REPORT NUMBER: FHWA-MD-EIS-98-01(D)

Federal Highway Administration Region III

MD 331 - DOVER BRIDGE

Talbot County and Caroline County, Maryland

ADMINISTRATIVE ACTION

DRAFT ENVIRONMENTAL IMPACT STATEMENT
SECTION 4(f) EVALUATION

Submitted Pursuant to 42 U.S.C. 4332 (2)(c), 49 U.S.C. 303,
and CEQ Regulations (40 CFR 1500 et seq.)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION III, MARYLAND DIVISION

and

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Cooperating Agencies: U.S. COAST GUARD
U.S. NATIONAL MARINE FISHERIES SERVICE

George K. Frick, Jr. 5/12/98

FEDERAL HIGHWAY ADMINISTRATION — Date
Division Administrator

Louis H. Ege, Jr. 5/7/98

STATE HIGHWAY ADMINISTRATION — Date
Director, Office of Planning and Preliminary Engineering

The following persons may be contacted for additional information concerning this document:

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711 West 40th Street
Baltimore, MD 21211
PHONE: (410) 962-4342
HOURS: 7:30 a.m. - 4:30 p.m.

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Office of Planning and Preliminary Engineering
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707 North Calvert Street
Mailstop C-301
Baltimore, MD 21202
PHONE: (410) 545-8500 or 1-800-548-5026
HOURS: 8:00 a.m. - 4:30 p.m.

The proposed action consists of measures to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate vehicular, marine, bicycle and pedestrian traffic. Alternates being considered include the No-Build Alternate, the Modification Alternate, the Dual Bridge Alternate and four new alignment alternates (N2, N1, S1 and S2). Environmental impacts associated with this project are summarized in Table S-1 and would include right -of-way acquisition, effects upon wetlands and Waters of the U.S., 100-year floodplain encroachment, and impacts to cultural resources.

Comments on this Draft Environmental Impact Statement are due July 6, 1998, and can be sent to the persons listed above.

SUMMARY

1. Administration Action

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

2. Additional Information

Additional information concerning the proposed project may be obtained from:

Mr. Louis H. Ege, Jr.,
Deputy Director, Office of Planning
and Preliminary Engineering
State Highway Administration
707 North Calvert Street
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3. Description of Action

The proposed action consists of measures to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate vehicular, pedestrian, bicycle and marine traffic while minimizing impacts to environmental resources. The existing Dover Bridge, located six miles east of Easton, is one of only three remaining single swing-span bridges in Maryland on the state system. It is also the only remaining operating metal truss swing span bridge in Maryland, eligible for the National Register of Historic Places. The Dover Bridge has recently experienced mechanical malfunctions and operational problems and is deemed functionally obsolete due to its narrow bridge width. The mechanical problems have resulted when the bridge is opened for marine traffic and then has difficulty returning to the closed position to accommodate vehicular traffic. These occurrences, when the bridge remains in the open position, compromise safety by restricting access to emergency health care facilities in Easton.

The project area is defined as an area 1.2 miles in length and 600 feet in width, centered upon existing MD 331 and the Dover Bridge.

4. Descriptions of Alternates Considered

a. Alternates Retained for Detailed Study

1) The No-Build Alternate

The No-Build Alternate would consist of:

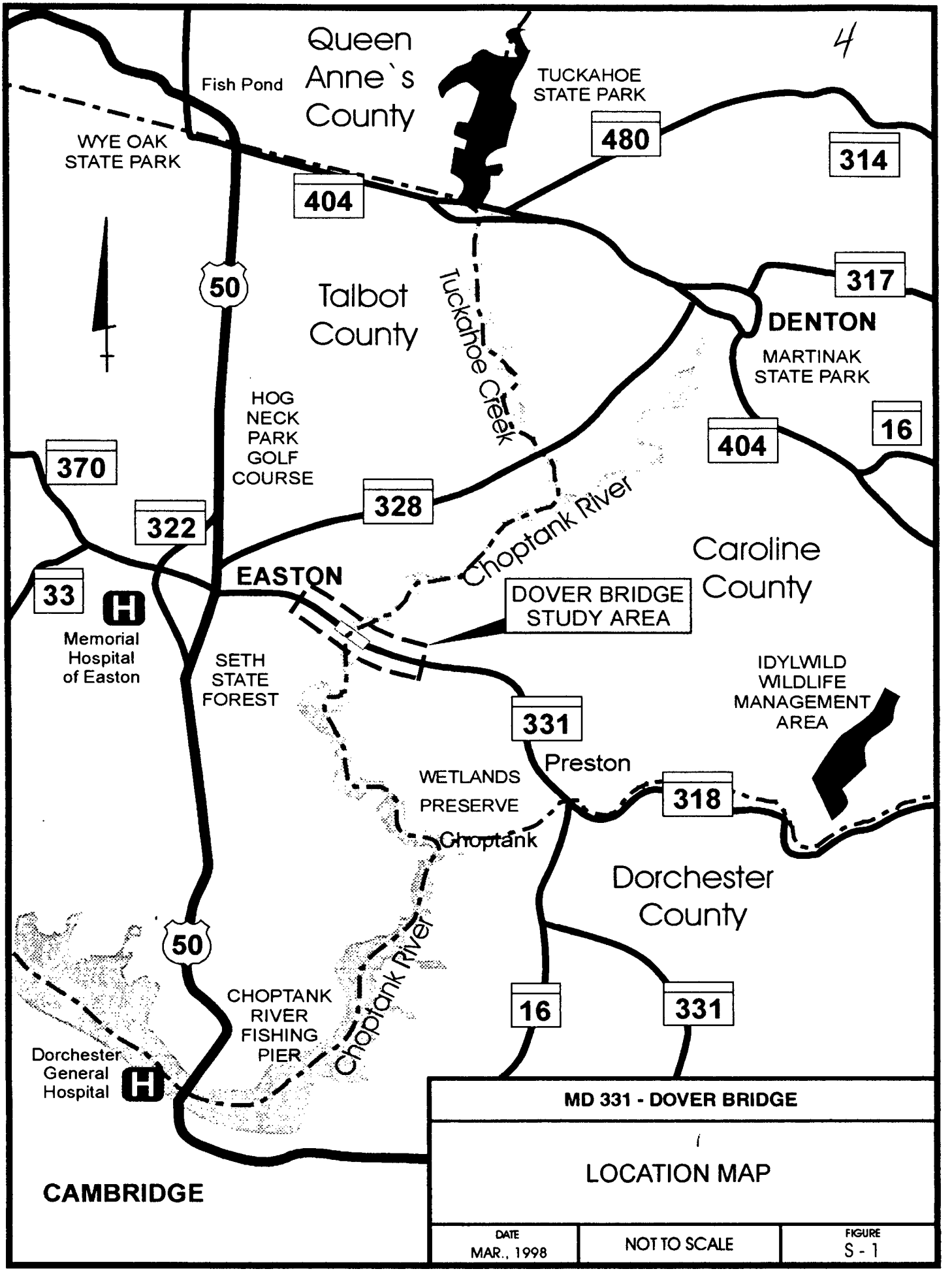
- routine maintenance and spot improvements, including such items as provision of vertical clearance indication signs at the entrance portals of the bridge.
- a completely new electrical system (being completed in Spring, 1998) consisting of a new primary electrical system, tender control panel, observation cameras, a back-up electrical system and a back-up electrical source.

2) The Modification Alternate

The Modification Alternate includes the following changes to the existing Dover Bridge, consistent with the "Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" (U.S. Department of the Interior, 1990):

- Modification of the curb and rail system to provide 0.5 foot to 1.5 foot of additional usable roadway width.
- Modification of the upper diagonal architectural knees at the entrance portals of each of the three truss spans to increase the lane space for trucks and eliminate any perception of a clearance constraint.
- If determined feasible by detailed structural analysis, the installation of a detachable 4-foot 3-inch wide to 5-foot 0-inch wide walkway outside the truss on one or both sides of the span to accommodate pedestrian and bicycle traffic.

LOCMAP.CDR


4
Queen Anne`s County
Fish Pond
TUCKAHOE STATE PARK
WYE OAK STATE PARK
480
314
404
50
Talbot County
Tuckahoe Creek
317
DENTON
MARTINAK STATE PARK
HOG NECK PARK GOLF COURSE
16
404
370
328
322
Choptank River
Caroline County
EASTON
33
DOVER BRIDGE STUDY AREA
Memorial Hospital of Easton
SETH STATE FOREST
IDYLWILD WILDLIFE MANAGEMENT AREA
331
Preston
WETLANDS PRESERVE
318
Choptank
Dorchester County
50
CHOPTANK RIVER FISHING PIER
Choptank River
16
331
Dorchester General Hospital
CAMBRIDGE
MD 331 - DOVER BRIDGE
LOCATION MAP
DATE
MAR., 1998
NOT TO SCALE
FIGURE
S - 1

3) The Dual Bridge Alternate

- Provides a new, single lane roadway on a fixed structure (32-foot deck width accommodating one 12-foot lane and two 10-foot shoulders), parallel to the existing bridge, for westbound traffic.
- Uses the existing bridge to accommodate one lane of eastbound traffic.
- A traffic signal system would allow emergency vehicles to make use of the new fixed span if a malfunction were to occur with the swing-span.
- Follows the Alternate S2 - 30 foot horizontal and vertical alignment.

4) The New Alignment Alternates

Each of the new alignment alternates consists of a new fixed structure (does not need to open to allow marine traffic to pass beneath) that would carry all traffic on MD 331 across the Choptank River and include the following characteristics:

- An alignment that is entirely on new location in order to maintain traffic during construction.
- A 50 mile per hour vertical design speed with 4%, maximum vertical grades.
- A typical section consisting of two 12-foot lanes and two eight-foot shoulders.
- A 60 mile per hour design speed for horizontal alignment.

Four alternate alignments have been developed under this alternate—N2, N1, S1 and S2—and are described as below. The dimension following the alternate's designation refers to the nominal distance from the bottom of the proposed bridge beam to the water surface (i.e., under-clearance).

Alternate N2 - 30 Foot

- Located to the north of the existing bridge, separated as much as 160 feet at the center or pivot point of the existing bridge.
- Outside the arc of the existing swing-span.

Alternate N1 - 50 Foot

- Located to the north of the existing bridge, separated as much as 60 feet at the center or pivot point of the existing bridge.
- The existing bridge truss could pass beneath the new span during opening and closing, as necessary.

Alternate S1 - 50 Foot

- Located to the south of the existing bridge, separated as much as 60 feet at the center or pivot point of the existing bridge
- The existing bridge truss could pass beneath the new span during opening and closing, as necessary.

Alternate S2 - 30 Foot

- Located to the south of the existing bridge, separated as much as 160 feet at the center or pivot point of the existing bridge
- Outside the arc of the existing swing-span
- At the request of the Corps of Engineers, an optional alignment shift has been developed for this alternate that would keep the new alignment close to the existing roadway on the east side of the Choptank River, thereby reducing the encroachment into the tidal marsh wetland.

Alternate S2 - 50 Foot

- Follows the same horizontal alignment as Alternate S2 - 30 foot
- Even though the alignment is located outside the arc of the swing-span, this option has been retained as a result of coordination with the U.S. Coast Guard regarding under-clearance for this project. The U.S. Coast Guard will render its decision regarding the required under-clearance after it completes a boater survey to determine height requirements.

5. Summary of Environmental Impacts

A summary comparison of impacts associated with the alternates under consideration is presented in Table S-1, and briefly described below:

Socio-economic

None of the alternates under consideration will require any residential or business displacements, and no individuals or families would need to be relocated. Right-of-way requirements range from 6.1 acres to 10.5 acres depending on the alternate. Existing land use in the project area is agricultural and tidal marsh. No minority and low income populations were identified in the project area. Furthermore, there are no publicly owned public parks in the areas affected by any of the alternates.

The Dover Bridge is eligible for the National Register of Historic Places. Initially inventoried in 1980 and re-evaluated in 1994, the Dover Bridge possesses the significance and integrity requisite for listing on the National Register of Historic Places. The Dover Bridge is important for its architectural character and engineering, as well as its association with important events, such as the increased navigational needs stemming from industrial and urban expansion. Another cultural resource in the project area is Troth's Fortune, located along the western bank of the Choptank River, just north of the Dover Bridge. The Maryland Historic Trust (MHT) has concurred that both the No-Build and Modification alternates have No Adverse Effect determinations on standing cultural resources, and all of the new alignment alternates would have an Adverse Effect on standing cultural resources.

Phase I archeological surveys have been completed. Of a total of seven sites identified, one early colonial period archeological site 18TA315, important for its information potential, is eligible for the National Register of Historic Places. Only the southern alternates (all options and the Dual Bridge Alternate included) would impact this site.

This project is consistent with the 1986 Caroline County Comprehensive Plan and the 1996 Talbot County Comprehensive Plan.

Natural Resources

There are no federal or state listed threatened or endangered species within the project area. The project is located within the limits of the Chesapeake Bay Critical Area in areas designated as Resource Conservation Areas in both Caroline and Talbot counties.

The Dover Bridge crosses the Choptank River and associated 100-year floodplains. The Choptank River and tributaries are Use I waters with documented anadromous fish species spawning locations within the project vicinity, including herring, perch, and bass. In-stream construction restrictions will apply from February 15 through June 15, inclusive. In addition, because there are known concentrations of waterfowl within the project area, the Maryland Department of Natural Resources has recommended that no construction should occur during the wintering period from October 15 to March 31. Tidal marsh wetlands occur in the project area on the Caroline County side of the bridge. Impacts to wetlands, resulting from shading, pier construction and embankment placement, range from zero for the No-Build and Modification alternates, to as much as 4.7 acres with the new alignment alternates. Floodplains and Waters of the U.S. other than wetlands would also be impacted by the new alignment alternates.

The terrestrial resources potentially impacted include agricultural fields and narrow pioneer edge forests which are of low quality, low density and have high occurrences of invasive alien species. One specimen tree, a 32-inch diameter sycamore may be impacted.

Prime farmland and Statewide Important Farmland would be impacted by the Dual Bridge and new alignment alternates. Prime farmland impacts would range from 1.6 acres to 2.7 acres, and Statewide Important Farmland impacts would range from 0.7 acre to 2.0 acres, depending on the alternate selected.

Areas of Controversy

Potential areas of controversy associated with this project include the following:

- The potential conflict concerning removing the Dover Bridge or segments thereof.
- Environmental concerns with new alignment alternates may be in conflict with measures to minimize harm to historic resources.

Other Federal/State Actions

Depending upon the alternate selected, some or all of the following federal/state actions may be required:

- Section 404 Permit from the Army Corps of Engineers for construction involving Waters of the U.S. including wetlands
- U.S. Coast Guard Bridge Permit
- Waterway Construction Permit from Maryland Department of Natural Resources
- Stormwater Management Permit from Maryland Department of the Environment
- Approved Erosion and Sediment Control Plan from Maryland Department of the Environment
- Section 106 coordination with the Maryland Historical Trust, the Advisory Council on Historic Preservation and interested parties

Cooperating Agencies

As part of the National Environmental Policy Act review process for the project, the U.S. National Marine Fisheries Service and the U.S. Coast Guard have been included as cooperating agencies. In addition, extensive coordination with the U.S. Army Corps of Engineers has been conducted.

