph design speed in accordance with A Policy on Geometric Design of Highways and Streets (PGDHS), 1984. The addition of the shoulders plus safety grading would have required the acquisition of additional right-of-way. Alternate 3 and Alternate 3 Modified were dropped from the detailed studies immediately after the alternates meeting because of the large amount of additional right-of-way and corresponding impacts associated with these improvements and before any detailed environmental studies were undertaken.

Alternate 4

Alternate 4 proposed widening Maryland Route 246 to a five-lane curbed section along the existing horizontal alignment. The vertical profile for this alternate included improvements to sight distances to comply with a 50 mph design speed in accordance with PGDHS (1984). The graded area behind the curb is 14 feet. Alternate 4 was dropped from the detailed studies because it would require additional right-of-way to accommodate the vertical profile changes.

Alternate 5

Alternate 5 proposed widening Maryland Route 246 to a five-lane curbed section along the existing horizontal alignment. The typical cross section for Alternate 5 is the same as for Alternate 2; these alignments are very similar. The major difference between Alternate 5 and Alternate 2 is that Alternate 5 would require a lower grade because at least three vertical hills (curves) did not meet the 40 mph design criteria.

Prior to the completion of detailed studies on 50-scale mapping (1 inch=50 feet), the vertical profile for Alternate 5 included improvements to the existing alignment to meet 40 mph design speed criteria. After

performing the detailed studies, it was found that the existing alignment met the 40 mph criteria. Previously, it was thought that the existing alignment did not meet the 40 mph criteria. Therefore, Alternate 5 exhibited only marginal improvements over Alternate 2 and was subsequently dropped.

b. Alternates Retained for Detailed Studies

Alternate 1 (No-Build Alternate)

Alternate 1, the No-Build Alternate, would require no expenditure of funds other than for routine maintenance or short-term improvements to the existing intersection.

Alternate 2 (Preferred Alternate)

Alternate 2 proposes widening Maryland Route 246 to a five-lane curbed section along the existing horizontal and vertical alignments. The major portion of the proposed 65-foot roadway would be constructed within the existing 80-foot right-of-way. The graded area behind the curb is 7 feet. This alternate satisfies a 40 mph design speed. Alternate 2 has been retained for further detailed study.

5. Summary of Impacts

Table 1 presents a summary comparison of the environmental impacts associated with the No-Build and the Preferred Build alternates for the proposed widening of Maryland Route 246. Specific items analyzed for each alternate are either socio-economic or natural environmental impacts. Costs and total right-of-way required for each alternate are currently being developed. The various impacts are discussed in greater detail in Section IV, Environmental Impacts.

TABLE 1

Comparison of Alternates

	Alternate No. 1 (No-Build)	Alternate No. 2 (Preferred)
Socioeconomic Impacts		
1. Residential displacements	0	2*
2. Minorities relocated	0	1
3. Business displacements	0	1
4. Total properties affected	0	96**
5. Historic sites affected	0	0
6. Archeological sites affected	0	0
7. Public recreation lands affected	0	0
8. Effect on residential access	None	None
9. Consistent with land use plans	No	Yes
Natural Environment Impacts		
1. Loss of natural habitat (Woodland acres)	0	1.68
2. Effect on threatened or endangered species	None	None
3. Stream crossings	7	7
4. Wetland areas affected (Wetland acres)	0	0.60
5. 100-year floodplains affected (acreage)	0	0
6. Prime farmland soils affected (acreage)	0	0
7. Air quality impacts (sites exceeding S/NAAQS)	0	0
8. Noise sensitive areas (NSAs exceeding Federal Noise Abatement Criteria or experiencing a 10 dBA or greater increase)	0	7
Cost (1988 dollars in thousands)	0	$7,400
Total		

*One trailer will be relocated under Alternate 2. One trailer will be relocated with Option 3 of the 237/246 intersection improvement.

**Additional properties will be affected at the Maryland Route 237 Interchange as follows: Option 1 - 9; Option 2 - 10; Option 3 - 8.

The following Environmental Assessment Form is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. Its use is in keeping with the provisions of 1500.4 (k) and 1506.2 and .6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State, and Local procedures be integrated into a single process.

The checklist identifies specific areas of the natural and social-economic environment which have been considered while preparing this environmental assessment. The reviewer can refer to the appropriate sections of the document, as indicated in the "Comment" column of the form, of the natural or social-economic environment within the proposed project area. It will also highlight any potential impacts, beneficial or adverse, that the action may incur. The "No" column indicates that during the scoping and early coordination processes, that specific area of the environment was not identified to be within the project area or would not be impacted by the proposed action.

ENVIRONMENTAL ASSESSMENT FORM

	Yes	No	Comments
A. Land Use Considerations			
1. Will the action be within the 100-year floodplain?	X		Secs. I.C.5 and IV.E.2
2. Will the action require a permit for construction or alteration within the 50-year floodplain?	X		Secs. I.C.5 and IV.E.2
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	X		Secs. I.C.5 and IV.E.3
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?		X	
5. Will the action occur on slopes exceeding 15 percent?	X		Sec. IV.E.2
6. Will the action require a grading plan or a sediment control permit?	X		Sec. IV.E.2
7. Will the action require a mining permit for deep or surface mining?		X	
8. Will the action require a permit for drilling a gas or an oil well?		X	
9. Will the action require a permit for airport construction?		X	
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?		X	
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river, or wildland?		X	
12. Will the action affect the use of natural or man-made features that are unique to the county, state or nation?	X		Sec. I.C.1

	Yes	No	Comments
13. Will the action affect the use of an archeological or historical site or structure?	____	X	Sec. I.E.8
B. Water Use Considerations			
14. Will the action require a permit for the change of the course, current, or cross section of a stream or other body of water?	____	X	____
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction?	____	X	____
16. Will the action change the overland flow of stormwater or reduce the absorption capacity of the ground?	X	____	Sec. IV.E.2
17. Will the action require a permit for the drilling of a water well?	____	X	____
18. Will the action require a permit for water appropriation?	____	X	____
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	X	____	Sec. IV.E.2
20. Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	____	X	____
21. Will the action result in any discharge into surface or sub-surface water?	X	____	Sec. IV.E.2
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	____	X	Sec. IV.E.2
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	____	X	____

	Yes	No	Comments
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	____	X	____
25. Will the action generate additional noise which differs in character or level from present conditions?	____	X	____
26. Will the action preclude future use of related air space?	____	X	____
27. Will the action generate any radiological, electrical, magnetic, or light influences?	____	X	____
D. Plants and Animals			
28. Will the action cause the disturbance, reduction, or loss of any rare, unique or valuable plant or animal?	____	X	____
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	____	X	Sec. IV.E.3
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	____	X	____
E. Socio-economic			
31. Will the action result in a preemption or division of properties or impair their economic use?	X	____	Sec. IV.A.1 and IV.B.1
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?	X	____	Sec. IV.A.1 and IV.B.1
33. Will the action alter land values?	X	____	Sec. I.C.3 and IV.C
34. Will the action affect traffic flow and volume?	X	____	Sec. IV.D & E

		Yes	No	Comments
35.	Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	____	X	____
36.	Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	____	X	____
37.	Is the action in accord with federal, state, regional and local comprehensive or functional plans, including zoning?	X	____	Sec. II.B
38.	Will the action affect the employment opportunities for persons in the area?	X	____	Sec. IV.B.1-3
39.	Will the action affect the ability of the area to attract new sources of tax revenue?	X	____	Sec. IV.B.1-3
40.	Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	____	____	Secs. IV.B.1-3
41.	Will the action affect the ability of the area to attract tourism?	____	X	____
F.	Other Considerations			
42.	Could the action endanger the public health, safety or welfare?	____	X	____
43.	Could the action be eliminated without deleterious effects to the public health, safety, welfare, or the natural environment?	____	X	Secs. II & IV
44.	Will the action be of statewide significance?	____	X	____
45.	Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action, could result in a cumulative or synergistic impact on the public health, safety, welfare or environment?	X	____	Sec. IV.A

	Yes	No	Comments
46. Will the action require additional power generation or transmission capacity?	____	X	_____
47. This agency will develop a complete environmental effects report on the proposed action.	X	____	_____

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I. DESCRIPTION OF PROPOSED ACTION

A. Project Location

The Maryland Route 246 study area is located in the eastern portion of St. Mary's County, Maryland, on the southernmost tip of Maryland's Western Shore (see Figure 1). The roadway study corridor is approximately 1000 feet wide and extends easterly from its intersection with Maryland Route 5 in Great Mills. The corridor terminates approximately 700 feet west of Saratoga Drive in Lexington Park (see Figure 2).

B. Project Description

The study area corridor is experiencing increased congestion as a result of residential and commercial development throughout the corridor. This condition is expected to worsen as development continues.

The project involves upgrading Maryland Route 246 to a five-lane facility (two lanes in each direction with a continuous left turn lane). Improvements to various intersections will also be a part of the project. See the Alternates Mapping, Figures 3a-i. Typical sections are shown on Figure 4.

C. Description of Existing Environment

1. Social Environment

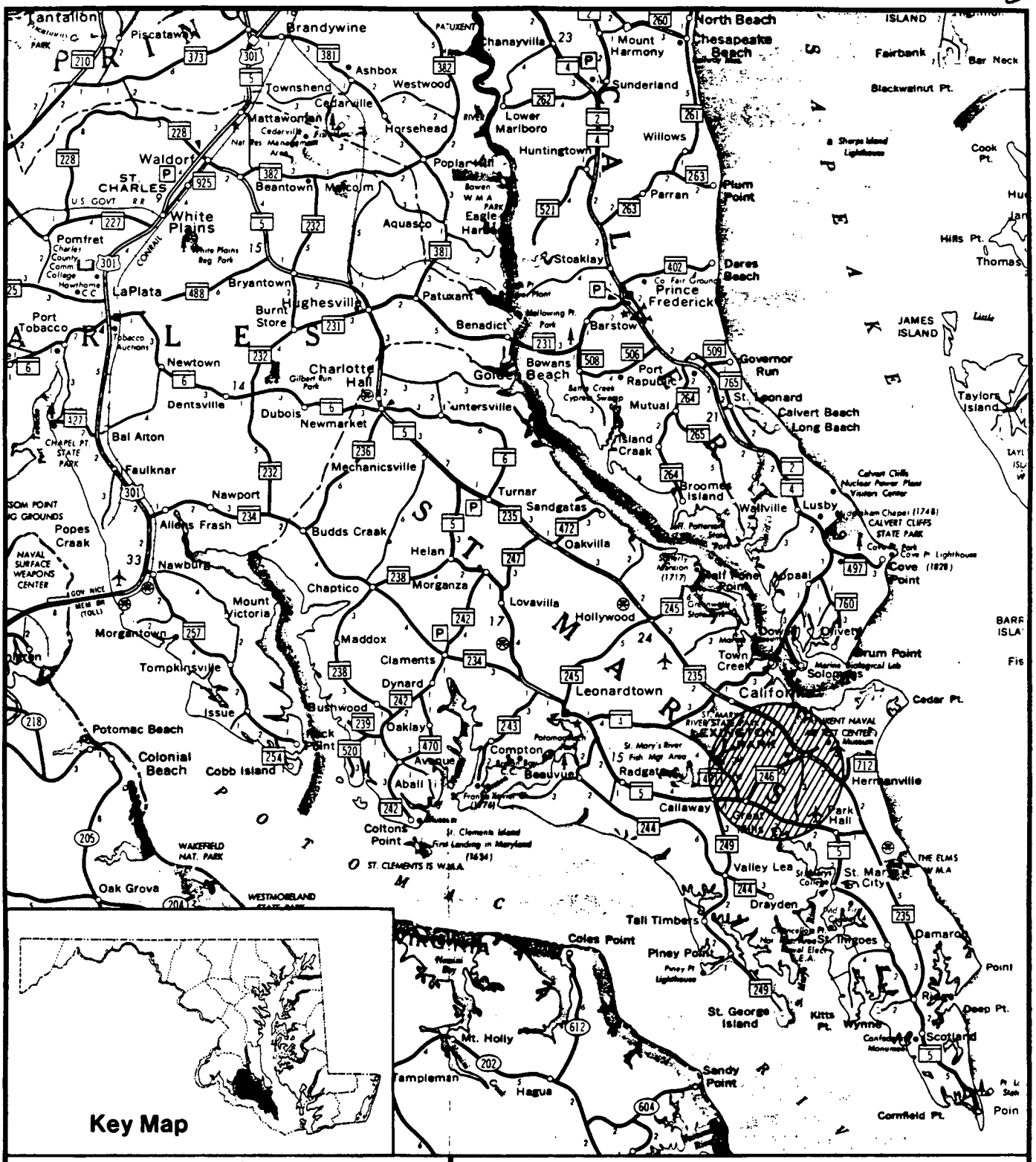
a. Population Characteristics

St Mary's County has experienced an average annual rate of population growth, since 1980, of 2.0 percent. This means the 1986 estimated population is 67,450. The Maryland Department of State Planning predicts that the county's population will increase to 76,900 by the year 1995. This represents an 18.6 percent growth rate for the county compared to a 7.9 percent rate for the State as a whole.

An analysis of 1980 Census data indicated that 75.9 percent of the population in the Lexington Park area was white, 18.7 percent was black, 3.4 percent was of Oriental origin, 0.4 percent was American Indian, and 1.6 percent was classified as other.

The 1980 Census data shows the median age for the Lexington Park area is 23. The percent of the population in the area that is under 18 is 34.6 percent; 18-64 is 63.5 percent; and 65 and over is 1.9 percent.

The Maryland Department of Economic and Community Development's 1987 population projections is reflected in Table 2. The largest population age



