



Final Environmental Assessment



FOR: CON.NO. AA 169-101-570

MARYLAND ROUTE 2
SOUTH RIVER BRIDGE REPLACEMENT
AND APPROACHES
FROM VIRGINIA AVENUE TO THE
DIVIDED HIGHWAY NORTH OF THE BRIDGE

prepared by



FINAL

ENVIRONMENTAL ASSESSMENT

Prepared by

Maryland State Highway Administration

Contract No. AA 169-101-570

Maryland Route 2

South River Bridge Replacement
and Approaches

From Virginia Avenue

to the divided highway North of the Bridge

OPEN TO TRAFFIC: 1983

TOTAL ESTIMATED COST:

\$28,116,000

COMMENCEMENT OF PRELIMINARY ENGINEERING: 1977

Submitted pursuant to the
Maryland Environmental Policy Act
Chapter 703 of the 1973 Laws of Maryland;
Annotated Code of Maryland, Article 41, Section 301-305
(1957, 1971 Repl. Vol. 1973 Cum. Supp.)

8/17/78
Date

by: Hal Kassoff
Hal Kassoff, Director
Office of Planning and
Preliminary Engineering

8/21/78
Date

by: M. S. Caltrider
M. S. Caltrider
State Highway Administrator



TABLE OF CONTENTS

I.	Summary	Page	1
II.	Need		5
	A. Project Purpose		5
	1. Deficiencies of the Existing Facility		5
	B. Traffic Characteristics		6
	C. Accident Statistics		6
	D. Historical Background		9
III.	Environmental Significance of this Action		10
IV.	Description of the Proposed Action		11
	A. Alternates Considered		11
	B. Social-Economic Context of the Area		16
	1. Social-Economic		16
	2. Land Use		17
	3. Land Use Planning		17
	C. Natural Environment		20
	1. Physical Resources		20
	2. Biological Resources		20
	a. Vegetation		20
	1. Terrestrial		20
	2. Aquatic		21
	b. Wildlife		21
	1. Aquatic Fauna		21
	2. Endangered Species		22
	c. Natural/Unique Areas		22
	d. Visual Resources		23
	e. Air Quality		23
	f. Noise		24
V.	Probable Impacts of the Recommended Alternate on the Environment		
	A. Social-Economic		25
	B. Physical Resources		26
	C. Biological Resources		26
	D. Air Quality		27
	E. Noise		27
VI.	Probable Adverse Effects Which Cannot be Avoided		30
VII	Effects on Sites of Historic, Cultural, or Unique Significance		31
APPENDIX:	Comments and Coordination		33-45
	Environmental Assessment Form		46-50
	Technical Sources		

LIST OF FIGURES

		Page
FIGURE 1	Location Map	2
FIGURE 1A	Vicinity Map	3
FIGURE 2	Traffic Pattern	7
FIGURE 2A	Traffic Pattern	8
FIGURE 3	Alternate Map	12
FIGURE 4	Typical Section	13
FIGURE 5	Land Use Map	18

LIST OF TABLES

TABLE 1	Alternate Costs	15
TABLE 2	Population	16
TABLE 3	Noise Level/Activity Category	29

I SUMMARY

1. Administrative Action

Draft () Final (X)
Environmental Assessment

2. The following individual can be contacted for information concerning the proposed project:

Mr. Eugene T. Camponeschi
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201
Phone: (301)383-4327
Office Hours: 8:15 A.M. to
4:15 P.M.

3. Description of Proposed Action

The proposed action involves the replacment of an exist- ing swing span bridge, with a 50 foot vertical clearance fixed span across the South River, in Anne Arundel County, Maryland (Figure 1 - 1A) and improvements to Maryland Route 2 (Solomons Island Road) from the vicinity of Virginia Avenue, south of the bridge, to the existing dual section north of the bridge. The length of this project action is approximately 1.2 miles.

4. Alternates Considered

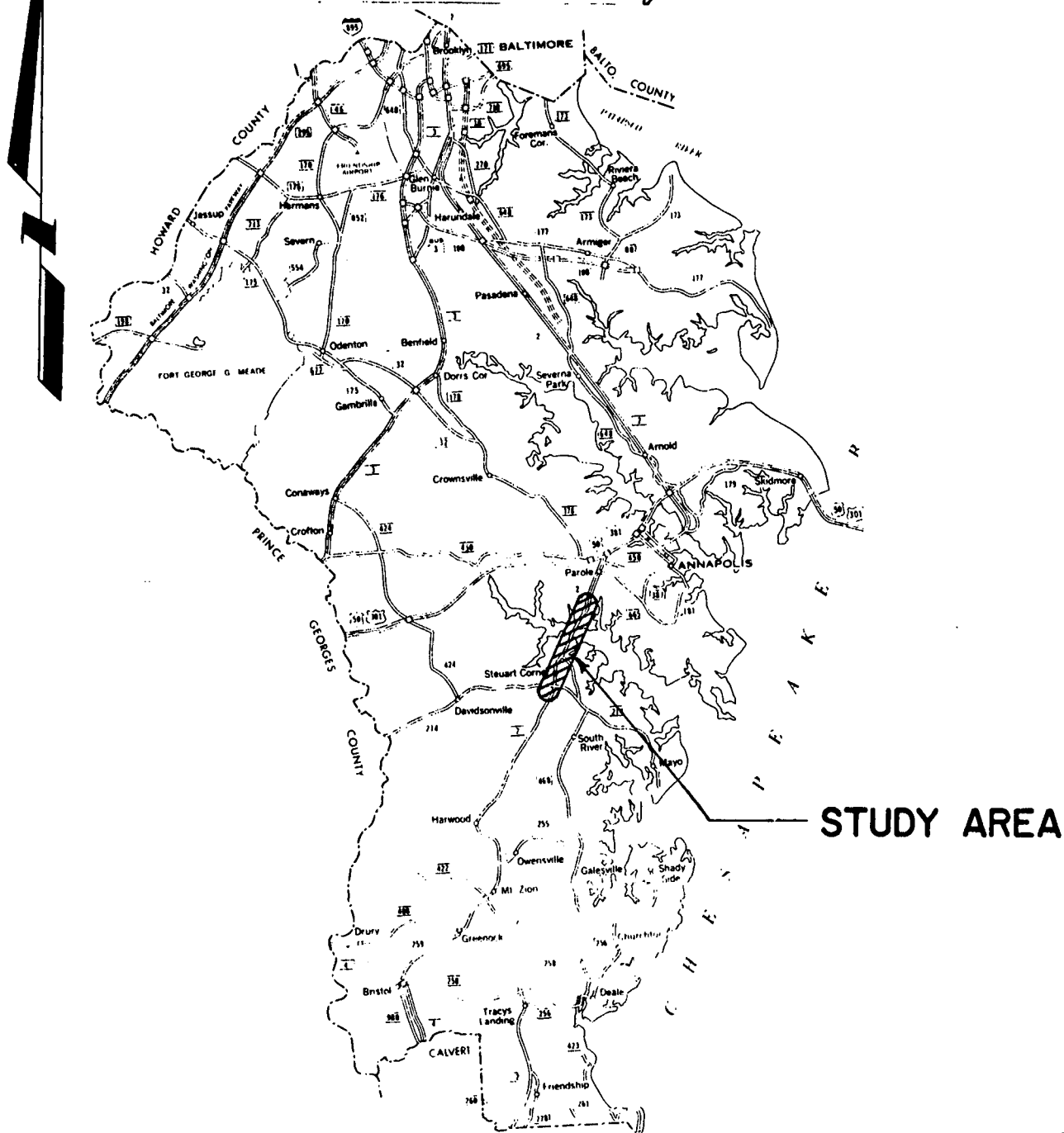
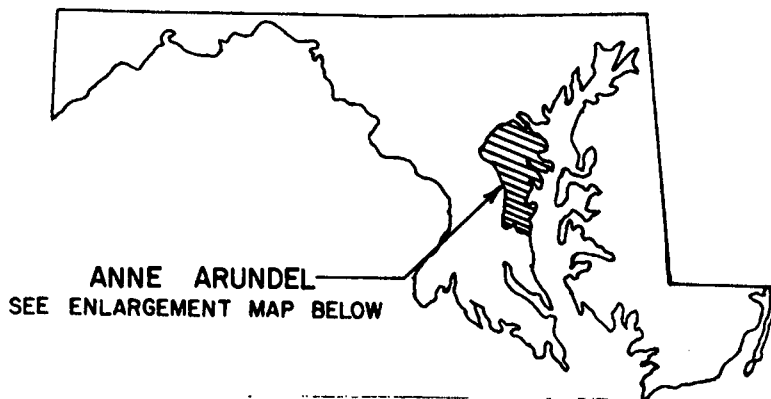
Two alternates, the Build and No-Build were considered and evaluated in the Draft Environmental Assessment.

The Build Alternate consisted of a fixed span bridge with two variations: the recommended 50' vertical clearance and a 60' vertical clearance height.

The No-Build Alternate assumed normal maintenance of the existing facility, with extensive renovation to the existing bridge deck and mechanism.

