



# final environmental statement

F O R

CONTRACT No. C 243-034-574  
MARYLAND ROUTE 2 AND 4  
FROM MARYLAND ROUTE 264 TO THE  
NORTHERN APPROACHES OF THE  
NEW PATUXENT RIVER BRIDGE  
IN CALVERT COUNTY, MARYLAND

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

REPORT NUMBER: FHWA-MD-EIS-75-01-(F)

Federal Highway Administration  
Region III

Maryland Route 2 and 4  
Maryland Route 264 to the Northern Approaches  
of the New Patuxent River Bridge  
Calvert County

ADMINISTRATIVE ACTION

FINAL ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

State of Maryland  
Department of Transportation  
State Highway Administration

Submitted pursuant to 42 U.S.C. 4332(2) (C), 23 U.S.C. 128(a)

\_\_\_\_\_  
Bernard M. Evans  
State Highway Administrator

March 10, 1976

Date

by: Robert J. Hajzyk

Robert J. Hajzyk, Director  
Office of Planning and  
Preliminary Engineering

4/8/76

Date

by: [Signature]

For

Federal Highway Administration  
Regional Federal Highway  
Administrator

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under the direction of

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and

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TABLE OF CONTENTS

	SUMMARY	Page i
I.	PROJECT LOCATION AND DESCRIPTION	I-1
II.	PROJECT HISTORY AND NEED	II-1
III.	EXISTING ENVIRONMENTAL CONDITIONS	III-1
	a. Climate and Air Quality	III-1
	b. Water Quality	III-3
	c. Noise	III-6
	d. Geology, Topography and Soils	III-16
	e. Vegetation	III-21
	f. Fish and Wildlife	III-25
	g. Historic/Archaeological	III-32
	h. Aesthetics	III-44
	i. Planning/Land Use	III-45
	j. Socio-Economic	III-56
IV.	ALTERNATIVES	IV-1
V.	ENVIRONMENTAL IMPACTS	V-0
	a. Air Quality	V-0
	b. Water Quality	V-4
	c. Noise	V-13
	d. Natural Resources	V-29
	1. Vegetation	V-29
	2. Wildlife	V-33
	3. Geology, Topography and Soils	V-36
	4. Wetland and Stream Preservation	V-37
	5. Historic/Archaeological Sites	V-41
	6. Park and Recreation Areas	V-49

TABLE OF CONTENTS (continued)

e.	Aesthetics	Page V-56
f.	Displacement	V-59
g.	Regional and Community Growth	V-75
h.	Community Cohesion	V-79
i.	Public Facilities and Services	V-81
VI.	UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS	VI-1
VII.	RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	VII-1
VIII.	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	VIII-1
IX.	COMMENTS AND COORDINATION	IX-1

APPENDIXES

- Appendix A -
- Appendix B - Detailed Charts - Residential and Business Displacement Totals and Availability of Replacements
- Appendix C - Correspondence
- Appendix D - List of References
- Appendix E - Detailed Alignment Maps 1"=600'
- Appendix F - Maryland Environmental Protection Act, Environmental Assessment Form

6

LIST OF TABLES AND MAPS

TABLES

Summary Table - Summary of Impacts by Alternative	Page viii
Table 1 - Ambient Noise Levels	III-11
Table 2 - Fish Species Occurring within the Patuxent River Tributaries	III-27
Table 3a- Mammals common to Study Area	III-28
Table 3b- Birds common to Study Area	III-29
Table 4 - Existing Land Use - Calvert County	III-46
Table 5 - Engineering and Cost Summary of Alternates	IV-13
Table 6 - Major Comparative Advantages and Disadvantages of Alternatives	IV-15
Table 7 - Relation of Design Noise Level to Ambient	V-15
Table 8 - Positive Archaeological Checks	V-47
Table 9 - Displacement of Families and Businesses	V-60

MAPS

Figure 1 - Area Map	I-2
Figure 2 - Corridor Map	I-6
Figure 3 - Typical Section	I-7
Figure 4 - Noise Sensitive Area Monitoring Sites	III-14
Figure 5 - Geology Map	III-17
Figure 6 - Soils Map	III-18
Figure 7 - Historic Sites	III-35
Figure 8 - Archaeology Sites	III-38
Figure 9 - Land Use Map	III-52
Figure 10 - Alternates Map	IV-16
Figure 11 - Noise Impact Maps	V-18
Appendix E- Detailed Alignment Maps	

SUMMARY

- (1) Check appropriate box(es)

Federal Highway Administration

Administrative Action Environmental Statement

( ) Draft (X) Final

( ) Section 4(f) Statement Attached

- (2) Individuals who can be contacted for additional information concerning the proposed project and this statement:

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- (3) Description of Action

The proposed action involves the construction of an approximately 15 mile long segment of Maryland Routes 2 and 4 in Calvert County, Maryland, from Route 264 south to the Johnstown-Solomon area and the new Lower Patuxent River Bridge (now under construction). It is part of a continuing program to upgrade Routes 2-4 to a four-lane facility. The roadway has already been dualized to the north of Prince Frederick (four miles north of Maryland Route 264), and the section between Prince Frederick and Route 264 has received design approval and is nearing construction. The roadway will be on new location utilizing the alignment designated as Alternates 4 and 4D in project planning studies.

4

The subject project will provide a four-lane facility with a minimum 30 foot grassed median in a 200 foot right-of-way. The roadway is proposed to have partial control of access.

(4) Summary of Environmental Impacts

The project will improve access to Southern Calvert County and reduce travel times to and from the north. The route will provide greater safety than the existing route and numbers of accidents should be reduced. Response times of emergency vehicles will be shortened.

Improved access will encourage growth in the area stimulating the local economy. Because of the distance from major urban areas growth pressures should not, however, be overwhelming to the point that public facilities and services are overtaxed.

Air pollution levels will be increased by a negligible amount. In no instance will National Primary and Secondary Air Quality Standards for carbon monoxide be exceeded.

Noise pollution levels will be increased in areas adjacent to the highway. However, since the alignment passes through basically undeveloped areas, very few resident will be subjected to increased noise levels.

Impact on water quality and stream and wetland preservation will not be significant if proper erosion control procedures are followed during the construction period. No designated salt-water wetlands are crossed by any alternate.

There will be losses in wildlife habitat and considerable vegetation will be removed. However, no unique habitat areas will be destroyed and acreage losses will not be significant in comparison with the total woodland available in Calvert County.



The project will have negligible effects on historic sites in the area, most of which are located on existing Route 2 and 4 which will be supplanted by the new alignment. Several sites of potential archaeological value will be affected. An intensive archaeological reconnaissance will be undertaken prior to construction to determine the value and significance of sites affected and what should be preserved. Results will be deposited with the Maryland Historical Trust or other agency.

Access will be greatly improved to Cliffs of Calvert State Park and the Navy Recreation Center at Solomons. There will be no land takings at the State Park but several acres will be removed from the Navy Recreation Center which serves military personnel. Navy officials do not consider the impact significant. The Navy will be reimbursed for any lands taken.

Displacement of businesses and homes will not be significant. Only four businesses and seven homes are required. Productive farmland will also be removed from cultivation but the acreage involved is small ( $\pm$  40 acres) and no farms will be taken in entirety.

The project is in conformance with local and regional land use plans and there has been no organized opposition to the project. There are no other proposed major Federal actions of other agencies in the area that affect this project or its impacts. The Federal Highway Administration is sponsoring roadway and bridge improvements to both the north and south of this project. These projects will not significantly affect the impacts of the subject project.

(5) Major Alternatives Considered

Among the major alternatives considered were that of "Doing Nothing", constructing the improvement on the existing alignment of Route 2 and 4, or on one of several alternative new alignments.

There were two alternates which were considered if the existing alignment were to be utilized. They were identified as Alternates 3 and 3-A (alternates known as 1 and 2 were dropped earlier from further consideration). Alternate 3 closely follows the existing alignment of Route

10

2 and 4 throughout the project length. Alternate 3-A follows the same basic course as Alternate 3 but bypasses the town of St. Leonard to the west rather than passing through it. These alternates were to have no control of access.

Alternates on new location which were considered are identified as 4, 4-A, 4-B, 4-C and 4-D. Except for 4-A, they generally lie to the west of existing Route 2 and 4. Alternate 4 is the basic alternate with the others being sub-alternates which diverge from the main stem for portions of the alignment. Alternate 4-A and 4-B are in the northern half of the project while 4-C and 4-D are in the southern half. All these alternates, have partial control of access with driveway access limited to every 2000 to 2500 feet and at secondary road intersections, with service roads provided where necessary. A summary of impacts by alternative appears at the end of this summary section. Alternate 4, combined with 4-D at the southern end of the project has been selected for corridor approval.

(6) Comments Requested From:

<u>Federal Agencies:</u>	<u>Comments Received From:</u>
U.S. Department of the Interior Assistant Secretary for Program Policy	X
Regional Director National Marine Fisheries Service	
Regional Administrator Department of Housing & Urban Development	
Office of the Secretary Department Agriculture	
State Conservationist Soil Conservation Service, USDA	X
Deputy Assistant Secretary for Environmental Affairs U.S. Department of Commerce	X
Department of Health, Education & Welfare Assistant Secretary for Health & Science Affairs	

11

U.S. Environmental Protection Agency, Environmental Impact Statement Coordinator	X
U.S. Office of Economic Opportunity Director	
Executive Director of Civil Works Office of the Chief Engineer Department of the Army - Corps of Engineers	
Department of the Navy Chesapeake Division Naval Facilities Engineering Command	X
<u>Maryland State Agencies:</u>	
Department of State Planning	X
Department of Natural Resources	X
Department of Budget & Fiscal Planning	X
Department of General Services	X
Department of Economic & Community Develop- ment	X
Department of Education	X
Department of Health & Mental Hygiene	X
Interagency Committee for School Construction	X
Maryland Environmental Trust	
Maryland Historical Trust	X
Maryland Geological Survey	
Department of Public Safety & Correctional Services	X

12

Elected Federal Officials:

Honorable Robert E. Bauman  
United States Congress  
House of Representatives

Honorable J. Glenn Beall, Jr.  
United States Senate

Honorable Charles McC. Mathias  
United States Senate

Calvert County Officials:

The Honorable Edward T. Hall  
State Senator  
Calvert County

The Honorable Thomas A. Rymer  
Delegate  
Calvert County

X

The Honorable C. Bernard Fowler  
President Board of County  
Commissioners - Calvert County

The Honorable H. Gordon Trueman  
Member Board of County  
Commissioners - Calvert County

The Honorable George J. Weems  
Member Board of County  
Commissioners - Calvert County

Mr. Frank Thorp  
Regional Commissioner  
State Highway Administration

Mr. Gerald C. McKinney  
Executive Director  
Tri-County Council

X

Colonel Lawrence Bowlby  
Chairman  
Planning and Zoning Commission of Calvert County

X

Director  
Calvert County Conservation

Mr. Walther Ewalt  
President  
Calvert County Historical Society

Mr. Bruce McLin  
Director of Parks & Recreation

(7) Date draft statement was mailed to CEQ 6/20/75

Summary of Impacts by Alternates

Major Potential Impacts

Alternatives to Proposed Project

	<u>Recommended Alignment (4-4D)</u>	<u>Alternatives to Proposed Project</u>							<u>Do-Nothing</u>
		<u>3</u>	<u>3A</u>	<u>4</u>	<u>4A</u>	<u>4B</u>	<u>4C</u>	<u>4D</u>	
Reduction in Air Quality	0	0	0	0	0	0	0	0	0
Increased Noise Levels	-	--	--	-	-	-	-	-	0
Reduction in Water Quality	-	0	-	-	-	-	-	-	0
Loss of Forested Areas	-	0	0	-	-	-	-	-	0
Loss of Farmland	-	0	0	-	0	-	-	-	0
Effects on Wildlife	-	0	0	-	-	-	-	-	0
Effects on Historic Sites	0	-	-	0	-	0	0	0	0
Effects on Archaeological Sites	-	-	-	-	-	-	-	-	0
Effects on Recreation Sites	0	-	-	0	0	0	0	0	0
Displacement of Families and Businesses	0	--	--	0	-	0	0	0	0
Community Cohesion	+	--	--	+	-	+	+	+	-
Improved Traffic Flow	++	+	+	++	+	++	++	++	--
Maintenance of Traffic Flow During Construction	0	--	--	0	0	0	0	0	0
Improved Traffic Safety	++	+	+	++	+	++	++	++	--
Consistency with Land Use Planning	++	+	+	++	+	++	++	++	--

Key: ++ Significant positive impact.  
 + Minor Positive impact.  
 0 No change or negligible impact.  
 - Minor negative impact.  
 -- Singificant negative impact.

viii

14

I. PROJECT LOCATION AND DESCRIPTION

I. Project Location and Description

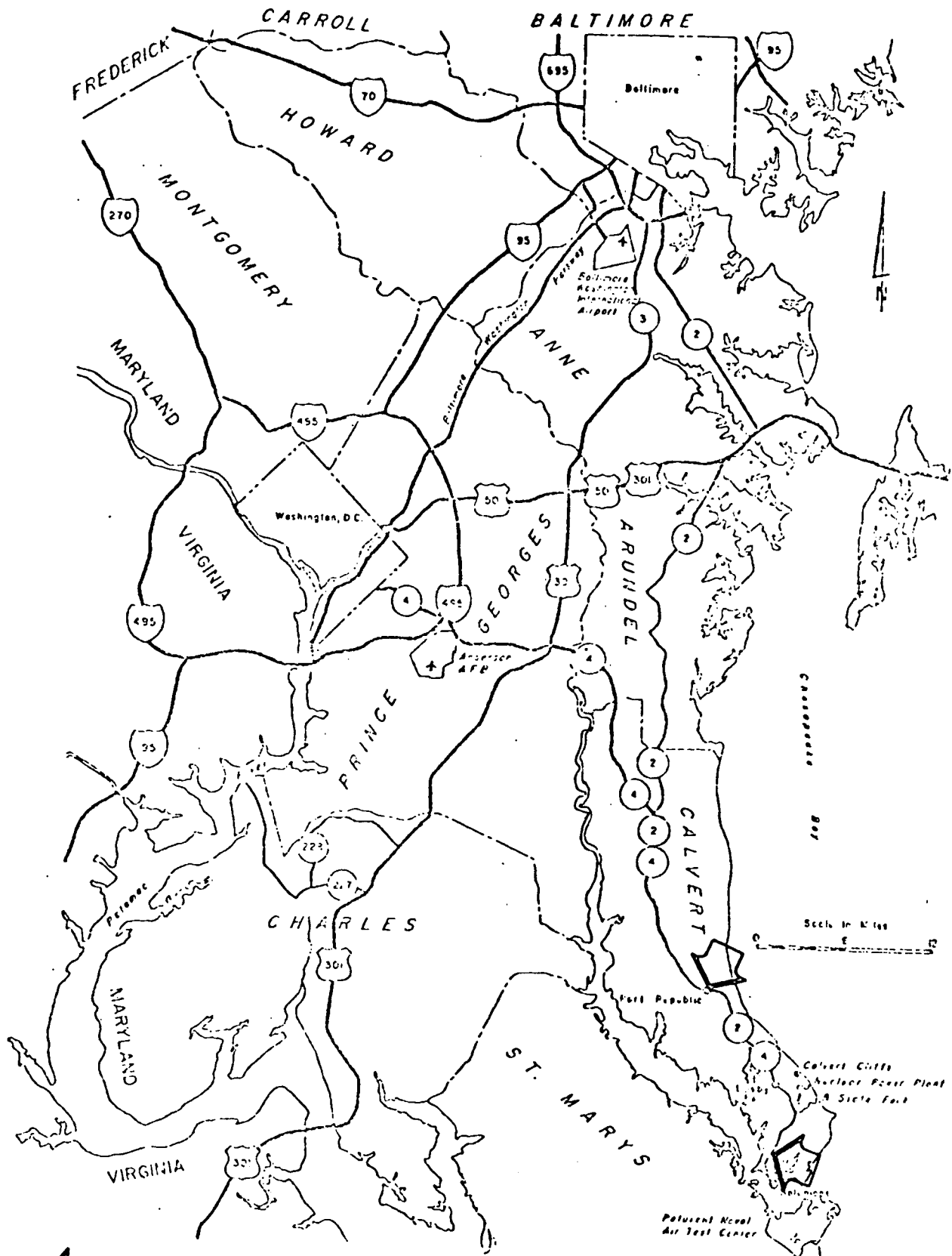
This assessment evaluates the environmental impact of the improvement of Maryland Routes 2 and 4 in Calvert County, Maryland from Maryland Route 264 on the north to the Johnstown-Solomons area and the new Lower Patuxent River bridge on the south, a distance of approximately 15 miles. Calvert County is located in southern Maryland between the Patuxent River and the western shore of the Chesapeake Bay.

Maryland Route 2 begins in Baltimore and runs in a north-south direction through Anne Arundel and Calvert Counties ending at the tip of the Calvert Penninsula in Solomons Island. It is joined by Maryland Route 4, which begins on Pennsylvania Avenue in Washington D.C. and runs east-west to Bristol, Maryland where it turns south and then joins Route 2 just south of Sunderland, Maryland. (Figure 1)

The northern section of Route 2 travels through a highly developed urban and suburban area and carries a heavy Average Daily Traffic (ADT) volume which rapidly decreases south of Annapolis, Maryland. The western section of Route 4 also has a relatively high ADT as it services suburban Washington, Andrews Air Force Base, and the Marlboro Racetrack. The balance of the road carries vacationers primarily from metropolitan



# REGIONAL MAP



← Project Limits

Figure 1

Washington (67 miles to Solomons Island) and Baltimore (85 miles to Solomons Island) to fishing and summer resort sites in Calvert County. Route 2-4 is also used by local traffic and commuters who work primarily in the Washington, D.C. area. In addition, trucks use the route to service the entire area, the Naval Ordnance Base, and the Calvert Cliffs Nuclear Power Generating Station.

Topography in the study area is primarily rolling, although the extreme southern portion is relatively flat. Elevations range from below 20 feet above Mean Sea Level (MSL) to over 169 feet above MSL.

The headwaters of several creeks flowing into both the Patuxent River and Chesapeake Bay drain the area.

According to the 1970 census, the population of Calvert County was 20,682, an increase of 31% over the 1960 figure (15,826). Projections, according to the Calvert County Planning Commission, are estimated to be:

<u>Year</u>	<u>Projected Population</u>
1975	25,000
1980	30,000
1985	35,500
1990	41,500

The area is basically rural in nature with most of the land in forest or agriculture. Developed areas are small and scattered with most being in the southern portion of the study area. Other land use includes the Calvert Cliffs Nuclear Power Generating Station, a liquified natural gas terminal under construction,

19

Cliffs of Calvert State Park, some resort oriented facilities, and the usual supporting commercial activities.

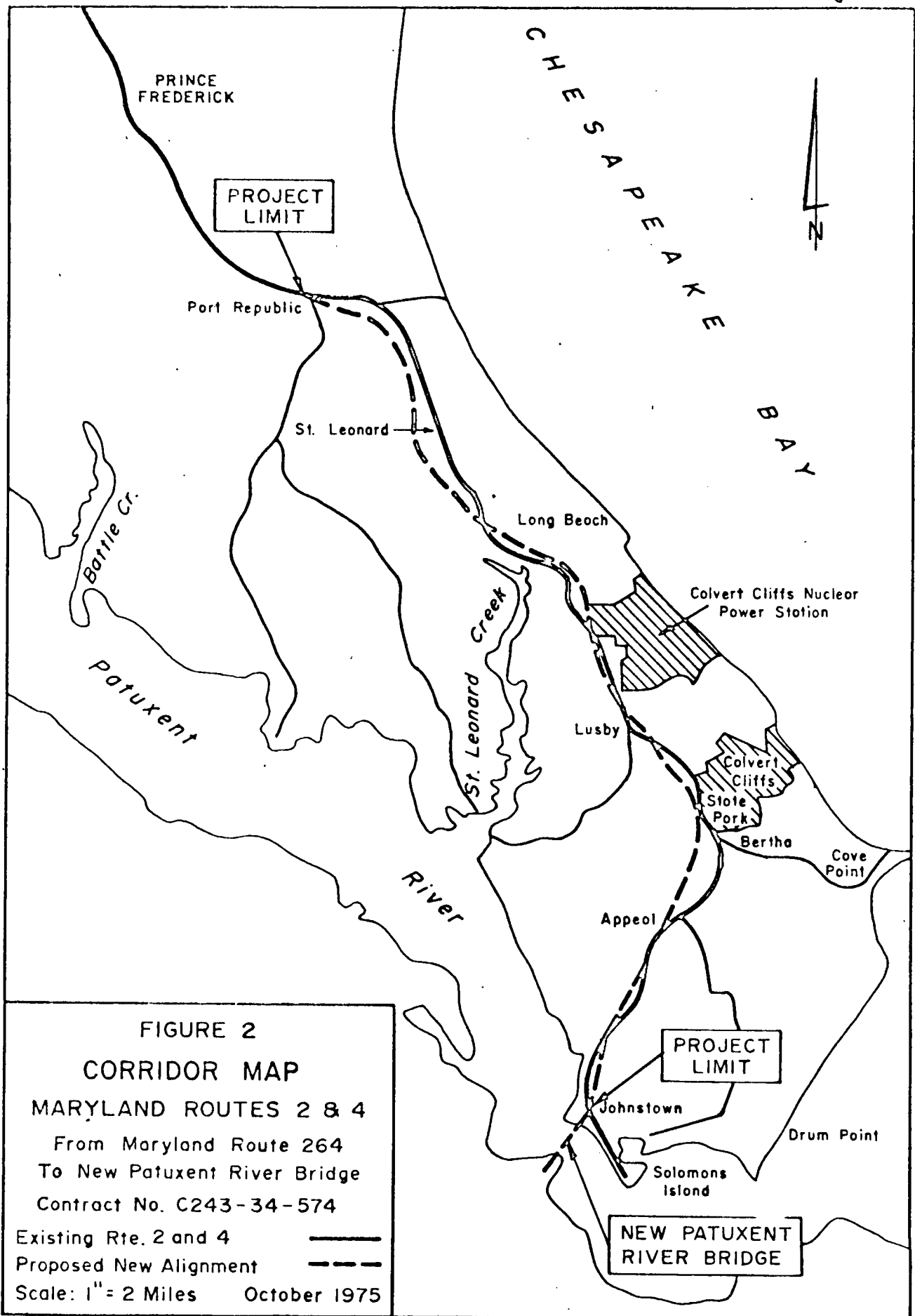
Maryland Routes 2 and 4 from Maryland Route 264 in Port Republic to its southern terminus is classified under the Maryland Functional Classification System as an intermediate arterial roadway serving inter-county traffic and also traffic in geographically isolated areas not served by principal arterials. The existing roadway consists of two 12-foot lanes with gravel shoulders approximately 6 feet wide in most areas. Both horizontal and vertical alignments are below standard on approximately 25% of this segment. In general, the roadway does not meet the safety criteria of the AASHTO "Yellow Book".

To improve both safety and traffic capacity the Maryland State Highway Administration plans to provide a four-lane divided facility on new location generally to the west of the existing roadway (See Figure 2). The typical section (See Figure 3) will have two 12-foot lanes on each side with 10-foot outer shoulders and 4-foot median shoulders separated by a 30-foot median. A minimum 200-foot right-of-way will be utilized except at the extreme southern end of the project where it will be 196 feet. Maximum right-of-way will range up to slightly more than 300 feet where extensive fill is required. Design speed for the roadway will be 60 miles per hour. Partial control of access will be incorporated into the

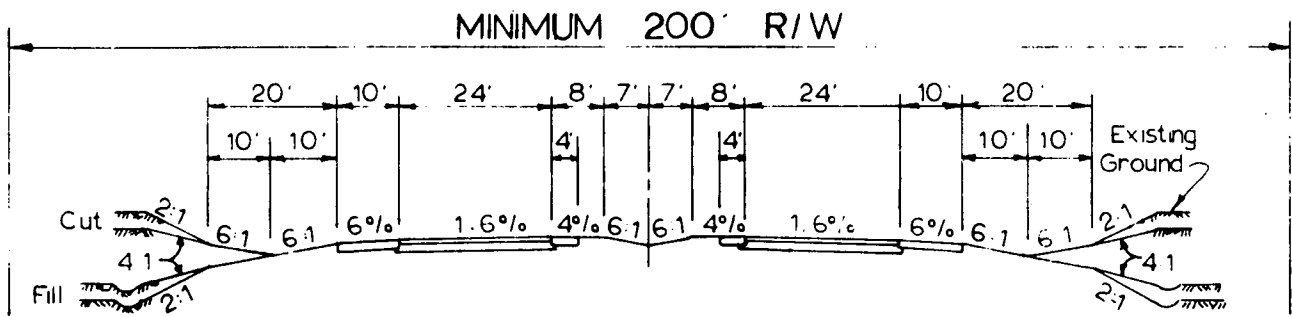
roadway design with access limited to intersection area, or, if there is no close-by intersection, access points will be provided every 2,000 to 2,500 feet.

Existing traffic volumes and projections for the future are shown in the following chart:

<u>Average Daily Traffic</u>	<u>1975</u>	<u>1982</u>	<u>1992</u>	<u>1996</u>
Md. 264 to Calvert Beach Rd.	6,500	11,940	17,930	20,325
Calvert Beach Rd. to Md.497	5,200	10,000	15,020	17,025
Md. 497 to Johnstown-Solomons Area and Patuxent River Bridge.	5,200	6,670	10,000	11,350



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TYPICAL SECTION  
Not To Scale

FIGURE 3

II. PROJECT HISTORY AND NEED

II. Project History and Need

a. Project History - This project is part of a continuing improvement program to Maryland Routes 2 and 4. The roadway has already been dualized providing four traffic lanes north of Prince Frederick to the junction of Routes 2 and 4 in Sunderland. Maryland Route 4 is dualized from that point to Washington, D.C. where it becomes Pennsylvania Avenue. Route 2 which extends due north from its connection with Route 4 remains a two-lane road until it crosses the South River just outside of Annapolis. The roadway is then dualized through the Annapolis area and into Baltimore. It shares a common alignment with Routes 50 and 301 for several miles north of Annapolis.

From Prince Frederick south to Port Republic dualization plans for Route 2 and 4 have been drawn and construction was authorized in calendar year 1975 with completion anticipated in 1977. This section has already undergone environmental review with the Draft Environmental Impact Statement (FHWA-MD-EIS-72-01, Contract No. C 243-18-27) completed February 8, 1972 and the Final Environmental Impact Statement completed October 8, 1973.

At its southern terminus the subject project will connect with existing Route 2 and 4, which serves as the main commercial artery in the Solomons area, and with the new Lower Patuxent River Bridge now under construction. The bridge will be a high-level,



25

two-lane facility which will link southern Calvert and Saint Mary's Counties. Another Federal Action will involve a connector road from the bridge to Md. Route 235 in St. Mary's County. The estimated time of completion is the fall of 1977.

Recognition of the need to provide additional lanes on the project section from Route 264 south to the Johnstown-Solomons area extends beyond 1968 when the project was identified in the 1968-1988 Needs Study prepared by the Maryland State Highway Administration. This study cited the need for a four-lane divided highway as part of the Maryland Primary Highway System. At this time possibility of a bypass around St. Leonard was under consideration with the remainder of the road being improved on the existing alignment.

In November 1971 a decision was made to evaluate the possibility of utilizing a new alignment between Route 264 and just north of St. Leonard. The scope of this study was expanded in March 1972 to incorporate a bypass of St. Leonard. Also to be studied was the feasibility of improving the existing roadway through St. Leonard.

At this time in the spring of 1972 it was anticipated that Route 2-4 would be listed in the non-critical section of the 1973-1974 Needs Study due to a lack of funds. Placement in this category meant that preliminary engineering and construction would not likely begin until the latter part of the 20-year time period. Consequently the alignment studies

mentioned previously were never developed in any detail.

However, the adoption of the Maryland Consolidated Transportation Program in 1972 greatly accelerated the timetable for this project as well as the entire highway construction program through an infusion of new funds. This program greatly expanded the funding capacity of the State Highway Administration by raising the state gasoline tax by two cents beginning July 1, 1972.

On May 24, 1973 official notice was given to other state and local agencies through the Project Notification and Review System (A-95 process) that the State Highway Administration intended to submit an application for Federal Assistance to perform Preliminary Engineering Studies for the project.

Work began in September 1973 to develop feasible alternative routes taking into consideration economic activity, existing and proposed land uses, aesthetics, public health and safety, possible relocation problems and various environmental factors. As part of this effort various state and local agencies were contacted for input and assistance.

A project initiation Public Meeting was held on April 17, 1974 at the Appeal Elementary School to solicit responses from the public. Comments expressed during this meeting concerned: overall roadway safety; displacement of

existing homes; transportation of nuclear waste from Baltimore Gas and Electric Company's Nuclear Power Plant; and possible use of the abandoned Baltimore-Drum Point railroad bed as an alignment. Use of the railroad bed was found to be unfeasible due its narrow width and the fragmented location of completed portions.

Based on the previous input an Interim Location Report was prepared which presented feasible alternative routes recommended for more detailed alignment and environmental studies. These alignments were presented in a second public meeting held at the Appeal Elementary School on August 22, 1974.

Public comments at this meeting included concern for the project's effects on existing businesses and farms. Although there was no apparent consensus on the most desirable alignment, most speakers emphasized the need for rapid completion of the project. No objections to the need for the project were expressed.

A third Public Informational Meeting was held on March 19, 1975 to further present and discuss the alternative locations under study. It was also announced that access controls were now being studied for those alternate alignments on new location (4, 4-A, 4-B, 4-C and 4-D). Previously access controls were not considered for any alternative. At this third public meeting, widespread support was once again voiced for rapid completion of the project.

The Draft Environmental Impact Statement was made available to the public on June 9, 1975 and the Corridor Public Hearing was held at the Appeal Elementary School on July 23, 1975. All review comments submitted on the Draft EIS are reproduced and discussed in Section IX - Comments and Coordination, of this statement. Comments made at the public hearing are also summarized in that section. Generally, comments made at the Public Hearing were similar to those presented at the previous public meetings. The possible adverse impact on business revenue if a new alignment were selected and the possible adverse impacts on residential areas if the existing alignment was selected were the most frequent comments.

b. Need for Project - Plans to improve Route 2-4 in southern Calvert County have arisen from the need to provide additional traffic capacity and incorporate safety improvements. The project is proposed for construction because of (1) existing sub-standard condition of road, (2) need for increased capacity and improved safety, (3) increased truck traffic, and (4) need for improved access to recreation areas and major utility facilities. The project will also encourage tourism and economic development in southern Maryland.

Traffic volumes are increasing annually due to suburban growth of the area. Future volume increases will also be encouraged by completion of the new Patuxent River Bridge linking Calvert County with lower St. Mary's County. Traffic projections for 1975 are as follows:

1975 ADT (Average Daily Traffic)

Route 264 to Calvert Beach Road	6,500
Calvert Beach Road to Patuxent River Bridge	5,200

Traffic Volumes will be considerably higher in the future due to natural growth of the area and to some extent to the new bridge. Traffic projections for 1982, and 1996 are as follows:

<u>Future ADT</u>	<u>1982</u>	<u>1996</u>
Route 264 to Calvert Beach Road	11,940	20,325
Calvert Beach Road to Route 497	10,000	17,025
Route 497 to Johnstown-Solomons Area	6,670	11,350

It is expected that the bridge will make shopping in the Lexington Park area attractive for southern Calvert County residents and at the same time enable people who work in lower St. Mary's County (especially at the Patuxent Naval Air Test Center) to live in Calvert County.

In addition to these basically local traffic movements, the new bridge may also attract through movements from St. Mary's to the urban areas of Annapolis and Baltimore to the north. The bridge will also provide an important link in a peripheral road system serving the southern Maryland waterfront area, making it more accessible to the state and region.

Aside from traffic growth generated by the new Patuxent River crossing traffic will continue to increase as a result of new development within Calvert County itself. Increasingly, workers in the Washington, D. C. and Baltimore areas are making their homes in Calvert County and commuting to work. In the northern part of the county, fifty percent commute to work out of the county, while in the southern part of the county about fourteen percent (300 workers) work out of the county.<sup>1</sup>

This trend is expected to continue with attendant increases in traffic. The location of new industrial facilities in the county such as B.G. & E.'s Nuclear Power Plant and the

<sup>1</sup> Calvert County Comprehensive Plan, Preliminary Draft, March 31, 1974, pg. 4-9

Columbia Gas Liquified Natural Gas Terminal also generate additional traffic as has already been evidenced.

While the need for additional traffic capacity is justification for the project, the improvement will also eliminate areas of poor horizontal and vertical curvature which will improve traffic safety. The existing alignment has poor sight distances in several areas, the most notable being between Lusby and Tom Parran Road. The existing roadway has two twelve-foot lanes flanked by six foot gravel shoulders. Vertical and horizontal alignments are below AASHTO (American Association of State Highway and Transportation Officials) standards for 25% of the project and the roadway does not meet the safety criteria of the "Yellow Book."

During the years of 1971 and 1972 the study portion of Route 2-4 experienced an average accident rate of 423.26 accidents per 100 million vehicle miles of travel. This rate exceeds the statewide rate of 320.5 accidents per 100 million vehicle miles for all similar type rural highways under state maintenance.

If no improvements are made to the section of Route 2-4 from Port Republic to the new Patuxent River Bridge an increase in vehicle conflicts can be expected with increased traffic growth and congestion. The accident rate will continue to rise with a corresponding increase in accident costs exceeding the current rate of \$1,697,872 per 100 million vehicle miles of travel on Route 2-4.

According to statewide studies by the Maryland State Highway Administration, the proposed four-lane divided highway should experience an accident rate of no more than 256.54 accidents per 100 million vehicle miles of travel. This rate will bring about an accident cost to the motorist of less than \$1,024,681 per 100 million vehicle miles or a savings of at least \$673,191 when compared to the current rate. The accident costs as calculated includes present worth of future earnings of people killed or disabled, as well as monetary losses resulting from injury and property damage.

More important than the monetary savings to be realized by construction is the corresponding decrease in the loss of life and human misery brought about by the reduction in accidents.

Need for the project is recognized at both local and regional levels. The Calvert County Comprehensive Plan adopted May 10, 1967, and the updated draft comprehensive plan dated March 31, 1974, both call for the provision of four lanes in the Route 2-4 corridor. A "controlled access" facility with service roads wherever adjacent land is developed is recommended.

The draft Comprehensive Regional Plan (May, 1973) for Southern Maryland, prepared by the Tri-County Council of Southern Maryland (Calvert, Charles and St. Mary's Counties) incorporates an improved Route 2-4 into two regional roadway systems - the Vertical System, and the Peripheral System.



III. EXISTING ENVIRONMENTAL CONDITIONS

III. Existing Conditions

a. Climate and Air Quality -

1. Climate - Calvert County has a continental-type climate with four well defined seasons. As it is near the mid-Atlantic coast the winters are not as cold as in the northern tier of states and summers are not as hot or prolonged as in the deep south. Chesapeake Bay and the Patuxent River, which together virtually surround the county, each have a moderating effect on temperature extremes.

The coldest month of the year is January with average daily maximum and minimum air temperatures of about 45° Fahrenheit and 28° Fahrenheit. In July, the warmest month, average daily maximum and minimum temperatures are about 88° Fahrenheit and 67° Fahrenheit. Average year-round temperature extremes range from a low of about 10° Fahrenheit to a high of about 100° Fahrenheit.

Prevailing surface winds are from the northwest to west-northwest except during the summer when they tend to be more southerly. Violent storms such as tornadoes, hurricanes or blizzards are rare. On occassion thunderstorms, especially during the summer months, may have high winds and hail.

Precipitation is fairly uniformly distributed over the year. Winter months, with an average of slightly less than 3 inches, tend to be drier than late summer and early fall months, which average close to 5 inches. Average snowfall is less than 20 inches and tends to melt rapidly. The average annual total precipitation is slightly over 40 inches.

2. Air Quality - The United States Environmental Protection Agency includes Calvert County in the Southern Maryland Air Quality Control Region. In this region, air quality presently meets the established primary and secondary standards for all parameters and is classified as a Priority III area.

There are no existing sites in the area where ambient air quality is monitored. However, some earlier measurements indicate background levels for carbon monoxide between 1 and 2 ppm<sup>1</sup>.

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<sup>1</sup>Conversation with Maryland Bureau of Air Quality Control. See letters in Appendix A.

b. Water Quality - In order to assess existing water quality in the project area a field visit was made on August 13, 1974 and samples were taken from Quakers Swamp and John's Creek. These two streams are the only major stream crossings in the corridor under study. All alternates studied cross these two streams. Several alternates also traverse headwaters of other streams or their minor tributaries but no major stream crossings are involved. Water quality of Quaker's Swamp and John's Creek is felt to be representative of other streams in the area. Both streams are classified as Class I waters by the Maryland Department of Natural Resources. The samples for both streams were taken immediately upstream of existing Route 2-4 and showed the following:

<u>Parameter:</u>	<u>Quakers Swamp</u>	<u>Md. Water Quality Stds. (Class I Waters)</u>
	<u>Sampled Value</u>	
pH	6.8	6.5 to 8.5
Chlorides (Cl <sup>-</sup> )	10 mg/l	-
Total Alkalinity (CaCO <sub>3</sub> )	59 mg/l	-
Dissolved Oxygen	8.0 mg/l	not less than 4.0 mg/l
Temperature (°F)	64	change not greater than 5°F, Temp. not to exceed 90°F
	<u>Johns Creek</u>	
<u>Parameter:</u>		
pH	6.7	6.5 to 8.5
Chlorides (Cl <sup>-</sup> )	455 mg/l	-
Total Alkalinity (CaCO <sub>3</sub> )	28 mg/l	-
Dissolved Oxygen	9.4 mg/l	not less than 4.0 mg/l
Temperature (°F)	65	change not greater than 5°F, Temp. not to exceed 90°F

37

These data show both streams to be unpolluted at present. All values are within normally acceptable ranges. The chloride concentration for Johns Creek can be considered normal for a stream in a coastal area.

At the point of sampling the stream bottom of Quakers Swamp was quite muddy. The banks along the stream are heavily forested with considerable ground cover; both of which tend to reduce sediment yields.

Bank slopes in the vicinity are moderately steep so that erosion during construction would be severe unless proper control measures are instituted and maintained. The stream has very little current under normal flow conditions and the water from the stream has a pale yellow color due to decaying vegetation. The stream has a width of only several feet and a depth of approximately 1 foot.

Johns Creek is also quite small in the vicinity of the proposed crossings with a width of approximately three feet and a depth of less than 1 foot. It has a fairly rapid current with a sandy, gravelly bottom. The water was very clear with little color at the time of the field visit. Heavy woods and undercover along both banks were noted. Slopes in the vicinity of the crossings are moderate but erosion potential is relatively high because of the highly erodible soils in the area.

Other streams in the corridor study area are the headwaters or tributaries to Saint Leonard Creek, Planters Wharf Creek, Hellen Creek, Hungerford Creek and St. Johns Creek, all draining to the Patuxent River. All these streams are mere trickles or even intermittent in the corridor study area.

C. Noise - Before describing the existing noise environment of the project area, a definition of commonly used terms is needed.

Ambient Noise Level - The existing noise level in an area is composed of noise from all sources within the area. This quantity is measured in dBA and usually expressed as L<sub>10</sub> or L<sub>50</sub> noise levels.

dBA - The sound pressure level in decibels (a logarithmic unit of power measured with a frequency weighting network corresponding to the "A-Scale" on a standard sound level meter. The "A-Scale" closely corresponds to perceived noise in a human ear with lower frequencies (e.g. below 1,000 HZ) suppressed.

L<sub>10</sub> - The sound level that is equaled or exceeded ten percent of the time (the tenth percentile) for the period under consideration. This value is an indicator of both the magnitude and frequency of occurrence of the loudest noise events.

Design Noise Level - The noise levels established by the noise standards set forth by the Federal Highway Administration for various land uses or activities adjacent to a highway. Noise levels on adjacent land parcels created by highway traffic noise is not to exceed these standards. These standards follow.

40

Noise Standards

<u>Noise Level</u>	<u>Land Use Category</u>
60dBA	Tracts of land in 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. For example, such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
70dBA	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports area, and parks.
75dBA	Developed lands, properties or activities not included in above categories.
unlimited	Undeveloped lands.
55dBA (Interior)	Public meeting rooms, schools, churches, libraries, hospitals, and other such public buildings.

As a means of understanding these noise levels better, levels associated with daily situations are shown on the following Chart.



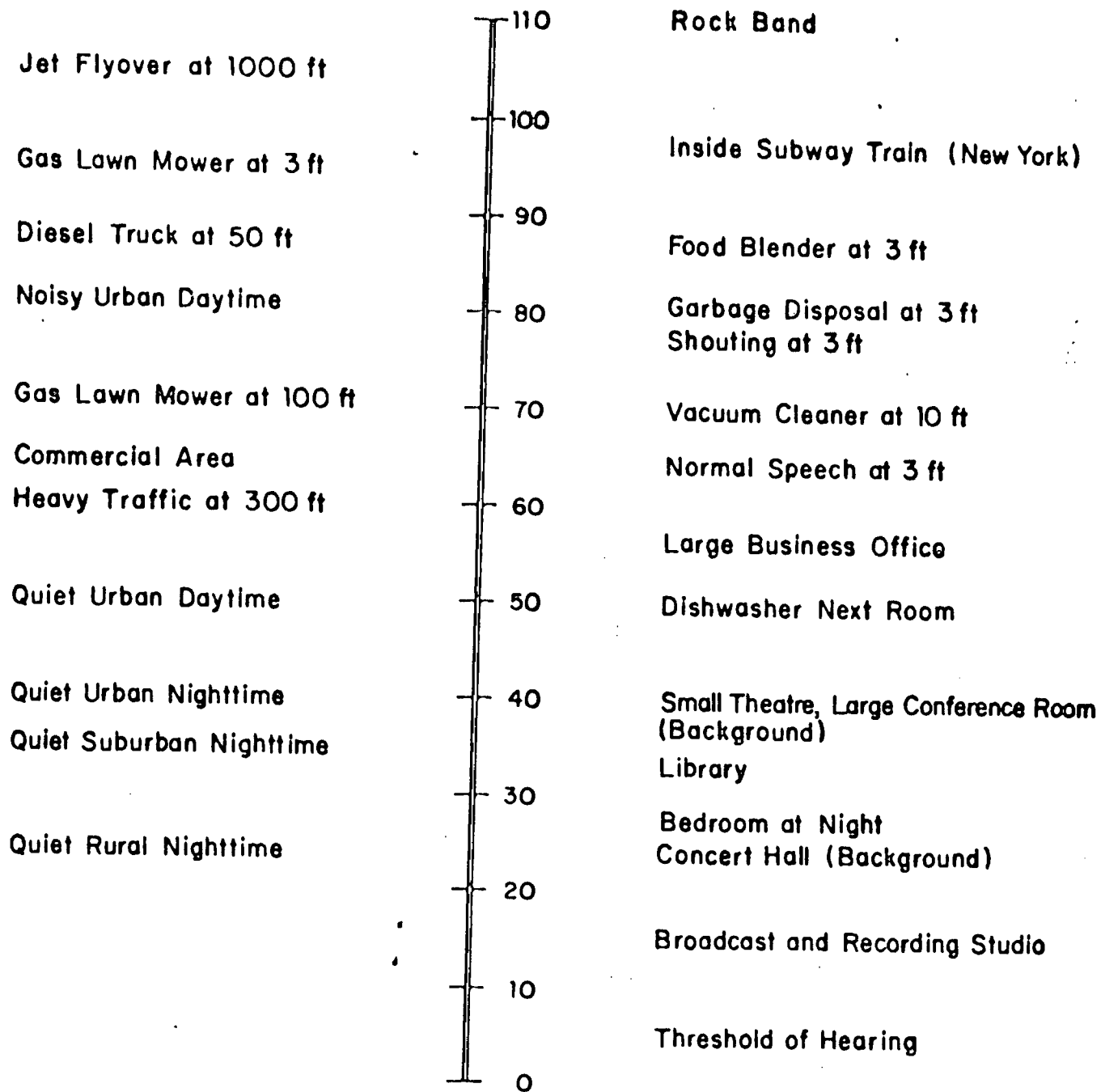
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STATE HIGHWAY ADMINISTRATION  
OF MARYLAND

**COMMON OUTDOOR  
NOISE LEVELS**

**NOISE LEVEL  
(dBA)**

**COMMON INDOOR  
NOISE LEVELS**



COMMON INDOOR AND OUTDOOR NOISE LEVELS.

Interior noise levels may be estimated for the predicted outdoor noise level by using the following noise reduction factors:

<u>Building Type</u>	<u>Window Condition</u>	<u>Noise Reduction due to Exterior of the Structure</u>	<u>Corresponding Highest Exterior Noise Level which May Result in an Interior Design Noise Level of 55dBA</u>
All	Open	10dB	65dBA
Light Frame	Ordinary Sash		
	Closed	20dB	75dBA
	with Storm Windows	25dB	80dBA
Masonry	Single Glazed	25dB	80dBA
Masonry	Double Glazed	35dB	90dBA

Noise reduction factors higher than those shown above may be used when field measurements of the structure in question indicate that a higher value is justified. In determining whether to use open or closed windows, the choice should be governed by the normal condition of the windows, that is, any building having air treatment year round should be treated as the closed window case. Buildings in warm climates with no air-conditioning and windows open a substantial amount of time should be considered as open window cases.

Existing Noise Environment

Ambient noise levels in the project area were measured by the Maryland State Highway Administration with a Bruell and Kjaer Precision Sound Level Meter and a General Radio Corporation Sound Level Meter. A noise measurement procedure approved by the Federal Highway Administration was used throughout this project. This procedure is explained in a text by Bolt, Beranek and Newman, Inc., "Fundamentals and Abatement of Highway Traffic Noise," which was prepared for the Federal Highway Administration.

A number of representative noise sensitive areas (churches, schools, parks, and residences) were identified for each of the alternate alignments under consideration. Many of the sites selected are sensitive to noise from more than one alternative due to the closeness of alternate alignments in many areas. A total of 91 sites were identified and measurements of ambient noise were taken at each site. The 91 sites do not include every residence which could be sensitive to noise since one measurement will yield noise levels representative of a neighborhood. Results of these measurements follow on Table 1. It will be noted that there are not 91 sites represented here, but only 57 because a number of the sites were eliminated for discussion purposes in this report because they were very close to and had the same noise levels as other sites. Location of sites can be determined by reference to Figure 4 which includes Exhibits 1-N through 7-N on pages following Table 1.

Table 1  
Ambient Noise Levels

<u>Monitoring Site</u>	<u>Land Use</u>	<u>Time</u>	<u>Ambient L<sub>10</sub> (dBA)</u>
1	Residential	10:45 a.m.	65
2	Sharp's Outlet - Historic	10:45 a.m.	65
3		Residential	65
4	Residential	1:50 p.m.	47
5	Residential	11:00 a.m.	65
6	Residential	10:45 a.m.	65
7	Residential	11:55 a.m.	47
8	Residential	2:20 p.m.	47
9	Residential	11:15 a.m.	65
10	Residential	11:25 a.m.	47
11	Residential	11:30 a.m.	67
12	Residential	8:50 a.m.	67
13	Residential	2:15 p.m.	67
14	Residential	2:15 p.m.	67
15	Residential	2:20 p.m.	47
16	Residential	2:20 p.m.	47
17	Residential	10:15 a.m.	53
18	Residential	2:40 p.m.	63
19	Residential	2:40 p.m.	63
20	Residential	10:45 a.m.	53
21	Residential	1:30 p.m.	67
22	Residential	11:25 a.m.	67
23	Parran House - Historic	11:00 a.m.	65
24	Residential	11:15 a.m.	67

Note: See Figure 4 for Monitoring Site Locations.