TABLE S-1
ENVIRONMENTAL SUMMARY

ANALYSIS ITEM	ALTERNATE									
	NO BUILD	Modification	N2 (30' HIGH)		N1 (50' HIGH)	DUAL BRIDGE (30' HIGH)	S1 (50' HIGH)	S2 (30' HIGH)		S2 (50' HIGH)
			Embank-ment	Structure	Structure	Structure	Structure	Embank-ment	Structure	Structure
Length - Miles	0	0.16	0.77	0.77	0.84	0.64	0.83	0.78	0.78	0.83
Socio-economic Environment										
1. Relocation (Total Takes)	0	0	0	0	0	0	0	0	0	0
2. No. of Properties & Resources Affected										
a. Residential/Agricultural	0	0	3	3	4	3	4	4	4	4
b. Parkland or Recreation Area	0	0	0	0	0	0	0	0	0	0
c. Historic/Archeological Sites	0	1	2	2	2	3	3	3	3	3
TOTAL	0	1	5	5	6	6	7	7	7	7
3. Number of Properties Requiring Building Demolition	0	0	1	1	1	0	0	0	0	0
4. Right-of-Way Required - Acres										
a. Residential/Agricultural	0	0	10.5	8.6	7.6	6.1	7.1	9.8	7.7	8.9
b. Parkland or Recreation Area	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0*	10.5	8.6	7.6	6.1	7.1	9.8	7.7	8.9
5. Consistent with area land use plans	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Natural Environment										
1. Number of Stream Relocations	0	0	0	0	0	0	0	0	0	0
2. Number of Stream Crossings	0	0	1	1	1	1	1	1	1	1
3. Affected Threatened or Endangered Species.	0	0	0	0	0	0	0	0	0	0
4. Area of Prime Farmland Affected (Acres)	0	0	2.8	2.8	1.8	2.5	2.4	2.8	2.8	3.0
5. Area of Statewide Important Farmland Affected (Acres)	0	0	1.9	1.9	1.9	0.1	0.7	0.8	0.8	0.8
6. 100-year Floodplain Impacted (Acres)	0	0	4.2	3.9	3.2	2.2	2.9	4.8	2.7	3.2
7. Wetlands Affected (Acres)	0	0	4.1	3.5	3.1	2.1	2.4	4.7	2.5	3.1
8. Waters of the U.S. Affected (other than wetland)	0	0	28,600 SF	28,600 SF	28,600 SF	23,400 SF	28,600 SF	28,600 SF	28,600 SF	28,600 SF
9. Woodlands Affected (Acres)	0	0	0.9	0.9	0.3	1.5	1.9	1.7	1.7	2.2
COST ($ Millions)	0	$2.5	$17.7	$20.1	$23.8	$16.7	$23.6	$17.9	$20.0	$24.2

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MARYLAND ROUTE 331
THE DOVER BRIDGE

The following Environmental Assessment Form is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. Its use is in keeping with the provisions of 1500.2 and .6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State and Local procedures be integrated into a single process.

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

MARYLAND ROUTE 331
THE DOVER BRIDGE

ENVIRONMENTAL ASSESSMENT FORM

	YES	NO	COMMENTS
A. Land Use Considerations			
1. Will the action be within the 100 year floodplain?	X		See Section IV.E., Page IV-22
2. Will the action require a permit for construction or alteration within the 50 year floodplain?		X	
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	X		See Section IV.E., Page IV-22
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?		X	
5. Will the action occur on slopes exceeding 15%?		X	
6. Will the action require a grading plan or a sediment control permit?	X		See Section IV.E., Page IV-27

ENVIRONMENTAL ASSESSMENT FORM (Continued)

	YES	NO	COMMENTS
7. Will the action require a mining permit for deep or surface mining?		X	
8. Will the action require a permit for drilling a gas or oil well?		X	
9. Will the action require a permit airport construction?		X	
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?		X	
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?		X	
12. Will the action affect the use of any natural or manmade features that are unique to the county, state, or nation?	X		See Section IV.E., Page IV-8
13. Will the action affect the use of an archaeological or historical site or structure?	X		See Section IV.E., Page IV-8

ENVIRONMENTAL ASSESSMENT FORM (Continued)

B. Water Use Considerations	YES	NO	COMMENTS
14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	X		See Section IV.E., Page IV-27
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction.	X		See Section IV.E, Page IV-22
16. Will the action change the over-land flow of storm water or reduce the absorption capacity of the ground?	X		See Section IV.E., Page IV-13
17. Will the action require a permit for the drilling of a well?		X	
18. Will the action require a permit for water appropriation?		X	
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?		X	

ENVIRONMENTAL ASSESSMENT FORM (Continued)

	YES	NO	COMMENTS
20. Will the project require a permit for the construction and operation of facilities for treatment and/or land disposal of liquid waste derivatives?		X	
21. Will the action result in any discharge into surface or sub-surface water?	X		See Section IV.E., Page IV-13
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	X		See Section IV.E., Page IV-13
C. Air Use Considerations			
23. Will the action result in any discharge into the air?		X	
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?		X	
25. Will the action generate additional noise which differs in character of level from present conditions?		X	
26. Will the action preclude future use of related air space?	X		See Section II.A, Page II-2

ENVIRONMENTAL ASSESSMENT FORM (Continued)

	YES	NO	COMMENTS
27. Will the action generate any radiological, electrical, magnetic, or light influences?		X	
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?		X	
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?		X	
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?		X	
E. Socio-economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?		X	
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?		X	

ENVIRONMENTAL ASSESSMENT FORM (Continued)

	YES	NO	COMMENTS
33. Will the action alter land values?		X	
34. Will the action affect traffic flow and volume?		X	
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?		X	
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?		X	
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans - including zoning?	X		See Section IV.C., Page IV-5
38. Will the action affect the employment opportunities for persons in the area?	X		See Section IV.B., Page IV-4
39. Will the action affect the ability of the area to attract new sources of tax revenue?		X	

ENVIRONMENTAL ASSESSMENT FORM (Continued)

	YES	NO	COMMENTS
40. Will the action discourage present sources of tax revenue from remaining in the area to attract new sources of tax revenue?		X	
41. Will the action affect the ability of the area to attract tourism?	X		See Section I.C., Page I-7 and Section IV.B., Pages IV-3 & 4

F. Other Considerations

42. Could the action endanger the public health, safety or welfare?		X	
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?		X	See Section I.B., Pages I-2 & 3
44. Will the action be of statewide significance?		X	
45. Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action could result in a cumulative or synergistic impact on the public health, safety, welfare, or environment?		X	

TABLE OF CONTENTS

PAGE NO.

TABLE OF CONTENTS (continued)

PAGE NO.

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

PAGE NO.

TABLE OF CONTENTS (continued)

LIST OF FIGURES

[1]This figure consists of two sheets, A and B.

LIST OF FIGURES

LIST OF TABLES

I. PURPOSE AND NEED

A. Project Location and Description

The MD 331 - Dover Bridge project is located at the eastern edge of Talbot County and the southwestern edge of Caroline County in Maryland, as shown on Figure I-1. The existing Dover Bridge is an 841 foot long, two-lane metal through truss swing span which carries MD 331 over the Choptank River, approximately six miles east of the town of Easton. Easton is the largest incorporated Small Urban Area in Maryland's mid-shore area with a population of 9,400 in 1990. More than fifty percent of Talbot County's 30,000 residents live in the immediate area of Easton. Easton is the main commercial and employment center in the mid-shore area, containing a regional hospital, The Memorial Hospital in Easton, and Talbot County's government center. Its dominance is at least partly attributable to the highway system that radiates from the town center in all directions. Outside the immediate vicinity of Easton, MD 331 passes through some of the best agricultural soils in Talbot County with many upland grain farms.

Southern Caroline County has more of a mix of agriculture and rural residential land uses along the main transportation corridors. Federalsburg, with a population of 2,400, is a significant employment center with many manufacturing and distribution firms. It is located at the convergence of several arterial highways and the Maryland Delaware Railroad. These same transportation advantages apply to Hurlock, a Small Urban Area of 1,700 in northern Dorchester County which is part of that County's growth corridor.

Closer to the Dover Bridge is the town of Preston, which is located in Caroline County. With a population exceeding 400 within the town limits, it provides numerous commercial and business services for the surrounding area. Just west of town is the home terminal and former headquarters of Preston Trucking, a major motor freight carrier in the Mid-Atlantic area. Farther west on MD 331, at the intersection with MD 578, is the residential village of Bethlehem, an area designated for limited expansion by Caroline County.

The Dover Bridge is approximately 15 miles upstream of the Senator Malkus, Jr. Bridge which carries U.S. 50 over the Choptank River into the City of Cambridge on a 50-foot high fixed span structure.

The purpose of this project is to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate vehicular, marine, pedestrian and bicycle traffic and minimize impacts to environmental resources. The existing Dover Bridge, located six miles east of Easton, is one of only three single swing-span bridges in Maryland, on the state system. As the only remaining operating metal through truss swing span bridge in Maryland, it is also the only National Register eligible swing span bridge in the State. The Dover Bridge, which provides emergency vehicle access to the Memorial Hospital of Easton, has recently experienced mechanical malfunctions and operational problems and is deemed functionally obsolete due to its narrow bridge width. The mechanical problems resulted in the bridge being opened, and remaining in the open position. The 841 foot long, two lane, historic bridge, built in 1933, carries 12,300 vehicles per day between Caroline and Talbot counties. It is opened on demand for boaters approximately 175 times per year, mainly between July 1 and Labor Day; however, numerous openings occur during Spring and Fall as well. A chart containing the numbers of bridge openings and malfunctions is included in the Appendix.

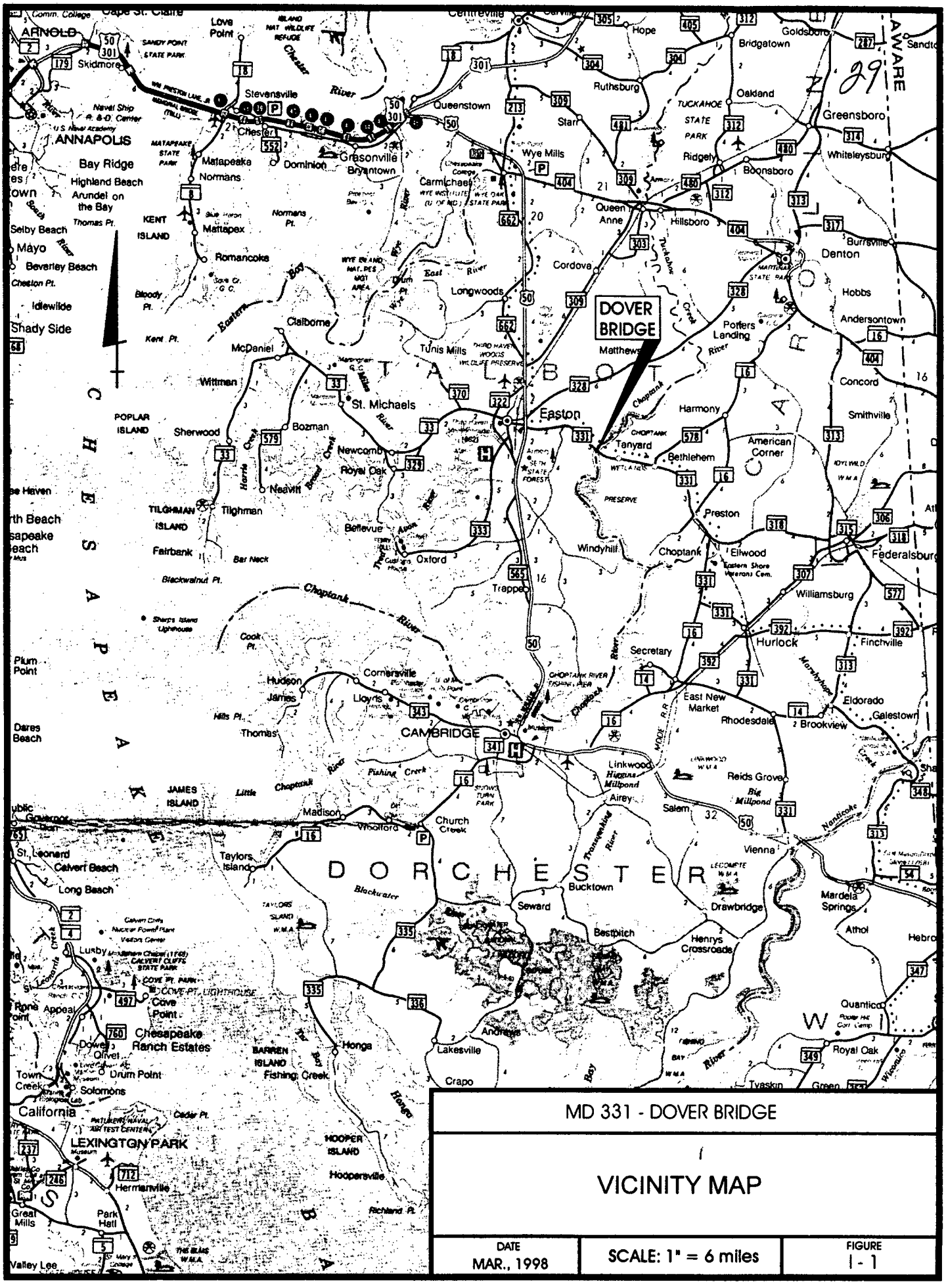
MD 331 is a Rural Minor Arterial that provides the primary east-west roadway connection for this tri-county area. It provides access for rural residents to the major employment and commercial center of Easton to the west and the secondary center of Federalsburg to the east. It carries both the materials and products to and from the industries and the farms along the corridor. MD 331 is the route that brings people to the schools, churches and social organizations located in the towns and villages and it allows government and agencies located there to dispense services that protect and enhance the life of the citizens.

B. Need

1. Background

During the past three years, operational problems have occurred frequently on the Dover Bridge that have inconvenienced both motor vehicles and marine crafts: 1995 - 12 incidents; 1996- 7 incidents; and 1997 (through October) - 10 incidents. The operational problems and resulting disruptions to traffic have spurred citizens and elected officials to vigorously express their concern about the dependability of the bridge. This was a major item of discussion during the 1996 Maryland Department of Transportation's (MDOT) Consolidated Transportation Plan (CTP) Tour. Several local meetings have been held by the State Highway Administration's

VICINITY.CDR



MD 331 - DOVER BRIDGE

/

VICINITY MAP

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 6 miles	1 - 1

STUDY AREA

PROJECT AREA

DOVER BRIDGE

CAROLINE COUNTY

TALBOT COUNTY

PROVIDENCE

PROVIDENCE LANDING

NEWTON

TANYARD

BETHLEHEM

Seth Demonstration Forest

Kings Creek

Williams Creek

Barker Creek

Mitchell Run

Crowberry Creek

Little Creek

Marsh Creek

CHOPTANK RIVER

331

578

MD 331 – DOVER BRIDGE

STUDY AREA MAP

DATE MAR., 1998

SCALE: 1" = 2000'

FIGURE I-2

FILE: STUDY331.DGN
04-29-98 TLL

(SHA) District 2 Office and Office of Bridge Development to discuss actions and strategies being taken to remedy the reoccurring mechanical malfunctions. Two letters from area citizens, one containing 860 signatures and the other containing 90 signatures, were sent to state representatives, including the Governor, during the past year, requesting that the Dover Bridge problems be addressed. A project to completely overhaul the bridge's electrical system, including a new primary electrical system, tender control panel, observation cameras, a back-up electrical system and a back-up electrical source, is due to be completed in the spring, 1998. The purpose of these improvements was to maximize the reliability of bridge operations to the extent practicable, and to keep the mechanical/electrical life-span of the bridge in line with the structural life expectancy, estimated to be 15-20 years.

The Dover Bridge Project Planning Study is included in the Fiscal Year 1998-2002 Statewide Transportation Improvement Program (STIP) as number T450-6 for Talbot County and CA262-3 for Caroline County.

2. System Linkage

MD 331 is a Rural Minor Arterial that, via MD 318, MD 577 and DE 20, links Easton in Maryland and the Town of Seaford in Delaware, which are both Small Urban Areas. Between them lie the small northern Dorchester County and southern Caroline County communities of Hurlock, Federalsburg and Preston. The MD 331 Dover Bridge crossing of the Choptank River is strategically important, since it provides the only direct connection between Easton and the Town of Preston. The closest alternative crossings of the Choptank River are approximately thirteen miles north at Denton (MD 404 and MD 404 Business) and seventeen miles south at Cambridge (US 50), resulting in a 27 mile northern detour route and a 31 mile southern detour route, respectively, between Easton and Preston, compared to a normal ten mile trip via MD 331. This crossing becomes critical when fire and emergency equipment from Easton must cross the County Line expeditiously. Traffic is stopped for approximately five minutes for the bridge tender to complete a full open and close cycle. This time can vary with the following factors: traffic already on the bridge during the warning, traffic on the approaches during the warning, length of the boat, and the speed of the boat. The distances from Preston to various urbanized areas having emergency services, such as Easton, Cambridge, Salisbury, and Dover are 12, 20, 38, and 45 miles, respectively. MD 331, Dover Bridge Road, also serves as a diversion route for some of the seashore traffic during the Summer. From a maritime perspective, the bridge

controls access to and from the upper twenty miles of the tidal Choptank River, along with being the sole river access to Tuckahoe Creek.