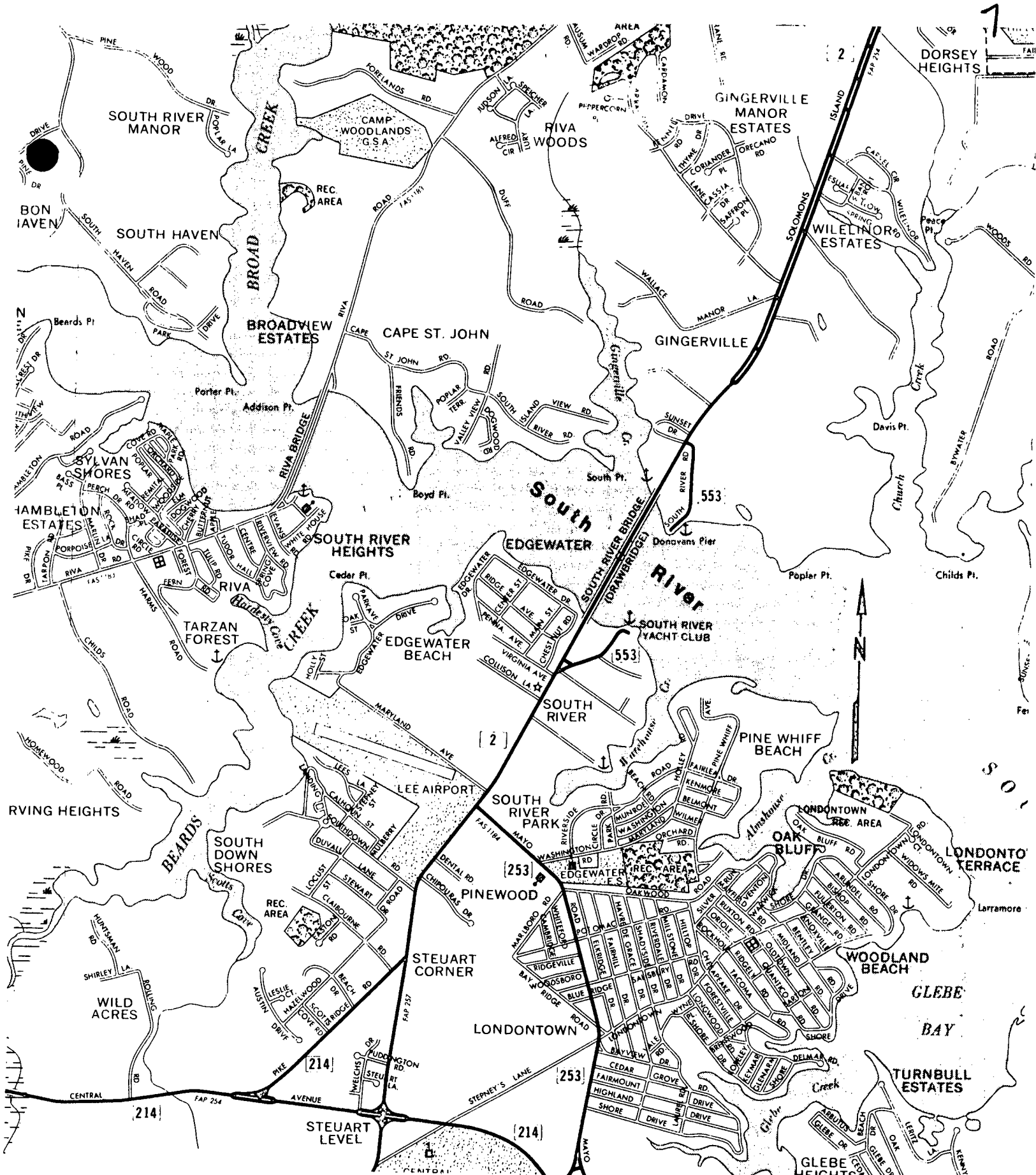
MARYLAND

u



ANNE ARUNDEL COUNTY
LOCATION MAP

FIG. 1



VICINITY MAP

FIG. 1A

1" = 2000'

5. Environmental Summary for the Proposed Action

There would be no significant effect on the environment as a result of the construction of the selected alternate, the Build Alternate.

Minor right of way acquisition would be required and it would not cause any displacement of persons or businesses. There would be no effect on minorities and there would be no effect to any archeological resources, while one historic site would experience slightly higher noise levels; there are no others in the study area.

A noise analysis indicates that four (4) of nine (9) noise sensitive areas (NSA) for the recommended Alternate would exceed Federal Design Noise Levels.

Temporary sediment disturbance in the South River may occur during construction of the new bridge. The project should impose no impacts on any existing wetlands other than those that normally occur as the tidal area of the South River bottom. For this reason, a wetlands permit will be required. No violations of the Ambient Air Quality Standards would occur.

This action will benefit the area as a whole by reducing congestion delays and traffic accidents. These improvements are recommended in Anne Arundel County's General Development Plan.

II. NEED

A. Project Purpose

The purpose of this project is to eliminate congestion and delays and to improve the safety for drivers that use the South River Bridge and Maryland Route 2.

1. Deficiencies of the Existing Facilities

Maryland Route 2, in the study area, consists of a two-lane road; 24 feet wide with 10 foot shoulders, having free right of access. The existing South River Bridge is a 22 foot wide two-lane swing span bridge, built in 1933. Subsequently, the facility has become inadequate for existing and future traffic needs. With the increase of residential and recreational uses along the western shores of the Chesapeake Bay, along Maryland Route 214 and Maryland Route 468, a rapid rise in population has occurred. Maryland Route 2 and the bridge serve as the primary route to Annapolis and U.S. 50 areas for these residents. The Average Daily Traffic (ADT) for 1977 was 23,000 with a projected increase to 41,400 ADT for 1997.

These high traffic volumes are complicated by the numerous openings of the swing span bridge for boat traffic. Openings have been as many as 42 per day and averaged 16 per day for 1977, while stopping an average of 94 cars per opening. Peak delays stop as many as 400 cars, causing congestion to alternate routes and the area road network

Emergency vehicles use this route to medical facilities north of the bridge. In a one year period, from 1975-1976, over two-thousand (2,000) emergency vehicles crossed the South River Bridge and on many occasions were delayed by traffic tie-ups from the bridge.

Also causing delays, is the repair work performed on the 45 year old bridge. As well as a frequently malfunctioning swing span mechanism, recent deterioration of the bridge structure and decking has occurred, resulting in an average maintenance and operation cost of \$87,500 per year for the bridge alone.

Another concern is the high accident rate, which was three times higher than the state-wide average for similar design highways in 1976. With no improvements to this facility, the accident rate is expected to rise with the increase of traffic. Contributing to these high accident rates are several inadequate intersections and the present two-lane facility that serves the numerous businesses along the road.

10

B. Traffic Characteristics

Solomons Island Road, Maryland Route 2, is a primary state route. It is a controlled access, four lane divided highway from U.S. Route 50/301 southward to a point 2300 feet north of the South River Bridge. From this point southward, Maryland 2 is a two lane highway including the South River swing span bridge. The 1972 ADT across the bridge was approximately 16,400 vehicles with 1977's ADT being 23,000. This increased traffic has caused a reduction in the level of service to "E" (at capacity, unstable flow with stoppages) during peak traffic periods and the congestion is compounded by the frequent openings and mechanical failures of the South River Bridge. For the recommended alternate, the ADT is estimated to reach 41,400 by 1997, while the No-Build would increase to 25,500. The recommended alternate would provide for the anticipated traffic of the region while the No-Build would only provide for a part of the regional traffic and cause use of alternate routes by this traffic (Figures 2 and 2A).