NORTH

0 6 12 MILES

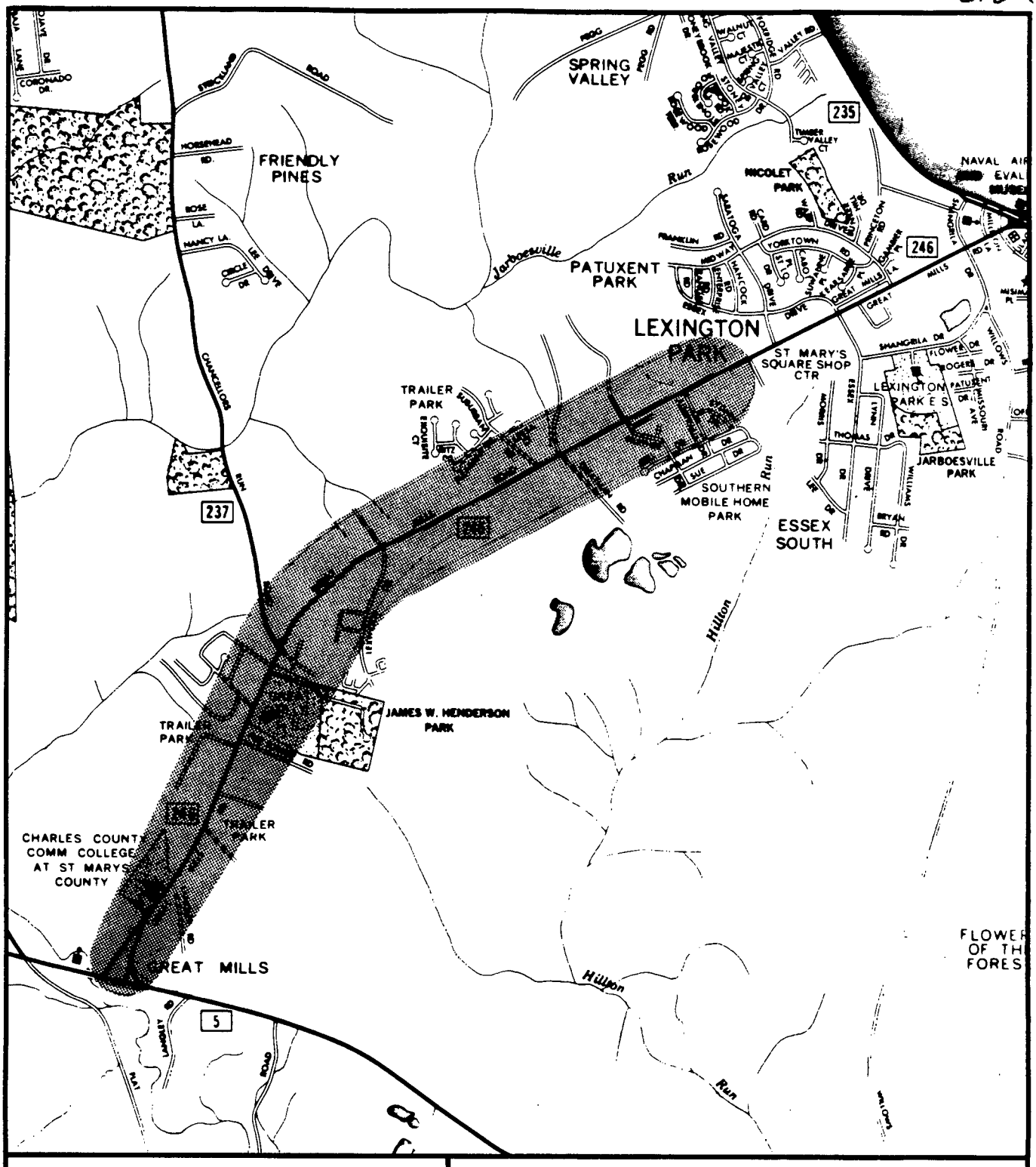
Scale

Maryland Route 246

Maryland Route 5 to 700′ West of Saratoga Drive

PROJECT LOCATION

Figure 1



NORTH

0 2000 4000 FEET

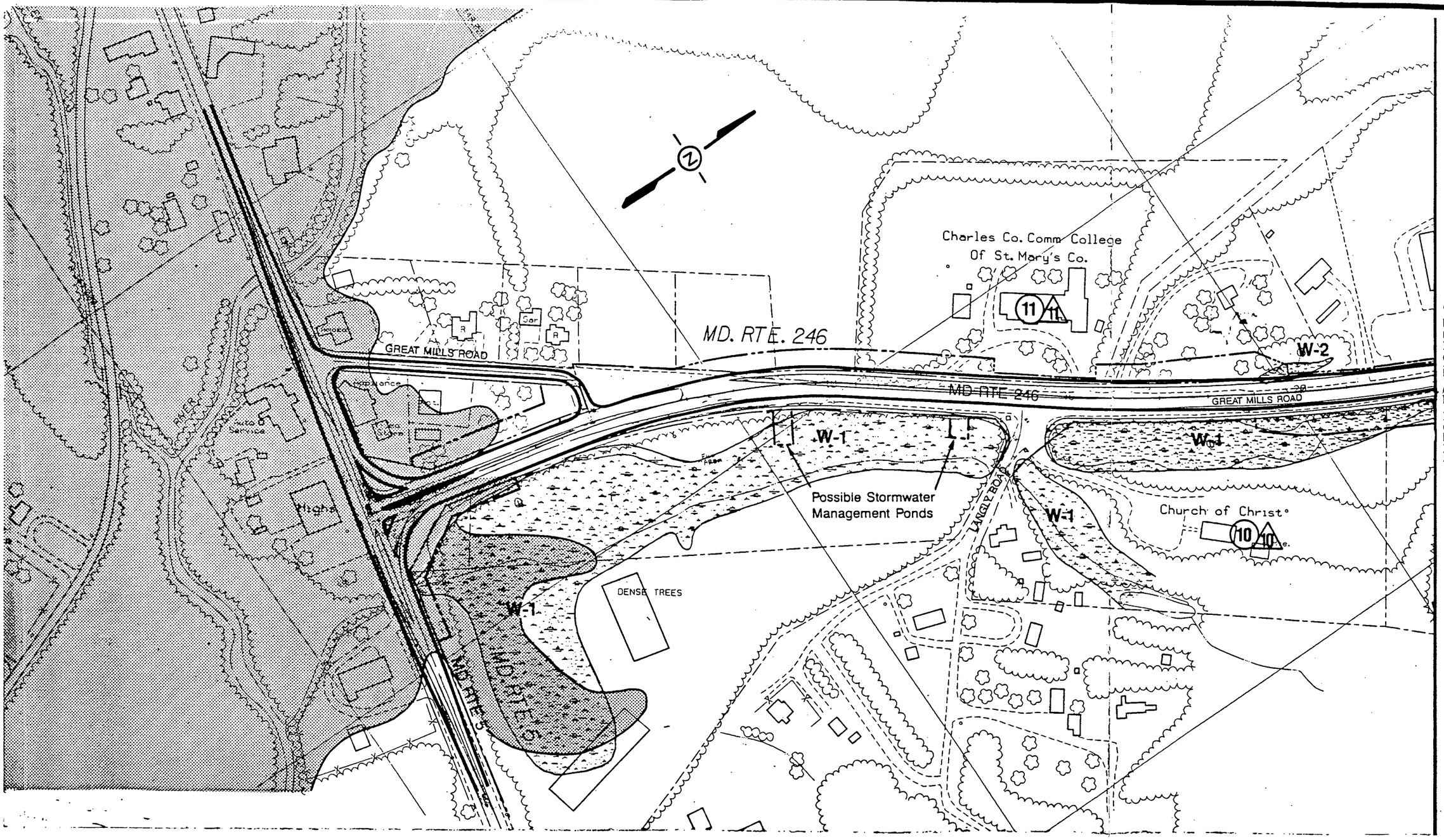
Scale

Maryland Route 246

Maryland Route 5 to 700' West of Saratoga Drive

STUDY AREA

Figure 2



LEGEND

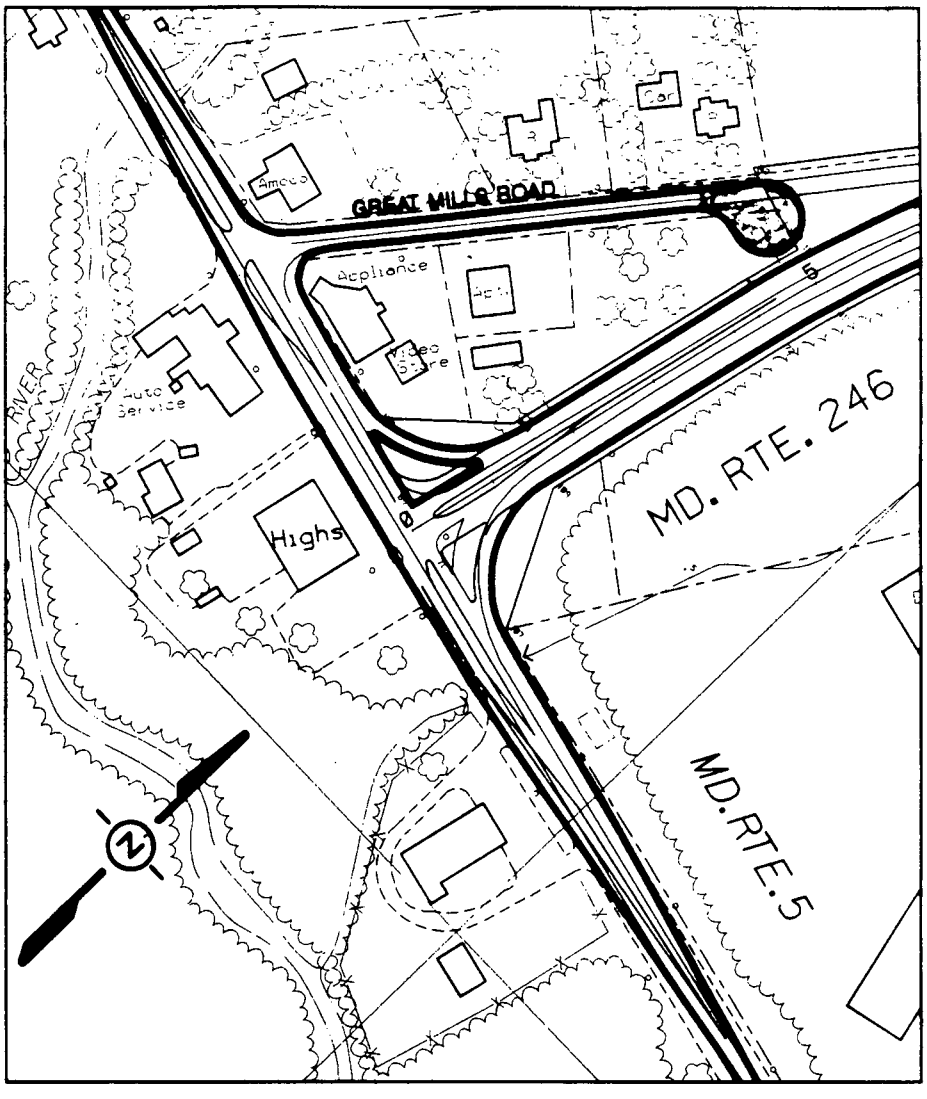
- Existing R/W
- Proposed R/W
- Proposed Roadway
- (1) Air Receptors
- 100 Year Floodplain
- Wetlands
- (R) Relocations
- (1) Noise Receptors

MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

ALTERNATE 2
OPTION 1

Scale in Feet
0 100 200

FIGURE 3a

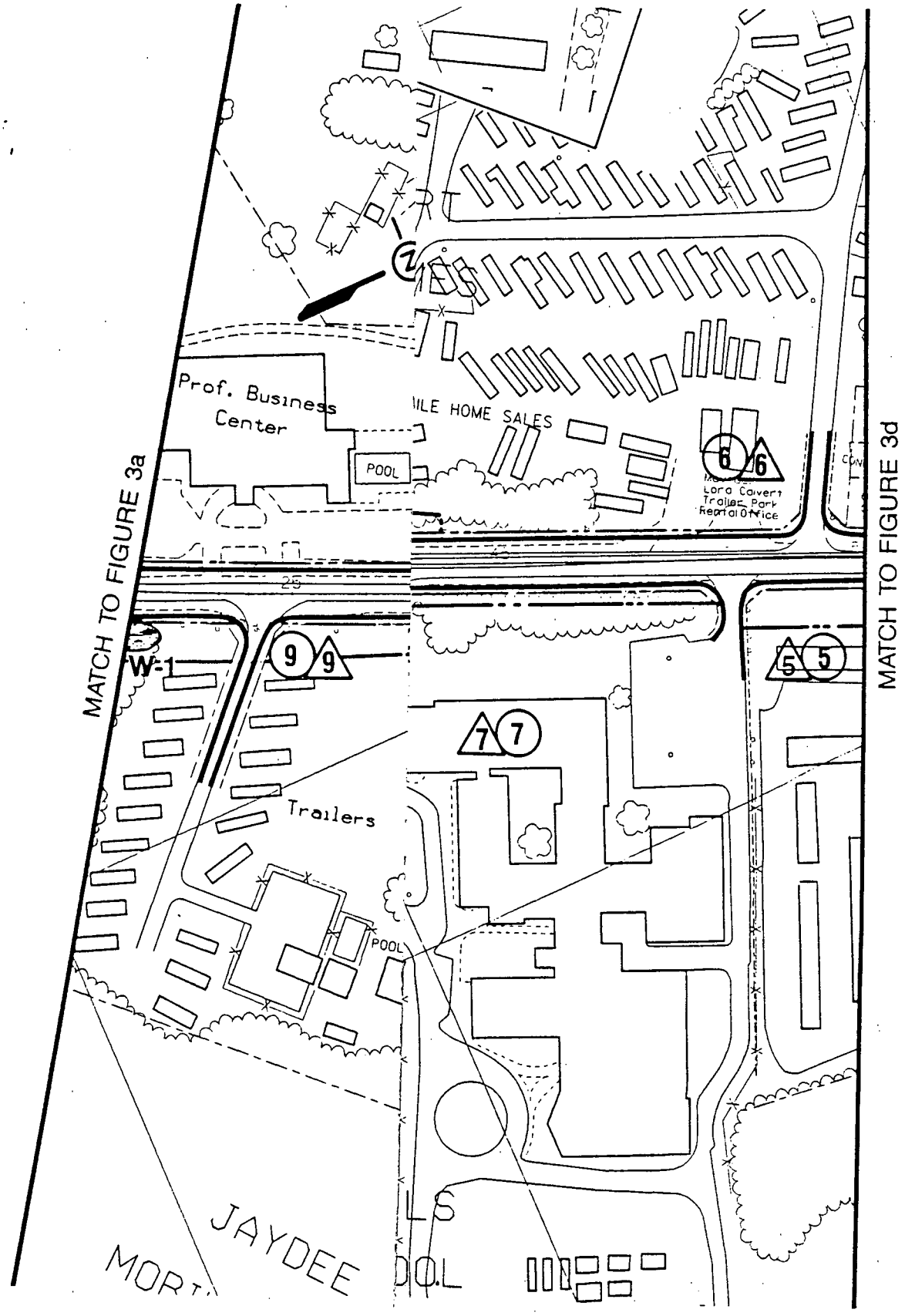


MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

INTERSECTION OF MARYLAND ROUTE 246
AT MARYLAND ROUTE 5
ALTERNATE 2
OPTION 2

Scale in Feet
0 100 200

FIGURE 3b

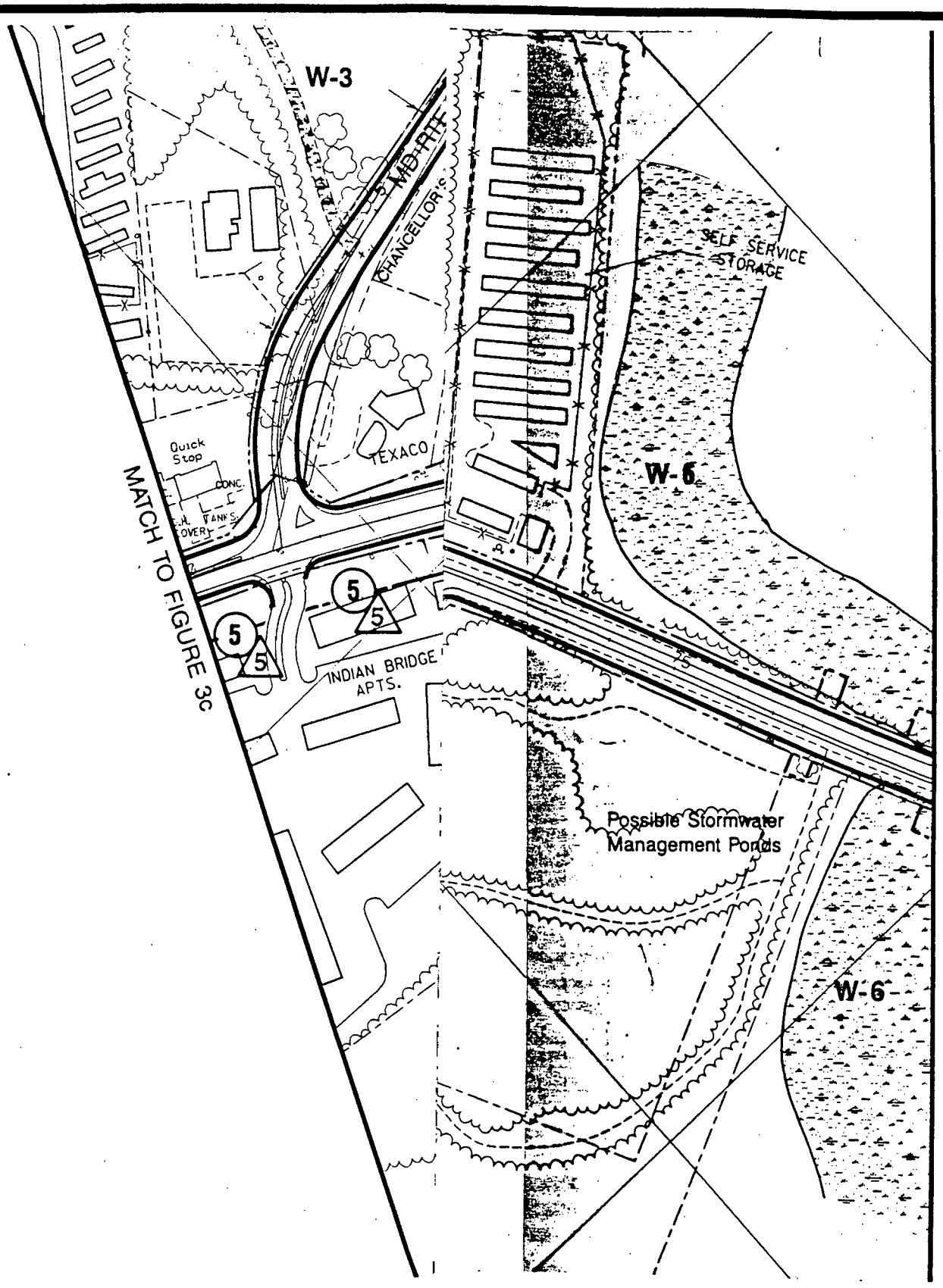


MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

ALTERNATE 2

Scale in Feet
0 100 200

FIGURE 3c



MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

ALTERNATE 2

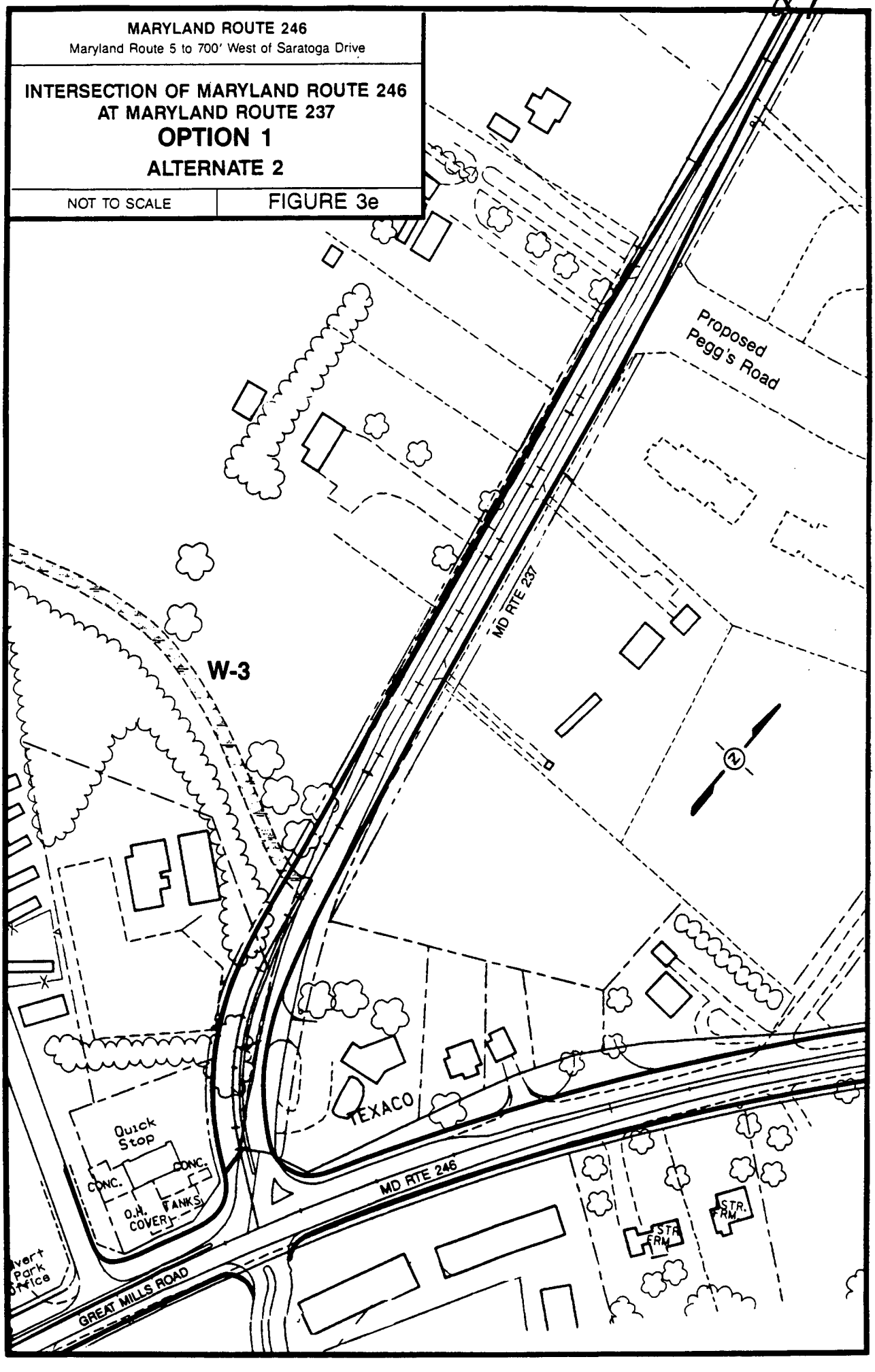
Scale in Feet
0 100 200

FIGURE 3d

MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

INTERSECTION OF MARYLAND ROUTE 246 AT MARYLAND ROUTE 237
OPTION 1
ALTERNATE 2

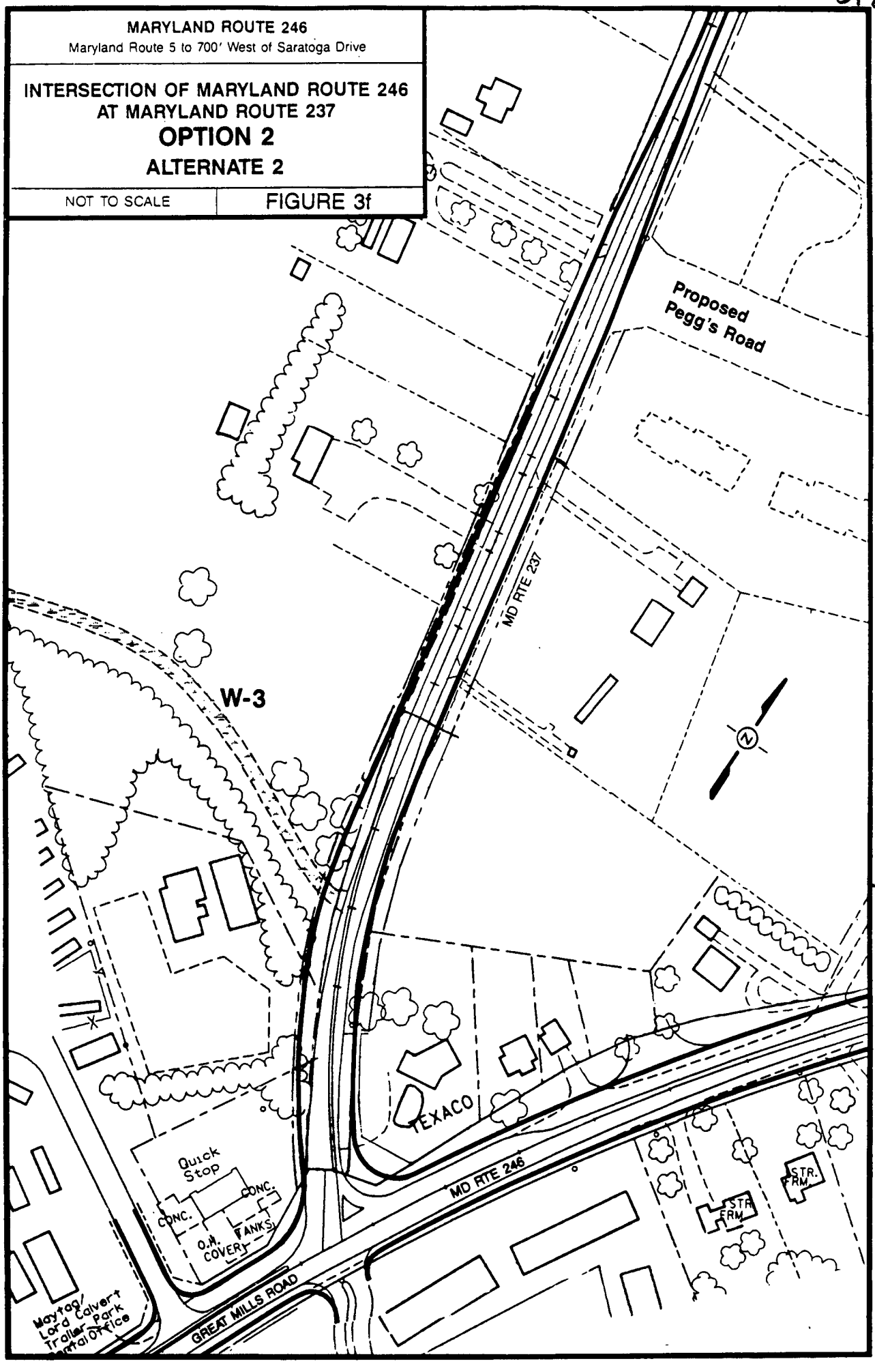
NOT TO SCALE | FIGURE 3e



MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

INTERSECTION OF MARYLAND ROUTE 246
AT MARYLAND ROUTE 237
OPTION 2
ALTERNATE 2

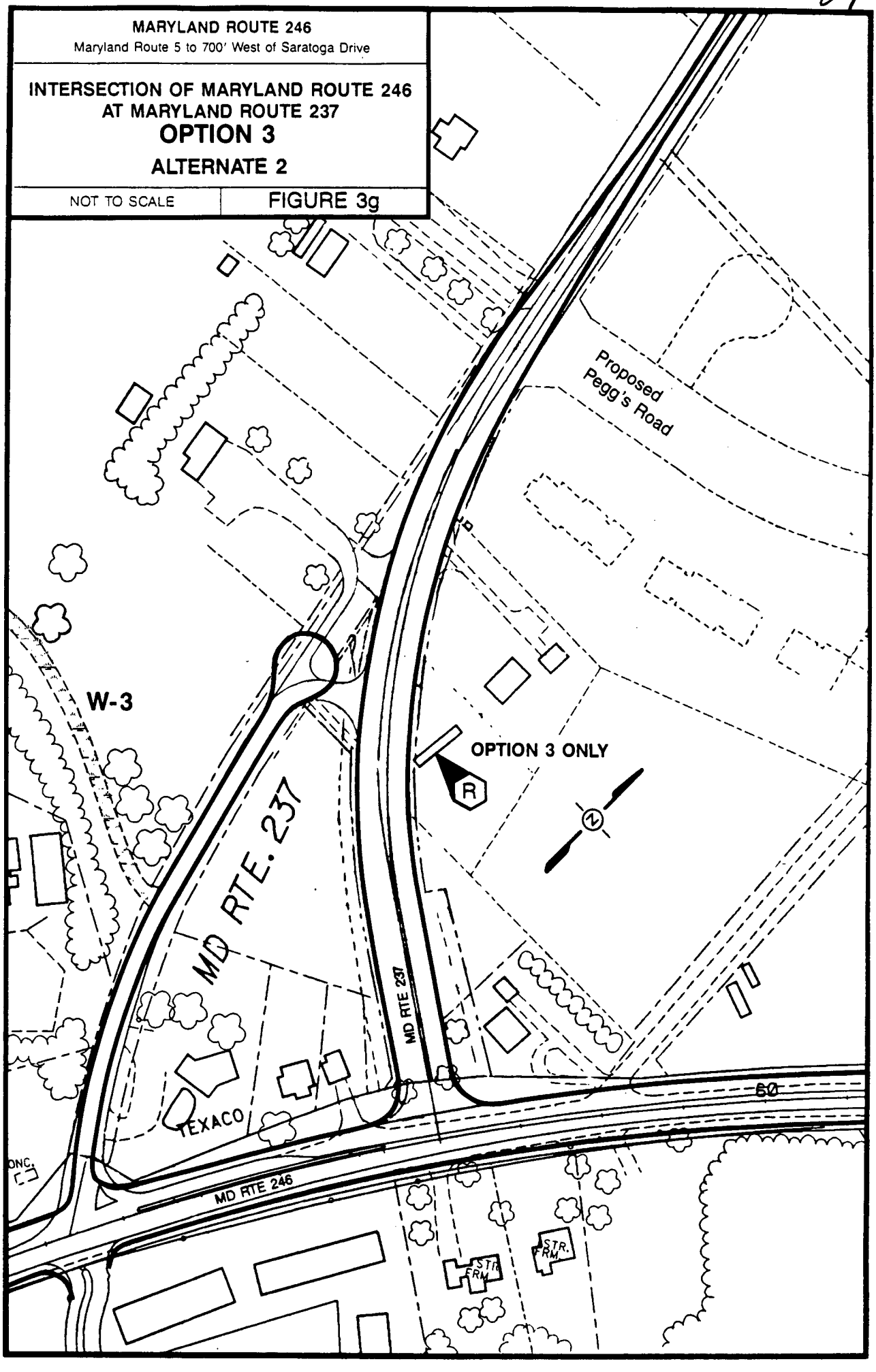
NOT TO SCALE | FIGURE 3f

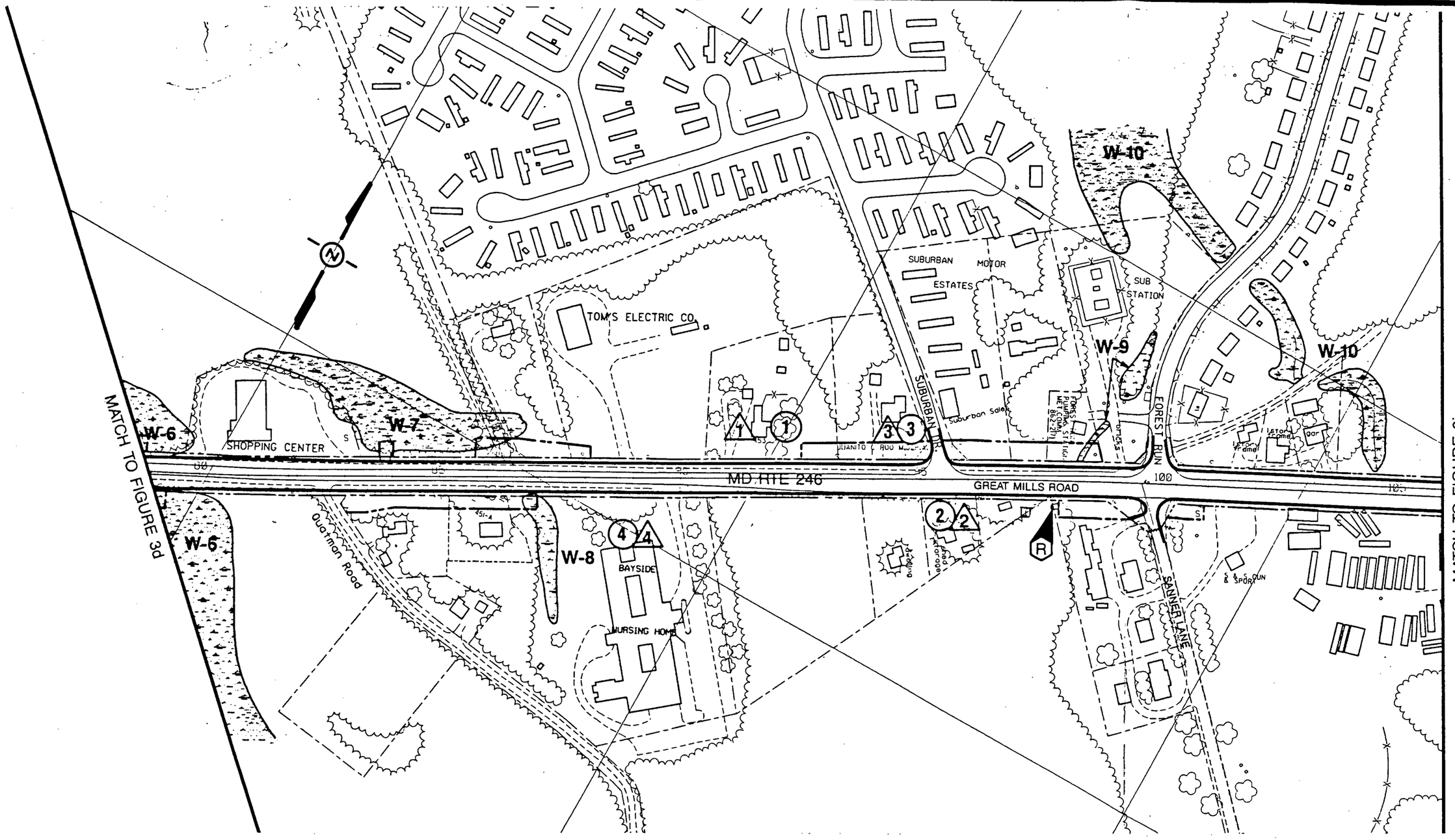


MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

INTERSECTION OF MARYLAND ROUTE 246
AT MARYLAND ROUTE 237
OPTION 3
ALTERNATE 2

NOT TO SCALE | FIGURE 3g





LEGEND

- Existing R/W
- Proposed R/W
- Proposed Roadway
- (1) Air Receptors
- 100 Year Floodplain
- Wetlands
- (R) Relocations
- 1 Noise Receptors

MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

ALTERNATE 2

Scale in Feet 0 100 200

FIGURE 3h

MATCH TO FIGURE 3h

BENOIX CORP.
TANK
W-11
IMPACTED STRUCTURE
MAN. TECH SERVICE CORP.
RTE. 246
PACIFIC DR.
SPERRY
TANKS
84 LUMBER
FACEB & CO.
7 ELEVEN
The Quality Shop
Restaurant
SHOPPING CENTER
Taylor Gas
Stonman of Lexington Park
ALDRIDGE FORD
MECH. SHOP
GREAT MILLS ROAD
MD RTE 246
110
115
120
W-12
PIZZA HUT
KENTUCKY FRIED CHICKEN
WENDY'S
ALDRIDGE FORD
SARATOGA DRIVE
PRATHER DR
Southern Sales
SUB. TIRE CORP.
FITNESS ARCHITECTS
GOODYEAR superbon tire
Barnes Books
Electronic Co.
Don Conner Auto Sales
ROY ROGERS
LIMIT OF STUDY
AUSTRALIA DRIVE
SYDNEY DRIVE
St. Mary's Square

LEGEND

- Existing R/W
- Proposed R/W
- Proposed Roadway
- Air Receptors
- 100 Year Floodplain
- Wetlands
- Relocations
- Noise Receptors

MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

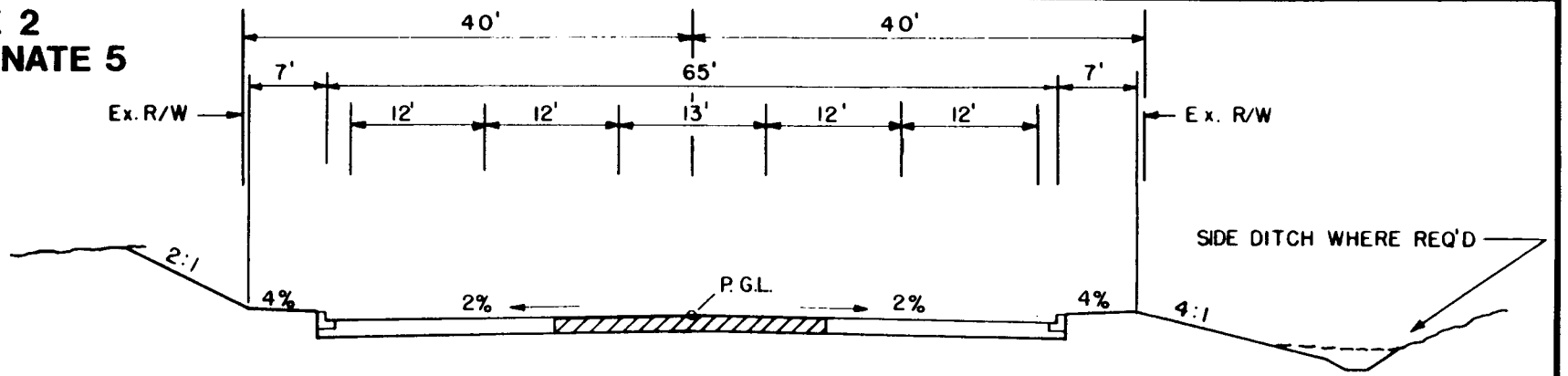
ALTERNATE 2

Scale in Feet
0 100 200

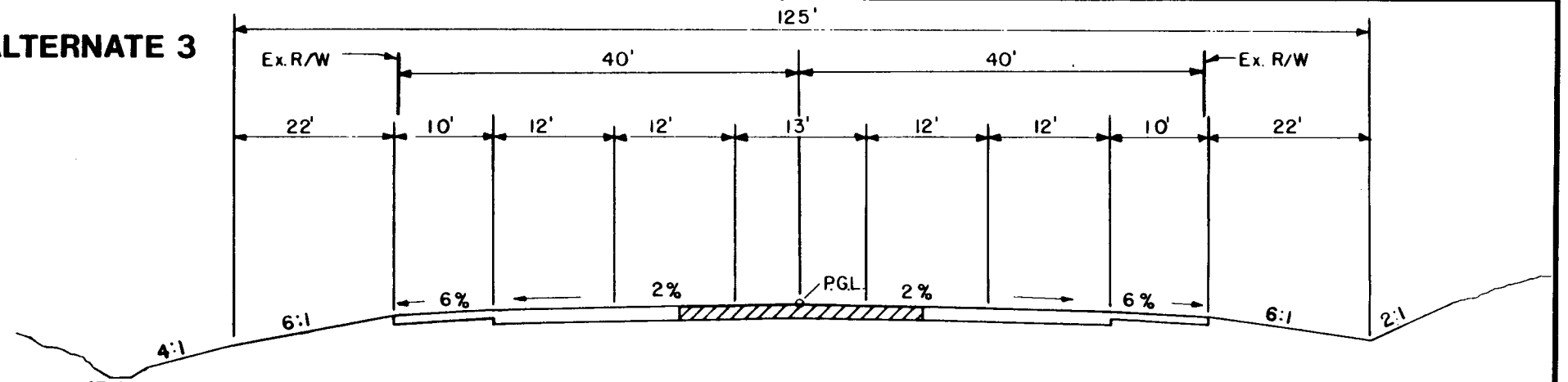
FIGURE 3i

PROPOSED TYPICAL SECTIONS
MARYLAND RTE 246

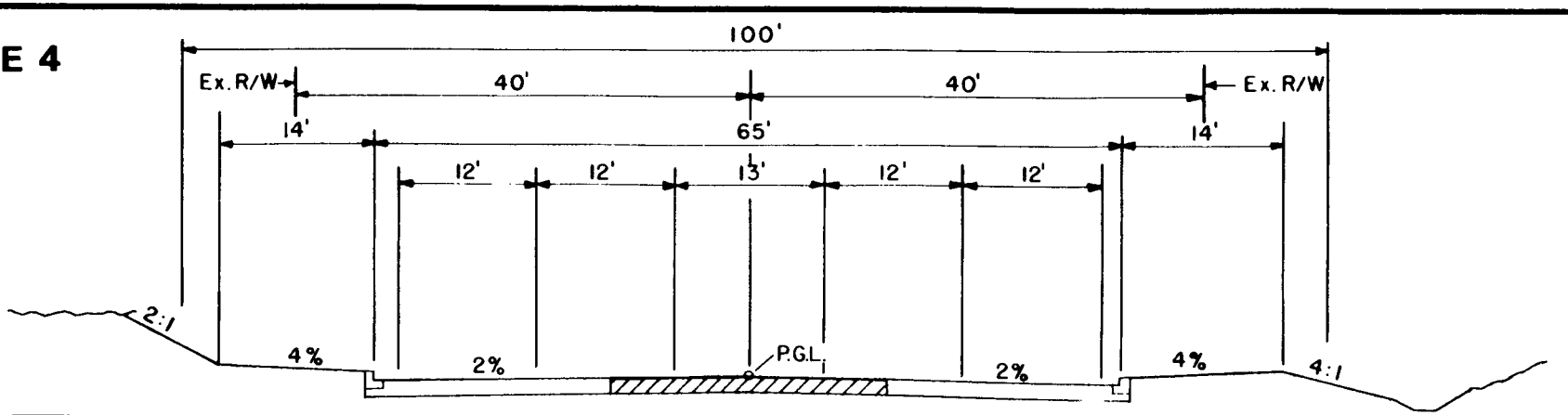
ALTERNATE 2 AND ALTERNATE 5



ALTERNATE 3



ALTERNATE 4



*Note: The dimensions shown are for the purpose of determining cost estimates and environmental impacts, and are subject to change

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Figure 4

category is 20-44, and this group is evenly distributed between male and female. The population characteristics of St. Mary's County are similar to that for the state; however, the median age for the county is slightly younger (26 vs. 30), and the county has a lower percentage of college-educated residents.