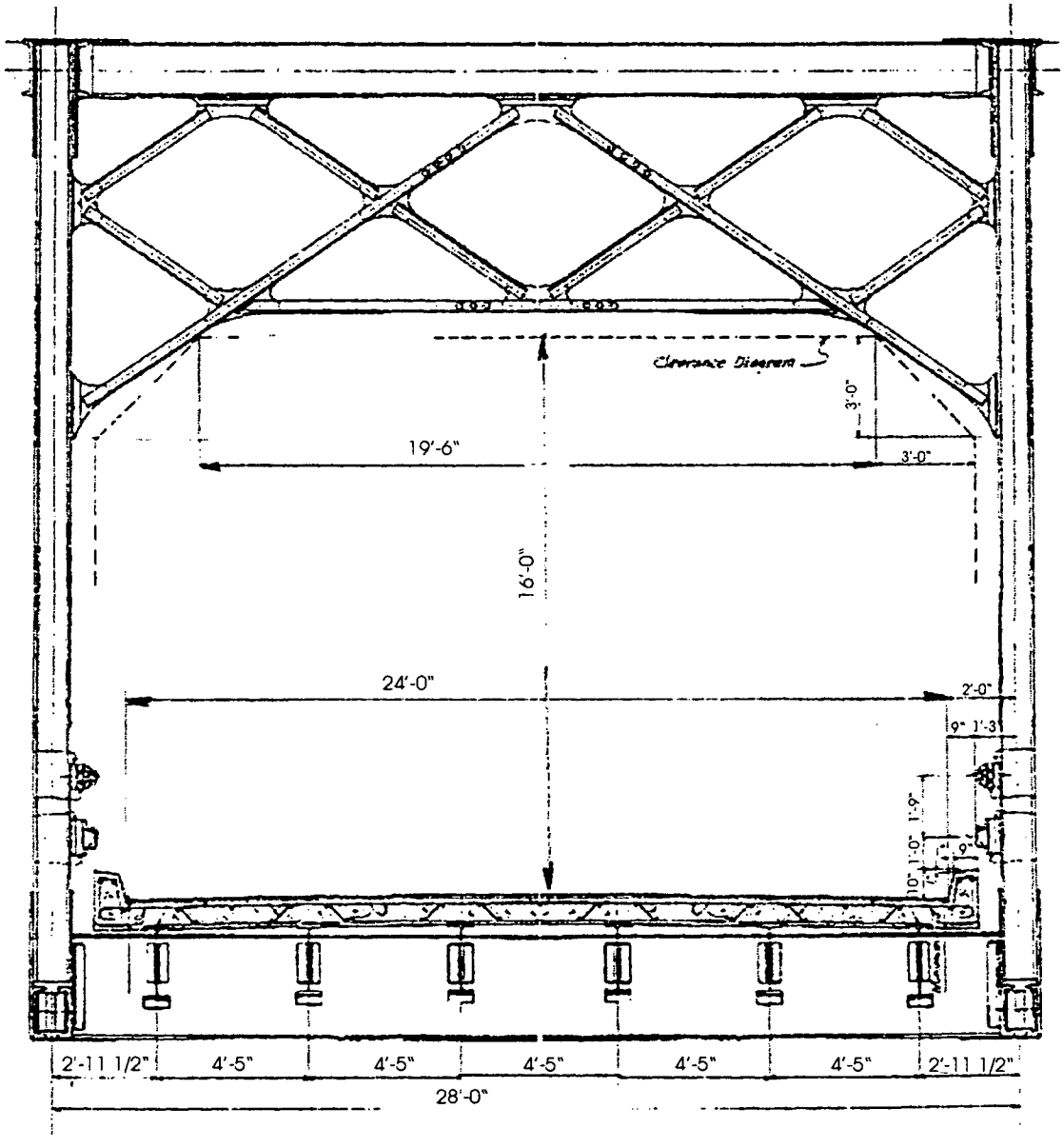
3. Structural/Functional Deficiencies

a. Bridge

The existing swing span through truss bridge carrying MD 331 over the Choptank River (Dover Bridge) has become an area of concern for local residents who use the bridge regularly. Recently, the structure has experienced operational problems that have caused traffic back-ups along MD 331 while the bridge was stuck in the open position. Many of these problems were traced to the electrical system that runs the machinery beneath the swing span. SHA has recently replaced the outdated electrical system with a new one that SHA believes will minimize, but not eliminate, the bridge malfunctions of opening the swing span. The bridge is currently operational. The replacement of the electrical system, however, does not address the bridge's existing wedges that aid in the bridge's closing, nor address the functional classification. The wedges are interlocking, finger-like devices on the swinging span that lock into the stationary spans when the bridge is in the closed position. In the past, these wedges have not been driven in correctly. This results in a vertically misaligned bridge upon closing and requires a re-opening of the bridge in order to gain another attempt at driving the wedges correctly into place.

Another concern associated with the Dover Bridge is the narrow roadway width provided within the truss system. Figure I-3 shows a sketch of the typical cross section of the through truss at the Dover Bridge. The approach roadways consist of two twelve foot lanes on both sides, with eight to ten foot shoulders, while the bridge deck has 24 feet of clear roadway. Observations of tractor trailers crossing the bridge show that when there is no oncoming traffic, these vehicles move to the left across the center yellow line on the bridge.

The American Association of State Highway and Transportation Officials (AASHTO) recommends as a minimum, 28 feet of clear roadway width for a bridge on an arterial highway such as MD 331. The current substandard roadway width has resulted in the determination that the Dover Bridge is functionally obsolete. A functionally obsolete bridge is one in which the deck geometry, load carrying capacity (comparison of the original design load to the state legal



MD 331 - DOVER BRIDGE

EXISTING TRUSS TYPICAL SECTION

DATE		FIGURE
MAR., 1998	NOT TO SCALE	I-3

load), clearance, approach roadway alignment, or a combination of these, no longer meets the usual criteria for the system of which it is an integral part.

The sufficiency rating of a bridge is a basis for establishing eligibility and priority for replacement and rehabilitation. The Dover Bridge has been determined to have a sufficiency rating of 55.8. In general, the lower the sufficiency rating, the higher the priority. A bridge must have a sufficiency rating of 80.0 or less to be eligible for funding under the Highway Bridge Replacement or Rehabilitation Program. Bridges with ratings of less than 50.0 will be eligible for replacement or rehabilitation, while those with ratings of 50.0 to 80.0 are only eligible for rehabilitation.

The under-clearance of the Dover Bridge, while in the closed position, is approximately 10 feet. Depending upon the tide, this under-clearance can vary between ten and eleven and a half feet. This does not allow for passageway of boats with masts greater than 10 feet, which can access the Choptank River via boat ramps north and south of the Dover Bridge and through the Cambridge Bridge at US 50, which has 50 feet of under-clearance. The MD 404 Denton Bridge, 13 miles upstream, has 25 feet of under-clearance.

b. Roadway

The approaching roadway sections at both ends of the bridge are smooth, have very good ride conditions, and rutting is almost non-existent. The pavement sections are appropriate for existing traffic conditions.

4. Traffic Conditions

The Dover Bridge currently carries a 1997 Average Daily Traffic (ADT) volume of 12,300 vehicles per day, which is projected to increase to a 12,900 ADT volume in the year 2000 and to a 17,000 ADT volume by the year 2020. Seven percent (7%) of the ADT volume on MD 331 over the Dover Bridge is truck traffic, slightly higher than the statewide average. The peak hours at the Dover Bridge are 7 to 8 AM and 4 to 5 PM. The directional distribution of traffic is 70% westbound/30% eastbound during the morning peak hour and vice versa in the evening peak hour. The posted speed limit is 50 miles per hour on both approaches to the bridge, as well as over the bridge itself.

The quality of traffic service for a highway is measured in terms of level of service (LOS). The highest quality of service is LOS A with little or no motorist delays. LOS B is a high quality of traffic flow where drivers' speeds will only occasionally be affected by other vehicles. Further increases in traffic flow characterize LOS C; average speeds are likely to be at posted levels. LOS D characterizes a large number of two-lane rural highways. The speeds will be substantially affected by other vehicles on the road, and the desire to pass will be high; however, speeds will remain at or near posted levels. LOS E characterizes a roadway at capacity. Speeds will be lower than posted levels and trip delays will approach 75 percent. LOS F is the poorest quality of traffic flow with generally stop-and-go conditions and substantial delays. Level of service is a function of traffic volumes, roadway geometry and width, shoulder widths, and amount of passing opportunities. MD 331 currently operates, and is projected to continue operating, at LOS D which is considered acceptable.

A summary of current and projected traffic volumes and levels of service is provided in Table I-1.

TABLE I-1
NO-BUILD TRAFFIC VOLUMES AND LEVELS OF SERVICE

	YEAR		
	1997	**2000**	**2020**
ADT	12,300	12,900	17,000
Design Hourly Volume	1,107	1,161	1,530
Directional Distribution	70/30	70/30	70/30
% Trucks*	4%	4%	4%
Level of Service	D	D	D

* As a percentage of the peak hour traffic volume

The area of MD 331 at the Dover Bridge has experienced a total of 11 accidents from 1994 to 1996, including one fatal accident in 1996. Eight out of the eleven total accidents actually occurred on the Dover Bridge. Of these eight accidents, two were attributed to bridge malfunctions and two were attributed to repair construction on the bridge. Of the eleven accidents, 7 were personal injury accidents and 4 were property damage accidents. The accident types were 5 rear-end collisions and 6 fixed object collisions. There were a total of 20 vehicles involved in these 11 accidents, 2 of which were trucks. Wet surface accidents accounted for 4

accidents in 1995 and 1996 and there was 1 alcohol related accident in 1994. There were 2 nighttime accidents, 1 each in 1994 and 1995.

The fatal accident rate at this site is 18.45 accidents per million vehicle miles of travel (acc/100mvm). This is significantly higher than the statewide rate of 2.36 acc/100mvm. The rate for injury type accidents is 129.16 acc/100mvm, which is also significantly higher than the statewide average of 70.44 acc/100mvm. The rear-end collision rate of 92.26 acc/100mvm is significantly higher than the statewide average of 24.84 acc/100mvm. In addition, the fixed object collision rate was 110.71 acc/100mvm, significantly higher than the statewide rate of 41.42 acc/100mvm. The SHA Traffic Safety Division's accident analysis and study worksheet are included in the Appendix.

C. Modal Interrelationships

In addition to the emergency access provided via the Dover Bridge, MD 331 also provides access to other community facilities. The crossing provides access to the Easton Airport - Newman Field, a substantial regional aviation facility. It is a general aviation airport that services mostly corporate jets and private planes, although charter service is available. Talbot County is planning for this facility to serve new commuter and freight services. The airport presently averages about 250 takeoffs and landings per day. Although no physical expansion of the airport is planned, the number of takeoffs and landings is expected to increase slightly as a result of installation of equipment allowing instrument-only approaches.

While pedestrian traffic is minimal at this rural crossing, MD 331 has been identified by some bicycle groups as an alternative travel route to US 50. The current bridge is not "bicycle compatible," since it has no shoulders or wide curb lanes. In addition, there are no sidewalks or shoulders on this structure creating a safety problem crossing this bridge for both cyclists and pedestrians alike.

Maryland's Eastern Shore has been rated by some national bicycling magazines as one of the best places to bicycle in the nation. One of the most popular routes on the Eastern Shore is in the 30 mile Easton-St. Michaels-Oxford loop. Access to Easton by bicyclists is typically by way of MD 328 or MD 331 because they both maintain wide paved shoulders, except over the Dover Bridge, where there are no shoulders.

Many times, MD 331 is the preferred roadway for bicyclists because it is designated on Maryland's tourism map as one part of the Oakland to Ocean City scenic route. The fact that MD 331 over the Dover Bridge has a width of only 24 feet is an issue for bicyclists, especially considering the 841-foot bridge length. Maryland's Transportation Plan states that it is Maryland's goal to make all of its roadways bicycle compatible. This can be accomplished by providing either wide curb lanes or paved shoulders. The remainder of MD 331 does have wide paved shoulders that are bicycle friendly, and the Dover Bridge should be consistent in maintaining wide shoulders as well.

South of the Denton Bridge and north of MD 331, there are six public boat ramps on the Choptank and two on the Tuckahoe Creek, along with a boat repair yard and marina in Denton. The majority of the boats that use the Choptank River in the vicinity of the Dover Bridge are recreational boats, largely small sailboats and motorboats. There is approximately one commercial boat and one work boat in this area.

During the Winter of 1997-1998, SHA completed a mail-in boater survey to gather data on boat sizes and use on the Choptank River. Of the approximately 1,000 surveys that were mailed out or distributed to area marina patrons, 416 were returned. Results indicated that approximately 93% of boats which currently use the Choptank River have mast heights of 30 feet or less, with nine boats over 30 feet and two boats over 50 feet.. A copy of the mailed out survey and summaries of the results are contained in the Appendix.

II. ALTERNATES CONSIDERED

The following section presents information regarding all of the alternates currently under consideration for this project as well as those that have been eliminated. The final selection of an alternate will not be made until the alternates' impacts and comments on this document and from the public hearing have been fully evaluated.

A. Alternates Retained for Detailed Study

1. The No-Build Alternate

The No-Build Alternate would consist of routine maintenance and spot improvements, as well as the installation of a completely new electrical system to improve the reliability of the opening and closing of the bridge. The electrical work, being completed in the spring of, 1998, consists of a new primary electrical system, tender control panel, observation cameras, a back-up electrical system and a back-up electrical source. This work is separate from the refurbishing of the wedge motors and main motor which was completed in 1997. This alternate would not require any major structural improvements or revision to the existing bridge under-clearance which ranges from eight to ten feet.

2. The Modification Alternate

The Modification Alternate consists of several options for modifying the existing Dover Bridge consistent with the "Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" (U.S. Department of the Interior, 1990). The options included with this alternate were developed under the guidance of Dr. Abba Lichtenstein, a noted bridge historian and structural engineer.

The Modification Alternate includes several or all of the following measures in addition to those described under the No-Build Alternate (See Figure II-1):

- Modification of the curb and rail system to provide 0.5 foot to 1.5 foot of additional usable roadway width. The curb would be moved closer to the sides of the truss, and the guide rail would be modified to not protrude as far from the truss. Detailed design studies would be required to determine the exact amount of additional usable roadway width that can be achieved.

- Modification of the upper diagonal architectural knees at the entrance portals of each of the three truss spans to increase the lane space for trucks and eliminate any perception of a clearance constraint. The existing diagonal would be removed and replaced with a horizontal member, resulting in a constant vertical clearance of no less than 16 feet across the entire width of the roadway at each end of the three truss spans.
- Subject to verification through detailed design studies, installation of a removable 4 foot 3 inch to 5 foot 0 inch wide walkway outside of the existing truss on one or both sides of the span to accommodate pedestrian and bicycle traffic. The walkways would be constructed in such a way as to be detachable from the existing structure, thus providing reversibility to avoid permanently impairing the essential form and integrity of the bridge.
- Provision of additional guidance and training to the bridge tender regarding appropriate communications and other procedures related to bridge openings.
- Increasing the frequency of inspections of the bridge's mechanical/electrical systems from once per year to twice per year.

Additional information concerning this alternate is contained in a letter report in the Appendix of this document. The Modification Alternate would cost an estimated $2.5 million.

3. The Dual Bridge Alternate (Figure II-3)

At the request of the Federal Highway Administration, a dual bridge alternate has been developed. The Dual Bridge Alternate would entail using the existing Dover Bridge to accommodate one-lane westbound traffic (one 12-foot lane and two 6-foot shoulders), and a new, single lane, fixed parallel structure for eastbound traffic.. The new eastbound span would have a deck width of 32 feet to accommodate one 12-foot lane and two 10-foot shoulders (see Figure II-2). In combination with a traffic signal that could reverse the direction of traffic using the fixed span, this dual bridge combination ensures that if a malfunction were to occur on the swing span, a route to the emergency location or the hospital would still be available. The alignment of this alternate follows that of Alternate S2 - 30 foot, both horizontally and vertically (i.e., 30 foot under-clearance). This alternate departs from existing MD 331 1300 feet west of the Choptank River and ties back in to MD 331 1500 east of the river, resulting in a total length of improvement of 0.64 mile (see Figure II-3). The Dual Bridge Alternate would cost an estimated $16.7 million. It is noted that the remarks below concerning design speed for the New Alignment Alternates also apply to the Dual Bridge Alternate.