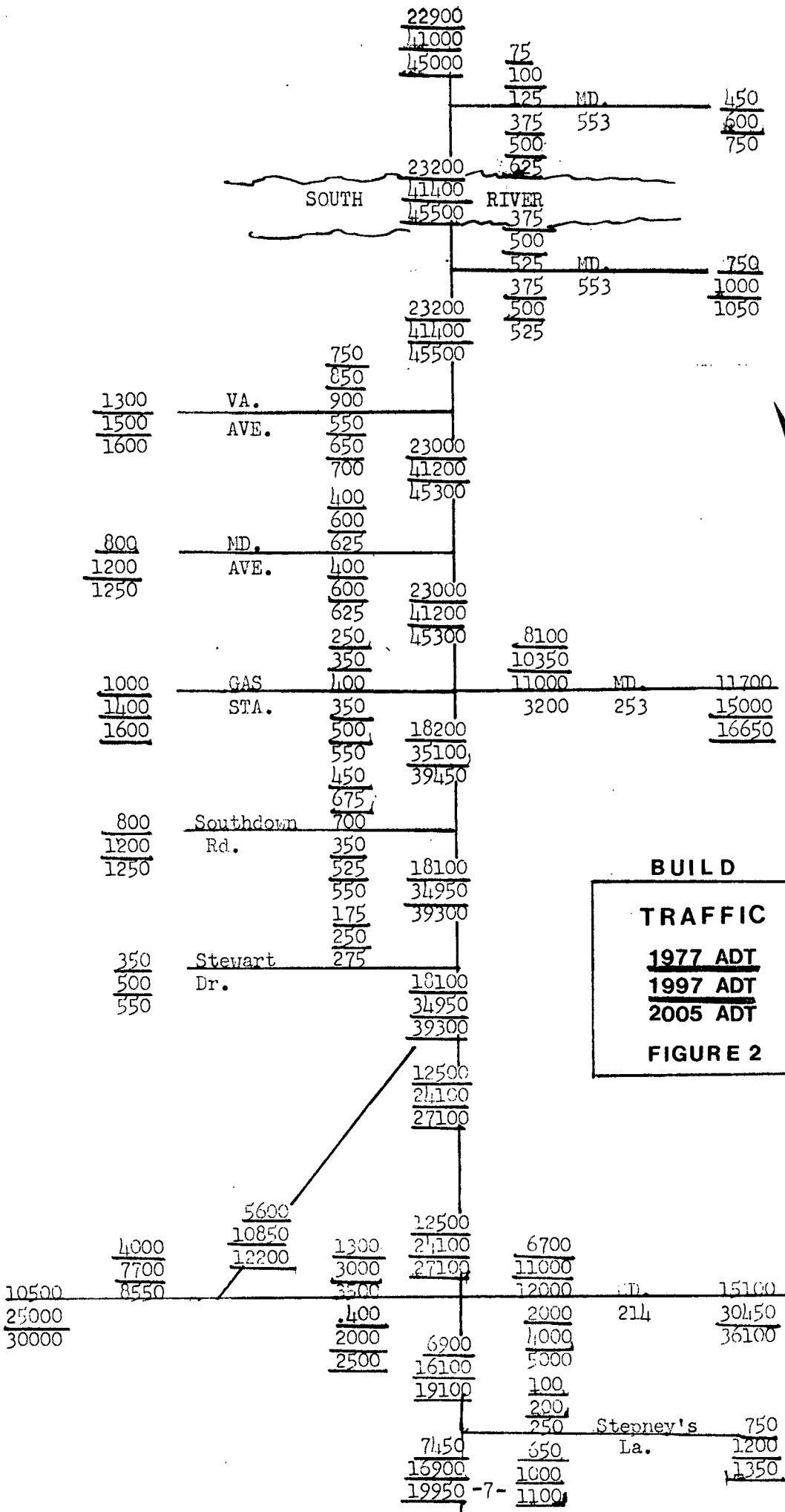
During the 1977 summer season from April to October, the bridge opened on an average of 16 times per day, stopping an estimated 94 cars per opening. This was an increase of 35 cars per opening from a 1971 estimate of 55 cars per opening.

The 1977 average delay per car was estimated to be 2.5 minutes. This totaled to a 3.9 hour loss per opening for all vehicles. A much greater loss of time is actually a result, since many of the automobiles have more than one passenger. It was further calculated that time spent by occupants of vehicles waiting for bridge openings totaled 661 days a year.

As a result of the anticipation, by drivers, of delays due to bridge openings and malfunctions, an alternate route is taken. This route via Riva Road, a two lane County facility, is approximately a 3 mile longer route. This road is the primary access road to the County's Government Industrial Park, which houses County offices. At present, this road experiences peak hour delays in traffic, partially as a result of detoured South River Bridge users. As noted, the stoppages by South River Bridge, encourages traffic to reroute on other roads, causing a burden on the regional traffic service.

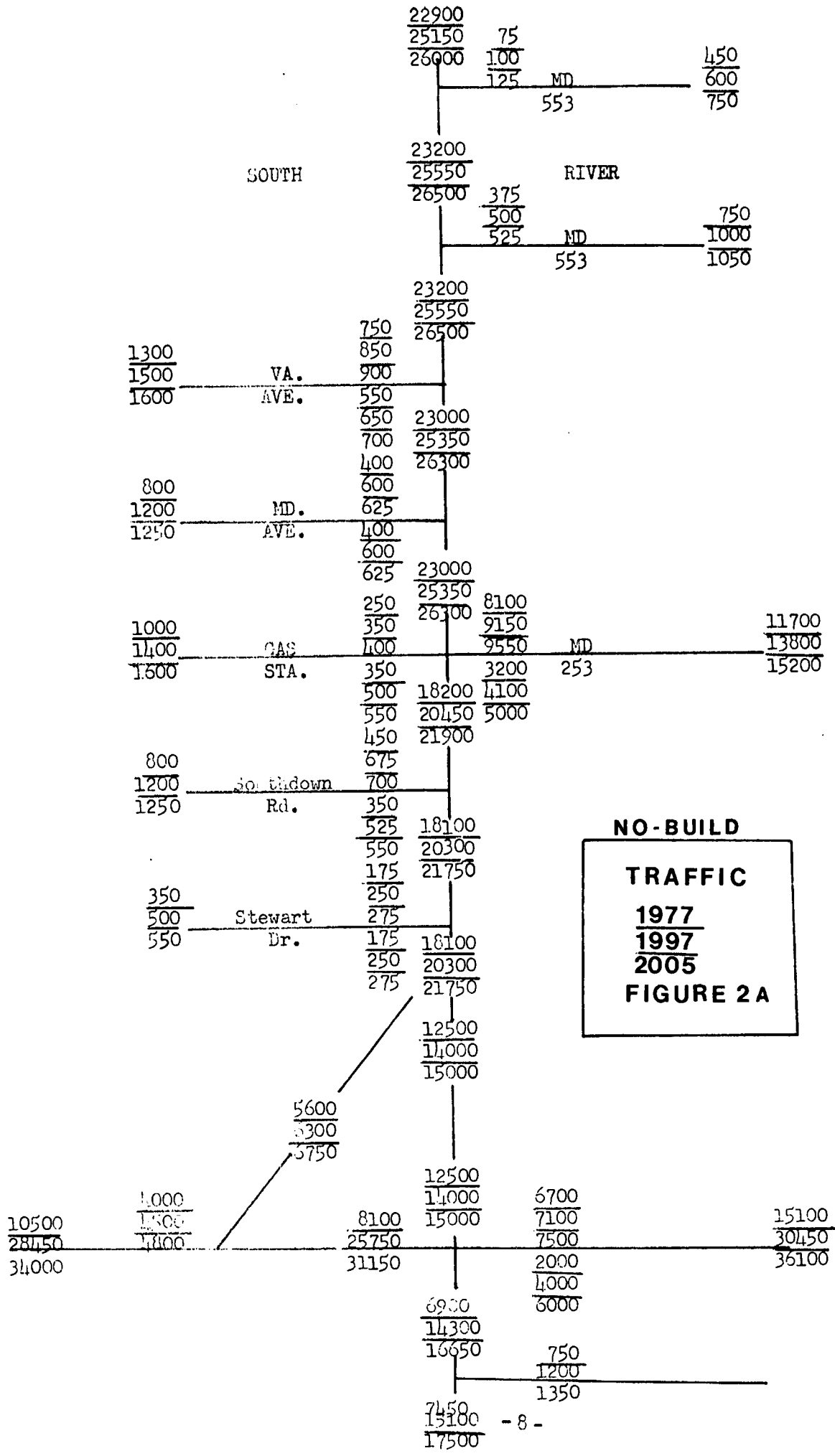
C. Accident Statistics

The study section of Maryland 2 from Maryland Route 214 to north of the bridge, experienced 290 accidents during the years 1974 to 1976. This amounts to an annual average of 37.76 accidents per mile. This rate is significantly higher than the statewide average of 19.46 accidents per mile for similar design two-lane, non-divided highways.



BUILD
TRAFFIC
1977 ADT
1997 ADT
2005 ADT
FIGURE 2

12



In order to assess the relative safety of this, or any other facility, an accident rate based on the frequency of accidents and the total vehicle miles travelled is computed and compared against known statewide averages for similar facilities. This section of Maryland 2 experienced an average accident rate of 1086.77 accidents per 100 million vehicle miles of travel (acc/100MVM). This rate is well above the statewide average for all similar design highways now under State maintenance of 326.07 acc/100 MVM. The accident cost to the motoring and general public, resulting from these accidents is estimated at \$3,830,000/ 100 MVM.

Contributing to the high accident rate and motor vehicle accident cost are several intersections which have been identified.

- Md. 2 at Md. 214
- Md. 2 at Md. 253
- Md. 2 at Maryland Avenue
- Md. 2 at Md. 553 A

In addition to the large number of total accidents reported on this facility, fatal injury accidents occur proportionately higher than would normally be expected for a facility of this design.

D. Historical Background

A Project Initiation Public Meeting was held on May 25, 1977. The purpose of that meeting was to acquaint those in attendance with the project, to outline the study process and to solicit comments relative to the preliminary study phase of the highway and bridge improvements. The consensus of opinions received as a result of the meeting was that a new high level fixed bridge over the South River is an immediate need, with improvements to Maryland Route 2.

An Alternates Public Meeting was held February 23, 1978 to discuss alternates chosen for detailed study. Again, the public response was favorable and the immediate need for the improvements was stressed.

A Public Notice 5-386 was issued by the U.S. Coast Guard in its "Local Notice to Mariners" on April 11, 1978. The purpose of this notice was to advise navigation interests of the proposed bridge construction and to solicit comments regarding the adequacy of a proposed 50' vertical clearance at mean high tide bridge. The State Highway Administration has conducted a continuing survey since 1976, of the mast heights of boats using the South River Bridge, to aid in the determination of the bridges vertical clearance required by navigation interests.

A Combined Location/Design Public Hearing was held on June 29, 1978 to discuss alternates studied in detail. The public response again supported the need for immediate construction of the bridge. Comments and responses from the Hearing are in the Comments and Correspondence section.