TABLE 2

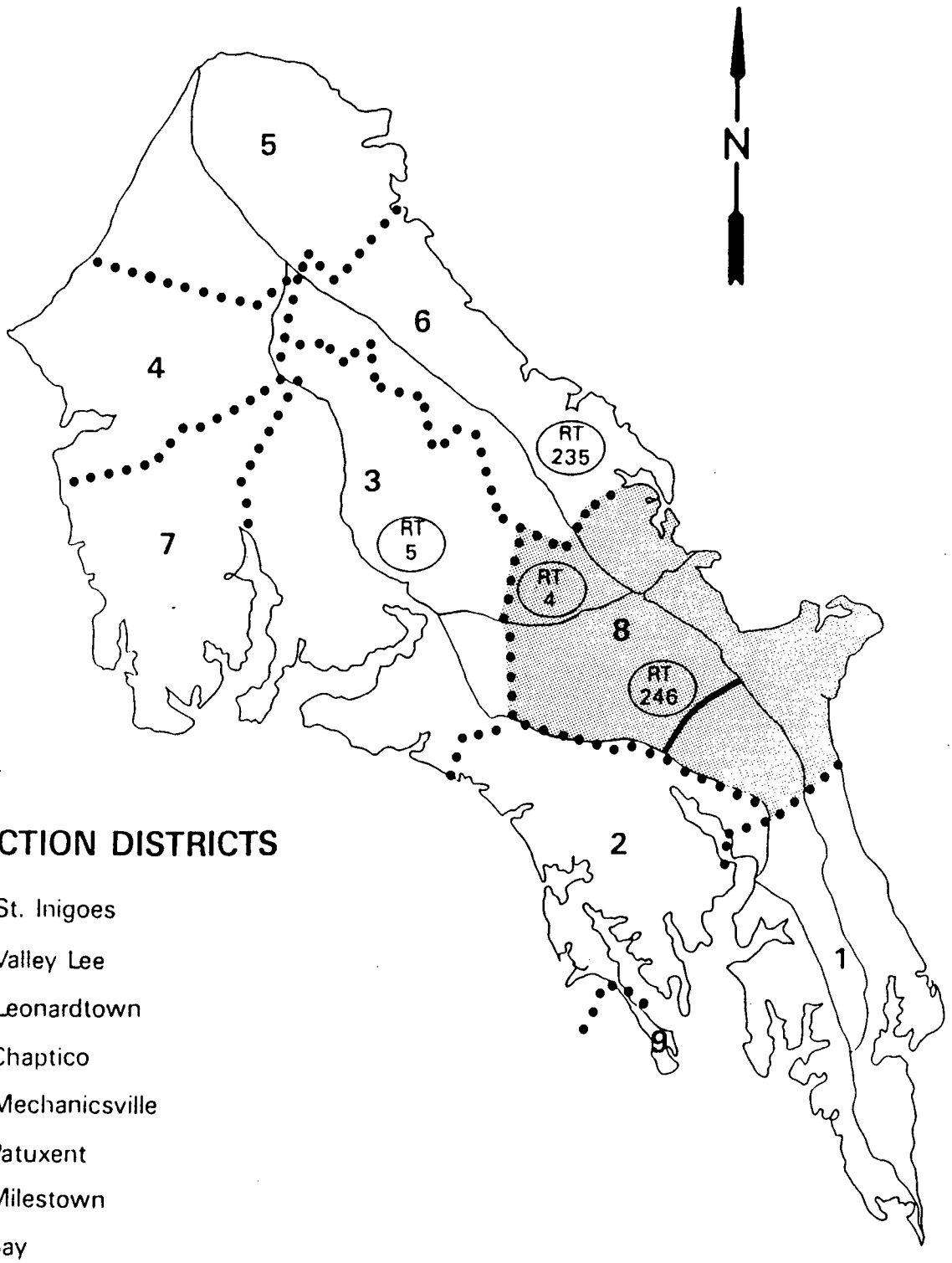
1987 Projected Population Distribution

Age	Male Number	Male %	Female Number	Female %	Total Number	Total %
Under 5	2,890	8.6	2,765	8.3	5,655	8.4
5-19	7,928	23.6	7,664	22.9	15,592	23.3
20-44	14,450	43.0	13,921	41.7	28,371	42.4
45-64	5,965	17.8	5,813	17.4	11,778	17.6
65 and over	2,351	7.0	3,242	9.7	5,593	8.3
Total	33,584	100.0	33,405	100.0	66,989	100.0

The study area is located within the county's eighth election district* (see Figure 5). The eighth district is the county's most populous with a 1985 estimated population of 23,245. This is 35.2 percent of the total county population. The next largest election district is District 6 with 8,802 or 13.4 percent of the county population. The eighth district also has the second highest average annual percentage of population increase (3.8). This increase is expected to continue over the next 5 years with a projected 1990 population of 28,010 (see Table 3).

The historical growth pattern of the eighth election district and in particular, the Lexington Park area, is similar to the growth pattern for the county as a whole. Population increases and commercial growth are direct results of an increase in manpower loading and operations at Patuxent Naval Air Station. Consequently, the land development pattern along the study area corridor has been for new housing and businesses to be built close to the base's main gate. This has resulted in an increase in traffic

*For data purposes, the study area is essentially Election District 8. In instances where data is available through the 1980 Census for the community of Lexington Park, the more detailed data will be used and reference. However, St. Mary's County is not divided into Census Tracts and therefore data is not available at that level.



ELECTION DISTRICTS

1. St. Inigoes
2. Valley Lee
3. Leonardtown
4. Chaptico
5. Mechanicsville
6. Patuxent
7. Milestown
8. Bay
9. St. George Island

ST. MARY'S COUNTY—MARYLAND

Figure 5

congestion and complexity of traffic flow at the northeast end of Maryland Route 246.

The study area is comprised of older and newer residential developments as well as rural, sparsely populated single-family homes. The area is also heavily populated with mobile home communities. Estimates show that there are seven mobile home communities, five apartment complexes, and two single-family home communities in the project area. The neighborhoods, which are mostly rental housing, are representative of the transient military population. Within the study area there are two communities which serve the elderly. These are Joe Baker Village, a rental community for the elderly, and Bayside Nursing Home. There are also two communities where rental rate is determined by income. However, the growth in the area in recent years of the high-technology consultant industry is bringing a more stable population into the area and has contributed to the proposed development of two new mixed-type residential communities. In 1986, the county issued building permits for 205 dwelling units in Election District 8, more than in any other district. In fact, District 8 has had more dwelling units constructed than any other district every year since 1980.

TABLE 3

Population Report By Election District

Year	Election District 8	St. Mary's County
1980	20562	59895
1985	23245	65853
1986	24128	67448
1987	25054	69098
1988	25997	70805
1989	26985	72569
1990	23010	74390

Average Annual % Population Increase

Election District 8	St. Mary's County
3.8	2

Source: St. Mary's County Population Report, January 1, 1987
St. Mary's County Office of Planning and Zoning

b. Community Facilities and Services

Contained in the project area are the following services and facilities:

Schools - Great Mills High School
Charles County Community College
at St. Mary's County

Churches - Church of Christ

Parks and Recreation Areas - James W. Henderson Park

These facilities are shown on the Alternates Mapping, with the exception of the park, which is shown on the Existing Land Use map.

Other facilities and services are located outside of the study area, but are available to local residents. The Bay District Volunteer Fire Department near Maryland Route 135 provides fire protection and ambulance service. Police protection is provided by the St. Mary's County Sheriff's Department and the Maryland State Police. The Sheriff's Department is headquartered in Leonardtown, the County Seat, and the State Police are barracked in Waldorf, Charles County.

The St. Mary's County Public Library is located in Leonardtown. The closest hospital is St. Mary's Hospital in Leonardtown. There is also a public health center in the Lexington Park area; however, it is not in the study area.

2. Economic Environment

The location of the Naval Air Station, deep in the heart of the county toward its southern tip, has had implications for the growth and direction of commerce, traffic, housing development, and water and sewer facilities. A glance at recent population statistics reveals a pattern of intense population growth in Election Districts 5, 6, and 8, along Maryland Route 235 to the Naval Station. The county's population, as a whole, grew by more than 26 percent over the years between 1970 and 1980. This growth rate is greater than the rate for the State which was 7.5 percent for the same period.

The county's growth in population has been sustained by a healthy county economy. Between 1981 and 1984 the number of people employed, both full-time and part-time, in the county increased from 20,494 to 24,947, an increase of nearly 4,500 jobs.*

A large portion of the growth in St. Mary's County in recent years is a direct result of the growth within the defense industry. The principal contributors to this are the naval facilities located at Patuxent River and at Webster Field in St. Inigoes. Today, of approximately 27,000 jobs held by people who live in St. Mary's County, nearly 50 percent are held by employees providing services associated with the defense industry. Because of the relative isolation of the facilities at Patuxent River and Webster Field, it has been necessary over the years for these employees to become domiciled in St. Mary's County rather than to simply commute into the county from other political subdivisions. This is significantly different from the other Washington-Baltimore area counties (see Table 4).

TABLE 4

Percentage Of Work Force Employed
In County Of Residence

St. Mary's	73.8%
Charles	42.9%
Calvert	39.7%
Montgomery	54.3%
Prince George's	38.7%
Anne Arundel	52.4%
Howard	31.2%
Carroll	50.7%
Baltimore County	40.9%
Harford	54.0%
Frederick	59.9%

Source: U.S. Department of Commerce 1980 Census as cited in "Economic Overview of St. Mary's County Yesterday, Today and Tomorrow," by Joseph Mitchell

a. Employment Characteristics

St. Mary's County has a strong local economy with the majority (nearly 74 percent) of the county's resident work force employed within the county. The county also has a 3.2 percent average unemployment rate, lower than the state's 3.7 percent average rate. However, the 1980 unemployment rate of 8.8 percent for Lexington Park was considerably higher than the state's

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*Source: Economic Profile of St. Mary's County, Bureau of Economic Analysis

6.5 percent average rate. This is believed to have improved as a result of new growth in the area since 1980.

1984 statistics from the Maryland Department of Employment and Training shows the county employment to be primarily in public administration, retail and wholesale trade, and professional services (see Table 5).

TABLE 5

Civilian Employment By Industry*

	Employment	Percentage
Federal government	3,447	22.0
State government	508	3.2
Local government	2,246	14.4
Construction	1,034	6.6
Manufacturing		
Durable goods	276	1.8
Nondurable goods	91	0.6
Transportation, Communication, Utilities	630	4.0
Wholesale Trade	739	4.7
Retail Trade	2,960	18.9
Finance, Insurance and Real Estate	466	3.0
Services and Other	3,253	20.8
Total	15,560	100.0

* Does not include military personnel

Military personnel at the Patuxent Naval Complex are not reflected in the figures in Table 4. Employment at the complex is shown in Table 6. The increase in manpower since 1980 is also shown. The largest percentage of growth in this period has been in contractor manpower.

TABLE 6

Patuxent Naval Complex

Manpower Levels

Year	Total	Military	Civilian	Contractor
1986	12,213	3,475	3,812	4,926
1985	11,413	3,573	3,850	3,990
1984	10,660	3,792	3,786	3,082
1983	9,825	3,400	3,750	2,675
1982	9,825	3,375	3,600	2,850
1981	9,900	3,425	3,725	2,750
1980	8,850	3,450	3,450	1,950

The 1985 Median Effective Buying Income* for the county was $28,311, which is very similar to the Statewide Median of $29,105 (Sales and Marketing Management Magazine - Survey of Buying Power, 1986). The 1985 figure is not available for the Lexington Park area. However, the 1980 median household income was $14,449.00.

b. Commercial and Industrial Facilities

The study area is heavily influenced by the presence of the Patuxent Naval Complex. As mentioned earlier, housing is mostly rental. Commercial development near the Naval Base's main gate is sprawl development-oriented with a predominance of fast food restaurants and shopping centers. The farther along Maryland Route 246 from the base, the more residential and less commercial the development is.

The commercial development occurs in loosely defined segments. The first segment is closest to the main gate of the Naval Complex and, as pointed out earlier, includes fast food restaurants and retail shopping centers. The next segment, traveling away from the base on Maryland Route 246 is the service segment, and includes businesses such at Taylor's Gas Co., Aldridge Ford, Stohler Chrysler/Dodge, Goodyear Tires, St. Mary's Health Club, and Avis Car Rental. The third area is the corporate segment with companies like Bendix, Sperry, Pacer Systems, ManTech Service Corporation, and others. The remainder of Maryland Route 246 is mostly residential with an occasional commercial or corporate establishment.

3. Land Use

a. Existing (Figure 6)

The predominant land uses in the study area are characterized by low- to medium-density residential development (single family dwellings, townhouses, mobile homes, garden apartments) with concentrations of commercial businesses interspersed. There is also the Bayside Nursing Home and Joe Baker Village, rental apartments for the elderly.

Another principal land use is commercial/retail. This land use occurs most densely west of the study limits up to Maryland Route 235 and the main gate of the Naval Complex. Large retail centers include St. Mary's Square

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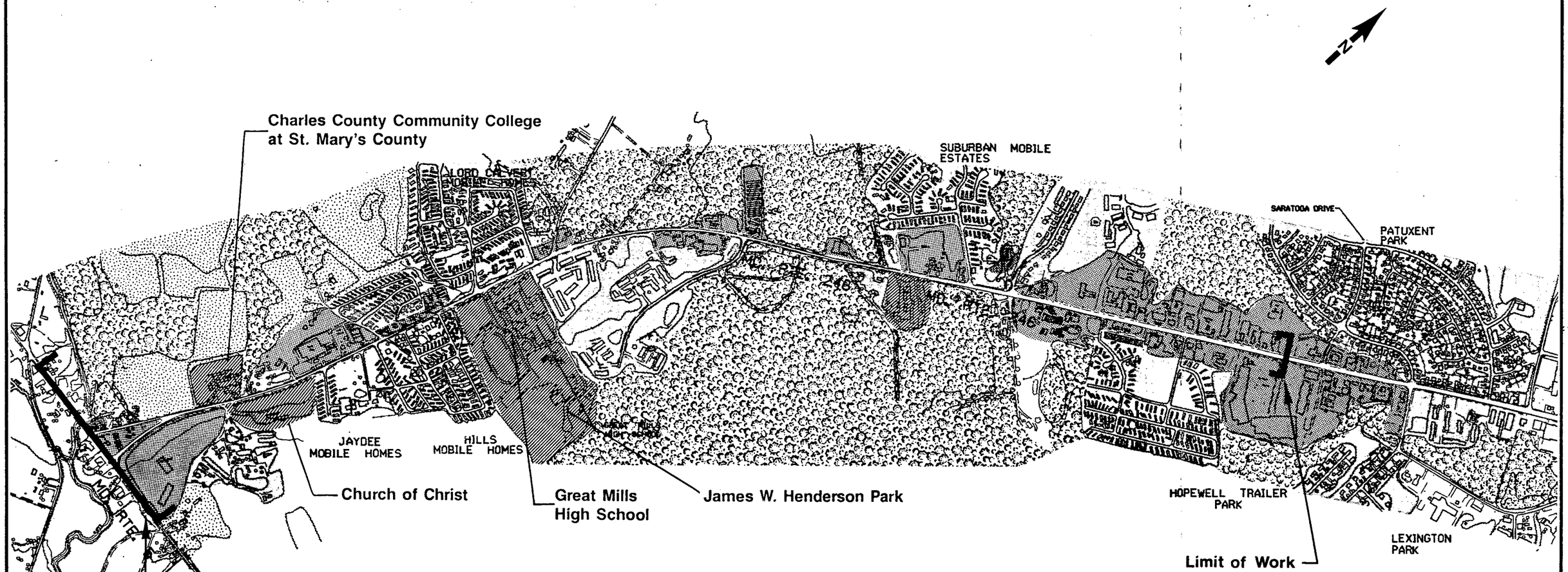
* Effective Buying Income (EBI) is personal income less personal tax and non-tax payments.



EXISTING LAND USE MARYLAND ROUTE 246

LEGEND

- Residential
- Wooded
- Commercial / Industrial
- Institutional
- Agricultural

Approximate Scale 1"=1,000'

Figure 6

Shopping Center. The area also has a dominance of small retail centers. A third major land use, although not dominant, is light industrial/office research consisting of major Defense Industry employers and large facilities such as Sperry, Maritime Dynamics, Inc., ManTech Services Corporation, Bendix, and Pacer Systems, Inc. The density increases from west to east as development gets closer to Maryland Route 246 and the Patuxent Naval Complex.

Agricultural activities take place on some of the larger tracts toward the eastern end of the project area. However, these farms are not located on prime agricultural soils.

b. Future

The St. Mary's County Comprehensive Plan is currently being updated but is not available yet. No significant changes in land use are anticipated within the study area as a result of the new plan (therefore, a future land use map was not included in this section). The projected future land uses are based upon data in the present plan and do not reflect any changes which may occur in the new plan.

Under the 1982 (amended) County Comprehensive Plan, Lexington Park was identified as the major employment and population center in the county. Planned growth for the area is designed to support the "diversification and intensification of economic activity" (Comprehensive Land Use Plan of St. Mary's County, Maryland, 1982, pg. 89). Residential and commercial growth is anticipated to continue; however, measures are being developed to control sprawl development. This growth is expected to move westward along Maryland Route 246.

4. Historic and Archeological Sites

Coordination with the Maryland Historical Trust indicates that there are no significant historic structures within the project area.

The Maryland Geological Survey, Division of Archeology, is currently completing a Phase I archeological reconnaissance. The results of that survey will be discussed in the Finding of No Significant Impact document.

5. Natural Environment

a. Physiography and Topography

The study area is west of the Chesapeake Bay in the Coastal Plain Physiographic Province. The terrain in the area is generally gently rolling with elevations ranging from 10 to 100 feet above sea level.

Generally, existing slopes are within a range of 0 percent to 5 percent, although they may be as much as 10 percent in the vicinity of streams.

b. Geology

The Coastal Plain Province, which encompasses the study area, consists of unconsolidated sands, silts, and clays mixed with and then changing to unconsolidated layers of sedimentary rocks. These strata overlie a crystalline basement complex.

Recent alluvial deposits lie adjacent to the St. Mary's and Patuxent Rivers and the Chesapeake Bay. The upland deposits are Tertiary in age and are composed of the Pamunkey and Chesapeake Groups.

Mineral resources in the study area include sand and clay. No mining activity is in progress within the study area.

c. Soils

Soils in the study area belong to the Beltsville-Croom-Sassafras association. They are generally level to strongly sloping, moderately well-drained and well-drained, silty and loamy soils, some of which have a fragipan or compact gravelly subsoil. Table 7 shows the soil series present in the study area.