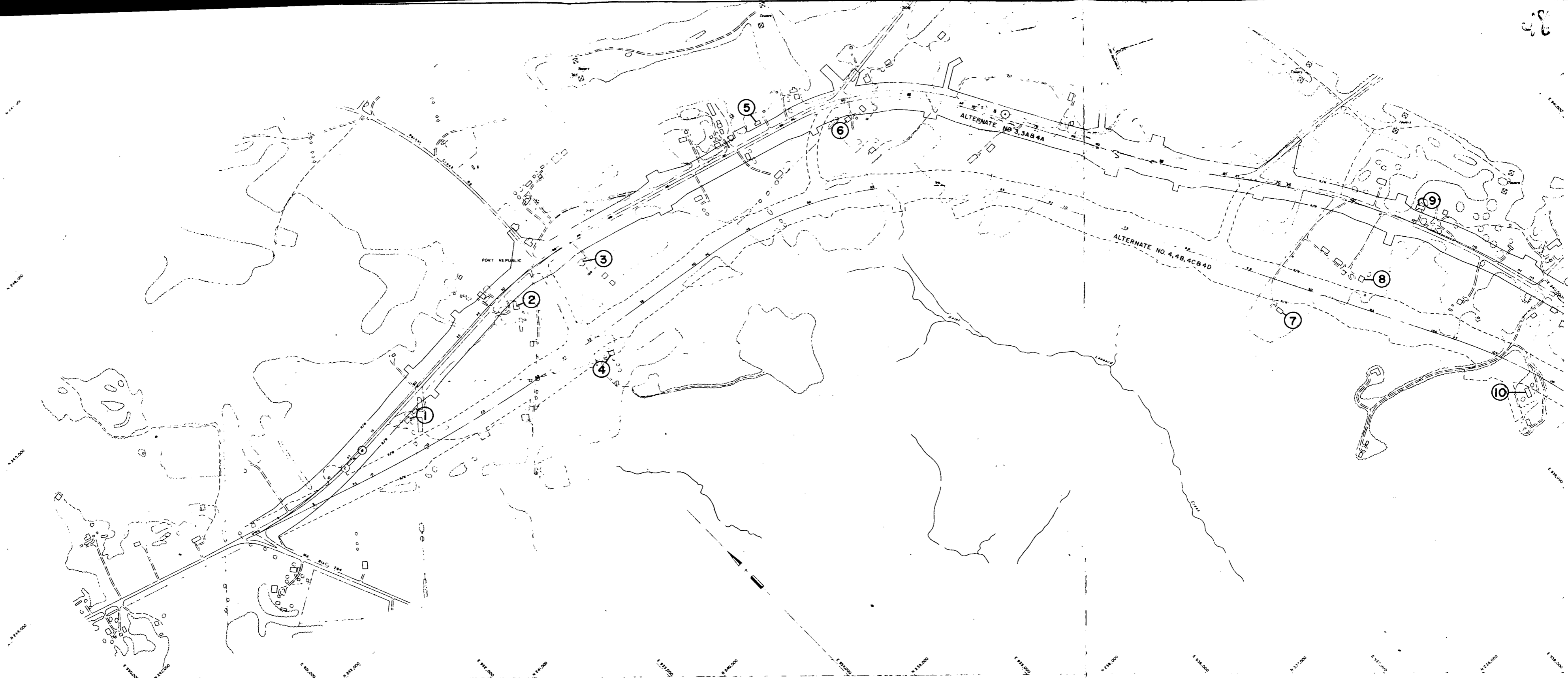
45

<u>Monitoring Site</u>	<u>Land Use</u>	<u>Time</u>	<u>Ambient L<sub>10</sub> (dBA)</u>
25	Residential	1:15 p.m.	67
26	Residential	12:55 p.m.	69
27	Residential	8:35 a.m.	63
28	Residential	8:35 a.m.	67
29	Residential	9:20 a.m.	67
30	Calvary Bible Church	1:30 p.m.	67
31	Residential	11:35 a.m.	69
32	Residential	1:50 p.m.	69
33	Residential	11:35 a.m.	65
34	Residential	1:30 p.m.	69
35	Residential	11:35 a.m.	69
36	Middleham Chapel - Historic	11:05 a.m.	65
37	Residential	2:05 p.m.	63
38	St. Paul's Church	8:18 a.m.	65
39	Residential	2:40 p.m.	65
40	Residential	8:35 a.m.	67
41	Appeal School - Rear	8:50 a.m.	61
42	Appeal School - Front	8:50 a.m.	61
43	Residential	4:00 p.m.	67
44	Residential	9:55 a.m.	48
45	Residential	4:20 p.m.	53
46	Residential	4:25 p.m.	46
47	Residential	2:15 p.m.	67
48	Residential	10:45 a.m.	59
49	Residential	3:35 p.m.	59
50	Zion Hill Church	9:55 a.m.	71

46

<u>Monitoring Site</u>	<u>Land Use</u>	<u>Time</u>	<u>Ambient L<sub>10</sub> (dBA)</u>
51	Residential	1:15 p.m.	63
52	Residential	11:55 a.m.	47
53	Residential	4:15 p.m.	53
54	Residential	4:30 p.m.	69
55	Residential	2:00 p.m.	55
56	Navy Recreation Area	10:30 a.m.	69
57	Residential	5:05 p.m.	67

FIGURE 4  
NOISE SENSITIVE AREAS  
(7 SHEETS)



**KEY**

(No) NOISE SENSITIVE AREA MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PO BOX NO 5  
 PASADENA, MARYLAND

EXHIBIT NO. I-N  
 MAP SCALE: 1"=600' MARCH, 1975



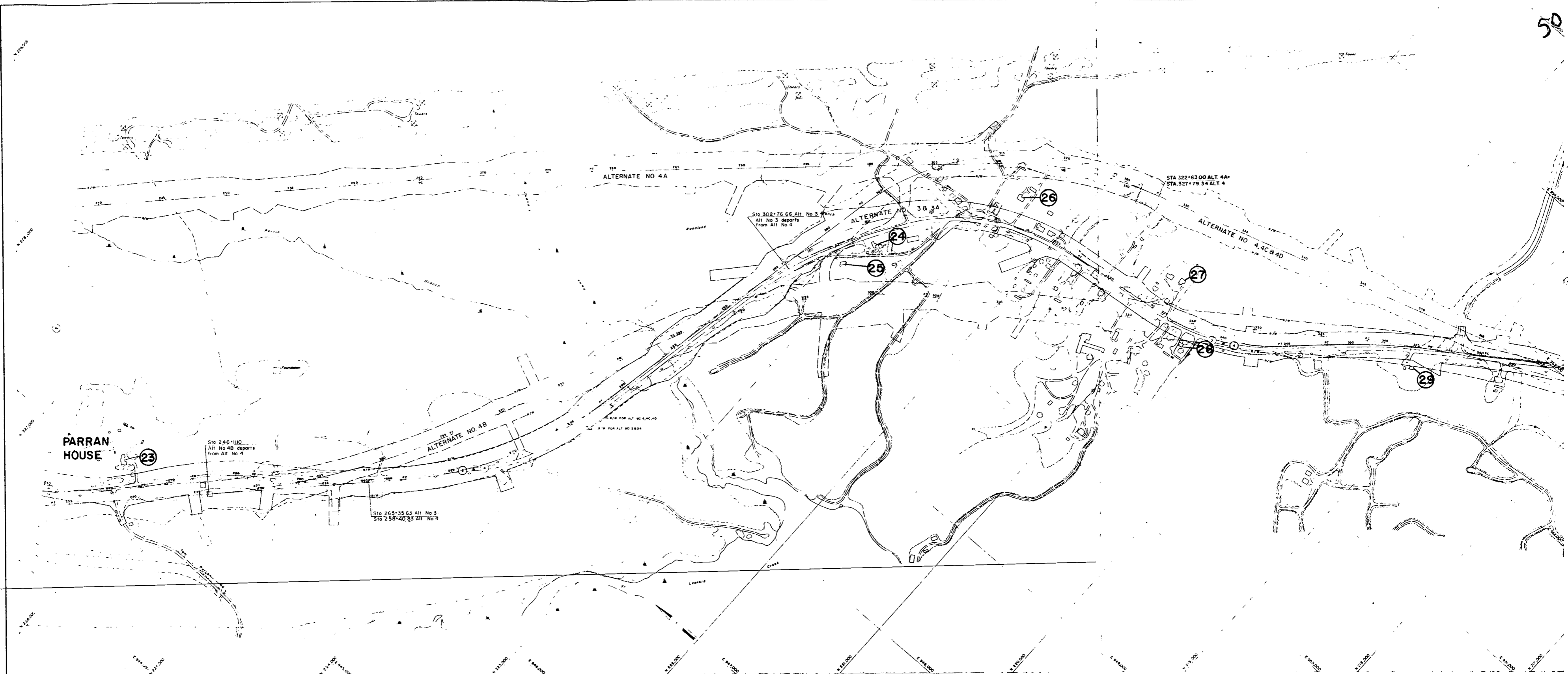


**KEY**

(No) NOISE SENSITIVE AREA MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PO BOX NO 5  
 PASADENA, MARYLAND

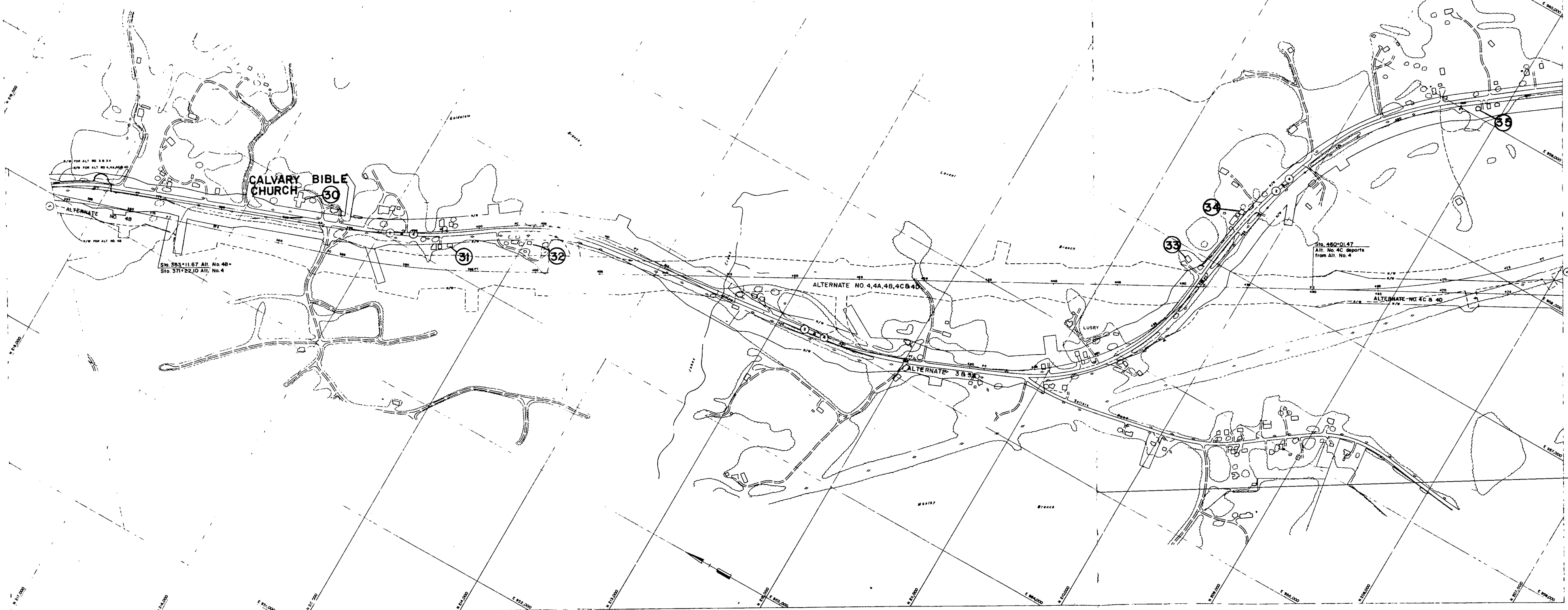
EXHIBIT NO. 2-N  
 MAP SCALE: 1"=600'  
 MARCH, 1975



**KEY**  
 (No) NOISE SENSITIVE AREA MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PO BOX NO 5  
 PASADENA, MARYLAND

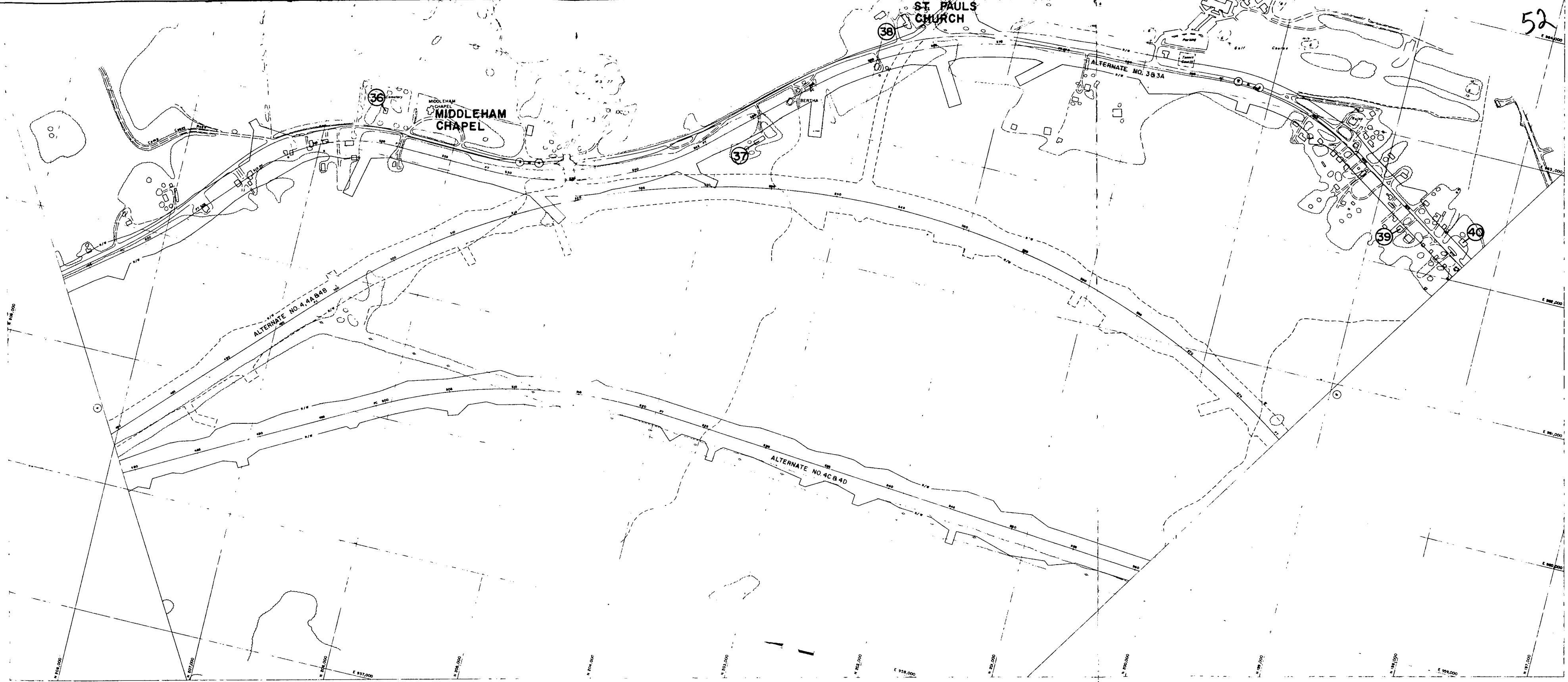
EXHIBIT NO. 3-N  
 MAP SCALE: 1"=600'  
 MARCH, 1975



**KEY**  
 (No) NOISE SENSITIVE AREA  
 MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PO BOX NO 5  
 PASADENA, MARYLAND

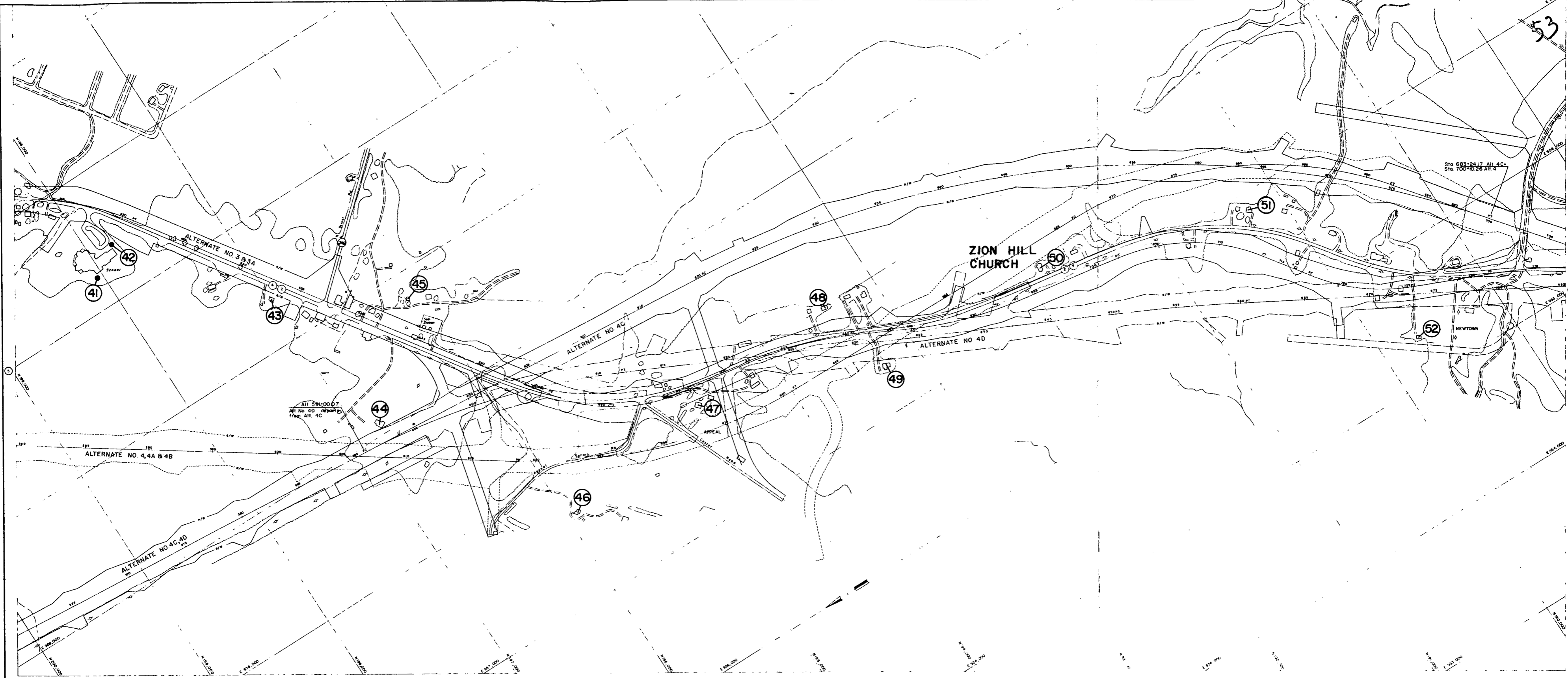
EXHIBIT NO. 4-N  
 MAP SCALE: 1"=600'  
 MARCH, 1975



**KEY**  
 (No) NOISE SENSITIVE AREA  
 ○ MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 P.O. BOX NO. 5  
 PASADENA, MARYLAND

EXHIBIT NO. 5-N  
 MAP SCALE: 1" = 600'  
 MARCH 1975

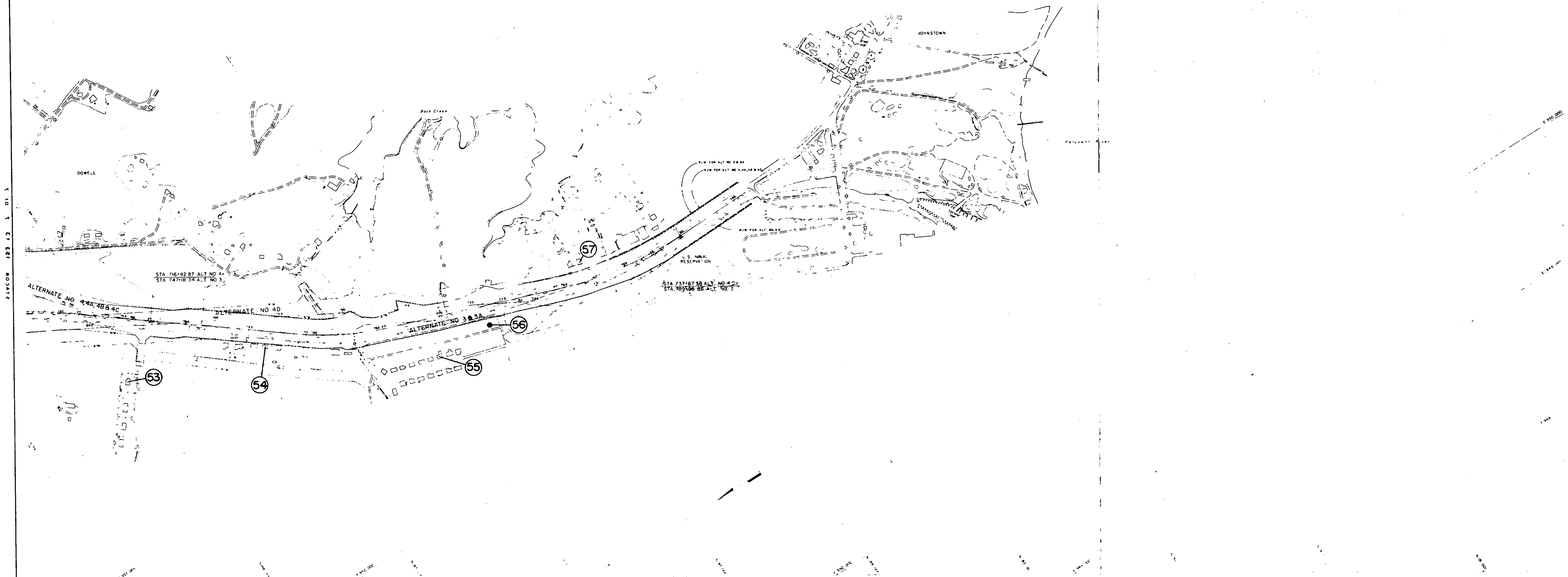


**KEY**

- (No) NOISE SENSITIVE AREA
- MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PO BOX NO. 5  
 PASADENA, MARYLAND

EXHIBIT NO. 6-N  
 MAP SCALE: 1" = 600'  
 MARCH 1975



**KEY**

- (No.) NOISE SENSITIVE AREA
- MONITORING SITES

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 P.O. BOX NO. 5  
 PISCATAWAY, MARYLAND

EXHIBIT NO. 7-N  
 MAP SCALE: 1" = 600'  
 MARCH 1975

It will be noted that only one site, (50) Zion Hill Church and nearby residences (71dBA), exceeds the design noise level standard of 70dBA. In general, the ambient readings are fairly high with many levels in the 65-69dBA range and most above 60dBA. This is due to the fact that the vast majority of noise sensitive areas, such as residences, are close to existing Route 2-4 with very little development in the corridor area being far removed from Route 2-4. The further one gets from an existing noise source, such as the traffic on Route 2-4, the quieter it becomes. This is reflected, for example, in sites 44 (48dBA) and 46 (46dBA) which are 600 feet and 800 feet respectively to the west of Route 2-4.

Other sensitive areas which are of significance locally and their ambient noise level readings are:

Sharp's Outlet Historic Site	- 65dBA
Parran House Historic Site	- 65dBA
Calvary Bible Church	- 67dBA
Middleham Chapel Historic Site	- 65dBA
Calvert Cliffs State Park (portion adjacent to Route 2-4 only)	- 65dBA
St. Paul's Church	- 65dBA
Appeal Elementary School	- 61dBA
Zion Hill Church	- 71dBA
U. S. Naval Reservation Recreation Area	- 69dBA

d. Geology, Topography and Soils - The project area lies within the Coastal Plain Physiographic Province. Surface soils are underlain by Pleistocene silt, sand and gravel which in turn is underlain by the Chesapeake group (Miocene) composed chiefly of clay, sandy-clay, sand, and marl. Below the approximate 200 foot thick Chesapeake group are Eocene deposits of glauconitic sands and silts with some clay and marl. These deposits are underlain by approximately 2,500 feet of southeasterly dipping sedimentary strata of Cretaceous and Tertiary age and then below these strata are crystalline and metamorphic rock of pre-Cambrian and early Paleozoic age.

Of significance geologically (See Figure 5) is the Calvert formation of the Chesapeake group which was named after Calvert County. This formation consists of clays, sandy-clays, sand, marls and diatomaceous earth and is rich in fossils. The formation has been exposed by erosion forming cliffs along much of the Chesapeake Bay shoreline with the major outcrops being in the northern half of the county. There are no outcrops in the immediate project area.

Soils of the project area (See Figure 6) are mainly of the Sassafras-Matapeake Association made up of about 35% Sassafras soils, 25% Matapeake soils, and 40% minor soils. These soils are dominantly loamy sands, sandy loams and silt loams. They are deep and well drained and formed mainly of sandy materials containing moderate amounts of



111-17

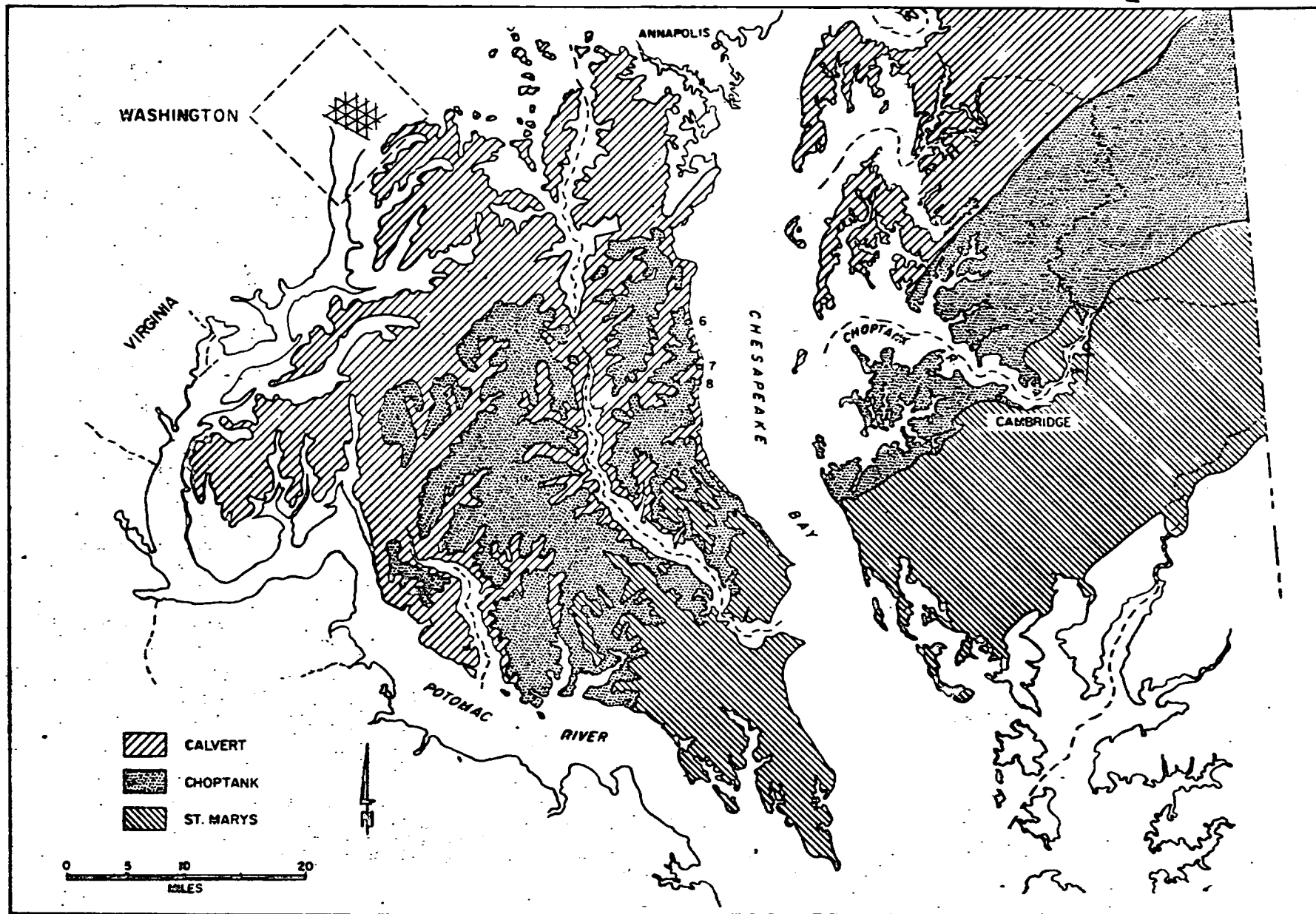
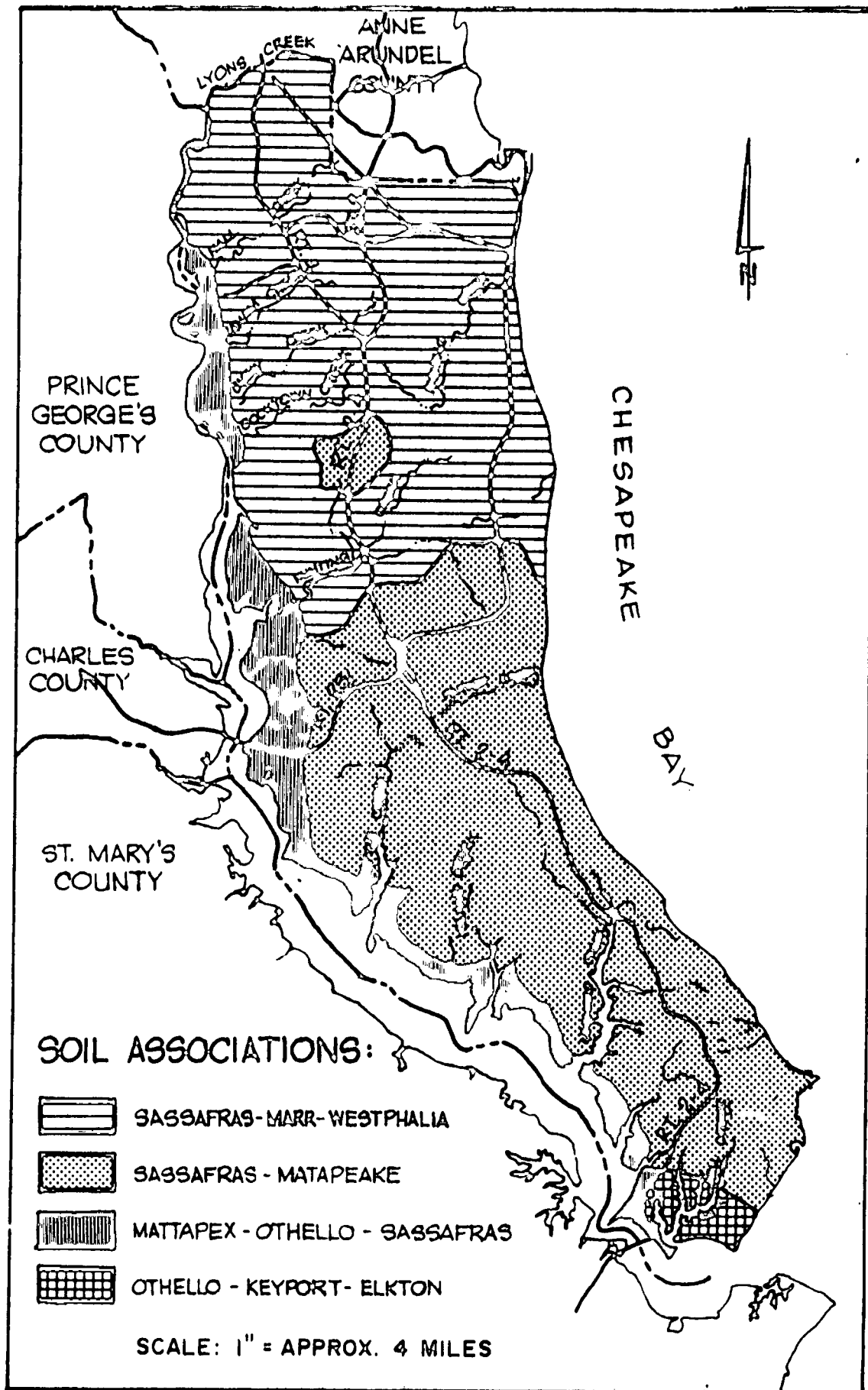


Figure 5. - Sketch map showing Miocene formations of Maryland (adapted from Maryland Geological Survey, 1904)

FIGURE 6. SOIL ASSOCIATIONS  
CALVERT COUNTY

58



clay and silt.

Both Sassafras and Matapeake soils have a moderate natural fertility and are well suited to general crops and deep-rooted crops such as corn, wheat, hay, pasture and tobacco. Their soil capability class ranges from Class I (soils that have few limitations to restrict their use for crops) in level areas to Class VI (soils with severe limitations that generally make them unsuited to cultivation) in areas of steep slopes.

These soils are susceptible to moderate erosion which can become severe on steep slopes. They have only slight limitations for road and highway construction. Depths to ground water are generally greater than 4 feet.

Soils at the extreme southern end of the project area from Newtown south are not as well drained and contain larger amounts of clay and silt than do the Sassafras and Matapeake soils. These soils at the southern tip of Calvert County belong to either the Mattapex-Othello-Sassafras Association or the Othello-Keyport-Elkton Association. Soils in both associations are poorly drained with seasonally high water tables at depths of less than 4 feet. The high water tables present moderate limitations to highway construction.

These soils are in Capability Classes II and III (moderate to severe limitations that reduce choice of

60

plants and require moderate or special conservation practices) and are susceptible to moderate to high erosion.

Topography of the project area varies from nearly flat at the southern end to steep slopes in the vicinity of stream valleys. Natural grades range up to 30% locally but do not extend upslope for long distances. The topography has resulted from dissection of the upland plain by numerous streams which have eroded steep valleys and produced a landform that can be characterized as "Knobby topography" (Glaser, 1971, Fig. 5).

Elevations in the project area range from less than 20 feet above sea level along the coast to over 160 feet in the interior of the peninsula.

e. Vegetation - The project area has several ecosystem types represented. These are: early successional forests and old field communities, small freshwater streams, tidal marshes, and agricultural lands. The majority of areas that would be affected by the proposed highway construction are predominantly forest communities and agricultural lands.

Forest Ecosystems:

Specific data on forest areas were obtained from four sites. These were: 1. Vicinity of Mill Bridge Road (Appeal); 2. South of Lusby; 3. John's Creek; 4. Quaker Swamp. Aquatic ecosystems were observed at Quakers Swamp and John's Creek.

Frequently the observer finds that changes in soil types and terrain might cause corresponding variations in forest types and associated wildlife species. This situation, however, did not appear to be the case in the areas surveyed. Vegetation species were mostly homogeneous throughout the proposed corridors. Therefore, rather than list each areas as a unique community the data listing will be a combination of all areas censused.

62

A diagnostic listing of the dominant flora of each layer is given below:

1. Ground Cover:

Honeysuckle (Lonicera sp.); Greenbriar (Smilax rotundifolia); Wild grape (Vitis sp.); Blueberry (Vaccinium sp.); Pipsissiwa (Chimaphila maculata); Virginia creeper (Parthenocissus quinquefolia); Poison ivy (Rhus sp.)

2. Shrub layer:

Tree of Heaven (Ailanthus altissima); Mulberry (Morus alba); Dogwood (Cornus florida); Sassafras (Sassafras albidum); Holly (Ilex opaca); Red maple (Acer rubrum); Laurel (Kalmia latifolia); Beech (Fagus grandifolia); Arrowwood (Viburnum sp.)

3. Canopy:

Sweet gum (Liquidambar styraciflua); Loblolly pine (Pinus taeda); Virginia pine (Pinus virginiana); Honey locust (Gleditsia triacanthos); White oak (Quercus alba); Black oak (Quercus velutina); Chestnut oak (Quercus prinus); Tulip poplar (Liriodendron tulipifera); Black birch (Betula lenta).

Forest communities observed in the corridor are primarily composed of young trees (2-15 years old). Ecologists refer to

63

these types of communities as successional stages or "seres". Over a long period of time these young forests will give way to a "climax" forest as other species replace the trees of the canopy. Even though the forest manager may not think of these trees as being particularly valuable or beneficial to man, seral stages are often ecologically important as harbingers of wildlife types more valuable to man than those of the climax forest.

No rare or endangered species of vegetation were observed in the immediate area; however, uncommon cypress (Chamaecyparis thyoide) stands are located at Battle Creek approximately five miles west of the project area, and because this is the northern extension of their range, these should be preserved. An extremely large specimen of black oak (Quercus velutina) was observed at Lusby. This oak has aesthetic value and should not be destroyed. Also a hemlock (Tsuga canadensis) grove is located near Hellen Creek approximately one mile west of the project area and represents the southern extension of this range and they should also be preserved. None of these areas of unique vegetation will be disturbed by the project.

Old Field Ecosystems:

A number of plots along existing route Maryland 2 and 4 are classified as "old field habitat". These areas are usually

64  
the result of abandoned agricultural lands that have become populated with various species of herbaceous annuals and eventually with "pioneer" tree species such as aspen (Populus tremuloides), pine (Pinus sp.), and cherry (Prunus sp.).

These areas usually provide food for many forms of wildlife and are beneficial to man as hunting land. They also provide greater diversity of species in the total food web of an area, thus increasing the stability of the ecosystems. Thus even though these areas might be of less economic benefit to man, they are nonetheless important.



f. Fish and Wildlife

65

Fish - Streams in the project area are Saint Leonard's Creek, Quakers Swamp, John's Creek, Planter's Wharf Creek, Hungerford Creek, St. John's Creek and Hellen Creek. In the project area these streams are very small and narrow (from less than one foot to three feet in width). Resident species most likely to be found in fresh water and brackish sections of these streams are brown bullhead, white perch, yellow perch, white sucker, american eel, and redfin pickerel. The small size of these streams prohibits them from providing fish large enough for a recreational fishery in the project area. A complete listing of fish species occurring within the Patuxent River Tributaries is given in Table 2.

These streams are also not of importance as spawning areas for anadromous fish (fish that swim up rivers from the sea to spawn). A 1969 study conducted by the Maryland Fisheries Administration provided evidence that anadromous spawning in the Patuxent River basin takes place in those streams from Battle Creek north. Streams south, or downstream, of Battle Creek tend to be too tidal and too saline for spawning purposes. All streams of the project area are downstream of Battle Creek and thus not important for spawning purposes.

Wildlife - A list of mammals and birds that are likely to be found in the study area are provided in Tables 3a and 3b following.

Woodlands and fields in the corridor are not known as big game habitat nor is this a widely known or used game area. Deer, although present, are not abundant and wild turkey are seldom reported. most of the hunter's kill consists of grey squirrel, quail, rabbit and water-fowl.

In coastal areas, occasional southern bald eagles and osprey are sighted both as migratory and resident species. The former is classified as endangered and must be protected. There are no other known rare or endangered species in the project area.

67

Table 2

List of Fish Species Occurring Within The Patuxent River  
Tributarries (Mansuete 1950)

<u>Petromyzon Marinus</u>	sea lamprey
<u>Acipenser oxyrhynchus</u>	Atlantic sturgeon
<u>Alosa mediocris</u>	hickory shad
<u>Alosa aestivalis</u>	blueback herring
<u>Alosa pseudoharengus</u>	alewife
<u>Dorosoma cepedianum</u>	gizzard shad
<u>Brevoortia tyrannus</u>	menhaden
<u>Anquilla rostrata</u>	American eel
<u>Catostomus commersoni</u>	white sucker
<u>Erimyzon oblongus</u>	creek chubsucker
<u>Moxostoma macrolepidotum</u>	shorthead redhorse sucker
<u>Cyprinus carpio</u>	carp
<u>Semotilus corporalis</u>	fallfish
<u>Rhinichthys atratulus</u>	blacknose dace
<u>Clinostomus elongatus</u>	redside dace
<u>Notemigonus chrysoleucas</u>	golden shiner
<u>Notropis cornutus</u>	common shiner
<u>Notropis hudsonius</u>	spottail shiner
<u>Notropis proncne</u>	swallowtail shiner
<u>Ictalurus nebulosus</u>	brown bullhead
<u>Noturus gyrinus</u>	tadpole madtom
<u>Esox americanus americanus</u>	redfin pickerel
<u>Umbra pygmaea</u>	eastern mudminnow
<u>Fundulus heteroclitus</u>	mummichog
<u>Menidia beryllina</u>	tidewater silversides
<u>Perca flavescens</u>	yellow perch
<u>Etheostoma vitreum</u>	glassy darter
<u>Etheostoma olmstedii</u>	tesselated darter
<u>Lepomis gibbosus</u>	pumpkinseed
<u>Enneacanthus gloriosus</u>	blue-spotted sunfish
<u>Pomoxis nigromaculatus</u>	black crappie
<u>Morone americana</u>	white perch
<u>Morone saxatilis</u>	striped bass
<u>Aphredoderus sayanus</u>	pirateperch
<u>Strongylura marina</u>	Atlantic needlefish
<u>Pseudopleuronectes americanus</u>	winter flounder
<u>Trinectes maculatus</u>	hogchoker
<u>Syngnathus fuscus</u>	northern pipefish
<u>Leiostomus xanthurus</u>	spot

Source: Maryland Department of Natural Resources

TABLE 3a

## Mammals Common to the study area.

<u>Common Name</u>	<u>Scientific Name</u>
Opossum	<u>Didelphis marsupialis</u>
Hairytailed Mole	<u>Parascalops breweri</u>
Starnosed Mole	<u>Condylura cristata</u>
Short-tailed Shrew	<u>Blarina brevicauda</u>
Long-tailed Shrew	<u>Sorex dispar</u>
Smoky Shrew	<u>Sorex fumeus</u>
Least Shrew	<u>Cryptotis parva</u>
Little Brown Myotis	<u>Myotis lucifugus</u>
Indiana Myotis	<u>Myotis sodalis</u>
Eastern Pipistrel	<u>Pipistrellus subflavus</u>
Red Bat	<u>Lasiurus borealis</u>
Pig Brown Bat	<u>Eptesicus fuscus</u>
Raccoon	<u>Procyon lotor</u>
Least Weasel	<u>Mustela rixosa</u>
Long-tailed Weasel	<u>Mustela frenata</u>
Mink	<u>Mustela vison</u>
Striped Skunk	<u>Mephitis mephitis</u>
Red Fox	<u>Vulpes fulva</u>
Gray Fox	<u>Urocyon cinereoargenteus</u>
Woodchuck	<u>Marmota monax</u>
Eastern Chipmunk	<u>Tamias striatus</u>
Red Squirrel	<u>Tamiasciurus hudsonicus</u>
Grey Squirrel	<u>Sciurus carolinensis</u>
Flying Squirrel	<u>Glaucomys sabrinus</u>
Harvest Mouse	<u>Reithrodontomys humilis</u>
White-footed Mouse	<u>Peromyscus leucopus</u>
Deer Mouse	<u>Peromyscus maniculatus</u>
Woodrat	<u>Neotoma floridana</u>
Meadow Vole	<u>Microtus pennsylvanicus</u>
Red-backed Vole	<u>Clethrionomys gapperi</u>
Muskrat	<u>Ondatra zibethicus</u>
Norway Rat	<u>Rattus norvegicus</u>
House Mouse	<u>Mus musculus</u>
Jumping Mouse	<u>Zapus hudsonius</u>
Porcupine	<u>Erethizon dorsatum</u>
Rabbit	<u>Sylvilagus floridanus</u>
White-tailed Deer	<u>Odocoileus virginianus</u>

Source: Burt and Grossenheider, "A Field Guide To Mammals",  
Houghton Mifflin Co., Boston, 1956

Birds Common to the Study Area

69

Species	Permanent	Summer	Winter	Migrants
Columbidae				
Rock Dove ( <u>Columba livia</u> )				
Mourning Dove ( <u>Zenaidura macroura</u> )				Y Y <sub>2</sub>
Cuculidae				
Yellow-billed Cuckoo ( <u>Coccyzus americanus americanus</u> )	X			
Black-billed Cuckoo ( <u>C. erythrophthalmus</u> )		X		
Tytonidae and Strigidae				
Screech Owl ( <u>Otus asio</u> ) Subsp.	X			
Trochilidae				
Ruby-throated Hummingbird ( <u>Archilochus colubris</u> )		X		
Picidae				
Yellow-shafted Flicker ( <u>Colaptes auratus</u> )	X			
Hairy Woodpecker ( <u>Dendrocopus villosus</u> )	X			
Downy Woodpecker ( <u>D. pubescens</u> )	X			
Tyrannidae				
Crested Flycatcher ( <u>Myiarchus crinitus</u> )		X		
Eastern Phoebe ( <u>Sayornis phoebe</u> )		X		
Yellow-bellied Flycatcher ( <u>Empidonax flaviventris</u> )				X
Least Flycatcher ( <u>Empidonax minimus</u> )		X		
Eastern Wood Pewee ( <u>Contopus virens</u> )		X		
Olive-sided Flycatcher ( <u>Nuttallornis borealis</u> )				X
Corvidae				
Blue Jay ( <u>Cyanocitta cristata</u> )				
Common Crow ( <u>Corvus brachyrhynchos brachyrhynchos</u> )	X			
Paridae				
Black-capped Chickadee ( <u>Parus atricapillus</u> )	X			
Tufted Titmouse ( <u>P. bicolor</u> )	X			
Sittidae				
White-breasted Nuthatch ( <u>Sitta carolinensis</u> )				X
Certhiidae				
Brown Creeper ( <u>Certhia familiaris</u> )				X
Troglodytidae				
House Wren ( <u>Troglodytes aedon</u> )				X

Species	Permanent	Summer	Winter	Migrants
<b>Mimidae</b>				
Eastern Mockingbird ( <u>Mimus polyglottos polyglottos</u> )	X			
Catbird ( <u>Dumetella carolinensis</u> )		X		
Brown Thrasher ( <u>Toxostoma rufum rufum</u> )		X		
<b>Turdidae</b>				
Robin ( <u>Turdus migratorius migratorius</u> )	X			
Wood Thrush ( <u>Hylocichla mustelina</u> )		X		
Veery ( <u>H. fuscescens</u> )				Y
Eastern Bluebird ( <u>Sialia sialis</u> )	X			
<b>Bombycillidae</b>				
Cedar Waxwing ( <u>Bombycilla cedrorum</u> )	X			
<b>Sturnidae</b>				
Starling ( <u>Sturnus vulgaris</u> )	X			
<b>Vireonidae</b>				
Red-eyed Vireo ( <u>V. olivaceus</u> )		X		
<b>Parulidae</b>				
Black and White Warbler ( <u>Mniotilta varia</u> )		X		
Tennessee Warbler ( <u>Vermivora peregrina</u> )				X
Orange-crowned Warbler ( <u>V. celata celata</u> )				X
Yellow Warbler ( <u>Dendroica petecnia</u> ) <u>Subsp.</u>				Y
Magnolia Warbler ( <u>D. magnolia</u> )				X
Cape May Warbler ( <u>D. trigrina</u> )				X
Myrtle Warbler ( <u>D. coronata coronata</u> )				X
Blackburnian Warbler ( <u>D. fusca</u> )	X			
Chestnut-sided Warbler ( <u>D. pensylvanica</u> )	X			
Bay-breasted Warbler ( <u>D. castanea</u> )				X
Blackpoll Warbler ( <u>D. striata</u> )				X
Cerulean Warbler ( <u>D. cerulea</u> )	X			
Palm Warbler ( <u>D. palmarum</u> )				X
Prairie Warbler ( <u>D. discolor</u> )	X			
Oven-Bird ( <u>Seiurus aurocapillus</u> )	X			
Kentucky Warbler ( <u>Cporornis formosus</u> )				Y
Connecticut Warbler ( <u>O. azilis</u> )				X
Mourning Warbler ( <u>C. philadelphia</u> )				X
Yellow-throat ( <u>Geothlypis trichas</u> )	X			
Yellow-breasted Chat ( <u>Icteria virens virens</u> )	X			
Wilson's Warbler ( <u>Wilsonia pusilla pusilla</u> )				X
Hooded Warbler ( <u>W. citrina</u> )				Y
American Redstart ( <u>Setophaga ruticilla</u> )				Y
<b>Ploceidae</b>				
House Sparrow ( <u>Passer domesticus domesticus</u> )	X			
<b>Tetraonidae</b>				
Bob White ( <u>Colinus virginianus</u> )	X			

71

Species	Permanent	Summer	Winter	Migrants
<b>Icteridae</b>				
Red Winged Blackbird ( <u>Agelaius phoeniceus</u> )	X			
Baltimore Oriole ( <u>Icterus galbula</u> )		X		
Rusty Blackbird ( <u>Euphagus carolinus</u> )				X
Brewer's Blackbird ( <u>E. cyanocephalus</u> )				Y
Purple Grackle ( <u>Quiscalus quiscula</u> )		X		
Common Grackle ( <u>Cassida</u> spp.)	X			
Cowbird ( <u>Molothrus ater ater</u> )	X			
<b>Fringillidae</b>				
Cardinal ( <u>Richmondia cardinalis</u> )	X			
Indigo Bunting ( <u>Passerina cyanea</u> )		X		
Evening Grosbeak ( <u>Mesmeriphona vespertina vespertina</u> )			X	
House Finch ( <u>Carpodacus mexicanus</u> )	X			
Purple Finch ( <u>C. purpureus</u> )			X	
Pine Grosbeak ( <u>Finicola enucleator leucura</u> )			X	
Redpoll ( <u>Acanthus flammea</u> )			X	
American Goldfinch ( <u>S. tristis tristis</u> )	X			
Red Crossbill ( <u>Loxia curvirostra</u> )			X	
Slated-colored Junco ( <u>Junco hyemalis</u> )	X			
Tree Sparrow ( <u>Spizella arborea arborea</u> )			X	
Chipping Sparrow ( <u>S. passerina passerina</u> )		X		
White-crowned Sparrow ( <u>Zonotrichia leucophrys</u> )			X	
White-throated Sparrow ( <u>Z. albicollis</u> )			X	
Song Sparrow ( <u>M. melodia</u> )	X			

<sup>1</sup>Permanent refers to species that can be expected to be found during all months of the year. Summer residents are those species that would be expected to be found from spring through early fall. The occurrence in winter would be unusual. Most of these species would be nesting in the area, but not all of them. Winter residents includes species that would be expected to be found during the winter season but not during the summer. How early in the fall or how late in the spring the species would be present varies considerably from species to species. Migrants are species that normally are present in the area only during the spring and fall migration. These species would be unusual in the area during the summer or winter months.

<sup>2</sup>"Y" refers to birds that are assumed to occur within the study region, but have not been observed.

Waterfowl are likely to be found close to the study area, but because of the lack of any major bodies of standing water and the small size of the streams in the area, they are not included in the list.

g. Historic/Archaeological Sites

1. Historic Sites - Middleham Chapel and Christ Church are historic sites in the immediate vicinity of the project which have recently been listed on the National Register of Historic Places. Middleham Chapel has been listed since November 12, 1975. No other sites in the project area are on the agenda of the Maryland Historical Trust for nomination.

Middleham Chapel is situated within a small cemetery 110 feet from the east side of Route 2-4 between Bertha and Lusby. It is surrounded on the north, east and south by the Cliffs of Calvert State Park. It is significant for both its architecture and evidence of early religious practices in the colonies. The present chapel was built in 1748 to replace an earlier farm or log structure believed to be erected as early as 1684. It is a one story, cruciform shaped, Flemish bond brick structure with exposed fieldstone foundations. Middleham Chapel is the oldest standing example of ecclesiastical architecture in Calvert County and one of the earliest examples in Southern Maryland.

On Maryland Route 264 about 2,000 feet south of Route 2-4 is Christ Church. It is the site of the Mother Episcopal Church of Calvert County and the oldest continually worshipping congregation in Calvert County. The structure, dating to 1772, has been



73

renovated eight times making it an interesting illustration of ecclesiastical architectural development.

There are also five sites listed in the Maryland Historical Inventory in the vicinity of the project. The first of these is "Sharps Outlet" a middle 18th century frame farmhouse still used as a dwelling located on Maryland Route 2-4 in Port Republic. Also in the small hamlet of Port Republic is the Parker Creek Road House, a dwelling recently added to the State inventory, as well as an early twentieth century dry goods store, which although not registered is one of a few such stores remaining in Southern Maryland. Sharp's Outlet is located on the west side of Route 2-4, 75 feet from the pavement. The Parker Creek Road House and the dry goods store are to the east of Route 2-4, 400 feet and 125 feet respectively from the roadway.

A third site on the Maryland Historical Inventory in the vicinity of the project is a Victorian house about 1½ miles south of St. Leonard, 150 feet east of Route 2-4. It is the only known large Victorian shingle-style structure in Calvert County. The house has many projecting gables decorated with patterns; a six-sided tower on one side, and a windmill connected to the house. The house is still used as a dwelling and is owned by the Parran Family.

Parran's Park, an early nineteenth century house, built in an eighteenth century style, was also listed in the Maryland Historical Inventory. This house was razed several years ago after being severely damaged by fire and vandals.

The last site is located on the U.S. Naval Reservation north of Solomons on a narrow spit of land known as Point Patience. The original dwelling located here, known as Cremona or The Ashcom House, was burned in the War of 1812 and bricks from it were used to construct a small structure around 1820. Nothing remains to indicate this structure's original appearance as it has been extensively remodeled and expanded.

There are many other sites in southern Calvert County listed on the Maryland Register with concentrations along the west shore near the Patuxent River and on the south shore near Solomons. None of these sites are in the immediate vicinity (less than 1 mile) of the project. The eight sites which are close enough to the project to be potentially affected are shown on Figure 7.

The Calvert County Commissioners on June 4, 1974 adopted an "Ordinance For the Designation and Preservation of Historical Districts." The ordinance created an "Historic District Commission" empowered with the ability to designate Historic Districts

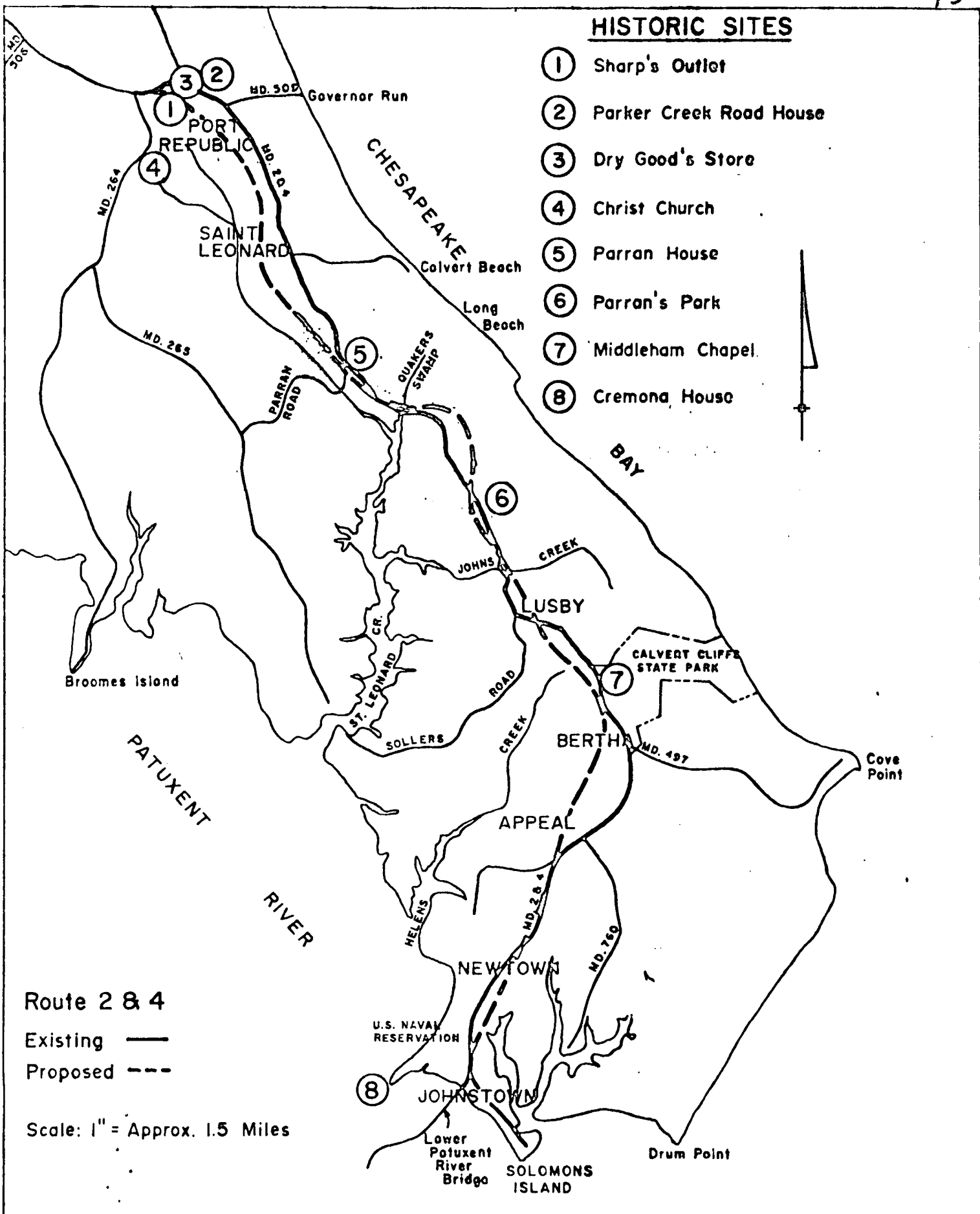


FIGURE 7

76

in order to preserve areas and structures which reflect significant elements in the cultural, social, economic, political or architectural history of Calvert County. The district so created is to be indicated on the County Zoning Maps and normally would contain between four and ten acres for a single structure. The designation must have the approval of the property owners. Once designated, alterations within the district must be approved by the Historic District Commission. The only district created thus far in the project area is Middleham Chapel and the surrounding 9.72 acres.