III. ENVIRONMENTAL SIGNIFICANCE OF THE ACTION

Based on the environmental studies completed for the project, it has been determined that the project would not have a significant impact upon the human or natural environment.

The project would not have a significant effect on the ecology, water quality, or air quality of the area. Some temporary sediment disturbances may occur during construction of the new bridge. There would be minimal adverse social or economic impacts as there would be no displacement of persons or businesses. No minorities would be affected by this project. Design noise levels would be exceeded in four areas. The project would have no effect on historical or archeological resources.

No endangered or threatened species of either flora or fauna are known to inhabit the study area.

This project is consistent with the plans and goals of Anne Arundel County as stated in the General Development Plan.

IV. DESCRIPTION OF THE PROPOSED ACTION

A. Alternates Considered

1. Recommended Alternate: Build

This alternate begins approximately 0.3 mile south of the Virginia Avenue/Maryland Route 2 intersection and continues north across the South River Bridge to the existing divided highway. (Figure 3)

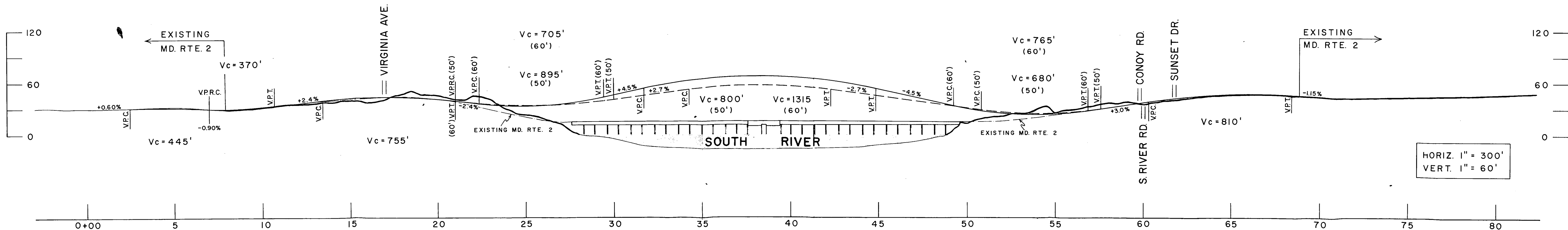
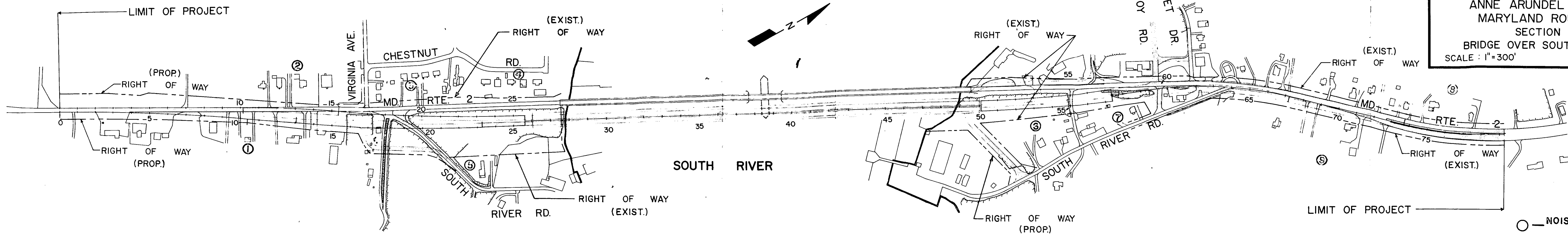
From 0.3 mile south of Virginia Avenue going north, the proposed alternate curves out to the east of existing Maryland Route 2, with the north and south bound lanes gradually widening into a divided highway. In the vicinity of Virginia Avenue, the median would be 32 feet wide, allowing left turning storage lanes and providing protection for vehicles crossing the divided highway. South River Road would be relocated 600 feet south to enter the proposed highway directly opposite Virginia Avenue. The median width from this point to the bridge would transition down to a 12 foot median and tie into the proposed bridge typical section.

The proposed replacement bridge begins 900 feet north of the Virginia Avenue intersection and would be parallel to and 90 feet east of the existing South River Bridge. The typical section of the proposed bridge would consist of two 24 foot roadways, with 4 foot inside shoulders and 8 foot outside shoulders, separated by a 4 foot median barrier. A minimum 5 foot sidewalk would be provided on the west side of the bridge. A 50 foot vertical clearance above mean high water is recommended for the proposed fixed span.

On the north side of the bridge the roadway would slowly curve west toward existing Maryland Route 2, transitioning from a 4 foot bridge median to a 16 foot median, which would continue into the existing dual highway, with the same typical section (Figure 4), with 10 foot shoulders.

An intersection would be provided at South River Road on Conoy Road. Sunset Drive, north of Conoy Road, would be closed and a connection would be provided to the South River Road intersection. The businesses west of Maryland Route 2 would be provided an access road, with an underpass of the north side of the bridge to allow north and south ingress and egress via South River Road.

As part of the recommended alternate the existing bridge and its supports would be removed.



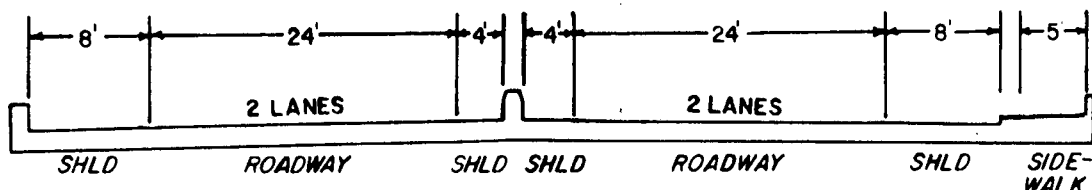
HORIZ. 1" = 300'
 VERT. 1" = 60'

MARYLAND ROUTE 2

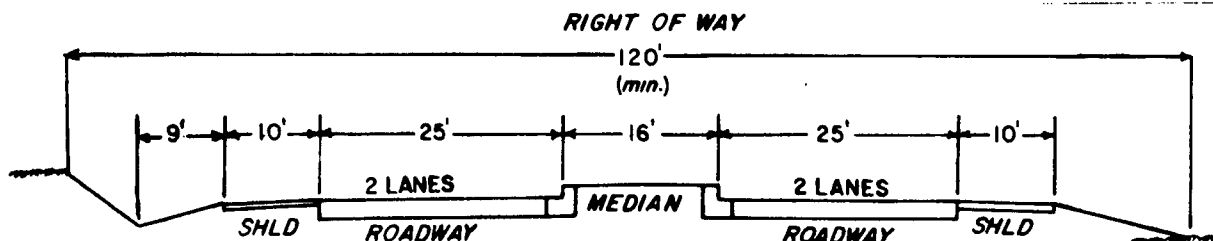
(Solomons Island Road)

17

SECTION I



BRIDGE



HIGHWAY

Dimensions shown are for the purpose of determining cost estimates and environmental impacts, and are subject to change during the final design phase.

PROPOSED TYPICAL SECTION

NOT TO SCALE

FIG. 4

Basis for Selection

The Build Alternate was selected as the optimum solution to provide an adequate and safe facility for highway and marine traffic. Cost and utility were considered in this decision.

A four (4) lane high level bridge will accommodate existing traffic, eliminate delays associated with the new bridge, and increase safety. Future traffic needs can be met with modifications to the structure of the new bridge. This action is recommended and supported by the County's General Development Plan.

A 50 foot vertical clearance would accommodate 96+% of the boats presently using the South River west of the bridge. Studies indicated that 10 boats with greater than 50 foot mast heights were moored west of the bridge and only three of these belong to resident property owners.

This action has had strong support from local citizens and elected officials.

2. Alternates Considered and Eliminated: No Build

This alternate would consist of replacement of the swing span mechanism and redecking of the existing bridge, for safety and functional reasons. No other improvements would be involved, except for normal maintenance of the facility and possible spot improvements where possible, within existing right of way.

Reasons for Elimination

Several factors led to the elimination of this alternate; among these were the high number of delays caused by bridge openings and malfunctions as well as the high cost to perform needed repairs. These costs would be over \$5,000,000 in addition to the high annual operating costs. The present bridge traffic experiences congestion during peak periods, and these would worsen and increase in frequency with future traffic demands causing the continuation of the present high accident rate. Future planned development could not be serviced with the existing bridge and the County's transportation goals would not be met. Strong civic opposition to keeping the existing bridge has continually been voiced.

3. Engineering Factors and Costs

The recommended alternate has been designed in accordance with the standards referred to and recommended in "Geometric Design Standards for Highways Other Than Freeways" by the American Association of State Highway and Transportation Officials and the Federal Highway Administration's memorandum "Highway Design and Operational Practices Related to Highway Safety". This project has been designed to safely accommodate a proposed posted speed of 50 m.p.h. The improved roadway will continue the same type of access controls as present.