4. The New Alignment Alternates

Each of the new alignment alternates consists of a new fixed span structure that would carry all traffic on MD 331 across the Choptank River and include the following characteristics:

- An alignment that is entirely on new location (offset either 60 feet or 160 feet from the existing bridge, depending on the alternate) in order to maintain traffic during construction and allow any one of the three options listed below to occur to the existing bridge once a new bridge is completed. Options one and two would depend upon the identification of a party willing to take ownership, maintain and, if desired, operate the existing bridge, as SHA will not participate in its maintenance and operation once a new structure is in place. SHA would make every effort to find another party, including placement of advertisements in local and preservation organization newspapers and newsletters, to take ownership of the bridge. SHA would also explore funding options such as providing the same amount of money that would have been required to remove the bridge to the new owner for maintenance and operation.

  1) Maintenance of the bridge in fully operational condition with connections to the new alignment on each side of the river for use by pedestrians, bicycles and maintenance vehicles. Code of Federal Regulations (CFR) parts 117.1 Subpart A - General Requirements and CFR 117.553 - Choptank River will remain applicable regardless of any transfer of ownership (see U.S. Coast Guard letter in Section VI).
  2) Retention of the existing truss spans with the swing span in the open position, but removal of the eastern or Preston-side approach spans. Or, remove the swing span completely, retaining only the fixed truss spans, based on U.S. Coast Guard concerns regarding the open swing span and pivot island being a hazard to river navigation.
  3) Complete removal of the existing bridge—main truss and approach spans.

- In determining design speeds to be applied to the detailed alternates, preliminary studies indicated that costs and environmental impacts would increase substantially with each incremental increase in vertical design speed, but not be affected substantially by changes in horizontal design speed. Also, there are no major intersection or passing zones on either side of the bridge which demand maximizing

the quality of the vertical alignment. Therefore, given that the posted speed is 50 miles per hour, a 50 mile per hour vertical design speed with 4% maximum grades and a 60 mile per hour horizontal design speed were considered appropriate.

- A typical section consisting of two 12 foot lanes and two eight foot shoulders (see Figure II-2)
- Pier locations that match the existing bridge's pier locations within the Choptank River, and a pier spacing of 100 feet for the eastern approach spans through the tidal marsh.

As described in the alternates' descriptions below, each alternate maintains either a 30 foot or 50 foot under-clearance between the low chord of the proposed bridge and the mean high tide elevation within the navigable portion of the river channel. A 30 foot under-clearance would accommodate approximately 93% of the marine traffic on the Choptank River, based on mail-in boater surveys. Provision of an under-clearance higher than 50 feet would not be prudent given that the existing U.S. 50 crossing of the Choptank River, downstream of the Dover Bridge has an under-clearance of 50 feet. Each of the four alternate alignments would be at a higher elevation than the existing roadway, and are therefore offset horizontally from the existing roadway in order to maintain traffic during construction. The western and eastern tie-ins to existing MD 331 take place as close to the river as the elevation differences between the existing and proposed alignments would allow.

Four alternate alignments have been developed: N2, N1, S1 and S2—and are described as follows:

a. Alternate N2 - 30 Foot (Figures II-4 and II-5)

Alternate N2 is the northernmost of two alignments north of the existing bridge, 160 feet from the center or pivot point of the existing bridge. This alignment remains outside the horizontal swing arc of the existing bridge for maintenance of bridge operation during construction and permanently if necessary. With an under-clearance of 30 feet, Alternate N2 departs from MD 331 approximately 2000 feet west of the Choptank River and ties back in to existing MD 331 approximately 1450 feet east of the river, resulting in a total length of improvement of 0.77 mile. Alternate N2 is being considered with both an embankment and a structure option for supporting the roadway in the segment through the tidal marsh wetland between the eastern bank of the Choptank River and the eastern tie-in to existing MD 331. Alternate N2 - 30 foot is estimated to cost $17.7 million with the embankment option and $20.1 million with the structure option.

b. Alternate N1 - 50 Foot (Figure II-6)

Alternate N1 is a northern replacement structure 60 feet from the center or pivot point of the existing bridge. Alternate N1 has been designed as a fixed bridge with 50 feet of under-clearance to accommodate marine traffic with heights less than 50 feet and to clear the highest members of the existing bridge's swing span truss, as the proposed alignment is within the swing arc of the existing movable span. Alternate N1 departs from MD 331 approximately 2000 feet west of the Choptank River and ties back in to MD 331 approximately 1850 feet east of the river. The total length of improvement is 0.84 mile. This alternate is being considered only with structure supporting the eastern approach to the river crossing since embankment would provide no cost savings and significantly higher wetland impacts for the 50 foot under-clearance. Alternate N1 - 50 foot is estimated to cost $23.8 million.

c. Alternate S1 - 50 Foot (Figure II-7)

Alternate S1 is one of two new southern alignment alternates. Alternate S1 is the closest to the existing bridge, 60 feet from the center pivot point. Alternate S1 has been designed as a fixed bridge with 50 feet of under-clearance to accommodate marine traffic with heights less than 50 feet and to clear the highest members of the existing bridge's swing span truss, as the proposed alignment is within the swing arc of the existing movable span. Alternate S1 departs from MD 331 approximately 2000 feet west of the Choptank River and ties back in to MD 331 approximately 1800 feet east of the river. The total length of improvement is 0.83 mile. This alternate is being considered only with structure supporting the eastern approach to the river crossing since embankment would provide no cost savings and significantly higher wetland impacts for the 50 foot under-clearance. Alternate S1 - 50 foot is estimated to cost $23.6 million.

d. Alternate S2 - 30 foot (Figures II-8 and II-9)

Alternate S2 - 30 foot follows the southernmost alignment of the alternates considered, 160 feet from the center or pivot point of the existing bridge. This alignment remains outside the horizontal swing arc of the existing bridge for maintenance of bridge operation during construction and to allow permanent operation of the existing bridge if necessary. With an under-clearance of 30 feet, Alternate S2 departs from MD 331 approximately 2000 feet west of the Choptank River and ties back in to existing MD 331 approximately 1500 feet east of the river, resulting in a total length of improvement of 0.78 mile. Alternate S2 is being considered with both embankment and structure options for supporting the roadway in the segment through the tidal marsh between the

eastern bank of the Choptank River and the eastern tie-in to existing MD 331. As suggested by the U.S. Army Corps of Engineers, an alignment shift has been evaluated with the structure option to this alternate for the purpose of minimizing encroachment into the tidal marsh wetland. This minimization option is discussed in more detail in Section IV.E.3. Alternate S2 - 30 foot is estimated to cost $17.9 million with the embankment option and $20.0 million with the structure option.

e. Alternate S2 - 50 foot (Figure II-10)

Alternate S2 - 50 foot follows the same southernmost alternate alignment as Alternate S2 Option A but provides a 50 foot under-clearance across the navigational channel. Although 30 foot under-clearance seems appropriate based on boater surveys which indicate that 93% of boats navigating this segment of the Choptank River could clear a 30 foot structure, this option is retained pending U.S. Coast Guard direction regarding under-clearance which will follow their own boater survey. A final under-clearance determination will be made prior to completion of the Final Environmental Impact Statement. With an under-clearance of 50 feet, Alternate S2 - 50 foot departs from MD 331 approximately 2000 feet west of the Choptank River and ties back in to existing MD 331 approximately 1750 feet east of the river, resulting in a total length of improvement of 0.83 mile. This alternate is being considered only with structure supporting the eastern approach to the river crossing since embankment would provide no cost savings and significantly higher wetland impacts for the 50 foot under-clearance. Alternate S2 - 50 foot is estimated to cost $24.2 million.

B. Alternates Dropped From Consideration

1. Several Options for Modification of the Existing Bridge

Several options, in addition to those described in Section II.A.2., for addressing the project purpose and need through modification of the existing bridge were developed. However, these options have dropped from consideration for various reasons, summarized as follows:

a. Raise Existing Bridge

Preliminary studies indicated that it would be feasible to construct new abutments and piers and raise the existing truss spans to provide higher under-clearance, such as 30 feet, thereby reducing or eliminating the need to open the swing span for marine traffic. This alternate was dropped from consideration because it would be inconsistent with the Secretary of Interior's

Standards for Rehabilitation, require closure of MD 331 at the Choptank River for an extended (six months or longer) period of time, and the cost would be comparable to that of a high level fixed span. Maintaining traffic on MD 331 has been a primary criterion with all alternates because of the additional travel length of 17 miles that would be required without a MD 331 crossing of the Choptank River.

b. Widen the Existing Truss

In order to achieve the desired roadway width of 28 feet minimum, various members of the bridge truss would need to be cut and spliced with new beams to widen the structure. In addition, a new bridge deck would be required. This alternate was dropped from consideration because the modifications: would require lengthy bridge closures, would result in an Adverse Effect (inconsistent with the Secretary of Interior Standards for Rehabilitation), may require additional mechanical/electrical upgrades to retain functionality with the additional truss weight and would only address the roadway width aspect of the project purpose and need. The National Register Bulletin states that alteration of trusses and considerable addition of new materials would generally damage a bridge's integrity to the point that it is no longer National Register Eligible.

2. Movable Bridge Alternate

A Movable Bridge Alternate was investigated to review replacing the bridge in kind, or with a similar structure. The two alignments furthest from the existing bridge (N2 and S2) were the alignments investigated as a vertical lift or bascule span. Several components of the overall life cycle costs, including capital, operating and maintenance costs of a movable span bridge, would be higher than the corresponding cost components of a fixed span bridge. The initial capital cost of a movable bridge span over the navigation channel (200'± span) would be approximately $5.0 Million, as compared to $1.5 Million for a fixed span. The annual maintenance and operating costs of a movable span bridge is estimated to be $54,000, as compared to $10,000 for a fixed span which requires no expenditure for operation.

Furthermore, because the locations of the tie-ins are governed by the horizontal geometry, a movable span alternate has similar impacts to that of a fixed alternate, even at a lower profile. A swing span bridge or replacement in kind, matching the existing conditions, would have to be placed considerably farther away from the existing bridge in order to avoid a new swinging span further increasing impacts to wetlands and diminishing the smoothness of the horizontal roadway alignment. Despite all practicable investments to implement a strong bridge maintenance and operations program for minimizing disruptions to vehicular and marine traffic, a movable bridge

could not provide a level of long-term reliability consistent with the volumes of traffic and importance of this link between Easton and Preston. In addition, construction costs would be approximately $3.5 million higher than a comparable alignment with a fixed span, without any reduction in impacts. Therefore, a movable bridge alternate has been dropped from consideration.

3. Alternate N2 - 45 mph

Alternate N2 - 45mph would be identical to Alternate N2 - 30 foot except that it would utilize a 45 mph design speed rather than 50 mph for the vertical alignment. This alternate was dropped from consideration since it resulted in little or no reduction in impacts and was less consistent with existing MD 331 running speeds as compared to the 50 mph design speed alignment.

4. Alternate N1 - 45 mph

Alternate N1 - 45 mph would follow the same horizontal alignment as Alternate N1 - 50 foot, and would differ by providing 43 feet of under-clearance and a 45 mph design speed. This alternate was dropped from consideration since it resulted in little or no reduction in impacts and was less consistent with existing MD 331 running speeds as compared to the 50 mph design speed alternates. A 50 mph design speed, 43-foot under-clearance option was also evaluated and was dropped from consideration since it did not offer a reduction in impacts as compared to Alternate N1 - 50 foot and would not provide a desirable amount of vertical clearance between the top members of the swing span and the bottom of the proposed bridge beams.

5. Alternate S1 - 45mph

Alternate S1 - 45 mph would follow the same horizontal alignment as Alternate S1 - 50 foot, and would differ by providing 43 feet of under-clearance and a 45 mph design speed. This alternate was dropped from consideration for the same reasons as those stated above for Alternate N1 - 45 mph.

6. Alternate S2 - 45 mph

Alternate S2 - 45 mph would be identical to Alternate S2 - 30 foot except that it would utilize a 45 mph design speed rather than 50 mph for the vertical alignment. This alternate was

dropped from consideration since it resulted in little or no reduction in impacts and was less consistent with existing MD 331 running speeds as compared to the 50 mph design speed alignment.

7. All Embankment Options Associated with the 50' Under-clearance Alignments

All options providing embankment to support the roadway on the eastern approaches to the main span were dropped from consideration with the 50 foot under-clearance alternates. Embankment for the eastern approaches with the 50' under-clearance alignments offered no reduction in cost and had significantly higher wetland impacts as compared to the structure options.

8. Scheduled Openings

In response to an inquiry of scheduling bridge openings for the Dover Bridge, SHA has found that this was not preferable due to the low volumes of boaters and lack of slips near the bridge to await openings. The bridge would then only open at the scheduled times and if there was a queue at the bridge of boats. In addition, the U.S. Coast Guard has expressed interest in having the Choptank River be an unrestricted navigational channel. However, this option could be further investigated with the U.S. Coast Guard, if supported.

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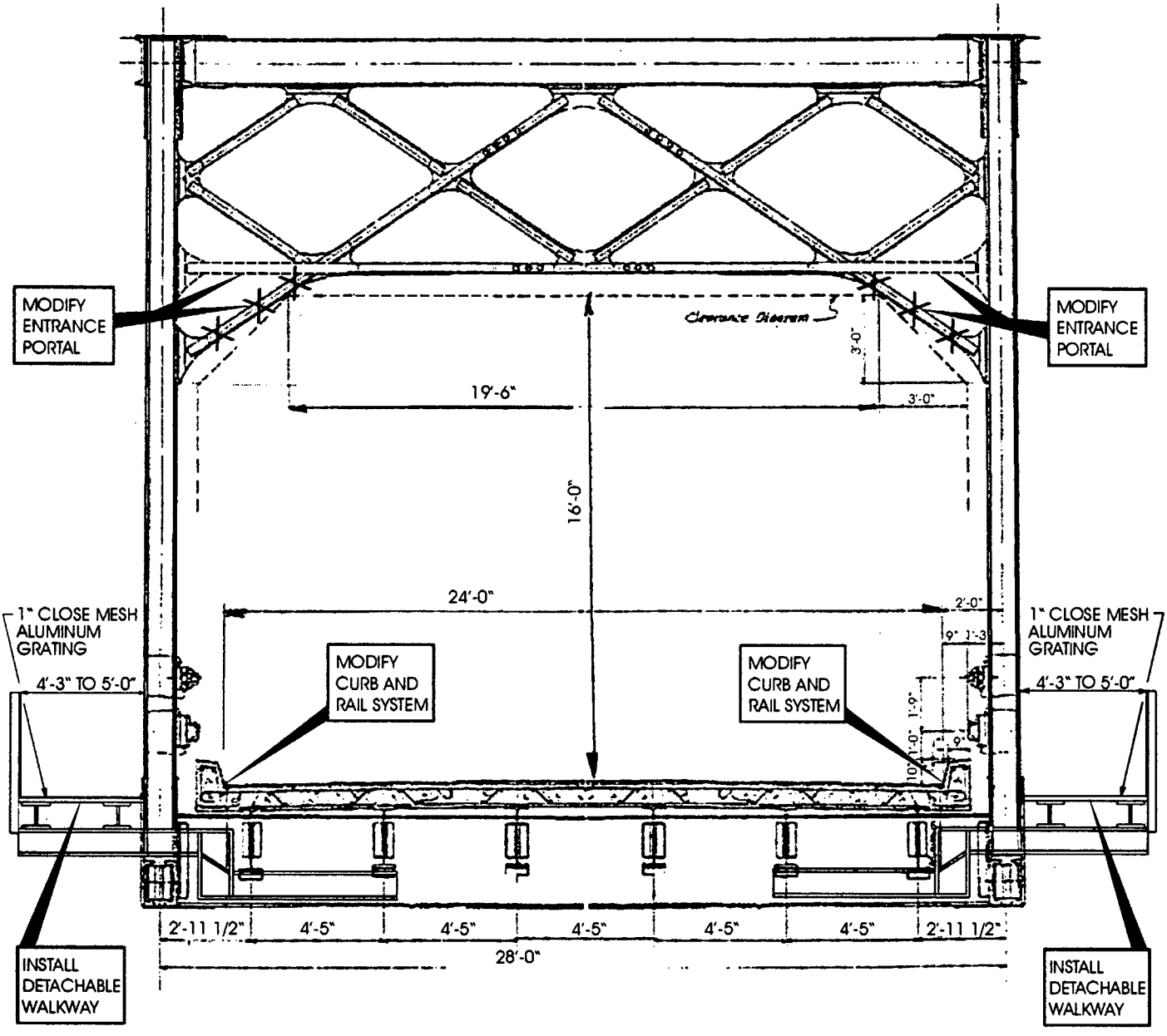
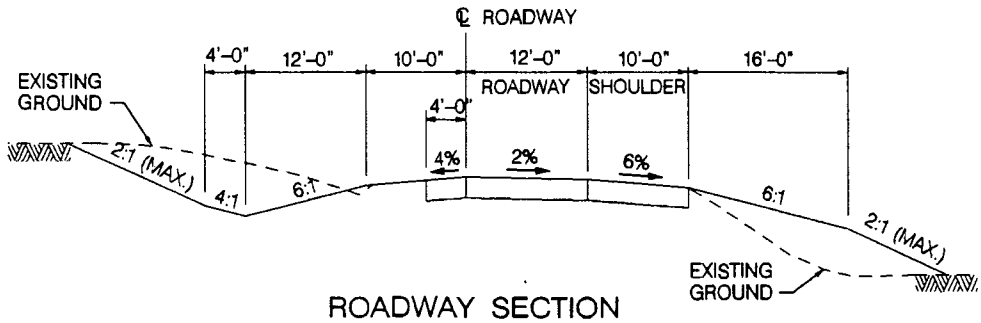