2. Archaeological Sites

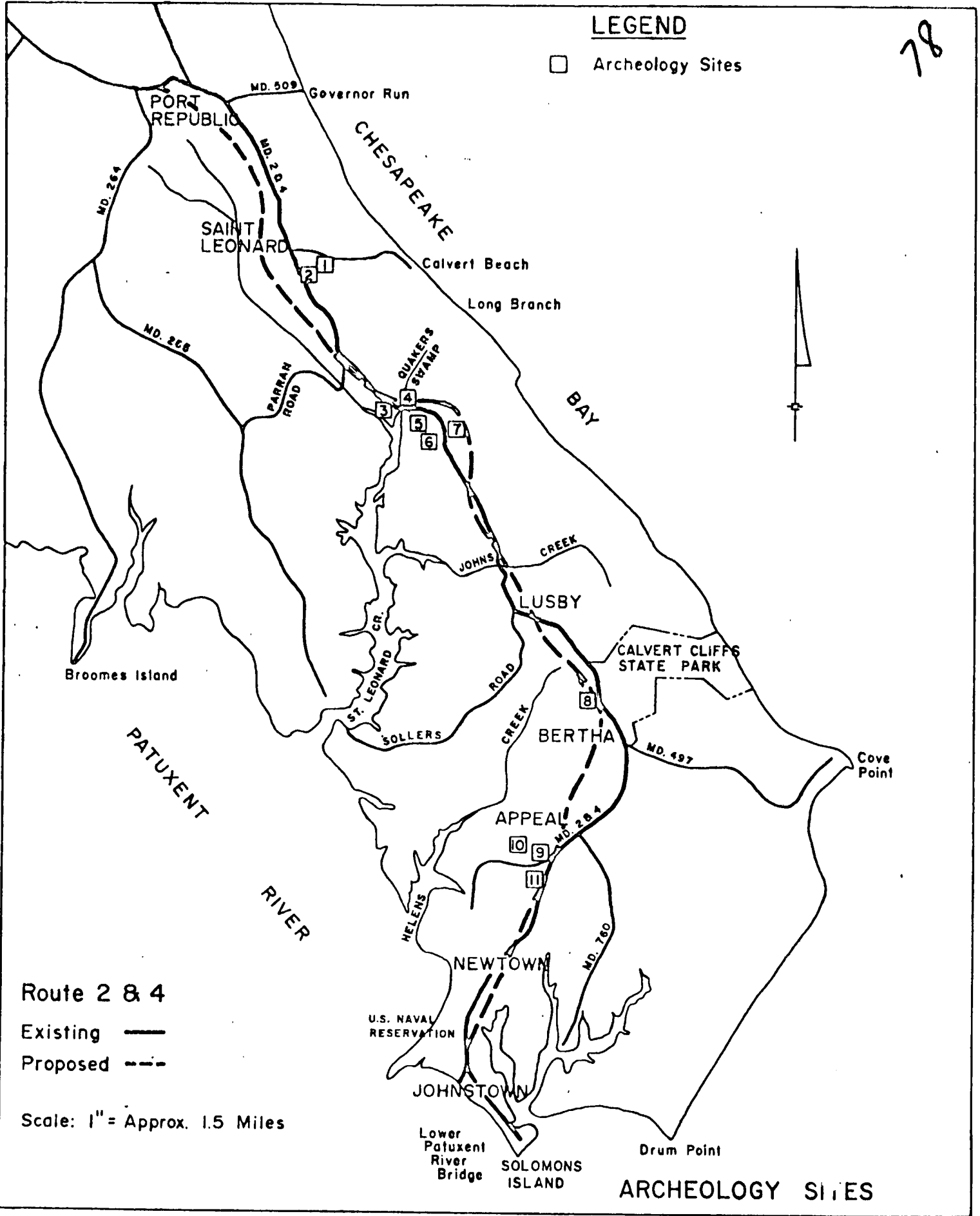
A preliminary archaeological reconnaissance of the corridor study area was done by Dr. Kenneth G. Orr, Ph.D, consulting Archaeologist. This reconnaissance involved an on-the-ground surface examination of selected portions of the area to be affected, adequate to assess the general nature of the archaeological resources probably present and assess the probable impact of the alternate alignments. This level of investigation is appropriate for the project planning stage of highway development.

A total of 47 checks (site investigations) were made and it was determined that 11 of the checks were positive and worthy of further investigation if they are to be affected by the alternate chosen for development. The positive checks are distributed among all the construction alternates with no alternate being completely free of an archaeological site worthy of further investigation. The sites, described below, have been given a number as indicated here, on Figure 8 following, and on the exhibit maps in Appendix E.

(1) Sawmill in (New) St. Leonard: Located approximately 400 feet south of Calvert Beach Road and 400 feet east of Route 2-4 in the town of Saint Leonard, this structure was built some 60 years ago and abandoned approximately 20 years ago. It is a large gable-roofed shed approximately 100 ft. by 30 ft. and three feet above the ground with open sides.

**LEGEND**

□ Archeology Sites



Route 2 & 4

Existing ———

Proposed - - - -

Scale: 1" = Approx. 1.5 Miles

**ARCHEOLOGY SITES**

FIGURE 8

The site represents an important, however recent, period of the lumber industry's long history in Calvert County.

(2) Old Schoolhouse (New) St. Leonard: This site is very near the previous site approximately 200 feet south of Calvert Beach Road, 50 feet from the east side of Route 2-4. It is on the alignment of Alternate 3. The building actually consists of two rectangular log cabins with clapboard exteriors, each measuring approximately 20 by 15 feet and joined in a "T" formation by a short enclosed passageway. Walls are made of hand-hewn squared logs joined at the corners in the gabled "Pike Notch," a feature of early log cabins.

(3) Site of Old St. Leonard Town: Prior to the present occupation of existing St. Leonard there was an original town located near the confluence of Quaker Swamp and St. Leonard Creek. The Old St. Leonard was occupied as early as 1630 and was probably still occupied in 1901. It was bombarded in 1780 by British warships. The site is now obscured by heavy timber and its exact limits are indeterminant. No investigation was made at this time.

There have been suggestions in the past from individual citizens in Calvert County that this area be declared an historic district. However, there have been no recent developments in this regard and its nomination is not on any agenda for consideration by the State Review Board.<sup>1</sup> It also is not listed by the Calvert County Historic District

<sup>1</sup> Conversation with Mr. J. R. Rivoire, Maryland Historical Trust, April 28, 1975.

Commission. All alignments with the exception of 4-A cross the general area of this site.

(4) Old Road and Bridge at Quakers Swamp: At the existing crossing of Route 2-4 over Quakers Swamp and just to the east (40 feet) lie the vestiges of an old road and bridge. The road is gravel topped and approximately 18 ft. in width and on a 6 ft. fill or ramp at the stream banks. It is believed to be an early "water-bound" macadam road, surviving examples of which are rare or unknown in the United States (Communication with Mr. Donald Berkebile, Assistant Curator of Transportation, Smithsonian Institution, Washington, D. C. October, 1974).

The bridge remains consist of a line of four piles rising two feet above the water lined on each side by boards which extend some 6 feet above the water. Each of the four piles, a foot or so in diameter, have a saddle cut in the top to receive a transverse log.

(5) Sunken Road to South of St. Leonard Creek: This old roadbed some 1200 feet south of the above road is deeply cut into the hillside and some 15 ft. in width. This 200 foot section of road, like the section to the north, is believed to be part of the "Old Solomons Island Road". It is some 350 feet west of Route 2-4.



(6) Log Cabin on Walnut Cove Road; This abandoned house located some 50 ft. down the first west fork of Walnut Cove Road is a log cabin with concrete chinking between the timbers. Clapboards covered with Brick-tex, a tar paper veneer with brick motif, face the outside and lathes and plaster face the inner walls. The house is about 20 feet square with a gabled roof and brick fireplace. It is approximately 450 feet west of Route 2-4.

This house is of the earliest Euro-American log cabin style first introduced by the Swedes in the Delaware Valley in 1638. It appeared commonly in Maryland in the early 1700's when it was called "Frontier Style" Cabin (Forman, 1968 p. 52).

(7) Reported Family Burial - Eddie Long Property: According to children of Mr. Eddie Long, their great grandfather was buried some 600 feet east of their house approximately 550 feet east of Route 2-4 where Alternates 4-A and 4, 4-C and 4-D come together south of Quakers Swamp. This has not been verified with Mr. Long or by field check.

82

(8) Drum Point Railroad Bed Across from Cliffs of Calvort State Park Entrance: At this location, about 20 feet west of Route 2-4, lies a five-foot high railroad bed some 8 feet across the top and 15 feet across the base. This is a portion of the Drum Point Railroad which was proposed by Frederick Bareda, a wealthy Peruvian in the guano trade, to provide fertilizer to Maryland farmers. Although a portion of the roadbed was actually constructed in the late 1800's the rails were never laid (Stoin, 1960, p. 184-185).

(9) Lost Grave Site at Mill Bridge Road: Located 300 feet down Mill Bridge Road from its juncture with Coster Road and Route 2-4. The grave of William Dowell died 1853, is marked by a brown sandstone gravestone 3 1/2 feet high, 2 feet wide and 2 inches thick with a rounded top. The marker is decorated and inscribed.

The grave area is now an oval depression and other such depressions were noted although other gravestones were not found possibly due to the heavy cover. There is an abandoned house nearby, an outhouse, and a midden area (refuse heap) which may be associated with the grave site.

(10) Indian and/or Euro-American Occupation Site;

Located just north of the grave site in a corn field three quartzite fragments were found chipped from large pebbles not indigenous to the Drum Point Peninsula. Also found was a "Gun flint", dark green glass sherd with air bubbles and a rough oxidized surface, grey crockery sherd with light glaze on outer surface, milky quartz core with numerous chipped facets, and a stone-hard gray material ground on two edges and chipped to a keen edge on the third side. Numerous other fragments were also collected.

The fragments gathered suggest that both Indians and Euro-Americans occupied this site and it should be explored further.

(11) Barns and Associated Middens at Appeal:

Located some 500 feet South of Coster Road are four tobacco barns, two to the east side of Route 2-4 and two to the west side. The barns on the west side have associated middens. Although the barns themselves do not appear to be of historical value (being of relatively recent construction) they should be examined for objects of historical value by authorities. The barns on the east side are 100 feet from Route 2-4 as is the nearest barn on the west side.

84

h. Aesthetics - The immediate project area and Calvert County as a whole present an aesthetically pleasing mixture of forest and agricultural land as well as coastal vistas along both shores. As the county is predominantly undeveloped most of the land is in its natural state. Rolling topography adds to the attractiveness of the area.

Although the Calvert peninsula is endowed with a natural beauty it is disturbed in areas by strip development including commercial, industrial and residential properties. There are well maintained properties, but in some areas maintenance has not kept pace with deterioration. A number of areas removed from the major roadways, especially the termini of dirt roads, are used as dumping grounds.

Utility corridors running north-south through the county and the project area can also be considered unattractive. Baltimore Gas and Electric, however, has taken steps to minimize the visual impact of their 500 kilovolt lines by leaving vegetation wherever possible, thus screening them somewhat from roadways. In addition stylized steel poles have been used for support near roadway crossings rather than the old lattice towers.

85

i. Planning/Land Use -

1. Existing Land Use - Calvert County is predominantly rural with less than 11% of its land area developed for urban uses. The remainder consists of forest, agricultural lands and wetlands. Forest and agriculture each cover slightly more than 1/3 of the county while wetlands cover nearly 17%.<sup>1</sup> Agriculture occurs throughout the county although it is more prominent in the western portion near the Patuxent River. Forest land is more prevalent on the east or Chesapeake Bay side of the peninsula while wetland areas are evenly distributed throughout the county. Table 4 gives a breakdown of existing land use patterns.

The major developed areas in the County center on Prince Frederick, Solomons and Chesapeake Beach - North Beach. Of these only Solomons is in the project area at the extreme southern end. There are also several smaller population centers in the county with St. Leonards being the only one served by the project under consideration. The Solomons area, including the entire lower 3½ miles of the Calvert peninsula, had a population of approximately 3,700 in 1973.<sup>2</sup> The population

<sup>1</sup> Calvert County Comprehensive Plan, Preliminary Draft, March 31, 1974, Pg. 1-4.

<sup>2</sup> Ibid Pg. 8-8.

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Table 4  
EXISTING LAND USE-CALVERT COUNTY <sup>1</sup>

<u>DEVELOPED</u>	<u>ACRES</u>	<u>PERCENT OF TOTAL ACREAGE</u>
Residential	6,957	5.0%
Public & Quasi-Public	3,306	2.3%
Industrial	388	0.3%
Commercial	933	0.7%
Utility Transmission & Transportation	<u>3,301</u>	<u>2.3%</u>
Total Developed:	14,885	10.6%
 <u>UNDEVELOPED</u>		
* Wetlands	23,137	16.5%
Forest	52,695	37.6%
Agriculture	<u>49,603</u>	<u>35.3%</u>
Total Undeveloped	125,435	89.4%
County Total	140,320	100.0%

\* Wetlands being defined as 50 and 100 year floodplains, tidal marshes, fresh water swamps and coastal beaches.

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<sup>1</sup> Ibid. Pg. 1-4

of St. Leonards is estimated to be in the vicinity of 150 people.

Other residential development occurs in small strips along roads or on individual rural lots. An exception is Chesapeake Ranch Estates, a subdivision with approximately 600 homes off Maryland Route 760 east of the project area. About half the homes are used in summer only with many of the permanent homes inhabited by retired couples. There has also been some residential subdivision development in the northern part of the county which is within 30 miles of Washington D.C.

Industry is not significant in the Calvert County land use pattern. Only 388 acres (0.3% of total county acreage) is devoted to industrial land use. The two most important facilities are both in the project area and will be served by the improvement. The first is the Calvert Cliffs nuclear power plant owned and operated by the Baltimore Gas and Electric Company on the Chesapeake Bay just north of Lusby. Sole land access to the plant is off Route 2-4.

The second facility is the Columbia Gas Company's liquified natural gas unloading depot between Cover Point and

88

Calvert Cliffs State Park on the Chesapeake Bay. This plant, currently under construction, will receive LNG from tankers which will unload offshore and the product will be piped to shore, vaporized and then piped to Columbia Transmission Corporation's pipeline system in Loudoun County, Virginia. There will be no truck shipments of natural gas to or from the plant. Access to the plant is off Maryland Route 497 which connects to Route 2-4.

Other industries in the project area include boat building, forestry and wood products, and food processing, all of which are located on small scattered sites. An industrial park to be known as Calvert County Industrial Park is planned on a 187 acre site off Route 231 southwest of Prince Frederick and outside the project area.

Like industry, commercial land use is not significant in Calvert County. There are several new small shopping centers on the order of 5 to 20 stores in Prince Frederick, but in the project area commercial enterprises are limited to individual stores or restaurants in scattered locations. The sole exceptions are the Saint Leonard and the Solomons area where commercial enterprises are grouped close together in individual structures, or in some cases several stores share one structure.



Community facilities adjacent to the existing alignment include the Appeal Elementary School near the intersection of Maryland Route 760 and a fire house across from the Naval Reservation in Johnstown. Also, post office facilities in Saint Leonard, Lusby and Port Republic are on Route 2-4.

Churches adjacent to Route 2-4 are: Calvary Bible Church north of Lusby; Middleham Chapel between Lusby and Bertha; St. Paul's Church in Bertha, and Zion Hill Church south of Appeal.

The most significant public use of land in the project area is the Naval Ordnance Laboratory in Solomons (Johnstown). In addition to its research facilities, a portion of the reservation is set aside as a water-oriented recreation center for military personnel primarily from the Washington, D. C. area. Facilities available include boating, fishing, swimming and open play areas, ballfields, a golf-driving range, miniature golf, play courts, swimming pools, picnic areas, 345 developed campsites, and cottages for overnight use. There are 204 acres within the recreation center and it has accommodated as many as 6,000 people on a Fourth of July weekend. Future plans for the area include the development of a 100 room motel, 8 additional cottages, a new Recreation/Administration Building and improved camping and play areas.

Public park and recreation areas in Calvert County are not extensive. The one state park is Cliffs of Calvert State Park which consists of 982 acres between Route 2-4 and Chesapeake Bay just north of Bertha. The park is predominantly undeveloped with the exception of the area adjacent to Route 2-4 which has some playground equipment, picnic facilities, hiking trails, fishing pond and rest rooms. Sole access is from Route 2-4. Future plans call for expansion to 1402 acres with development of day-use play areas, swimming pools, picnic areas and nature environmental areas. A new entrance road is also planned as well as an interpretation center in an existing barn near Route 2-4. Attendance over the last five years has averaged between 20,000 to 24,000 visitors yearly. When fully developed (sometime after 1980) annual attendance is projected to be approximately 117,000.<sup>1</sup>

In addition to Cliffs of Calvert State Park, there are a total of 97 acres of County Parks at three sites; Mt. Harmony Fish Pond, Dixon Tract and Route 231 Park. All of these facilities are in the northern half of the county and outside the project area.

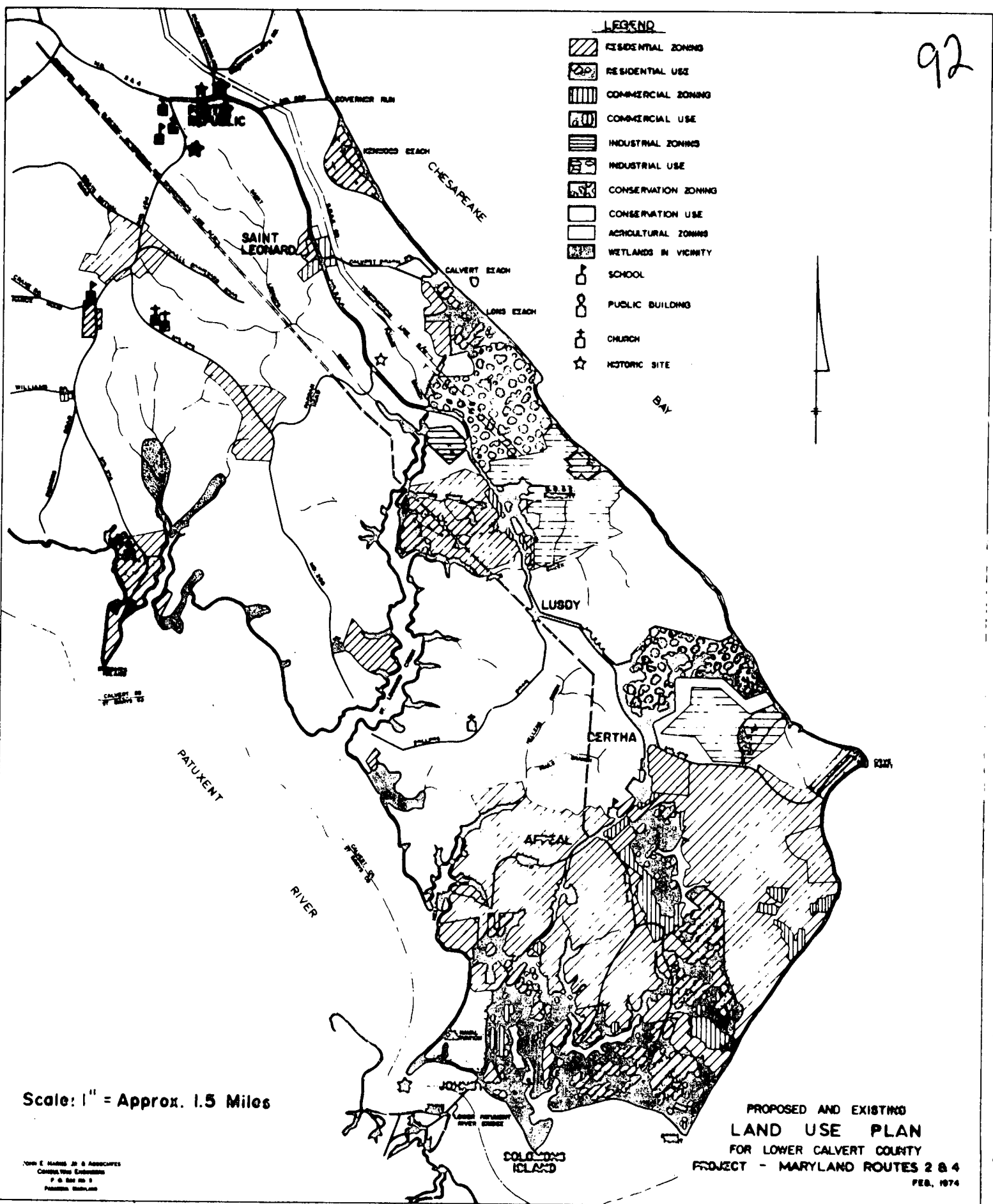
There are also 351 acres of recreation land associated with public schools in the county. Recreation areas not open to the general public include the Chesapeake Ranch Golf Course on Route 2-4, south of Bertha, and the facilities at the U. S. Navy Ordnance Laboratory in Solomons.

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<sup>1</sup>Conversation with Mr. Eugene Cheers, Land Planning Services, Maryland Department of Natural Resources.

Transportation facilities in the county with the exception of highways are virtually non-existent. There are no railroads or public airports and the only mass transit is a bus which travels to Washington, D.C. and returns once daily. Route 2-4 is the backbone of the county highway system running from north to south. Because of the peninsular shape of Calvert County, Route 2-4 is also the only through route. Other roads radiate from Route 2-4 and they, or extensions to them, terminate at either the Patuxent River or Chesapeake Bay, except for Maryland Route 231 which is the sole crossing of the Patuxent River at present. Route 231 joins Route 2-4 at Prince Frederick. Route 2-4 is also the only dualized four-lane road in the county, and then only north of Prince Frederick.

92



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476 0

FIGURE 9

Existing zoning is compatible with the present land use pattern allowing for expansion of existing uses in surrounding nearby areas. (see Figure 9).

The percent of Calvert County's land zoned for various uses is as follows:

<u>Land Use</u>	<u>% of County Total</u>
Residential	13.6%
Commercial	0.9%
Industrial	1.6%
Wetland	2.1%
Agriculture (including forest)	75.3%
Incorporated towns, military reservations & state land	6.5%
	<u>100.0%</u>

(From Calvert County Comprehensive Plan, 1974 pg. 1-4)

Zoning in the vicinity of existing Route 2-4 as well as the various alternate alignments under study is mostly agricultural. Exceptions are areas zoned for residential use at St. Leonard, the White Hall and White Sands area north of Lusby, and the entire area south of Bertha to the Solomons area.

Commercial and industrial zoning occurs on scattered parcels already owned by commercial or industrial concerns. There are no large industrial or commercial zones which are at present completely undeveloped. In addition to the above classifications there are two areas designated as Conservation Zoning. Residential and agricultural uses are permitted in this zone with a residential density of one residential unit per every 5 acres or better. The two areas so designated are Cliffs of Calvert State Park and the Quakers Swamp area between existing Route 2-4 and Chesapeake Bay.

94

2. Future Land Use - Development of Calvert County in the past has been slowed by its isolation and poor access. The lack of public water and sewer facilities has also discouraged growth. The county hopes to maintain a slow rate of development and has adopted a planned slow growth policy. This policy calls for development only in certain areas of the county while attempting to keep the remainder rural in nature.

Future growth is planned generally east of the drainage divide running north-south through the county. The growth west of the drainage divide (Patuxent River Basin) shall continue to be scattered and of low density. On lands east of the divide draining into Chesapeake Bay growth will occur in and around existing built-up areas.

In the project area the main node of growth will be the Solomons, Appeal and Olivet area across the southern portion of the peninsula. A secondary node will be in the Scientist Cliffs to Long Beach area on the bay.

The Solomons, Appeal and Olivet area has a projected population of 9,365 in 1990 as opposed to 3,706 in 1973. The Scientist Cliffs to Long Beach area has a projected population of 3,227 in 1990 as opposed to 3,046 in 1973.<sup>1</sup>

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<sup>1</sup> Ibid. Pg. 8-8, 8-11

95

Plans call for expanding public water and sewer services in the future growth areas. Improvements are also recommended to the county highway system on a limited basis in accordance with the slow growth policy. The major improvement proposed is to Maryland Route 2-4 throughout its length in the county. The only true through route in the county, Route 2-4 improvements will become more important with the completion of the new Patuxent River Bridge linking southern Calvert County with St. Mary's County. The county recommends a predominantly controlled access facility with service roads and occasional major intersections on grade at growth nodes.

Also proposed are dualization of Route 260 from Route 2-4 to Chesapeake Beach in accordance with the state's 20-year plan and the development of a "Beach Highway" linking bayfront communities in the northeast portion of the county. The latter would utilize existing roadways as well as new construction for its alignment.

96

j. Socio-Economics - The socio-economic structure of Calvert County differs from that in Maryland as a whole. In a number of areas the county falls below the standard for Maryland and also the U. S.. Average educational level is lower; average family income is significantly lower; and the value of new housing units and rent are also lower than the State norm. In addition the housing stock has many substandard units with 18.7% of housing units lacking plumbing in 1970.<sup>1</sup>

SOCIO-ECONOMIC INDICATORS<sup>2</sup>

	<u>Calvert County</u>	-	<u>Maryland</u>	-	<u>U. S.</u>
Educational level	8.4 years		10.4 years	--	
Average Family Income	\$ 8,649		\$ 11,257		\$ 10,565

The rate of population growth in Calvert County has been consistent since 1950 showing a net change of +31% from 1950 to 1960 and again +31% from 1960 to 1970. Prior to 1950 the growth rate was 15% or less per ten year period. Estimated growth in the future shows roughly a 40% increase every 10 years.

<sup>1</sup> Ibid. Pg. 3-7

<sup>2</sup> Ibid. Pg. 4-4



CALVERT COUNTY POPULATION  
1940 - 1990

<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980*</u>	<u>1990*</u>
10,484	12,100	15,826	20,682	30,000	41,500

\* estimated by Calvert County Planning Department.

Characteristics of the population indicate that the county is approximately 2/3 white and 1/3 non-white; there is a greater percentage of people in the under 20 and over 50 age groups than for Maryland as a whole; and the fertility ratio (number of children under 5 years of age per 100 women aged 15 to 49) is the highest in the state.<sup>1</sup>

Employment in the county is not dominated by any one occupation. Agriculture is still important with tobacco being the main cash crop. Production of corn and hay is also significant. After a decline in the 1960's agricultural production has tended to level off and the future is likely to see only a gradual decline over the years.

Of increasing importance in the county work force in recent years has been the construction worker. The two utility complexes in the south county (Baltimore Gas & Electric's nuclear power plant, and Columbia Gas LNG Terminal), both

<sup>1</sup>  
Ibid. Pg. 4-3

98

now under construction, have been responsible for much of this growth even though many of the workers have come in from outside the county.

These two complexes will also aid the county economically after construction through tax payments. In the first year of operation the nuclear plant was expected to produce<sup>\$</sup> 16 million in new tax revenue for the county which has a current budget of<sup>\$</sup> 7 million. The LNG Plant will add<sup>\$</sup> 1.5 million a year in new tax revenue.<sup>1</sup>

Other major employers in the county include several saw mills, boat manufacturing plants and food processing plants. Many residents are now commuting to the Washington, D.C. and Baltimore areas. This is particularly true in the northern section of the county where up to 50 percent of the workers have jobs outside of the county.<sup>2</sup>

Although Calvert County's economic potential remains undeveloped at present, the future economic outlook appears favorable. This is due in a large part to the presence of the two utility installations which will provide a tremendous positive benefit to the fiscal stability of the county and also serve to attract other industry.

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<sup>1</sup>Ibid. Pg. 4-23

<sup>2</sup>Ibid. Pg. 4-9

IV. ALTERNATIVES

#### IV. Project Alternatives

160

A number of possible alternatives to provide the desired facility including use of the existing alignment, use of an alignment on new location and doing nothing were proposed and studied. Use of mass transit or other means to reduce vehicular traffic volumes, and thus lessen need for the improvement, is not feasible in this area due to its rural character and low population density.

On the basis of preliminary investigations the alignments designated as Alternates 1 and 2 were dropped from further consideration early in the study. They are described on the following pages but their impacts are not detailed in this statement. They were rejected because of the large number of residential and commercial properties impacted and the necessity to take land from Cliffs of Calvert State Park. They also required land from the Middleham Chapel which is listed in the National Register of Historic Places. In accordance with Section 4(f) of the U. S. Department of Transportation Act, as amended by Section 18 of the Federal-Aid Highway Act. of 1968, no land may be taken from recreation or park areas or historic sites of local, state, or national significance for highway purposes if feasible and prudent alternatives are available. In this case, feasible and prudent alternatives were available.

101

Following is a description of each alternate studied. For additional information refer to Figure 10 which graphically depicts each alignment, Table 5 which summarizes their costs and right-of-way requirements, and Table 6 which compares the advantages and disadvantages of each alignment. Alternate 4, combined with 4D, is the alignment which has been selected for corridor approval.

The Recommended Alignment

Alternates 4 and - The recommended alignment would be on new location for almost its entire length. For the most part it would be to the west of the existing Route 2-4 alignment and would follow the alignment designated as Alternate 4. Alternate 4 would be followed from Port Republic to Appeal. South of Appeal Alternate 4D would be followed. This alternate will be constructed with partial control of access as would have been all other alignments on new location.

The route begins at the intersection of Route 264 with Route 2-4 and immediately diverges to the southeast until it reaches a distance of approximately 500 ft. south of Route 2-4. Following the curve of Route 2-4 to a more southerly direction Alternate 4 remains from 500 to 1500 feet west of Route 2-4. The alignment bypasses St. Leonard to the west and then converges on and follows existing Route 2-4 for approximately one mile in the vicinity of the Quakers Swamp crossing. The alignment then diverges to the east of Route 2-4 to avoid the White Hall Trailer Park and then

swings more to the south to cross Route 2-4, 600 feet south of the entrance to the B.G. & E. Nuclear Power Plant.

After crossing to the west of Route 2-4 Alternate 4 stays close (within 200 ft.) of Route 2-4 and crosses Johns Creek at the same point as the existing route. After crossing Johns Creek the alignment continues on a straight line, bypassing Lusby to the east and then crossing existing Route 2-4 south of Lusby. The alignment then stays to the west of existing Route 2-4 at distances ranging from 150 to 2000 feet, thus bypassing Calvert Cliffs State Park, Middleham Chapel and the Appeal Elementary School. The route crosses to the east of existing Route 2-4 once more from about one mile north of Newtown to just south of Dowell Road before joining and following Alternate 4D to the Johnstown-Solomons Area and Patuxent River Bridge approaches.

Alternate 4D follows a direct line from its junction with Alternate 4 near Dowell Road to the projects southern terminus. This alternate shares the same advantage and disadvantages as Alternate 4 to the north of Appeal and to the south of Appeal has the advantage of the shortest and most direct alignment. It also bypasses homes located adjacent to existing Route 2-4 just south of Swaggers Road.

As a result of comments made at The Corridor Public Hearing a connector road between Alternate 4 and Olivet Road has now been provided. The connector road will intersect with Route 2 and 4

opposite the present terminus of Olivet Road and will continue approximately 1000 feet to the west to meet with Alternate 4.

This new connector will mean the displacement of three businesses located in one structure on Route 2-4 opposite existing Olivet Road.

The principal advantages of the recommended alignment are:

- 1) This alignment can be constructed with minimal relocation of residential or commercial buildings.
- 2) There is no right-of-way taking from historic sites or religious institutions and the only recreational area affected is the Navy Recreation Center where land takings are unavoidable on any alternate.
- 3) It bypasses both St. Leonard and the Appeal Elementary School.
- 4) Major stream crossings are in the same location as existing Route 2-4 crossings at Quakers Swamp and Johns Creek.
- 5) Horizontal and vertical alignments will be in accord with AASTHO recommendations.
- 6) Proximity to developed areas.
- 7) Ease of maintenance of traffic during construction.
- 8) Simplification of alignment as opposed to alternates 1 through 3.
- 9) The ability to provide access control.

The disadvantages of this alternate include:

- 1) Minimal use of existing right-of-way.
- 2) More extensive roadway excavation requirements.
- 3) Lengthy connections are required to existing roadways.
- 4) Maintenance of dual facilities is required (new alignment plus existing roadway).
- 5) There will be a greater taking of farmland and wetland than if the existing alignment were utilized.

Alignments Considered and Rejected

Alternate 1 - Alternate 1 utilizes existing Maryland Routes 2 and 4 as the northbound lanes of the proposed dual facility with the southbound lanes being constructed on the new right-of-way just west of the existing roadway. Since approximately 75% of the existing roadway meets minimum standards for horizontal and vertical alignment it may be possible to salvage much of it depending on its structural condition. The existing alignment would be closely followed from the northern terminus at Route 264 throughout the length of the project to the southern project terminus at John-town.

Advantages of this route include:

- 1) Present traffic patterns would be maintained.
- 2) Existing right-of-way utilized.
- 3) Possible use of existing pavement.
- 4) Dual maintenance of nearby highway facilities would be avoided.

Disadvantages of Alternate 1 include:

- 1) Undesirable horizontal reverse curves and curves separated by short tangents only meeting minimum AASTHO (American Association of State Transportation and Highway Officials) standards.
- 2) Vertical curves meet only minimum AASTHO standards for sight distances.
- 3) Excessive right-of-way costs and displacement of families and businesses, especially in St. Leonard where the majority of the commercial area would be eliminated.
- 4) Maintenance of traffic during construction.



- 5) Requires taking of recreational land from Calvert Cliffs State Park (2.5 acres).
- 6) Would take more of the Navy Recreation Center lands at Solomons than the other alternates.
- 7) Would take Sharp's Outlet historic site and a large oak tree at Lusby which although not historic is a permanent local feature.
- 8) Encroaches on the salt water wetland at the head of St. Leonard Creek.
- 9) Requires more of the parking area at the Appeal School than any other alternate.

Because of the above disadvantages, Alternate 1 was dropped from further consideration.

Alternate 2 - Alternate 2 also utilizes the existing alignment but it differs from Alternate 1 in that the existing roadway is used for the southbound lanes of the new facility with the northbound lanes being constructed on the new right-of-way just east of the existing roadway. The advantages of Alternate 1 also pertain to Alternate 2.

Disadvantages of Alternate 2 include:

- 1) Undesirable horizontal reverse curves and curves separated by short tangents only meeting minimum AASTHO standards.
- 2) Vertical curves meet only minimum AASTHO standards for sight distances.
- 3) Excessive right-of-way costs and displacement of families. The commercial area and firehouse across from the Naval Recreation Center north of Solomons would also be severely impacted.
- 4) Maintenance of traffic during construction.

- 5) Would require the taking of the dry goods store in Port Republic and severly impact the Parran House and Middleham Chapel, all historic sites.
- 6) Requires the taking of 7.5 acres of land from Cliffs of Calvert State Park and would also affect the Chesapeake Ranch Country Club to a greater extent than any other alternate.
- 7) Would require the taking of Calvary Bible Church, St. Paul's Church and Zion Hill Church.

Because of the above disadvantages, Alternate 2 has been dropped from further consideration.

Alternate 3 - Alternate 3 is basically a combination of Alternates 1 and 2. It would utilize the existing roadway of Maryland Routes 2 and 4 as either the northbound or southbound lanes, depending on adjacent land uses. This will minimize the number of structures taken and also eliminate any taking of land from Calvert Cliffs State Park and Middleham Chapel. It will also minimize land takings at the Navy Recreation Center and Chesapeake Ranch Country Club. Impact to historic sites will also be reduced and no religious institutions will be taken.

Under this alternate, 95% of the existing alignment will be used. Horizontal and vertical alignments will be within more desirable ranges of the AASTHO standards. Maintenance of traffic during construction will be a problem on this alternate just as it was on Alternates 1 and 2, only more so. This alternate has the highest right-of-way cost and also the highest total cost.

Alternate 3-A - Alternate 3-A is a modification which can be applied to either Alternates 1, 2, or 3. This alternate creates a bypass west of St. Leonard by departing from existing Route 2-4 about 1/2 mile north of St. Leonard and rejoining the existing alignment approximately 1 1/2 miles south of St. Leonard.

Except for the divergence around St. Leonard Alternate 3-A follows the same alignment as Alternate 3. Thus its advantages and disadvantages are the same except for a reduction in right-of-way cost and displacements in St. Leonard.

Alternate 4-A - This alternate is a modification of Alternate 4 between Saint Leonard and the Baltimore Gas and Electric Company's Calvert Cliffs Nuclear Power Plant site. Rather than lying to the west of existing Maryland Route 2-4 as does Alternate 4, this alternate lies to the east so that it can parallel the B.G. & E. transmission line right-of-way. It initially follows Alternate 3 but then diverges to the east approximately 700 feet south of Calvert Beach Road. The alignment then runs adjacent to the transmission line right-of-way until it rejoins Alternate 4 about 1 mile south of Quakers Swamp.

Alternate 4-A provides basically the same advantages and disadvantages as Alternate 4 with the additional advantage of utilizing a common corridor with the existing B.G. & E. transmission line. It will, however, have greater residential and

108  
business displacements, affect the historic sites in Port Republic, and have a greater impact on the Quakers Swamp fresh water wetland area.

Alternate 4-B - Alternate 4-B consists of modification to Alternate 4 in the vicinity of Quakers Swamp and the B.G. & F. nuclear power plant. This alternate reduces the curvature in the alignment to avoid White Hall Trailer Park by keeping to the west of the existing Route 2-4 alignment in this area.

The advantages and disadvantages of this alternate are the same as those of Alternate 4 since the same alignment is used for most of the route with the only difference being in the area of the modification. Additional advantages of the modification over Alternate 4 include reduction of right-of-way requirements from the B.G. & E. property and superior horizontal alignment.

Alternate 4-C - This alternate follows the alignment of Alternate 4 from Port Republic to Lusby and then takes a different course from there to Newtown. Approximately one-half mile south of Lusby this alternate leaves the alignment of Alternate 4 to parallel the transmission line right-of-way of the Southern Maryland Electric Cooperative, Inc. to the area near the substation north of Appeal. This alignment then crosses existing Route 2-4 and stays on the east side until it rejoins Alternate 4 approximately 400 ft. north of Dowell Road.

109

The advantages and disadvantages of Alternate 4 also apply to this route. An additional advantage of Alternate 4-C is the use of the common corridor with the transmission line. An additional disadvantage is the remoteness of this route from existing Route 2-4.

"Do-Nothing" Alternate - The "Do-Nothing" Alternate would consist of not adding additional lanes to the Route 2-4 corridor in southern Calvert County. Traffic would continue to utilize Route 2-4 which would remain as a two-lane facility. No provisions would be made to accommodate future traffic growth. Normal maintenance procedure and spot safety improvements would continue to be undertaken within the existing right-of-way, however, in order to upgrade substandard safety features.

Since Route 2 and 4 will be dualized to four lanes north of Port Republic in the near future, the section between Port Republic and Johnstown will be the only remaining section of the Route with only two lanes. At the projects southern terminus, four traffic lanes (two from Solomons and two from the New Lower Patuxent River Bridge) will feed into only two lanes if Route 2 and 4 is not dualized. The two lane section between Port Republic and Johnstown could thus be a bottleneck between two four lane sections if Route 2 and 4 is not dualized.

110

This alternate has the advantage of not requiring the large expenditure of public funds. However, it would not relieve traffic congestion which will worsen in future years. Congestion will mean increased operating costs for the motorist, require the devotion of more time to driving and increase the number of traffic accidents.

Major engineering and cost features of each alternative are summarized on Table 5 following. It will be noted that all of the construction alternates are reasonably similar in length with the difference between the shortest (Alternate 4-D) and the longest (Alternate 3-A) being 1.10 miles. There is a moderate difference in estimated construction cost ranging from a low of 12.2 million dollars for Alternate 3-A to a high of 17.6 million dollars for Alternate 4-B. Alternates 3 and 3A have lower construction costs than the other alternates because more of the existing roadbed can be salvaged and used as a base for new construction than with the alternates on new location.

Right-of-way costs, however, show a significant divergence among alternates with Alternates 3 and 3-A being generally twice as costly as the other alternates because of the value of and the number of more developed properties which will be required. These costs also reflect relocation costs which will necessarily be much higher on Alternates 3 and 3-A because of the number of

residents and businessmen which must be relocated. These displacements will be discussed in detail in Section V.

Total cost of the project, including construction and right-of-way, is reasonably similar for all alternates with the lowest being approximately 20.3 million dollars for Alternate 4-A and the highest being 22.4 million dollars for Alternate 3. Under the "Do-Nothing" Alternate, there would be no funds expended for either right-of-way or construction and no additional right-of-way taking would be required.

112

Table 5  
Engineering and Cost  
Summary of Alternatives

Alternate	Length (Miles)	Construction Cost (\$mill- ions)	Right-of-way Including cost Relocation (\$ millions)	Total Cost (\$ millions)	Right-of- way (Acres)
Recommended Alignment (4-4D)	14.35	17.2	5.1	22.3	375
3	15.08	12.2	9.1	21.3	290
3-A	15.20	13.3	8.9	22.2	298
4	14.50	17.2	5.1	22.3	375
4-A	14.40	15.5	6.0	21.5	357
4-B	14.35	17.6	5.3	22.9	371
4-C	14.18	16.8	4.6	21.4	353
4-D	14.10	16.4	4.9	21.3	359
"Do-Nothing"	-	0	0	0	0



A summary of the major advantages and disadvantages of each alternative in comparison with the other alternatives is shown on Table 6. Detailed discussion of the full range of impact expected from the various project alternatives follows in Section V.

Table 6

Major Comparative Advantages and Disadvantages of Alternatives

Effect	<u>Recommended Alignment (4-4D)</u>		3A	Alternatives					<u>Do-Nothing</u>
	3			4	4A	4B	4C	4D	
Existing Traffic Patterns Maintained	-	+	+	-	0	-	--	--	++
Existing Right-of-Way Utilized	-	++	+	-	0	-	-	-	++
Avoids Dual Maintenance of Two Highways	-	++	+	-	0	-	-	-	++
Ability to Offer Access Control	++	--	--	++	0	++	++	++	--
Maintenance of Traffic During Construction	++	--	--	++	0	++	++	++	0
Above Standard Horizontal & Vertical Align.	++	-	-	++	0	++	++	++	--
Improved Traffic Flow	++	+	+	++	+	++	++	++	--
Improved Traffic Safety	++	+	+	++	+	++	++	++	--
Impact on Recreation Land	+	-	-	+	+	++	++	++	--
Impact on Historic Sites	+	--	--	+	--	+	+	+	0
Impact on Archaeological Sites	-	-	-	-	-	-	-	-	-
Displacement of Families and Businesses	+	--	--	+	-	+	+	+	+
Impact on Community Cohesion	+	--	--	+	-	+	+	+	++
Impact on Farmland and Woodland	-	+	+	-	0	-	-	+	-
Impact on Noise Levels	-	--	--	-	-	-	-	-	++
Impact on Water Quality	-	0	0	-	-	-	-	-	0
Impact on Air Quality	0	0	0	0	0	0	0	0	+
Impact on Wildlife	-	0	0	-	-	-	-	-	0
Consistency with Land Use Planning	++	+	+	++	+	++	++	++	--

Key: ++ Significant advantage in relation to other alternates.  
 + Minor advantage in relation to other alternates.  
 0 Neither an advantage nor disadvantage in relation to other alternates.  
 - Minor disadvantage in relation to other alternates.  
 -- Significant disadvantage in relation to other alternates.

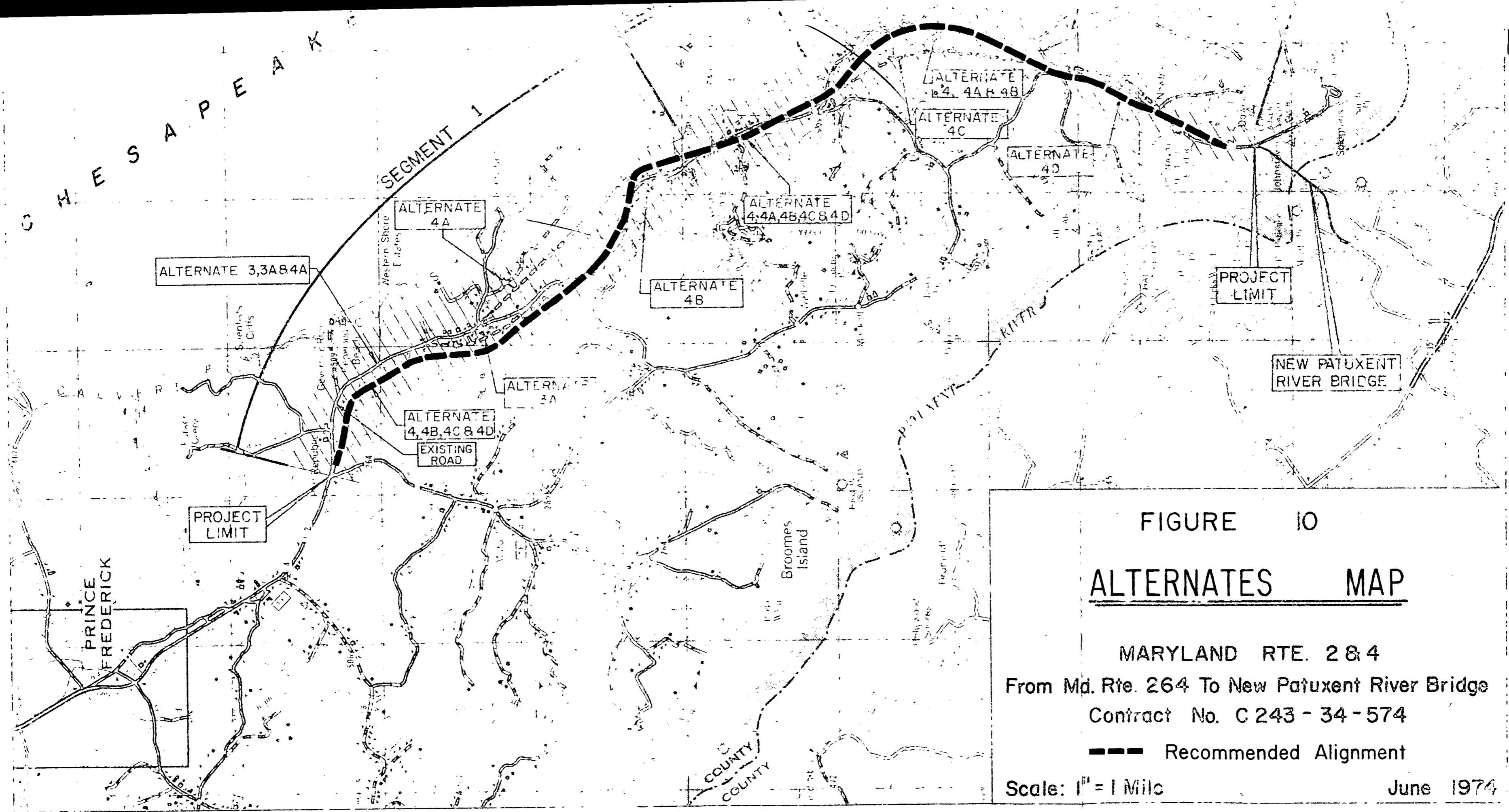


FIGURE 10  
ALTERNATES MAP

MARYLAND RTE. 2 & 4  
 From Md. Rte. 264 To New Patuxent River Bridge  
 Contract No. C 243 - 34 - 574

--- Recommended Alignment

Scale: 1" = 1 Mile

June 1974

V. ENVIRONMENTAL IMPACTS

117

a. Air Quality - The subject project is located within the Southern Maryland Intrastate A.Q.C.R., and it is necessary to evaluate two characteristics of the proposed facility when determining consistency with the State Implementation Plan: micro-scale carbon monoxide levels and construction impacts.

The project Air Quality Analysis assesses the micro-scale carbon monoxide impact of the facility. This analysis determined that no violation of State or Federal Ambient Air Quality Standards for carbon monoxide will occur adjacent to the project during the completion and design years. As a result of this conclusion, the project may be considered consistent with this aspect of the State Implementation Plan.

The consistency of the project in relation to construction activities was addressed through consultation with the Maryland Bureau of Air Quality and Noise Control. The State Highway Administration has established Specifications for Materials, Highways, Bridges, and Incidental Structures which specify procedures to be followed by contractors involved in State work. The Maryland Bureau of Air Quality and Noise Control has reviewed these Specifications and has found them consistent with the Regulations Governing the Control of Air Pollution in the State of Maryland.

Based upon these two factors, the subject project is determined to be consistent with the State Implementation Plan.

118

a. Air Quality - The proposed project will have minimal impact on air quality. This conclusion is based on an air analysis made for the section of Maryland Route 2 and 4 between Maryland Route 402 and Maryland Route 264 immediately to the north of and contiguous with the subject project. This analysis resulted in the finding that the concentrations of carbon monoxide a varying distances from the roadway, under "worst case" conditions of traffic and meteorology, were substantially below the National Ambient Air Quality Standards.

The results of this analysis are considered applicable to Maryland Route 2 and 4 from Route 264 to the Johnstown-Solomons area because of the existence of similar conditions pertinent to air quality and dispersion characteristics. These similar conditions are meteorology, topography, traffic flow and mix, and highway configuration. Land use in the two corridors is also similar with wooded and agricultural land predominating and scattered residences and a few communities abutting the road.

Because the two projects are contiguous to each other, and the topography is similar, it is reasonable to assume that the meteorological parameters of wind velocity, wind

direction, and atmospheric stability class, provided by the Maryland Bureau of Air Quality Control for the previous analysis, will very likely be applicable to the subject project. When modeling the "worst" case in the previous analysis, a wind speed of one meter per second and an "F" stability class were used. Wind direction was varied to cause the "worst" concentrations at a particular receptor. Obviously, because the terrain is similar, the running of the models on the subject project will result in similar concentrations attained in the previous analysis.

The traffic volumes will be somewhat lower and consequently speeds slightly faster on the subject project as compared to the previously analyzed section of roadway. The Average Daily Traffic on the upper section is approximately 23,200 in the year 1996. The Average Daily Traffic in 1996 on the subject project ranges from a high of 20,325 at the northern and beginning termini of the project to a low of 11,350 at the ending termini. The reduction in volumes and increase in speeds should produce even lower carbon monoxide concentrations than found in the previous analysis. The percent of Average Daily Traffic of Heavy Duty Vehicles is 2 percent higher on the subject project, but the Design Hour Volume is the same.

The typical section of both projects will be similar with 2-24 foot roadways separated by a variable 16 feet - 30 feet median. Both sections of the roadway will be predominately at-grade with a minimum of cut section.

120

The methodology of using the air analysis performed for the previous project as a basis for making a "negative declaration" with regard to air quality impact for the subject project has been concurred in by Region III of the U.S. Environmental Protection Agency by letter dated February 14, 1975 and by the Maryland Bureau of Air Quality Control by letter dated March 5, 1975.

Letters from the Maryland State Highway Administration requesting the concurrence of these two agencies and their replies are included in Appendix A at the rear of this Statement. The highest hourly concentration of carbon monoxide predicted in the study for the previous project under "worst case" conditions (including the addition of estimated background levels of 2 ppm) was 10.46 ppm (parts per million). This is considerably less than the National Air Quality Standard for carbon monoxide of 35 ppm maximum one hour concentration. Likewise, the predicted maximum 8 hour concentration (including 2 ppm background levels) of 7.08 ppm is below the National Air Quality Standard of 9 ppm.