The estimated construction and right of way cost for each alternate are shown in the following table

Table 1

<u>ALTERNATE</u>	<u>BUILD</u>	<u>NO-BUILD</u>
Right of way	\$616,000	\$0
Construction	\$27,500,000 ² \$25,000,000 ²	\$5,000,000 ³
Total Cost	\$28,116,000 ² \$25,616,000 ²	\$5,000,000 ³

¹60 foot vertical clearance bridge
²50 foot vertical clearance bridge
³Cost for replacement of swing span and redecking of bridge, which would be performed if No-Build is selected. In addition, the average annual maintenance and operation cost of the present South River Bridge is \$87,500.

B. Social-Economic and Ecological Context of the Area

1. Social-Economic

In the 1940's and 1950's, the major uses of the project area were farming and summer recreation. Many city residents from Washington, D. C. and the Baltimore Metro vicinities maintained summer cottages in the waterfront areas. Commercial uses were primarily beach and resort activities.

In the late 50's, a trend from summer cottages to year round residences began. This trend accelerated into the suburban development of most of the waterfront area and associated waterways. The population of the County was 341,781 in 1975, an increase from 206,634 in 1960. The study area's population for 1975 was 9,616 an increase from 3,176 in 1960.

The County, recognizing this increase in population and development, instituted an "Adequate Facilities Document" to aid in channelling and controlling urban type development. This document went into effect in March of 1977 and is currently being revised into a final growth policy. It is discussed in the Land Use Planning Section.

Future growth in the project area is expected to occur by extension of existing communities and in areas serviced by water and sewerage. Approximately 100-150 lots per year are expected to be developed with residential units (Figure 2).

One major subdivision is anticipated at the terminus of Maryland 214 on the Mayo Peninsula. Chesapeake Bay Village, a planned development on 341 acres with 2,447 residential units and associated commercial uses, is planned to begin construction in 1978-1979. The reality of this subdivision is still unknown, however, due to recent debate by proponents of lower growth with proponents of increased growth. The proponents of low growth are recommending the purchase of this property for use as a regional park, in lieu of the subdivision. At this time, a decision has not been made. In order to address this issue, population figures for the study area were projected with and without the anticipated population of Chesapeake Bay Village in the "Mayo Wastewater System Comprehensive Plan".

Table 2

	<u>1975</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
1. <u>Population</u>	9616	10641	12750	15662
2. <u>Adjustment</u> (Chesapeake Bay Village)	0	615	615	615
			3236	3236
			1750	1750
3. <u>Total Pop.</u>	9616	11256	18351	21263

21

Other possible growth areas are identified as Deferred Development (DD) Zoning. A discussion of these areas is in the Land Use Planning Section.

While there are local industries, the majority of the persons are employed outside of the project area in the Annapolis, Washington, and Baltimore areas. Income data indicate that the average household income of area residents is slightly higher than the state average, indicating the majority of workers are in professional or other white collar occupations. Housing types and prices in the area also reflect the better than average income of the area residents.

2. Land Use

The South River Bridge area and Maryland Route 2 are characterized by strip commercial development. Adjacent to the northeast, northwest, and southwest ends of the bridge are commercial yacht services (Figure 5). South of the bridge on Maryland Route 2 occasional residential uses break the commercial strip.

Residential uses are found primarily along the shores of the Chesapeake Bay and its tributaries. Most residential activity is found east of Maryland Route 468 (Muddy Creek Road), on the Mayo and Beverly Peninsula and in the Deale-Shadyside areas. The residential development west of Maryland Route 2 is concentrated in the Edgewater area, southwest and adjacent to the South River Bridge. Other development occurs along the South River and its tributaries.

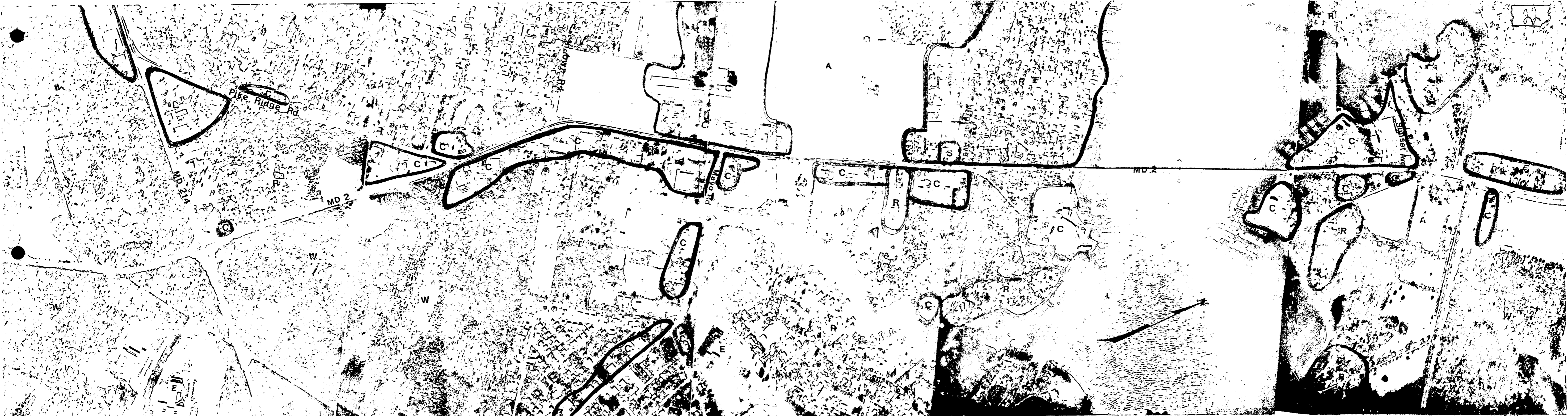
a. Recreation

The South River, like other estuary areas of the Chesapeake Bay, has increasingly been used as a recreational area. Many families have located in this area, in order to take advantage of this recreational use.

In the project area, there is approximately one mile between the South River Bridge and the 25 foot Riva Road Bridge to the west. Several established communities are located on the shores between these bridges, where home prices range from \$60,000 to \$200,000. Recently, as this area has become built up, new housing developments have been increasing west of the 25 foot River Bidge on the South River. Housing in this area reflects the same price range from \$60,000 to \$200,000 for properties, depending on the age and size as with any development. These seemingly high prices have resulted from the increased demand for water associated properties, near navigable areas.

3. Land Use Planning

The first comprehensive Land Use Plan developed by Anne Arundel County was its General Development Plan (GDP), adopted 1968 and readopted 1972 (currently being revised for 1978). This report was the County's first step



LEGEND

- R- Residential
- C Commercial
- A Agricultural
- E Educational
- W Wooded
- S Public Service
- † Church

EXISTING LAND USE

FIGURE 5
1" = 500'

in directing its ongoing conversion from a rural to a suburban community in an orderly manner. As such, the GDP recommended upgrading of Maryland 2 to a freeway from Parole to Maryland 214, including the South River Bridge.

As additional population and employment data became available, the County intensified its study of the necessary transportation network and its expected impacts for the target year of 1980. The resulting report prepared by the County's Office of Planning and Zoning, was the preliminary "1980 Transportation Plan for Anne Arundel County", dated January, 1974. Although this Plan presents more specific transportation recommendations than the County's GDP, its goals, policies, and land development plans are consistent with the original and present plans. This plan recommends "A four lane divided expressway from the proposed Patuxent Freeway to a new and higher bridge over the South River".

The land use anticipated to occur relative to transportation improvements was also studied. In the Route 2 study area, land use is expected to remain the same, with any additional development occurring in designated areas.

Designated areas for development were identified in an "Adequate Facilities Ordinance", which went into effect in March of 1977. The long ranging ordinance attempts to channel new development in the County to areas with adequate facilities (e.g. water, sewer, school) to absorb it. This would act to keep presently rural properties as nondevelopment areas and encourage infilling of existing developments. Zoning reflects the intent of the "Adequate Facilities Ordinance". The Route 2 corridor, south of Maryland 214 is zoned as rural agriculture, precluding development. Areas along the Beverly, Mayo Peninsulas are zoned for varying densities of residential and commercial uses which correspond with present uses.

The possible impetus to development would occur in areas zoned as DD (Deferred Development). The uses of these zoned areas are described in the following manner.

"Deferred Development Districts shall allow for orderly development in accordance with the General Development Plan by preventing premature piecemeal development that is non-comprehensive in nature, and is detrimental to the economic viability of the County. Said districts shall allow for (a) the continuance of existing uses in areas where increased development should be deferred, (b) areas which are essentially rural in character, and (c) areas which, although designated for development in the General Development Plan, lack the essential public services for comprehensive development and are in need of more detailed study".

24

The types of uses are varied including residential, commercial, and industrial development, but the development must be in a unit form such as planned unit development or commercial or industrial complexes.

Presently, an area of approximately 341 acres located at the terminus of Maryland 214 on the Mayo Peninsula and zoned DD, is being considered for development. The land is proposed to be used for a 2,447 unit village of medium to high density residential uses. Additional commercial and marina areas would be included.

This project is currently under review by the County Administration and a final decision, whether to allow or disallow this development has not been decided. Alternate uses have been proposed for the area such as a County recreational area or open space use.

C. Natural Environment

1. Physical Resources

The dominate geologic units in the study area (over 65 percent) are the Lowland Deposits and Aquia Formation. These strata are sandy, relatively soft and only necessitate power equipment for excavation. For the most part, the soils reflect the stability and capability of these substrata; hence, they are suitable for most developmental purposes. Several soils in proximity to the southern terminus, however, have comparativey high erodibilities while a few other types may require artificial drainage to insure structural stability.