NOTE:
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

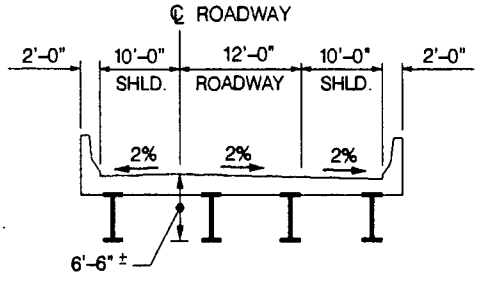
MD 331 - DOVER BRIDGE

MODIFICATION ALTERNATE TYPICAL SECTION

DATE		FIGURE
APRIL, 1998	NOT TO SCALE	II-1

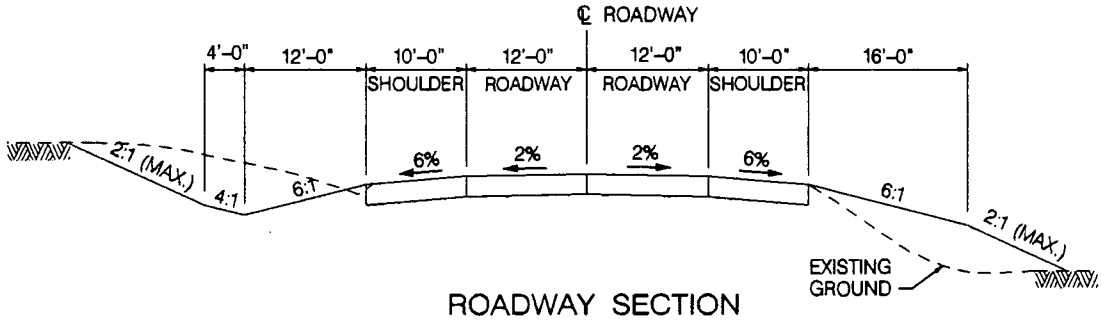


ROADWAY SECTION



STRUCTURE SECTION

DUAL BRIDGE ALTERNATE



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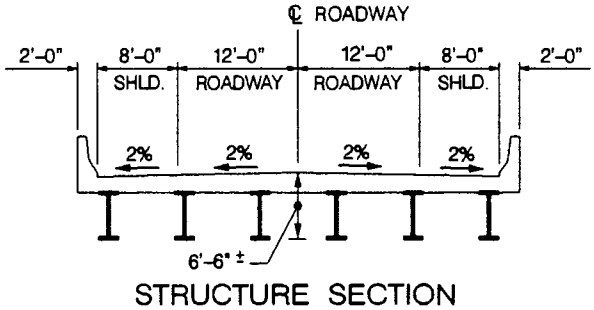

STRUCTURE SECTION

NEW ALIGNMENT ALTERNATES

NOTE:
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MD 331 – DOVER BRIDGE

TYPICAL SECTIONS

DATE		FIGURE
MAR., 1998	NOT TO SCALE	II-2

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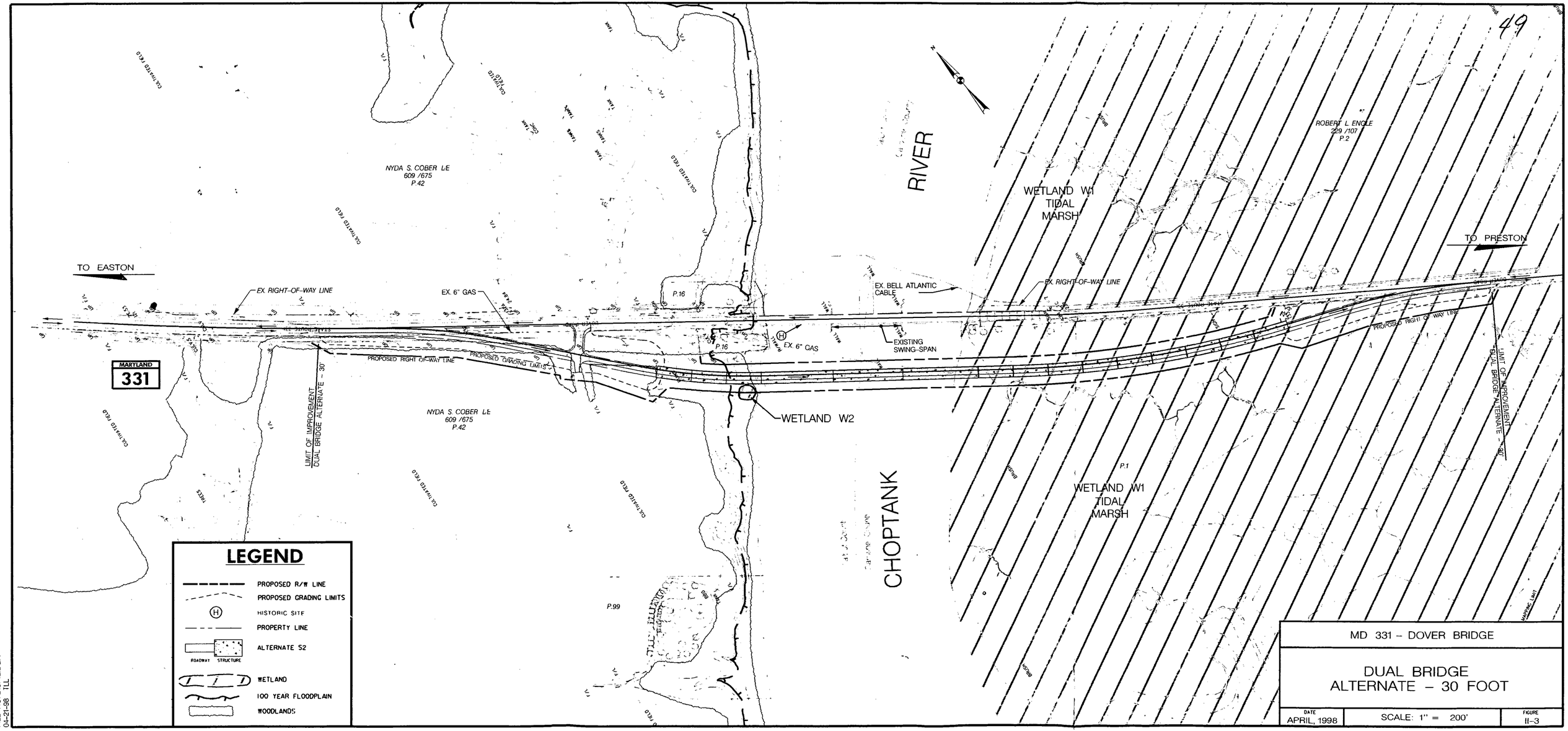
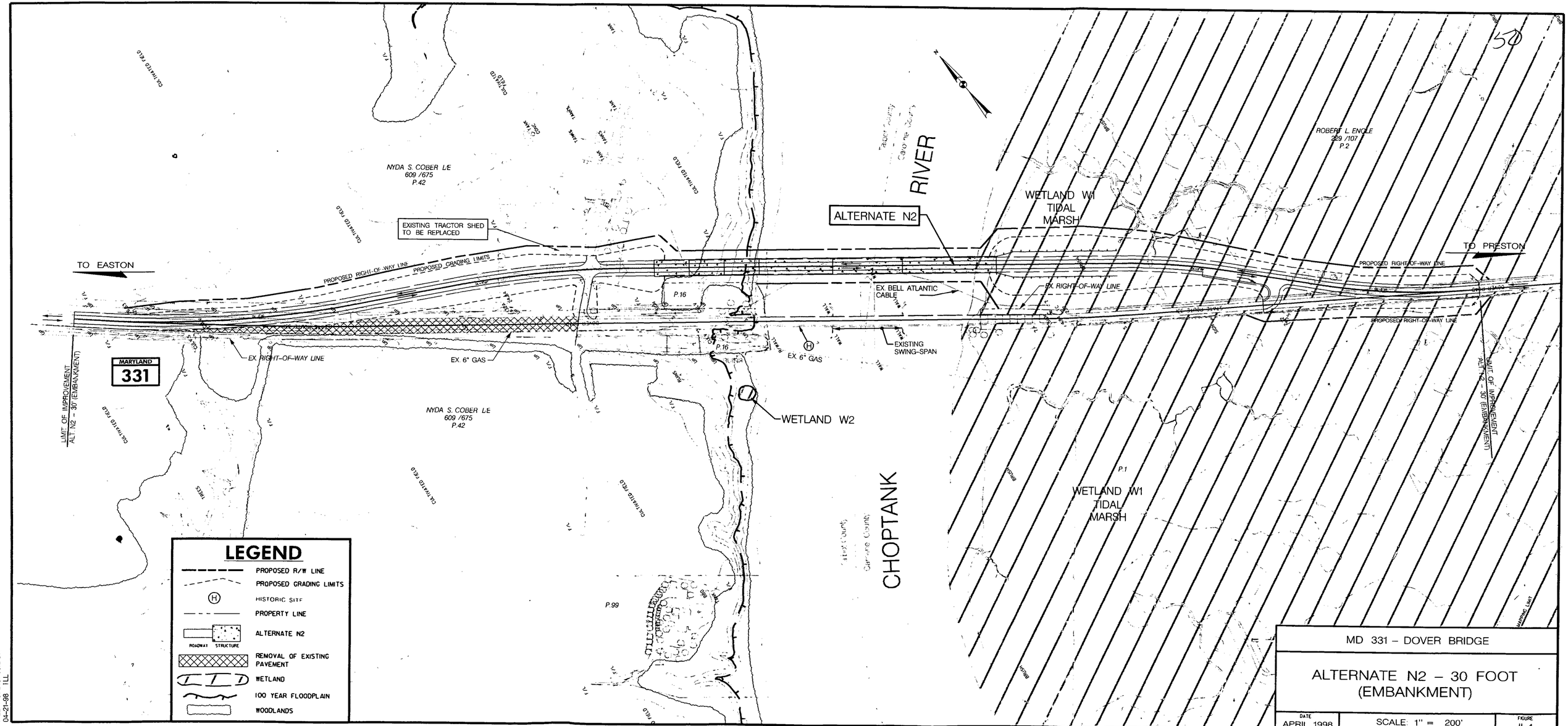


MD 331 – DOVER BRIDGE

DUAL BRIDGE
ALTERNATE – 30 FOOT

DATE	SCALE	FIGURE
APRIL, 1998	SCALE: 1" = 200'	II-3

FILL_NO DISPOSITION
04-21-98 TLL



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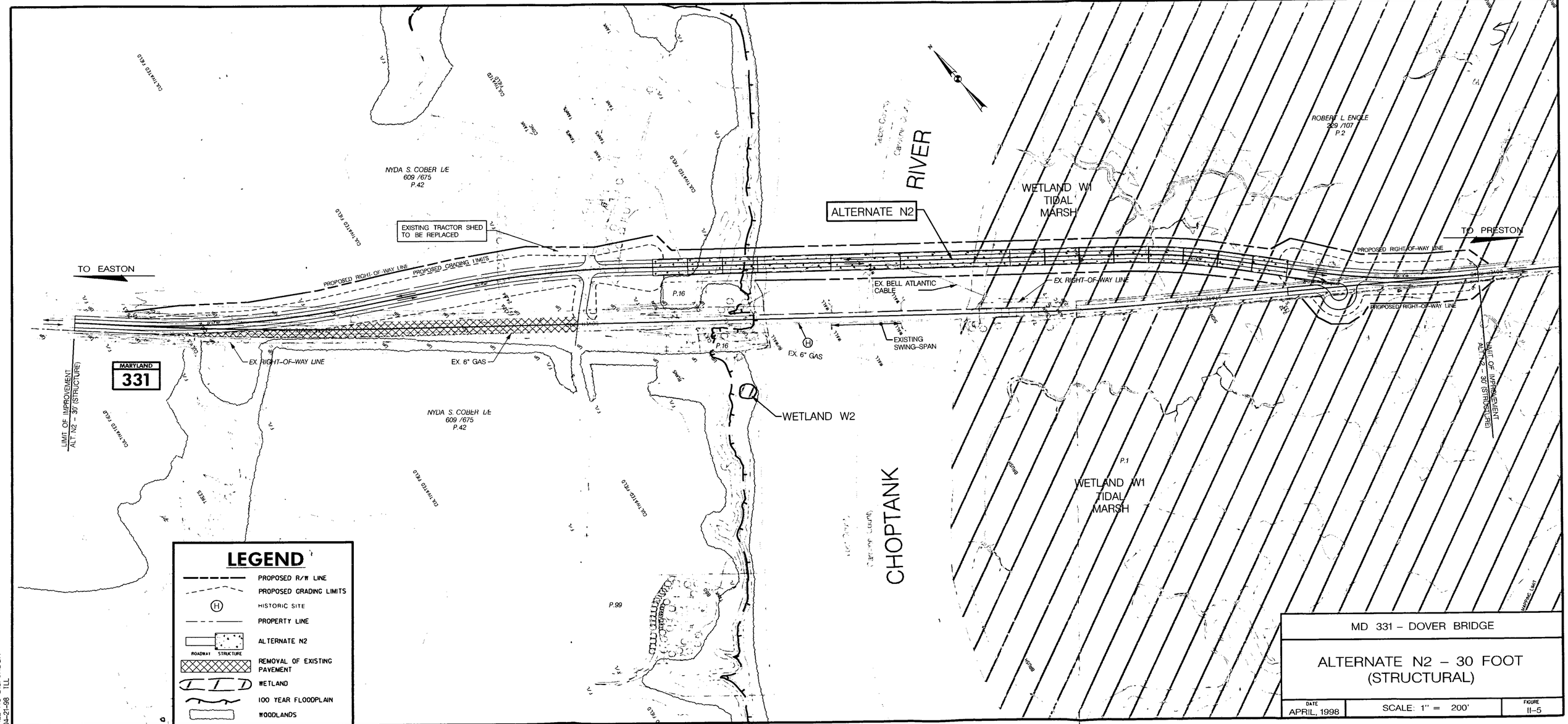