TABLE 7

Soil Series in Study Area

Name	Mapping Symbol
Caroline	CaC^2, CaC^3, CaB^2
Bibb	Bm
Evesboro	EvB
Beltsville	BIB^2, BIC^2
Mattapex	MtB^2, MuA
Sassafras-Chillum	SmC^3
Croom	CrD^2
Othello	Ot
Keyport	KrA
Alluvial land	Aa
Alluvial land- wet	Ad
Cut and Fill	Cu

The site does not contain prime, unique, statewide, or locally important farmland, according to the U.S. Department of Agriculture, Soil Conservation Service.

d. Surface Water

The Maryland Route 246 corridor (Great Mills Road) is located in the St. Mary's River drainage basin. Stormwater runoff discharges from Maryland Route 246 into the St. Mary's River on the south end, to Jarboesville Run to the west, and to Hillton Run to the east. These waters are designated as Class I Waters by the Maryland Department of Natural Resources. Listed below is the classification system for all of the state surface waters:

Class I - Water Contact Recreation
Class II - Shellfish Harvesting
Class III - Natural Trout Waters
Class IV - Recreational Trout Waters

All waters of the state are designated as Class I, with additional protections by higher classifications. The streams in the Maryland Route 246 corridor are Class I waters according to the Water Resources Administration, Maryland Watershed Designations.

e. Hydrology

The soils and climate of St. Mary's County are conducive to large volumes of stormwater runoff during periods of rainfall. This results from three factors:

1. The predominance of silt loam soils throughout the project area, which results in low infiltration rates,
2. The intense thunderstorms that occur because of the proximity to the Atlantic Ocean, and
3. Daytime heating during humid summer days.

f. Groundwater

The study area is underlain by three major water-bearing formations: The Aquia, Nanjemoy, and Piney Point. The Aquia is Paleocene in age and contains an important water-bearing section approximately 40 feet thick. It is concentrated in the upper portion of the Aquia Formation and is composed of a coarse-grained glauconitic sand. The Nanjemoy and Piney Point Formations are Eocene in age and together comprise an hydraulically interconnected unit 60 to 100 feet thick. Both are composed of glauconitic sands. Groundwater supplies in the study area originate from the three major hydrologic units described above.

g. Floodplains

The St. Mary's River channel runs several hundred feet to the west of the Maryland Routes 5/246 intersection. Because of this proximity to the channel, the 100-year floods inundate a portion of the intersection (see Figure 3a-e). The 100-year floodplain limits were delineated based on the Federal Emergency Management Agency Flood Insurance Rate Maps. Also, Maryland Route 246 crosses many small streams and channels throughout the study area. The small drainage areas and apparent lack of flow over the road during storm events make it difficult to classify these smaller crossings as floodplain areas.

h. Water Quality

Factors which influence the quantity and quality of highway runoff are traffic volume and pattern, maintenance, and rainfall intensity. Typical pollutants include:

1. Very fine dust and dirt;
2. Toxic materials (heavy metals, pesticides) such as lead, zinc, and copper, and nickel and chromium in smaller amounts; and
3. Salt and sand.

No water quality data exists for the present surface waters and runoff in the study area, but a groundwater monitoring station within the Aquia formation exists in northern St. Mary's County. The station is located near Huntersville, approximately 23 miles north-northwest of the study area. Water quality data published by U.S.G.S. from the water year October 1984 to September 1985 is listed below.

Parameter	Measurement
pH (standard units)	8.0
Hardness	110 mg/l as $CaCo_3$
Calcium, dissolved	25 mg/l as Ca
Sodium, dissolved	9.7 mg/l as Na
Alkalinity (Lab)	144 mg/l as $CaCo_3$
Sulfate, dissolved	8.4 mg/l as SO_4
Iron, dissolved	200 ug/l as Fe
Manganese, dissolved	4 ug/l as Mn

It should be noted that the mineral content of water varies from aquifer to aquifer and from place to place within an aquifer. It is common to find the presence of nearly all elements in groundwater samples.

A pH greater than 7 is considered alkaline water (hard water), which is likely to be corrosive and may form deposits if the groundwater contains large amounts of sulfate, bicarbonate and chloride radicals. Gases such as hydrogen sulfide, carbon dioxide, methane, and oxygen may cause damage to man-made structures by both corrosion and cavitation.

Generally, the larger the impervious area, the higher the percentage of pollutants from highway runoff that become concentrated in the streams and rivers.

i. Ecology

Terrestrial Habitat

Much of the land in the study area has either been cleared for development or is already developed. The remaining woodland or forested areas can be identified and subdivided into two major vegetation associations, listed below.

- Red Oak - Virginia Pine Association:

  This association is characterized by the presence of red oak and Virginia pine. Other associated species include white oak, American holly, Virginia red cedar, sassafras, bitternut or mockernut hickory, red maple, American beech, greenbrier and Virginia creeper.

- Tulip-Poplar - Loblolly Pine Association:

  This association contains tulip poplar on better-drained microhabitats and loblolly pine on poorer-drained sites. Other common species associated with these dominated include red maple, flowering dogwood, black gum, white oak, black cherry, ironwood, arrowwood, black locust, Virginia creeper, and poison ivy.

Aquatic Habitat

Wetland areas potentially affected by the project area were first identified using National Wetland Inventory Maps (U.S. Fish and Wildlife Service), U.S. Soil Conservation Surveys (Soil Conservation Service), The Hydric Soils list for St. Mary's County, and floodplain maps (Federal

Emergency Management Agency). Subsequently, the resulting sites were checked against stereoscopic interpretation of 1987 black and white aerial photography of the project corridor at a scale of 1:3,200 (1 inch = 267 feet). Wetlands were identified during a field reconnaissance on May 26, 1987, based on wetland vegetation, hydric soils, and hydrology. The wetland boundaries were subsequently delineated on the aerial photographs, and transferred to the topographic base map of the study area. The wetland boundaries were flagged in the field and verified by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service during a field review on September 28, 1987. These wetlands are shown on Figure 3a-i. The potential impacts the proposed roadway will have upon the wetlands is discussed in Section IV of this document.

All of the wetlands in the project area are non-tidal wetlands. Table 8 is a listing of wetlands in the project area. Generally, there are two wetland types in the project area: forested and emergent wetlands. They can be categorized according to the U.S. Fish and Wildlife (Cowardin) Classification scheme as PF01A/C and PEM1E. These abbreviations can be explained as follows:

PF01A/C

- System - Palustrine
- Class - Forested
- Subclass - Broad-leaved deciduous
- Water Regime - Temporary to seasonally saturated

PF01A/C wetlands in the project area are generally dominated by river birch, red maple, and sweetgum with a strong occurrence of sycamore in the canopy. The understory consists of smooth alder, arrowwood, and spice bush, and the ground cover consists of Virginia creeper, numerous ferns, and poison ivy (see Table 8). In portions of the site where the area has been disturbed (through clear cutting, development, or agricultural uses) and the vegetation, through succession, has approached the shrub stage, the abbreviation SS (for scrub-shrub) is used instead of FO (forested, i.e. trees greater than 15-20 feet tall).

TABLE 8

Wetlands - Maryland Route 246

Wetland Number	Site Description	Classification	Dominant Vegetation	
			Common Name	Scientific Name
1	Located in Great Mills south and west of the MD 246/5 intersection	PFO1A/C	River birch	Betula nigra
			Sweet gum	Liquidambar styraciflua
			Red maple	Acer rubrum
			Sycamore	Platanus occidentals
			Loblolly pine	Pinus taeda
			Smooth alder	Alnus serrulata
			Spice bush	Lindera benzoin
			Royal fern	Osmunda regalis
			Sensitive fern	Onoclea sensibilis
			Cinnamon fern	Osmunda cinnamomea
			Stinging nettle	Urtica dioica
			Virginia chainfern	Woodwardia virginic
2	Located immediately east of Charles County Community College, north side of MD 246	PEM1E	Cattails	Typha sp.
			Chair-maker's rush	Carex sp.
			Jewelweed	Impatiens capensis
			Joe-Pye weed	Eupatorium spp.
			Sensitive fern	Onoclea sensibilis
3	Located north and west of the intersection with Chancellor's Run Road	R4UB3/2	Sweetgum	Liquidambar styraciflua
			Red maple	Acer rubrum
			Sycamore	Platanus occidentals
			Musclewood	Carpinus caroliniana
			Sassafras	Sassafras albidum
			Poison ivy	Toxicodend radicans

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TABLE 8

Wetlands - Maryland Route 246

Wetland Number	Site Description	Classification	Dominant Vegetation	
			Common Name	Scientific Name
4	North side of MD 246, west of self storage	PFO1A	Sweet gum	Liqiudambar styraciflua
			Loblolly pine	Pinus taeda
			Red maple	Acer rubrum
			Arrowwood	Viburnum dentatum
			Virginia creeper	Parthenocis quinquefolia
5	South side of MD 246, south of wetland site no. 4	PFO1A	Sweet gum	Liquidambar styraciflua
			Black willow	Salix nigra
			Red maple	Acer rubrum
			River birch	Betula nigra
6	On both north and south sides of MD 246, east of Lexwood Drive	PFO1A	Red maple	Acer rubrum
			Sweet gum	Liquidambar styraciflua
			Loblolly pine	Pinus taeda
			Poison ivy	Toxicodend radicans
			Virginia creeper	Parthenocis quinquefolia
			Greenbrier	Smilax sp.
			Sensitive fern	Onoclea sensibilis
			Jewelweed	Impatiens capensis
			Arrowwood	Viburnum dentatum
			Black gum	Nyssa sylvatica

TABLE 8

Wetlands - Maryland Route 246

Wetland Number	Site Description	Classification	Dominant Vegetation	
			Common Name	Scientific Name
7	Northeast of the intersection with Quatman Road	PFO1A	River birch	Betula nigra
			Red maple	Acer rubrum
			Sycamore	Platanus occidentalis
			Loblolly pine	Pinus taeda
			Arrowwood	Viburnum dentatum
			Royal fern	Osmunda regalis
			Elderberry	Sambucus canadensis
			Sensitive fern	Onoclea sensibilis
			Clearweed	Pilea pumila
8	East of Quatman Road, west of Amber House	PEM1E	Rush	Juncus sp.
9	West of Forest Run Drive	PSS1E	Black willow	Salix nigra
			Red maple	Acer rubrum
			Sweet gum	Liquidambar styraciflua
			Rush	Juncus sp.
			Sensitive fern	Onoclea sensibilis

TABLE 8

Wetlands - Maryland Route 246

Wetland Number	Site Description	Classification	Dominant Vegetation	
			Common Name	Scientific Name
10	Northeast and southwest of Forest Run Drive, north side of MD 246	PSS1E PEM1E and PFO1C	Sweetgum	Liquidambar styraciflua
			Willow oak	Quercus phellos
			Red maple	Acer rubrum
			Loblolly pine	Pinus taeda
			Woolgrass	Scirpus cyperinus
			Black willow	Salix nigra
			Cattail	Typha sp.
			Rush	Juncus sp.
11	East of Pacific near the eastern project terminus	PFO1A/C	Sweet gum	Liquidambar styraciflua
			Red maple	Acer rubrum
			Willow oak	Quercus phellos
			White oak	Quercus alba
			Rush	Juncus sp.
12	East of project terminus, north and east of Pizza Hut	PEM1E	Cattails	Typha sp.
			Rush	Juncus sp.
			Sedges	Carex spp.
			Woolgrass	Scirpus cyperinus

PEM1E

- System - Palustrine
- Class - Emergent
- Subclass - Persistent
- Water Regime - Seasonally Flooded/Saturated

PEM1E wetlands along the Maryland 246 corridor are generally dominated by cattails, rushes, or sedges (see Table 8) and often function as sediment traps and serve to retain nutrients in the short term. Sensitive fern, jewelweed, Joe-Pye weed, and woolgrass often are associated species.

Maryland Route 246 crosses seven intermittent streams. At the time of the field investigations, these streams were dry or had little drainage. Therefore, no fish or benthic macroinvertebrates were collected. However, a list of fish species that commonly occur in Southern Maryland streams and that are likely to occur in the St. Mary's River is included in Appendix B.

Wildlife

The majority of the study area has been developed or cleared for development or cultivation. The remaining areas are either forested woodlots, scrub-shrub cutover areas, or old field habitat. The wooded areas provide suitable habitat for larger animals such as deer; indeed, many deer tracks and scat were noted in the forested areas. The old field and scrub-shrub areas provide cover and food for small mammals such as rabbits, squirrels, raccoons, opossum, wood mice, and woodland shrews, as well as a wide variety of bird species, reptiles, and amphibians. Bird species observed along the project corridor on May 26, 1987, include American crow, fish crow, common grackle, European starling, American robin, house sparrow, eastern phoebe, flycatcher, chimney swift, killdeer, northern cardinal, northern mockingbird, red-eyed vireo, brown thrasher, hermit thrush, common bobwhite, bluejay, common flicker, and red-winged blackbird (see Appendix A).

Rare, Threatened, or Endangered Species

Coordination with the Maryland Department of Natural Resources and the U.S. Fish and Wildlife Service indicates that no known federally-listed or state-listed threatened or endangered species exist in the study area. The Maryland Natural Heritage Program has no record of rare species in the

vicinity. Letters from these agencies are included in the Agency Coordination Section.

6. Existing Noise Conditions

Twelve noise sensitive areas (NSAs) have been identified in the Maryland Route 246 study area. Descriptions of these noise sensitive areas are provided in Table 9. In addition, the locations of the NSAs are shown on the Alternates Mapping. A copy of the technical report is available at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Highway traffic noise is usually measured on the "A" weighted decibel scale, "dBA", which is the scale that has a frequency range closest to that of the human ear. In order to give a sense of perspective, a quiet rural night would register about 25 dBA, a quiet suburban night would register about 60 dBA, and a very noisy urban daytime about 80 dBA. Under typical field conditions, noise level changes of 2-3 dBA can barely be detected, with a 5-dBA change readily noticeable. A 10-dBA increase is judged by most people to be a doubling of sound loudness. (This information is presented in the "Fundamentals and Abatement of Highway Traffic Noise," by Bolt, Beranek & Newman, Inc., for FHWA, 1980).

The Federal Highway Administration has established, through 23 CFR 771, noise abatement criteria for various land uses. These criteria, along with the associated activity category, are presented in Table 10.

The noise levels in this analysis are expressed in terms of an L_{eq} noise level, which is the energy-averaged noise level for a given time period. All ambient and predicted noise levels in this report are L_{eq} exterior noise levels unless otherwise noted.

In an acoustical analysis, measurement of ambient noise levels is intended to establish the basis for impact analysis. The ambient noise levels as recorded represent a generalized view of present noise levels. Variations in total traffic volume, truck traffic volumes, speed, etc., may cause fluctuations in ambient noise levels of several decibels. However, for the purposes of impact assessment, these fluctuations are usually not sufficient to significantly affect the assessment.

It was determined that for most of the noise sensitive areas, the most typical noise conditions occur during the non-rush hour period (9:00 a.m.-

4:00 p.m.). During this time, the highest noise levels are experienced for the greatest length of time.

An on-site monitoring program was conducted in November, 1987. Measurements were made for 20-minute intervals at each of the twelve NSA's. Ambient noise levels ranged from 57 dBA to 68 dBA for these sites.

The results of the ambient monitoring are shown in Table 11.

TABLE 9

Noise Sensitive Areas

Noise Sensitive Area	Reference Figure No.	Description
1	3h	Residence, 1 1/2-story frame Box 453, Maryland Route 246
2	3h	Residence, 2-story frame Box 640, Maryland Route 246
3	3h	Residence, 1 1/2 story frame Box 456, Maryland Route 246
4	3h	Bayside Nursing Home Maryland Route 246
5	3c,d	Indian Bridge Apartments Maryland Route 246
6	3c	Mobile Homes Opposite Great Mills High School
7	3c	Great Mills High School
8	3c	Residence, 1-story brick Box 431, Maryland Route 246
9	3c	Trailer Park Mobile Home, Box 431, Maryland Route 246
10	3a	Church of Christ Maryland Route 246
11	3a	Charles Co. Community College, Maryland Route 246
12	3d	Residence, 1 1/2-story frame Box 445, Maryland Route 246

TABLE 10

Noise Abatement Criteria and Land Use Relationships
Specified in FHPM 7-7-3

Activity Category	L_{eq} (h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E*	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

*Interior noise levels were considered at NSA 4 (nursing home), NSA 7 (Great Mills High School), and NSA 10 (church). Because each of these institutions is air conditioned, increased noise levels are not expected to greatly impact interior noise levels.

TABLE 11

Project Noise Levels

NSA	Descriptions	Ambient L_{eq}	Design Year (2015) L_{eq} No-Build	Design Year (2015) L_{eq} Build	Design Year (2015) L_{eq} Increase Over Ambient	Design Year (2015) L_{eq} Build/ No-Build Change
1	Residential	59	62	69	10	7
2	Residential	62	64	70	8	6
3	Residential	57	61	66	9	5
4	Nursing Home	59	59	66	7	7
5	Residential	64	64	71	7	7
6	Residential	65	64	71	6	7
7	School	63	60	66	3	6
8	Residential	68	66	72	4	6
9	Residential	66	65	71	5	6
10	Church	62	54	62	0	8
11	College	63	59	65	2	6
12	Residential	--	61	68	6	7

*NSA 12 was an additional site and was analyzed after initial noise monitoring.

7. Existing Air Quality

The Maryland Route 246 project is within the Southern Maryland Intrastate Air Quality Control Region. The Environmental Protection Agency attainment status designation for carbon monoxide (CO) for this region is "cannot be classified or better than national standards."

A detailed microscale air quality analysis has been performed to determine the CO impact of the proposed project, which is described in further detail in Section IV-G.

II NEED FOR THE PROJECT

II. NEED FOR THE PROJECT

A. Purpose

The purpose of this planning and preliminary engineering study is to examine the feasibility of providing additional highway capacity along Maryland Route 246. The proposed widening of Maryland Route 246 between Maryland Route 5 and Saratoga Drive to a five-lane facility, with two lanes in each direction and a continuous left turn lane, will provide sufficient capacity to accommodate the traffic volumes forecasted for the design year 2015. The project also includes improvements to various intersections. The study area corridor is approximately 1000 feet wide and extends from Maryland Route 5 in the town of Great Mills to 700 feet west of Saratoga Drive in Lexington Park. Throughout the study area, planned residential and commercial development will place greater demands on Maryland Route 246 and will necessitate the provision of additional capacity. Congestion caused by residential and commercial development throughout the corridor is expected to increase as development continues. The proposed action will reduce congestion and improve overall traffic operations in the study area.

B. Project Background

Maryland Route 246 is a State Secondary highway serving southern St. Mary's County and Lexington Park. It is experiencing increased congestion as a result of residential and commercial development throughout the corridor. The existing strip development adjacent to the highway with numerous access points, combined with expanding residential development, contributes to increased traffic growth. It is anticipated that traffic operations along Maryland Route 246 will continue to deteriorate as development continues.

Maryland Route 246 first appeared in the 1975-1979 Secondary Highway Improvement Program for a four-lane urban reconstruct from Suburban Drive to Midway Drive. The project was funded for preliminary engineering only. Maryland Route 246 continued to appear in subsequent programs. It is now in the Draft 1988-1993 Consolidated Transportation Program (CTP) for a multi-lane reconstruction from Maryland Route 5 to Saratoga Drive. All phases of the project are funded.

Maryland Route 246 first appeared in the 1964 Twenty Year Highway Needs Study (HNS) for resurfacing from Maryland Route 5 to the Patuxent Naval

Station. It continued to appear in the HNS and Highway Needs Inventory (HNI) and is included in the 1986 HNI for a multi-lane reconstruct from Maryland Route 5 to Saratoga Drive.

The 1982 Comprehensive Land Use Plan of St. Mary's County identifies Maryland Route 246 as a "high accident route throughout its length" and recommends upgrading to improve capacity and reduce accidents. The Plan also identifies Maryland Route 246 as an important cross-county highway and agrees with SHA's plans and programs for upgrading Maryland Route 246.