South River, a multiple use estuary, has excessive bacteria counts, nitrogen and phosphorus levels. Bottom sediments exhibit silty and clayey conditions with conspicuous concentrations of heavy metals.

Groundwater appears to be abundant and of good quality. The shallow wells near the highway will receive special consideration to assure water quality protection.

2. Biological Resources

a. Vegetation

1. Terrestrial

Two recognized forest associations occur within the study area. The area to the north of the river is within the Chestnut Oak-Post Oak-Blackjack Oak Association while the area to the south of the river is within the Willow-Oak Loblolly Pine Association.

Much of the area where construction is to occur has been altered from its original forest cover. Existing Maryland Route 2 is characterized by a number of residences and small businesses. Farming occurs near the southern terminus of the project area with the main crops being corn, grains, and soybeans.

2. Aquatic

A small wetland occurs to the east of the proposed construction activities and to the south of the river at the head waters of Warehouse Creek. While this wetland should not be affected by the project, it does fall within the boundaries of the study area.

Species of vegetation found within this small wetland (approximately 2-3 acres) are dominated by cattail with the western edge being comprised of Marsh Elder, groundsel tree, and salt-meadow cord grass.

b. Wildlife

Due to the close proximity of Maryland Route 2 and its associated developments, the wildlife found in the area are those species which are able over time to adapt themselves to many of man's activities. Thus, the eastern cottontail, grey squirrel, muskrat, opossum, raccoon, and various smaller mammals (mice, moles, voles, etc.) form a representative list of the most likely mammalian species to be found within the study area.

Wildlife benefiting most from the uplands surrounding the study area are bird species. Several game and numerous non-game species can be expected to occur here due to the availability of diverse habitats and good food sources. Some species which feed on the fruit of the shrub layer vegetation are: eastern bluebird, oriole, catbird, bluejay, cedar waxwing, red-headed woodpecker, yellow-shafted flicker, cardinal, scarlet tanager and rufous sided towhee. Game species which benefit from the understory cover and close proximity to agricultural fields are bobwhite and mourning dove.

1. Aquatic Fauna (South River)

The South River, like most of the estuaries to the Chesapeake Bay sustain high and diverse populations of aquatic species. Both finfish and shell fish communities receive extensive recreation. Being an estuary under saline influence from the Atlantic Ocean and Chesapeake Bay, many of the species found in South River are anadromous; that is reproduction takes place by means of a migration or spawning run from areas of higher salinity into areas more directly under freshwater influence (i.e. headwaters and tributaries).

26

4. Beard's Creek is a lowland deciduous forest of 508 acres. The upland wooded section of this area buffers the floodplain from the agricultural fields. Rolling topography and many trails characterize this deciduous woods. A large tidal marsh is at the headwaters of the Creek which is a tributary to South River. The extensive floodplain and upland forest provide valuable habitat for birds and other wildlife. The eastern most edge of this natural area is adjacent to Route 2 on the west and is near the southern terminus of the project.

d. Visual Resources

Characteristic of the Coastal Plain, the proposed project's landscape varies from gently rolling to flat with open farmland, commercial strip development, residential homes and large dense wooded areas.

North of the bridge the area is open rural farmland characterized by large wood areas containing the feeder streams to South River and the marinas located east and west of the bridge approaches

South of the Bridge again marinas dot the east and west of the bridge approaches with spotted areas of woods and open farmland. The road is enclosed on the east and west by strip development and residential housing.

From Pike Ridge Road south to the project terminus the area is enclosed by large dense wooded areas on the east with residential, commercial, wooded, and open farmland spotting the landscape to the west

e. Air Quality

The project corridor is located within the Metropolitan Baltimore Intrastate Air Quality Control Region, a Priority I Region for particulate, sulfur oxides, nitrogen oxides, carbon monoxide and photochemical oxidants. The Maryland Bureau of Air Quality and Noise Control operates an air monitoring station at St. Johns College in Annapolis, Maryland, approximately six miles north of the project area where particulate, nitrogen oxides, and sulfur oxide samples are collected. The State Highway Administration conducted a short term carbon monoxide monitoring program at Crownsville, Maryland, approximately ten miles northwest of the project area. The data from the two monitoring sites indicates that no violations of the Ambient Air Quality Standards for the pollutants measured are currently being experienced.

f. Noise

The areas along the project route are primarily residential and commercial uses. The noise sensitive areas are composed of varying numbers of residences, none of which exceeds ten in total.

Nine noise sensitive areas were identified. Figure 3 on page 12 indicates these areas. A technical noise analysis has been prepared and copies are available upon request for review at the State Highway Administration. One area (No.9) includes the Shadow Point Caretaker's House, a historic site, however, levels at this site are not expected to exceed the Federal Design Noise Level.

Ambient noise measurements were taken at each site and L₁₀ noise levels range from 54 to 74dBA. Three areas presently experience noise levels exceeding the maximum allowable noise level.

28

B. Physical Resources

1. Geology and Soils

All of the geologic formations are relatively soft and can be excavated with power equipment. Most of the project's soils reflect the stability and capability of these strata.

2. Groundwater

Existing wells near the right of way are relatively shallow. If the improved highway is maintained approximately 100 feet from these wells, the site's soils should filter and assimilate pollutants associated with highway runoff before they enter nearby wells.

3. Surface Water

During bridge construction, namely the dredging and placement operations, some sediment, organic and inorganic compounds will be projected into surrounding water columns. Discussions with The Maryland Geological Survey alledged that such chemical activity will be transient and have minimal impact on the aquatic environment.

Although South River's bottom sediments at the bridge have conspicuous concentrations of heavy metals, comparative levels are found throughout the river. Consequently then, vehicle traffic associated with the new bridge will contribute heavy metals to the river; however, when considered with other contributing land uses and the total river system, the bridge impacts will not be significant.

C. Biological Resources

The construction of the proposed project will necessitate the conversion of 5.2 acres that is currently zoned for residential and commercial land use into a transportation related land use. The impacts of this conversion on terrestrial wildlife will be minimal.

Impacts associated with the bridge construction could be potentially harmful to the aquatic ecosystem if strict sediment and erosion control regulations are not followed. The area under consideration for a new bridge structure is now closed to shellfish harvesting due to excessive coliform levels in the river water. River bottom sediments have been shown to contain high levels of heavy metals. Siltation and erosion caused by activities associated with bridge construction could release these metals which are trapped in the sediments of the river bottom and make them available temporarily to species which are found throughout the water column.

Discussions with the Maryland Fisheries Administration have revealed a concern for the oyster bars which are located downstream at the mouths of Warehouse and Church Creek. The concern involves sediment disturbance from the use of jetting during pier construction and blasting during demolition of the existing bridge. It is not known whether either activity will be utilized on the project. If either is used, coordination with the Department of Natural Resources will occur to set any time or other restrictions to minimize potential adverse impact. This coordination will be reflected in permits required for construction of the bridge.

D. Air Quality

An air quality analysis report was prepared and is available for review. The project microscale analysis determined that no violations of the one or eight-hour carbon monoxide Ambient Air Quality Standard will occur in 1983 or 2005 for either the "No-Build" or Build Alternates

E. Noise

Nine (9) noise sensitive areas have been identified in the project area (Figure 3). Violations of the design noise levels will occur under both the Recommended Alternate and the "No-Build" Alternate. The following chart summarizes the impact of the alternates considered:

ALTERNATE	NUMBER OF NOISE SENSITIVE AREAS	DESIGN NOISE LEVELS EXCEEDED	NOISE INCREASE OVER AMBIENT	
			SIGNIFICANT*	SEVERE**
No-Build	9	2	1	0
Build	9	4	1	1

*Increase over ambient of 11-15dBA
 **Increase over ambient of over 15dBA

Under the No-Build option, noise levels by the design year will, in general, remain close to present levels or increase some what due to normal traffic volume growth. However, Level of Service "E" traffic flow conditions are expected by the design year at certain times along the

30

project route. Noise levels, therefore, may be somewhat lower than expected at certain times due to reduced vehicle speeds.

Under the Recommended Alternate, noise levels will range 1 to 7dBA higher than levels projected under the No-Build. Capacity of the road will be increased, thus design year traffic volumes will be greater. Speeds will likely be more constant as will corresponding noise levels.

In general, the noise sensitive areas along the project route are single family residences and scattered commercial establishments. Access to Maryland Route 2 is uncontrolled for all areas along the project. One historic site was noted in the project area, and is included as part of NSA 9. The site is the Shadow Point Caretaker's House and is a single family, two story dwelling.

3. Design Noise Level Criteria

Although this is a state action, the design noise levels are being determined in accordance with the Federal Highway Administration, FHPM 7-7-3, which establishes maximum noise levels for various land uses (Table 3).

These levels are expressed in terms of an L_{10} noise level, which describes a noise level that is exceeded for 10% of a given time period.

All ambient and predicted levels in this report are L_{10} exterior noise levels unless otherwise noted.