Since the subject project has less traffic than the analyzed project, and all other ambient conditions pertinent to air quality and dispersion are similar, it can be concluded that carbon monoxide levels along the subject project will be increased by slightly lesser amounts. The low amounts estimated indicate that the proposed project will have minimal impact on air quality.



121

b. Water Quality - The major impact on water quality resulting from highway construction and maintenance is that of sediment deposited in streams and lakes. Sediment resulting from soil erosion is a significant problem during construction unless proper control measures are taken but decreases to a non-significant impact once cover becomes established.

Some consideration must also be given during construction to siting of material storage and equipment maintenance areas to prevent the potential discharge of contaminants to natural waters. Painting, runoff from salting operations, spills from transportation accidents, etc., may also result in water pollution unless proper precautions are taken.

No prediction can be made at this time as to the possible effect of air-borne or surface runoff of chemical pollutants from the completed road surface on the surface water quality. A recent study<sup>1</sup> sponsored by the U.S. Environmental Protection Agency indicates that in urban areas "stormwater runoff is frequently a significant portion of the total pollution entering area receiving waters on a yearly basis, and is always significant on a shock-load basis as is encountered during periods of runoff."

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<sup>1</sup>Shaheen, Donald G., "Contributions of Urban Roadway Usage To Water Pollution", Office of Research and Development, U.S. Environmental Protection Agency, Washington, D.C., 1975

Siltation and sediment transport in water bodies resulting from soil erosion can cause the following conditions which may be detrimental to the use and enjoyment of the stream or lake:

1. Physical damage such as reduced storage capacity in reservoirs, clogging of ditches and conduits and alteration of stream morphology and channel stability.
2. Biological damage through enrichment of receiving waters which results in excessive aquatic growths; smothering of bottom dwelling organisms and alteration of light transmitting characteristics.
3. Chemical damage which is reflected in higher turbidities and total dissolved solids due to leaching of exposed strata.

Discharge of petroleum products, toxic materials, chlorides, etc., may occur from other operations which may also result in similar degradation of water quality with respect to intended uses. Significant impacts on surface water quality may also result from the use of salts in the construction area for dust control and the application of anti-skid and deicing compounds during the winter.

The major impact of highway construction most often is on the recreational uses of streams. In instances where the water bodies serve as sources of public water supply the impact may be negligible or extremely significant, depending on the cir-

123

cumstances in a specific instance. Factors such as watershed size and location, type of treatment provided, and initial water quality all have an influence on the impact of the highway location and construction activities.

Impact on such waters used for livestock watering is normally negligible. Impacts on wetlands also are minor if proper precautions are taken during construction and maintenance operation.

For this project alignments were evaluated on the basis of their potential for generating significant sources of sediment and the effect of expected sediment yields on a defined water use. Since no surface sources of water supply were identified in the study area, no consideration of the potential for impacting water supplies was included in this study.

Estimates of gross erosion rates are normally made using the Universal Soil Loss Equation.<sup>1</sup> Detailed calculations of anticipated sediment yields were not made for this study since only limited information is available regarding slopes, etc., to be used for final design. Once final design has been completed sediment yields can be predicted with moderately good accuracy.

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<sup>1</sup>Swerdon, P.M. & Kountz, R.D., "Sediment Runoff Control at Highway Construction Sites, A Guide for Water Quality Protection", Engineering Research Bulletin B-108, The Penna.State University, University Park, Pa., January 1972.

Sediment yields can be highly variable as shown by the variations in reported yields in the literature. The soil associations in the study area are quite highly erodible so that gross sediment yields in the construction area may be in excess of 200 tons/acre/year. However, it should be noted that only a fraction of the eroded soil actually reaches the stream because of entrapment in vegetation, etc. and hence, net sediment yields ordinarily would be much less than 200 tons/acre/year.

Erosion control measures will be required on the project in accordance with the Erosion and Sediment Control Program adopted by the Maryland State Highway Administration and approved by the Maryland Department of Natural Resources, September 3, 1970, in accordance with Chapter 245 of the Acts of the 1970 Maryland General Assembly. Therefore, actual sediment yields which would result in any adverse effects on water quality should be quite low. Erosion control technology is developing quite rapidly and numerous techniques now are used to reduce erosion and sediment damage. The above mentioned Erosion and Sediment Control Program will be implemented in the following manner:

A. Highway Location

Erosion and sediment control factors are considered during the location phase. The highway is fitted to the topography and every effort is made to minimize damage to streams.

Close liaison is maintained with Soils Engineers, Department of Water Resources, Soil Conservation Service and other government bodies.

125

B. Highway Design

Contracts presently under design and all future contracts will contain specific items for erosion and sediment control. These include:

- Temporary Sediment Traps.
- Temporary Ditch Basins.
- Retaining Streams in Natural State.
- Stone embedded baffles in concrete channels to act as energy dissipaters.
- Construct certain side ditches as first order of business.
- Berming of fills and install temporary slope drains.
- Install permanent slope pipes at no-cut, no-fill intersection.
- Construct serrated cuts where soils permit.
- Install Level Spreaders to convert channel flow to sheet flow.
- Rip-Rap Ditch for velocity control.
- Permanent seeding and mulching as soon as possible. Temporary seeding where grading will be exposed for an extended period.

C. Highway Construction

This phase is responsible for project inspection and insuring that the erosion and sediment design described above is performed in the proper sequence and method. Enforcement of the provisions is insured through Administration action and reinforced by the Maryland Department of Water Resources.

12/18

Contractors are required by State Law to obtain permits from appropriate County Agencies for work performed on private property outside of the highway right-of-way.

Control of other potential pollutants depends to a large degree on proper siting of material storage and equipment maintenance areas. Proper design can minimize run-off from such sites. Concern for pollution potential must also dictate materials and methods to be used for the control of dust in the construction area.

The potential impact of the project on the surface water quality of specific streams will now be discussed. All alternatives would have similar impacts on each stream (with the exception of the "Do-Nothing" which would have no additional impacts beyond those already existing) unless otherwise noted.

127

A. Saint Leonard Creek -

Several small intermittent tributaries to St. Leonard Creek may have minor sediment damage from construction of the by-pass west of St. Leonard. However, with proper sediment control the impact of the proposed construction should not be significant. Alternate 4A would have minimized the impact on St. Leonard Creek. Alternate 3 would also have minimized impact but to a lesser extent than 4A.

B. Quakers Swamp -

Since Quakers Swamp will be crossed the siltation potential will be great. It is essential that design and construction procedures include proper erosion control measures in order to keep siltation to an absolute minimum. If these measures are taken, sediment damage should not be significant. The proposed roadway crosses Quakers Swamp at a perpendicular angle in the vicinity of the existing Route 2-4. Alternate 4-A would have crossed a portion of the swamp proper and would have had the greatest impact on Quakers Swamp and its associated fresh water marsh. The other alternates cross Quakers Swamp stream itself which drains this marshy area and is thus downstream of the marsh. These alternates would, therefore, not have a significant impact on this area.

Tidal wetlands are also downstream of the existing Route 2-4 crossing of Quakers Swamp at a point where Quakers Swamp joins St. Leonard Creek. If proper erosion control measures are taken during construction sediment damage should not be significant at this location.

C. Planters Wharf Creek -

No stream crossings of this stream are necessary with the proposed alternate alignments. Hence, the probability of significant amounts of sediment reaching the stream is very small. The impact of the proposed construction on this stream is negligible.

D. Johns Creek -

It would be necessary to cross this stream with any of the alternate alignments. All cross at the location of existing Route 2-4 and thus would have similar impact. Because of the direct stream crossing siltation potential is great. As in the case of Quakers Swamp, if proper erosion control measures are taken, sediment damage should not be significant.



129

E. Helen Creek -

Some minor sedimentation may occur in the headwaters of this stream. This would have been most likely to result if Alternate 4-C were chosen since it crosses the headwater area further downstream than the other alternates. If proper erosion control measures are taken, the impact will be negligible on the recommended alignment.

F. Hungerford Creek -

Sedimentation impacts on this stream will be similar to those on Hellen Creek as only the headwater area is crossed where water flow is intermittent. The recommended alignment (Alternate 4-D) would have the greatest potential for siltation but with proper erosion control the impact will be negligible.

G. St. John's Creek -

Only the headwater of this stream are crossed by Alternates 4, 4-A, 4-B and 4-C. Thus, impacts should be negligible on the recommended alignment if proper erosion controls are instituted during construction. Alternate 4-C would have had the potential for greatest impact.

130

c. Noise - Predictions of future noise levels generated by traffic on each of the alternates was made for the design year (1996) utilizing the Maryland State Highway Administration's Traffic Prediction Model based upon a method presented in the National Cooperative Highway Research Program Report #117.

The following traffic data (Level of Service C) was used in the prediction of noise levels for this report:

1. Average Daily Traffic	Design Year 1996
Md. 264 to Calvert Beach Rd	20325
Calvert Beach Rd. to Md. 497	17025
Md. 497 to Johnstown-Solomons Area	11350
2. Design Hour Volume	10%
3. Percentage of Trucks	3% of Design Hour Volume
4. Operating Speed	50 MPH

In general, the more a new noise exceeds the ambient the more objectionable it will be. It is possible to just detect noise level changes of 2-3dB. A 5dB change is readily noticeable. A 10dB change is judged by most people as a doubling (or halving) of the loudness of the sound. A 20dB change is a dramatic change. Where possible, noise control measures should be provided to minimize increases over ambient levels to less than 10dB, and also to avoid exceeding the design standard of 70dBA. These measures may take the form of an earth berm or

131

mound, acoustic fence, wall or combination of both. Planting trees and shrubs can result in up to a 10dB reduction of noise levels; however, the vegetation must be 70-100' in depth, extremely dense and at least 15' in height. The last method requires substantial added right-of-way and increased total cost of plant materials.

Noise levels for 1996 were predicted at the noise sensitive areas where ambient measurements were taken so that a comparison could be made between future and existing conditions. Predictions were made for noise sensitive areas adjacent to each of the alternates. Table 7 summarizes the difference between existing ambient noise levels and the design noise levels for the monitored noise sensitive areas by alternate. It also indicates where the FHWA design noise level standard will be equaled or exceeded without erection of acoustic barriers. In no case is the design noise level exceeded by more than 3dBA.

132

RELATION OF DESIGN NOISE LEVEL TO AMBIENT

(Change from Ambient in dB--Asterisks indicate sites where FHWA Design Noise Level Standards are equaled or exceeded on recommended alignment. Monitoring Site Locations are identified on Figure 4 and Future Noise Contour Lines are shown on Figure 11)

ALTERNATES

Noise Sensitive Area (NSA)

Monitor- ing Site	Recommended Alignment	3	3A	4	4A	4B	4C	4D	Do-Nothing
1	+3	-	-	+3	-	+3	+3	+3	-
2	-	+8	+8	-	+8	-	-	-	14
3	-3	-	-	-3	-	-3	-3	-3	-
4	+23	+11	+11	+23	+11	+23	+23	+23	+4
5	-5	+7	+7	-5	+7	-5	-5	-5	+4
6	-5	-	-	-5	-	-5	-5	-5	-
* 7	+25	+11	+11	+25	+11	+25	+25	+25	+4
8	+22	+5	+5	+22	+5	+22	+22	+22	+4
9	-7	+8	+8	-7	+8	-7	-7	-7	+4
*10	+25	-	-	+25	-	+25	+25	+25	-
11	-1	+1	+1	-1	-1	-1	-1	-1	+4
12	-	-	Equal	-	-	-	-	-	-
13	-	Equal	-	-	Equal	-	-	-	+4
14	-11	-	-	-11	-	-11	-11	-11	-
15	+20	-	-	+20	-	+20	+20	+20	-
16	-	+7	+19	-	+7	-	-	-	+4
17	+13	+9	+12	+13	-8	+3	+3	+3	+4
18	-9	+4	-3	-9	+4	-9	-9	-9	+4
19	-	-	+6	-	-	-	-	-	-
20	-	-	+14	-	-	-	-	-	-
21	-13	+3	+2	-13	-	-13	-13	-13	+4
22	-	-	-	-	-8	-	-	-	-
23	+1	+3	+3	+1	-	+1	+1	+1	+4
24	Equal	+3	+3	Equal	-	Equal	Equal	Equal	+4
25	-	-	-	-	-	Equal	-	-	-
26	-	-	-	-	-2	-	-	-	-
27	-1	-	-	-1	-	+7	-1	-1	-
28	-	+4	+4	-	-	+3	-	-	+4
29	-	-	-	-	-	+2	-	-	-
30	-2	+5	+5	-2	-2	-2	-2	-2	+4
31	-	+4	+4	-	-	-	-	-	+4
32	Equal	-	-	Equal	Equal	Equal	Equal	Equal	-
33	+3	-	-	+3	+3	+3	+3	+3	-

133

Table 7 (cont'd.)

Monitoring Site	Recommended Alignment	3	3A	4	4A	4B	4C	4D	DO-NOTHING
34	-	+4	+4	-	-	-	-	-	+4
35	-	-	-	-	-	-	-19	-	-
36	-9	+2	+2	-9	-9	-9	-17	-17	+4
37	+2	+7	+7	+2	+2	+2	-13	-13	+4
38	-13	+2	+2	-13	-13	-13	-17	-17	+4
39	-17	+6	+6	-17	-17	-17	-18	-18	+4
40	-	+5	+5	-	-	-	-	-	+4
41	-9	-	-	-9	-9	-9	-11	-11	-
42	-	+4	+4	-	-	-	-	-	+4
43	-13	+4	+4	-13	-13	-13	-8	-8	+4
*44	+23	+10	+10	+17	+17	+17	+23	+23	+4
45	-	+12	+12	Equal	Equal	Equal	+4	-	+4
46	+8	+10	+10	+16	+16	+16	+7	+8	+4
47	-4	+4	+4	Equal	Equal	Equal	-9	-4	+4
48	+5	+6	+6	+4	+4	+4	Equal	+5	+4
49	+8	+6	+6	+8	+8	+8	-6	+8	+4
50	-9	-2	-2	-2	-2	-2	-12	-9	+4
51	-6	+1	+1	Equal	Equal	Equal	+1	-6	+4
52	+16	+15	+15	+7	+7	+7	+7	+16	+4
53	+9	+8	+8	+8	+8	+8	+8	+9	+4
54	-2	+2	+2	+3	+3	+3	+3	-2	+4
55	+8	+8	+8	+8	+8	+8	+8	+8	+4
*56	+3	+2	+2	+3	+3	+3	+3	+3	+4
57	+1	+2	+2	+2	+2	+2	+2	+1	+4



Since the noise sensitive areas monitored are only a representative sampling of the total number of structures (mainly residences) that are sensitive to noise, a series of noise contour maps were prepared to show the relation of each structure to future noise levels. The contours on these maps indicate the approximate distance from the roadway levels of 75,70, 65 and 60dBA would occur. By analyzing these maps one can estimate the total number of residences which would experience noise levels over a given figure.

These maps for the recommended corridor are reproduced as Figure 11 which includes a total of 7 sheets each covering a specific area of the proposed alignment. These maps appear on the following pages. A summary of the number of residences expected to experience noise levels at or above the design standard of 70dBA in 1996 for each alternate is included in this statement, as well as a comparison of design noise levels and existing ambient noise levels and means of reducing noise level increase through use of acoustic barriers where possible. The effect of each alternate will now be discussed separately.

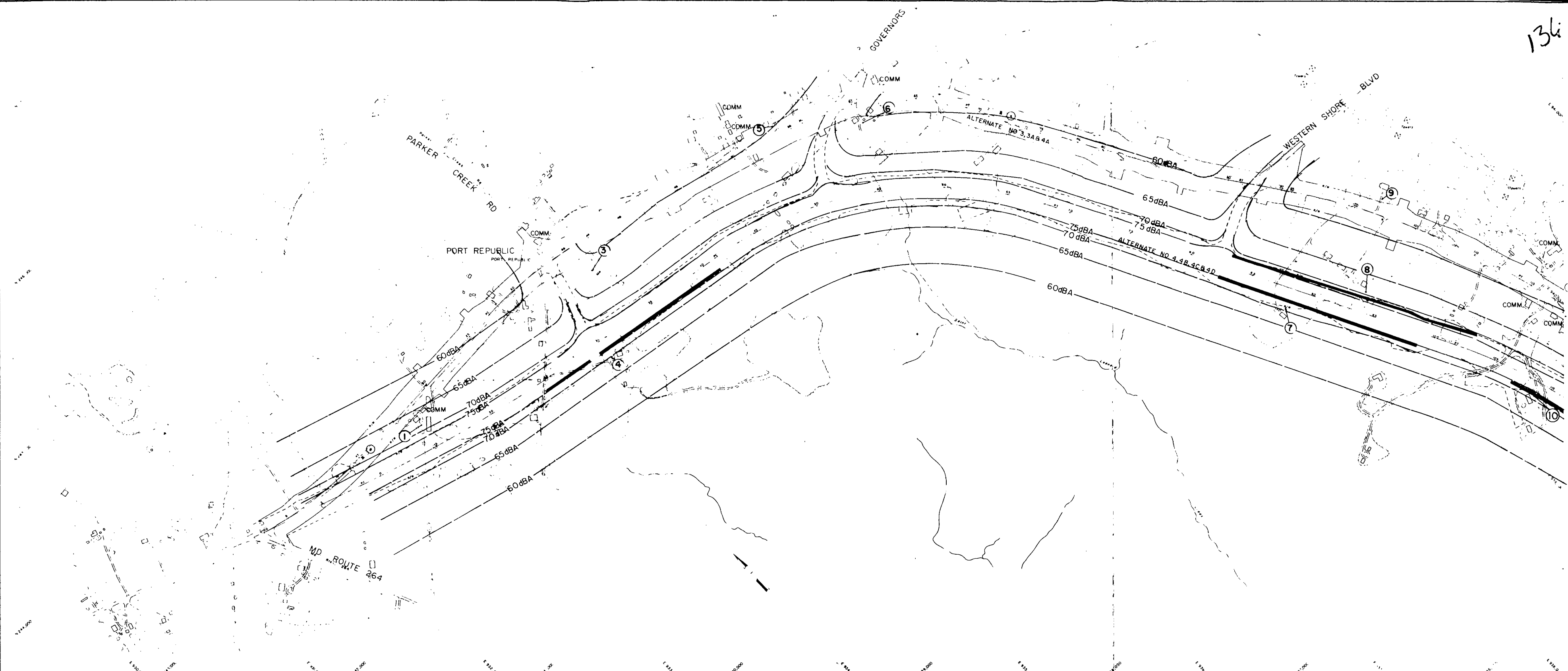
Recommended Alignment

Nine of the noise sensitive areas on the recommended alignment will experience design year noise levels that either increase ambient levels by 10dBA or more or exceed the Design Standard,

135

FIGURE 11  
NOISE IMPACT MAPS  
(7 SHEETS)

136

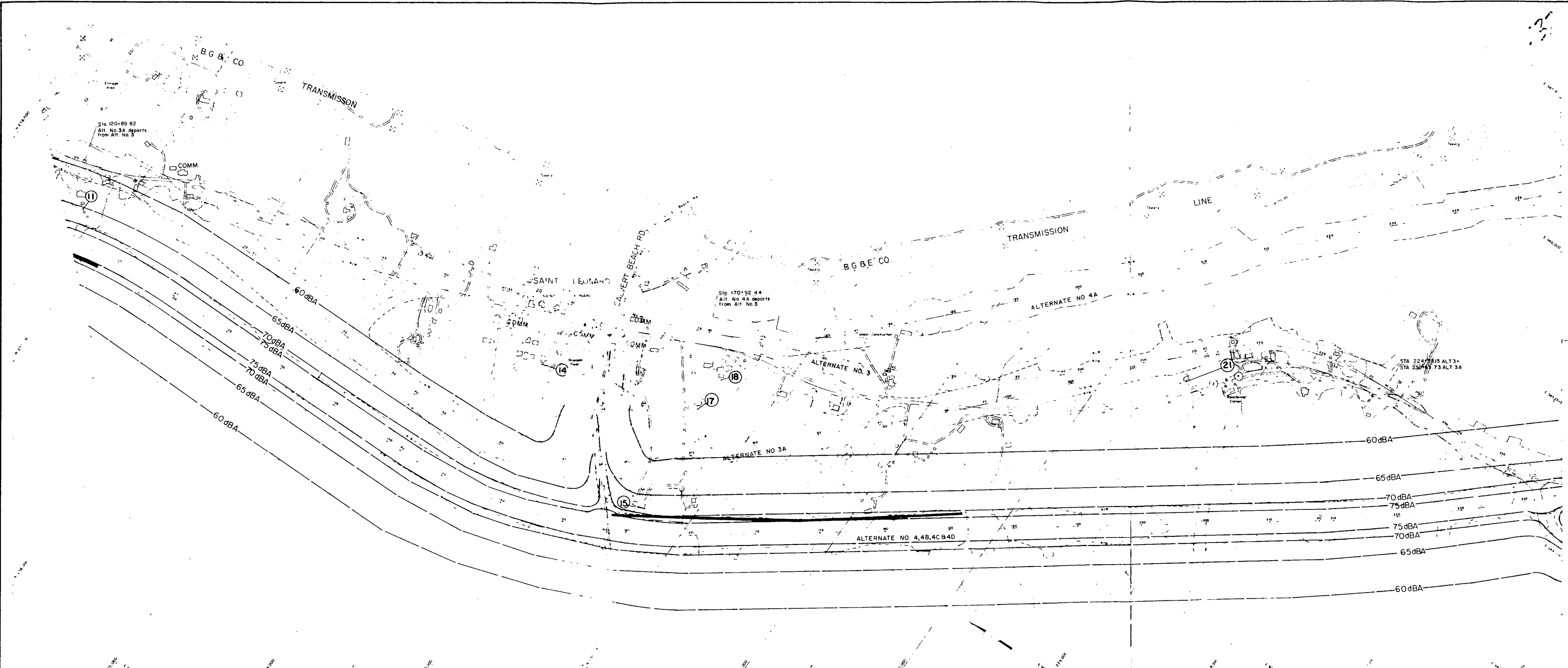


KEY	
RES	RESIDENTIAL
COMM	COMMERCIAL
(NSA)	NOISE SENSITIVE AREA
dBA	DECIBELS MEASURED ON THE 'A' SCALE
(Thick line)	ALTERNATE OUTLINE
(Dashed line)	APPROXIMATE BARRIER LOCATION
(Thin line)	NOISE CONTOUR LINE

JOHN E. HARMS, JR. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 P.O. BOX NO. 5  
 PASADENA, MARYLAND

ALTERNATE NO. 4  
 SHEET 1 of 7  
 MAP SCALE 1"=600' MARCH 1975

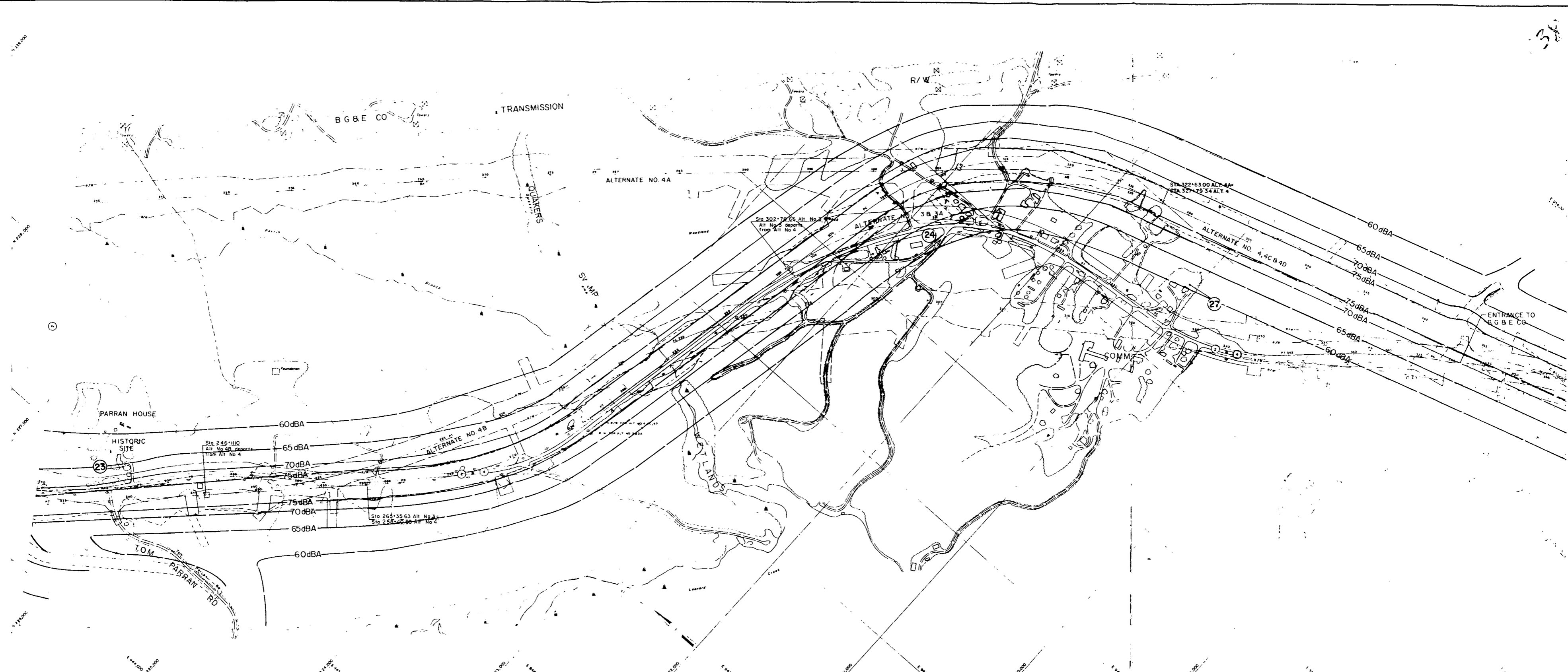




KEY	
RES.	RESIDENTIAL
COMM	COMMERCIAL
(NO)	NOISE SENSITIVE AREA
dBA	DECIBELS MEASURED ON THE 'A' SCALE
—	ALTERNATE OUTLINE
—	APPROXIMATE BARRIER LOCATION
—	NOISE CONTOUR LINE

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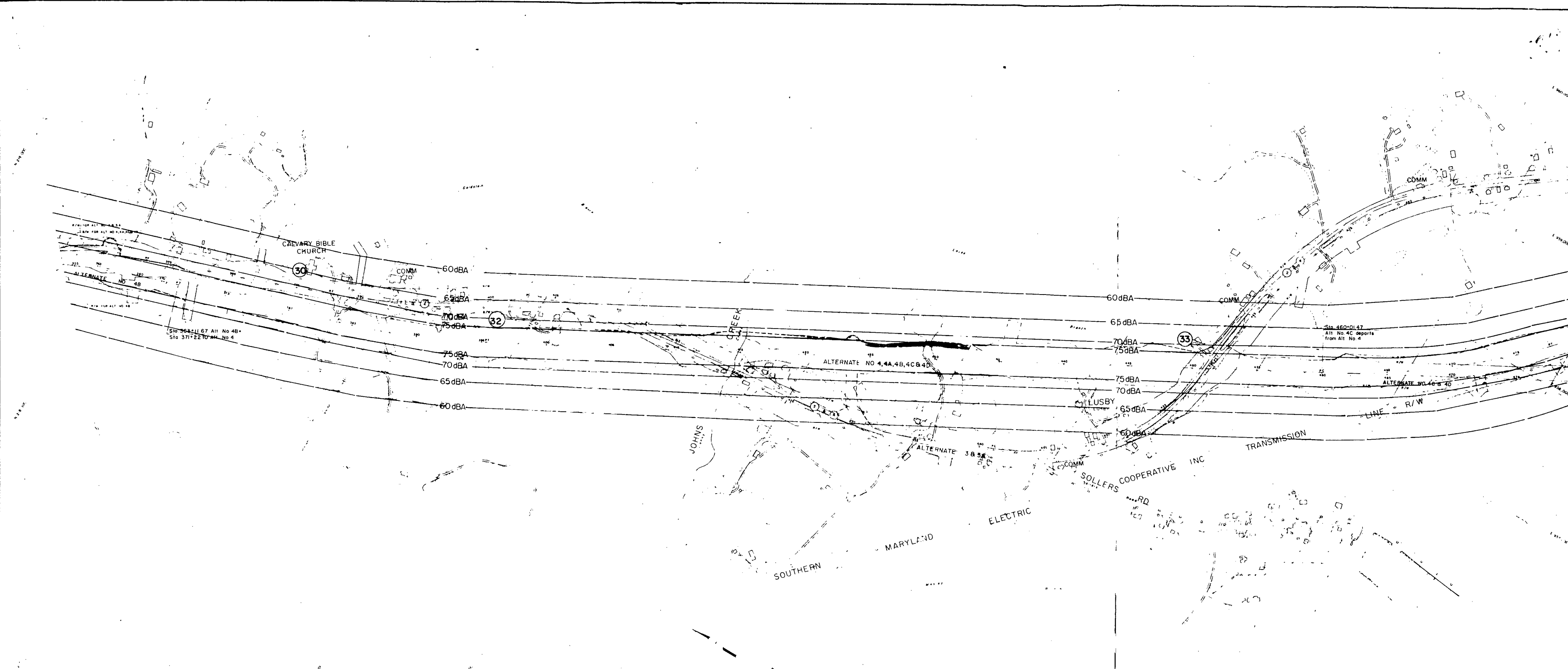
**ALTERNATE NO. 4**  
 SHEET 2 of 7  
 MAP SCALE 1"=600' MARCH 1975



KEY	
RES.	RESIDENTIAL
COMM.	COMMERCIAL
(N)	NOISE SENSITIVE AREA
dBA	DECIBELS MEASURED ON THE 'A' SCALE
—	ALTERNATE OUTLINE
—	APPROXIMATE BARRIER LOCATION
—	NOISE CONTOUR LINE

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ALTERNATE NO. 4  
 SHEET 3 of 7  
 MAP SCALE 1"=600' MARCH 1975



KEY	
RES	RESIDENTIAL
COMM	COMMERCIAL
(30)	NOISE SENSITIVE AREA
dB	DECIBELS MEASURED ON THE 'A' SCALE
---	ALTERNATE OUTLINE
---	APPROXIMATE BARRIER LOCATION
---	NOISE CONTOUR LINE

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ALTERNATE NO. 4  
 SHEET 4 of 7  
 MAP SCALE 1"=600' MARCH 1975

CHURCH  
COVE PT. RD.  
1782 497

ALTERNATE NO 3B3A

CAMP CONOX RD

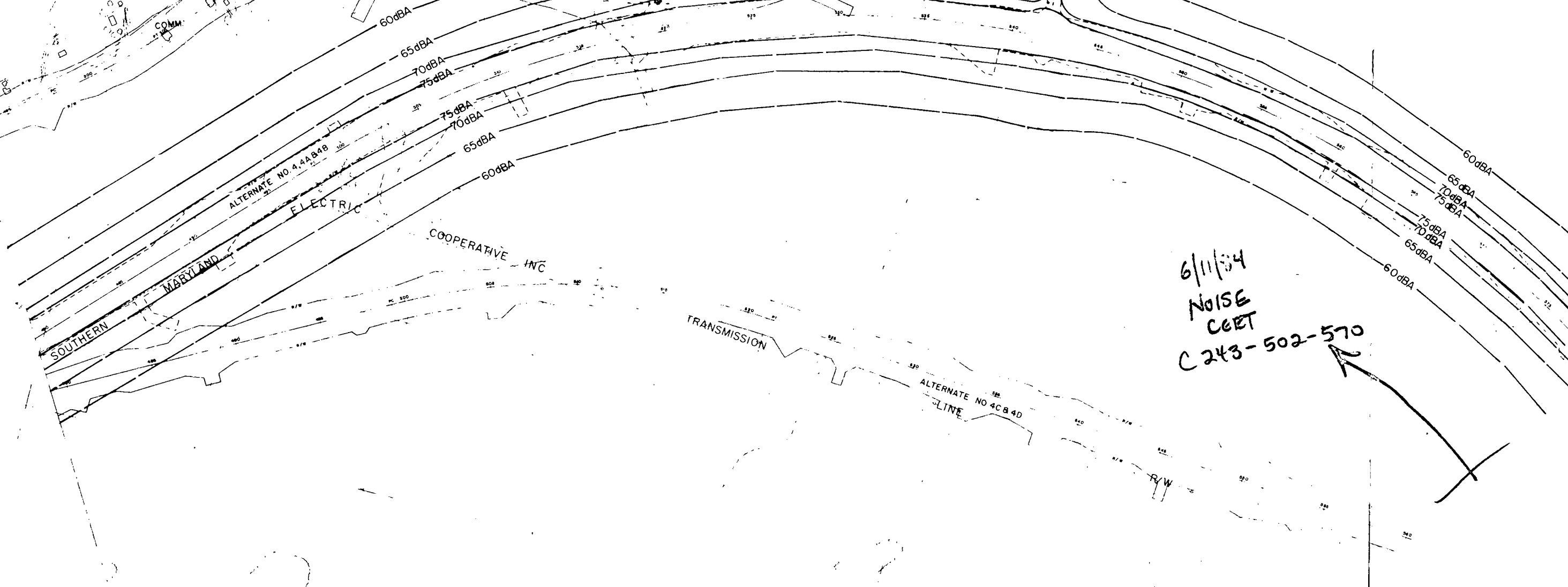
36 HISTORIC SITE  
MIDDLEHAM CHAPEL

ENTRANCE TO CALVERT CLIFFS STATE PARK

BERTHA

37

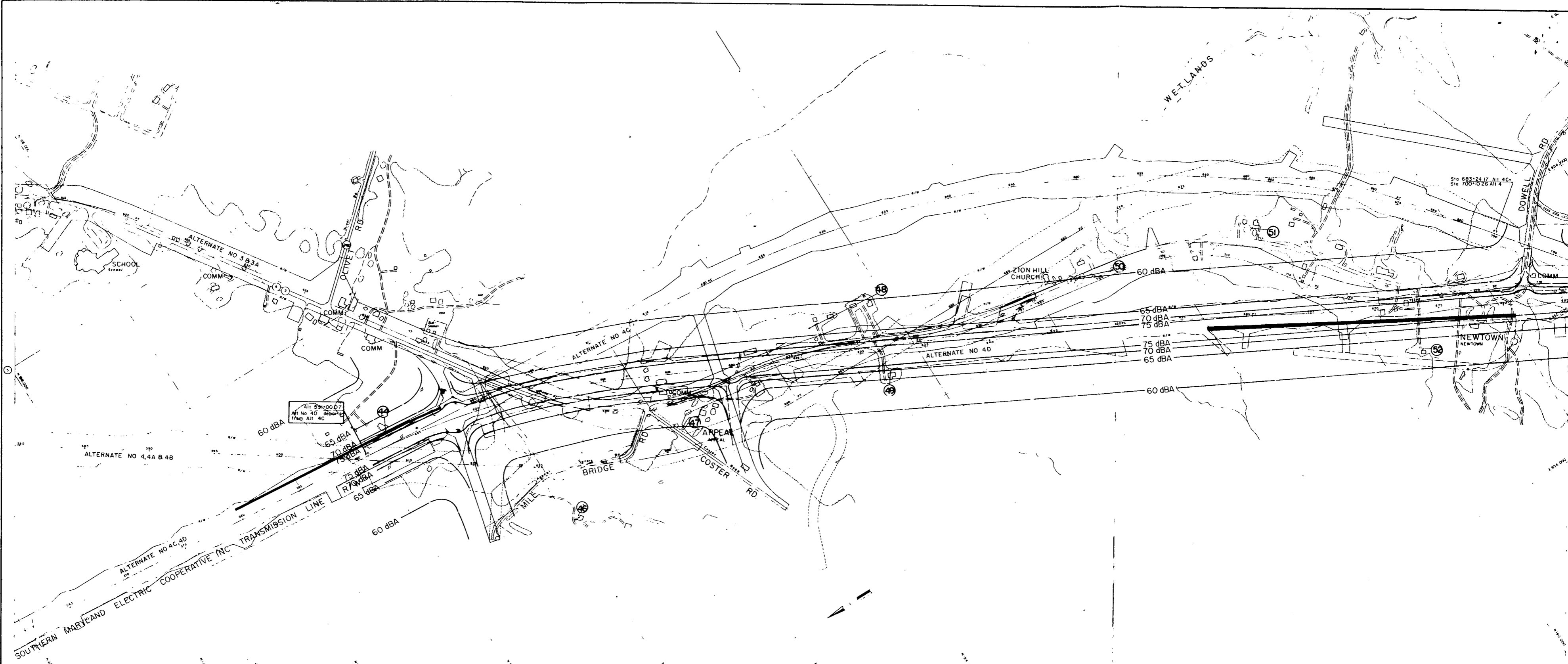
39



6/11/84  
NOISE  
CERT  
C 243-502-570

KEY	
RES	RESIDENTIAL
COMM	COMMERCIAL
(NO)	NOISE SENSITIVE AREA
dBA	DECIBELS MEASURED ON THE 'A' SCALE
---	ALTERNATE OUTLINE
---	APPROXIMATE BARRIER LOCATION
---	NOISE CONTOUR LINE

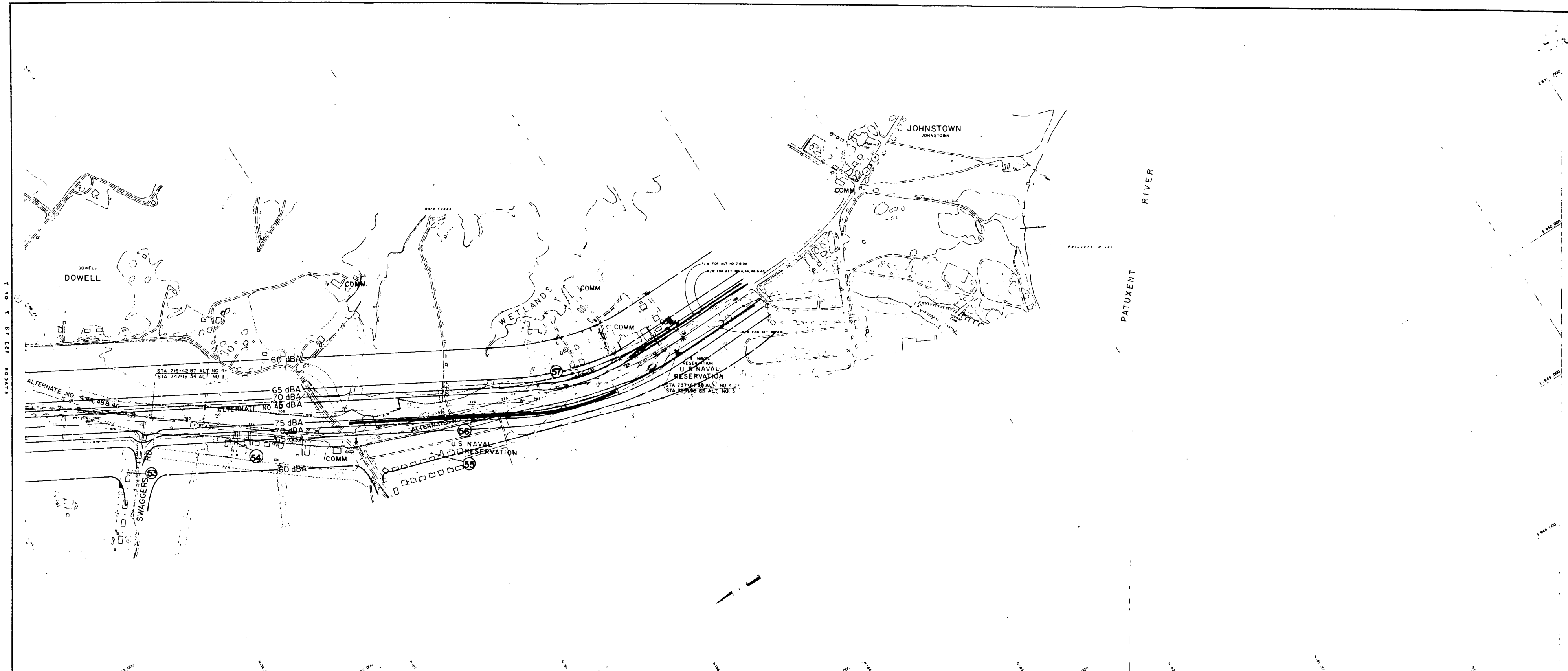
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KEY	
RES	RESIDENTIAL
COMM	COMMERCIAL
(N)	NOISE SENSITIVE AREA
dB	DECIBELS MEASURED ON THE 'A' SCALE
---	ALTERNATE OUTLINE
---	APPROXIMATE BARRIER LOCATION
---	NOISE CONTOUR LINE

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ALTERNATE NO. 4D  
 SHEET 1 of 2  
 MAP SCALE 1"=600' MARCH 1975



KEY	
RES	RESIDENTIAL
COMM	COMMERCIAL
(NO)	NOISE SENSITIVE AREA
dBA	DECIBELS MEASURED ON THE 'A' SCALE
(---)	ALTERNATE OUTLINE
(---)	APPROXIMATE BARRIER LOCATION
(---)	NOISE CONTOUR LINE

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ALTERNATE NO. 4D  
 SHEET 2 of 2  
 MAP SCALE 1"=600' MARCH 1975

70dBA. All of these areas are residential areas except site 56 which is the Navy Recreation Center. A re-alignment of 800' to the west, will reduce design year noise levels below the Design Standard for areas 7 and 10. A barrier would also work at both locations. At these two areas, four houses would receive an impact reduction. Area 44, one house, is an area where construction of a noise barrier appears to be feasible. The same is true of the U. S. Navy Recreation Area, NSA 56 which was previously discussed for Alternate 3.

Noise Sensitive Areas 4,8,15,17 and 52 experience design year increases of greater than 10dBA. Most of these areas currently are considerable distance from existing Route 2 and 4 and experience no traffic noise. Barriers at these locations would still leave an adverse impact on these areas. If the alignment was moved 1,500' to the west, this impact could be minimized for all areas.

None of the religious use areas will be adversely affected by this Alternate. Three historic areas, Noise Sensitive Areas 2, 23 and 36 each will experience reductions in design year noise levels and would not be adversely impacted. The Appeal School, Noise Sensitive Area 41-42, will also experience a design year noise reduction. Since this alternate is located further to the west of the Calvert Cliffs State Park than existing Maryland Route 2 and 4, the park will not be affected adversely.

144

If this alternate is selected there would be two residences that could not be brought below design noise level standards by barriers or alignment modification. This number is significantly less than 3 and 3A which had 52 and 50 respectively.

ALTERNATE 3

Twenty-two of the noise sensitive areas for this alternate would experience design year noise levels that either increase the ambient levels by 10dBA or more or exceed the Design Standard. It is estimated that a total of 53 residences would exceed the Design Standard of 70dBA. All areas except NSA 21 and NSA 56 have access drives to Maryland Route 2 and 4 which would create gaps in any barrier which could be constructed. These gaps would limit attainable attenuation to 4dBA-9dBA. Noise reductions of 4-5dBA are not considered significant enough to warrant the expenditure of monies for construction. The areas where reductions of 6-9dBA could be achieved are all within 15' of the proposed right-of-way line and each area would have to be studied individually, if this alternate is selected, to determine the feasibility of barrier construction. Aesthetic acceptability would become an important consideration in this determination. Exceptions to the design noise standard would be requested for those areas where only 4-5dBA attenuation could be attained on this alternate.



145

Barriers appear to be feasible for NSA 21 a single residence and NSA 56, the U.S. Navy Recreation Center at Solomon.

Noise sensitive areas 4,7,44,45,46 and 52 are areas that would experience design year increases of greater than 10dBA. All except area 45 are considerable distances from existing Route 2 and 4. Therefore, they currently experience little or no traffic noise. If Alternate 3 were built, all would remain distant from the roadway. Therefore, any barrier that would be built on State Highway Administration right-of-way would be ineffective.

The only educational use area is NSA 41-42, the Appeal School. The impact on this school is considered negligible (+4dBA). The Calvert Cliffs State Park would experience a design year noise level of 69dBA, near the entrance and parking areas. The Park's use areas would not be adversely affected. Two historic sites, the Parran House (NSA 23) and Middleham Chapel (NSA 36) would not be adversely affected by Alternate 3. Sharp's Outlet (NSA 2) in Port Republic would, however, experience an increase of  $\pm 8$ dBA to  $\pm 73$ dBA which exceeds the Design Standard. An increase of this magnitude is considered to be a minor impact. The Parker Creek Road House, also in Port Republic, would have noise levels below 65dBA in 1996.

146

The only religious institution that would experience noise levels above the Design Standard is the Calvary Bible Church (NSA30) which would have a predicted noise level of  $\pm 72$  dBA in 1996. St. Paul's Church (NSA 38) would increase from  $\pm 65$ dBA to  $\pm 69$ dBA and the Zion Hill Church (NSA 50) would experience a decrease in noise level from  $\pm 71$ dBA to  $\pm 69$ dBA.

It is estimated that there would be a total of 52 residences with noise levels at 70 dBA or above that cannot be feasibly reduced by noise barriers if this alternate were chosen.

ALTERNATE 3A

This alternate would have the same affect on the same noise sensitive areas as Alternate 3 except for noise sensitive areas 12 through 20. Of these sensitive areas 3A would not cause any to exceed the design level standard but three sites 16,17, and 20 will experience increases of greater than 10dBA over ambient. The increase can be brought below 10dBA in all cases by either shifting the alignment approximately 1,000 feet to the west or erecting barriers.

The remainder of the route which is common with Alternate 3 would, however, present problems since there would be approximately 50 residences that will equal or exceed the 70dBA design level standard even after placement of barriers where possible.

147

ALTERNATE 4

Nine of the noise sensitive areas on this Alternate will experience design year noise levels that either increase ambient levels by 10dBA or more or exceed the Design Standard. Noise Sensitive Areas 7,10,54 and 56 exceed the Design Standard, 70dBA. All of these areas are residential areas except site 56 which is the Navy Recreation Center. A re-alignment of 800' to the west, will reduce design year noise levels below the Design Standard for areas 7 and 10. A barrier would also work at both locations. At these two areas, four houses would receive an impact reduction. Area 54, six houses, is an area where construction of a noise barrier appears to be feasible. The same is true of the U.S. Navy Recreation area, NSA 56 which was previously discussed for Alternate 3.

Noise Sensitive Areas 4,8,15,44 and 46 experience design year increases of greater than 10dBA. Most of these areas currently are a considerable distance from existing Route 2 and 4 and experience no traffic noise. Barriers at these locations would still leave an adverse impact on these areas. If the alignment was moved 1,500' to the west, this impact could be minimized for all areas.

None of the religious use areas will be adversely affected by this Alternate. Three historic areas, Noise Sensitive Areas

148

2, 23 and 36 each will experience reductions in design year noise levels and would not be adversely impacted. The Appeal School, Noise Sensitive Area 41-42, will also experience a design year noise reduction. Since this alternate is located further to the west of the Calvert Cliffs State Park than existing Maryland Route 2 and 4, the park will not be affected adversely.

On this alternate in entirety there would be two residences that could not be brought below design noise level standards by barriers or alignment modification. This number is significantly less than 3 and 3A which had 52 and 50 respectively.

ALTERNATE 4A

This alternate would have the same impacts on noise sensitive areas 1 through 16 as does alternate 3 and the same impacts on NSA 27 through 57 as alternate 4. Of the sites in between Alternate 4A would not increase the noise level by 10dBA or more for any site. None of the sites would equal or exceed the design standard of 70dBA in 1996. This alternate would have an adverse impact on Sharp's Outlet to the same extent as alternate 3 but noise levels will be reduced below ambient for the Parran House and Middleham Chapel. Other historic, religious, educational and recreation sites will have the same impact as with Alternate 4.

A total of 12 residences would equal or exceed the design standard even with barriers if this alternate is chosen. Almost all of these are on the common section with Alternate 3.

ALTERNATE 4B

This alternate would have the same effect as alternate 4 for noise sensitive areas 1 through 24 and 30 through 57. Of the sites in between the noise level would not be increased by 10dBA or more by alternate 4B. Two of the sites, 27 and 28 would equal the 70dBA design standard. All effects on historic, religious, educational and recreational sites are the same as Alternate 4.

There would be three residences which cannot be brought below the design standard by barriers on this alternate.

ALTERNATE 4C

Alternate 4C has the same impacts as Alternate 4 for noise sensitive areas 1 through 34 and 52 through 57. For the sites in between only site 44 noise level is increased by 10dBA or greater. It is also the only monitored site that exceeds the 70dBA design level standard. The noise level can be reduced by either adjusting the alignment location or erecting a barrier. The impact that 4C has on all historic, religious, educational and recreation sites would be equal to or less than Alternate 4.

150

If this alternate were selected there will be two residences on the portion of alignment that is common with Alternate 4 that will not be able to meet the design level standard.

ALTERNATE 4D

Alternate 4D has the same impacts on Alternate 4 for noise sensitive areas 1 through 43. For the remainder of the monitored sites there are two sites that will receive noise level increases of greater than 10dBA. There are also two sites that will exceed the design level standard. All sites can have noise levels reduced by alignment adjustment or use of a barrier. The impacts of 4D on all historic, religious, educational and recreation sites will be equal to or less than Alternate 4.

On this alternate in entirety there will be a total of two residences on the section common with Alternate 4 that cannot be reduced below the design level standard.

"DO-NOTHING ALTERNATE"

Even if no additional traffic capacity were added to existing Route 2-4 there would be an increase in traffic volumes. The increased traffic volumes would result in a noise level increase of approximately 4dBA over ambient noise levels for those areas adjacent to Route 2-4. This increase is considered to be a minor impact. However, the increase would be large enough to cause a number of residences to be exposed to noise levels above the FHWA design noise level standard of 70dBA. It is estimated that approximately 129 residences would be exposed to design level above 70dBA if the "Do-Nothing" Alternate were chosen.

No noise control measures would be provided if the "Do-Nothing" alternate is chosen since no construction would occur. Therefore, there would be no possibility of reducing noise impacts as there is on those alternates on new location.

The following chart presents a summary of the total number of residences including monitored and non-monitored sites that will equal or exceed the 70dBA design noise level standard even after consideration has been given to placement of barriers where feasible.

	<u>ALTERNATES</u>								Do-Nothing
	<u>Recommended Alignment</u>	3	3A	4	4A	4B	4C	4D	
Residences with exterior noise levels 70dBA or greater in 1996	2	52	50	2	12	3	2	2	129

The feasibility of providing noise control measures on the selected corridor (Alternate 4-4D) will be determined as part of the project's design phase. This determination will take into consideration the degree of attenuation achievable, the number of structures benefitted, and aesthetic and economic impacts. Where such measures are feasible, they are to be incorporated into the construction plans for the project. The determination will also be based on input from the public in the form of reaction to and suggestions on proposed mitigation measures.

Where noise levels exceed the design noise level standard of 70dBA mitigation measures will be taken where feasible. The

152

policy on mitigation measures for those areas where design by more than 10dBA will also involve a feasibility study. Where control measures are feasible, the State Highway Administration recommends construction to the Federal Highway Administration for approval.



d. Natural Resources

1. Vegetation - The proposed improvements and relocations of Maryland Route 2 and 4 between Port Republic and Johnstown would necessitate removal of some young forest and old-field habitat. It will also affect an ecologically valuable natural area known as "Quakers Swamp" in the headwaters of Saint Leonard's Creek. The most severe effect would have resulted from Alternate 4-A in this specific area with Alternate 4-B second in severity of impact. Alignments following existing Route 2-4 are most desirable at this point because they will not disturb significant amounts of additional marsh habitat.

Environmental impacts caused by the removal of segments of forest communities in areas already extensively developed by man are sometimes more severe than in less developed areas. In this particular circumstance, development has not progressed to the point where forested areas are at a premium. Thus, even though some natural areas may be segmented or lost, the effect would not be considered major in the proposed corridor.

The total impact of highway construction in this area is also considered minimal because of an abundance of natural areas and the selection of corridors that do not impinge on salt water wetlands or on other sensitive areas such as Cypress Swamp and the Hellen Creek hemlock grove. Total acres of woodland taken varies from approximately 85 acres on Alternate 3 to between approximately 250 and 260 acres on all the alternates on new location. The larger figure is approximately one-half of one percent of the total forested area in Calvert County.

Acreage of active cropland to be taken varies between approximately 20 and 40 acres with the higher figures required by the alternates on new location. The 40 acre total represents less than one-sixth of one percent of the total cropland in Calvert County.