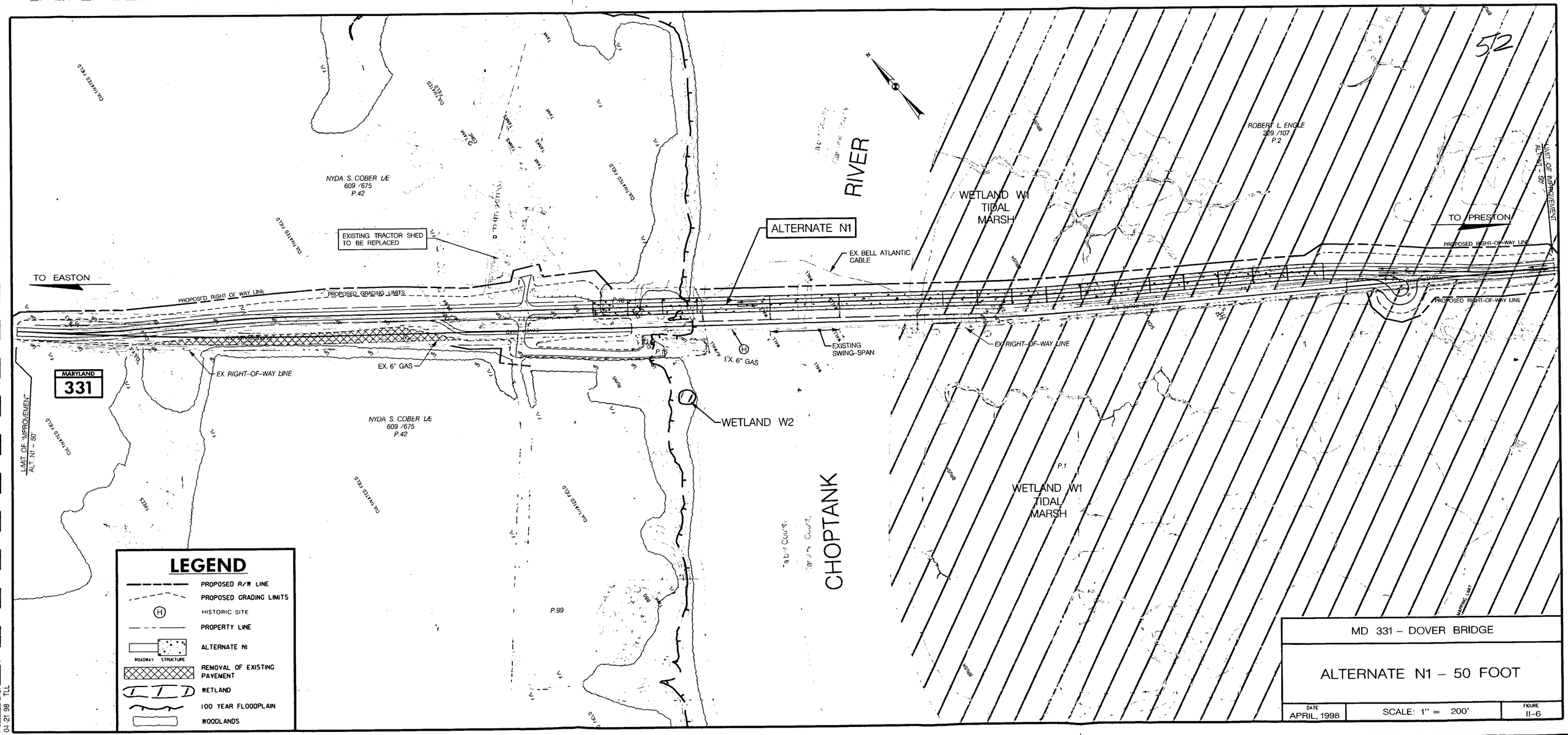

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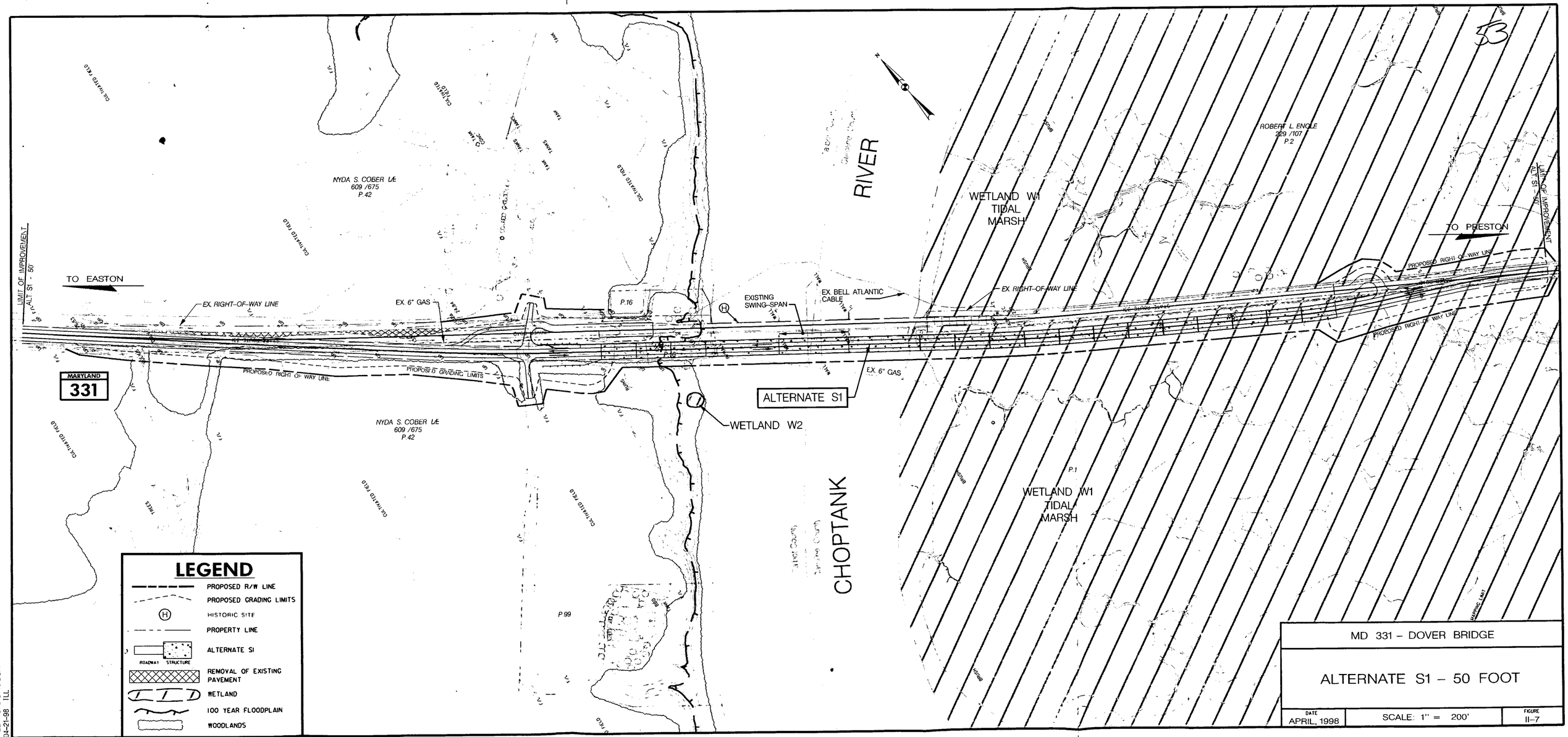

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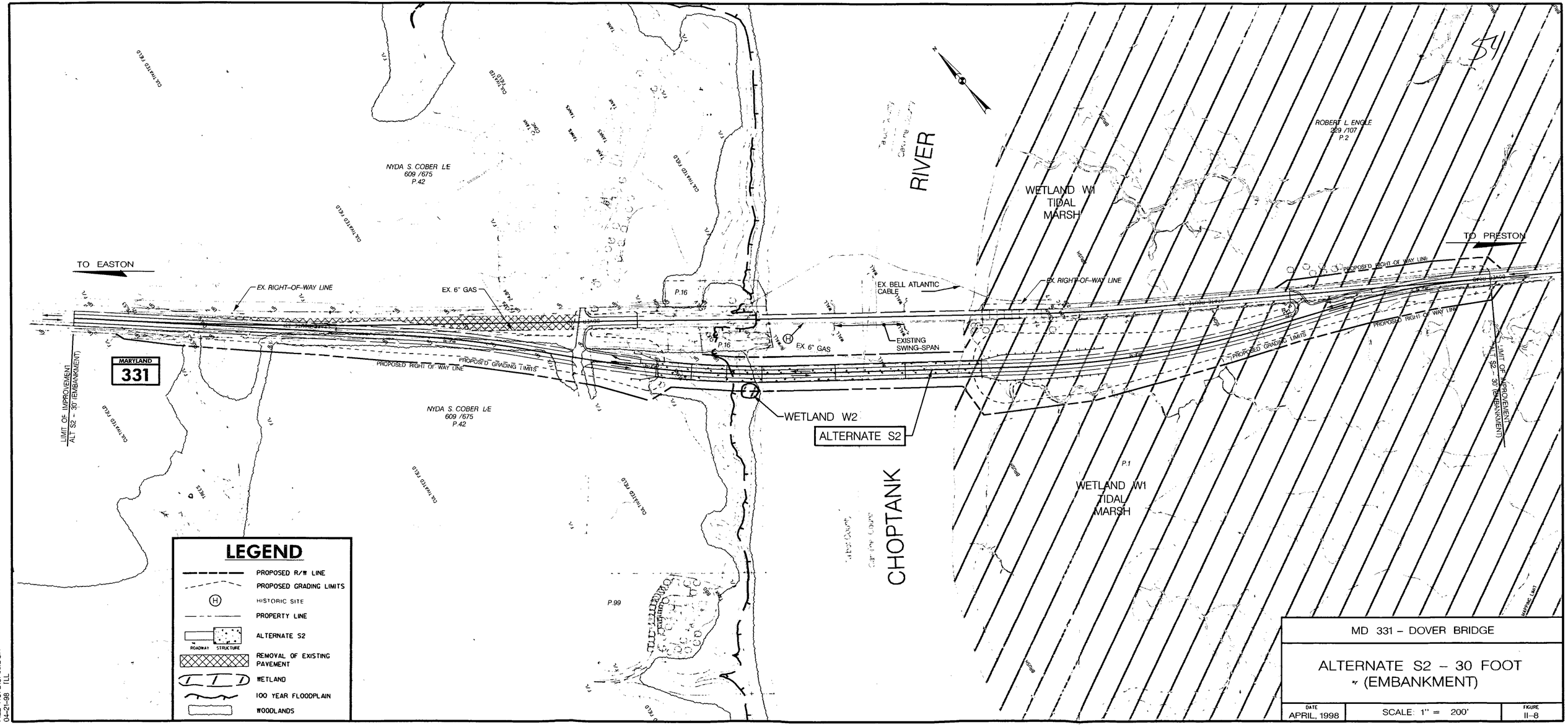

MD 331 – DOVER BRIDGE

ALTERNATE S2 – 30 FOOT (EMBANKMENT)

DATE	SCALE	FIGURE
APRIL, 1998	SCALE: 1" = 200'	II-8

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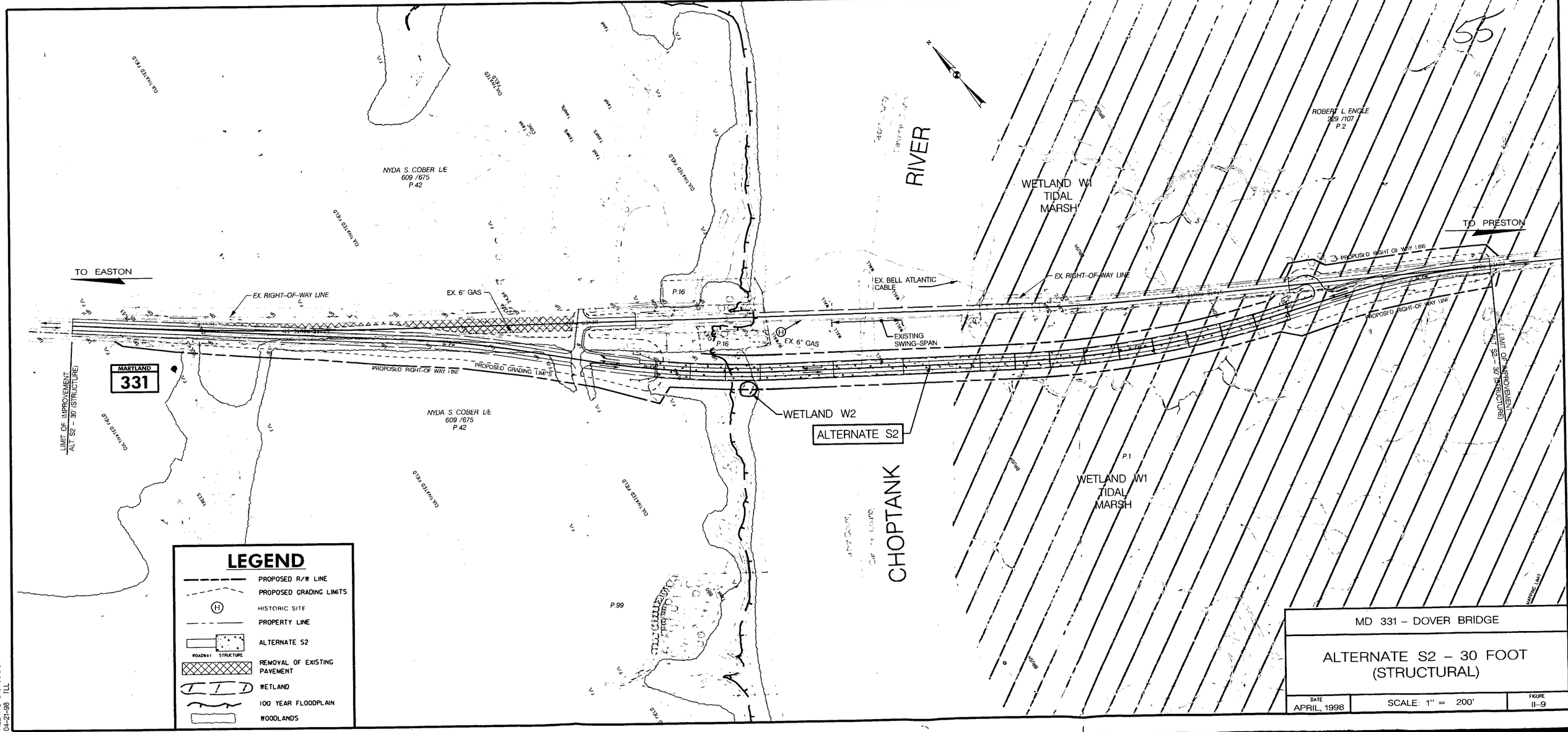

MD 331 – DOVER BRIDGE

ALTERNATE S2 – 30 FOOT (STRUCTURAL)