Table 3

DESIGN NOISE LEVEL/ACTIVITY RELATIONSHIPS

NOISE LEVEL	ACTIVITY CATEGORY
L ₁₀ 60dBA Leq 57dBA	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.
L ₁₀ 70dBA Leq 67dBA	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals picnic areas, recreation areas, playgrounds, active sports area, and parks.
L ₁₀ 75dBA Leq 72dBA	Developed lands, properties or activities not included in above categories.
unlimited	Undeveloped lands.
L ₁₀ 55dBA 52dBA	Public meeting rooms, schools, churches, libraries hospitals, and other such public buildings.
Interior	

32

VI. PROBABLE ADVERSE EFFECTS WHICH CANNOT
BE AVOIDED

Approximately 5.2 acres, of varying types of land use will be required for the roadway right of way. Noise levels would increase.

Some temporary discharge of sediments into the South River will occur during the construction of the new bridge.

The 50 foot vertical bridge clearance would restrict boats with masts heights greater than 50 feet, from using the South River west of the bridge.

VII. EFFECTS ON SITES OF HISTORIC,
CULTURAL, OR UNIQUE SIGNIFICANCE

A. Sites of Unique or Natural Significance

A determination has been made that no areas of natural significance (as defined by Maryland Coastal Zone Management) will be affected by this project. While the natural environmental inventory defined four such areas as occurring within the boundaries set for preliminary environmental analysis, subsequent alignment drawings show that no acreage will be taken that would jeopardize the integrity of these areas or upset the functions which they now perform. There should be no effect to any wetlands.

B. Historical

An historic site, the Shadow Point Caretaker's House, would experience a slight increase in noise levels. These noise levels would not exceed the Design noise level. No right of way would be required from this site.

C. Archeological

Three archeological sites were identified in the project area, however, this action would have no effect on any of these.

34

APPENDIX

SUMMARY OF THE PUBLIC HEARING COMMENTS

The Draft Environmental Document was circulated for comments to public and private organizations and individuals on May 24, 1978.

Subsequently, the Maryland State Highway Administration (SHA) held a combined Location/Design Public Hearing on June 29, 1978 at 7:30 p.m., at Central Middle High School. The purpose of this meeting was to receive comments on the alternatives discussed in the Draft Environmental Document.

Comments at the Public Hearing stressed the need of a rapid completion of the South River Bridge. During the Hearing, 25 persons commented on the proposed project. Eight written comments were received following the hearing; they expressed concerns that were addressed at the hearing.

The following is a summary of the substantive comments:

- 1. Comment: Six persons felt that a bridge with a 60 foot clearance would be needed, while two persons want it 80 feet or higher. These comments were associated with boat owners concerned about underclearance and concern for the general value of property west of the proposed bridge.

Response: It was explained that after analysis and public comment, a bridge height would be recommended to the Coast Guard, and the Coast Guard in turn would approve or hold their own hearings to determine an adequate height. A comparison of present land values was conducted and the results point to the fact that value of property would not be diminished with the construction of a 50 or 60 foot clearance bridge. See page: 17

- 2. Comment: Seven persons expressed interest over the Virginia Avenue and business intersections with Route 2, south of the bridge. Safety and business access were their concern.

Response: It was pointed out that this intersection will have safer movement to and from either the north or southbound lanes, by providing storage area and having better site distance for vehicles using the intersection. See page: 25

- 3. Comment: Four persons expressed a feeling that the replacement bridge should be less than 50 feet. Their concerns were additional cost and design problems.

Response: Cost factors as well as design features will both be considerations in the final decision. There would be no design problems with a bridge of 50 feet.

4. Comment: Several speakers discussed the need of improvements to Maryland 2 south of the bridge, Section II.

Response: It was explained that Section II was a separate project that would be compatible with Section I, the bridge replacement. An environmental document and hearing would be completed in the future for this section.

5. Comment: A question was asked if the Coast Guard had been notified or coordinated with during the project.

Response: It was explained that the Coast Guard had been contacted and asked to put out a notice (that appeared in Local Notice to Mariners, April 11, 1978), so that interested mariners could respond to the proposed action. Twenty six responses were received. Further coordination will take place leading to an approved vertical bridge clearance.

6. Comment: Will soil erosion and flooding be considered in the design and construction of the project?

Response: Yes, these concerns will be monitored and coordinated with the Department of Natural Resources. Necessary permits will be received.

7. Comment: Question was raised that an economic analysis should be conducted in the determination of vertical bridge clearance.

Response: A comparison of land values was evaluated in the project area. The findings showed that properties, (water front, water view, and water privilege) west of the 25 foot Riva Bridge were comparable to those east of the bridge with no height restriction caused by a bridge structure; property tax returns were similar as was the property appreciation in recent years. It was felt by several realtors that water front, etc., properties were high value commodities and the past and expected future demand has placed a premium that would not be diminished by a height clearance of either 50 or 60 feet for a bridge structure.

8. Comment: The need for a six lane bridge, will occur in the future, how will it be handled.

Response: It was explained that an additional two (2) lanes can be accommodated by the existing structure, with some modifications.

9. Comment: A tunnel in lieu of a bridge was recommended.

Response: This concept would be prohibitive in cost.

10. Comment: What provision is there for bikers and hikers.

Response: Eight foot wide shoulders and a five foot sidewalk will be provided for bikers and pedestrians.

11. Comment: Would the construction of this project preclude the implementation of other projects, because of use of State funds?

Response: No, additional Federal and State funds would be available for other needed projects.

12. Comment: Will new techniques be used in the construction of the bridge.

Response: Several new techniques will be incorporated: epoxy coated steel, air entrained concrete, among others will lower maintenance costs as well as extend the life of the new bridge.

13. Comment: Would adequate maintenance of the existing bridge continue until the new one is built.

Response: Yes, pot holes and other problems will be repaired in order to maintain a safe facility, until the time comes to remove the old bridge with the completion of the new bridge.

14. Comment: Why is an underpass being provided on the north side of the bridge for commercial areas and not on the south side of the bridge for residential areas?

Response: A different situation exists on the north side of the bridge. A crossover is needed, however, the median width at that point is so narrow that a safe crossover could not be provided. A significant amount of traffic crossing Maryland Route 2 on the north side consists of boat trailer and truck traffic, which requires a larger storage area that could not be provided by a crossover. For this reason, an underpass was felt to be needed.

An underpass was studied for south of the bridge, however, two families would have had to have been displaced. Also, the proposed safer crossover at the intersection, would provide adequate protection and storage for crossing vehicles. Vehicles would have to cross only one way directional traffic instead of the present two way situation. Present traffic counts at the intersection do not warrant an underpass; however, it will continue to be monitored by State Highway Administration.



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
COMMANDER (Oan)
FIFTH COAST GUARD DISTRICT
FEDERAL BUILDING
431 CRAWFORD STREET
PORTSMOUTH, VIRGINIA 23705

38

PUBLIC NOTICE 5-386

10 April 1978

TO WHOM IT MAY CONCERN

The Maryland Department of Transportation, State Highway Administration, is planning to replace the existing two-lane drawbridge across the South River with a four-lane fixed bridge. The existing drawbridge is located 5.7 miles above the mouth of the South River at Edgewater, Maryland.

The purpose of this notice is to advise navigation interests of the proposed bridge construction and to solicit comments regarding the adequacy of the following proposed navigational clearances:

- a. Vertical clearance of 50' at mean high water.
- b. Horizontal clearance of 110' between fenders normal to the axis of the channel.

The proposed location of the fixed bridge is 90' downstream of the existing drawbridge. A copy of the plan showing the proposed location and navigation clearances is shown on the reverse side of this notice.

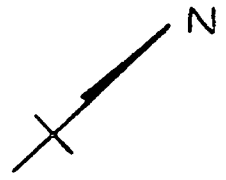
Comments concerning the proposed fixed bridge from the standpoint of navigation are requested and should be submitted in writing to the Commander (Oan), Fifth Coast Guard District, Portsmouth, Virginia, 23705, and will be received through 12 May 1978.

It is requested that this information be brought to the attention of any persons known by you to be interested in the proposed bridge and who may not have received a copy of this notice.

V. R. ROBILARD
Captain, U.S. Coast Guard
Chief, Aids to Navigation Branch
By direction of the Commander
Fifth Coast Guard District

39

Flood Tide



RIVER

Present Bridge to be Removed.

Ebb Tide

SOUTH

Treated Timber Fenders.

Channel Clearance

To Annapolis

130'-0" 160'-0" 130'-0"

360' Green

50'-0" Vert. Cl.

M.H.W. E1.2.0

M.L.W. E1.0.00

180° Red on Fenders

Scale: 1" = 100'

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION

**SOUTH RIVER REPLACEMENT BRIDGE
 MARYLAND ROUTE 2
 NAVIGATIONAL SURVEY**

DATE: MARCH 1978 SHEET 1 OF 1



1978 MAR 8 AM 10 00

ANNE ARUNDEL COUNTY
ANNAPOLIS, MARYLAND 21401

STATE HIGHWAY
ADMINISTRATION
PROJECT PLANNING

OFFICE OF PLANNING AND ZONING

March 2, 1978

Mr. Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration, MDOT
P. O. Box 717/300 West Preston Street
Baltimore, MD 21203

Re: Maryland Route 2 and South
River Bridge, Your Letter of
February 8, 1978

Dear Mr. Camponeschi:

The improvement of Maryland Route 2, from Central Avenue to the end of the existing four lane section near Gingerville, including a new high level bridge over the South River, is consistent with adopted and proposed County General Plans. In fact, this project is considered to be our first priority need in the Primary System.