2. Fish and Wildlife

Fish - The most likely effects of the proposed project on fish and other aquatic life would be due to the increased turbidity and sediment load in local streams, especially during the construction period. Sediments alter the existing environment by screening out sunlight and changing the heat radiation. As particles settle to the bottom, they form a blanket detrimental to benthic invertebrates and algae. Developing eggs of fish and other organisms can be smothered. Depending on the chemical nature of sediments, increases in nutrients and biochemical oxygen demand (BOD) may also occur.

Some fish and benthic species are also sensitive to water temperature which may be altered by the removal of adjoining forestation. Trees maintain cooler water temperatures by shading the water surface. On this project all stream crossings will be at right angles reducing the number of trees removed.

Higher temperatures, turbidity and increased chemical and nutrient concentrations accompanying construction tend to reduce dissolved oxygen concentration. This condition would also inhibit reproduction activity and produce unacceptable conditions for more sensitive species. Mobile species would migrate away from activity and return after completion when adverse turbidity and chemical conditions subsided. Possibilities of lost habitats

or replacement by other species are also possible in these situations. Sedentary species are endangered due to sedimentation. While many would be lost during construction, individuals of each species would rapidly reestablish themselves when original or acceptable conditions are restored.

Warm water fish species are generally tolerant of high turbidity levels. This is supported by a study which included the representative species found in the project area and listed below.

Average Turbidity Found to be Fatal to <sup>1</sup>  
Freshwater Fish

Species	Length of exposure (days)	Turbidity (g/l)
Pumpkinseed sunfish	13	69
Black bullhead	17	222
Golden shiner	7.1	166

These data indicate that fish species found within the study area are tolerant of high levels of turbidity, since a golden shiner can tolerate the equivalent of over 1<sup>1</sup>/<sub>3</sub> pounds (22.4 ounces) of dirt in a gallon water for up to a week.

Though no information is available concerning benthic organisms, the same tolerance to turbidity or sedimentation or the ability to repopulate following a disturbance can be assumed. Thus, turbidity levels in area streams due to sedimentation are not expected to have significant impact on aquatic species.

<sup>1</sup>Report of the Committee on Water Quality Criteria, U.S. Department of the Interior, Federal Water Pollution Control Administration, 1968.

154

Long term effects to aquatic life are concerned mainly with the effects of road runoff such as deicing compounds or grease and oil on water quality. Possible impacts are difficult to predict. In developed areas, changes would merely add to existing conditions and have a minimal impact on the more tolerant species already there. In areas of higher quality, effects would depend on distance to the water from the road, slopes, vegetation, soil permeability, etc. Due to the relatively mild winters in the project areas the use of deicing chemicals is not frequent or heavy.

Streams crossed by the project are very narrow and are not important as spawning areas for anadromous fish or as a recreational fishery. Thus, the impact of highway construction on aquatic species will be minimal if precautions are taken to limit sedimentation of downstream areas outside of the project area which may be important as a recreational fishery.

To further assure that there will be no impact on fish, the Maryland Highway Administration is considering the use of special low-flow culverts to accommodate fish passage during dry periods.

Wildlife - The direct effect of construction on terrestrial wildlife would be loss of habitat, with removal of vegetation in all cases. During construction, mammalian species in most cases would move away from sites of activity into adjacent areas causing overcrowding and competition for breeding, nesting and feeding habitat. This most often results in a reduction of total wildlife population. Following completion of construction, many species would return to the area near the new construction, with a minor loss in individual numbers of species, such as deer, due to the loss of habitats. However, a limited number of new habitats (grass and low bush vegetative communities suitable for bird life and small mammals) would be established adjacent to completed construction allowing an increase in individual numbers of specific species adaptable to such conditions. No unique habitats would have been eliminated by any of the alternatives.

Nesting sites of various birds would be affected both from loss of habitat and by construction activity. Birds, being more mobile than mammals, would adapt more readily to adjacent areas and return to within reasonable distances following completion.

Construction through more developed areas would cause a temporary relocation of affected mammals and birds as well as loss of habitats. These species are already adapted to the presence of humans and would be only temporarily affected by

158

construction activity. Following completion the various species would return to adjacent areas.

An additional impact consideration concerns the injury and road kill potential imposed by the passage of traffic through habitat settings. Natural animal movements are restricted but not stopped by the presence of a highway. These movements are related to the amount of food and suitable habitats available on either side of the highway, and the normal migratory habits of animals. Since the proposed roadway will pass through mostly undeveloped areas and will be much wider than existing Route 2 and 4, the incidence of animal road kill and injury can be expected to increase.

As habitat area is abundant throughout the project vicinity, the construction of the roadway will not result in a significant impact on wildlife populations. No unique habitat areas would have been eliminated by any of the alternates. Nesting sites of the bald eagle and osprey, both known to exist in the area, should be avoided wherever possible.

Several bald eagle nests are known to exist in the vicinity of St. Leonard Creek and Calvert Cliffs State Park. Alternate 4A presented the greatest possibility of affecting a known nest.

The alignment will not infringe on any known nest sites.

It is suggested that the recommended alignment be surveyed for the presence of nests prior to construction to insure that none will be impacted. These nests are least likely to occur near the existing alignment or other human activity centers. No other rare or endangered species are expected to be affected by the project.

100

3. Geology and Soils - This project will not have significant adverse impact on geological formations. All excavations will occur in recent Pleistocene deposits at or near the surface (Columbia Group) or in the St. Mary's or Choptank formations of the Chesapeake Group (Miocene). The Calvert formation, noted for its fossil deposits, should not be encountered in even the deepest cut since it lies below sea level south of the St. Leonard area with a gentle dip to the south.

It is likely that groundwater will be encountered in some of the deeper cuts, especially those exceeding ten feet. The impact on the groundwater resources will not be significant with drawdowns limited to the immediate vicinity of the roadway. In some areas shallow wells within several hundred feet of deep roadway cuts, may be drained depending on soil conditions and depth to the ground water table. Problem areas will be identified during design as soil borings and detailed highway design information becomes available. Highway de-icing should not seriously affect ground water quality since de-icing is not frequently needed due to relatively mild winters.

Provisions will be incorporated in the project design for effective drainage control of sub-surface waters. Such controls will include, but will not be limited to vertical grade adjustments where possible, pipe and shoulder drains, pervious drainage mediums, spring controls, and well and drainage field adjustments or relocations as required.



161

The major impact on soils will be the potential loss of soil due to erosion by water and wind during the construction period. The water erosion hazard is moderate to high throughout the project area. The hazard of wind erosion is also high in areas of loamy sand soils with a deep water table. In order to prevent serious erosion losses the amount of land cleared and left barren at any one time should be limited and slopes should be seeded or sodded or otherwise stabilized as soon as practicable in accordance with the Maryland State Highway Administration construction specifications.

4. Wetland and Stream Preservation - Wetland units adjacent to the project area, or receiving drainage from it, include Quakers Swamp, St. Leonard Creek, Johns Creek, Rollins Cove, Mears Cove, Hellen Creek, Grapevine Cove, McQueen Pond, Coster Cove, Hungerford Creek, St. John's Creek and Back Creek. With the exception of Quakers Swamp, which is coastal fresh marsh, all the above areas are coastal salt meadows. Both fresh water marsh and coastal salt meadows play extremely important roles in the life cycle of terrestrial, aquatic and/or marine animals. Of the above wetland areas most are sufficiently removed from the proposed alignments so that impacts will be negligible as far as water quality is concerned and there will be no physical disturbance to the wetland itself. Only the Quakers Swamp area and John's Creek are crossed by the proposed alignment.

1162

The Quakers Swamp fresh water wetland would have been affected to some extent by all of the construction alternates. The greatest impact would have been associated with Alternate 4-A which passes upstream of the wetland and parallels it for some distance. Portions of the wetland would fall within the right-of-way limits and thus would have been disturbed during construction.

All other alternate alignments crossed Quakers Swamp Stream at or near the existing Route 2-4 crossing, just downstream of the freshwater wetland area and upstream of the coastal salt meadow associated with St. Leonard Creek west of existing Route 2-4. Alternate 4-B would have encroached somewhat on the fringe of the freshwater wetland as it was slightly east of the existing Route 2-4 crossing. All other construction alternates used the location of the existing crossing and would not have physically encroached on either the freshwater or salt water wetlands. Water quality impacts and sedimentation would not be significant if proper erosion controls are enforced.

The coastal salt meadow located at the mouth of John's Creek is over 1500 feet downstream of the proposed road crossing which is common for all construction alternates. Thus, it will not be physically disturbed and water quality impact or sedimentation will not be significant with proper erosion controls.

The only streams of any size crossed by any of the alternates are Quakers Swamp and Johns Creek. All crossings are perpendicular and impacts on the streams will be limited to small areas. There will be no stream relocation required in either case.

163

Thus, there will be no significant impacts on stream preservation. In both cases there will be some alteration of the stream bed in the right-of-way as culverts will replace the existing natural stream. Culverts will be designed to accommodate a 50 year storm flow and also to allow aquatic life passage during low-flow periods.

The Patuxent River has been named as an initial component of the Maryland "Wild and Scenic Rivers System" to be administered by the Maryland Department of Natural Resources. The "Wild and Scenic Rivers Act," Article Natural Resources - Section 8-401 through 8-410, Annotated Code of Maryland, 1974; designated certain rivers which are to undergo an inventory and study by July 1, 1976 to evaluate the river and its shorelines as a water, agricultural or scenic or wild resource. Since this study has not yet been completed, the status of the Patuxent River as a wild or scenic river has not yet been established.

However, the enabling Act states that "the scenic corridor shall be defined by rules and regulations adopted by the Department (Maryland Department of Natural Resources), but shall be confined to those adjacent land areas which are visible from the river or its contiguous shore". The act further states that "before specific plans for use and development ~~or~~ roadways, or other uses which change the character of a river or waterway or destroy its scenic value, full consideration and evaluation

164

of the river as a scenic or wild resource shall be given."

The proposed improvement to Route 2 and 4 will not be visible from the Patuxent River or its major tributaries. For the majority of its length the project is more than three miles away from the Patuxent River Shoreline. The closest the project comes to the Patuxent River itself is at the southern terminus in Johnstown where the highway is not visible from the river due to development and vegetation. The closest major tributary to the project is St. Leonards Creek which is shielded from the highway by dense vegetation. Therefore, the improvement of Route 2 and 4 will not change the character or destroy the scenic value of the Patuxent River.

165

## 5. Historic/Archaeological Sites

(a) Historic Sites - As described in the section on existing environmental conditions there are several recognized historic sites in the project area as shown on Figure 7 and on the maps in Appendix E. The following sites were close enough to be affected by one or more alternate alignment: 1) Sharp's Outlet (Md. Inventory #CT-41), 2) Parker Creek Road House (Md. Inventory #CT-86), 3) dry good's store (not listed), 4) Parran House (Md. Inventory #CT-50), 5) and Middleham Chapel (Md. Inventory #CT-60 - listed on National Register). Alternates 3 or 3A, which utilized the existing alignment of Route 2-4, would have affected each of the mentioned historic sites. Alternate 4-A would have had the same impact on Sharp's Outlet, Parker Creek Road House, and the dry good's store since it follow Alternate 3 in this area. It would not have affected any other sites.

Alternates 3, 3-A and 4-A all would have followed existing Route 2-4 through Port Republic where three historic sites are located (Sharp's Outlet, Parker Creek Road House, dry good's store). Sharp's Outlet and the dry good's store are on opposite sides of Route 2-4, and although not directly across from one another, they are close enough so that widening of the existing road would require that one or the other be taken.

166

Aside from the actual physical taking and increased noise levels, the historic sites adjacent to Route 2-4 would have been affected by a change in the surrounding physical setting if the existing alignment were improved. In each case, an existing rural-type two-lane road would have been replaced by a modern four-lane roadway separated by a median. There would have been a significant change in roadway scale which would have drastically altered the view of the road from the historic properties.

The view of the historic sites from the road would not have been changed in most cases since widening of the roadway could have been accomplished without encroachment onto the historic properties by acquiring all needed right-of-way from the opposite side. Thus the historic properties need not have been altered to accommodate the expanded roadway with the exception of Sharp's Outlet and the dry goods store.

All the alternates on new location, including the recommended alignment would not significantly affect any historic site. In all cases, they will be further removed from the sites than is the existing alignment. In the Port Republic area and near the Parran House all these alternates share a common alignment. The future distance of the roadway from Sharp's Outlet (the nearest of the three Port Republic sites) will be 490 feet versus 75 feet today, and for Parran House the new distance will be 260 feet versus 150 feet today. Alternate 4-A which is on new location in the vicinity of the Parran House will be 1,950 foot away.

167

These distances will be sufficient enough to prevent any noise or visual impacts at Sharp's Outlet. At the Parran House, the future (1996) noise level from Alternates 4, 4B, 4C and 4D will be  $\pm 1$ dB greater than at present even though the roadway is further removed. This will be due to increased traffic volumes rather than the roadway location. In any event, the increase is negligible and not distinguishable to the human ear. There is the possibility of visual intrusion at the Parran House since the surrounding physical setting will be altered. However, these alternates will be further removed and downslope of the existing alignment ameliorating the impact somewhat. Some additional alignment modification can be made on the recommended Alternate 4 during final design and additional landscaping can be incorporated if feasible to insure that there will be no adverse aesthetic impact on the Parran House.

The selected alignment of Alternate 4 and 4D will not adversely affect any historic site if the measures noted above are undertaken during design and construction in the vicinity of the Parran House.

In the Middleham Chapel area, all alternates on new location, including 4-A, will be over 1,900 feet away and because of intervening vegetation should not be visible. There will also be no noise impact at these distances.

168

The "Do-Nothing" Alternate, although it would not have created any changes in the existing physical setting of historic property would nevertheless have had some effect on these sites in the future. Increased air and noise pollution levels are related more to increased traffic volumes than to specific roadway design. Failure to provide for expected traffic increases in the future would lead to increased traffic congestion and thus increased air and noise pollution levels along existing Route 2-4. Since all the historic sites are located on Route 2-4, all would be affected by increased traffic congestion on that route. Not only does increased traffic congestion increase pollution, but it can also be aesthetically disruptive particularly in the area of historic sites which suffer from the visual introduction of congested masses of motor vehicles. The "Do-Nothing" Alternate does not offer the opportunity to remove offending motor vehicles from the vicinity of historic sites as do the construction alternates.

Although a combination of alternate alignment (notably 4, 4-B, 4-C, and 4-D) can be chosen to avoid encroachment on any of the historic sites, the office of the Maryland State Historic Preservation Officer recommended the use of Alternate 3 (existing alignment) with relocations on new alignment in the vicinity of Port Republic (Sharp's Outlet, Parker Creek Road House, and dry goods store), the Parran House, and Middleham Chapel. (See letter in Appendix C). This relocation of the alignment would reduce the visual intrusion of the project on each site to an acceptable level.



169

Coordination with the Maryland Historical Trust has been undertaken both prior to and after release of the Draft Environmental Impact Statement. Comments of the Historical Trust on the Draft EIS are included in Section IX, Comments and Coordination. In response to these comments further consultation with the Historical Trust was undertaken. Results of this consultation was agreement between the State Highway Administration and the Historical Trust that none of the historic sites mentioned in the EIS will receive any significant effect from the proposed alignment. Correspondence to this effect also appears in Section IX.

(b) Archaeological Sites - A total of eleven archaeological sites were identified in the immediate project vicinity. Nine of these sites were affected by the various construction alternates under study. The alternate of "Do-Nothing" will not have significantly affected any archaeological site. All sites are indicated on Figure 8 and on the maps in Appendix E.

Each of the construction alternates affected between three and six sites with positive archaeological checks as determined by Dr. Kenneth G. Orr's study described earlier. The alternate affecting the fewest sites was 4-C with three sites while, Alternates 3,4 and 4-B affected the most, six sites. The recommended alignment affects five sites. Alternate 4-C is felt to have more

170

affect on the record of the past than Alternate 4-A, which although it crosses five sites, does not cross the Old St. Leonard town site as do all other alternates. Both Alternates 4-A and 4-C traverse timbered areas for large portions of their routes in upland knobby topography zones; areas which were elsewhere found to be culturally sterile. For this reason, they appeared to be the best alignments to minimize archaeological impact when one single alignment is chosen in its entirety to extend the full project length.

However, if one treats the project on a segment by segment approach with segments as indicated in the Alternates Map (Figure 10), the following choices are preferred:

- Segment #1 - Alternate 4-A
- Segment #2 - Any Alternate
- Segment #3 - Alternate 4-C
- Segment #4 - Alternates 4, 4-A, 4-B, 4-C, or 4-D

Table 8 lists the alternate alignments and the archaeological sites affected by each. Following that is a description of the impact of the recommended alignment on each site **it effects** and **suggested methods of salvage** proposed.

Table 8

171

Positive Archaeological Checks Impacted

Alternate Route

Recommended Alignment	3	3A	4	4A	4B	4C	4D			
								Sawmill	#1	Segment 1
X				X				Schoolhouse	#2	
X	X	X	X		X	X	X	Old St. Leonard	#3	
X	X	X	X		X	X	X	Old Bridge and Road	#4	
					X			Sunken Road	#5	
								Log Cabin	#6	
X			X	X		X	X	Family Burial	#7	
								NONE	#8	
X	X	X	X	X	X		X	Drum Pont R.R.	#9	
	X	X	X	X	X			Lost Grave	#10	
			X	X	X			Indian/Euro-Amer. Occupation	#11	
X	X	X					X	Barns and Middens	#12	Segment 2
										Segment 3
5	6	5	6	5	6	3	5	TOTAL	Total	Segment 4

172

Sites Affected By Recommended Alignment

Site 3. Site of Old St. Leonard Town - The site of this abandoned town is near where existing Route 2-4 crosses Quakers Swamp. Intensive archaeological reconnaissance is required to determine the limits of the former town and the extent to which the new highway construction will affect it.

Site 4. Old Road and Bridge at Quakers Swamp - Both the road and bridge are very near existing Route 2-4 as it crosses Quakers Swamp. Both are likely to be obliterated, therefore, they should undergo intensive archaeological reconnaissance to determine major features and define the problems of salvage.

Site 7. Reported Family Burial - The exact location of the grave on the Eddie Long property determined prior to construction. Reburial may be necessary as family desires.

Site 8. Drum Point Railroad Section near Cliffs of Calvert State Park - This old railroad site is near the west side of existing Route 2-4 across from the State Park.

Intensive archaeological reconnaissance is required with results to be deposited in Maryland Historic Trust with recommendation that an historic roadside marker be placed on a surviving section.

Site 11. Barns and Middens at Appeal - These four barns and associated middens are located on both sides of existing Route 2-4. The recommended alignment will affect the two barns on the eastern side of Route 2-4. Intensive archaeological reconnaissance is needed to determine the scientific value of old agricultural equipment and artifacts in the barns and middens.

173

6. Park and Recreation Areas - The only publicly owned park or recreation area open to the general public close enough to be affected by the project is Cliffs of Calvert State Park. A private recreation facility, Chesapeake Ranch Country Club, and the Naval Recreation Center adjacent to Solomons Naval Ordnance Laboratory will also be affected.

Cliffs of Calvert State Park

None of the alternates studied would have required the taking of any land from Cliffs of Calvert State Park. Alternates 3 and 3-A would, however, increased the noise levels slightly in areas of the park adjacent to existing Route 2-4. The increase would be from an existing ambient level of 65dBA to a design noise level of 69dBA in 1996 near the entrance road and parking area. This increase of 4dBA is considered to have negligible impact. Increases of less than 5dBA are generally not readily discernible to the average human ear. In addition, the design noise level of 69dBA is below the design noise level standard of 70dBA for active recreation areas. Noise levels would decrease as one goes further into the park. None of the other alternates would increase noise levels in the park. Access to the park from the further reaches of Calvert County and outside areas will be improved because of the better travel times which will be possible. Direct connections to the park or to Route 2-4

immediately in front of the park can be made from all alternates except 4-C. Visitors to the park would have had to divert to Route 2-4 either north or south of the park if 4-C was selected. This would hinder the otherwise good access provided by a semi-controlled access facility.

In response to a meeting held on November 19, 1974, correspondence was received from the Maryland Park Service indicating that there was no significant conflict between the proposed alignments and the park. This letter, dated November 25, 1974, is reproduced in Appendix C. There was concern expressed in the letter with regard to future noise levels, design of the entrance road, and character of surrounding land use as affected by highway design and access. Noise impacts have already been discussed. Further coordination will be undertaken with the Park Service in order to reach agreement on the design of the entrance road to the park which the Park Service wishes to relocate from its present position south of Middleham Chapel to a new location in the vicinity of Camp Conoy Road north of Middleham Chapel. Character of land use adjacent to the park is under the jurisdiction of the Calvert County Planning and Zoning Commission. Selection of Alternates 3 or 3-A would have been more likely to encourage undesirable commercial uses near the park since these alternates would

175  
allowed unlimited access to adjacent property owners. This will not be the case with the recommended alignment which has partial access control and also does not parallel the park.

#### Chesapeake Ranch Country Club

The Chesapeake Ranch Country Club lies adjacent to the east side of existing Route 2-4. A portion of this land would have been taken if Alternates 3 or 3-A were chosen. The taking would not have involved any fairway or green areas and the layout of the course would not need to be altered. However, one of the tennis courts in the same area adjacent to Route 2-4 would have been acquired. Noise levels would have been increased from an existing ambient level of 65dBA to a design noise level of 69dBA in 1996. This level is below the standard for an active recreation area.

#### Naval Recreation Center

The Naval Recreation Center at Solomons lies adjacent to the west side of existing Route 2-4. The facility is open to authorized military personnel and on occasion to organized groups such as the Boy Scouts. A full description of activities available at the site was contained in the land use portion of Section III. Approximately four acres of this area would be required for highway purposes by each of the alternates. Because this facility is not open to the general public and because the

172

impact to the facility is not considered significant by Navy personnel who have jurisdiction of the site, no section 4(f) report will be filed.

Meetings were held between Maryland Highway Administration representatives and Navy officials on November 20, 1974 and February 4, 1975 to discuss means of lessening impact to the recreation center. As the center is at the terminus of the project, all alternates affect the recreation land in the same manner. Taking of recreation land cannot be avoided as land on the east (opposite) side of existing Route 2-4 is occupied by a commercial and residential area which includes a fire house. This area in turn backs up on a legally protected wetland area and an arm of Back Creek. The only alternative to avoid taking any recreation center land would necessitate an alignment through the commercial-residential area which is unfeasible. This fact is acknowledged by the Navy and at the February 4, 1975 meeting three alternate schemes, taking various amounts of recreation center land were presented by the Maryland Highway Administration.

Scheme #1 - required 7<sup>+</sup> acres. It included two 24 foot roadways with 10-foot shoulders separated by a 30 foot median. There also would be 20 feet of safety grading outside the shoulder area and a 26 foot curbed service road on the east side only to serve the commercial-residential development.



177

Scheme #2 - Scheme 2 has the same horizontal alignment but with a modified typical section. This consisted of a 16 foot median with 2-26 foot curbed lanes with a 26 foot curbed service road. The 16 foot median would be used for a 12 foot left turning lane with a 4 foot monolithic median where required. This would require approximately 2+ acres of the Recreational Area. Disadvantages to this proposed section were discussed:

1. A disabled vehicle would reduce the facility to one usable lane.
2. The traveled roadway edge would be 6 to 10 feet from the right-of-way line or normally where the protective fence would be constructed thereby increasing vehicular pollutants and noise adjacent to the Recreational Area.
3. In discussing the possibility of a new entrance to the Recreational Area opposite the crossover at the firehouse, additional right-of-way would be required to provide deceleration lane and storage for recreational vehicles.

Scheme #3 - As presented at the February 4, 1975 meeting, Scheme 3 is essentially the same as Scheme #1 except that alignment modifications were made at the north end of the recreation center bringing the roadway further away from the recreation land so that only approximately 4+ acres are required. In addition, this leaves an excess area of approximately

178

2+ acres between the roadway and the recreation center which can possibly be turned over to the Navy reducing the total net taking to approximately 2+ acres. Advantages of this scheme are as follows:

1. This is the typical section throughout the 15 mile project.
2. Provides a 30 foot (10 foot shoulder - 20 feet of safety grading) clear area from the traveled road-○ way to the proposed right-of-way line and protective fencing.
3. Would provide a median width that would afford protection to vehicles making turns.
4. In the construction of a new entrance, no additional right-of-way would be required for deceleration or acceleration lanes. This would only require the shoulders to be paved for vehicular traffic. The new entrance, if warranted in the future, would be located opposite the crossover provided for the fire house entrance.
5. It is a possibility that the State Highway Administration would have excess land at the north limits of the property in exchange for the additional right-of-way required opposite the commercial area.
6. This scheme would require approximately 4 acres from the Navy Recreational Area.

The Navy Department, Chesapeake Division, has selected Scheme #3 as the preferred design and has also indicated that there will be no significant impact on the recreation center as a result of highway construction. Correspondence to this effect is contained in Appendix C. Accordingly, Alternate 4D has been selected as the alignment in the southern portion of the project from Appeal south because it is the most compatible with Scheme #3 at the Navy Recreation Center.

With the selection of Alternate 4D for the alignment in the southern portion, and the Navy Department's selection of Scheme #3, the right-of-way requirements are approximately 4<sup>+</sup> acres. It is noted on page V-50 that there are approximately 2<sup>+</sup> acres of excess land with Scheme #3 which could possibly be turned over to the Navy. This along with 2.423 acres, more or less, of excess land that was previously acquired adjacent to the Recreation Center and is being retained by the State, should suffice to replace the land required by the project. In addition, the fencing and any buildings acquired will be replaced.

In addition to the right-of-way takings at the Navy Recreation Center the project would increase noise levels from an existing ambient of 69dBA to a design noise level of 71dBA in 1996. Although this is a negligible increase, this is above the design noise level standard.

180

However, the erection of an acoustic barrier approximately 2,000 feet in length and 12 feet in height would provide a reduction of 11dBA for the recreation area, bringing the noise level well below even the existing level.

e. Aesthetics - Project impacts on aesthetic values will be both beneficial and adverse. The degree of impact varies with the different alternatives and the areas traversed by the roadway. Since aesthetic values are subjective, the perceived impact will vary considerably with the individual.

In general, the aesthetic impact of all alternates which utilized the existing alignment of Route 2-4 would be similar. The alternates on new location would also have similar impacts although they differed as a group from the alternates on the existing alignment.

Roadway expansion on the existing alignment would have eliminated some local eyesores but would have also brought the roadway closer to other properties and, in the case of residential used in particular, this could have resulted in detrimental aesthetic impact. Impacts would have resulted from reduction of lawn areas and the general closer proximity of the roadway. The much wider right-of-way of the improved facility would have been of a difference scale than the existing roadway and may have seemed to be incompatible with residential uses, particularly in areas where residences are presently closely clustered.

Changes in the character of an area would have been most evident wherever existing development is clustered on both sides of Routes 2-4 such as in St. Leonard, Lusby, White Hall, and south of Bertha. In some instances, structures would have been completely eliminated on one side of the roadway while the other side remained as is.

The change in roadway scale would also have affected the Middleham Chapel area if Alternate 3 were chosen. The chapel is oriented toward Route 2-4 which at present is tree-lined and curved at this point. The feeling one perceives is of a compact country road. The new right-of-way requirements would have significantly altered this characteristic detracting from the historic setting of the site. Aesthetic impact on the adjacent Cliffs of Calvert State Park would not have been significant.

Alternates on new location are in predominantly undeveloped areas and thus would have less aesthetic impact on residential and other land uses. There will, however, be some impact on land uses in several areas. One of the impacts is the creation of an island effect between the existing alignment and the alignment on new location where distances between the two are not great. Residents of these areas may feel they are surrounded by roads and somehow isolated by asphalt. This situation is

182

created by Alternates 4-B at White Hall Trailer Park; Alternate 4 near Johns Creek and Lusby; and Alternates 4, 4-C and 4-D just north of Newtown.

An impact which would occur on any of the construction alternatives but of more significance on new location is the filling in of some of the many ravines in the area. The action of erosive agents over many years on the unconsolidated geological and soil structures in the area has created numerous ravines which are heavily wooded and quite attractive. Fill placement to carry the roadway across the ravines will interrupt the continuity of the ravine and block views up or down the ravine.

The alignments on new location will benefit aesthetic values by opening new vistas on the wider right-of-way. This will make more of the surrounding countryside visible to the traveler. The intrusion of the new road will not be significant in relation to the surrounding landscape especially since intersections will be-grade. These will take up less acreage than grade-separated interchanges with bridges and ramps. In addition, the bridges of grade-separated interchanges would rise above the landscape whereas the proposed design would not.

If the "Do-Nothing" Alternate had been chosen, there would be no changes to adjacent properties or the surrounding landscape. However, it is possible that the lack of action would have increased traffic congestion to the point where it would become aesthetically displeasing through associated increases in air and noise pollution and the mere presence of numerous vehicles.

f. Displacement - The number of residential and commercial structures that would be displaced by the proposed project varies significantly with the alternates considered. The alternates which utilize the existing alignment (3 and 3-A) would have taken considerably more dwellings and businesses as shown on Table 9 on the following page. The recommended alignment takes the least number of homes and businesses. Detailed charts of displacements and availability of relocation housing and business sites appear in Appendix B.

No farms will need to be relocated, although some farmland would have been taken on all alternates. The farmland affected is scattered throughout the project although there is more acreage taken in the northern half. The total acreage required by each alternate is not significant. Amounts vary between approximately 20 acres and 40 acres with the higher figures required by the alternates on new location. Most of this is Class I farmland where there are few limitations to restrict use for crops except where steep slopes are present.

In some cases, on the recommended alignment, farm parcels are split. This can be a hardship for farmers since they must cross the highway to work fields on both sides. Since access will only be allowed to the highway approximately every 2500 feet, some travel may be necessary to get farm equipment across the new highway or from secondary roads or driveways. Any parcel which is landlocked will be acquired by the Maryland Highway Administration.

184

Table 9  
DISPLACEMENT OF FAMILIES AND BUSINESSES

<u>ALTERNATE</u>	<u>FAMILIES</u> <u>DISPLACED</u>	<u>MINORITY FAMILIES</u> <u>DISPLACED</u>	<u>BUSINESSES</u> <u>DISPLACED</u>
Recommended Align.	7	0	4
3	74	26	15
3-A	70	26	12
4	7	0	5
4-A	21	4	9
4-B	9	0	5
4-C	9	0	5
4-D	7	0	4
"Do-Nothing"	0	0	0



Specific displacement impacts of each alternate are as follows: 185

ALTERNATE 3

The area affected by this alternate is a combination of residential, commercial and agricultural zoning. There is residential buildup along the existing roadway (Maryland Routes 2 and 4) with spot commercial development located at St. Leonards, Lusby and Appeal. The remaining land along and behind the residential and commercial development is either wooded or farmland. Since all residential development confined to the highway would have been taken by this alternate, groups of homes that can be described as communities would be displaced. However, adjacent communities away from Route 2-4 would have been unaffected.

The income level of the affected community varies considerably, from low income farm workers to upper middle income businessmen and farm owners. There would have been no adverse impact on particular groups such as elderly or the handicapped, but there would be an impact on the minority black communities in the area.

This alternate would have necessitated the displacement of 70 families which consist of 296 persons. Seventy of these families are owner occupants and four are tenant occupants.

86

Four mobile homes were to be relocated. Of those being displaced, 26 families which consists of 104 persons, are of minority groups. For the most part, these are low-income families.

The minority groups are scattered all along existing Route 2-4, with minority communities located at Appeal and North and South of St. Leonards. The dwellings in these communities that would have been acquired are estimated to range in value up to \$20,000. The businesses in these communities are not minority owned, however, there are approximately eight minority employees of the firms that would have been affected.

There are 15 retail businesses that would have been affected including grocery stores, restaurants, service stations, a liquor store, various retail stores, and a real estate office. The largest business that would have been affected is Trueman Gas Company, which employes approximately 25 persons. In order for these 15 businesses to continue to operate, they would have had to rebuild on the remainder of their property which is possible in some cases, or rebuild on land rezoned for their use. The only land zoned for highway commercial in the county is presently in use, and there are no additional business sites available. There should be no reason for any of the businesses to discontinue operations, as the services they offer are necessary to the community. There are no farm operations

187

that would have had to relocate, however, there is one non-profit organization, the Lusby Post Office, that would be acquired. The possibility exists that functional replacement would have been necessary for the post office.

Selection of Alternate 3 would have created no significant change in the character of zoning of the affected area in terms of type of development and population density. Property values could increase due to the greater accessibility afforded by the improvement.

Relocation Plan (Alternate 3)

At the time of this study, there were 61 houses for sale and 3 houses for rent in Calvert County. The majority of this housing is in the \$30,000 to \$50,00 price range, with twelve in the \$20,000 category and one listed below \$20,000. This information was obtained through contacts with local realtors in Calvert County, local newspapers and field surveillance at the time of the study. Since this is a growing community, the number of houses available is considered normal.

Since there are 74 families being displaced by this alternate, sufficient housing is not anticipated to be available at the time displacement occurs. Building new housing is a solution that some families are expected to utilize, and with "housing of last resort" some of the low income families may be able to purchase or build new homes.

28

There are no Federal, State or municipal projects anticipated in the County at the time displacement occurs that would create additional displacement problems.

The relocation of these 74 families, 26 of which are minority families, and many of these being of low income, would be extremely difficult to accomplish in accordance with the requirements of the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 since a percentage of the displaced families would have to construct new dwellings and "housing as a last resort" would have to be used for the low income families.

There is not expected to be any adverse impact to existing communities by those who are displaced. As explained above, the fifteen retail business operations would be expected

There is not expected to be any adverse impact to existing communities by those who are displaced. As explained above, the fifteen retail business operations would be expected to relocate at new locations or build on their remaining property, as the services they offer are necessary to the community. The post office in Lusby would have to be relocated at a new location.

Because of the relocation problems on this alternate, and taking into consideration "housing as a last resort" as a real possibility, it is expected that a two-year lead time would be necessary in order to accomplish relocation prior to commencement of construction. The relocation problem was one of the major reasons for rejection of this alternate.

ALTERNATE 3-A

This alternate would necessitate the displacement of 70 families which consist of an estimated 280 persons. Sixty-six of these families are owner occupants and four are tenant occupants. The major difference between this alternate and Alternate 3 is the addition of a by-pass of St. Leonards. There is no change in the number of minority families or communities that are displaced. However, there are only twelve businesses displaced by this alternate. The grocery store, a liquor store, and the largest business on Alternate 3, Trueman Gas Company, will not be acquired. The remaining impacts on the community, minority displacement and farms are the same as for Alternate 3.

Relocation Plan (Alternate 3-A)

Since displacements on Alternate 3-A are similar to Alternate 3, the same relocation plan as developed for Alternate 3 applies to Alternate 3-A.

ALTERNATES 4, 4-A, 4-B, 4-C and 4-D, and Recommended Alignment  
(Project on New Location)

The community affected by these alternates is for the most part rural or agricultural, with residential and commercial development where the alternates cross the existing highway (Maryland Route 2-4). Since these alternates are on relocation, there are no communities; with the exception of Alternate 4-A which takes a portion of the minority community at St. Leonards; either taken or disrupted by this acquisition. The income level of the affected community varies considerably. There is no adverse impact on particular groups such as elderly or the handicapped, and there are no

100

community facilities affected. There will probably be a change in the character of the affected community as a highway will open up farm land for development (either residential or commercial) which would cause the property values to increase and result in a loss of productive farmland. Specific takings of each of these alternates follow:

ALTERNATE 4

This alternate will necessitate the displacement of 7 families which consist of an estimated 28 persons. Six of these families are owner occupants and one is a tenant occupant. There are no minority families displaced by this alternate. Five businesses are affected, a grocery with gas only station, a bar restaurant, an electrical contractor, a real estate office and a music studio. The latter three are all taken by the newly proposed connection between Alternate 4 and Olivet Road. All businesses are expected to relocate. There are no farm operations, or non-profit organizations that will have to relocate due to this alternate. There are two owner-occupied mobile homes which will have to be relocated.

ALTERNATE 4-A

This alternate would necessitate the displacement of 21 families which consists of an estimated 84 persons. Twenty of

191

these families are owner occupant and one is a tenant occupant. Of those being displaced, 4 families are of minority groups. There are two owner occupied mobile homes to be relocated. Affected by this alternate are nine businesses, two grocery stores, a package goods store, a restaurant, a retail store, an electrical contractor, a real estate office, a music studio, and Trueman Gas Company, which is the largest business affected, employing approximately 25 persons. There should be no reason for any of the businesses to discontinue operations. There are no farm operations or non-profit organizations that would have to be relocated.

ALTERNATE 4-B

This alternate would necessitate the displacement of 9 families which consist of an estimated 36 persons. Eight of these families are owner-occupants and one is a tenant occupant. There are no minority families displaced by this alternate. The same five businesses that are affected by Alternate 4 are taken by this Alternate. There are no farm operations, or non-profit organizations that would have to relocate. There are four owner-occupied mobile homes which would have to be relocated.

ALTERNATE 4-C

This alternate would necessitate the displacement of 9 families which consist of an estimated 36 persons. Eight of these families are owner occupants and one is a tenant occupant.

132

There are no minority families displaced by this alternate. The same five businesses that are affected, by Alternate 4 are taken by this alternate. There are no farm operations or non-profit organizations that would have to relocate. There are two owner occupied mobile homes which would have to be relocated.

#### ALTERNATE 4-D

This alternate will necessitate the displacement of 7 families which consist of an estimated 28 persons. Six of these families are owner occupants and one is a tenant occupant. There are no minority families displaced by this alternate. Four businesses are affected, a grocery store with a gas only station, and the same three businesses taken by the connection between Alternate 4 and Olivet Road. There are no farm operations or non-profit organizations that will have to be relocated. There are three owner-occupied mobile homes which will have to be relocated.

#### RECOMMENDED ALIGNMENT

The Recommended Alignment (a combination of Alternate 4 and 4-D) has the same displacement impacts as Alternate 4-D. The low number of displacements was one of the primary reasons for the selection of this alignment.



RELOCATION PLAN, ALTERNATES 4, 4A, 4B, 4C, 4D, and RECOMMENDED ALIGNMENT

"As stated in the Relocation Plan for Alternate 3, there were 61 houses for sale and 3 houses for rent in Calvert County at the time of this study. This will be sufficient housing within the financial means of those displaced to meet the demands on any one or combination of these alternates. There is not expected to be any adverse impact to existing communities by those displaced. The businesses affected are expected to remain in business by relocating either on their remaining land or by purchasing new land and having the zoning changed as discussed in Alternate 3".

"The relocation of the families displaced by these various alternates should be able to be satisfactorily resolved in a normal amount of time, with the relocation being accomplished in accordance with the requirements of the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970".

"The lead time for these alternates is expected to be approximately one year, since there are no foreseeable problems".

124

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

All State Highway Administration projects must comply with the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (P.L. 91-646) and/or the Annotated Code of Maryland, Article 21, Section 12-201 thru 12-209. The Maryland Department of Transportation, State Highway Administration, Bureau of Relocation Assistance, administers the Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State Law require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments that are provided for include replacement housing payments and/or moving costs. The maximum limits of the replacement housing payments are \$15,000 for owner-occupants and \$4,000 for tenant-occupants. In addition, but within the above limits, certain payments may be made for increased mortgage interest costs and/or incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe, and sanitary replacement housing. In addition to the replacement housing payments described above, there are also moving cost payments to persons, businesses, farms, and non-profit organizations. Actual moving costs for displaced residences include actual moving costs up to 50 miles or a schedule moving cost payment up to \$500.

The moving cost payments to businesses are broken down into several categories, which include actual moving expenses and payments "in lieu of" actual moving expenses. The owner of a displaced business is entitled to receive a payment for actual reasonable moving and related expenses in moving his business, or personal property; actual direct losses of tangible personal property; and actual reasonable expenses for searching for a replacement site.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Generally, payments for the actual reasonable moving expenses are limited to a 50 mile radius. In both cases, the expenses must be supported by receipted bills. An inventory of the items to be moved must be prepared, and two estimates of the cost must be obtained. The owner may be paid an amount equal to the low bid or estimate. In some circumstances, the State may negotiate an amount not to exceed the lower of the two bids. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost

195

of using the business's vehicles or equipment, wages paid to persons who physically participate in the move, and the cost of the actual supervision of the move.

When personal property of a displaced business is of low value and high bulk, and the estimated cost of moving would be disproportionate in relation to the value, the State may negotiate for an amount not to exceed the difference between the cost of replacement and the amount that could be realized from the sale of the personal property.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses. If the business is to be re-established, and personal property is not moved but is replaced at the new location, the payment would be the lesser of the replacement costs minus the net proceeds of the sale or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the re-established business, the payment will be the lesser of the difference between the depreciated value of the item in place and the net proceeds of the sale or the estimated cost of moving the item.

If no offer is received for the personal property, the owner is entitled to receive the reasonable expenses of the sale and the estimated cost of moving the item. In this case, the business should arrange to have the personal property removed from the premises.

The owner of a displaced business may be reimbursed for the actual reasonable expenses in searching for a replacement business up to \$500. All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, but such rate may not exceed \$10 per hour.

In lieu of the payments described above, the owner of a displaced business is eligible to receive a payment equal to the average annual net earnings of the business. Such payment shall not be less than \$2,500 nor more than \$10,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage, the business is not part of a commercial enterprise having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

196

Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business, and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earnings of the business is considered to be one-half of the net earnings before taxes, during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State, with approval of the Federal Highway Administration, may use another two-year period that would be more representative. Average annual net earnings include any compensation paid by the business to the owner, his spouse, or his dependents during the period. Should a business be in operation less than two years, but for twelve consecutive months during the two taxable years prior to the taxable year in which it is required to relocate, the owner of the business is eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, for the tax years in question.

For displaced farms and non-profit organizations, actual reasonable moving costs generally up to 50 miles, actual direct losses of tangible personal property, and searching costs are paid. The "in lieu of" actual moving cost payments provide that a displaced farm may be paid a minimum of \$2,500 to a maximum of \$10,000 based upon the net income of the farm, provided that the farm cannot be established in the area or cannot operate as an economic unit. A non-profit organization is eligible to receive "in lieu of" actual moving cost payments, in the amount of \$2,500.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms, and non-profit organizations is available in Relocation Brochures that will be distributed at the public hearings for this project and will also be given to displaced persons individually in the future.

In the event adequate replacement housing is not available to rehouse persons displaced by public projects or that available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies will be completed by the State Highway Administration and approved by the Federal Highway Administration before "housing as a last resort" could be utilized. "Housing as a last resort" could be provided to displaced persons in several different ways although not limited to the following:

- 197
1. An improved property can be purchased or leased.
  2. Dwelling units can be rehabilitated and purchased or leased.
  3. New dwelling units can be constructed.
  4. State acquired dwellings can be relocated, rehabilitated, and purchased or leased.

Any of these methods could be utilized by the State Highway Administration and such housing would be made available to displaced persons. In addition to the above procedure, individual replacement housing payments can be increased beyond the statutory limits in order to allow a displaced person to purchase or rent a dwelling that is within his financial means.

The "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" requires that the State Highway Administration shall not proceed with any phase of any project which will cause the relocation of any person, or proceed with any construction project until it has furnished satisfactory assurances that the above payments will be provided and that all displaced persons will be satisfactorily relocated to comparable decent, safe, and sanitary housing within their financial means or that such housing is in place and has been made available to the displaced person.

198

Title VI of the Civil Rights Act of 1964

It is the policy of the Federal Highway Administration and the Maryland State Highway Administration to assure full compliance with Title VI of the Civil Rights Act of 1964 and related statutes. This policy has been incorporated into the operating procedures at all levels of the highway planning and construction process. Toward this end, the Federal Highway Administration has prepared a "Civil Rights - Equal Opportunity Manual" which sets forth that agency's policy on Civil Rights. An example of the application of this policy as contained in Volume III, Chapter II, Paragraph 7e of the Federal Highway Civil Rights - Equal Opportunity Manual is as follows:

"The State shall not locate or design a highway in such a manner as to require on the basis of race, color, or national origin, the relocation of any persons."

Alternates 3 and 3-A require the displacement of considerably more minority black families than any of the other alternates (most of which displace no minority families). However, it should be noted that the proportion of minority families displaced on Alternates 3 and 3-A is 35% and 37% respectively. This is very similar to the total proportion of minority families in the county as a whole, which was 37.4% of the total population in the 1970 census.

199

g. Regional and Community Growth - The improvement of Route 2-4 is in accord with goals for regional and community growth. The Calvert County Comprehensive Plan adopted on May 12, 1967 specifically calls for the dualization of Maryland Route 2-4 from Prince Frederick to the new Patuxent River Bridge. This position is reiterated in the updated draft comprehensive plan dated March 31, 1974. The plan suggests that the road be maintained as a "controlled access facility" with service roads for local traffic and at grade intersections only at growth nodes. A minimum right-of-way of 150 feet is recommended.

The point is made in the comprehensive plan that many county residents are employed in the Washington Metropolitan area, adding to the need for this improvement. The improvement of Route 2-4 would attract more commuting residents to the lower portion of the county due to the potential development of its water-front resources.

The draft Comprehensive Regional Plan (May 1973) for southern Maryland prepared by the Tri-County Council of Southern Maryland (Calvert, Charles, and St. Mary's Counties) proposed five regional roadway systems. The proposed project would

200

facilitate the development of two of these systems: the Vertical System, linking the region with urban areas to the north; and the Peripheral Road System, providing a waterfront arterial for Southern Maryland.

The improvement of Route 2-4, in conjunction with the new Patuxent River bridge crossing, will stimulate both economic and residential growth in Calvert County. This growth is not anticipated to be rapid, however, as the county is still a considerable distance from the major urban areas of Baltimore and Washington to the north and west. In addition there is a large amount of developable land closer to these urban centers.

The improved road will make access to Calvert County easier for tourists and vacationers. This will help stimulate the local retail trade, especially businesses dependent on recreational activities such as boating and fishing. Beach areas are not a prime attraction in Calvert County due to their limited extent. Much of the Chesapeake Bay shoreline is lined with cliffs. The Cliffs of Calvert range up to 137 feet above sea level. Beaches are thus very narrow and erosion is a continuing problem. Beaches suitable for bathing are often owned by private organizations or other groups and not open to the general public. The improved access offered by an improved Route 2 and 4 is thus not expected to have a significant impact on beach use.



The new bridge will link Calvert with St. Mary's County to the south, which although more developed than Calvert, does not have a major urban center. While Route 2-4 in Calvert County will become a through route between St. Mary's County and areas to the north, there is no link between St. Mary's and Virginia across the Potomac River, thus eliminating the additional impact that would be associated with a major interstate through route.

The recent update of the Calvert County Comprehensive Plan establishes the goal of slow growth which will be maintained by allowing growth only in and around existing growth centers. This concept is to be enforced by a strong county-wide land use planning program. At the same time the plan sets forth a goal of fostering new commercial and industrial development to increase employment opportunities and provide a sound economy and tax base in the county. If effective land use controls are enforced, the improvement of Route 2-4 can result in orderly growth and help attract new commerce and industry.

The impact on regional and community growth would not have varied significantly among the alternates. The "Do-Nothing" alternate would have retarded growth more so than the others, but not significantly, since the new Patuxent Bridge would still be in place and Route 2-4 would still be dualized to the north of Prince Frederick.

202

The "Do-Nothing" alternate would also have made new growth more difficult to channel and increase the likelihood of haphazard development. The last point would also be true to some extent if Alternates 3 or 3-A were selected rather than the recommended alternate on new location, where adjacent development can be more readily controlled.

h. Community Cohesion - The impact of this project on community cohesion varied significantly with the alternates considered. Although the project does not traverse major developed areas (with the exception of St. Leonard) there are several residential enclaves along existing Route 2-4. Two of these enclaves, White Hall and Appeal, are populated by minority groups. This is in addition to those minority groups north and south of St. Leonard.

Many of the residences in these areas are close to the existing road and any improvement adjacent to the right-of-way would have affected a significant number of them. This is evidenced in Table 9 where the displacement figures for Alternates 3 and 3-A are much higher than the other alternates.

Alternate 3 would have taken less homes than Alternates 1 and 2 did, but there would have still been a significant amount of relocation. Alternate 3 also would have affected St. Leonard by passing through the center of town. However, this alternate did have the support of a number of St. Leonard residents who presented a petition to the State Highway Administration in support of dualization along the existing alignment. These people feel that any other alignment would drastically affect the local economy by removing traffic.

204

In other areas, such as at White Hall, where residences are not as closely grouped adjacent to existing Route 2-4, neighborhood character would have been altered by displacing some residents and by separating those that remain. A four-lane road with median and much wider right-of-way would have presented a more effective barrier than that offered by the existing two-lane road.

Utilization of the existing alignment would also have displaced neighborhood commercial centers which may have elected to close or move elsewhere. This would have presented a hardship to those who do not have a means of transportation to travel greater distances. Most, however, would have been expected to rebuild to the rear of existing facilities.

The alternates on new location will have very little, if any, effect on community cohesion since they avoid developed areas. Also, the existing roadway will remain so that access between community areas will not be diminished.

The "Do-Nothing" alternate would have had an adverse effect on community cohesion. This would have been due to increased traffic congestion in the future which if severe enough could act as a deterrent to local traffic movements. The constant flow of traffic would also have been distracting to those who live or work adjacent to Route 2-4.

i. Public Facilities and Services - Improvement of Route 2-4 by increasing access to Southern Calvert County will encourage new development and thus increase demand for public facilities and services such as water supplies, sewerage systems, schools, police and other emergency services. As mentioned earlier the development pressure is not expected to be overwhelming because of the distance of Calvert County from major urban areas. In addition the county's proposed slow growth policy will limit new growth to areas around existing development nodes.

Quantifying the impact a specific project will have on future development is extremely difficult because of the many variables involved. It is especially difficult in this case because the new Patuxent River Bridge will also influence development and its effect is difficult to separate from that of the dualization itself. Whatever development does occur can be accommodated through proper use of land use controls and future planning for community facilities. Calvert County through its updated Comprehensive Plan and Comprehensive Sewerage and Water Plan, has taken a look into the future and planned to accommodate future growth in a reasonable manner.

2018

At the present time, public water and sewer facilities are limited in the area. Over 60% of the population in Calvert County relies on individual wells for water supply, while over 80% are unserved by sewage disposal systems. Within the project area, water for public use is available from privately owned systems in St. Leonard, Scientist Cliffs, Western Shores, White Sands, Long Beach, and Chesapeake Ranch Club Estates, the B.G. & E. Nuclear Power Plant, Naval Ordnance Lab. and Chesapeake/Biological Lab. Other properties, including individual homes, rely on on-site disposal. Future sewerage systems in the South County are planned for the same development nodes as is water supply.

School facilities in the project area are limited to the Appeal Elementary School on the west side of Route 2-4 approximately 200 feet from the present alignment. This school would have been affected by noise from Alternates 3 and 3-A as discussed in the noise impact section. Land takings on Alternate would have affected the driveway in front of the school, but no play areas would have been taken. Other impacts including effects on school bus routing would be insignificant on all alternates.

A future need is seen for an additional elementary school in the South County but no site or date has been selected for construction at this time.

Police protection is provided by the County Sheriff's office and Maryland State Police, both stationed in Prince Frederick. There are no plans at present to provide new station houses in additional areas.

Fire and emergency rescue services serving the South County are presently located in Prince Frederick and Johnstown near Solomons. Both locations have fire equipment and ambulances and both are on the east side of Route 2-4. There will be a future need for similar facilities in the Lusby and Scientist Cliffs areas.

The facility located in Prince Frederick would not be adversely affected by the proposed alignment as it is outside the project limits. Response times to the south from this facility would, however, be improved by all alternates because of improved traffic flow with the exception of the "Do-Nothing" alternate which would not reduce existing and future traffic congestion.

252

The facility located in Johnstown would also be able to provide improved response times with the selection of any alternate except the "Do-Nothing." Since this facility is right on a portion of Route 2-4 to be improved, provisions will be made to insure ease of ingress and egress onto the roadway. This will be most likely accomplished through the erection of a fire signal which will stop through-traffic during alarms.

The importance of good access for emergency vehicles is especially critical in a rural area such as Calvert County where emergency facilities are widespread. The case in point is well illustrated by the location of the single hospital in the county, the Calvert County Memorial Hospital in Prince Frederick, which is approximately 20 miles from the Solomons area. Traffic congestion and poor geometrics make emergency responses dangerous for both emergency personnel and the traveling public, especially over long distances.