DATE	SCALE	FIGURE
APRIL, 1998	SCALE: 1" = 200'	II-9

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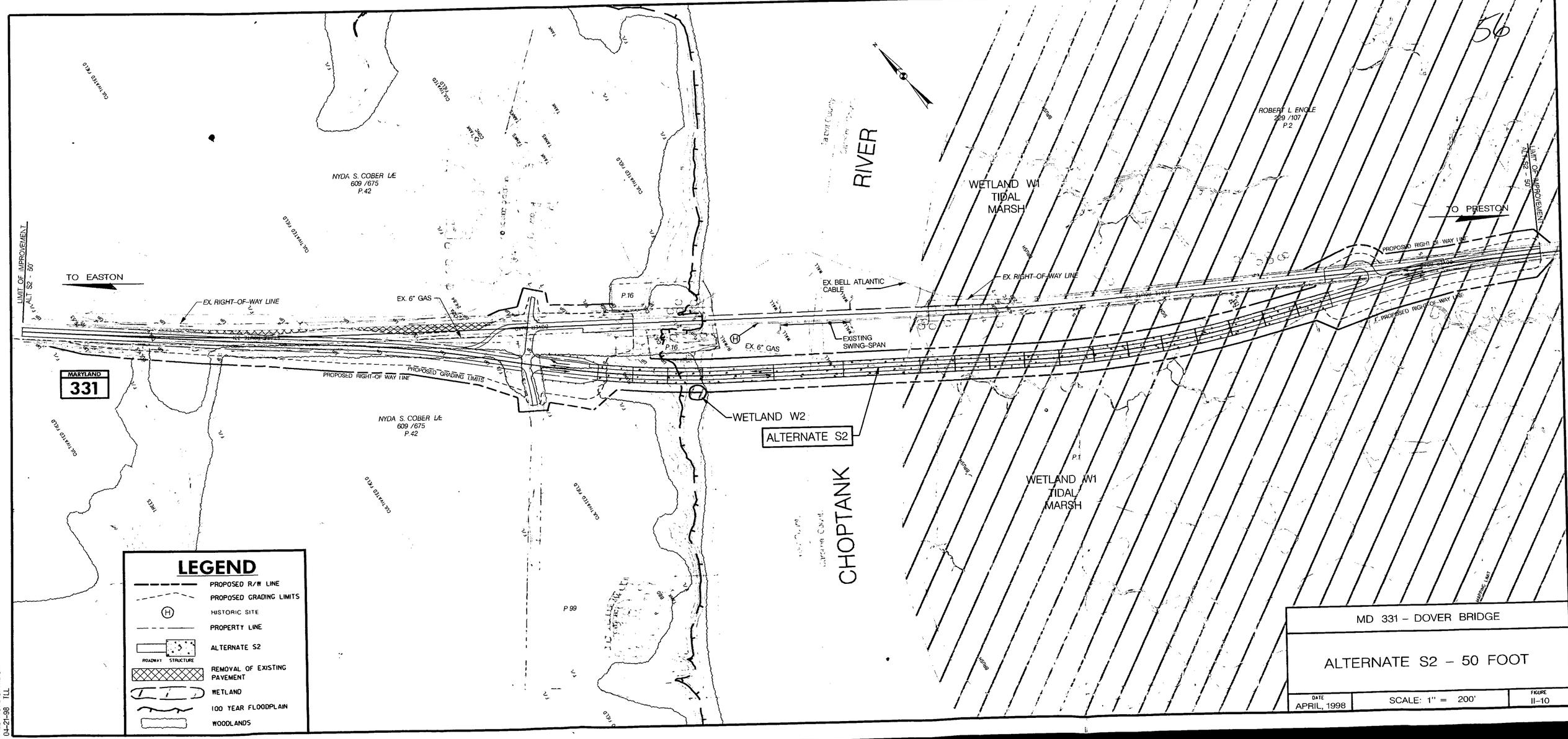

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III. AFFECTED ENVIRONMENT

A. Social Environment

1. Population and Housing

Countywide Population

According to information from the U.S. Census Bureau, the population of Talbot County grew by 19.3 percent, from 25,604 to 30,549 people, during the period 1980 - 1990. During this same period, the population of Caroline County grew by 16.8 percent, from 23,143 to 27,035 people. By the Design Year (2020), Talbot County's population is expected to reach 37,200 people and Caroline County's population is expected to reach 34,700 people, based on projections prepared by the Maryland Office of Planning. These represent increases of 21.8 percent and 28.4 percent, respectively, over the 1990 County populations.

Local Population

Census tract data are not available for Talbot and Caroline Counties prior to the 1990 census. However, 1980 census data for these counties are available by election district. Both types of data, election district and census tract, are used in the local population analysis to provide a comparison of 1980 and 1990 populations. The relationship between the census tracts and election districts used to describe demographics in and around the study area is shown on Figure III-1. Since census data are not available for portions of election districts or portions of census tracts, the local analysis area is geographically larger than the study area. On an election district basis, the local analysis area consists of Election District 1 - Easton and Election District 4 - Preston. On a census tract basis, the local analysis area consists of Census Tracts 9602.00 through 9605.00 and 9555.00. The geographic area encompassed by Election District 1 - Easton and Election District 4 - Preston is comparable to, although not exactly the same as, the geographic area encompassed by Census Tracts 9602.00 through 9605.00 and 9555.00. However, these election districts and census tracts afford a comparison between 1980 and 1990 census data and they are used in the local area analysis. During the period 1980-1990, the total population in the area defined by the local election districts (Election Districts 1 and 4) and the local census tracts (Census Tracts 9602.00 through 9605.00 and 9555.00) increased by 23.3 percent, from 15,459 to 19,066 people. Both the Talbot County and Caroline County portions of the local analysis area experienced a growth in population, increases of 28.1 percent and 5.7

percent, respectively. In 1990, the largest portion (28.1 percent) of the total population in the local census tracts resided in Census Tract 9604.00, and the smallest percentage (14.5 percent) in Census Tract 9603.00. Table III-1 shows local population data by election district and census tract for 1980 and 1990.

TABLE III-1
LOCAL POPULATION AND GROWTH

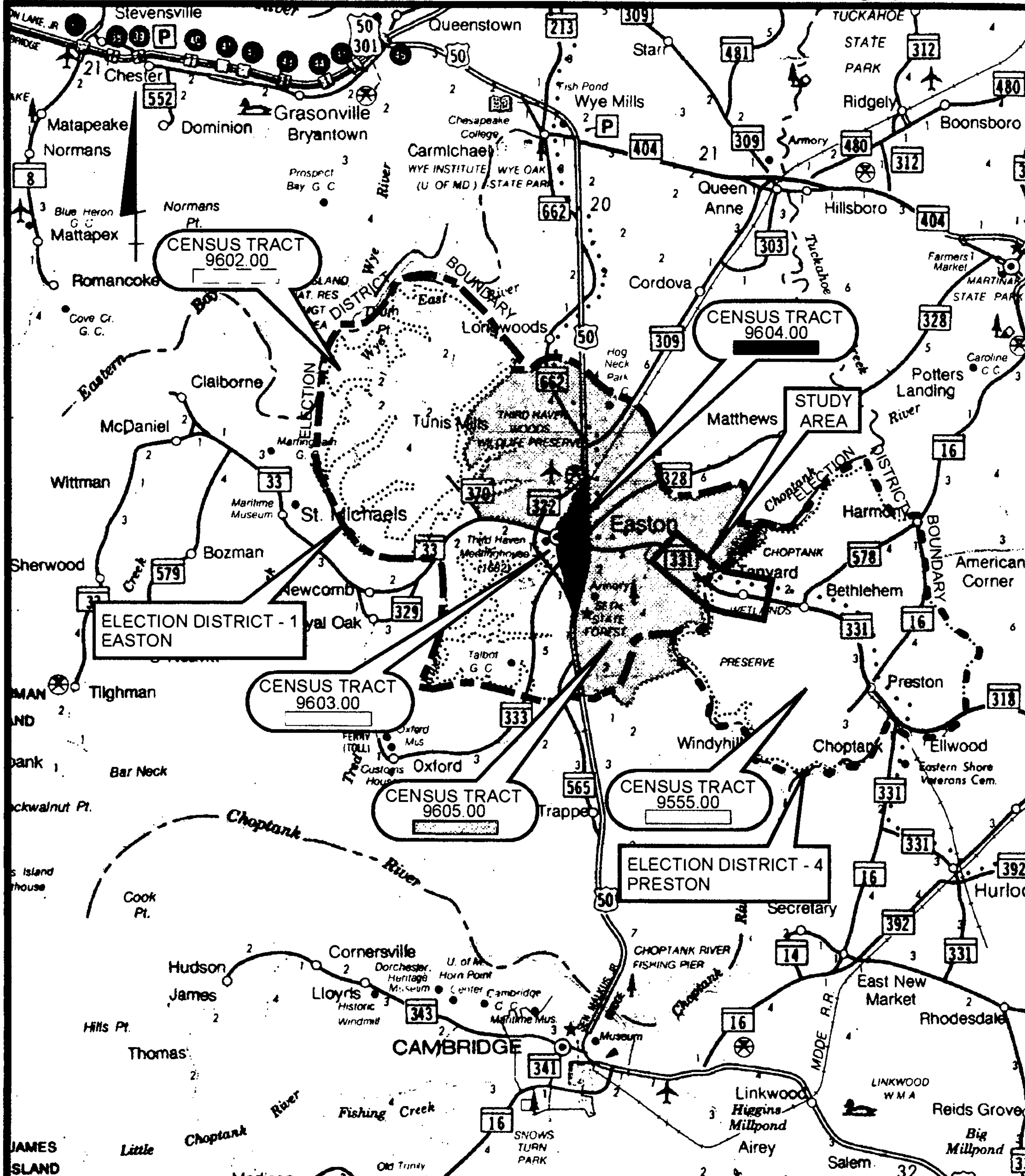
Election District	1980	Census Tract	1990	% Change
Talbot County		Talbot County		
		9602.00	2,868	
		9603.00	2,770	
		9604.00	5,361	
		9605.00	4,587	
1 - Easton	12,166	Subtotal	15,586	+28.1
Caroline County		Caroline County		
4 - Preston	3,293	9555.00	3,480	+ 5.7
Total	15,459	Total	19,066	+23.3

Source: U.S. Census Bureau

An analysis of 1990 census data indicates that 61.7 percent of the total population in the local census tracts were persons 16 through 64 years old, and 16.5 percent were persons 65 years and older. The largest percentage of the age group 65 years and older (29.6 percent) appears in Census Tract 9604.00. However, Census Tract 9602.00 has the highest ratio of persons 65 years and older to total number of persons residing in the census tract (22.6 percent).

Housing

Countywide data from the U.S. Census Bureau indicates that the number of households in Talbot County increased by 26.6 percent, from 9,934 to 12,580 households, during the period 1980 - 1990. In 1980, the average household size was 2.55 persons, while in 1990 the average household size in Talbot County was 2.38 persons. The number of households in Caroline County increased by 21.4 percent, from 8,219 to 9,981 households, during the period 1980 - 1990. The average household size was 2.78 persons in 1980 in Caroline County, while in 1990 the average household size was 2.66 persons. Based on election district and census tract data, the



LEGEND

- ELECTION DISTRICT - 1 EASTON (long dashes)
- ELECTION DISTRICT - 4 PRESTON (short dashes)

MD 331 - DOVER BRIDGE

CENSUS TRACTS AND ELECTION DISTRICTS

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 4 miles	III - 1

number of households in the local analysis area increased by 30.7 percent, from 5,967 to 7,797 households, during the period 1980 - 1990.

2. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations issued on February 11, 1994, requires federal agencies "to identify and address as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations..." Minority is defined as "individual(s) who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black, not of Hispanic origin, or Hispanic." Also, low income populations "should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty." These populations are to be provided access to public information and an opportunity to participate in matters relating to the environment.

According to 1990 census data, 81.3 percent of the total population of Talbot County were White, 18.0 percent were Black, 0.1 percent were American Indian, Eskimo or Aleut, 0.3 percent were Asian or Pacific Islander, and 0.5 percent were of Hispanic origin (any race). In Caroline County, 82.7 percent of the 1990 total population were White, 16.5 percent were Black, 0.2 percent were American Indian, Eskimo or Aleut, 0.3 percent were Asian or Pacific Islander, and 0.9 percent were of Hispanic origin (any race). Also, 1990 census data indicated the percentage of persons below the poverty level was 8.5 percent in Talbot County and 11.8 percent in Caroline County. The below poverty level census data is based on poverty thresholds which change each year and vary depending on family composition, according to the U.S. Census Bureau.

To identify minority and low income populations, a census tract analysis was first conducted using 1990 census data for the analysis area consisting of local Census Tracts 9602.00 through 9605.00 and 9555.00 (Figure III-1). Based on this, Census Tract 9603.00 has the highest percentage of minorities (54.3 percent) and the highest percentage of persons below the poverty level (18.5 percent). Census Tract 9555.00 has the second highest percentages of minorities (23.3 percent) and persons below poverty level (14.2 percent). Census Tract 9604.00 has the third highest percentages of minorities (22.6 percent) and persons below poverty level (11.8 percent). From this it can be concluded that the highest presence of minority populations and low income groups in the analysis area encompassed by the local census tracts are located

either east of the Choptank River in the Caroline County portion of the analysis area, or the Easton area, generally between MD 322 and US 50. Tables III-2 and III-3 summarize the 1990 census data relative to the racial distribution and economic characteristics of the counties and the local census tracts.

No minority or low income populations have been identified in the immediate project area.

TABLE III-2

1990 RACIAL POPULATION CHARACTERISTICS

Location	White		Black		American Indian, Eskimo or Aleut		Asian or Pacific Islander		Other Persons		Hispanic Origin (All Races)		% Minorities[1]
	Population	%	Population	%	Population	%	Population	%	Population	%	Population	%	
Talbot County	**24,833**	**81.3**	**5,502**	**18.0**	**42**	**0.1**	**102**	**0.3**	**70**	**0.2**	**167**	**0.5**	**18.9**
Census Tract:													
9602.00	2,441	85.1	398	13.9	3	0.1	19	0.7	7	0.2	30	1.0	15.7
9603.00	1,283	46.3	1,451	52.4	3	0.1	19	0.7	14	0.5	30	1.1	54.3
9604.00	4,144	77.3	1,171	21.8	10	0.2	18	0.3	18	0.3	18	0.3	22.6
9605.00	4,197	91.5	361	7.9	10	0.2	10	0.2	9	0.2	16	0.3	8.6
9602.00-9605.00	12,065	77.4	3,381	21.7	26	0.2	66	0.4	48	0.3	94	0.6	22.9
Caroline County	**22,355**	**82.7**	**4,459**	**16.5**	**58**	**0.2**	**79**	**0.3**	**84**	**0.3**	**231**	**0.9**	**17.9**
Census Tract:													
9555.00	2,697	77.5	767	22.0	8	0.2	5	0.1	3	0.1	34	1.0	23.3
Total - Analysis Area	14,762	77.4	4,148	21.7	34	0.2	71	0.4	51	0.3	128	0.7	23.0

Source: U.S. Census Bureau

[1]Black; American Indian, Eskimo or Aleut; Asian or Pacific Islander; Hispanic

TABLE III-3
1990 POVERTY STATUS CHARACTERISTICS

Location	Persons for Whom Poverty Status Was Determined	Persons Below Poverty	% Persons Below Poverty
Talbot County	**30,044**	**2,564**	**8.5**
Census Tract:			
9602.00	2,841	115	4.0
9603.00	2,810	520	18.5
9604.00	4,915	581	11.8
9605.00	4,682	328	7.0
9602.00 - 9605.00	15,248	1,544	10.1
Caroline County	**26,427**	**3,120**	**11.8**
Census Tract:			
9555.00	3,408	485	14.2
Total - Analysis Area	18,656	2,029	10.9

Source: U.S. Census Bureau

The Maryland State Highway Administration ensures compliance with Title VI of the Civil Rights Act, which provides that no person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving Federal financial assistance.

3. Communities Within the Study Area

The study area is located in a rural agricultural setting flanked by two incorporated towns - Easton, the County seat of Talbot County, and Preston in Caroline County. There are no communities located within the Talbot County portion of the study area. The Caroline County portion of the study area includes the existing residential community of Tanyard, an unincorporated village. As shown on Figures III-2A and 2B, a number of existing residential communities are located outside the study area in Easton and the area around Preston.

4. Community Facilities

Located in a rural agricultural area, the study area does not contain any community facilities. However, there are a number of community facilities. services and points of interest located outside the limits of the study area in Easton, Preston and the surrounding area as shown on Figures III-2A and 2B and listed below by their corresponding number.

Schools

Easton:

1. Lighthouse Academy
2. Mount Pleasant Elementary School
3. The Country School
4. Saint Peter and Paul's School
5. Academy of the Arts
6. Talbot Vocational Technical Center
7. Easton Elementary School
8. Easton Middle School
9. Easton High School

Preston and Surrounding Area:

10. Preston Elementary School
11. Jonestown

Churches

Easton:

12. Church of the Nazarene
13. Presbyterian Church of Easton
14. Saint Peter and Paul's Catholic Church
15. Asbury Methodist Church
16. First Wesleyan Church
17. Saint Peter's Church
18. Grace Lutheran Church
19. Union Baptist Church
20. Saint Mary's Methodist Church

Preston and Surrounding Area:

21. Mount Zion Pentecostal Church
22. Bethlehem Wesleyan Church
23. Newton
24. Marsh Creek Road
25. Bethesda United Methodist Church
26. Immanuel Lutheran Church

Libraries

27. Talbot County Free Library
28. Preston

Fire and Ambulance Services

29. Volunteer Fire Company No. 60 (Easton)
30. Preston Fire Company No. 200

Police Services

31. Talbot County Sheriff's Department
32. Maryland State Police (Easton)
33. Preston Police Department

Health Facilities

34. Easton Memorial Hospital

U.S. Post Offices

35. Easton Branch

Preston and Surrounding Area:

36. Bethlehem Branch
37. Preston Branch

State and Local Governmental Features

Easton and Surrounding Area:

38. Motor Vehicle Administration
39. Courthouse
40. Town Hall
41. State Highway Administration

42. County Operations Center
43. Historical Society of Talbot County
44. Armory
45. Midshore Regional Landfill
46. Easton Wastewater Treatment Facility
47. Choptank Wetlands Preserve (Talbot and Caroline Counties)
48. Municipal Building (Preston)

Points of Interest

49. Third Haven Meetinghouse (Easton)
50. Linchester Mill and Pond (Preston Area)

Public Transportation

51. Easton Municipal Airport

Public Water and Sewer Service

- Easton
- Preston

As indicated above, these portions of Talbot and Caroline Counties surrounding the study area include similar types of community facilities and services, however, there are several noteworthy exceptions. The Caroline County portion does not contain a major hospital facility or airport facility. Also, the schools included in the Talbot County portion are more numerous and diverse in educational level provided.