Our latest estimates of potential growth in the South Planning Area (See Population Map attached) indicate a 62% population increase by 1995, from a 1977 population of 28,109 to a 1995 population of 45,646. It would, therefore, be prudent to provide the capability of building six lanes in the future. However, we do not understand why you cannot ultimately build six lanes with a center turning lane within the ninety foot right-of-way, as in alternate "A", since six lanes would require 72 feet and the center turning lane could vary from 12 to 16 feet. This would, of course, occupy the right-of-way. In some cases, new developers should be required to add this third auxiliary lane in the interim.

We noted that neither alternates 2 nor 3 are the same as the existing divided road (with 16' median). It would seem reasonable to consider the extension of the existing road section as one of the design alternates rather than the wide median widths proposed. The design of the road should vary from a divided type to the five lane non-divided type, depending upon the adjacent land uses and demands for turning movements. We realize that the divided highway is safer but we should also consider the public need to have access to the local business establishments along the road, and the impact on all properties in the corridor. The character of the area suggests that a high speed highway would not be appropriate and would be unnecessarily expensive since most of the traffic is locally oriented.

Mr. Eugene T. Camponeschi, Chief

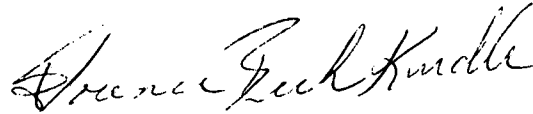
-2-

March 2, 1978

We would like to review your sketch plans with you to make more detailed comments regarding appropriate road designs and access points along the corridor at your earliest convenience.

The proposed General Development Plan is now being presented to the County Council and public hearings will be heard in March. We do not anticipate any amendments that would affect the need for this project or its compatability with the Plan.

Sincerely yours,



Florence Beck Kurdle
Planning and Zoning Officer

FBK/RD/jls



42

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

August 9, 1977

State Highway Administration
Bureau of Landscaping
2323 W. Joppa Road
Brooklandville, MD 21022

Re: Contract #AA169-101-570
Md. Rte. 2 (South River Bridge)

Attn: Bill Branch

Pursuant to our conversations concerning the above referenced project, I am transmitting the following information in an attempt to meet your specific needs. I am aware that you already have some of the items needed. They are as follows:

- 1 - Recreational/commercial fishery values - you should have this information pursuant to your contacting Nick Carter of the Maryland Fisheries Administration.
- 2 - Water Quality Data - you should have this information pursuant to your contacting Jake Longwell of the Water Resources Administration field office.
- 3 - Profile, bottom data/soundings - I understand you already have this information after taking soundings in the vicinity of the South River bridge. If additional information is needed by your office (Hydrographic Survey smooth sheet), it can be obtained by contacting the National Ocean Survey, attn: C-353, 6001 Executive Boulevard, Rockville, Maryland 2-852, phone no. 443-8408.
- 4 - Industrial Discharges - Bill Chicca, Chief of Industrial and Hazardous Waste Section, has indicated that there is no record of industrial discharges in the South River Bridge vicinity.
- 5 - Wetlands Maps - Enclosed are three (3) separate maps in the vicinity of the bridge. If additional maps are needed, please advise.

- 6 - Accident date, height clearance requirements - Upon speaking with Sgt. Dayton of the Marine Police, he informed me that it would be hard to get an exact number of bridge accidents in the vicinity of the project. He said that out of all boating accidents (approximately 250-300 per year) there may be as high as 2% accidents that involve a bridge. His records document accidents of this type (accidents involving a buoy, bridge, pier, etc.) as a fixed object accident. If you need more specific information, Sgt. Dayton can be contacted at 1-822-7551 in Easton, Maryland.

In reference to height clearance requirements, either the County or the Coast Guard can be contacted for additional information, however, Sgt. Dayton indicated that a bridge with less clearance than the existing one would probably receive a lot of opposition.

- 7 - Clearinghouse Comments - Enclosed.

If you have any questions or require additional information, please do not hesitate to contact this office.

Very truly yours,

C. Kirk Cover
Project Engineer

CKC/mc
Enclosures
cc: Mr. Camponeschi



Maryland Historical Trust

May 5, 1978

910 MAY 8 AM 10 45

Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration
Md. Department of Transportation
300 West Preston Street
P. O. Box 717
Baltimore, MD 21203

STATE HIGHWAY
ADMINISTRATION
PROJECT PLANNING

Re: Md. Route 2 (South River Bridge)

Dear Mr. Camponeschi:

Two archeological sites, AN 456 and 457 are located between Solomans Island Road and the proposed new road as reported in File Report #89, Archeological Reconnaissance of Maryland Route 2 from Maryland Route 214 to the Existing Dual Facility north of the South River Bridge, performed by Dennis C. Curry (October, 1977) for State Highway Administration Contract #AA 169-101-570. If the proposed project will have an impact on these resources, they should be considered in the planning process.

Sincerely,

Leland Gilson
Staff Archeologist

LG/pw

Enclosure

Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 269-2212, 269-2438
Department of Economic and Community Development

Comment "These sites have been considered in the planning process and the proposed project will not have any effect on same."



Maryland Historical Trust

April 21, 1977

Mr. Eugene T. Camponeschi
Bureau of Project Planning
State Highway Administration
Maryland Department of Transportation
300 West Preston Street
P.O. Box 717
Baltimore, Maryland 21203

RE: Contract No. AA 169-101-570
Maryland Route 2 (South River Bridge)
South of Maryland Route 214 to the existing divided
highway north of South River Bridge

Dear Mr. Camponeschi:

Thank you for informing the Trust of the project listed above. According to our recent survey of Anne Arundel County, there is one historic house in or near the project's study area. This is Shadow Point (Caretaker's House). I have attached a description of it and a map showing the location.

If you need additional comment, please contact me again.

Sincerely,

George J. Andreve
Architectural Historian

GJA/njm

ANNE ARUNDEL COUNTY, MARYLAND

46



987-4010

FIRE DEPARTMENT HEADQUARTERS
P.O. BOX 276
MILLERSVILLE, MARYLAND 21108

July 5, 1977

Mr. George W. Grandy, Jr.
Project Manager
Maryland Department of Transportation
P.O. Box 717
300 West Preston Street
Baltimore, Maryland 21203

Dear Mr. Grandy:

In response to your letter of June 15, 1977 concerning the South River Bridge, I offer you the following movements and weights of vehicles crossing the bridge in a one year period.

Engine Company

Woodland Beach - Engine 2 - going to areas north of bridge - 20
30,000 lbs.

West Annapolis - Engine 40 - going to areas south of bridge - 98
30,000 lbs.

Ambulance Company

West Annapolis - Ambulance 40 - going to areas south of bridge - 72
10,000 lbs.

Woodland Beach - Ambulance 2 - going to areas north of bridge - 847
10,000 lbs.

Riva - Ambulance 3 - going to areas north of bridge - 31
10,000 lbs.

7th District Rescue - Ambulance 24 - going to areas north of bridge 300
10,000 lbs.

Deale - Ambulance 42 - going to areas north of bridge - 436
10,000 lbs.

Paramedic one - going to areas north of bridge - 200
6,000 lbs.

Burton W Phelps

Burton W. Phelps
Division Chief

BWP/slc

ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

48

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>
A. Land Use Considerations			
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?	___	___	___
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	<u>X</u>	___	P.4
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>	___	.26
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>	___

	<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> </u>	<u> X </u>	p.30
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>	p.30
13. Will the action affect the use of an archaeological or historical site or structure?	<u> </u>	<u> X </u>	p.30
 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> X </u>	<u> </u>	COE 404 pmt
15. Will the action require the construction, alteration or removal of a dam, reservoir or waterway obstruction?	<u> X </u>	<u> </u>	COE 404 PMT
16. Will the action change the over-land flow of storm water or reduce the absorption capacity of the ground?	<u> </u>	<u> X </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> X </u>	<u> </u>	P.26

	<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>	_____
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	<u>X</u>	_____	p.26
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	_____	<u>X</u>	p.26
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>	_____
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	_____	<u>X</u>	p.10
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>	_____
E. Socio-Economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	<u>X</u>	_____	p.26

	<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>	<u> </u>	P. <u>24</u>
33. Will the action alter land values?	<u> </u>	<u>X</u>	P. <u>15</u>
34. Will the action affect traffic flow and volume?	<u>X</u>	<u> </u>	P. <u>24</u>
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	<u> </u>	<u>X</u>	<u> </u>
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	<u> </u>	<u>X</u>	<u> </u>
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans--including zoning?	<u>X</u>	<u> </u>	P. <u>15-16</u>
38. Will the action affect the employment opportunities for persons in the area?	<u> </u>	<u>X</u>	<u> </u>
39. Will the action affect the ability of the area to attract new sources of tax revenue?	<u> </u>	<u>X</u>	<u> </u>
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	<u> </u>	<u>X</u>	<u> </u>
41. Will the action affect the ability of the area to attract tourism?	<u> </u>	<u>X</u>	<u> </u>
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	<u> </u>	<u>X</u>	<u> </u>
43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment?	<u> </u>	<u>X</u>	<u> </u>

52

	<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>*</u>
--	-------	----------	----------

* Environmental Assessment Attached