Another factor important to emergency access which is peculiar to Calvert County is that Route 2-4 is the only continuous north-south route available. Thus, if the roadway was blocked by an accident or natural disaster, emergency vehicles would not be able to get through. This problem would be alleviated by the presence of two separate roadways which were incorporated in all the alternates except for the "Do-Nothing."



209

Project impact on existing public utilities will be negligible since the area is rural and there is no dense utility network. For example, water and sewer lines are virtually non-existent in the immediate project vicinity with most people relying on individual wells and septic tanks. Any utilities that are crossed and must be moved will be relocated at Maryland Highway Administration expense with only minor interruptions in service. The Calvert County Comprehensive Water and Sewerage Plan indicates the location of a proposed regional treatment plant on the west side of Route 2-4 at the U.S. Navy property in Johnstown. A review of these plans show no conflict with the improvement of Route 2-4 in this area.

Of the major utility lines in the area, the Southern Maryland Electric Cooperative, Inc. transmission line and the Columbia Gas Line will be crossed by all construction alternates. This can be done without disruption of service. The Baltimore Gas and Electric Company 500 kv transmission line would not be crossed by any alternate.

VI. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

VI - UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

The unavoidable adverse environmental effects of the project have been discussed in detail in the previous section. The unavoidable adverse affects can be summarized as follows:

Approximately 250 acres of wildlife habitat and vegetative resources will be displaced. All habitat areas affected are upland. Takings will not be significant in relation to habitat available.

There will be temporary increases in stream siltation during construction. With proper erosion controls, there will be no permanent or significant impacts on water quality.

There will be a temporary loss of tax ratables as land is taken off tax rolls for highway purposes. The loss will, however, be negligible in relation to the total tax ratables in the county.

Residents and businesses will be forced to relocate. However, the selected alternate 4-4D, displaces the fewest number of families (7) and businesses (4) than any other construction alternate. The impact of this number of displacements will be negligible.

The selected alignment will have some impact on farm operations by splitting up individual farms.

212

Businesses on existing Route 2-4 will suffer revenue losses with the roadway construction on new alignment. Increased accessibility brought about by the roadway will encourage land development in addition to that which would normally occur. This will in turn utilize more land resources, increase potential for air and water pollution, and increase demand for public services. Noise levels will be increased over ambient levels adjacent to the new roadway but noise levels adjacent to existing Route 2-4 will be reduced.

Air pollution levels will be increased only slightly, however, levels will remain well below and not exceed Federal Air Quality Standards.

Impacts to historic sites and recreation areas affected by the project will not be adverse as determined by officials having jurisdiction over such sites.

In addition to temporary increases in stream siltation during construction, there will be temporary adverse effects on aesthetics, traffic flow, air quality and noise levels. Dust will be controlled by watering of

213

haul roads and other areas heavily used by construction equipment. Construction equipment will add significantly to noise levels adjacent to the roadway alignment. This impact can be minimized by limiting work hours during which excessive noise levels are anticipated to daylight hours of weekdays. Impacts on aesthetics, traffic flow, and air and noise pollution levels will not be as obvious on the new alignment as they would be if the existing alignment were improved because the number of people directly affected is considerably less in the undeveloped area adjacent to Alternates 4-4D, the selected corridor.

VII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

VII. Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long Term Productivity

The short-term uses of the environment resulting from this project such as the taking of vegetation; displacement of wild-life; displacement and associated impacts on residents, businesses and farms; and traffic disruption are considered to be justified when compared to the long-term beneficial aspects of the project. The future savings in traveler's costs (including accident costs) and reduction in congestion will compensate for short-term inconveniences to travelers and local residents during construction. Increased future land values and improved tax base brought about by roadway improvement will compensate for general short-term economic losses caused by business relocation and loss of tax ratables. Negligible to minor losses of environmental quality in the areas of wildlife, vegetation, air and water quality are necessary to attain the long-term benefits the project will offer.

The project will attract additional development and thus bring about land use changes over the long-term. These changes will in turn require increased public services. However, Calvert County has adopted a planned "slow growth" policy so that new development should not be so significant or rapid that future land development options, including keeping the area predominantly rural, are foreclosed. The proposal is in accord with local and regional comprehensive plans for land use.

VIII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES



VIII - Irreversible and Irretrievable Commitment of Resources

Resources committed to this project considered to be irretrievable include the land upon which the roadway is built as well as the materials and labor utilized in its construction. In theory land committed to highway purposes is not irreversibly lost for other purposes since the roadway could be abandoned at some future date and then modified for other uses. However, at present it is premature to speculate on abandonment. In any event, the original use of land will be difficult to restore in the case of woodland and farm land. One can therefore say that the woodland and farm land taken by the project will be irretrievably committed. The amount lost will be approximately 250 acres of woodland and 40 acres of farm land.

Additional acreage of various land types will undergo development as a result of the increased access afforded by this project. The lands committed to such uses, including the lands utilized for highway purposes, are not expected to be of great significance when compared to total lands available in Calvert County.

Financial resources invested in the project will not be irretrievably lost since road-user benefits and a reduction in accident costs will compensate for committed funds over a period of years.

IX. COMMENTS AND COORDINATION

IX - COMMENTS AND COORDINATION

The development of project planning for the Route 2-4 project has been coordinated with Federal and State agencies as well as local officials and the public. Among others, meetings have been held with the U. S. Department of the Navy, Maryland Historical Trust, Maryland Department of Natural Resources, Maryland Park Service and the Planning Commission of Calvert County. To keep the public and local officials informed of project progress, and to solicit comments from them, three public information meetings were held prior to the release of the Draft Environmental Impact Statement and the holding of the formal Corridor Public Hearing.

The first public meeting was a project initiation meeting held on April 17, 1974 which introduced the project to the public prior to the development of alternative alignments. The alternative alignments which were subsequently developed were presented to the public at a meeting held on August 22, 1974. These alignments were then studied in detail and a decision was made to incorporate access controls on the alignments on new location. At the two public meetings, it had been stated that access controls were not being studied on any alignment. Therefore, a third public meeting was called on March 19, 1975 to inform the public of this decision and also to further present and discuss the alternative locations under study.

220

At all three public meetings, no opposition was expressed to the need for the project. The public mood at the meetings indicated that the local citizenry is anxious to have the project completed. Although there were objections to various alternates, the need for the project was not questioned. A petition supporting Alternate 3 was forwarded to the Maryland Highway Administration. It is reproduced in Appendix C.

Also in Appendix C is correspondence from various Federal, State and local agencies who have commented on the project. Correspondence is reproduced from the State Clearing House (A-95 review), Maryland Department of Natural Resources, Planning Commission of Calvert County, Maryland Historical Trust, Maryland Park Service, and U.S. Department of The Navy. Positions of these agencies have already been discussed in areas of this impact statement of concern to the agencies. It should be noted, however, that none of the agencies question the need for the project. Comments generally deal with ways in which the projects impact can be minimized through choice of alternative alignments or design considerations.

221

A listing of formal meetings held to discuss this project to date follows:

- Maryland Department of Natural Resources - 12/7/73
- Maryland State Planning - 1/16/74
- Maryland Historical Trust - 3/18/74,  
4/12/74 and  
11/19/74
- Project Initiation Public Meeting - 4/17/74
- Interim Alternatives Public Meeting - 8/22/74
- Baltimore Gas & Electric Company - 10/8/74
- County Agencies - 11/16/74
- Maryland Park Service - 11/19/74
- U. S. Navy, Chesapeake Division - 11/20/74 and  
2/4/75
- Alternative Location Public Meeting - 3/19/75
- Corridor Public Hearing - 7/23/75

The Draft EIS was released to the public and review agencies on June 9, 1975 and the formal Corridor Public Hearing was held on July 23, 1975.

222

Following is a summary of comments made verbally at the Corridor Public Hearing, or submitted in writing after the hearing. Only substantive comments related to the Route 2 and 4 project from Port Republic to the Johnstown-Solomons area and the New Patuxent River Bridge have been included. Comments are paraphrased. In some cases the same comment was made by a number of people. Discussion and response to comments, where applicable, follows each paraphrased comment. Complete comments are available for review in the Public Hearing Transcript.

Corridor Public Hearing Comments

Comment: A number of people commented in favor of selecting Alternate 3 or 3A. With these alternates through traffic would continue to use existing Route 2 and 4 and not bypass businesses which are reliant on through traffic for revenue. Commenters maintained that selection of Alternates 4, 4A, 4B, 4C, and 4D would reduce revenue of businesses along Route 2 and 4 and possibly cause some of them to close.

Response: While the problems of potential loss of business revenue are recognized, the disadvantages associated with the use of Alternates 3 or 3A, as detailed in the text, outweigh the advantages. The advantages of Alternates 4 and 4D outweigh

223

their disadvantages. They are also able to provide superior traffic service and safety with a minimum of residential displacement and disruptions during and after the construction period as compared to Alternates 3 or 3A. The additional acquisitions of homes and businesses on Alternate 3 or 3A would add at least a years delay to the time required to rebuild the existing road. For these reasons, plus those detailed in the text, Alternates 4 and 4D were selected for corridor approval rather than Alternate 3 or 3A.

Because of a great deal of concern that was expressed during the study about the effects of the relocation on existing businesses, the next stage of the study will include consideration of minor adjustments to the location which would assure businesses of the best possible access and visibility from the new road. The design, location and access control features of the cross roads will also be reviewed to insure that the existing commercial areas remain the most convenient and attractive for motorists along Route 2 and 4. Additional signing will be provided to direct motorists to existing commercial areas along Route 2 and 4. The new road with its control of access will essentially prevent new commercial development except at the existing commercial areas along Route 2 and 4 and land along existing Route 2 and 4 zoned appropriately by the County.

774

Comment: In support of Alternates 4, 4A, 4B, 4C or 4D;

"It is much easier for wildlife to relocate than homes and people". The safety problem associated with high speed cars passing through residential areas if the existing road is used (Alt. 3 or 3A) was brought out by the same speaker.

Response: These are some of the reasons why Alternates 4 and 4D have been chosen.

Comment: A bicycle path was requested adjacent to the improved road.

Response: At the present time there are no plans to include a bicycle path on this project. The inclusion of a path may, however, be studied further in the future. Problems associated with a bicycle path on this project are that the selected alternate will have partial control of access and will be somewhat removed from residential and other developed areas where bicyclists frequent.

Comment: It was noted that there was no direct connection to Olivet Road (Rt. 760) from Alternates 4, 4A, 4B, 4C and 4D.



225

Response: It is now planned to provide a direct connection from Alternate 4 to Olivet Road (Md. Rt. 760). The connection will extend west from the present intersection of Olivet Road with existing Route 2-4.

Comment: It was stated that businessmen in St. Leonard favor an east side bypass or widening of Route 2 and 4 in St. Leonard.

Response: This would entail use of Alternate 3, which has been rejected because of its disadvantages, as stated earlier.

Comment: The distances between access points was questioned; also whether access would be provided at existing roads, including an old logging road.

Response: Access points will be limited to points approximately 2000 to 2500 feet apart. Access will be provided to all existing roads, including old logging roads. This access may be provided by service roads in some cases rather than by direct connection.

Comment: Two comments were received favoring Alternate 4C because it takes fewer homes. They were both opposed to Alternate 3 or 3A, especially in the area of Dowell Road.

Response: Alternate 4D actually takes the least number of homes (two fewer than Alternate 4C). Alternate 4D does,

226

however, require the taking of a home near Dowell Road and has similar impacts as Alternates 3 or 3A in this immediate area. Alternate 4D was favored over 4C because of its shorter distance, better alignment configuration and lower cost.

Comment: One comment was received which was definitely not in favor of any of the alternates but was rather "in favor of a parallel right lane of the existing 2 and 4 highway at Port Republic".

Response: Adding an additional lane in each direction to existing Route 2 and 4 would be essentially the same as Alternate 3 with the exception that no median would be provided. While this would lessen the right-of-way required, it would not offer the safety of a separated roadway and would, in addition, have the same disadvantages as Alternate 3.

Comment: One commenter was completely opposed to Alternate 4 "strictly for environmental considerations. This route would go through virgin territory, a considerable amount of which is wetlands."

Response: Although portions of Alternate 4 go through essentially virgin territory, the land traversed is only a small portion of the amount of similar land available in the immediate area. No unique areas of vegetation or wildlife habitat

227

are affected. In addition, it should be noted that none of the land taken is wetland protected by the Maryland Wetland Act.

Comment: A similar comment which supported Alternate 3 or 3A and opposed Alternates 4, 4A, 4B, 4C or 4D noted that "several ecological groups are also concerned over the wetlands and open areas that will be affected by the western route".

Response: No ecological group has come forth to express their concern and, as noted above, no wetlands are to be affected by Alternates 4 or 4D.

Comment: A strong preference for Alternate 4 was expressed noting that reasons for its selection "are valid and compelling, particularly the contention that Alternate 4 could be completed at least a year sooner than Alternate 3."

Response: It is true that Alternate 4 could be completed as much as a year sooner than Alternate 3 because of the residential relocation problems associated with Alternate 3.

Comment: A comment in support of Alternates 3 or 3A noted that the "Summary of Alternates" presented in the public hearing brochure indicates that those alternates other than 3 or 3A "will require substantial acreage of farmland, reducing the tax base, reducing the production of tobacco (Calvert County's money crop), grain, cattle, swine and perhaps taking from the

228

tax rolls future property that could be developed to the benefit of the citizens of Calvert County. Alternates 4, 4A, 4B, 4C, and 4D in their entirety, would increase adjoining land values (already inflated) to the detriment of future growth." The comment, signed by eight individuals, also noted that "it is our understanding that the FEDERAL CLEAN AIR ACT endeavors to keep all new highway construction within existing right-of-way corridors rather than creating new corridors."

Response: Actually, the amount of active farmland to be taken by any of the alternates studied is quite small. It should be noted that the acreage cited in the "Summary of Alternates" presented at the Public Hearing refers to the zoning classification of lands taken and not their actual use. Most of the agriculturally zoned land to be taken is woodland. The amount of farmland planted in crops (mostly grain and corn) which is to be taken is approximately 40 acres. This is considerably smaller than the total 158 acres of agriculturally zoned land taken by Alternate 4. The acreage lost is a very small portion of the farmland in the county and its loss would have a negligible effect on total crop production. Any land taken would, of course, be lost to future development and removed from the tax rolls. It is unlikely that increased land values adjacent to the highway will restrict growth. Growth and increased land values are items that are closely related and go hand-in-hand.

27A

The National Ambient Air Quality Standards, promulgated pursuant to the Clean Air Act of 1970, are met by a considerable margin on this project. This project is in complete compliance with that Act.

There is no reference in the Clean Air Act to the use of existing right-of-way corridors rather than new corridors.

Comment: A number of comments were received opposing Alternates 3 and 3A and favoring Alternate 4 because of the residential relocation problems on Alternates 3 or 3A.

Response: Alternate 4 in combination with 4D has been chosen in large part because of the residential relocation problems on Alternates 3 and 3A.

#### Comments Submitted on Draft EIS

The comments submitted by reviewing agencies and individuals are reproduced on the following pages. Each comment is followed by a response on the succeeding page where necessary. Comments were received from the following:

- U.S. Department of the Interior
- U.S. Department of Agriculture
- U.S. Department of Commerce
- U.S. Environmental Protection Agency
- U.S. Department of the Navy
- Maryland Department of State Planning
- Maryland Department of Natural Resources
- Maryland Department of Budget & Fiscal Planning
- Maryland Department of General Services

230

Maryland Department of Economic and Community Development  
Maryland Department of Education  
Maryland Department of Health and Mental Hygiene  
Maryland Inter-agency Committee For Public School Construction  
Maryland Department of Public Safety and Correction Services  
Maryland Energy Policy Office  
Tri-County Council of Southern Maryland  
Calvert County Planning Office  
Maryland Historical Trust  
The Honorable Thomas A. Rymer



UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 OFFICE OF THE SECRETARY  
 WASHINGTON, D.C. 20240

231

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In Reply Refer To:  
 L7619-MQ  
 (ER-75/568)

1975 OCT 27 AM 11 05  
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PROJECT PLANNING

Dear Mr. Ackroyd:

This is in response to your request for the Department of the Interior's comments on the draft environmental statement for Maryland Routes 2 and 4 from Maryland Route 264 to the northern approaches of the New Patuxent River Bridge in Calvert County, Maryland.

General Comments

Overall, this draft statement is generally satisfactory. It addresses all pertinent areas of environmental concern relative to alternative routes and their impacts upon the natural, cultural and socioeconomic milieu of Calvert County, Maryland. It assesses the effects completion of this segment will engender as the final link in the peninsular system which brings Maryland Routes 2 and 4 from metropolitan Baltimore and Metropolitan Washington, D.C. down to the under-construction New Patuxent River Bridge at Johnstown, Maryland.

Although the present document does not explicitly state that it includes compliance with the requirements of Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593, the intent to do so seems evident upon review of the document. Cultural resources surveys have been accomplished to some degree and documentation from the Deputy State Historic Preservation Officer indicates consultation with that office regarding non-archeological resources. Reasonable consideration has been given in the planning process to the effects of alternatives on cultural resources which have been identified, and to the relationships of all resource use to benefits gained.

So as to complete the process of compliance with reference to cultural resources the following should be accomplished: In addition to the "...preliminary archeological reconnaissance..." already undertaken by Dr. Kenneth G. Orr, a more detailed archeological survey should be accomplished in consultation with the State Historic Preservation Officer for the selected alternative prior to completion of the planning process. The State Historic Preservation Officer should be requested to indicate

PROJECT PLANNING  
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232

whether the selected alternative will have an effect on any properties on or eligible for the National Register of Historic Places. If any effect will occur, the Advisory Council on Historic Preservation should be given the opportunity to comment pursuant to the procedures in 36 CFR 800. A discussion of the nature and results of these consultations should be provided in the final statement.

In our review of the statement, we note that none of the alternatives presently under consideration involve the taking of land from Calvert Cliffs State Park. Although there will be a slight increase in noise levels near the park, the extent of this increase is not expected to adversely impact park use. The Maryland Department of Transportation and the Federal Highway Administration have done a commendable job. The selected alternatives avoid the use of parkland while planning for an improved park entrance road in cooperation with the Maryland Park Service. However, if any alternative is selected that directly or indirectly affects any of the historic sites in the proposed corridor, a Section 4(f) analyses should be prepared and circulated for review prior to its inclusion in the final statement.

Environmental Statement Comments

Interrelations of hydrologic factors and project work are recognized and most of the pertinent facts are presented for use in evaluating environmental impacts. Additional information about local ground water conditions should be included in the final statement for evaluation of the impact of road cuts on water levels in shallow wells within several hundred feet of the cuts and the possible influence of de-icing practices on the nearby ground water quality.

Consideration should be given in the final statement to the development of bikeways within the highway right-of-way as incidental features of highway construction for the entire length of the proposed project. Based on our conversations with State and local recreation planners, bikeways would help to meet existing needs while also providing improved bicycle access to many existing and planned recreation areas and facilities in the southern portion of Calvert County: namely, Calvert Cliffs State Park, the interpretative area and facilities at Calvert Cliffs Nuclear Power Station, the proposed recreation area at Cove Point Columbia Gas Company's Project, and the Navy Recreation Center. The development of such bikeways is consistent with the Federal Highway Administration's Transmittal 18. The final statement should include the results of coordination with the appropriate State and local officials relative to the incorporation of bikeways into the highway project.



Additionally, the final statement should discuss the possibility of providing a rest area/nature interpretation facility in the Quakers Swamp area under the provisions of PPM 90-5. This facility could serve both motorists and bicyclists.

The Fish section on page V-29 of the draft should be expanded to include a statement on the effects of the project on fishery resources; e.g., how will sedimentation, highway surface pollutants, and the addition of highway de-icing salts effect these resources and their habitats.

The statement on page V-29 under the title, Wildlife, that during construction resident species will move away from the activity area into adjacent areas is not necessarily true. Species that are relocated to another area compete with species already there. Competition for breeding, nesting, and feeding habitat most often results in a reduction of total wildlife populations.

A correction should be made on page III-30, second paragraph. The osprey is not listed as an endangered species on the U.S. List of Endangered Fauna.

Based on recommendations made by the Maryland Historic Trust in their letter of December 2, 1974, enclosed in the draft, and based on our own review and field investigation, the following routing is recommended to minimize impacts to all areas. Alternate 3 should be the basic route for segments 1 and 2. This will ensure basic utilization of "...the existing roadway of Maryland Routes 2 and 4 as either the northbound or southbound lanes, depending on adjacent land uses." Limited access can be successfully achieved where the existing roadway is used by closing off some of the present feed-in roads and providing interlinkage with other roads as necessary. This should pose no major problem in this sparsely settled area.

A western bypass for the small community of Port Republic is recommended to avoid bisecting the small community and to avoid impacts to historic structures. The roadway should also briefly bypass the Parran House to the west. Both these changes should be accomplished as defined by the Maryland Historical Trust.

The general vicinity of the intersection of Quakers Swamp and Routes 2 and 4 should be bypassed so as not to impact any archeological resources. This could be accomplished with minimal divergence from the existing roadway, but only after more extensive archeological investigation, especially of the site of Old St. Leonard Town.

224

For segment 3, we recommend using alternate 4, 4A and 4B to a point south of Calvert Cliffs State Park at Appeal. This routing would cause the least damage to fish, wildlife, park and cultural resources.

From Appeal south, alternate 3 is recommended to the southern project limit at the approach to the New Patuxent River Bridge.

All land-disturbing contracts should be worded so that any unanticipated archeological values located are salvaged by qualified archeological professionals. To this end also, the work contract should specify those phases of highway construction which will be accomplished under the cognizance of a professional archeologist approved by the State Historic Preservation Officer.

Summary Comments

After review of the draft statement, the Department of the Interior finds:

1. The draft document is well prepared and provides an objective and adequate project evaluation.
2. The alternative routing system recommended and discussed above will, in our opinion, minimize impacts on all resources.
3. Prior to selection of a final defined route, additional archeological investigation should be undertaken and documented.
4. Archeological surveillance and salvage should accompany appropriate stages of project construction.

The field office assigned responsibility for overall coordination of this project is:

Regional Director, Mid-Atlantic Region  
National Park Service  
143 South Third Street  
Philadelphia, Pennsylvania 19106  
Phone: (215) 597-7013

For technical assistance on matters relating directly to outdoor park and recreation concerns, please contact:

Regional Director, Northeast Region  
Bureau of Outdoor Recreation  
Federal Building, 600 Arch Street  
Philadelphia, Pennsylvania 19106  
Phone: (215) 597-7989

235

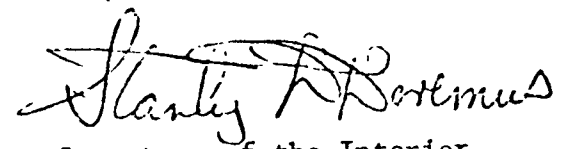
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For technical assistance on matters relating to fish and wildlife concerns, please contact:

Director, Northeast Regional Office  
U.S. Fish and Wildlife Service  
Post Office and Courthouse Building  
Boston, Massachusetts 02109  
Phone: (617) 223-2989

We appreciate the opportunity to provide these comments and hope they are of assistance for completing a final environmental statement.

Sincerely yours,



Deputy Assistant Secretary of the Interior

Mr. Richard Ackroyd  
Division Engineer  
Federal Highway Administration  
The Rotunda - Suite 220  
711 West 40th Street  
Baltimore, Maryland 21211

cc: Mr. Eugene T. Camponeschi  
Maryland Highway Administration

236

Commenting Agency: United States Department of the Interior

Response:

- 1) Archaeology - More extensive archaeological investigations (including the site of Old St. Leonard Town) will be undertaken prior to construction and provisions for professional archaeological salvage will be included in construction contracts in accordance with the Federal Aid Highway Program Manual Volume 7, Chapter 7, Section 4 and in consultation with the State Historic Preservation Officer.
- 2) Historic Sites - Consultation has been maintained with the Office of the Maryland State Historic Preservation Officer and the recommendations to minimize possible aesthetic impacts on the concerned historic sites by modifying the alignment or by additional landscaping are design considerations that have been taken under advisement. The selected alternative does not effect properties on or eligible for the National Register of Historic Places.
- 3) Ground Water Conditions - The discussion of possible ground water impacts as a result of the project have been expanded on page V-36 .
- 4) Bikeways - The development of bikeways has been considered on this project. If a bikeway were to be included it would have to be a Class I (seperated from the highway) facility since the roadway on new location will have partial control of access and bicyclists would be prohibited from using the highway. The expense of such a facility along this highway is not justifiable because of the sparsity of population in this area. It may even require additional right-of-way acquisition. It is suggested that the existing roadway be utilized to serve the bicyclists need in this area since it will become a service road.

237

5) Rest Area/Nature Interpretation Facility at Quakers Swamp

- a. We believe that a rest area at this location would be too far south to serve the County in an optimum manner. By the time most travellers reach this location they should already be very close to their destination.
- b. We are presently investigating a possible rest area site approximately 26 miles to the north near the Anne Arundel-Calvert County line.
- c. Calvert Cliffs State Park, which is easily accessible from both lanes of Maryland Route 2 and 4, is located just four miles south of the Quakers Swamp Area.
- d. A study was undertaken about four years ago to locate a rest area within the Maryland Route 2 and 4 Corridor and continued last year during the EIS review. These studies produced no economically feasible area. We believe that Quakers Swamp has outstanding potential as a nature area, but unfortunately it does not fit well within the scope of our minor rest area program.
- e. In addition, construction of any type of facility would necessitate filling in portions of the swamp.

6) Fish/Wildlife - The recommendations and corrections noted in the discussions of fish and wildlife subject matter have been made on pages III-26 and V-30.

238

**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**SOIL CONSERVATION SERVICE - 4321 Hartwick Rd., Rm. 522**  
College Park, Maryland 20740

August 18, 1975

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

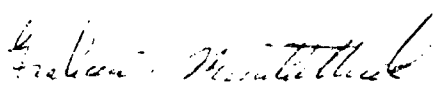
Dear Mr. Camponeschi:

This is in response to your letters dated June 9, 1975 to the Office of the Secretary, USDA, Washington, D. C. and to this office regarding the draft environmental impact statement for "Maryland Route 2 and 4 from Maryland Route 264 to the Northern Approaches of the New Patuxent River Bridge in Calvert County, Maryland."

Our area of interest in this project is in erosion and sediment control both during construction and operation of this roadway. Your discussion on these subjects in the draft is adequate and shall be sufficient for the final statement.

We appreciate the opportunity to comment on this proposal.

Sincerely,



Graham T. Munkittrick  
State Conservationist

cc: M. Davis, Administrator  
Office of the Coordinator  
Council on Environmental Quality (5 copies)

AGRICULTURE  
PROJECT PLANNING

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239

Commenting Agency: United States Department of  
Agriculture - Soil Conservation  
Service

Response: No response necessary.



UNITED STATES DEPARTMENT OF COMMERCE  
The Assistant Secretary for Science and Technology  
Washington, D.C. 20230

240

FILE

IN HOUSE

CONSULTANT

July 25, 1975

Mr. Roy Gingrich  
Federal Highway Administration  
The Rotunda - Suite 220  
711 West 40th Street  
Baltimore, Maryland 21211

Dear Mr. Gingrich:

The draft environmental impact statement "Maryland Route 2 and 4, New Patuxent River Bridge in Calvert County, Maryland," has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

Bench marks, triangulation stations, and traverse stations have been established by the National Geodetic Survey in the vicinity of the proposed project. Construction required for the project could result in destruction or damage to some of these monuments.

The National Geodetic Survey requires sufficient advance notification of impending disturbance or destruction of monuments so that plans can be made for their relocation. It is recommended that provision be made in the project funding to cover costs of monument relocation.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,

*Sidney R. Galler*  
Sidney R. Galler  
Deputy Assistant Secretary  
for Environmental Affairs

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241

Commenting Agency: United States Department of  
Commerce

Response: The National Geodetic Survey will  
be notified of the impending dis-  
turbance of any bench marks, trian-  
gulation stations, or traverse  
stations during the construction  
period.

242

United States Environmental Protection Agency  
Region III  
6th and Walnut Streets  
Philadelphia, Pennsylvania 19106

August 5, 1975

Mr. Robert J. Hajzyk  
Director, Office of Planning and  
Preliminary Engineering  
Maryland Department of Transportation  
State Highway Administration  
Post Office Box 717  
300 East Preston Street  
Baltimore, Md. 21203

Re: Maryland Route 2 and 4; from Maryland Route 264 to the  
Northern Approaches of the New Patuxent River Bridge;  
Calvert County, Maryland

Dear Mr. Hajzyk:

We have reviewed the draft Environmental Impact Statement for the above project and have classified it as "LO-2" in EPA's reference category. You will find enclosed a copy of the Definition of Codes for the General Nature of EPA Comments to provide further description of this rating. In accordance with our responsibilities under Section 309 of the Clean Air Act to inform the public of EPA's views on the environmental impacts related to major Federal actions, this rating and its date will be published in the Federal Register.

We would like to commend the scope, detail, and clarity of the draft statement in providing both project and potential impact descriptions as well as comprehensive presentation of the benefits and detriments of the various alternatives under study. The study of alternatives should be most helpful in selection of the alternative which will minimize impacts on the project surroundings.

While we do not anticipate serious air quality problems resulting from installation of the project, we would note the following improvements to air quality methodology to be considered in assessing environmental impacts for other highway projects. The use of the MIWAY model in conjunction with EPA's Supplement No. 5 for Compilation of Air Pollutant Emission Factors (AP-42) would be a preferable method to evaluate micro-scale carbon monoxide impacts. We would suggest that modeling receptors be located on the right of way to insure a proper "worst case" analysis; the primary standards are meant to apply to any area to which the public has free access.

243

While the noise analysis has presented adequate detail of potential impacts and possible mitigating techniques, the definition of policy to be followed in final design and construction needs further specification.

The sizeable relative increases in some of the evaluated noise levels are correctly characterized as significant, even when they do not exceed standards, as discussed on pages V-14, 15. The final statement should indicate the degree of commitment to use of noise control measures to minimize effects of increases over 10 dBA and levels exceeding 70 dBA. EPA would appreciate receipt of copies of any requests for exceptions to noise standards related to this project at such time as they are submitted to the Federal Highway Administration.

We would also appreciate a copy of the final statement at the same time that it is filed with the Council on Environmental Quality. If we can be of further assistance, please contact us.

Sincerely yours,

Nicholas M. Ruha  
Chief  
EIS and Wetlands Review Section

Enclosure

244

APPENDIX II  
DEFINITION OF CODES FOR THE GENERAL NATURE  
OF EPA COMMENTS

ENVIRONMENTAL IMPACT OF THE ACTION

LO--Lack of Objection

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

ADEQUACY OF THE IMPACT STATEMENT

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as reasonable alternatives available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonable available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

245

Commenting Agency: United States Environmental  
Protection Agency

Response:

1. Comments with regard to the improvement of air quality methodology used will be taken into consideration on future high-way projects. It should be noted that the consultants contract called for use of the California Line Source model rather than the HIWAY model to evaluate air quality impact of the project. Also, at the time the study was initiated, EPA's Supplement No. 5 for Compilation of Air Pollutant Emission Factors (AP-42) was not yet available. In any case, use of Supplement No. 5 would not cause air quality standards to be exceeded because of the low total emissions from vehicles using Route 2 and 4.
  
2. In accordance with the Federal Highway Administration's Program Manual Volume 7, Chapter 7, Section 3, where adverse noise impacts are identified, the feasibility of providing noise control measures are to be determined as part of the project's design phase. This takes into consideration the degree of attenuation achievable, the number of structures benefitted, aesthetic and economic impacts. Where such measures are feasible, they are to be incorporated into the construction plans for the project. This step involves input from the public in the form of reaction to and suggestions on proposed mitigation measures.

The policy on mitigation measures for those areas where design noise levels are not exceeded but ambient levels are increased by more than 10dBA involves a feasibility study. Where control measures are feasible, the SHA recommends their construction to the FHWA for approval.

EPA will be provided with a copy of each exception to design noise level standards requested.



NAVAL SURFACE WEAPONS CENTER  
HEADQUARTERS

WHITE OAK, SILVER SPRING, MARYLAND 20910

WHITE OAK LABORATORY  
SILVER SPRING, MD. 20910  
(703) 264-1421

DAHLGREN LABORATORY  
DAHLGREN, VA. 22448  
(703) 663-

IN REPLY REFER TO:  
WW-10:EEK:jsc  
11 July 1975

11010  
Ser 4104

17 JUL 1975

From: Commander, Naval Surface Weapons Center  
To: Commanding Officer, Chesapeake Division, Naval Facilities  
Engineering Command (Code 202)

Subj: Draft Environmental Statement, Maryland Route 2 and 4, Contract  
No. C 243-034-574, from Maryland Route 264 to the northern approaches  
of the new Patuxent River Bridge, Calvert County; comments on

Encl: (1) Draft Environmental Statement

1. Enclosure (1) has been reviewed as requested and no discrepancies were noted between the statement and reports from previous meetings between the Navy and the Maryland Department of Transportation.
2. The Center reiterates its earlier position of being in favor of Alternate 4D as it has the minimal impact of all alternates proposed.
3. The statement reveals that it will be necessary to erect an acoustic barrier alongside Navy property approximately 2000 feet in length and 12 feet in height as to meet the design noise level standard. The Center would be interested in the type of barrier proposed.
4. Enclosure (1) is returned for your continuing action.

*L. E. McMnamin*  
L. E. McMENAMIN  
By direction

246

11010

20

207

07

247



DEPARTMENT OF THE NAVY  
CHESAPEAKE DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
BUILDING 57, WASHINGTON NAVY YARD  
WASHINGTON, D.C. 20374

IN REPLY REFER TO:

20  
11010  
SEP 5 1975

State of Maryland  
State Highway Administration  
500 West Preston Street  
Baltimore, Maryland 21201

Re: Re: Re:

The Draft Environmental Statement for Contract No. C243-034-574 Maryland Routes 2 and 4 has been reviewed by this office and interested Naval District Washington Commands. We see no discrepancies between the draft statement and reports presented at previous meetings.

Of particular interest is the proposal for an acoustic barrier contiguous to Navy property. We are interested in learning more about this proposal.

Enclosed is a letter from the Naval Surface Weapons Center reflecting their view concerning the draft environmental statement.

Sincerely,

*[Handwritten Signature]*  
W. J. [unclear]  
[unclear] (CDR) [unclear]  
[unclear]  
[unclear] Commanding Officer

RECEIVED  
16 7 21 0

RECEIVED

SEP 9 1975

Division of Planning & Engineering

248

Commenting Agency: Department of the Navy

Response:

Alternate 4D has been recommended in the vicinity of the Navy facilities at Johnstown because it has the least impact in that area. More details on the proposed acoustic barrier adjacent to the Navy property will be available for review by Navy personnel as final design progresses.



249



MARVIN MANDEL  
GOVERNOR

MARYLAND  
DEPARTMENT OF STATE PLANNING

301 WEST PRESTON STREET  
BALTIMORE, MARYLAND 21201  
TELEPHONE: 381-383-2481

VLADIMIR A. WAHBE  
SECRETARY OF STATE PLANNING  
MADELINE L. SCHUSTER  
DEPUTY SECRETARY

August 21, 1975

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 W. Preston Street  
Baltimore, MD 21201

STATE HIGHWAY  
ADMINISTRATION  
PROJECT PLANNING

875 AUG 25 AM 10 55

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 2 and 4 from Md. Rt. 264 to  
Northern Approaches of the New Patuxent River Bridge  
Calvert County

State Clearinghouse Control Number: 75-6-883

State Clearinghouse Contact: Warren D. Hodges (383-2467)

Dear Mr. Camponeschi:

The State Clearinghouse has reviewed the above Draft Environmental Impact Statement. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments (copies attached) from the following:

Department of Economic and Community Development, Department of Health and Mental Hygiene, Department of Public Safety and Correctional Services, Department of Budget and Fiscal Planning, Department of Education, Department of General Services, and the Energy Policy Office advised that the draft EIS is considered adequate in its treatment of physical, ecological, and sociological effects of concern.

Department of Natural Resources advised that they have been unable to assemble their comments prior to the August 22, 1975 deadline and have requested a meeting to discuss the draft statement. This meeting has been arranged for August 27.

Tri-County Council for Southern Maryland comments noted that the extent that drainage patterns and velocities of run-off may be modified should be included in the assessment. It was also noted that the deer kill averaged about 120 per year from 1972 to 1974.

Calvert County's comments included the following:

--- An alternate route shown at the July 23 public hearing does not appear in the draft statement.

250

Mr. Eugene T. Camponeschi  
Page 2  
August 21, 1975

--- The County considers that any growth pressures in areas parallel to the project area may require considerable investment of public funds for the development of community facilities.

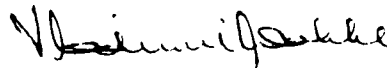
--- In all cases where additional right of way is acquired, provision for access control should be adapted.

--- Environmental damage should be kept within acceptable limits.

Our staff review noted that the site shown in the County Comprehensive Water and Sewerage Plan for the proposed regional treatment plant in the Solomons Island District is on the west side of Md. Rts. 2 and 4 at the U.S. Navy Mine Testing Station and should be considered in the EIS. Proper control of access as noted in the Calvert County comments are concurred in.

As a result of the review, it has been determined that the Draft Environmental Impact Statement is considered adequate in its treatment of physical, ecological and sociological effects except for those items included in the comments submitted. These items and the items to be discussed in the meeting with the Department of Natural Resources should be considered in the preparation of the final draft statement.

Sincerely,



Vladimir Wahbe

ge

Enc.

cc: Gettleman  
Noren  
White  
Lewis  
Lally  
Williams  
McKee  
Barnes  
Payne  
McKinney  
Bowlby

251

Commenting Agency: Maryland Department of State  
Planning

Response:

The State Highway Administration is aware of plans for the location of the regional sewerage treatment plant adjacent to Route 2 and 4 at the U.S. Navy Mine Testing Station. The plans have been reviewed and no conflict with the proposed improvement to Route 2 and 4 is evident.

252

Department of State Planning  
Office Building  
1 West Preston Street  
Baltimore, Maryland 21201

Date: 9/4/75

**SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW**

**Applicant: State Highway Administration**

**Project: Draft EIS - Md. Rts. 2&4 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883**

I have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:		✓
2. Additional alternatives which should be considered:		
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:		✓
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:		
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:		
6. We identify issues which require further discussion of resolution as shown:		

Signature

*R. K. Lawrence*

Title

*Chief, Permit Div.*

253

MARYLAND  
DEPARTMENT OF STATE PLANNING

301 WEST PRESTON STREET  
BALTIMORE, MARYLAND 21201  
TELEPHONE: 301-382-2451

VLADIMIR A. HANDEL  
SECRETARY OF STATE PLANNING  
MADELINE L. SCHUSTER  
DEPUTY SECRETARY

September 15, 1975

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

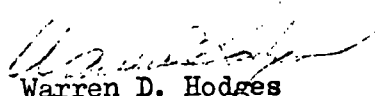
RE: Draft EIS - Md. Rts. 2 and 4 from Md. Rt. 264 to Northern  
Approaches of the New Patuxent River Bridge (Calvert Co.)  
State Clearinghouse Control Number: 75-6-883

Dear Mr. Camponeschi:

Comments of the Department of Natural Resources on the reference project have been received by the State Clearinghouse. A copy of these comments is attached for your consideration in preparation of the final Environmental Impact Statement.

Your cooperation is appreciated.

Respectfully,



Warren D. Hodges  
Chief, State Clearinghouse

Encl.  
sw

SEP 15 1975 5 12  
DEPARTMENT OF STATE PLANNING  
PROJECT PLANNING

State Clearinghouse Project 75-6-883 - Draft EIS - Md. Rts. 2 and 4 from Md. Rt. 264 to Northern Approaches to New Patuxent River Bridge - Calvert County

At the request of the Water Resources Administration a Clearinghouse conference was held on August 27, 1975 at the Tawes State Office Building in Annapolis, Maryland. The purpose of the conference was to discuss directly with the State Highway Administration and the consultants our concerns regarding this draft assessment.

The discussions at this conference can be summarized as follows:

1. The Water Resources Administration pointed out that the temperature standards specified in Section III § 3 was not accurately stated in relation to Maryland's water quality standards.
2. The Water Resources Administration felt that the assessment was weak regarding scenic rivers considerations.
3. The Fisheries Administration felt the EIS is deficient in its assessment of the number of fish species occurring within the affected stream drainages. Only six fish species were listed as likely to occur within the streams intersecting the proposed alternate routes. They have enclosed a more comprehensive list of fish species known to occur within the Patuxent River tributaries as reported by Mansueti (1950). For the fish species reported the EIS does not address their tolerances for sedimentation which will occur during and after construction. In addition, there is no quantitative comparison of caused sedimentation or degrees thereof between the potential alignment alternatives. Some mention is made that sediment yields would be much less than 200 tons/acre/year; however, unless sediment yields for each alignment alternative can be predicted more accurately, their evaluation on this point remains extremely difficult.
4. Given the alternatives under consideration, the Department prefers 4B.

Commenting Agency: Maryland Department of Natural Resources

Response:

1. The referenced Maryland Water Quality temperature standards for Class I waters were modified as suggested (see page III-3).
2. The discussion of scenic rivers considerations has been expanded (see page V-40).
3. The more comprehensive listing of fish species known to occur in the Patuxent River tributaries has been incorporated into the Final EIS. (See Table 2) It should be noted that not all of the species are expected to occur in the streams crossed by the project. Fish species tolerances to sedimentation is addressed on page V-31. Quantitative comparisons of sediment yield for each alternative under consideration during corridor location studies are not feasible, as noted in the Draft EIS, due to limited information available regarding slopes etc. to be used for final design. A qualitative comparison of potential sediment problems at each stream crossing by alternative was included in the Draft EIS.
4. Alternate 4B is a modification in one area of Alternate 4, the selected Alternate. For most of the project length Alternate 4B would utilize the same alignment as Alternate 4.

256

To  
←

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: 6/26/75

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:		
2. Additional alternatives which should be considered:		
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:		
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:		
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:		
6. We identify issues which require further discussion of resolution as shown:		

Signature *William J. Perry*  
 Title *Analyst*  
 Agency *Calvert's Beach Perry*



257

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date:

6/17/75

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature: *Joseph K. Eldred*  
 Title: *Principal Site Planner*  
*Dpt of General Services*

Maryland Department of State Planning  
 State Office Building  
 301 West Preston Street  
 Baltimore, Maryland 21201

Date: July 8, 1975

258

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rto. 264 from Md. Rt. 264 to Northern Approached to  
 Now Patuxent River Bridge - Calvert Co.

State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature

*Jerold Littlejohn*

Title

Director

Agency Community Development Administration  
 Dept. of Economic and Community Development

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: August 11, 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature *Perry V. Williams*

Title Assistant State Superintendent

Agency Maryland State Department of Education

260

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: JUL 15 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.

State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature David H. Murray  
Title Director, Environ. Health Admin.  
Agency Dept. of Health & Mental Hygiene

Maryland Department of State Planning  
 State Office Building  
 301 West Preston Street  
 Baltimore, Maryland 21201

Date: August 15, 1975

261

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
 New Patuxent River Bridge - Calvert Co.  
 State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:		
2. Additional alternatives which should be considered:		
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:		
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:		
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:		
6. We identify issues which require further discussion of resolution as shown:		

We have reviewed this statement only for its effect on school sites as we do not feel qualified to assay the general physical, ecological and sociological effects of the proposal. We do not find any adverse effects on school sites.

Signature Lee J. Ritter  
 Title Executive Director

Agency Interagency for Public School Construction

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: JUN 30 1975

202

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	XX	
2. Additional alternatives which should be considered:	XX	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	XX	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	XX	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	XX	
6. We identify issues which require further discussion of resolution as shown:	XX	

Signature

*Robert Kelly*

Title

SECRETARY  
Department of Public Safety  
and Correctional Services

Agency

Maryland Department of State Planning  
 State Office Building  
 301 West Preston Street  
 Baltimore, Maryland 21201

Date: 8/1/75

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rto. 264 from Md. Rt. 264 to Northern Approached to  
 Now Patuxent River Bridge - Calvert Co.  
 State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature *N. Edward Boyce*  
 Title *Planner*  
 Agency *EIC*

264

Commenting Agencies:

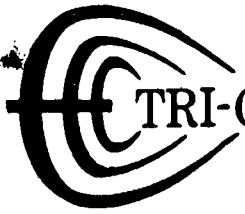
1. Maryland Department of Budget and Fiscal Planning
2. Maryland Department of General Services
3. Maryland Department of Economic and Community Development
4. Maryland Department of Education
5. Maryland Department of Health and Mental Hygiene
6. Maryland Inter-agency Committee for Public School Construction
7. Maryland Department of Public Safety and Correctional Services
8. Maryland Energy Policy Office

Response:

No response necessary to the above agencies, all of whom had no specific comments.



265



# TRI-COUNTY COUNCIL for SOUTHERN MARYLAND

P.O. BOX 301    WALDORF, MARYLAND 20601    301 645-2693

C. BERNARD FOWLER, Chairman  
GERALD C. McKINNEY, Executive Director

June 30, 1975

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT REVIEW**

**Applicant: State Highway Administration**

**Project: Draft EIS - Md. Rts. 2 & 4 from Md. Rt. 264  
to New Patuxent River Bridge - Calvert Co.**

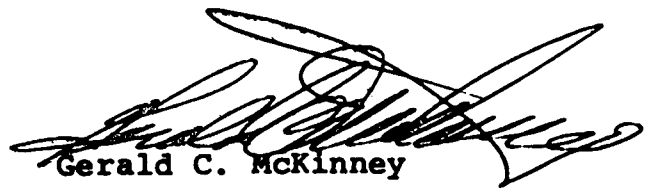
**State Clearinghouse Control Number: 75-6-883**

**State Clearinghouse Contact: J. W. McConnaughay 383-2499**

1. To what extent will drainage patterns and velocities of run-off to the streams in the area be modified?

A stream one to three feet in width may seem insignificant, but as part of the watershed of, e.g., St. Leonard's Creek, Hellen's Creek, a change in hydrologic pattern might be environmentally important.

2. Deer are cited as "not abundant." The kill in 1972-1974 averaged approximately 120 per year.



Gerald C. McKinney

266

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: June 30, 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

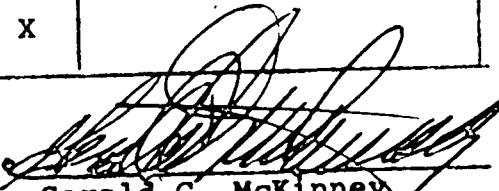
Applicant: State Highway Administration

Project: Draft EIS - Md. Rts. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.

State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:		X
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature   
 Title Gerald C. McKinney  
Executive Director

Agency Tri-County Council for So. Md.

267

Commenting Agency: Tri-County Council for Southern Maryland

Response:

1. Drainage patterns in the project area will be affected negligibly or not at all. Existing stream channels will be utilized to conduct away storm water runoff from the highway pavement. Existing streams will remain in their present location with no new channels being created. Drainage area size will not be appreciably altered.

Runoff velocities in streams conducting storm water flow away from the highway will be necessarily increased due to the addition of runoff from the impermeable roadway surface. The amount of impermeable surface added in relation to the size of the drainage basins is significant enough to cause only local changes in velocity.

2. Deer are not abundant in Calvert County in relation to the other areas of Maryland. Hunting Kill figures for 1974 from the Maryland State Wildlife Administration show that Calvert ranked 18th out of Maryland's 23 counties in deer killed by hunters.

Maryland Department of State Planning  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21201

Date: July 31, 1975

268

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Md. Rto. 264 from Md. Rt. 264 to Northern Approached to  
New Patuxent River Bridge - Calvert Co.  
State Clearinghouse Control Number: 75-6-883

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

Check (X) for each item

	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:		See Comment #1
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:		See Comment #2
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:		See Comment #3
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:		See Comment #4
6. We identify issues which require further discussion of resolution as shown:		See Comment #5

Signature

*L. Bowly*

Title

County Planner

Agency

Calvert County Planning Office  
Courthouse

Prince Frederick, Md. 20678

269

COMMENTS OF CALVERT COUNTY PLANNING OFFICE

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW, SHA  
STATE CLEARINGHOUSE #75-6-883

1. At the public hearing conducted by SHA on July 23 at the Appeal School an additional alternate was shown on maps reflecting a bypass to the east of St. Leonard located between the existing right-of-way and the BG & E power lines. This alternate alignment does not appear to be presented or discussed in the draft environmental impact statement.
2. In the Summary of Environmental Impacts, Page ii, Draft Environmental Statement, the statement is made that "improved access will encourage growth in the area stimulating the local economy. Because of the distance from major urban areas growth pressures should not, however, be overwhelming to the point that public facilities and services are over-taxes".

This statement does not appear to be well supported or documented by the study and appears to be a value judgment. Since public services and facilities such as community water and sewerage systems are not available in the project area, and are programmed only for the Solomons area, any growth pressures in areas parallel to the project area may require considerable investment of public funds for development of community facilities.

3. The project as described states in several places (Page ii) "If the existing alignment is utilized for the improvement, there will be no control of access". Even if the existing alignment is used there will be significant acquisition of additional properties for widening or relocation. It is recommended that in all cases where additional right-of-way is being acquired and particularly where the right-of-way is acquired in an undeveloped area that provision for some control of access be adopted.
4. By utilizing the best control measures available at the State and County levels, it is considered that environmental damage from this project can be kept within acceptable limits.
5. There are numerous small items which are incidental to the report (for example, descriptions of some historical sites) which should be corrected in the following report. A letter from this office to Mr. Eugene T. Camponeschi, Chief, Bureau of Project Planning, will be furnished prior to August 22 including such comments.

270

# CALVERT COUNTY PLANNING OFFICE

PRINCE FREDERICK, MARYLAND 20678

TELEPHONE 535-1600



LAWRENCE BOWLBY  
COUNTY PLANNER  
MIKE HOLSTUN  
ASSOCIATE PLANNER  
REENE CROUT  
SECRETARY

August 18, 1975

STATE HIGHWAY  
ADMINISTRATION  
PROJECT PLANNING

1975 AUG 20 AM 9 34

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

Dear Sir:

Comments of this office were furnished the Maryland Department of State Planning on July 31, 1975 as part of the A-95 review. A copy of those comments are attached as Enclosure 1.

Since receipt of the Environmental Impact Statement, the State Highway Administration has notified the Calvert County Commissioners (August 12, 1975) that the number of alignments had been reduced to two choices. Although the choices are somewhat different from the alternates described in the report, the report appears to adequately address the problems of environmental impact.

With reference to the historical site of Christ Church as described on Page III-32, the description as presented is not accurate. Christ Church has been nominated for inclusion in the National Register of Historical Places and the description as contained in that nomination is attached as Enclosure 2.

Sincerely,

*L. Bowlby*  
L. Bowlby  
County Planner

LB:rec

Attachments

Commenting Agency: Calvert County Planning Office

Response:

1. The alternate alignment cited is Alternate 4A. It was presented and discussed at the Public Hearing on July 23 and in the DEIS, as well as at earlier public meetings.
2. It is true that growth pressures in areas parallel to the project may require investment of public funds for development of community facilities. The extent of investment required will depend on future development trends which are difficult to predict at the present time. Any predictions of future growth, by their very nature, are reliant to a large extent on value judgments.
3. Selection of Alternate 4-4D will enable the State Highway Administration to provide partial control of access throughout the project length.
4. No response
5. The description of Christ Church has been modified to note its nomination to the National Register of Historical Places (page III-32 ).