The Draft Lexington Park Transportation Plan dated April, 1985, identified Maryland Route 246 as being located within an area of continuing development and growth. The Plan made several recommendations for improvements to Maryland Route 246 to relieve existing congestion and limit future congestion. The recommended solutions for "spot improvements" agree with SHA's recent Special Projects Program improvements. The roadway improvement to Maryland Route 246 recommends a five-lane roadway from Maryland Route 5 to Maryland Route 235, which is consistent with SHA's proposed improvement.

The St. Mary's County Commissioners, in a letter dated May 18, 1987, identified Maryland Route 246 as the County's highest highway priority and encouraged efforts by SHA to expedite construction of the project. The Commissioners also requested that Maryland Route 237 from Maryland Route 246 to Peggs Road extended be added to the Maryland Route 246 project planning study, which it was.

C. Existing Roadway

Maryland Route 246 currently operates as a five-lane highway east of Saratoga Drive, as a four-lane highway between Suburban Drive and Saratoga Drive, and as a two-lane highway west of Suburban Drive. This project proposes widening Maryland Route 246 to a uniform five-lane section from west of Saratoga Drive to Maryland Route 5.

D. Accident Statistics

Maryland Route 246 currently experiences congestion during peak hours. As development increases throughout the study area, traffic operations will degenerate to an unacceptable level of service by the design year 2015.

Maryland Route 246 from Maryland Route 5 to Saratoga Drive experienced an average accident rate of 567 accidents for every one hundred million

vehicle miles of travel (100 mvm) for the four-year period of 1983 through 1986. This rate is significantly higher than the weighted statewide average rate of 368 accidents/100 mvm for highways of similar type of design.

There were 250 accidents reported during the four-year study period. These accidents resulted in a monetary loss to the motoring and general public of $6 million dollars/100 mvm. The accident numbers are listed below by severity indicating the number of persons killed and injured.

Accident Severity	1983	1984	1985	1986	Total	Rate/ 100 mvm	Statewide Rate
Fatal	1	0	0	2	3	6.8*	2.5
No. Killed	1	0	0	2	3	---	---
Injury	30	25	47	47	149	338.0*	195.8
No. Injured	45	37	74	80	236	---	---
Prop. Dam.	19	24	21	34	98	222.2*	169.6
Total	50	49	68	83	250	567.0*	367.9

* Significantly above statewide average

The rate of fatal accidents was significantly above the statewide average rate. These accidents were as follows: 1 - Pedestrian, 1 - Angle, 1 - Fixed Object. The pedestrian accident involved a hit and run driver. It is assumed the pedestrian was walking in the traveled portion of the highway. The angle accident involved a car failing to yield the right-of-way to a motorcycle at the intersection of Australia Drive. The fixed object fatal accident involved a car attempting to pass another car at a high rate of speed. The driver lost control, hit a curb, and flipped the car over.

The significant collision types experienced on Maryland Route 246, in comparison to the statewide average rates for this type of highway are listed below.

Collision Type	Number of Accidents (1983-1986)	Rate/ 100 mvm	Statewide Rate
Angle	48	108.8	59.8
Rear End	63	143.0	95.9
Sideswipe	20	45.3	27.7
Left Turn	25	56.7	38.3
Pedestrian	18	40.8	16.3
Other Collision	33	74.8	43.5

The accident rate for angle, rear end, sideswipe, left turn, and pedestrian collisions was significantly above the statewide average. Most of the rear end, fixed object, and opposite direction accidents occurred in the western portion of the study area, from Maryland Route 5 to Forest Run Drive. The left turn and pedestrian accidents were predominant in the eastern portion of the study area, from Forest Run to Saratoga Drive. Most of these accidents were associated with the numerous intersections and driveways located within the study limits. The fixed object and opposite direction accident rates were both higher than their respective statewide average rates, but not at a significant level.

In looking at the environmental conditions, it appears that neither night accidents nor wet surface accidents are causing a problem since both percentages are very close to the statewide average percentage as shown below.

	No.	%	Statewide %
Night Accidents	95	38.0%	35.7%
Wet Surface Accidents	57	22.8%	26.4%

There were two locations meeting the criteria of High Accident Intersections within the study limits. These intersections are listed below:

Maryland Route 246 at Maryland Route 237 - 1985 - 9 accidents

Maryland Route 246 at Saratoga Drive - 1984 - 9 accidents
- 1985 - 7 accidents
- 1986 - 10 accidents

There were three sections of highway meeting the criteria of a High Accident Section. These sections are listed below:

Maryland Route 246, from east of Langley Road to Chancellors Run Road (Maryland Route 237)
1985 - 19 accidents

Maryland Route 246, from east of Quatman Road to west of Saratoga Drive
1985 - 21 accidents
1986 - 23 accidents

Maryland Route 246, from west of Saratoga Drive to west of Shangrila Drive
1985 - 26 accidents
1986 - 32 accidents

The entire study section is currently experiencing an accident rate significantly above the statewide average. However, the severity and

collision type rates are much higher on the east side of the study area, from Forest Run Drive to Saratoga Drive. The total accident rate is 967 acc/100 mvm for this section of highway compared to 405 acc/100 mvm for the western portion of Maryland Route 246, from Maryland Route 5 to Forest Run Drive. In the section of highway from Forest Run Drive to Saratoga Drive, angle, rear end, and sideswipe accidents were all significantly above the statewide average. In the section of roadway from Maryland Route 5 to Forest Run Drive, accident rates for rear end and pedestrian accidents were significantly above the statewide average rates. Rear end accidents were predominant in both the two-lane and four-lane sections.

Under the No-Build Alternate, existing conditions mentioned above will continue to exist. If the highway remains unchanged, the number of accidents would be expected to rise as traffic volumes increase, thereby allowing the potential for injury and death resulting from these accidents to continue.

The Build Alternate proposes a five-lane highway providing for a two-way center left turn lane. This type of design is usually implemented when a highway is experiencing such problems as high left turn volumes, limited right-of-way, and side friction due to the numerous business driveways and intersections. The five-lane design highway would provide increased capacity and would also reduce the total accident rate and decrease the total accident cost. Under this design significant reductions in the opposite direction and left turn type collisions, and a slight reduction in rear end accidents would be anticipated. Pedestrian accidents may increase due to the added lane the pedestrian would have to cross, in addition to the fact that there is no pedestrian refuge in the middle of the highway. Sideswipe accidents may increase due to increased weaving to and from the center turn lane. There is also a possibility of angle accidents increasing due to the change in the number of lanes that motorists entering the highway from driveways and side streets would have to cross.

With the implementation of a five-lane highway with a two-way center left turn lane as proposed under the Build Alternates, an accident rate of approximately 488 accidents/100 mvm is anticipated. These alternates will result in an accident cost of approximately $4.2 million/100 mvm of travel and bring about an accident cost decrease of $1.8 million/100 mvm over the existing highway.

Alternates 2, 3, and 4 are proposing the five-lane design. Alternate 2 is proposing a five-lane curbed section constructed within the existing right-of-way. Alternate 3 proposes widening maryland Route 246 to a five-lane open section with 10-foot shoulders, requiring additional right-of-way. Alternate 4 proposes widening the highway to a five-lane curbed section also requiring additional right-of-way. Although Alternate 2 would be the most cost beneficial due to the widening of the road within the existing right-of-way, Alternate 3 would provide the best solution from a safety standpoint, due to the open sections with 10-foot shoulders providing a refuge or buffer zone for pedestrians and cars.

In summary, the entire section of Maryland Route 246 is experiencing an accident rate significantly above the statewide average. The accident rate for the four-lane section of highway from Forest Run Drive to Saratoga Drive is much higher than the two-lane section of highway from Maryland Route 5 to Forest Run Drive. The rates of angle, rear end, sideswipe, left turn, and pedestrian collisions for the entire section of highway are also higher than their respective statewide rates. The implementation of a five-lane highway should result in reducing the accident rates and the accident cost that is now being experiences.

E. Traffic Operations

The current average daily traffic on Maryland Route 246 varies from 10,000 to 18,000 vehicles per day between Maryland Route 5 and Saratoga Drive (see Figure 7). Traffic forecasts predict that the average daily traffic volumes for the design year 2015 will vary from 19,000 to 34,000 vehicles per day.

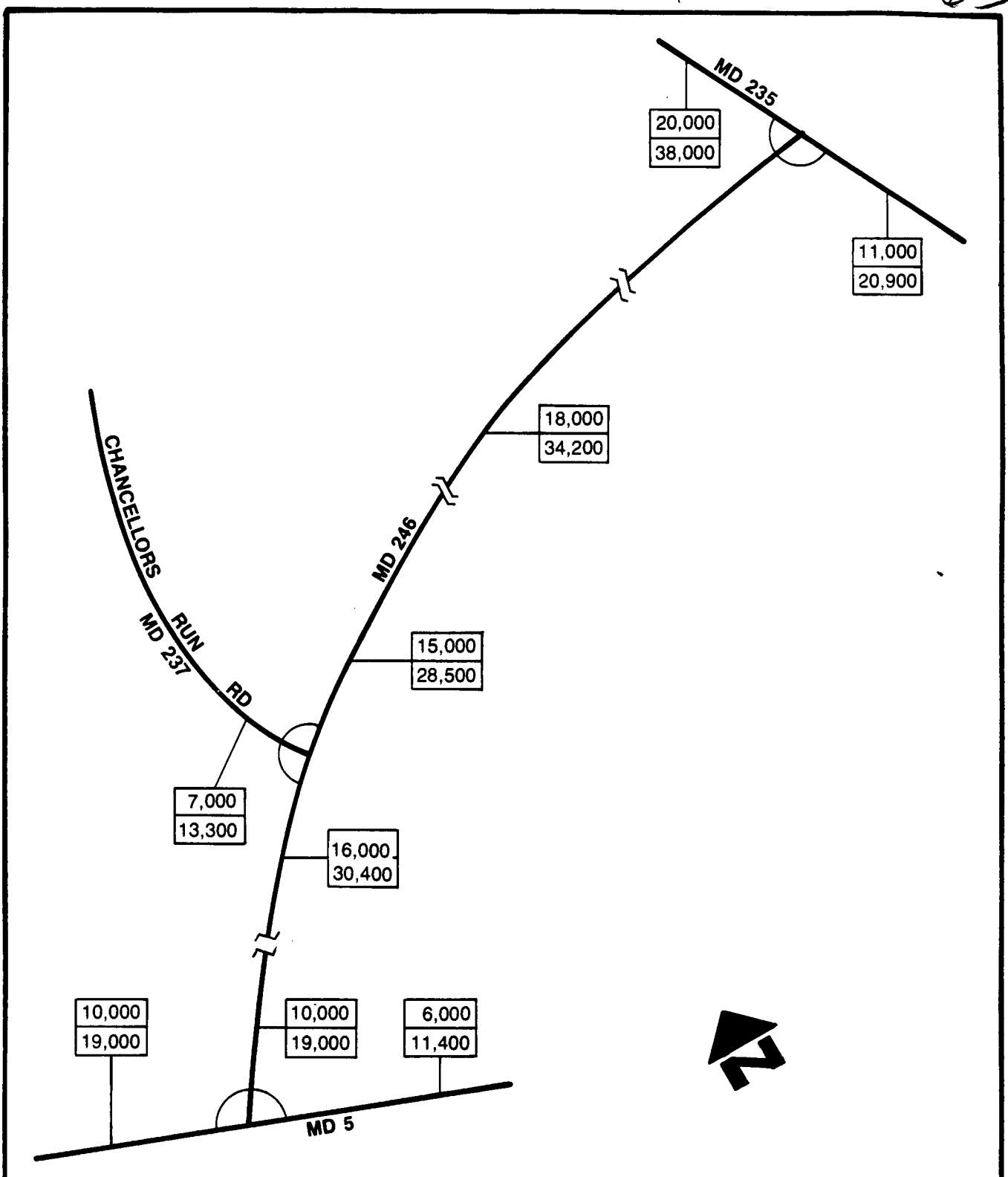
Two major intersections occur within the study areas. These are:

1. Intersection of Maryland Route 5 and Maryland Route 246.
2. Intersection of Maryland Route 237 and Maryland Route 246.

These intersections will operate at level of service F in the design year 2015 if improvements are not implemented. Improvements to these intersections are required to reach an acceptable level of service.

F. Associated Improvements

Three recent Special Projects Program Improvements are associated with Maryland Route 246. In October, 1987, a new signal was installed at the Maryland Route 246/Maryland Route 237 intersection. The widening and



LEGEND

1985	AADT
2015	AADT

MARYLAND ROUTE 246
Maryland Route 5 to 700' West of Saratoga Drive

1985/2015 AVERAGE DAILY TRAFFIC

NOT TO SCALE

Figure 7

resurfacing of Maryland Route 246 from Saratoga Drive to Midway Drive is scheduled for completion in November 1987. This improvement widens Maryland Route 246 and provides a center left turn lane and reconstruction of signals at Midway Drive, Essex Drive, and the St. Mary's Shopping Center. Channelization and geometric improvements are planned for Maryland Route 246 at Maryland Route 5 under the Special Projects Program. Construction for geometric improvements is due to begin in 1989.

Another project in St. Mary's County, the extension of Peggs Road from Maryland Route 237 to Jarboesville Run, has been granted location approval and funding for construction.

Other major construction/reconstruction projects associated with the Maryland Route 246 improvements include:

- Maryland Route 471 - Indian Bridge Road study to replace bridge 18028 over St. Mary's River. This project comes under the 1987-1992 Consolidated Transportation Program-Secondary Development and Evaluation Program, and is funded for engineering only.

- Maryland Route 237 - Chancellors Run Road study to upgrade and widen Maryland Route 237 to a multi-lane highway from Maryland Route 246 to Maryland Route 235. This project is proposed to be added to the 1988-1993 Consolidated Transportation Program - Development and Evaluation Program and the 1986 revision of the Highway Needs Inventory. It is also included in the 1987 Special Projects Program for St. Mary's County.

- Maryland Route 235 - Maryland Route 246 to Maryland Route 4 divided highway reconstruction project under the 1984 revision of the Highway Needs Inventory.

- Maryland Route 5 - Maryland Route 246 to Maryland Route 244 multi-lane reconstruction project under the 1984 revision of the Highway Needs Inventory.

III ALTERNATES CONSIDERED

III. ALTERNATES CONSIDERED

Four build alternates were studied for the proposed improvement of Maryland Route 246. All Build Alternates will generally follow the centerline of existing Maryland Route 246 from Maryland Route 5 to 700 feet west of Saratoga Drive. The Build Alternates are differentiated by their typical sections (see Figure 4 in Section 1), design speeds, and right-of-way impacts.

A. Alternates Dropped from Consideration

Alternates 3, 4 and 5 were dropped from consideration because of increased right-of-way requirements and impacts to adjacent buildings.

1. Alternate 3 (including Alternate 3 Modified)

Alternate 3 proposes widening Maryland Route 246 to a five-lane open section with 10-foot shoulders along the existing horizontal and vertical alignments. The design speed is 40 mph for Alternate 3. Alternate 3 modified has the same typical section and horizontal alignment as Alternate 3 (see Figure 4). However, the vertical profile for Alternate 3 modified includes improvements to comply with a 50 mph design speed in accordance with A Policy of Geometric Design of Highways and Streets (PGDHS), 1984. The addition of the shoulders plus safety grading would require the acquisition of additional right-of-way. Alternate 3 and Alternate 3 Modified were dropped from further studies due to the amount of additional right-of-way required and corresponding, significant impacts to wetlands.

2. Alternate 4

Alternate 4 proposes widening Maryland Route 246 to a five-lane curbed section along the existing horizontal alignment. The typical cross section is shown on Figure 4. The vertical profile for this alternate includes improvements to stopping sight distances to comply with a 50 mph design speed in accordance with PGDHS (1984). The graded area behind the curb is 14 feet. This will be modified where necessary to avoid impacting adjacent property and improvements. Alternate 4 was dropped from further studies because it would require additional right-of-way to accommodate the vertical profile changes, which would displace wetlands.

3. Alternate 5

Alternate 5 proposes widening Maryland Route 246 to a five-lane curbed section along the existing horizontal alignment. The typical cross section

is the same as Alternate 2 and is shown on Figure 4. The vertical profile for this alternate includes improvements to comply with a 40 mph design speed in accordance with PGDHS (1984). This Alternate requires the same wetland acreage as Alternate 2.

B. Alternates Retained for Detailed Studies

1. Alternate 1 (No-Build)

Alternate 1, the No-Build alternate, would require no expenditure of funds other than for routine maintenance or short-term improvements to the existing intersections.

2. Alternate 2 (Preferred)

Alternate 2 proposes widening Maryland Route 246 to a five-lane curbed section along the existing horizontal and vertical alignments. The typical cross section is shown on Figure 4. The major portion of the proposed 65-foot roadway would be constructed within the existing 80-foot right-of-way. Graded area behind the curb is seven feet. This alternate satisfies a 40 mph design speed.

Intersection improvements are proposed for the Maryland Route 5/Maryland Route 246 intersection and the Maryland Route 237/Maryland Route 246 intersection. Options for both of these intersections are as follows:

a. Intersection of Maryland Route 246 at Maryland Route 237 (Chancellors Run Road)

Intersection Option 1 - This option calls for widening of Maryland Route 237 to a 68-foot closed section roadway. The intersection angle at Maryland Route 246 will be approximately 80^{o}, and the Maryland Route 237 southbound approach to the intersection will be 38 feet wide to accommodate double lefts and a through-right turn lane. Maryland Route 237 transitions to 52 feet just north of the proposed extension of Peggs Road, and transitions down to the existing cross-section approximately 260 feet north of Peggs Road. Maryland Route 246 will be widened to 74 feet to accommodate two through lanes in each direction, and a double left turn lane for turning movements from Maryland Route 246 to Maryland Route 237. Approximately 0.79 acre of additional right-of-way will be required for this option.

Intersection Option 2 - This option calls for widening of Maryland Route 237 to a 68-foot closed section roadway. The intersection angle at

Maryland Route 246 will be approximately 65° and the Maryland Route 237 southbound approach to the intersection will be 38 feet wide to accommodate double lefts, and a through-right turn lane. Maryland Route 237 transitions to 52 feet just north of the proposed extension of Peggs Road, and transitions down to the existing cross-section approximately 260 feet north of Peggs Road. This option follows the existing alignment of Maryland Route 237 and requires 0.80 acre of additional right-of-way. Maryland Route 246 will be widened to 74 feet to accommodate two through lanes in each direction, and a northbound double left turn lane.

Intersection Option 3 - This option calls for realigning Maryland Route 237 approximately 470 feet northeast of its existing intersection with Maryland Route 246. The proposed intersection angle is 90°. The Maryland Route 237 southbound approach to the intersection will be 38 feet wide to accommodate double lefts, and a through right turn lane. Maryland Route 237 transitions to 52 feet just north of the proposed extension of Peggs Road, and transitions down to the existing cross-section approximately 260 feet north of Peggs Road. Maryland Route 246 will be widened to 74 feet to accommodate two through lanes in each direction, and a northbound left turn lane. Approximately 1.57 acres of additional right-of-way will be required for this option.

b. Intersection of Maryland Route 246 at Maryland Route 5

Intersection Option 1 - This option calls for widening southbound Maryland Route 246 to 65 feet, or five lanes. This widening will allow for two single left turning lanes and two free-right turning lanes. Maryland Route 5 will be widened to 48 feet. This widening will permit one eastbound through lane and one westbound through lane, as well as an eastbound double left turn lane. Great Mills Road will connect to Maryland Route 246 approximately 250 feet west of its existing intersection and will be realigned to provide a 90° connection. Approximately 0.51 additional acre of right-of-way will be required for this option.