272

*Maryland Historical Trust*  
 21 State Circle Annapolis, Maryland 21401  
 (301) 267-1212

June 25, 1975

Mr. Eugene T. Camponeschi, Chief  
 Bureau of Project Planning  
 State Highway Administration  
 300 West Preston Street  
 Baltimore, Maryland 21201

RE: Draft EIS; Md. Rt. 2 and 4  
 Contract No. C 243-034-574  
 From Md. Rt. 264 to the Northern  
 Approaches of the New Patuxent  
 River Bridge, Calvert County.  
 (SCH #75-6-883)

<input type="checkbox"/> CAMPONESCHI	<input type="checkbox"/> HELWIG	<input type="checkbox"/> JANATA
<input type="checkbox"/> DODSON	<input type="checkbox"/> HOFFMAN	<input type="checkbox"/> KOLLER
<input type="checkbox"/> DORSEY	<input type="checkbox"/> HOPKINS	<input type="checkbox"/> SCHNEIDER
<input checked="" type="checkbox"/> ECKHARDT	<input type="checkbox"/> HOUST	<input type="checkbox"/> UHL
<input type="checkbox"/> ECE	<input checked="" type="checkbox"/> INFO	<input type="checkbox"/> FILE
<input checked="" type="checkbox"/> ACT. ON		

REMARKS:

Dear Mr. Camponeschi:

In Section III, pages 31-35 of the above report, you have Christ Church listed as one of eight historic sites situated within the project study area. Please note that the National Register nomination form for Christ Church has been passed by the State Review Board, processed through the State Clearinghouse, and approved and signed by the Lieutenant Governor. The nomination form has been forwarded to the National Register and final approval and entry into the National Register is expected within the next two months. Parran's Park, another listed site, is described as a "mid-eighteenth century building with little more than the frame of the original structure left." In fact, Parran's Park was an early nineteenth century house, built in an eighteenth century style, and was razed by the Baltimore Gas and Electric Company about two years ago.

Although we have not yet had occasion to do so, we hope to soon survey those sites designated of historical significance by the consulting archaeologist, Dr. Kenneth Orr. A review of the listing of archaeological sites has resulted in interest and concern for sites numbered 2, 3, 4, 6, 9, and 10, and we hope to gather our own field data on these particular sites as soon as possible.

We continue to recommend that the existing Md. Rt. 2-4 alignment (Alternate 3) be utilized as much as possible, the only exceptions being in the immediate vicinity of Middleham Chapel, the Victorian Parran House, and Sharp's Outlet.

*Historical and Cultural Administration*  
 Department of Economic and Community Development




273

Mr. Eugene T. Camponeschi  
Page Two  
June 25, 1975

In view of the fact that widening the existing right-of-way from two to four lanes (plus median) will have an undesirable visual impact on these three properties we would hope that the two additional lanes will either be 1) moved west of each site, or 2) be screened by the planting of trees or large shrubbery within the dividing median strip.

Your attention to these areas of concern would be deeply appreciated.

Sincerely,

  
J. Richard Rivoire  
Architectural Historian

JRR:sh  
cc: Mr. Jerry Gettleman

SEARCHED  
SERIALIZED  
INDEXED  
FILED

Maryland Historical Trust

EMMSON  
C243-034-574



**Maryland Department of Transportation**

State Highway Administration

January 22, 1976

Harry R. Hughes  
Secretary  
Bernard M. Evans  
Administrator

RE: Contract No. C 243-34-574  
Maryland Route 2 and 4  
From Maryland Route 264 to  
Approaches of New Patuxent  
River Bridge

Mr. John N. Pearce  
State Historic Preservation Officer  
Maryland Historical Trust  
Shaw House  
21 State Circle  
Annapolis, Maryland 21401

Dear Mr. Pearce:

The State Highway Administration would like to obtain your opinions regarding the possible impacts of the historic resources in the captioned project area.

On June 25, 1975, J. R. Rivoire of the Maryland Historical Trust responded to the Draft Environmental Impact Statement prepared for this highway project. A copy of his letter is attached. Attached to the Trust's letter is the response, as prepared for the preliminary Final Environmental Impact Statement for the project.

After considerable evaluation of the alternative alignments presented in the Draft Environmental Impact Statement, Alternate 4 (with variations) has been recommended as the alignment of the Final Environmental Impact Statement. With the following information as a guide, it is hoped that the Trust will concur with the State Highway Administration as to the significance and effects on the historical sites in the affected area. The sites are:

1. Sharp's Outlet, Maryland Inventory #CT-41, near Port Republic. Presently, 75 feet south of the existing roadway, the farm house will be 490 feet to the north of the proposed alignment. As to historical value, the proposed construction will have no effect on the property.
2. Parker Creek Road House, OCT-86, near Port Republic. Presently 375 feet east of Route 2 and 4, the house will be about 1150 feet east of the proposed realignment. No effect is anticipated.
3. Dry Goods Store, not listed on the Inventory, near Port Republic. The store is 125 feet north and east of the existing road. The proposed route will be about 1150 feet south of this 20th century building. No effect is anticipated.

Mr. John N. Pearco  
January 22, 1976  
Page 2

- 4. Parren House, QCT-50, at Parren Road and Route 2 and 4. Now about 150 feet from the existing road; will be an additional 100 feet away with the proposed alignment. No effect is anticipated.
- 5. Middleham Church, QCT-60, has been nominated for inclusion in the National Register of Historic Places. Currently an Historic District 9.72 acres. Presently tangent to the existing road. The chosen alternate is to be about 1950 feet west of the Middleham area. No effect will result.

Additionally, Christ Church, mentioned in Rivoire's letter, is over 2,000 feet away from any of the alternates mentioned in the Draft Environmental Impact Statement. Although it was nominated for inclusion in the National Register, the church was not included in the roster of investigated historical sites due to distance from the project area and separating topography. Nevertheless, no impact on the site is likely from construction of the selected highway alignment.

The State Highway Administration offers the following opinions for your consideration and concurrence:

- a. Of the sites mentioned above, only Middleham and Christ Churches are eligible for inclusion in the National Register;
- b. None of the sites mentioned will receive any significant effect from the proposed alignment. Noise analyses predict a + 1 dBA increase over present ambient levels for all historic sites if the proposed alternate is constructed. Due to the increase in distances to the (proposed) highway, no visual impact is anticipated at any historical site. Therefore, the State Highway Administration believes a determination of "no effect" is in order for the above mentioned historic sites in relation to the selected alternate; and
- c. Should any property associated with the historic structures be intruded upon, it is understood that compliance with Section 4(f) of the Department of Transportation Act (49 USC 1653 (f)) is required.

In a continued effort for total coordination among pertinent agencies, the State Highway Administration requests that the Trust respond to the opinions expressed in this letter. Would you also address whether Christ Church has been placed on the National Register.

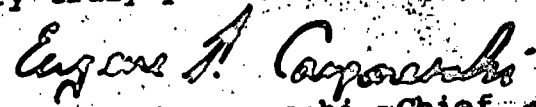
276

Mr. John N. Pearce  
January 22, 1976  
Page 3

Should you desire additional material or information, please do not hesitate to contact Margaret Ballard of this office.

Your prompt attention to this project would be greatly appreciated, as the Final Environmental Impact Statement is near completion, pending your response.

Very truly yours,



Eugene T. Camponeschi, Chief  
Bureau of Project Planning

ETC:MMB:bh  
Attachments

cc: Ms. Margaret Ballard  
Mr. Foster T. Hoffman

277



# The Maryland Historical Trust

Shaw House, 21 State Circle, Annapolis, Maryland 21401  
301: 267-1212 or 301: 267-1438

February 10, 1976

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

RE: Contract No. C 243-34-574  
Md. Rt. 2 and 4 from Md. Rt. 264  
to New Patuxent River Bridge

ADMINISTRATION  
PROJECT PLANNING

1976 FEB 13 PM 12 04

Dear Mr. Camponeschi:

This office has received your letter of January 22, 1976, concerning the above project.

The Maryland State Historic Preservation Officer concurs with your determination of significance of known historic sites and of effects as expressed in the letter of January 22, 1976. This does not apply to archaeological sites.

Christ Church was entered on to the National Register on November 12, 1975.

Sincerely,

John N. Pearce  
State Historic  
Preservation Officer

JNP:NAM:sh  
cc: Brice M. Clagett  
William Clevenger

278

Commenting Agency: Maryland Historical Trust

Response: The description of Parran's Park has been clarified (see page III-34). Christ Church was entered in the National Register on November 12, 1975.

The visual impact of the project on Sharp's Outlet, Parran House and Middleham Chapel has been lessened through selection of Alternate 4, which is further removed from each site than is the existing road.

7 AUG 75 10: 54

279



THOMAS A. RYMER  
CALVERT COUNTY  
ECONOMIC AFFAIRS COMMITTEE

HOUSE OF DELEGATES  
ANNAPOLIS, MARYLAND 21404

HOME ADDRESS:  
BOX 208  
PRINCE FREDERICK, MARYLAND 20678

July 29, 1975

Mr. Bernard M. Evans  
State Highway Administrator  
State Office Building  
301 West Preston Street  
Baltimore, Maryland 21202

Dear Mr. Evans:

I was unfortunately unable to attend the SHA Hearing last week on the alignment of Rt. 2/4 south of Rt. 264 but would like to make a few comments for the record and for your consideration.

In reviewing the Draft Environmental Statement prepared by the Federal Highway Administration and your department, it is apparent that the several alternatives were carefully considered and objectively evaluated as to the advantages and disadvantages of each. It seems fairly obvious from a careful reading of these that the present route, basically alternates 3 and 3-A, are the least desirable. You are proposing, and designing, a 60 mph road which, with unlimited access, would not only be infeasible, it would be folly.

The safety of our citizens is one of the main reasons for the new road. On the other hand, to provide lower speed limits would be totally impractical when one considers that this highway construction is primarily to expedite traffic flow between points, i.e., the Naval Air Station in St. Mary's County to points north or from the Baltimore-Washington area to the Chesapeake Ranch Club-Solomons area. If the lower Chesapeake Bay Bridge is even a remote possibility, then it seems to me that we should now recognize that we may be building a highway to carry - primarily - people in a hurry to go someplace else.

I do not believe a by-pass of St. Leonard will have the adverse impact on local businesses which was voiced at the meeting. Considering that some 80% of the traffic would be transient, i.e., sailors from the Base heading out on leave or hurrying back to the base; campers fully equipped at home heading for a weekend at the Naval Recreation Center; etc., most of these travelers will not use local businesses other than possibly service stations. As for local traffic, they would most likely pass the commercial areas on their way from east or west, to the highway. Also, local residents have definite shopping in mind and will go out of their way to their favorite store.

Furthermore, while the Patuxent River Bridge has been highly touted as being economically helpful to Calvert County, I have always felt that it will hurt local business from Prince Frederick south. Housewives from Solomons will think twice before driving 15 miles to Prince Frederick when they can drive 5 miles across the Bridge to large shopping centers in Lexington Park.

280

Commenter:

Thomas A. Rymer, Maryland House of Delegates

Response:

The Maryland State Highway Administration agrees with many of Mr. Rymer's comments and the conclusions reached are the same as the State Highway Administration. However, one item in Mr. Rymer's comment should be clarified; while Alternate 3 does have the highest right-of-way cost, it does not have the highest total cost. In fact, it does have the lowest total cost, a feature shared with Alternate 4D.



281

APPENDIX A

CORRESPONDENCE REGARDING

AIR POLLUTION ANALYSIS

282



Maryland Department of Transportation

State Highway Administration

January 8, 1975

Henry B. Lusk  
Secretary  
Department of Transportation  
Administration

RE: Calvert County  
Contract No. C 243-034-574  
Maryland Route 2 and 4  
From Maryland Route 264 to  
the Northern Approaches of  
the New Patuxent River Bridge  
AIR ANALYSIS

Mr. Daniel Snyder, III  
Regional Administrator  
Region III  
Curtis Building  
Sixth and Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Mr. Snyder:

The State Highway Administration is currently preparing a Draft Environmental Impact Statement for the subject project. As you are cognizant, an integral part of an Environmental Impact Statement is a determination of any impact the proposed action may have on the current and future air quality.

The subject project is located in Calvert County which is in the Southern Maryland Air Quality Control Region. This indicates the air quality presently meets the State of Maryland and National Ambient Air Quality Standards. There are no sites in the area where ambient levels of carbon monoxide are now monitored, however, estimates made by the Maryland Bureau of Air Quality Control indicate background levels of carbon monoxide to be between 1 and 2 ppm.

Because this project is contiguous with another section of Maryland Route 2 and 4, on which an air analysis was recently performed, we would like to complete a negative air declaration for the subject project based on that analysis.

The analysis on Maryland Route 2 and 4 between Maryland Route 402 to Maryland Route 264 was limited to paper modeling for carbon monoxide. The analysis resulted in the finding that the concentrations of carbon monoxide at sensitive receptors varied distances, 35 feet - 150 feet, from the roadway were substantially below the National Ambient Air Quality Standards.

We believe this approach should be considered because parallel conditions pertinent to air quality and dispersion characteristics exist between the two projects. These significant similar conditions are meteorology, topography, traffic flow and mix, and highway configuration.

Mr. Daniel Snyder, III  
January 8, 1975  
Page 2

1223

As mentioned earlier, both projects are located in Calvert County, which is approximately forty miles long and an average of eight miles wide. The physical land topography throughout the county ranges from level plains to rolling hills, with natural grades ranging from 0 to 30 percent. There are no serious or significant differences in either highway corridor topography that would restrict dispersion and cause the development of localized stagnation conditions.

The land use in the two corridors is also similar with wooded and agricultural land abutting the highway with a few scattered residences and major communities. The subject project has only one major community, St. Leonard, along the corridor.

Because the two projects are contiguous to each other and the topography is similar, it is reasonable to assume that the meteorological parameters of wind velocity, wind direction, and atmospheric stability class, provided by the Maryland Bureau of Air Quality Control for the previous analysis, will very likely be applicable to the subject project. When modeling the "worst" case in the previous analysis, a wind speed of one meter per second and an "F" stability class were used. Wind direction was varied to cause the "worst" concentrations at a particular receptor. Obviously, because the terrain is similar, the running of the models on the subject project will result in similar concentrations attained in the previous analysis.

The traffic volumes and speeds will be somewhat lower and consequently slightly faster on the subject project as compared to the previously analyzed section of roadway. The Average Daily Traffic on the upper section is approximately 23,200 in the year 1996. The Average Daily Traffic in 1996 on the subject project ranges from a high of 20,325 at the northern and beginning termini of the project to a low of 11,350 at the ending termini. The reduction in volumes and increase in speeds should produce even lower carbon monoxide concentrations than found in the previous analysis. The percent of Average Daily Traffic of Heavy Duty Vehicles is 2 percent higher on the subject project, but the Design Hour Volume is the same.

The typical section of both projects will be similar with 2-24 foot roadways separated by a variable 16 foot - 50 foot median. Both sections of the roadway will be predominately at-grade with a minimum of cut section.

284

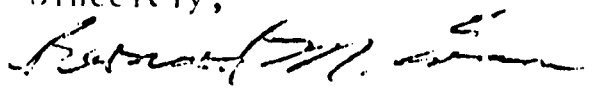
Mr. Daniel Snyder, III  
January 8, 1975  
Page 5

Based on these similarities, we believe that the two projects will have similar air quality impacts and it would be reasonable to perform a negative air declaration for the subject project. The rationale for this approach would be explained by citing the extremely low concentrations which resulted from the earlier analysis.

We would appreciate it if you would consider this methodology and concur in our recommendation of a negative air declaration. If any additional information is required, do not hesitate to contact us.

Please find attached maps and traffic data for the subject project.

Sincerely,



Bernard M. Evans  
State Highway Administrator

Attachment

- bcc: Honorable Louis L. Goldstein
- Honorable Harry R. Hughes
- Mr. Northam B. Friese
- Mr. Robert J. Hajzyk
- Mr. Charles R. Anderson
- Mr. Eugene T. Camponeschie
- John E. Harms, Jr. & Assoc.
- S. J. Rosen Assoc. Inc.



Maryland Department of Transportation

State Highway Administration

January 8, 1975

285  
Isthy H. Hughes  
Secretary  
Bernard M. Evans  
Administrator

RE: Calvert County  
Contract No. C 243-034-574  
Maryland Route 2 and 4  
From Maryland Route 264 to  
the Northern Approaches of  
the New Patuxent River Bridge  
AIR ANALYSIS

Mr. Daniel Snyder, III  
Regional Administrator  
Region III  
Curtis Building  
Sixth and Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Mr. Snyder:

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The analysis on Maryland Route 2 and 4 between Maryland Route 402 to Maryland Route 264 was limited to paper modeling for carbon monoxide. The analysis resulted in the finding that the concentrations of carbon monoxide at sensitive receptors varied distances, 35 feet - 150 feet, from the roadway were substantially below the National Ambient Air Quality Standards.

We believe this approach should be considered because parallel conditions pertinent to air quality and dispersion characteristics exist between the two projects. These significant similar conditions are meteorology, topography, traffic flow and mix, and highway configuration.

281  
Mr. Daniel Snyder, III  
January 8, 1975  
Page 2

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The land use in the two corridors is also similar with wooded and agricultural land abutting the highway with a few scattered residences and major communities. The subject project has only one major community, St. Leonard, along the corridor.

Because the two projects are contiguous to each other and the topography is similar, it is reasonable to assume that the meteorological parameters of wind velocity, wind direction, and atmospheric stability class, provided by the Maryland Bureau of Air Quality Control for the previous analysis, will very likely be applicable to the subject project. When modeling the "worst" case in the previous analysis, a wind speed of one meter per second and an "F" stability class were used. Wind direction was varied to cause the "worst" concentrations at a particular receptor. Obviously, because the terrain is similar, the running of the models on the subject project will result in similar concentrations attained in the previous analysis.

The traffic volumes and speeds will be somewhat lower and consequently slightly faster on the subject project as compared to the previously analyzed section of roadway. The Average Daily Traffic on the upper section is approximately 23,200 in the year 1996. The Average Daily Traffic in 1996 on the subject project ranges from a high of 20,325 at the northern and beginning termini of the project to a low of 11,350 at the ending termini. The reduction in volumes and increase in speeds should produce even lower carbon monoxide concentrations than found in the previous analysis. The percent of Average Daily Traffic of Heavy Duty Vehicles is 2 percent higher on the subject project, but the Design Hour Volume is the same.

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287

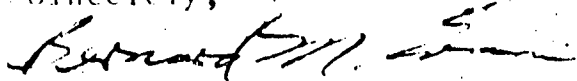
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We would appreciate it if you would consider this methodology and concur in our recommendation of a negative air declaration. If any additional information is required, do not hesitate to contact us.

Please find attached maps and traffic data for the subject project.

Sincerely,



Bernard M. Evans  
State Highway Administrator

Attachment

bcc: Honorable Louis L. Goldstein  
Honorable Harry R. Hughes  
Mr. Northam B. Friese  
Mr. Robert J. Hajzyk  
Mr. Charles R. Anderson  
Mr. Eugene T. Camponeschi ✓  
John E. Harms, Jr. & Assoc.  
S. J. Rosen Assoc. Inc.



289  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS  
PHILADELPHIA, PENNSYLVANIA 19106

February 14, 1975

Mr. Bernard M. Evans  
State Highway Administrator  
Maryland Department of Transportation  
P.O. Box 717  
300 West Preston Street  
Baltimore, Maryland 21203

Re: Air Analysis, Maryland Routes 2 and 4 from Maryland Route 264  
to New Patuxent River Bridge

Dear Mr. Evans:

This review responds to your request of January 8, 1975 for EPA's comments on the consistency of the above referenced highway improvement.

Although we do not believe as a general rule that an air analysis for one project can adequately address the air quality impacts of another facility we do concur in the approach that you have used in this instance. Our reasons are:

1. The projects are adjacent and have similar topographical and meteorological parameters.
2. You state that traffic volumes on this facility will be lower and congestion will be less.
3. Similar types of improvements are proposed.
4. The area is not highly developed.
5. The air analysis for Maryland Routes 2 and 4 (from Route 402 to 264) was a proper worst case analysis. (See our response of January 13, 1975.)

STATE HWY ADM

19 FEB 75 3:58



289

Based on the above considerations we believe that the proposed project is consistent with the State Air Implementation Plan.

Thank you for the opportunity to comment on this project.

Sincerely yours,



Nicholas M. Ruha  
Chief  
EIS and Wetlands Review Section

cc: Mr. R. Ackroyd, FHWA  
Mr. W.H. White, FHWA  
Mr. W. Bonta, MD BAQC



290

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS  
PHILADELPHIA, PENNSYLVANIA 19106

January 13, 1975

RECEIVED

JAN 16 1975

Mr. Robert J. Hajzyk  
Director, Office of Planning and  
Preliminary Engineering  
Maryland Department of  
Transportation  
P.O. Box 717  
Baltimore, Maryland 21203

DIRECTOR  
OFFICE OF PLANNING & PRELIMINARY ENGINEERING

Re: Maryland Routes 2 and 4, Supplemental Air Analysis

Dear Mr. Hajzyk:

We have reviewed your transmittal of December 23, 1974 and concur with your determination that the supplemental air analysis is adequate and the proposed project is consistent with the State Air Implementation Plan.

Our files indicate that we never received a copy of the final EIS for the project. We would appreciate a copy of the final EIS for our files and for future reference.

Thank you for the opportunity to comment on this project.

Sincerely yours,

*Nicholas M. Ruha*

Nicholas M. Ruha  
Chief  
EIS and Wetlands Review Section

cc: Mr. R. Ackroyd, FHWA  
Mr. W.H. White, FHWA  
Mr. W. Bonta, Md.BAQC  
Mr. W. Belinger, EPA

291

February 24, 1975

Re: Calvert County  
Contract No. C 243-034-574  
Maryland Route 2 & 4 From  
Maryland 24 to the Northern  
Approaches of the New Patuxent  
River Bridge  
Air Analysis

Mr. William Bonta, Chief  
Division of Programming, Planning  
and Evaluation  
Maryland Bureau of Air Quality Control  
610 North Howard Street  
Baltimore, Maryland 21201

Dear Mr. Bonta:

The State Highway Administration is currently preparing a Draft Environmental Impact Statement for the subject project. As you are cognizant, the subject project is contiguous with another section of Maryland Route 2 & 4 (Maryland Route 402 to Maryland Route 24) on which an air analysis was recently performed. The analysis for that project showed there would not be a violation of National Ambient Air Quality Standards. We are currently proposing to complete a negative declaration for the subject project based on the former analysis. Our rationale for the approach is explained in the attached letter addressed to Mr. Daniel Snyder of the Environmental Protection Agency. We would appreciate it if you would review that letter and provide us with your comments and, if acceptable, your concurrence.

Feb 14, 1975

Also attached is a letter of concurrence from the Environmental Protection Agency to use this approach on this specific project. Included in the attachments is traffic data for the subject project and a corridor map showing the various alternatives.

If any further information or data is required, do not hesitate to contact this Bureau.

Very truly yours,

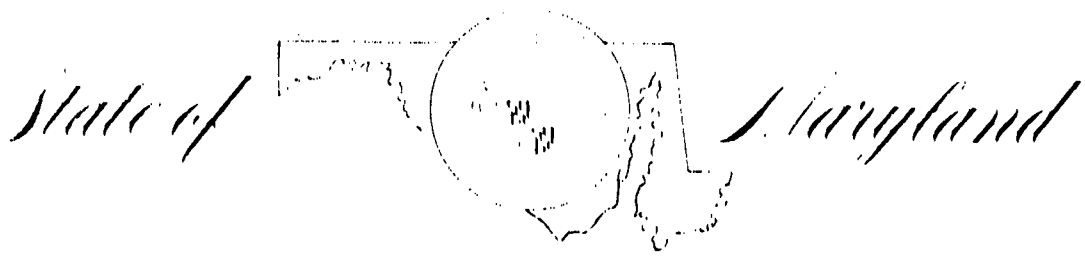
Eugene T. Campaneschi, Chief  
Bureau of Project Planning

ETC:odc

Attachments

cc: Mr. R. J. Eajay  
Mr. C. A. Anderson  
✓ Mr. F. T. Hoffman

292



DEPARTMENT OF HEALTH AND MENTAL HYGIENE  
Not a Doctor, M.D., Ph.D., Secretary  
ENVIRONMENTAL HEALTH ADMINISTRATION  
201 W. Preston St. • BALTIMORE, MARYLAND 21201 • Area Code 301 • J83- 3245

March 5, 1975

Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

Dear Mr. Camponeschi:

RE: Contract No. C 243-034-574 Maryland Route 2 & 4 from Maryland Route 264 to the Northern Approaches of the New Patuxent River Bridge - Air Analysis

The Bureau of Air Quality and Noise Control has received your letter of February 24, 1975 requesting concurrence in the submittal of a Negative Declaration for the above project. In that letter, you suggested that a negative declaration was justified by an earlier analyses which was performed for an adjacent segment of the same facility.

We concur in your findings based on the reasons outlined in your letter. Namely, the earlier modelling indicated that carbon monoxide concentrations will be substantially below ambient air quality standards, the two segments are similar in meteorology and topography, the traffic counts are projected to be even lower than the segment already analyzed, and the subject facility is in a low density, rural area.

Thank you for this opportunity to offer our comments.

Sincerely yours,

William K. Bonta, Chief  
Division of Program Planning & Evaluation  
Bureau of Air Quality and Noise Control

WKB:AMD:bac  
MAY 19 11 54  
PROJECT PLANNING

✓  
✓  
✓

APPENDIX B

DETAILED CHARTS

Residential and Business Displacement Totals  
and  
Availability of Replacements

Bureau of Relocation Assistance  
Office of Real Estate  
380 West Preston Street - Room 402  
Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION  
OF THE  
DEPARTMENT OF TRANSPORTATION  
OF MARYLAND

S.H.A. 63-D-SP-1 (10-35-74) Page 1 Preliminary Relocation Studies  
Maryland Project: C 242-35-570 Federal Aid Project: P 623-7(16)  
Route: Kd. Rts. 2 & L, Id. 25L to Lower Fairburn Tric  
Alternate Number: 3 General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Stage Study  Final Environmental Impact Statement  Acquisition Stage Study

RESIDENTIAL OCCUPANTS AND IMPROVEMENTS AFFECTED

COUNTY STATE	DAYS	DAYS	YR.	NO.	TYPE OF CONSTRUCTION						AGE					ROOMS					SQUARE FEET				ESTIMATED VALUE IN \$	
					BRICK	FRAME	CONC.	ST.	SP. DET.	RM	W/STY FAN.	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up	\$0-20	\$20-50
SPR	70	70	70		5	60	5	71				15	37	18	1	5	16	40	7	1	1	21	16	2	25	43
TRAIL	3	4	4			3		2				1	1	1	1	1		2							1	2
TOTALS	73	74	74		5	63	5	73				16	38	19	2	6	16	42	7	1	2	22	15	2	26	45

RESIDENTIAL IMPROVEMENTS AVAILABLE

COUNTY STATE	DAYS	TYPE OF CONSTRUCTION						AGE			ROOMS					SQUARE FEET									
		BRICK	FRAME	CONC.	ST.	SP. DET.	RM	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up					
SPR	1		1					1			1						1								
TRAIL	31	2	20	10	31			11	13	2		3	9	14	4	1	1	9	18	3					
TOTALS	29	3	14	7	29			12	15			4	11	10	4		3	15	8						
TOTALS	61	3	35	17	61			25	34	2		4	13	25	14	5	7	13	36	11					

NO.	WEEKLY RENT							APR.	ROOMS
	\$0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$300	\$300 to \$350	\$350 to \$400		
1									
2				2					2
3			1						1
4 up									

Source: Realtors in Calvert County, local newspapers and field observation.

Source: S&TC

BUSINESSES, FARMS, AND NON-PROFIT ORGANIZATIONS AFFECTED

COUNTY STATE	BUSINESSES				FARMS				NON-PROFIT ORGANIZATIONS			
	LEASE	CONC.	W/STY	SP. DET.	LEASE	CONC.	W/STY	SP. DET.	REL.	SEC.	DET.	SP.
SPR	15			70							1	2
TOTALS	15			70							1	2

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	BUSINESSES	NON-PROFIT	FARMS
LEASE			
CONC.			
TOTALS			

Source: \_\_\_\_\_  
Remarks: Three other occupied, and one tenant occupied mobile homes.  
Iushy Post Office

Estimated average family size 4  
Estimated total number persons affected: 26  
Estimated total number of minority group members affected: 10, number of owner occupied dwellings: 0, number of tenant occupied dwellings: 0, and number of mobile homes: 0

Estimated number of minority owned or operated businesses: \_\_\_\_\_  
Estimated number of minority employees: 5  
Estimated number of minority owned or operated farms: \_\_\_\_\_  
Estimated number of minority employees: \_\_\_\_\_  
Estimated number of minority non-profit organizations: \_\_\_\_\_  
Estimated number of minority employees: \_\_\_\_\_

Signature: \_\_\_\_\_  
DATE: \_\_\_\_\_

462

Division of Reclamation Activities  
Office of Real Estate  
11 West Prince Street - Room 402  
Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION  
OF THE  
DEPARTMENT OF TRANSPORTATION  
OF MARYLAND

S.N.A. 63,0-UP-1 (10-25-74) Page 1 Preliminary Data Studies  
Maryland Project: C 243-35-570 Federal Aid Project: F 920-1 (1)  
Route: Md. Rte. 2 & 4, Md. 264 to Lower Patuxent Bridge

Alternate Number: 3+3a General File #: 6722

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Stage Study  Final Environmental Impact Statement  Acquisition Stage

ALL OCCUPANTS AND EMPLOYEES APPROVED

PROJECT ROAD	DATE	DFA. DATE	PAR. NO.	ID.	TYPE OF OCCUPANCY										MOBILE				EMPLOYED				EMPLOYED (BY TYPE)			
					CHURCH	FRANCH.	GEN.	OFF.	IND.	RETAIL	RESTAURANT	BAR	11-30	31	1	2	3	4	5	6	7	8	9	10	11	12
RD 66	66	66	66		5	56	5	67				15	33	18	1	5	16	37	6	1	1	18	45	2	25	33
RD 3	3	4	4			3		2				1	1	1	1	1		2			1	1	2		1	2
TOTAL	69	70	70		5	59	5	69				16	34	19	2	6	16	39	6	1	2	19	47	2	26	41

ALL EMPLOYEES APPROVED

PROJECT ROAD	DATE	TYPE OF OCCUPANCY								MOBILE				EMPLOYED												
		CHURCH	FRANCH.	GEN.	OFF.	IND.	RETAIL	RESTAURANT	BAR	11-30	31	1	2	3	4	5	6	7	8							
RD 1	1								1																	
RD 31	31	1	20	10	31				11	18	2		3	9	14	6	1	1	9	18	3					
RD 29	29	8	34	7	29				14	15			4	11	10	4			3	18	8					
TOTAL	61	9	35	17	61				25	34	2		4	13	25	14	5	1	13	36	11					

DATE	MONTHLY RENT						LTV	%
	0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$300	\$300 to \$75		
1								
2				2				
3			1					
4								

ALL OCCUPANTS AND EMPLOYEES APPROVED

PROJECT ROAD	TYPE OF OCCUPANCY				MOBILE				EMPLOYED				
	CHURCH	FRANCH.	GEN.	OFF.	11-30	31	1	2	3	4	5	6	7
RD 12				39								1	2
TOTAL				39								1	2

APPROVED REPLACEMENT SITE

TYPE OF ROAD	REPLACEMENT	DATE
RD 12		
TOTAL		

Address: \_\_\_\_\_  
 Three owner occupied, and one tenanted mobile home Lushy Post Office  
 \_\_\_\_\_  
 \_\_\_\_\_

Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_

Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_  
 Estimated value of property owned or operated by business: \_\_\_\_\_

APPROVED (DATE)

(DATE)

2-21-75

295

Bureau of Relocation Assistance  
 Office of Real Estate  
 100 West Preston Street - Room 401  
 Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION  
 OF THE  
 DEPARTMENT OF TRANSPORTATION  
 OF MARYLAND

S.H.A. 6) ACP-1 (10-35-76) Page 1 Preliminary Relocation Studies  
 Maryland Project: C-243-35-570 Federal Aid Project: F 923-1(16)  
 Form No.: Md. Pte. 7 E & G; Md. 26L to Lower Patuxent Bridge  
 Alternate Number: 4 General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Stage Study  Final Environmental Impact Statement \_\_\_\_\_ Acquisition Stage Study \_\_\_\_\_

RESIDENTIAL OCCUPANTS AND IMPROVEMENTS AFFECTED

OCCUPANT STATUS	UNITS	FAM. UNITS	FAM. NO.	TYPE OF CONSTRUCTION								AGE								BROWS				BROWNS				ESTIMATED VALUE (000's) OR NEW (NEW LIST)				
				BLK	FRAM	CON.	IN.	SEN. INT.	ROW	MULTI FAM.	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up	\$0-\$20	\$20-\$50	\$50						
OWNER OCCUPIED	6	6	6		5	1	6				1	2	3	1				1	3	2							5	1		4	2	
TENANT OCCUPIED		1	1																1													
TOTALS	6	7	7		5	1	6				1	2	3	1	1	1	3	2								1	5	1	4	2		

RESIDENTIAL IMPROVEMENTS AVAILABLE

APPROXIMATE VALUE RANGE (000's)	UNITS	TYPE OF CONSTRUCTION								AGE								BROWS				BROWNS										
		BLK	FRAM	CON.	IN.	SEN. INT.	ROW	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up												
\$0-\$20	1		1					1																								
\$20-\$50	31	1	20	10	31			11	10	2		3	0	14	4	1	1	0	10	3												
\$50-\$100	29	0	14	7	20			14	15					4	11	10	4		3	18	6											
TOTALS	61		35	17	61			25	24	2		4	11	25	14	5	1	13	26	11												

SER.	APPROXIMATE VALUE RANGE (000's)							APPT.	TOTALS
	\$0-\$20	\$20-\$50	\$50-\$100	\$100-\$200	\$200-\$500	\$500-\$1000	\$1000+		
1									
2				2				2	
3			1					1	
4 up									

Realtors in Calvert County, local newspapers, and field observation.

BUSINESSES, FARMS, AND NON-RESIDENTIAL BUILDINGS AFFECTED

OCCUPANT STATUS	BUSINESSES					FARMS			NON-RESIDENTIAL BUILDINGS				
	RETAIL	OWN.	WFR.	CHAS.	OP.	BABY	CATTLE	TRUCK	SP.	RFL.	SOC.	INT.	IND.
OWNER	2					6							
TENANT													
TOTALS	2					6							

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	BUSINESSES		FARMS	
	OWN.	WFR.	OWN.	WFR.
SALE				
LEASE				
TOTALS				

Source: \_\_\_\_\_  
 Remarks: Two other occupied mobile homes

Estimated average family size 4  
 Estimated total number persons affected 24  
 Estimated total number of minority group members affected n/a, number of owner occupied facilities n/a, number of tenant occupied facilities n/a, and number of individuals n/a

Estimated number of minority owned or operated businesses \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_  
 Estimated number of minority owned or operated farms \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_  
 Estimated number of minority non-residential commercial buildings \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_

Signature: \_\_\_\_\_ DATE: \_\_\_\_\_

2410



Division of Baltimore Association  
 Office of Real Estate  
 110 West Preston Street - Room 121  
 Baltimore, Maryland 21201

STATE HIGHWAY ADAPTATION  
 OF THE  
 DEPARTMENT OF TRANSPORTATION  
 OF MARYLAND

S.H.A. 03.0-07-1 (10-25-75) Page 1 Preliminary Environmental Studies  
 Maryland Project: C 243-35-570 Federal AID Project: F 923-1 (16)  
 Terminal: Md. Rte. 2 & 4, Md. 264 to Lower Patuxent Bridge  
 Alternate District 4, 4b General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Study  Final Environmental Impact Statement  Acquisition Study

NON-RESIDENTIAL OCCUPANTS AND IMPROVEMENTS AFFECTED

CONTACT INFO	CHAS.	DYS. ESTS.	PAR.	IND.	TYPE OF OCCUPANCY USE							AGE								SEXES				OPTIMIZED VALUE (CEN'S) OR RENT (CEN. USE)						
					CHUR.	FRAC.	COOP.	INT.	SEM. INT.	ROW	INVEST PAR.	0-10 YRS.	11-20 YRS.	21 YRS. UP	3	4	5	6	7	8	9	1	2	3	4	50-570	570-650	650 -		
OWN	8	8	8			7	1	8					1	4	3	1			1	4	2				5	2		6	2	
TENANT		1	1													1										1				
TOTAL	8	9	9			7	1	8					1	4	3	1	1	1	1	4	2				1	5	2	6	2	

RESIDENTIAL IMPROVEMENTS AVAILABLE

FOR SALE

AGREED RENT VALUE (CEN'S)	CHAS.	TYPE OF OCCUPANCY USE							AGE			SEXES																		
		CHUR.	FRAC.	COOP.	INT.	SEM. INT.	ROW	0-10 YRS.	11-20 YRS.	21 YRS. UP	3	4	5	6	7	8	9	1	2	3	4									
0-10	1		1		1				1								1													
11-20	31	1	20	10	31			11	18	2			3	9	14	4	1	1	9	18										3
21-30	29	8	14	7	29			14	15					4	11	10			3	18										8
TOTAL	61	9	35	17	61			25	34	2			4	13	25	14	5	1	12	36										11

FOR RENT

CHAS.	PROPERTY RENT							APT.	TOTALE
	0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$300	\$300 & UP	TOTAL		
1									
2				2				2	2
3			1					1	1
4									

OWNERS, PARTNERS, AND NON-PROFIT ORGANIZATIONS AFFECTED

CONTACT INFO	INDIVIDUAL					PARTNERS				NON-PROFIT ORGANIZATIONS			
	RETAIL	WHOLE	SPCL.	CO-OP.	CP.	CHUR.	OFFICE	TRUCK	CP.	REF.	SOC.	INST.	EXP.
OWN	2				6								
TENANT													
TOTAL	2				6								

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	CUBIC FEET	NON-PROFIT	PAGES
SALE			
RENT			
TOTAL			

Remarks: There are four owner occupied mobile homes!

Estimated average family size 4  
 Estimated total 16  
 Estimated total number of minority group members excluded \_\_\_\_\_  
 Estimated number of minority group members excluded \_\_\_\_\_  
 Estimated number of minority group members excluded \_\_\_\_\_  
 Estimated number of minority group members excluded \_\_\_\_\_  
 Estimated number of minority group members excluded \_\_\_\_\_

Estimated number of minority owned or operated businesses \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_  
 Estimated number of minority owned or operated farms \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_  
 Estimated number of minority non-profit organizations \_\_\_\_\_  
 Estimated number of minority employees \_\_\_\_\_

297

Richard C. Hunter

2-2-75

(AGENT'S NAME)

(DATE)

Bureau of Reclamation Activities  
 Section of Real Estate  
 325 West Peachtree Street - Room 120  
 Atlanta, Georgia 30303

STATE HIGHWAY ADMINISTRATION  
 OF MD  
 DIVISION OF TRANSPORTATION  
 & HIGHWAYS

S.R.A. 63.0-07-1 (10-13-76) Page 1 Preliminary Release/Description  
 Maryland Project: C 243-35-570 Federal Aid Project: F 923-1(16)  
 Vertical: Md. Rte. 2 & 4, Md. 264 to Lower Potomac Bridge

Alternate Route: 3, 4, 4 General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Design Study  Final Environmental Impact Statement  Application Stage Study

EMPLOYMENT OCCUPATIONS AND EMPLOYERS AFFORDED

CONTRACT DATE	DAYS	PAR.	NO.	TYPE OF OCCUPATION								SEX								ESTIMATED VALUE (000's) OF BIDD (TYPE 10)								
				CLERK	TRAC	OPR.	OP.	OP.	OP.	OP.	OP.	MALE	FEM.	1	2	3	4	5	6	7	8	9	10	11	12			
CITY OCCUPIED	20	20	20	4	15	2	20					3	14	3			2	5	7	4	2		8	9	3	3	15	2
TOTAL OCCUPIED		1	1											1								1						
TOTAL	20	21	21	4	15	2	20					3	14	3			2	5	7	4	2		8	9	3	3	15	2

EMPLOYMENT PROJECTS AVAILABLE

AGEED FOR BIDD (00's)	DAYS	TYPE OF OCCUPATION								SEX																			
		CLERK	TRAC	OPR.	OP.	OP.	OP.	OP.	OP.	MALE	FEM.	1	2	3	4	5	6	7	8	9	10								
0-5	1		1		1									1															
5-10	31	1	20	10	31							11	18	2			3	9	14	4	1	1	9	18	3				
10-15	29	8	14	7	29							14	15				4	11	10	4			3	18	8				
TOTAL	61	9	35	17	61							25	34	2			4	13	25	14	5	1	13	36	11				

DAYS	EMPLOYMENT						APP.	TOTAL
	0-5	5-10	10-15	15-20	20-25	25-30		
1								
31					2			2
29			1					1
61								1

EMPLOYMENT OCCUPATIONS AND EMPLOYERS AFFORDED

CONTRACT DATE	TYPE OF OCCUPATION								SEX																			
	CLERK	TRAC	OPR.	OP.	OP.	OP.	OP.	OP.	MALE	FEM.	1	2	3	4	5	6	7	8										
CITY OCCUPIED	6													12														
TOTAL	6													12														

EMPLOYMENT PROJECTS AVAILABLE

DAYS	EMPLOYMENT		
	0-5	5-10	10-15
6			
12			
12			

Indicate which of the following applies to the information below:  
 No other occupied mobile homes.

Estimated number of jobs available: 6  
 Estimated total number of jobs available: 16  
 Estimated total number of minority employees: 4  
 Estimated total number of minority employees: 4

Estimated number of minority employees: N/A  
 Estimated number of minority employees: N/A  
 Estimated number of minority employees: N/A  
 Estimated number of minority employees: N/A

(DATE OF REPORT)

(DATE)

2-21-75

Division of Real Estate Assistance  
 Office of Real Estate  
 100 West Preston Street - Room 402  
 Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION  
 OF THE  
 DEPARTMENT OF TRANSPORTATION  
 OF MARYLAND

S.P.A. 63,000-1 (10-15-74) Page 1 Preliminary Relocation Studies  
 Maryland Project: 243-35-570 Federal Aid Project: F 923-1 (16)  
 Format: Md. Rte. 2 & L, Md. 264 to Lower Patuxent bridge  
 Alternate Number: 44C General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement X Conceptual Stage Study X Final Environmental Impact Statement \_\_\_\_\_ Acquisition Stage Study \_\_\_\_\_

RESIDENTIAL OCCUPANTS AND EXPERIENCES AFFECTED

OCCUPANT TYPE	FAMIL.	IND. UNITS	FAM.	IND.	TYPE OF CONSTRUCTION										AGE				BYNS				EXPOSURE				ESTIMATED VALUE (\$100's OR NEW (SEE 12))					
					CRK	FRAC	COOP.	SP.	SEM. DET.	ROW	REPLT. PAR.	0-10 YRS.	11-30 YRS.	31 YRS. UP	1	2	3	4	5	6	7	8	9	1	2	3	4	50-60	60-80	81		
RESIDENTIAL	8	8	8			6	2	8				1	3	4	1			1	3	3	1						5	3		5	3	
COMMERCIAL		1	1															1														
TOTALS	8	9	9			6	2	8				1	3	4	1	1	1	3	3	1						1	5	3		5	3	

RESIDENTIAL IMPROVEMENTS AVAILABLE

SPEED RATED HOME (SQ. FT.)	FAMIL.	TYPE OF IMPROVEMENT							AGE				DOCS				EXPOSURE							APT.	EXPOS.									
		CRK	FRAC	COOP.	SP.	REPLT. PAR.	0-10 YRS.	11-30 YRS.	31 YRS. UP	1	2	3	4	5	6	7	8	9	1	2	3	4												
RESIDENTIAL	1		1		1					1				1																				
COMMERCIAL	31	1	20	10	31					11	18	2		3	9	14	4	1	1	9	18	3											2	2
INDUSTRIAL	29	8	14	7	29					14	15				4	11	10	4		3	18	8											1	1
TOTALS	61	9	35	17	61					25	34	2		4	13	25	14	5	1	12	36	11												

SECRET

INDUSTRIAL, FARM, AND OTHER-USE CONFLICTS AFFECTED

OCCUPANT TYPE	INDUSTRIAL					FARM				OTHER-USE CONFLICTS			
	MAN.	REL.	IND.	COOP.	SP.	CRK	COOP.	IND.	SP.	REL.	DOC.	IND.	SP.
INDUSTRIAL	2				6								
TOTALS	2				6								

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	INDUSTRIAL		FARM	
	IND.	SP.	IND.	SP.
INDUSTRIAL				
FARM				
TOTALS				

SECRET

Deleter: Two other occupied mobile homes

Estimated total of directly displaced persons: 16  
 Estimated total of indirectly displaced persons: 16  
 Estimated total of displaced persons: 32

Estimated total of directly displaced persons: N/A  
 Estimated total of indirectly displaced persons: N/A  
 Estimated total of displaced persons: N/A

Robert R. [Signature] 2-21-75  
 (DATE)

299

Division of Relocation Assistance  
Office of Real Estate  
300 West Preston Street - Room 122  
Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION  
OF THE  
DEPARTMENT OF TRANSPORTATION  
OF MARYLAND

F.H.A. 63.0-07-1 (10-25-74) Page 1 Preliminary Relocation Studies  
Maryland Project: C 243-35-570 Federal Aid Project: 3 923-1(1E)  
Route: Md. Rte. 2 & 1/2, Md. 264 to Lower Patuxent Bridge  
Alternate Number: 411C44 General File No. 67522

Indicate which of the following applies to the information below: Draft Environmental Impact Statement  Conceptual Stage Study  Final Environmental Impact Statement  Acquisition Stage Study

RESIDENTIAL OCCUPANTS AND IMPROVEMENTS AFFECTED

OCCUPANCY STATUS	UNCLD.	DPLD. UNITS	FAM.	IND.	TYPE OF CONSTRUCTION										AGE				ROOMS				APPROX. VALUE (\$00's)						
					BRICK	FRAME	CONV.	DET.	SEM. DET.	ROW	MULTI FAM.	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up	90-200	200-500	500 -		
OWNER OCCUPIED	6	6	6			5	1	6				1	3	2	1			1	2	2	1					5	1		
TENANT OCCUPIED		1	1												1										1				
TOTALS	6	7	7			5	1	6				1	3	2	1	1	1	1	2	2	1				1	5	1	5	1

RESIDENTIAL IMPROVEMENTS AVAILABLE

APPROX. VALUE RANGE (\$00's)	UNCLD.	TYPE OF CONSTRUCTION						AGE			ROOMS				B'ROOMS														
		BRICK	FRAME	CONV.	DET.	SEM. DET.	ROW	0-10 YRS.	11-30 YRS.	31 YRS. UP	3	4	5	6	7	8 up	1	2	3	4 up									
00-20	1		1		1				1			1							1										
20-40	31	1	20	10	31			11	18	2		3	9	14	4	1	1	9	18	3									
40 -	29	8	14	7	29			14	15			4	11	10	4			3	18	8									
TOTALS	61	9	35	17	61			25	34	2		4	13	25	14	5	1	13	36	11									

NR.	NEWLY B'W:						APP.	UNCLD.	TOTALS
	0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$500	\$500 & UP			
1									
2				2				2	2
3			1					1	1
4 up									

BUSINESSES, FARMS, AND NON-PROFIT ORGANIZATIONS AFFECTED

OCCUPANCY STATUS	BUSINESSES					FARMS				NON-PROFIT ORGANIZATIONS			
	RETAIL	GENL.	INDUS.	CHUR.	OSP.	DARY	CATTLE	TRUCK	OSP.	REL.	SOC.	INT.	OSP.
OWNER	1				3								
TENANT													
TOTALS	1				3								

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	BUSINESSES	NON-PROFIT	FARMS
LEASE			
TOTALS			

Sources: \_\_\_\_\_  
Remarks: Three owner occupied mobile homes

Estimated average family size 4  
Estimated total number persons affected 28  
Estimated total number of minority group members affected \_\_\_\_\_, number of owner occupied facilities \_\_\_\_\_, number of tenant occupied facilities \_\_\_\_\_, and number of individuals \_\_\_\_\_

Estimated number of minority owned or operated businesses \_\_\_\_\_  
Estimated number of minority employees \_\_\_\_\_  
Estimated number of minority owned or operated farms \_\_\_\_\_  
Estimated number of minority employees \_\_\_\_\_  
Estimated number of minority non-profit organizations \_\_\_\_\_  
Estimated number of minority employees \_\_\_\_\_

Signature: [Signature] (RELOCATOR'S WITNESS)  
Date: 2-21-75 (DATE)

300

APPENDIX C

Project Correspondence from:

1. Citizens Petition
2. State Clearinghouse - A-95 Review
3. State of Maryland, Department of Natural Resources, Planning and Evaluation Section
4. Planning Commission of Calvert County
5. Maryland Historical Trust
6. Maryland Park Service
7. U. S. Navy

STATE HIGHWAY ADMINISTRATION

P. O. Box 717 / 300 West Preston Street, Baltimore, Maryland 21203

District 85

FILE 302

IN HOUSE

CONSULTANT

MEMORANDUM

DATE: October 28, 1974

TO: Mr. Hugh G. Downs  
Chief Engineer

FROM: Arnold L. Gardner  
Highway District Engineer

SUBJECT: Contract C 243-34-571  
F.A.P. No. F-923-1 (16)  
Maryland Route 2 and 4, From Maryland  
Route 264 to New Patuxent River Bridge

Enclosed is a letter and petition submitted to this office by Mr. Marshall S. Gibson, Sr. in support of Alternate #3 on the subject project.

ALG:fg  
Enclosure

cc: Mr. E. Camponeschi w/enc. ✓

Harms & Assoc 11-27-74

STATE HIGHWAY  
ADMINISTRATION  
PROJECT PLANNING

1974 OCT 30 AM 9 14

✓	CAMPONESCHI	___	HELWIG	___	JANATA
___	DORSEY	✓	HOFFMAN	___	KOLLER
___	ECKHARDT	___	HOPKINS	___	SCHNEIDER
___	EGE	___	HOUST	___	UHL
✓	ACTION	✓	INFO	___	COPIES

REMA .KS:

303

St. Leonard, Maryland 20685  
October 25, 1974

Mr. Arnold L. Gardner  
District Engineer  
State Highway Administration  
Post Office Box 160  
Prince Frederick, Maryland 20678

RE: Dualization of Maryland  
Route 2 and 4

Dear Mr. Gardner:

Enclosed is a petition signed by concerned citizens of St. Leonard regarding the future dualization of Maryland Route 2 and 4. It should be noted that the residents signing this petition are in favor of Alternate #3 and some of them will be directly affected by the dualization of this highway.

Sincerely,



Marshall S. Gibson, Sr.  
H. B. Trueman Lumber Company, Inc.

MSG:fg

Enclosure



9 September, 1974

PETITION

WE, THE UNDERSIGNED BUSINESSMEN, RESIDENTS AND CITIZENS, REQUEST THE DEPARTMENT OF TRANSPORTATION TO USE ALTERNATE #3, THE PRESENT LANES OF ROUTES #2 AND #4 RUNNING THROUGH ST. LEONARD, AS THE NEW SOUTHBOUND LANE (WHEN DUALIZED) AND THAT THE NORTHBOUND LANE (WHEN DUALIZED) BE LOCATED EAST OF AND IMMEDIATELY ADJACENT TO THE EXISTING LANES OF ROUTE #2 AND #4.

NAME	ADDRESS
Ernest E. Bays	St Leonard Md.
Herbert D. Bland	St Leonard Md.
St Leonard Elyon	St Leonard Md.
Harvey Wood	" " "
James E. Weston	" " "
Western Grocery	" " "
Buehler Bros.	" " "
Buehler Bros.	" " "
P. B. Entenman	" " "
Trans P. Buehler	" " "
Marshall Gibson	" " "
Thomas J. Young	" " "
William H. Johnson	" " "
Robert H. Johnson	" " "
Cliffs Motor Inn	" " "
St Leonard Beach & Motel Corp	St Leonard, Md.
St Leonard Beach & Motel Corp	St Leonard, Md.
Eric R. Kepton	St Leonard, Md.
Barley B. Maggard	St Leonard Md.
Viggo S. Thomsen	St Leonard, Md.
Stanley A. Tress	St Leonard Md.
Eric L. Howell	St Leonard, Md.
William H. Thomsen	St Leonard Md.
W. H. Thomsen	St Leonard Md.
Thomsen Gas	St Leonard Md.
H. P. Thompson Lumber Co	St Leonard, Md.
Marshall P. Johnson, Jr.	St Leonard, Md.



July 27, 1973

EDWIN J. POWELL  
DEPUTY SECRETARY

705

AM 11 29

Mr. William F. Sprague  
Chief, Bureau of Program Scheduling and Control  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

SUBJECT: PROJECT NOTIFICATION AND REVIEW

Applicant: State Highway Administration

Project: Md. Rts. 2 and 4 - Md. Rt. 204 to New Patuxent Bridge -  
Preliminary Engineering

Funds: Federal - \$289,000; State - \$339,000

State Clearinghouse Control Number: 73-5-328

State Clearinghouse Contact: Warren D. Hodges (383-2467)

Dear Mr. Sprague:

The State Clearinghouse has reviewed the above project. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments (copies attached) from the following:

Bureau of Air Quality Control: advised of the need to address certain concerns in the Environmental Impact Statement and that construction operations must conform to the Maryland Regulations Governing the Control of Air Pollution in Area V.

Department of Natural Resources: expressed further interest in the project and particular interest in coordinating with the Administration to assure satisfactory ingress and egress Calvert Cliffs State Park. The Department noted the need to consider the Scenic River designation of the Patuxent River in the development of this project, the impact of the project on specific wetland units, and culvert design that will permit the free passage of fish.

60

306

STATE OF MARYLAND

July 27, 1973

EDWIN J. POWELL, JR.  
DEPUTY SECRETARY

AM 11 29

Mr. William T. Sprague  
Chief, Bureau of Program Scheduling and Control  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

SUBJECT: PROJECT NOTIFICATION AND REVIEW

Applicant: State Highway Administration

Project: Md. Rts. 2 and 4 - Md. Rt. 204 to New Patuxent Bridge -  
Preliminary Engineering

Funds: Federal - \$389,000; State - \$339,000

State Clearinghouse Control Number: 73-5-328

State Clearinghouse Contact: Warren D. Hodges (283-2467)

Dear Mr. Sprague:

The State Clearinghouse has reviewed the above project. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments (copies attached) from the following:

Bureau of Air Quality Control: advised of the need to address certain concerns in the Environmental Impact Statement and that construction operations must conform to the Maryland Regulations Governing the Control of Air Pollution in Area V.

Department of Natural Resources: expressed further interest in the project and particular interest in coordinating with the Administration to assure satisfactory ingress and egress Calvert Cliffs State Park. The Department noted the need to consider the Scenic River designation of the Patuxent River in the development of this project, the impact of the project on specific wetland units, and culvert design that will permit the free passage of fish.

60

As a result of the review, it has been determined that the proposed project is in accord with State plans, programs, and objectives as of this date. Approval and funding are recommended.

A copy of this letter must be attached to your formal application. Please notify this State Clearinghouse of the filing date and the amount of Federal funds requested as soon as the application is submitted by completing and forwarding the enclosed, self-addressed card. If you have any questions, please contact the State Clearinghouse member named above.

Sincerely,

*[Handwritten Signature]*  
Vladimir Wahbe

Enc.

- ( : Kenneth Barnes
- Gail Moran
- George Fererri
- Anthony Abar
- Robert Young
- Robert J. Hajnyk
- Jerry L. White
- Roland M. Thompson
- Eugene T. Camponeschi ✓
- Anthony W. Brajevich

JAMES B. COULTER  
SECRETARY.

STATE OF MARYLAND

304  
JOSEPH H. MANNING  
DEPUTY SECRETARY

DEPARTMENT OF NATURAL RESOURCES  
TAWES STATE OFFICE BUILDING  
ANNAPOLIS 21401

January 25, 1974

RECEIVED

JAN 29 1974

Mr. Edward M. Presnell  
John Harms and Associates  
P. O. Box 5  
Pasadena, Maryland 21122

JOHN E. HARMS, JR. & ASSOC.

Dear Mr. Presnell:

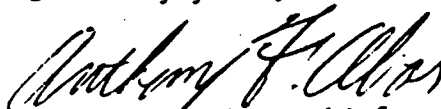
This letter is in regard to a meeting held on December 7, 1973 concerning Route 2-4 from Maryland Route 264 to the lower Patuxent River Bridge. At that meeting personnel from the Department of Natural Resources brought to your attention numerous environmental factors which may be affected by this roadway. We also listed several concerns which should be studied and detailed in the environmental impact statement. These concerns include: (1) protecting existing wetlands, (2) controlling sediment and erosion in order to protect anadromous fish streams, (3) allowing for fish passages where culverts are contemplated, (4) protecting eagle nesting areas and Calvert Cliffs State Park, and (5) providing roadside fishing access.

I have included wetland maps and inventory data concerning this section of Calvert County for your information. I have also included our most recent anadromous fish survey report for the Patuxent Watershed.

Another topic discussed at the meeting concerned specific subject matter the environmental impact statement should detail. The environmental impact statement should; (1) identify critical habitat/landscape areas in order to avoid locating borrow and waste areas or storage facilities near these areas; (2) address those provisions which permit safe passage of wildlife or fish life in and through the construction area; and (3) address ways and means to contain pollutants, such as sediment, on site and not permit them to impact adjacent wetland areas.

If you have any questions or require further information, please contact Mr. Louis G. Hecht, Jr. of my staff.

Sincerely yours,

  
Anthony F. Abar, Chief  
Planning and Evaluation

AFA/ras  
Enclosure

cc: Mr. William F. Schneider

# PLANNING COMMISSION OF CALVERT COUNTY

PRINCE FREDERICK, MARYLAND 20678

TELEPHONE 535-1600

JOHN A. PROLIT  
CHAIRMAN  
LAWRENCE ROWE  
COUNTY PLANNING



April 18, 1974

Director, Office of Planning and  
Preliminary Engineering  
State Highway Administration  
300 West Preston Street  
Baltimore, Maryland 21201

Dear Sir:

With reference to Contract No. C 243-034-574, reconstruction of Maryland Routes 2 & 4 from Maryland Route 264 to the Patuxent River Bridge, the following comments are provided for your consideration.

- (a) The location of the Calvert Cliffs Nuclear Power Plant adjacent to the roadway poses some special problems and considerations. For example, nuclear fuels and waste nuclear by-products may be moved over the roadway into and out of the plant; some extra design features may be desirable because of this type traffic. The existence of the nuclear power plant imposes a requirement by AEC for a mass evacuation plan for the area; requirement of this plan should be considered in the design of the reconstructed or new roadway.
- (b) The existing roadway is hazardous for the volume of traffic currently carried primarily because of heavy peak loads (during weekday morning and evening hours, and during the summer on Friday evenings and Sunday evenings) and also because of numerous no passing zones which result from poor vertical and horizontal alignment. The numerous individual and commercial entrances onto the existing roadway also create a hazard to through-traffic. Improvement of the existing road bed can only partially overcome the hazards caused by the existing grades and curves and by the numerous entrances.
- (c) It appears that the ideal solution (without regard to cost) would be to build a completely new four lane limited access road. This obviously would be excessive in cost with relation to the anticipated traffic and some compromise must be found. A less expensive solution would be to use the existing roadway for north bound traffic and to construct

310

- (c) a new two lane roadway for south bound traffic. Another alternative might be to continue use of the existing roadway with minor improvements as a secondary road and construct a new two lane controlled access road between Solomons and Prince Frederick; in the long term this solution might move the greatest amount of traffic at the least cost, with the most safety, and with the least environmental and economic impact.
- (d) Several spots along the roadway will be especially critical, such as the alignment in the vicinity of St. Leonard, the crossing of the tributaries of St. Leonard's Creek and the road development in the area of Johnstown, Lowell and Newtown.

The Planning Office of Calvert County is most anxious to cooperate and coordinate with your office in every way possible in the development of the best possible transportation system for the County. If the undersigned can be of any assistance, please feel free to call or write.

Sincerely,

*L. Bowlby*  
 L. Bowlby  
 County Planner

LB:rec

Info Copy: County Commissioners  
 County Engineer

311

*Maryland Historical Trust*  
*2525 Riva Road Annapolis Maryland 21401*  
*(301) 267-5087*

December 2, 1974

**Mr. Eugene T. Camponeschi**  
**Chief, Bureau of Project Planning**  
**State Highway Administration**  
Maryland Department of Transportation  
300 West Preston Street  
Baltimore, Maryland 21203

RE: Calvert County Maryland 2&4  
Contract No. C 243-034-574  
F.A.P. No. F 923-1(16)  
Maryland Route 264 to New Patuxent  
River Bridge

Dear Mr. Camponeschi:

Thank you for your letter of November 22, 1974, requesting a review of the above project.

Two members of our staff, Mr. Finglass and Mr. Rivoire, surveyed the area in question and have expressed concern that the proposed route, utilizing the existing Maryland Route 2-4, alignment, would have a serious environmental impact on several historic sites in the project area.

The sites which would be adversely affected are:

1. Ct-60, Middleham Chapel, a recent nomination to the National Register
2. CT-50, Parran House
3. CT-41, Sharp's Outlet
4. CT-86, Parker Creek Road House, (a house near Sharp's Outlet not previously included in our inventory but now listed)

Although other alternate routes have been presented we feel the existing alignment remains the best, and will prevent even less desirable encroachments on other areas of the county.

We believe if the existing right-of-way is utilized several alterations to the routing can and should be made. On the attached maps we have shown alterations that would minimize the visual impact of the road on these sites.

*Historical and Cultural Administration*  
*Department of Economic and Community Development*

312

Mr. Eugene T. Camponeschi  
Page Two  
December 2, 1974

The movement of the roadway to the west of Middleham Chapel and the Parran House will prevent the visual impact a road of this size would most assuredly have on these buildings and their picturesque rural settings.

Altering the road to a location west of Sharp's Outlet and the Parker Creek Road House will prevent bisecting the small community at Port Republic with a major road. There are several buildings here of note, including an early twentieth century dry goods store, of which there are few remaining examples in Southern Maryland.

We hope you will give these proposals all possible consideration and we would appreciate any comments, positive or negative, which you might have.

Sincerely,

John N. Pearce  
Deputy State Historic  
Preservation Officer

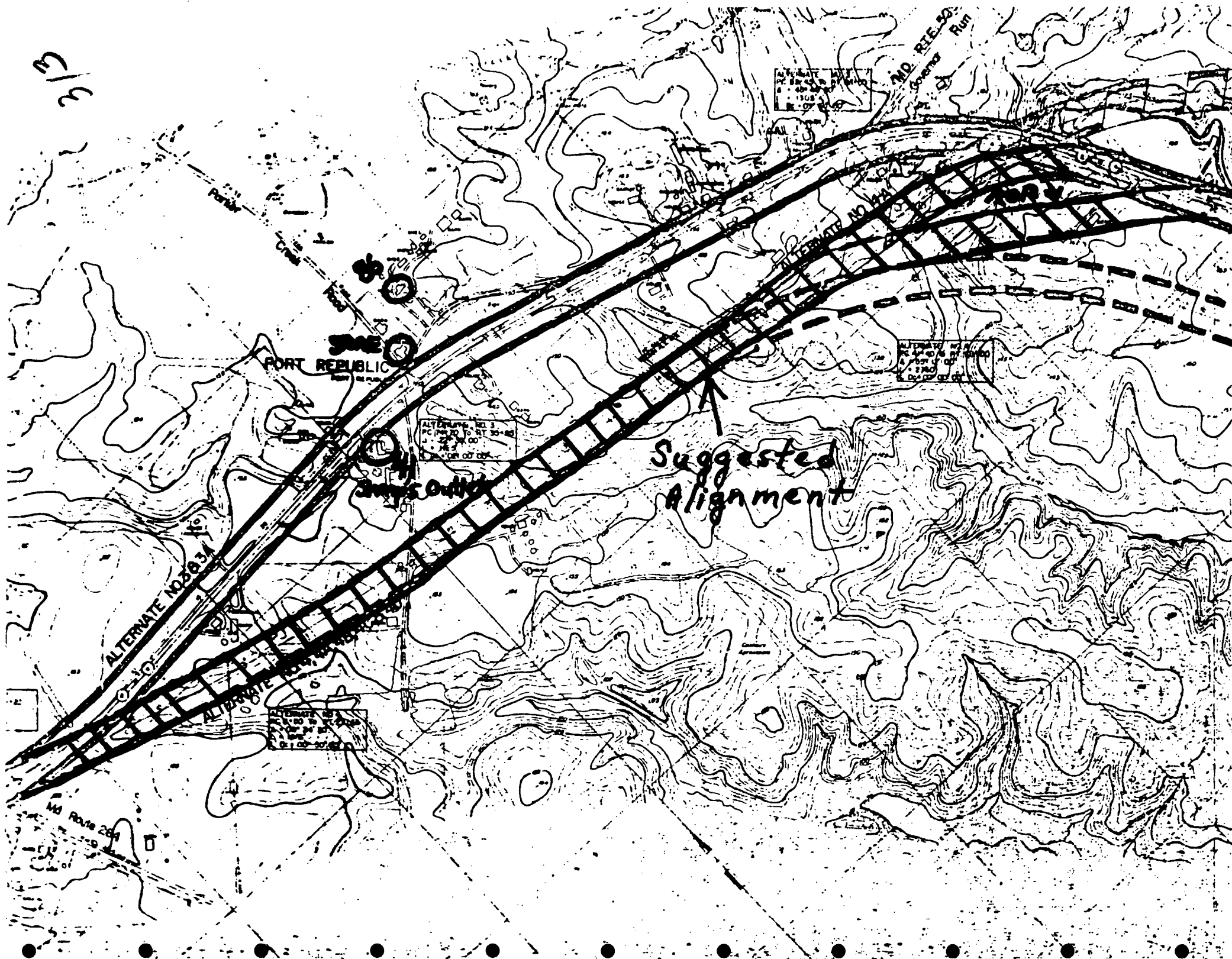
JNP:JRR:sh

Enclosures

cc: ~~Mr.~~ Joseph Layton  
Mr. Jack Finglass  
Mr. J. Richard Rivoire



3/3



PORT REPUBLIC

MD. RTE. 30  
Governor Run

ALTERNATE NO. 1  
PC (to 100 ft 30' 30')  
PT (to 100 ft 30' 30')

ALTERNATE NO. 3  
PC (to 100 ft 30' 30')  
PT (to 100 ft 30' 30')

ALTERNATE NO. 4  
PC (to 100 ft 30' 30')  
PT (to 100 ft 30' 30')

ALTERNATE NO. 2  
PC (to 100 ft 30' 30')  
PT (to 100 ft 30' 30')

ALTERNATE NO. 5  
PC (to 100 ft 30' 30')  
PT (to 100 ft 30' 30')

Suggested Alignment

Md. Route 269

B.G. & E. Co

Transmission

ALTERNATE NO 4-A

WILLIAMS  
DANIEL P. STREET

QUAKERS

ALTERNATE NO 4-B

ALTERNATE NO 3  
PC 240+00 TO PT 264+35  
S. 10° 45' 00"  
D. 1975  
D. 0+ 00' 00" 00'

ALTERNATE NO 3B 3A

ALTERNATE NO 3 B 4  
PC 252+00 TO PT 270+25  
S. 20° 30' 00"  
D. 1975  
D. 0+ 00' 00" 00'

ALTERNATE NO 3 B 3A

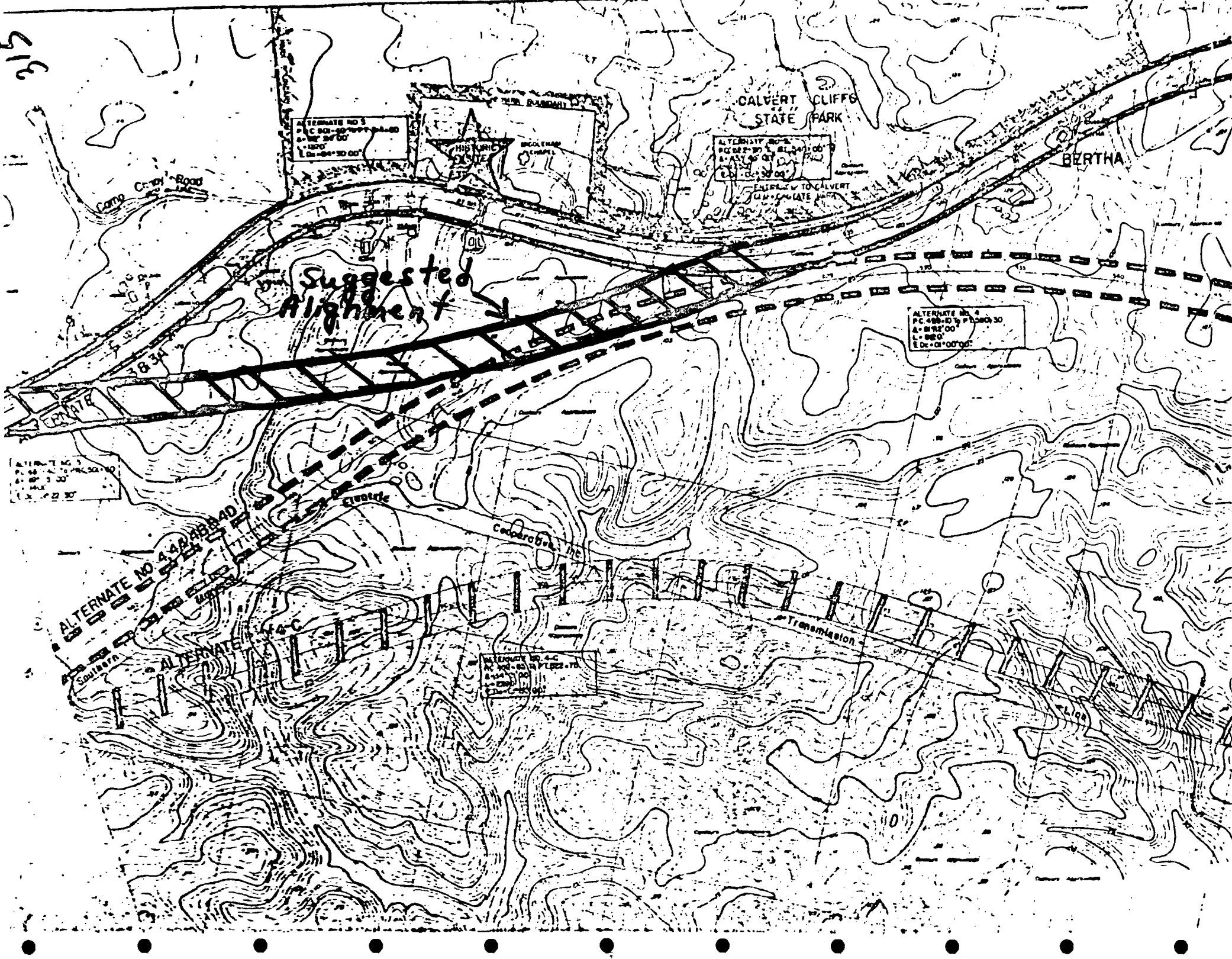
ALTERNATE NO 3 B 3A  
PC 240+00 TO PT 264+35  
S. 10° 45' 00"  
D. 1975  
D. 0+ 00' 00" 00'

Suggested  
Alignments

ALTERNATE NO 4  
PC 207+00 TO PT 215+00  
S. 65° 00' 00"  
D. 1975  
D. 0+ 00' 00" 00'

314

513



ALTERNATE NO. 3  
 PC 801+00 TO PA 800+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 84+30 00'

ALTERNATE NO. 4  
 PC 801+00 TO PA 800+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 84+30 00'

ALTERNATE NO. 4  
 PC 488+00 TO PA 488+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 41+00 00'

ALTERNATE NO. 3  
 PC 488+00 TO PA 488+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 41+00 00'

ALTERNATE NO. 4  
 PC 488+00 TO PA 488+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 41+00 00'

ALTERNATE NO. 4  
 PC 488+00 TO PA 488+00  
 Δ = 18° 30' 00"  
 L = 100+00  
 E.C. = 41+00 00'

CALVERT CLIFFS  
 STATE PARK

BERTHA

HISTORIC SITE

Cedar Grove, Inc.

Transmission

Suggested Alignment

Camp Creek Road

3834

3837

44C

40

316

FILE

IN HOUSE  
 CONSULT



JAMES B. COULTER  
SECRETARY

JOSEPH H. MANNING  
DEPUTY SECRETARY

STATE OF MARYLAND  
DEPARTMENT OF NATURAL RESOURCES  
CAPITAL PROGRAMS ADMINISTRATION  
TAWES STATE OFFICE BUILDING  
ANNAPOLIS, MARYLAND 21401  
301-267-5344

NOVEMBER 25, 1974

MR. EUGENE T. CAMPONESCHI  
CHIEF, BUREAU OF PROJECT PLANNING  
STATE HIGHWAY ADMINISTRATION  
STATE OFFICE BUILDING  
300 WEST PRESTON STREET  
BALTIMORE, MARYLAND 21201

File C243-034-574  
F.A.P. No. F923-1 (16)

DEAR MR. CAMPONESCHI:

MEMBERS OF THIS DEPARTMENT INCLUDING MR. PARR, DIRECTOR OF THE MARYLAND PARK SERVICE, AND I, MET WITH MR. DONALD ECKHARDT OF YOUR OFFICE TO DISCUSS THE EFFECT OF ROUTE 2 RELOCATION ON CALVERT CLIFFS STATE PARK. AT THIS STAGE OF PLANNING, WE DO NOT SEE ANY SIGNIFICANT CONFLICT BETWEEN THE PROPOSED ALIGNMENTS AND THE PARK. THE FOLLOWING ISSUES WILL NEED SOME ATTENTION AS PLANNING PROGRESSES: DESIGN OF THE ENTRANCE ROAD; EFFECT OF NOISE ON ACTIVITY AREAS WITHIN THE PARK; AND THE CHARACTER OF PRIVATE LAND USE IN THE VICINITY OF THE PARK, AS AFFECTED BY HIGHWAY DESIGN AND ACCESS.

WE UNDERSTAND THAT WE WILL BE RECEIVING INFORMATION ABOUT ACOUSTICAL EFFECTS OF THE VARIOUS ALIGNMENTS IN THE NEXT SEVERAL MONTHS. WITH THAT INFORMATION, WE MAY WISH TO EXPRESS A PREFERENCE FOR ONE OF THE ALIGNMENTS. WE ALSO UNDERSTAND THAT CLOSE COORDINATION WILL OCCUR IN THE DESIGN PHASE TO INSURE COMPATIBILITY BETWEEN THE HIGHWAY AND THE PARK ENTRANCE.

SINCERELY YOURS,

JOHN R. CAPPER  
DIRECTOR  
LAND PLANNING SERVICES

ADDITIONAL ACTION  
PROJECT PLANNING

1974 NOV 27 AM 10 20

JRC:BRM  
CC: WILLIAM A. PARR  
Harms & Assoc. Inc.  
Mel Beall 12-2-74

CAMPONESCHI     HELWIG     JANATA  
 DORSEY     HOFFMAN     KOLLER  
 ECKHARDT     HOPKINS     SCHNEIDER  
 EGE     HOUST     UHL  
 ACTION     INFO     COPIES

REMARKS:



DEPARTMENT OF THE NAVY  
CHESAPEAKE DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
BUILDING 57, WASHINGTON NAVY YARD  
WASHINGTON, D.C. 20374

IN REPLY REFER TO:  
20  
11010

MAR 19 1975

State of Maryland  
State Highway Administration  
300 West Street  
Baltimore, Maryland 21201

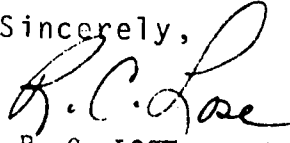
C243-034-574  
F 923-1 (16)

Gentlemen:

The Chesapeake Division Planning Department, Naval Surface Weapons Center/White Oak Laboratory, Naval Surface Weapons Center/Solomons Branch, and the Naval Recreation Center have reviewed the information contained in the Maryland Department of Transportation letter dated 19 February 1975, from Robert J. Hajzky, Director, Office of Planning and Preliminary Engineering. It was determined that Sketch 3, enclosed in the letter, has no significant impact on the Navy Reservation and meets with our approval subject to the following considerations:

- a. The highway design will include provisions for a new entrance road into the Naval Reservation opposite the fire house crossover. The crossover will contain adequate left turn holding lanes.
- b. Adequate holding lanes will be provided for vehicles turning right into the new Naval Reservation entrance road.
- c. The state will provide adequate right turning lanes into the existing Naval Reservation entrance.
- d. The Naval Reservation will have the option to utilize the existing entrance for emergency or "peak load traffic" use after the new entrance road is completed.

Please contact Mr. Edgar Thost (202/433-3387) Code 202, of this office concerning any information contained herein.

Sincerely,  
  
R. C. LOSE  
Director, Planning Division  
By direction of the  
Commanding Officer

Copy to:  
NSWC/White Oak Lab (Mr. Leibig)  
NSWC/Solomons Br. (LCDR Johnson)  
Naval Recreation Center (Mr. Larkins)  
NAVDISTWASH (Capt. Bent)

318

APPENDIX D  
LIST OF REFERENCES

APPENDIX D

REFERENCES

Allen Organization, "A comprehensive Park and Recreation Plan for Calvert County, Maryland," July 1973

Atomic Energy Commission, Environmental Impact Statement, Operation of Calvert Cliffs Nuclear Power Plant, Units 1 & 2," Baltimore Gas & Electric Co., April 1973

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Maryland State Highway Administration, "Highway Noise Report - Maryland Route 2 and 4, Maryland Route 264 to the Northern Approaches of the Patuxent River Bridge," February 1975

Orr, Dr. Kenneth G., Ph.D., "Preliminary Archaeological Reconnaissance of Maryland Route 2-4 From Maryland Route 264 to the Northern Approaches of the New Patuxent River Bridge," Oxon Hill, Maryland 1974

Rosen, S. J. and Associates, "Air Analysis - Maryland Route 2 and 4 between Maryland Route 402 and Maryland Route 264," Hershey, Pa., 1974

Stern, Charles Francis, "A History of Calvert County, Maryland," Baltimore, Md., 1960

320

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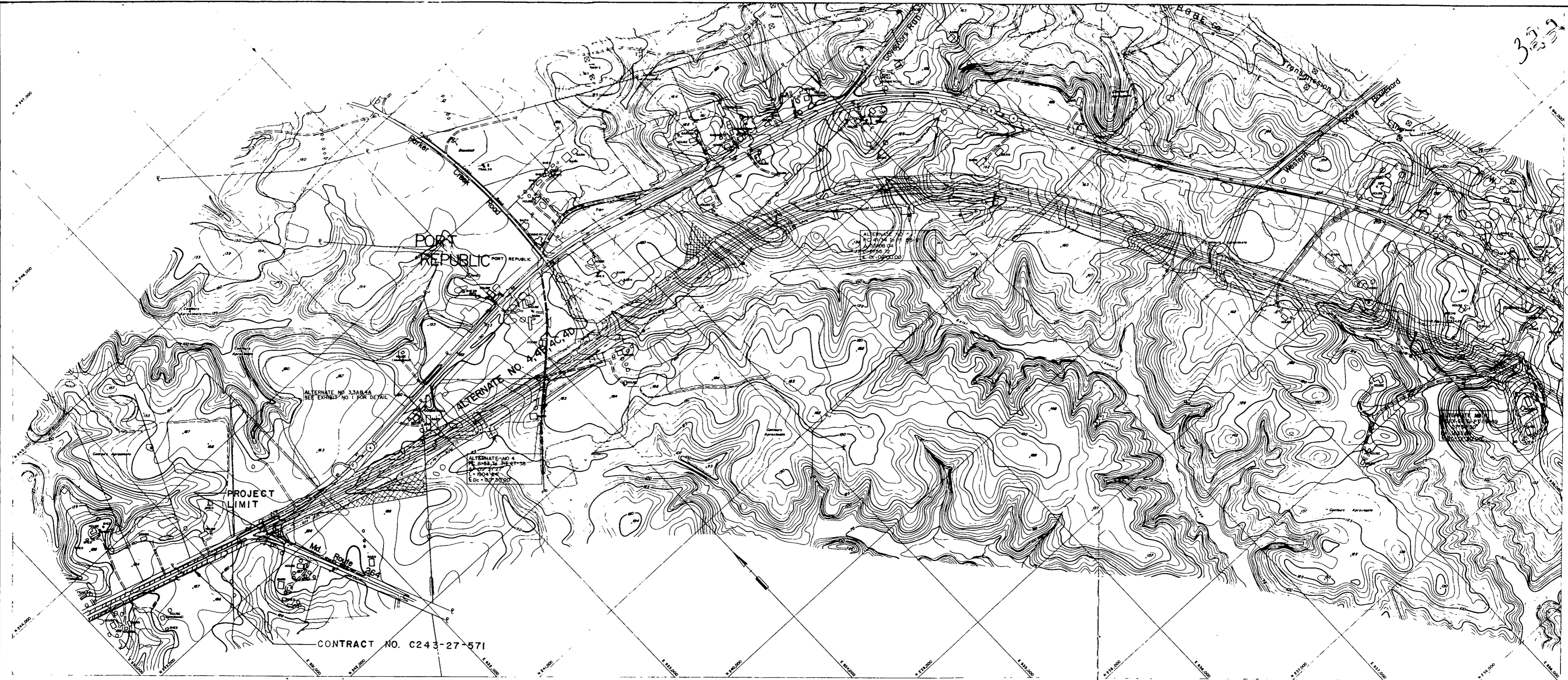
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321

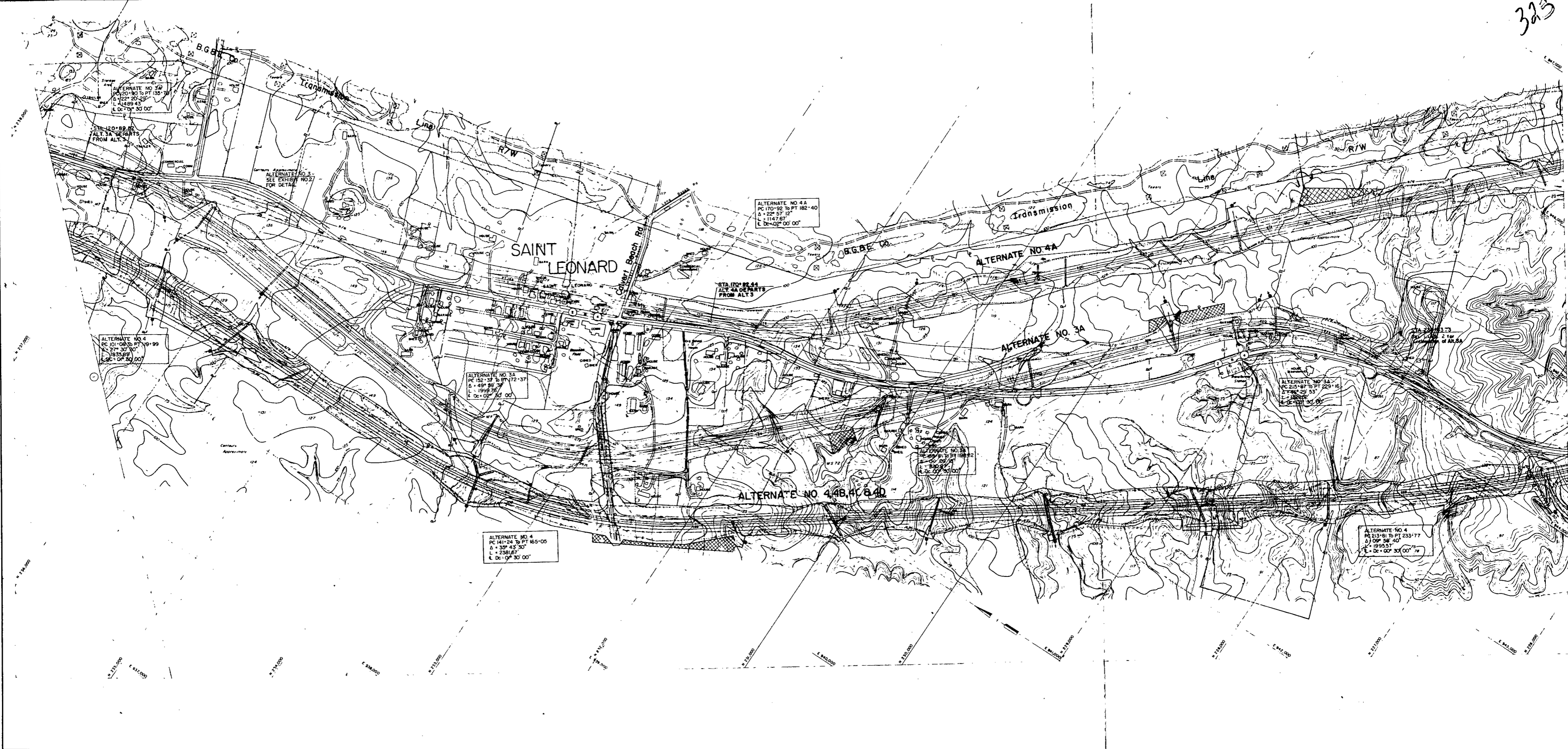
APPENDIX E  
DETAILED ALIGNMENT MAPS

3237



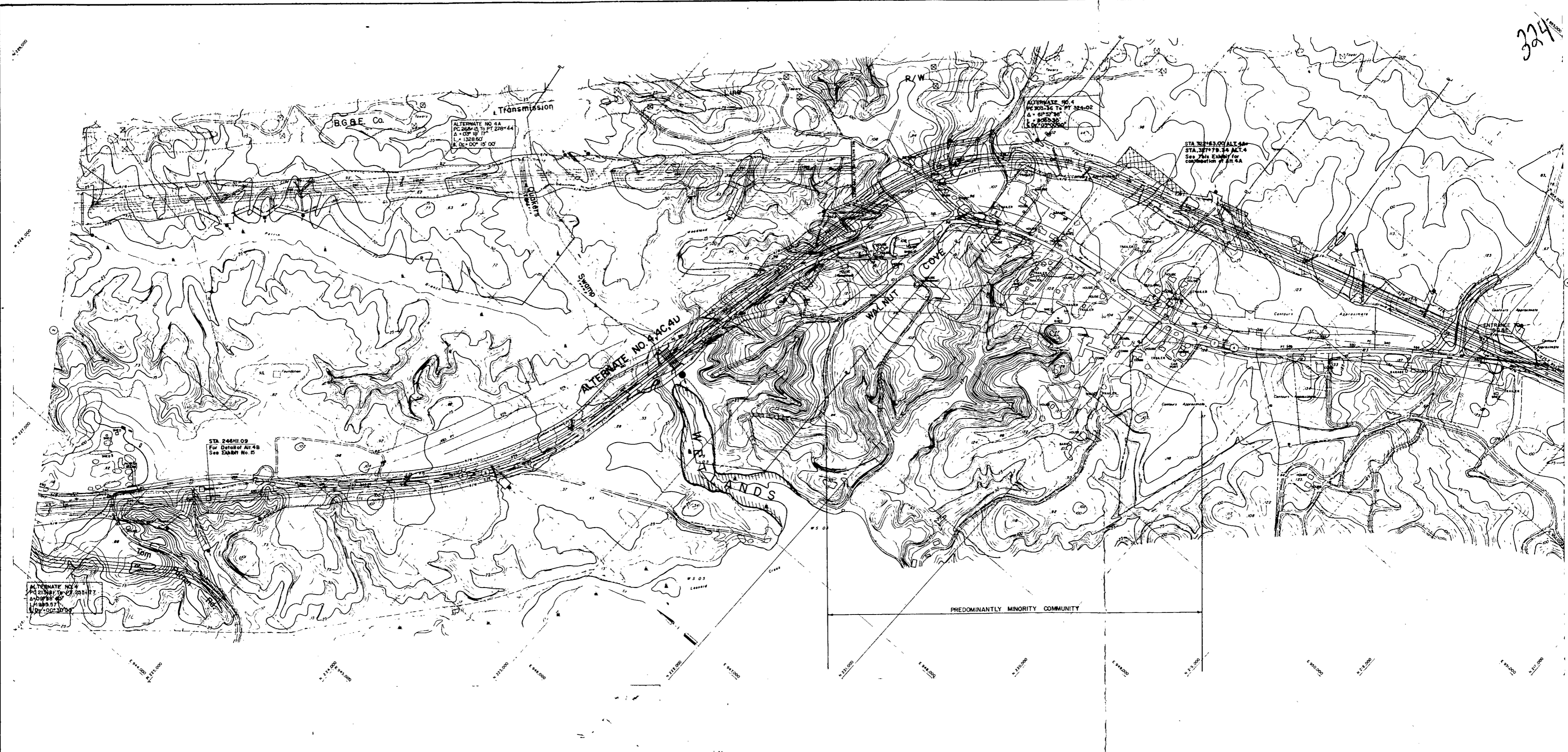
JOHN E. HARMS, JR. & ASSOCIATES, INC.  
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 PASADENA, MARYLAND

EXHIBIT NO. 8  
 MAP SCALE: 1" = 600'  
 MARCH, 1975



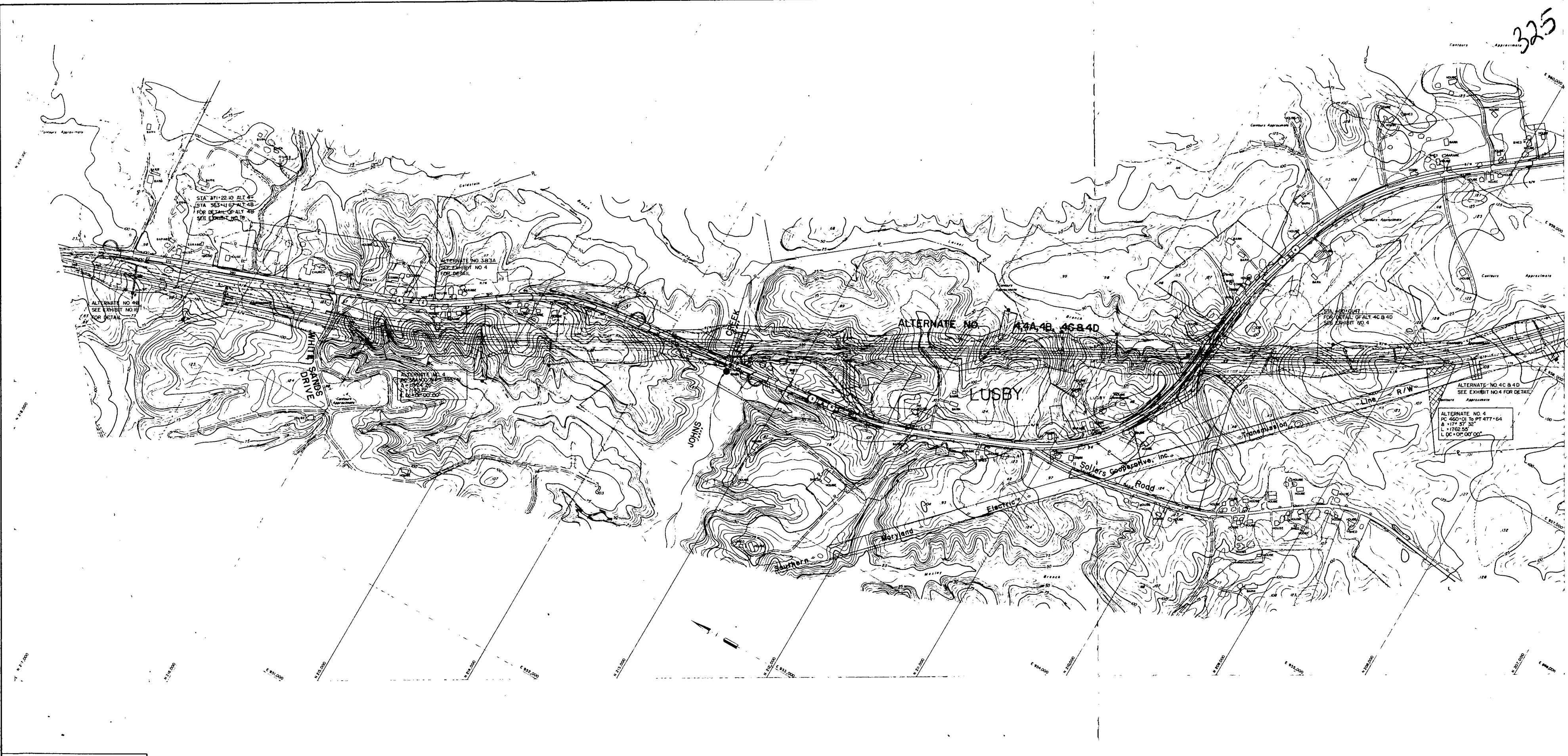


324



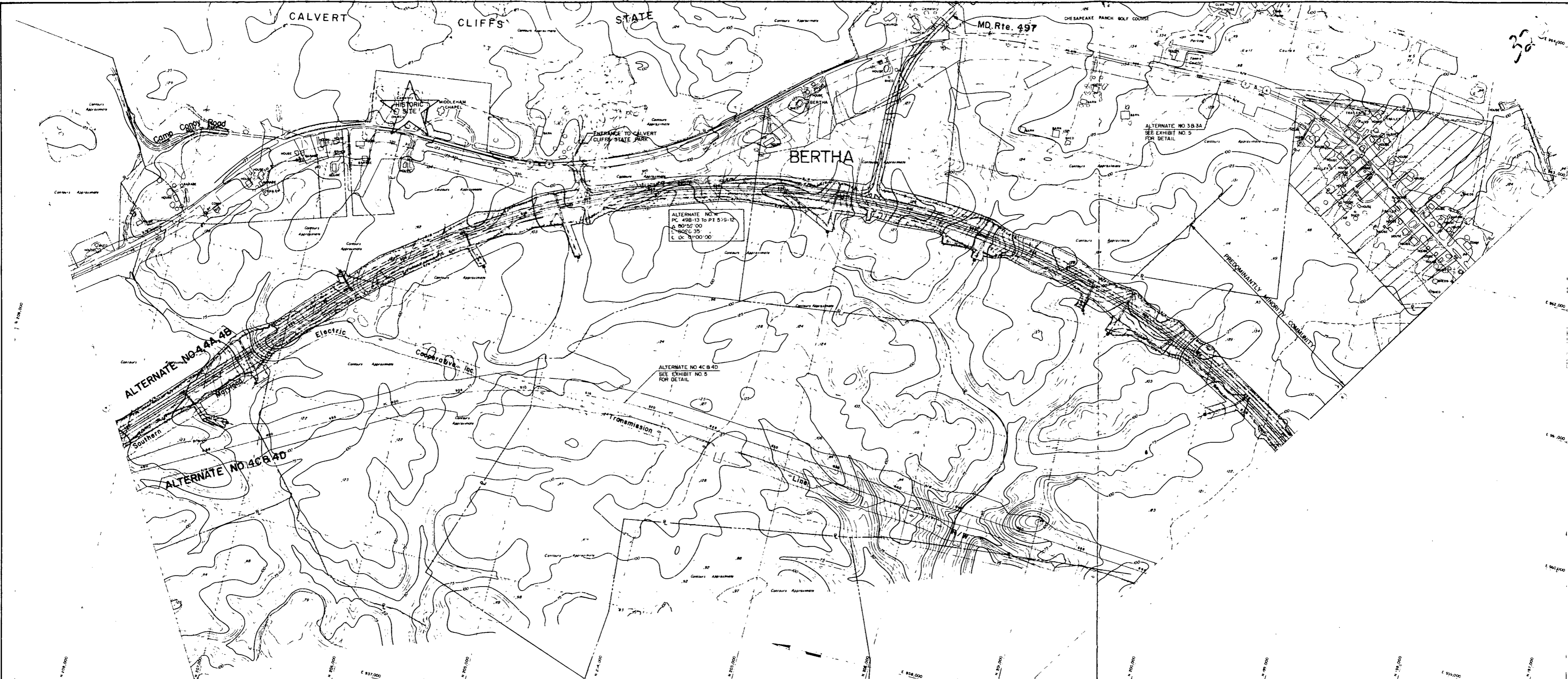
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EXHIBIT NO. 10  
 MAP SCALE: 1" = 600'  
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 MAP SCALE: 1" = 600'  
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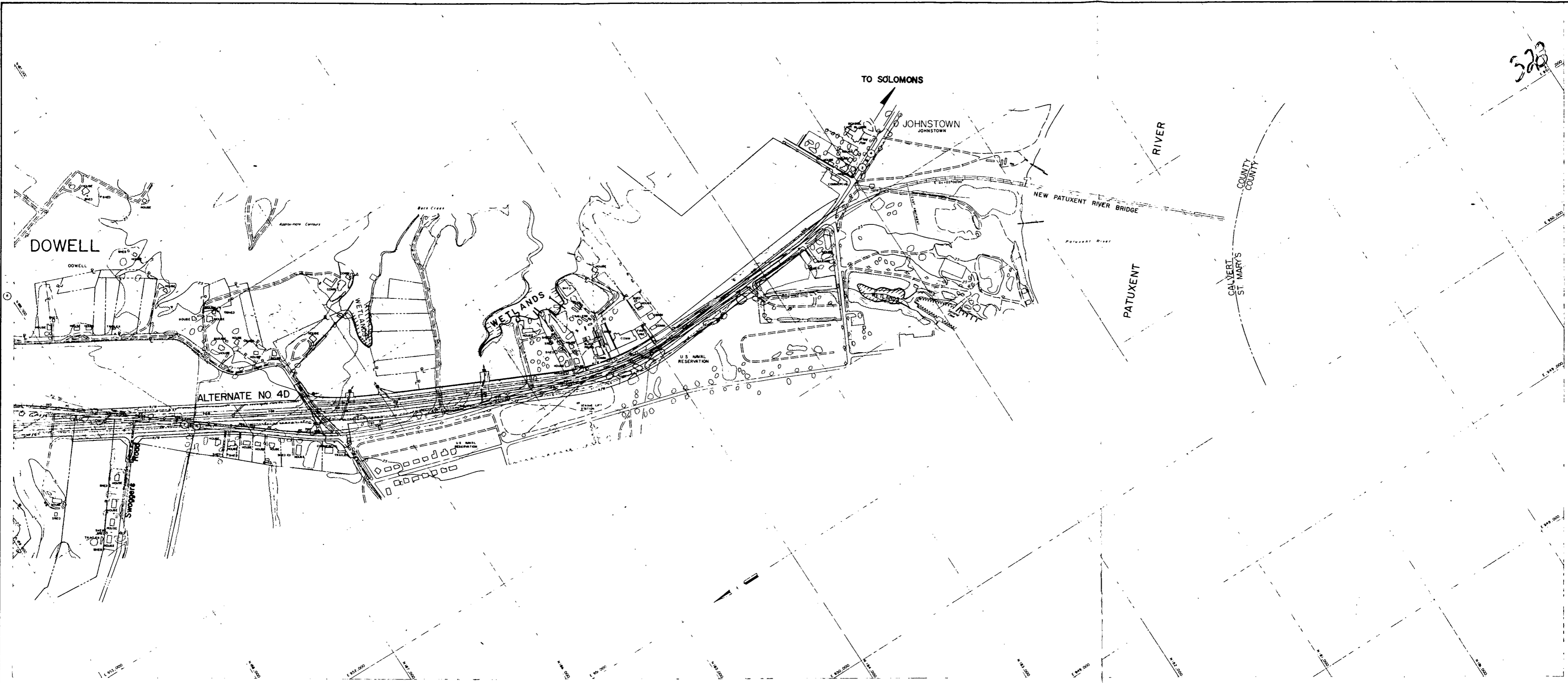
EXHIBIT NO. 12  
 MAP SCALE: 1" = 600'  
 MARCH, 1975





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323



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EXHIBIT NO. 18  
 MAP SCALE 1"=600' MARCH 1975



329

APPENDIX F

MARYLAND ENVIRONMENTAL PROTECTION ACT,  
ENVIRONMENTAL ASSESSMENT FORM

ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

The following questions should be answered by placing a check in the appropriate column(s). If desirable, the "comments attached" column can be checked by itself or in combination with an answer of "yes" or "no" to provide additional information or to overcome an affirmative presumption.

In answering the questions, the significant beneficial and adverse, short and long term effects of the proposed action, on-site and off-site during construction and operation should be considered.

All questions should be answered as if the agency is subject to the same requirements as a private person requesting a license or permit from the State or Federal Government.

	<u>Yes</u>	<u>No</u>	<u>Comments Attached</u>
<b>A. Land Use Considerations</b>			
1. Will the action be within the 100 year flood plain?	<u>x</u>	___	___
2. Will the action require a permit for construction or alteration within the 50 year flood plain?	<u>x</u>	___	___
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	___	<u>x</u>	___
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	___	<u>x</u>	___
5. Will the action occur on slopes exceeding 15%?	<u>x</u>	___	___
6. Will the action require a grading plan or a sediment control permit?	<u>x</u>	___	<u>x</u>
7. Will the action require a mining permit for deep or surface mining?	___	<u>x</u>	___
8. Will the action require a permit for drilling a gas or oil well?	___	<u>x</u>	___
9. Will the action require a permit for airport construction?	___	<u>x</u>	___
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	___	<u>x</u>	___

338

	<u>Yes</u>	<u>No</u>	<u>Comments Attached</u>
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?	<u>x</u>	<u>      </u>	<u>      x</u>
12. Will the action affect the use of any natural or man-made features that are unique to the county, state or nation?	<u>      </u>	<u>      x</u>	<u>      </u>
13. Will the action affect the use of an archaeological or historical site or structure?	<u>      </u>	<u>      </u>	<u>      x</u>

**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?	<u>      </u>	<u>      x</u>	<u>      </u>
15. Will the action require the construction, alteration or removal of a dam, reservoir or waterway obstruction?	<u>      </u>	<u>      x</u>	<u>      </u>
16. Will the action change the over-land flow of storm water or reduce the absorption capacity of the ground?	<u>      x</u>	<u>      </u>	<u>      </u>
17. Will the action require a permit for the drilling of a water well?	<u>      </u>	<u>      x</u>	<u>      </u>
18. Will the action require a permit for water appropriation?	<u>      </u>	<u>      x</u>	<u>      </u>
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	<u>      </u>	<u>      x</u>	<u>      </u>
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?	<u>      </u>	<u>      x</u>	<u>      </u>
21. Will the action result in any discharge into surface or sub-surface water?	<u>      </u>	<u>      x</u>	<u>      </u>

	<u>Yes</u>	<u>No</u>	<u>Comments Attached</u>
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	—	<u>x</u>	—
<b>C. Air Use Considerations</b>			
23. Will the action result in any discharge into the air?	<u>x</u>	—	—
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	<u>x</u>	—	<u>x</u>
25. Will the action generate additional noise which differs in character or level from present conditions?	<u>x</u>	—	—
26. Will the action preclude future use of related air space?	—	<u>x</u>	—
27. Will the action generate any radiological, electrical, magnetic, or light influences?	—	<u>x</u>	—
<b>D. Plants and Animals</b>			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	—	<u>x</u>	—
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	—	<u>x</u>	—
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	—	<u>x</u>	—
<b>E. Socio-Economic</b>			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	<u>x</u>	—	—

Appendix A (Continued)

373

	<u>Yes</u>	<u>No</u>	<u>Comments Attached</u>
32. Will the action cause relocation of activities, structures or result in a change in the population density or distribution?	<u>x</u>	_____	_____
33. Will the action alter land values?	<u>x</u>	_____	_____
34. Will the action affect traffic flow and volume?	<u>x</u>	_____	_____
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	_____	<u>x</u>	_____
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	_____	<u>x</u>	_____
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans--including zoning?	<u>x</u>	_____	_____
38. Will the action affect the employment opportunities for persons in the area?	<u>x</u>	_____	_____
39. Will the action affect the ability of the area to attract new sources of tax revenue?	<u>x</u>	_____	_____
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	<u>x</u>	_____	_____
41. Will the action affect the ability of the area to attract tourism?	<u>x</u>	_____	_____
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	_____	<u>x</u>	_____
43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment?	_____	<u>x</u>	_____

334

	<u>Yes</u>	<u>No</u>	<u>Comments Attached</u>
44. Will the action be of statewide significance?	___	<u>X</u>	___
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?	___	<u>X</u>	___
46. Will the action require additional power generation or transmission capacity?	___	<u>X</u>	___

G. Conclusion

17. This agency will develop a complete environmental effects report on the proposed action.	<u>X</u>	___	<u>X</u>
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COMMENTS

335

6. Project will adhere to guidelines of State Highway Administration Erosion and Sediment Control Program.
11. Project will increase accessibility of Cliffs of Calvert State Park encouraging additional park use.
13. Several archaeological sites could be affected depending on which of the alternative alignments under study are chosen. Historical sites in the area can be avoided through the selection of proper alternatives.
24. There will be a negligible increase in carbon monoxide, nitrogen oxides and hydrocarbons emissions into the atmosphere as a result of increased motor vehicle travel. National primary and secondary air quality standards will not be exceeded.
47. This agency is currently preparing an Environmental Impact Statement EIS which will adequately address all information contained in an environmental effects report. (EER). Because of the overlap between Federal Law and the State Law, it would be inefficient to duplicate the effort involved in preparing a separate State EER. Therefore, as in accordance with Md. Environmental Policy Act Guidelines, one report, the EIS, will be developed covering the requirements under both laws.