Intersection Option 2 - This option calls for the same improvements to Maryland Route 246 as Option 1 except that a cul-de-sac will be installed on Cedar Point Road prohibiting direct access to Maryland Route 246. Approximately 0.51 additional acre of right-of-way will be required for this option.

IV ENVIRONMENTAL IMPACTS

V. ENVIRONMENTAL IMPACTS

A. Social Impacts

1. Residential and Commercial Displacements

Alternate 2 (Preferred) requires the acquisition of additional right-of-way. The preliminary relocation and right-of-way report for Alternate 2 is summarized below and is available for review at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202. Alternate 2 requires the acquisition of one owner-occupied residence, one entire business, and one structure associated with a business. One mobile home will be relocated under Alternate 2. Another mobile home would be relocated under Option 3 of the Maryland Route 246/Maryland Route 237 intersection improvement options. The owner-occupied residence is minority owned. The owner is also elderly and handicapped. The Housing of Last Resort Program will be required to rehouse both residential displacements.* The relocation assistance required as a result of this project can be resolved in a timely and humane fashion and in accordance with the requirements of the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 (P.L. 91-646) and its Amendments of 1987.

Title VI Statement

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

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*The loss of a motor home community to a new subdivision (TOSCA) and the potential loss of housing due to the widening of Maryland Route 246 could cause a shortage of low to moderate income housing.

2. Effects on Minority, Elderly, and Handicapped Individuals

One single-family home is located across from Suburban Mobile Estates at approximately Station 96. This structure is within the proposed new right-of-way. The structure's occupant is an elderly minority individual who is handicapped. No other minority, elderly, or handicapped persons would be affected. Joe Baker Village and Bayside Nursing Home serve the needs of these individuals; however, neither of these facilities will be impacted by the project.

3. Disruption of Neighborhoods and Communities

The Preferred Alternate would not impact the social integrity and cohesion of nearby local communities along Maryland Route 246. The project would require additional right-of-way acquisition but since the alternate follows the existing horizontal alignment, none of the communities would be impacted.

4. Effects On Access to Services and Facilities

The No-build Alternate does not address the existing or projected traffic congestion problems in the study area. Consequently, access to services and facilities for traffic using Maryland Route 246 would become increasingly difficult. Congestion and worsening traffic operations due to increasing traffic would further jeopardize traffic safety and increase the potential for accidents. Travel time and costs, as well as distances travelled, would be increased as motorists either experience delays or seek alternative routes to avoid congestion.

The Preferred Alternate will upgrade Maryland Route 246 to a five-lane facility (two lanes each direction with a continuous left turn lane), and will ensure that sufficient roadway capacity will be available to accommodate the current traffic increases expected in the future. The improvement of various intersections along Maryland Route 246 will also aid in providing a safe and efficient transportation facility for this heavily congested area.

These improvements would increase capacity, which, in turn, would provide relief from congestion and improve traffic service. Safety and access to facilities and service, as well as emergency service response time, also would improve throughout the corridor. Travel time would be shortened as fewer delays are experienced, especially during peak hour

periods. These improvements would also reduce the impacts of traffic on other streets in the study area that are used by those travelers seeking alternative routes to avoid congestion and delays on Maryland Route 246.

B. Economic Impacts

1. Effects on Local Businesses

Impacts on local businesses take two basic forms - structural impacts and relocations, and loss of parking. Alternate 2 (Preferred) requires the acquisition of one small business (less than 10 employees) and one structure associated with a business. The impacts are related to the loss of some parking. It is likely that the one small business may go out of business as a result of the loss of parking; therefore, it would be prudent to acquire it.

Long-term benefits of building the Preferred Alternate include improved access to places of employment and to commercial centers. Providing an additional travel lane in each direction and a center turning lane will make access to businesses easier. This is particularly true at the east end of the project where more development has occurred and where traffic congestion problems are prevalent.

2. Effects on Regional Business Activities

The St. Mary's County Comprehensive Land Use Plan (revised 1982) identifies Lexington Park not only as "the major employment and population center of the county", but also as "the most important activity center in the entire Tri-County Region" (p.88), consisting of Calvert, Charles and St. Mary's Counties.

Alternate 1 (No-Build Alternate) would have impacts on the regional economy. Maryland Routes 5, 4, and 235 are major commuter routes linking the market areas and employment centers of Waldorf, Prince Frederick and Lexington Park. Many employers have located along Maryland Route 246. Not alleviating congestion and traffic safety and service problems along Maryland Route 246 would lengthen the amount of time it takes to commute, making the area a less attractive place to work or locate businesses. The Preferred Alternate reduces all these impacts and alleviates congestion in the study area. Providing the additional lanes would be an important step in addressing the transportation needs of this growing area. The Preferred Alternate would have no adverse effect on the regional economy.

3. Effects on Tax Base

The improvements to Maryland Route 246 would help encourage the continuing development of this corridor and its vicinity as the major employment and population center for St. Mary's County and the Tri-County Region. The widening would accommodate this growth and commercial/residential expansion, which in turn would have a positive impact on the county's tax base and tax revenues.

C. Land Use Impacts

The 1985 annual average daily traffic (AADT) on Maryland Route 246 varies from 10,000 vehicles per day near Maryland Route 5 to 18,000 near the northern limit of work. The design year 2015 AADT ranges from 19,000 vehicles per day near Maryland Route 5 to 34,200 near the northern limit of work. These volumes of traffic result in a poor level of service for the existing facility. This level of service will continue to deteriorate as development takes place and traffic volumes increase.

Alternate 1 (No-Build) is not consistent with future plans for the area and corridor. The proposed improvements under the Preferred Alternate will relieve the congestion on the existing facility, and are compatible with the County's Comprehensive Plan adopted in 1982 and presently undergoing revision, as well as the Lexington Park Transportation Plan adopted in 1985.

These improvements would help accommodate planned commercial and residential growth. These plans indicate that the study area is to remain in residential/commercial use. Additional growth in vacant areas would be consistent with the existing character of the study area.

D. Historic and Cultural Impacts

The Preferred Alternate will have no effect on any significant historic structure (see letter in correspondence section from Maryland Historic Trust dated February 3, 1987).

E. Natural Environment

1. Geology, Topography, and Soils

Because of the relatively flat terrain in the study area, (i.e. few steep slopes), no severe cuts are anticipated for the proposed construction of any of the build alternates.

Neither does the site contain prime, unique, statewide, or locally important farmland, according to the U.S. Department of Agriculture, Soil

Conservation Service. Some farmland will be required for construction, but these areas are not considered to contain prime farmland soils. Moreover, the project area is zoned for commercial and residential use. Land currently in agricultural use occurs within the required rights-of-way for the No-Build and Preferred Alternates as listed below:

Number	Agricultural Land (acres)
Alternate 1 (No-build)	0
Alternate 2	4.29

2. Water Resources

a. Floodplains

Impacts to the 100-year floodplain were studied in accordance with Executive Order 11990. The St. Mary's River 100-year floodplain inundates the Maryland Routes 5/246 intersection, according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). The construction of the Preferred Alternate would have insignificant impacts on the St. Mary's floodplain because no levees or encroachments are proposed for the lane additions. The Alternates Mapping in Section I shows the location of the floodplain.

In accordance with the requirements of Executive Order 11988, the impacts of each encroachment were preliminarily evaluated to determine their significance. A significant encroachment would involve one of the following:

(1) High probability of loss of human life

(2) Likely future damage that could be substantial in cost or disruption

(3) Disruption of an emergency or evacuation route

(4) Notable adverse impact on "natural and beneficial floodplain values"

Maryland Route 246 is situated on a ridge line between Jarboesville Run and Hillton Run. Because of this ridge top location, small drainage areas contribute to the cross culverts. Consequently, floodplains of very limited magnitude exist. The 100-year discharge for the Preferred Alternate increases at the most by 2 percent for any stream crossing. Therefore, the

floodplain conditions (elevations, velocity) are of the same order of magnitude both with and without the Preferred Alternate. The construction of the Preferred Alternate would not create any significant increase in flood elevation or stream velocities in the intermittent tributaries to Jarboesville or Hillton Run.

Use of the most advanced sediment and erosion control techniques and stormwater management controls available will ensure that none of the encroachments will result in risks or impacts to the beneficial floodplain values or provide direct or indirect support to further development within the floodplain. Preliminary analysis, in accordance with Executive Order 11988, indicates that no significant floodplain impacts are expected to occur as a result of the Preferred Build Alternate, Alternate 2.

b. Surface Water

The primary short-term effect on the study area and surface waters would be increased sedimentation in the streams. Alternate 4 would result in a greater amount of sedimentation due to the larger right-of-way proposed for construction.

Final design for the selected alternate will include plans for grading, erosión and sediment control, and stormwater management, in accordance with the state and county regulations. The minimum stormwater control requirement for St. Mary's County is that management measures be provided to maintain the post-development peak discharges for a 24-hour, 2- and 10-year frequency storm event at a level that is less than or equal to the pre-development peak discharge rate. Review and approval of these plans by the Maryland Department of Natural Resources, Water Resources Administration, Sediment and Stormwater Division, will be required.

The project will be designed in accordance with the Storm Water Resources Administration's regulations 0.01.10 Comar 08.05.05 "Storm Water Management", effective July 1, 1984, which require water quality to be addressed in final design. These regulations stipulate that the order of preference for stormwater management is as follows:

a. Infiltration of runoff on site.

b. Flow attenuation by use of open vegetated swales and natural depressions.

c. Stormwater retention structures.

c. Groundwater

The potential to pollute groundwater aquifers is nearly always present with highway construction due to the possibility of surface runoff pollutants infiltrating into an aquifer. The only aquifer in the study area that is in direct contact with surface runoff and surface water is the unconsolidated surface (sands and gravels) aquifer. This aquifer would be expected to show increases in the highway runoff constituents mentioned in Section I.5, as impervious cover will be increased by the addition of lanes and shoulders. However, due to the depth of the major aquifers in the study area, the proposed alternates are not expected to impact the existing groundwater conditions (See the Alternates Mapping in Section I).

3. Ecology

a. Terrestrial Habitat

The following acreage of wooded habitat and wetlands would be required for the No-Build and Preferred Build Alternates:

Alternate No.	Woodlands (acres)	Wetlands (acres)
1 (No-Build)	0	0
2 (Preferred)	1.16	0.42

Except for the woodland or wetland acreage required, the balance of the terrestrial habitat/ground cover is either old field, under cultivation, or developed. In some cases, wooded wetlands helped comprise the total woodland acreage above.

b. Aquatic Habitat

Pursuant to Executive Order 11990, Protection of Wetlands, it was determined that roadway construction (i.e., widening) will affect several wetland areas along Maryland Route 246. These wetlands were shown on the Alternates Mapping and described in Table 8 in Section I. Wetland impacts, by wetland site number, are described in Table 12.

TABLE 12

Wetland Impacts By Alternate

Wetland Site No.	Acreage (No-Build) Alternate 1	Acreage (Preferred) Alternate 2
1	0	0.26
2	0	0.03
3	0	0*
4	0	0
5	0	0.01
6	0	0.20
7	0	0.05
8	0	0.03
9	0	0.01
10	0	0
11	0	0
12	0	0

*0.05=Option 1, <0.03=Option 2, 0=Option 3

These impacts were quantified in accordance with Executive Order 11990. Total avoidance of many of these wetland areas is not feasible when compared with the high cost of relocations and displacements associated with realignment; and in many cases, an alignment shift to avoid a wetland would result in greater impacts to the wetland on the opposite side of the road.

A Section 404 permit may be required from the U.S. Army Corps of Engineers for placement of fill within these wetlands. Suitable replacement sites for non-tidal wetlands will be coordinated with the appropriate state and federal agencies and selected during the final design phase.

c. Wildlife

The proposed Maryland Route 246 widening will have a minor impact on wildlife since the roadway corridor is already heavily developed. However, Alternate 2, the Preferred Alternate, would require additional right-of-way, some of which would be through woodlands, cut-over areas, and old field habitat. Terrestrial habitat impacted by the Preferred Alternate was discussed above; a good approximation can be obtained by reviewing the acreage of woodland impacted. Any loss of habitat is generally accompanied by a proportional loss in the animal populations inhabiting those areas. Any affected animal species would be forced to locate a new, suitable habitat.

d. Rare, Threatened, or Endangered Species

Coordination with the Maryland Department of Natural Resources and U.S. Fish and Wildlife Service has revealed there are no known populations of state-listed or federally-listed rare, threatened, or endangered species in the study area.

F. Noise Impacts

1. Analysis of Impact of Alternates

The method used to predict the future noise levels from the proposed Maryland Route 246 improvements was developed by the Federal Highway Administration (FHWA) of the U.S. Department of Transportation. The FHWA Highway Traffic Noise Prediction Model (FHWA Model) incorporates data pertaining to normal traffic volume increases over time, utilizes an experimentally and statistically determined reference sound level for three classes of vehicles (auto, medium duty trucks, and heavy duty trucks), and applies a series of adjustments to each reference level to arrive at the predicted sound level. The adjustments include: 1) traffic flow corrections, taking into account the number of vehicles, average vehicle speed, and a specified time period of consideration; 2) distance adjustment comparing a reference distance and actual distance between receiver and roadway, including roadway width and number of traffic lanes; and 3) adjustments for various types of physical barriers that would reduce noise transmission from source (roadway) to receiver.

The prediction calculations were performed utilizing a computer program adaptation of the FHWA Model, STAMINA 2.0/OPTIMA.

The determination of environmental noise impacts is based on the relationship between the predicted noise levels, the established noise abatement criteria, and the ambient noise levels in the project area. The applicable standard is the Federal Highway Administration's noise abatement criteria/activity relationship (see Table 10 in Section I) published in the Federal Highway Program Manual 7-7-3.

The evaluation was completed in accordance with the State Highway Administration's Type I noise program. The Type I program provides evaluation of noise mitigation for major construction or reconstruction highway projects. The activity category utilized for the project analysis is Category B which includes the sensitive land use activities throughout the corridor, i.e., residences, schools, parks, etc..

The factors considered under the Type I program when determining whether mitigation is required and whether the mitigation is reasonable and feasible are:

- Whether Federal Highway Administration Noise Abatement Criteria are equalled or exceeded - 67 dBA for residential areas
- Whether a substantial (10 dBA or more) increase over ambient levels would occur
- Whether a substantial noise increase would result from the highway project - minimum of 5-dBA increase - of Build over No-Build levels in the design year of the project
- Whether a feasible method is available to reduce the noise
- Whether the noise mitigation is cost effective for those receptors that are impacted - approximately $40,000 per residence
- Whether the mitigation is acceptable to affected property owners
- Whether funds are available

When design year L_{eq} noise levels are projected to exceed the abatement criteria (Table 10) or increase ambient conditions by 10 dBA or more, noise abatement measures (in general, noise barriers) are considered to minimize impacts. Consideration is based on the size of the impacted area (number of structures, spatial distribution of structures, etc.), the predominant activities carried on within the area, the visual impact of the control measure, practicality of construction, feasibility, and reasonableness.

An effective barrier should, in general, extend in both directions to four times the distance between receiver and roadway (source). In addition, an effective barrier should provide a 7-10 dBA reduction in the noise level, as a preliminary design goal. For the purpose of comparison, a total cost of $27 per square foot is assumed to estimate total barrier cost. This cost figure is based upon current costs experienced by Maryland State Highway Administration and includes the costs of panels, footings, drainage, landscaping, and overhead. Generally, noise barriers are considered reasonable if the cost per residence is less than $35,000-$40,000.

a. Alternate 1 (No-Build Alternate)

Under the No-Build Alternate, none of the noise sensitive areas would exceed the noise abatement criteria of 67 dBA, L_{eq}. Six NSAs (6-12) will have projected No-Build noise levels lower than current ambient levels. this can be attributed to fluctuations in traffic volumes and truck percentages that occurred during the monitoring period. These fluctuations could cause a 2-4 dBA difference between existing and No-Build noise levels.

b. Build Alternate 2 (Preferred Alternate)

Under the Preferred Alternate, the FHWA noise abatement criteria would be exceeded at NSAs 1, 2, 5, 6, 8, 9, and 12. Therefore, abatement was considered for these noise sensitive areas.

The following is a discussion regarding the feasibility of abatement for these nine sites:

NSA 1

This noise sensitive area would have a projected 2015 noise level 2 dBA above the FHWA noise abatement criteria of 67 dBA. A barrier at this location would not be physically feasible because of barrier segmentation for driveway access to Maryland Route 246. This segmentation of a barrier produces gaps or breaks in the wall and degrades the reduction potential and effectiveness of the barrier.

NSA 2

NSA 2 would have a projected 2015 noise level 3 dBA above the noise abatement criteria of 67 dBA. A barrier 575 feet in length, by 16 feet in height, with a total cost of $248,4000 was analyzed. This barrier would provide at least a 5-dBA reduction to two residences with projected levels

above 67 dBA, at a cost per residence of $124,200. Mitigation at this location would not be reasonable.

NSA 5

Noise sensitive area 5 (Indian Bridge Apartments) would have a projected 2015 noise level of 71 dBA. A noise barrier 750 feet in length at an average height of 20 feet and with a cost of $405,000 would provide a reduction of 5-8 dBA at the eligible apartment buildings. Each apartment building was counted as 5 residences. The cost per residence of this barrier would be $27,000. This barrier would be a reasonable and feasible mitigation measure.

NSA's 6 and 8

The projected 2015 noise levels for NSAs 6 and 8 are 4 and 5 dBA above the noise abatement criteria of 67 dBA, respectively. Fronting the mobile homes at NSA 6 is commercial land use. Constructing a noise barrier in front of the commercial land use would obstruct the access to the roadway, thus potentially impacting the business. The mitigation of the areas located behind the commercial property would not be physically feasible, due to the distances and barrier segmentation. NSA 8 is also a residential area with commercial/business land use adjacent to Maryland Route 246. Again, due to parking lot and driveway access, abatement is not physically feasible.

NSA 9

Noise sensitive area 9 would have a projected 2015 noise level 4 dBA above the noise abatement criteria. A barrier at this location would not be physically feasible because of barrier segmentation for driveway access at the mobile home entrance. A 20-foot noise barrier fronting the mobile homes only yielded a 3-dBA reduction at this location.

NSA 12

NSA 12 would have a projected 2015 noise level 1 dBA above the noise abatement criteria of 67 dBA. A noise barrier 930 feet in length by 16 feet in height at a cost of $401,760 was analyzed. A total of three residences with projected noise levels of 67 dBA or greater would receive a 5 to 10 dBA reduction. The cost per residence of this barrier would be $133,920. This barrier would not be a reasonable mitigation measure.

2. Construction Impacts

As with any major construction project, areas around the construction site are likely to experience varied periods and degrees of noise impact. This type of project would probably employ the following pieces of equipment that would be likely sources of construction noise:

Bulldozers and earth movers

Graders

Front end loaders

Dump and other diesel trucks

Compressors

Generally, construction activity would occur during normal working hours on weekdays. Therefore, noise intrusion from construction activities probably would not occur during critical sleep or outdoor recreating periods.

Maintenance of construction equipment will be regular and thorough to minimize noise emissions because of inefficiently tuned engines, poorly lubricated moving parts, poor or ineffective muffling systems, etc.

G. Air Quality Impacts

1. Analysis Objectives, Methodology, and Results

The objective of the air quality analysis is to compare the carbon monoxide (CO) concentrations estimated to result from traffic configurations and volumes of each alternate with the State and National Ambient Air Quality Standards (S/NAAQS). The NAAQS and SAAQS are identical for CO: 35 ppm (parts per million) for the maximum 1-hour period and 9 ppm for the maximum consecutive 8-hour period.

A microscale CO pollution diffusion analysis was conducted using the third generation California Line Source Dispersion Model, CALINE 3. This microscale analysis consisted of projections of 1-hour and 8-hour CO concentrations at sensitive receptor sites under worst case meteorological conditions for the No-Build and the Preferred Alternates for the design year (2015) and the estimated year of completion (1995).

a. Analysis Inputs

A summary of analysis inputs is given below. More detailed information concerning these inputs is contained in the Maryland Route 246 Air Quality Analysis, which is available for review at the Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Background CO Concentrations

In order to calculate the total concentration of CO which occurs at a particular receptor site during worst case meteorological conditions, the background CO concentrations are considered in addition to the levels directly attributed to the facility under consideration. Due to the lack of ambient air monitoring stations in the area, and because the project is in an air quality attainment area, the background concentrations were assumed. The background concentrations resulting from area-wide emissions from both mobile and stationary sources were assumed to be the following:

	CO, ppm	
	1-hour	8-hour
1995	2.0	1.0
2015	2.0	1.0

Traffic Data, Emission Factors, and Speeds

The appropriate traffic data was utilized as supplied by the Bureau of Highway Statistics (July, 1987) of the Maryland State Highway Administration.

The composite emission factors used in the analysis were derived from the Environmental Protection Agency (EPA) Mobile Source Environmental Factors, and were calculated using the EPA MOBILE 3 computer program. An ambient air temperature of 20 degrees Fahrenheit was assumed in calculating the emission factors for the 1-hour analysis and 35 degrees Fahrenheit for the 8-hour analysis in order to approximate worst case results for each analysis case.

Average vehicle operating speeds used in calculating emission factors were based on the capacity of each roadway link considered, the applicable speed limit, and external influences on speed through the link from immediately adjacent links. Average operating speeds ranged from 10 mph to 55 mph depending upon the roadways and alternate under consideration.

Meteorological Data

Worst-case meteorological conditions of 1 meter/second for wind speed and atmospheric stability class F were assumed for the 1-hour analysis; a combination of 1 meter/second and stability class F, and 2 meters/second and stability class D, as appropriate, were used for the 8-hour calculations.

The wind directions utilized as part of the analysis were rotated to maximize CO concentrations at each receptor location. Wind directions varied for each receptor and were selected through a systematic scan of CO concentrations associated with different wind angles.

b. Sensitive Receptors

Site selection of sensitive receptors was made on the basis of proximity to the roadway, type of adjacent land use, and changes in traffic patterns on the roadway network. Twelve receptor sites were chosen for this analysis consisting of eight residences, a church, two schools, and a nursing home. The receptor site locations were verified during study area visits by the analysis team. The receptor sites are listed in Table 14 and shown on the Alternates Mapping in Section I.

c. Results of Microscale Analysis

The results of the calculations of CO concentrations at each of the sensitive receptor sites for the No-Build and Preferred Alternates are shown on Table 14. The values shown consist of predicted CO concentrations attributable to traffic on various roadway links plus projected background levels. A comparison of the values in Table 14 with the S/NAAQS shows that no violations will occur for the No-Build or Preferred Alternates in 1995 or 2015 for the 1-hour and 8-hour concentrations of CO. The projected CO concentrations vary between alternates depending on receptor locations as a function of the roadway locations and traffic patterns associated with each alternate.

The No-Build Alternate results in the highest CO concentrations in 1995 and 2015 for all receptors. The concentrations remain well below the S/NAAQS for both alternates under consideration.

In conclusion, the No-build Alternate and the Preferred Alternate will not result in violations of the 1-hour or 8-hour S/NAAQS in 1995 or 2015.

2. Construction Impacts

The construction phase of the proposed project has the potential of impacting the ambient air quality through such means as fugitive dust from grading operations and materials handling. The State Highway Administration has addressed this possibility by establishing Standard Specifications for Construction and Materials, which specifies procedures to be followed by contractors involved in state 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 that the specifications are consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 10.18.06.03D) will be taken to minimize the impact on the air quality of the area.

TABLE 13

Air Quality Receptor Sites

Site No.	Reference Figure No.	Description/Location
1	3h	Residence, 1 1/2 story frame Box 453, Maryland Route 246
2	3h	Residence, 2 story frame Box 640, Maryland Route 246
3	3h	Residence, 1 1/2 story frame Box 456, Maryland Route 246
4	3h	Bayside Nursing Home Maryland Route 246
5	3d	Indian River Apartments Units 524/514, Maryland Route 246
6	3c	Mobile Home Opposite Great Mills High School (Station 48+67)
7	3c	Great Mills High School
8	3c	Residence, 1 story brick Box 431, Maryland Route 246
9	3c	Trailer Park Box 424, Maryland Route 246
10	3a	Church of Christ Maryland Route 246
11	3a	Charles County Community College Maryland Route 246
12	3d	Residence, 1 1/2 story frame Box 445, Maryland Route 246

TABLE 14

CO Concentrations* at Each Receptor Site, ppm

	ALTERNATE 1 (NO-BUILD ALTERNATE)				ALTERNATE 2 (PREFERRED BUILD ALTERNATE)			
Receptors	1995		2015		1995		2015	
	1 HR.	8 HR.	1 HR.	8 HR.	1 HR.	8 HR.	1 HR.	8 HR.
1	6.7	2.0	11.9	2.9	4.5	1.9	6.4	2.1
2	8.9	2.5	17.8	4.1	6.0	2.4	9.2	2.8
3	6.1	1.9	12.3	3.0	4.2	1.8	6.5	2.1
4	3.6	1.3	5.8	1.7	2.9	1.3	3.6	1.4
5	7.0	2.0	11.2	2.7	4.7	1.9	5.9	2.0
6	7.2	2.1	13.2	3.0	4.8	1.9	6.9	2.2
7	6.1	1.8	9.4	2.3	4.2	1.7	5.1	1.7
8	9.3	2.4	15.4	3.4	6.1	2.4	8.1	2.4
9	6.8	1.9	11.2	2.7	4.6	1.8	6.1	1.9
10	7.0	2.0	11.6	2.7	4.7	1.9	6.1	1.9
11	5.5	1.7	8.3	2.2	4.0	1.7	5.2	1.7
12	7.5	2.2	14.4	3.3	5.1	2.1	7.4	2.3

*Including Background Concentrations.

The S/NAAQS for CO: 1 HR maximum = 35 ppm
8 HR maximum = 9 ppm

3. Conformity with Regional Air Quality Planning

The project is in an area where the State Implementation Plan (SIP) dies not contain any transportation control measures. Therefore, with the exception of the construction procedures, the conformity requirements of 23CFR770 do not apply to this project.

4. Agency Coordination

Copies of the technical Air Quality Analysis are being circulated to the U.S. Environmental Protection Agency and the Maryland Air Management Administration for review and comment.

V COMMENTS & COORDINATION

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
DIVISION OF ECOLOGICAL SERVICES
1825B VIRGINIA STREET
ANNAPOLIS, MARYLAND 21401

November 18, 1986

Ms. Cynthia D. Simpson
Chief, Enviromental Management
Maryland Department of Transportation
P. O. Box 717
707 N. Calvert Street
Baltimore, MD 21203

Dear Ms. Simpson:

This responds to your October 22 request for information on the presence of Federally listed endangered or threatened species within the area of the proposed widening of Maryland Route 246, St. Mary's County, MD. We have reviewed your information and are providing the following comments in accordance with the Endangered Species Act of 1973, as amended.

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

This response relates only to endangered species under our jurisdiction. It does not address other FWS concerns under the Fish and Wildlife Coordination Act or other legislation.

Thank you for your interest in endangered species. If you have any questions or need further assistance, please contact Judy Jacobs of our Endangered Species staff at (301) 269-6324.

Sincerely yours,

Glenn Kinser
Supervisor
Annapolis Field Office

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Department of Natural Resources
MARYLAND FOREST, PARK & WILDLIFE SERVICE
Tawes Office Building
Annapolis, Maryland 21401

TORREY C. BROWN, M.D.
SECRETARY

DONALD E. MACLAUCHLAN
DIRECTOR

December 16, 1986

Cynthia D. Simpson
Environmental Management
State Highway Administration
P.O. Box 717/707 N. Calvert Street
Baltimore, Maryland 21203-0717

Subject: Md. Route 246 from Md. Route 234 to Route 5, in St. Mary's County

Dear Ms. Simpson,

The Maryland Natural Heritage Program has no record of any rare species or unique habitat at or in the vicinity of this project site. However, in the absence of a recent site review, we cannot show that such species or habitats are not present.

Species and habitats of special concern to the state are listed and discussed in the following 1984 Department of Natural Resources publication: Threatened and Endangered Plants and Animals of Maryland, available through this office. A site evaluation should include a consideration of these species and their habitats.

Sincerely,

Jonathan A. McKnight
Maryland Natural Heritage Program

JAM:nlt

Telephone 974-2870
TTY FOR DEAF: STATEWIDE 1-800-492-5062; BALTIMORE 269-2609

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: April 27, 1987
Name Of Project: Maryland Route 246 widening, Route 5 to Saratoga Dr.	Federal Agency Involved: FHWA/MD State Highway Administration
Proposed Land Use: Residential, Commercial, Institutional, Agriculture	County And State: St. Mary's County, Maryland
PART II *(To be completed by SCS)*	Date Request Received By SCS: 4/30/87

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).*	Yes ☐	No ☒	Acres Irrigated	Average Farm Size

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
	Acres: %	Acres: %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS: 5/12/87

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A (Alt. 2)	Site B (Alt. 3)	Site C (Alt. 4)	Site D
A. Total Acres To Be Converted Directly	4.29	13.24	8.78	
B. Total Acres To Be Converted Indirectly	0	0	0	
C. Total Acres In Site	4.29	13.24	8.78	
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*				
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points			
1. Area In Nonurban Use				
2. Perimeter In Nonurban Use				
3. Percent Of Site Being Farmed				
4. Protection Provided By State And Local Government				
5. Distance From Urban Builtup Area				
6. Distance To Urban Support Services				
7. Size Of Present Farm Unit Compared To Average				
8. Creation Of Nonfarmable Farmland				
9. Availability Of Farm Support Services				
10. On-Farm Investments				
11. Effects Of Conversion On Farm Support Services				
12. Compatibility With Existing Agricultural Use				
TOTAL SITE ASSESSMENT POINTS	160			
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland *(From Part V)*	100			
Total Site Assessment *(From Part VI above or a local site assessment)*	160			
TOTAL POINTS *(Total of above 2 lines)*	260			

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

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Maryland Historical Trust

PROJECT DEVELOPMENT DIVISION
FEB 9 59 AM '87

February 3, 1987

Ms. Cynthia Simpson, Chief
Environmental Management
Maryland Dept. of Transportation
State Highway Administration
P. O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Maryland Route 246 from
Maryland Route 5 to
Maryland Route 234

Dear Ms. Simpson:

In recent phone conversations with Rita Suffness we were informed that the above-referenced project was limited to areas along the existing right-of-way and does not involve demolitions. Based on this information our office considers the project as one having no effect on significant standing structures.

Thank you for your cooperation.

Sincerely,

George J. Andreve

George J. Andreve
Project Review Administrator
Preservation Assistance Services

GJA/AHL/mmc
cc: Ms. Rita Suffness
Mr. Paul Wettlaufer
Dr. Ralph Eshelman
Ms. Julie King

Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 269-2212, 269-2438, 269-2850
Department of Economic and Community Development Admin. S & P TPS

Maryland Department of Natural Resources

Maryland Geological Survey
2300 St. Paul Street
Baltimore, Maryland 21218
Telephone: (301) 554-5500

William Donald Schaefer
Governor

Torrey C. Brown, M.D.
Secretary

Kenneth N. Weaver
Director

Emery T. Cleaves
Deputy Director

Division of Archeology
(301) 554-5530

27 April 1987

Mr. Louis H. Ege, Jr.
Deputy Director
Division of Project Development
State Highway Administration
P.O. Box 717/707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. SM 751-101-571
Maryland Route 246 from Maryland
Route 5 to west of Saratoga Drive
PDMS No. 183049

Dear Mr. Ege:

I have reviewed the above-referenced project with regard to archeological resources. Within the circumscribed project area there is moderate to high potential for the occurrence of prehistoric sites. Two Archaic period sites were reported in a 1984 survey northeast of the intersection of Route 246 and Route 237. These sites were located in an area scheduled for residential development.

The hydrologic pattern in the project area consists of small feeder streams within the Jarboesville Run and St. Marys River drainages. These streams bisect the area and offer an attractive environmental setting for Amerindian settlement. The two sites identified were in proximity to a tributary of Jarboesville Run.

A series of early mills were operated in the region of the upper St. Marys River and its tributaries. For this reason the community near the intersection of Route 246 and Route 5 was named Great Mills. No mills are recorded in the project area; however, there is a moderate potential for sites to be present. As outlined, the project boundaries include a section of one tributary.

If I can be of further assistance in this matter, please do not hesitate to contact me.

Sincerely,

Ted M. Payne
Highway Project Director

TMP:lw

cc: Cynthia D. Simpson
Joseph Hopkins

GREENHORNE & O'MARA, INC.

MEMORANDUM

TO: Cynthia Simpson, Maryland State Highway Administration

FROM: Cathy Fairbairn mcf

DATE: September 29, 1987

SUBJ: MD 246 Wetlands Field Review

The following persons met at the Roy Rogers restaurant on Maryland 246 for the Corps field review, which began at approximately 9:30 a.m. on the above date:

Name	Affiliation	Phone No.
Cathy Fairbairn	Greenhorne & O'Mara, Inc.	982-2800
Willy Accame	Greenhorne & O'Mara, Inc.	982-2800
Tom Hegemier	Greenhorne & O'Mara, Inc.	982-2800
Tom Wilkins	Greenhorne & O'Mara, Inc.	982-2800
Mary Dircks	U.S. Army Corps of Engineers	962-3477
Marcia Smith	State Highway Administration	333-1184
Peter Knight	U.S. Fish & Wildlife Service	269-5448

Cathy Fairbairn distributed maps and tables depicting the impacted wetlands along the proposed Maryland Route 246 right-of-way. She then briefly explained the methodology that had been utilized to delineate the wetlands. 1987 black and white aerial photographs were interpreted stereoscopically to identify potential wetland areas. NWI maps, the county soil survey, and FEMA flood insurance maps were examined prior to the site reconnaissance. Wetland boundaries were subsequently determined in the field and then flagged. At each site, soil samples were taken with a soil probe, and examined for the presence of hydric soils. Vegetation and hydrologic indicators were also identified. The wetlands were classified according to the Cowardin System (1976) and a table of the wetlands impacted and their characteristics was compiled along with maps of the wetland areas prior to the field review.

Most of the wetland sites were visited: Nos. 12, 10, 9, 8, 7, 6, 5, 3, 2, and 1. Wetland sites 11 and 4 were not visited because they were outside the right-of-way. The Corps and the Fish and Wildlife Service concurred with the wetland boundary delineations. A good portion of wetland No. 9 was defoliated. Also, there existed a significant amount of fill in the vicinity of wetland site 1 that was not present in April, the time when those wetlands were flagged. The only significant agency comment was from Mary Dircks, who requested that SHA keep out of the wetlands at wetland site No. 1, especially at the intersection of Maryland Route 246 with Maryland Route 5.

Attached is a copy of the wetlands map and table with acreages tabulated. Please forward a copy of these documents along with these meeting minutes to the Corps and the U.S. Fish & Wildlife Service as the acreages were omitted in an earlier version of the table. Thank you.

cc: Doug Simmons
State Highway Administration

VI BIBLIOGRAPHY

VI. BIBLIOGRAPHY

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VII APPENDICES

APPENDIX A

Bird Species Observed Along Project Corridor

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
Fish crow	*Corvus ossifragus*
Common grackle	*Quiscalus quiscula*
European starling	*Sturnus vulgaris*
American robin	*Turdus migratorius*
House sparrow	*Passer domesticus*
Eastern phoebe	*Sayornis phoebe*
Flycatcher	*Empidonax virescens*
Chimney swift	*Chaetura pelagica*
Killdeer	*Charadrius vociferus*
Northern cardinal	*Cardinalis cardinalis*
Northern mockingbird	*Mimus polyglottos*
Red-eyed vireo	*Vireo olivaceus*
Brown thrasher	*Toxostoma rufum*
Hermit thrush	*Catharus guttatus*
Common bobwhite	*Colinus virginianus*
Blue jay	*Cyanocitta cristata*
Common flicker	*Colaptes auratus*
Red-wing blackbird	*Agelaius phoeniceus*

APPENDIX B

Fish Species Commonly Occurring in Freshwater Streams of Southern Maryland

Common Name	Scientific Name
Sea lamprey	*Petromyzon marinus*
Least brook lamprey	*Lampetra aepyptera*
American eel	*Anguilla rostrata*
Eastern mudminnow	*Umbra pygmaea*
Chain pickerel	*Esox niger*
Redfin pickerel	*Exos americanus*
Rosyside dace	*Clinostomus funduloides*
Carp	*Cyprinus carpio*
Cutlips minnow	*Exoglossum maxillingua*
Common shiner	*Notropis cornutus*
Swallowtail shiner	*Notropis procne*
Spottail shiner	*Notropis hudsonius*
Golden shiner	*Notemigonus crysoleucas*
Blacknose dace	*Rhinichthys atratulus*
Fallfish	*Simotilus corporalis*
Silvery minnow	*Hybognathus nuchalis*
Satinfin shiner	*Notropis amalostanus*
White sucker	*Catostomus commersoni*
Creek chubsucker	*Erimyzon oblongus*
White catfish	*Ictalurus catus*
Brown bullhead	*Ictalurus nebulosus*
Margined madtom	*Noturus insignis*
Pirate perch	*Aphredoderus sayanus*
Redbreast sunfish	*Lepomis auritus*
Pumpkinseed	*Lepomis gibbosus*
Bluegill	*Lepomis machrochirus*
Longear sunfish	*Lepomis megalotis*
Largemouth bass	*Micropterus salmoides*
Yellow perch	*Perca flavescens*
Tesselated darter	*Etheostoma olmstedi*