The location of the following historic sites are also indicated on Figure III-2A.

Historic Sites

52. Troth's Fortune T-50 (Talbot County)
53. Dover Bridge T-487 (Talbot and Caroline Counties)
54. Maryland State Police Barracks T-950 (Talbot County)

5. Parklands (Figure III-2)

There are no parks or recreation areas located in the study area. Listed below are parks and recreation areas that are located outside the study area in Easton. Preston and the surrounding area.

Easton and Surrounding Area:

- Seth Demonstration Forest
- Hog Neck Golf Course
- Talbot County Community Center (Hog Neck Arena)
- Idlewild Park
- Public landing and boat ramp at Easton Point

Preston and Surrounding Area:

- Jonestown Community Park
- Preston Lions Club Park

B. Economic Environment

1. Countywide Employment Characteristics

According to information from the U.S. Census Bureau, the labor force in Talbot County grew by 27.1 percent, from 12,760 to 16,220 persons, during the period 1980-1990. By the Design Year (2020), Talbot County's labor force is expected to reach 19,620 persons, based on projections prepared by the Maryland Office of Planning. This represents an increase of 21.0 percent over the 1990 county labor force. Of the total number of employed persons in Talbot County in 1990, the greater percentages of persons were employed in the following occupational areas: services (27.2 percent), retail trade (16.4 percent), manufacturing (14.5 percent), construction (10.1 percent), other professional areas (6.7 percent), agriculture, forestry and fisheries (6.3 percent), and finance, insurance and real estate (5.9 percent). According to information in the Talbot County Comprehensive Plan, approximately 20 percent of local jobs are not held by county residents, but by commuters from nearby counties. In 1990, the median household income in Talbot County was $31,885.

The labor force in Caroline County grew by 30.7 percent, from 10,570 to 13,820 persons, during the period 1980-1990. By the Design Year (2020), Caroline County's labor force is

COMMUNITY FACILITIES LOCATED OUTSIDE THE STUDY AREA IN EASTON AND VICINITY

68

SCHOOLS:
1. Lighthouse Academy
2. Mount Pleasant Elementary School
3. The Country School
4. Saint Peter and Paul's School
5. Academy of the Arts
6. Talbot Vocational Technical Center
7. Easton Elementary School
8. Easton Middle School
9. Easton High School

CHURCHES:
12. Church of the Nazarene
13. Presbyterian Church of Easton
14. Saint Peter and Paul's Catholic Church
15. Asbury Methodist Church
16. First Wesleyan Church
17. Saint Peter's Church
18. Grace Lutheran Church
19. Union Baptist Church
20. Saint Mary's Methodist Church

LIBRARY:
27. Talbot County Free Library

FIRE AND AMBULANCE SERVICES:
29. Volunteer Fire Company No. 60

POLICE SERVICES:
31. Talbot County Sheriff's Department
32. Maryland State Police

HEALTH FACILITIES:
34. Easton Memorial Hospital

U.S. POST OFFICES:
35. Easton Branch

POINT OF INTEREST:
49. Third Haven Meetinghouse

PUBLIC TRANSPORTATION:
51. Easton Municipal Airport

STATE AND LOCAL GOVERNMENTAL FEATURES:
38. Motor Vehicle Administration
39. Courthouse
40. Town Hall
41. State Highway Administration
42. County Operations Center
43. Historical Society of Talbot County
44. Armory
45. Midshore Regional Landfill
46. Easton Wastewater Treatment Facility
47. Choptank Wetlands Preserve

HISTORIC SITES:
52. – Troth's Fortune T-50 (PACS 11)
53. – Dover Bridge T-487 (PACS 7)
54. – Maryland State Police Barracks T-950

HOG NECK GOLF COURSE
HOG NECK ARENA
JENSENS HYDE TRAILER PARK
TALL OAKS TRAILER PARK
AIRPORT JUNCTION
RIVER PLACE
TALBOT TRAILER PARK
CLEARVIEW
EASTON AIRPORT
NORTH EASTON
CHAPEL EAST
MISTLETOE HALL
WALKERTOWN
MULBERRY HILL APTS.
SWANN HAVEN TRAILER PARK
CHAPEL FARMS
TOWN LIMITS
TALBOT VILLAGE
MULBERRY HILL
GOLTON
FAUSLEY
ASHBY PARK
ST. MARK'S APARTMENTS
MT. PLEASANT
COLONIAL HEIGHTS
CALVERT TERRACE
RICE LAND
PINE GROVE
CROFTON
CANNERY SQUARE
NORTH GLENWOOD
THIRD HAVEN HEIGHTS
ARCADIA
CHILCUTT
DOVER ACRES
CARROLLS ADDITION
CLIFTON
GLENWOOD HEIGHTS
BOAT RAMP
BROOKWOOD ESTATES
IDLEWILD FARM
IDLEWILD
LONDONDERRY
THIRD HAVEN
IDLEWILD PARK
PENNSFIELD
WOODLAND FARMS
MECKLENBURG
STONEY RIDGE
SOUTH PENNSFIELD
POPLAR HILL
THE GREENS AT CROSSCOURT
EASTON
BEECHWOOD
CHATHAM VILLAGE
KINGS WOODS
COOKS HOPE
SOUTH BEECHWOOD
OAKLANDS
PEACH BLOSSOM
SPRINGFIELD
STUDY AREA
PROJECT AREA
DOVER BRIDGE
TANYARD
TANYARD ESTATES
CAROLINE COUNTY
TALBOT COUNTY
PROVIDENCE LANDING
MATCH LINE TO FIG. III-2B

MD 331 - DOVER BRIDGE

COMMUNITY FACILITIES

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	III-2A

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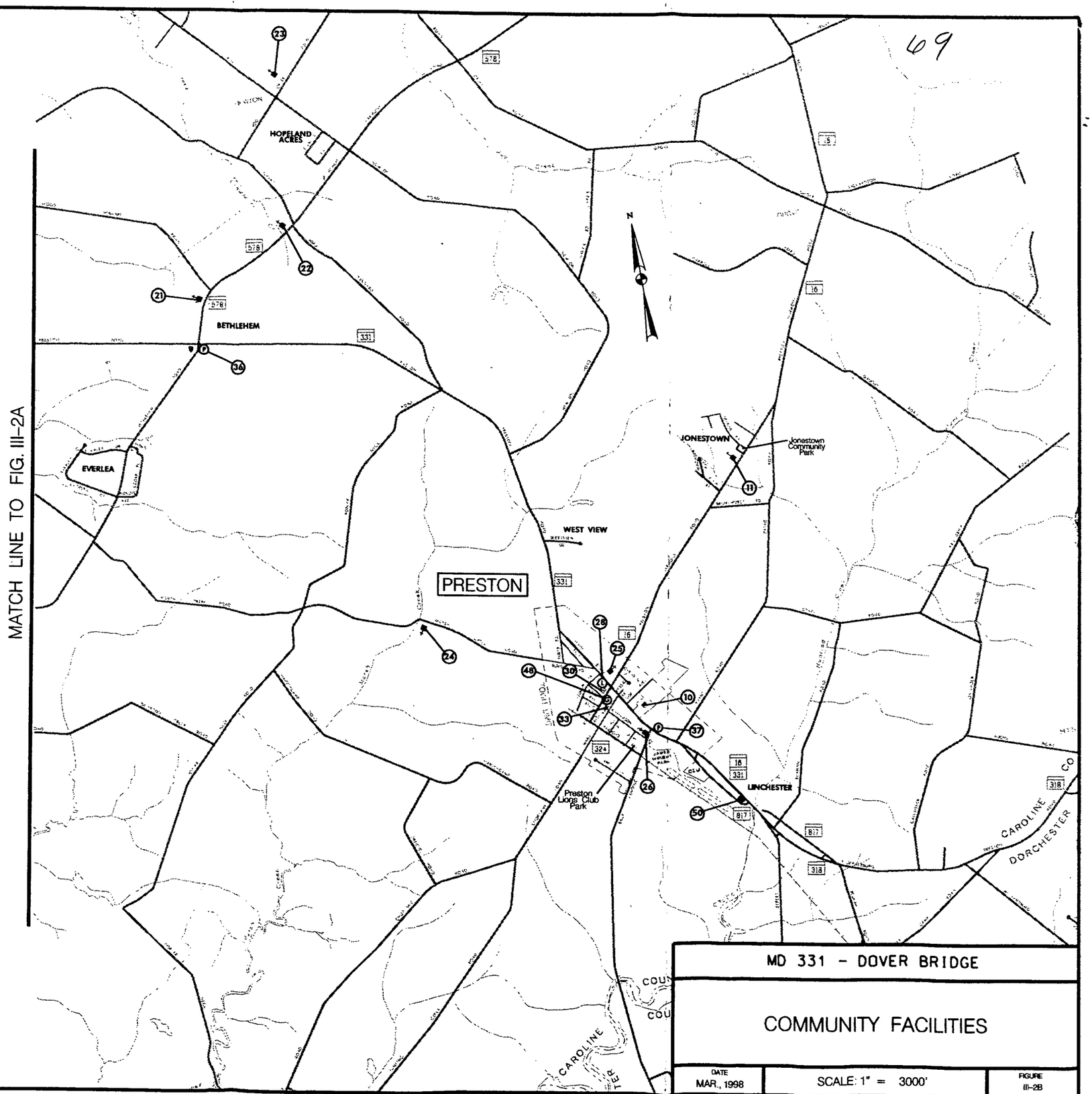
COMMUNITY FACILITIES LOCATED OUTSIDE THE STUDY AREA IN PRESTON AND VICINITY

- SCHOOLS:
  - (10) Preston Elementary School
  - (11) Jonestown
- CHURCHES:
  - (21) Mount Zion Pentecostal Church
  - (22) Bethlehem Wesleyan Church
  - (23) Newton
  - (24) Marsh Creek Road
  - (25) Bethesda United Methedist Church
  - (26) Immanuel Lutheran Church
- LIBRARY:
  - (28) Preston
- FIRE AND AMBULANCE SERVICES:
  - (30) Preston Fire Company No. 200
- POLICE SERVICES:
  - (33) Preston Police Department
- U.S. POST OFFICES:
  - (36) Bethlehem Branch
  - (37) Preston Branch
- STATE AND LOCAL GOVERNMENTAL FEATURES:
  - (47) Choptank Wetlands Preserve
  - (48) Municipal Building
- POINT OF INTEREST:
  - (50) Linchester Mill and Pond



MD 331 - DOVER BRIDGE

COMMUNITY FACILITIES

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	III-2B

FILE: COMFAC-B.DGN
04-22-98 TLL

expected to reach 18,250 persons. This represents an increase of 32.1 percent over the 1990 county labor force. Of the total number of employed persons in Caroline County in 1990, the greater percentages of persons were employed in the following occupational areas: services (20.9 percent), manufacturing (20.8 percent), retail trade (15.2 percent), construction (11.5 percent), transportation and public utilities (8.3 percent), and agriculture, forestry and fisheries (7.0 percent). Many Caroline County residents commute to jobs outside the county, such as to neighboring Talbot County and Delaware. In 1990, the median household income in Caroline County was $27,758.

2. Local Employment Characteristics

Within the local census tracts (Figure III-1) encompassing the study area, there were 10,413 persons in the labor force in 1990. Of the total number of employed persons in the local census tracts in 1990, the greater percentages of persons were employed in the following occupational areas: services (26.2 percent), manufacturing (17.3 percent), retail trade (15.9 percent), construction (8.4 percent), and agriculture, forestry and fisheries (6.6 percent).

Located in the vicinity, but outside of the study area, are the incorporated towns of Easton and Preston. Easton is the major residential, commercial and employment center of Talbot County. Preston is one of the five largest incorporated towns in Caroline County. Both Easton and Preston are identified as planned growth areas by their respective county comprehensive plans, which translates into increased employment opportunities in the future. Both counties' comprehensive plans support the policy of directing growth and development to existing population centers in order to preserve rural areas.

C. Land Use

1. Existing Land Use in the Study Area

The existing land use in the study area can be classified as mostly rural agricultural. There are also small areas of commercial/industrial land use and an area of residential land use in the Caroline County portion of the study area, as well as, Chesapeake Bay Critical Area along the Choptank River. Land within the Chesapeake Bay Critical Area is regulated in accordance with the Chesapeake Bay Critical Area Protection Act. All waterfront areas within 1,000 feet landward from the shoreline or the inland edge of tidal wetlands are regulated so that the adverse impacts of growth are minimized. The regulations direct, manage and control residential,

commercial and industrial development within the critical area. In general, the Chesapeake Bay Critical Area is comprised of three categories - Resource Conservation Areas (RCA), Limited Development Areas (LDA) and Intensely Developed Areas (IDA). Within each of these classifications, land uses, densities and development design are regulated. Within the study area, the critical area is classified RCA. Future development is significantly limited within RCA areas. In addition to these three general categories, the first 100 feet landward of the head of tide and/or state or private wetlands is designated as a Shoreline Buffer. New development activities are generally not permitted within the buffer. Vegetation impacted within the 100 foot buffer area would be replaced consistent with the Chesapeake Bay Critical Area Commission's policy and objectives.

The area surrounding the study area is a mixture of incorporated towns, residential, commercial/industrial and rural agriculture. West of the study area is the town of Easton, one of five incorporated towns within Talbot County. Easton is the county seat and the major residential, commercial and employment center of Talbot County. Most county offices and state agencies serving Talbot County are located in Easton. A number of residential subdivisions are located within the immediate area surrounding Easton. The majority of the residential development in the unincorporated areas of Talbot County is single-family detached housing. Several areas of commercial/industrial land use are also located within the area just outside the town limits of Easton along US Route 50, MD 331 and MD 334. The village of Bethlehem is located east of the study area along with several residential subdivisions and the town of Preston, one of ten incorporated towns within Caroline County and one of the five largest towns.. Similar to Talbot County, residential development in the unincorporated areas located outside of the towns generally consists of single-family dwellings. Figures III-3A and 3B show the existing land use within and surrounding the study area.

2. Hazardous Materials/Waste Sites

a. Background Studies

Deed records for properties within the project area were researched at both the Talbot and Caroline County Courthouses in Easton and Denton, Maryland, respectively. Property deeds were researched back one hundred years. Farming was the only land use indicated in the deed records on the Talbot County side of the Choptank. The tidal marsh on the Caroline County side is only mentioned as "marsh". Land use records in the two counties only extend to the early 1970's. Land

LEGEND

- INCORPORATED TOWN
- RESIDENTIAL
- COMMERCIAL /INDUSTRIAL
- RURAL AGRICULTURE
- CHESAPEAKE BAY CRITICAL AREA

EASTON

STUDY AREA

PROJECT AREA

DOVER BRIDGE

TOWN LIMITS

EASTON MUNICIPAL AIRPORT

Seth Demonstration Forest

TANYARD

PROVIDENCE LANDING

TRAILER PARK

CAROLINE COUNTY

TALBOT COUNTY

TRED AVON RIVER

CHOPTANK RIVER

Kings Creek

Harrisons Creek

Galloway Run

Barbar Creek

MATCH LINE TO FIG. III-3B

MD 331 - DOVER BRIDGE

EXISTING LAND USE

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	III-3A

FILE: EXLANDA.DGN
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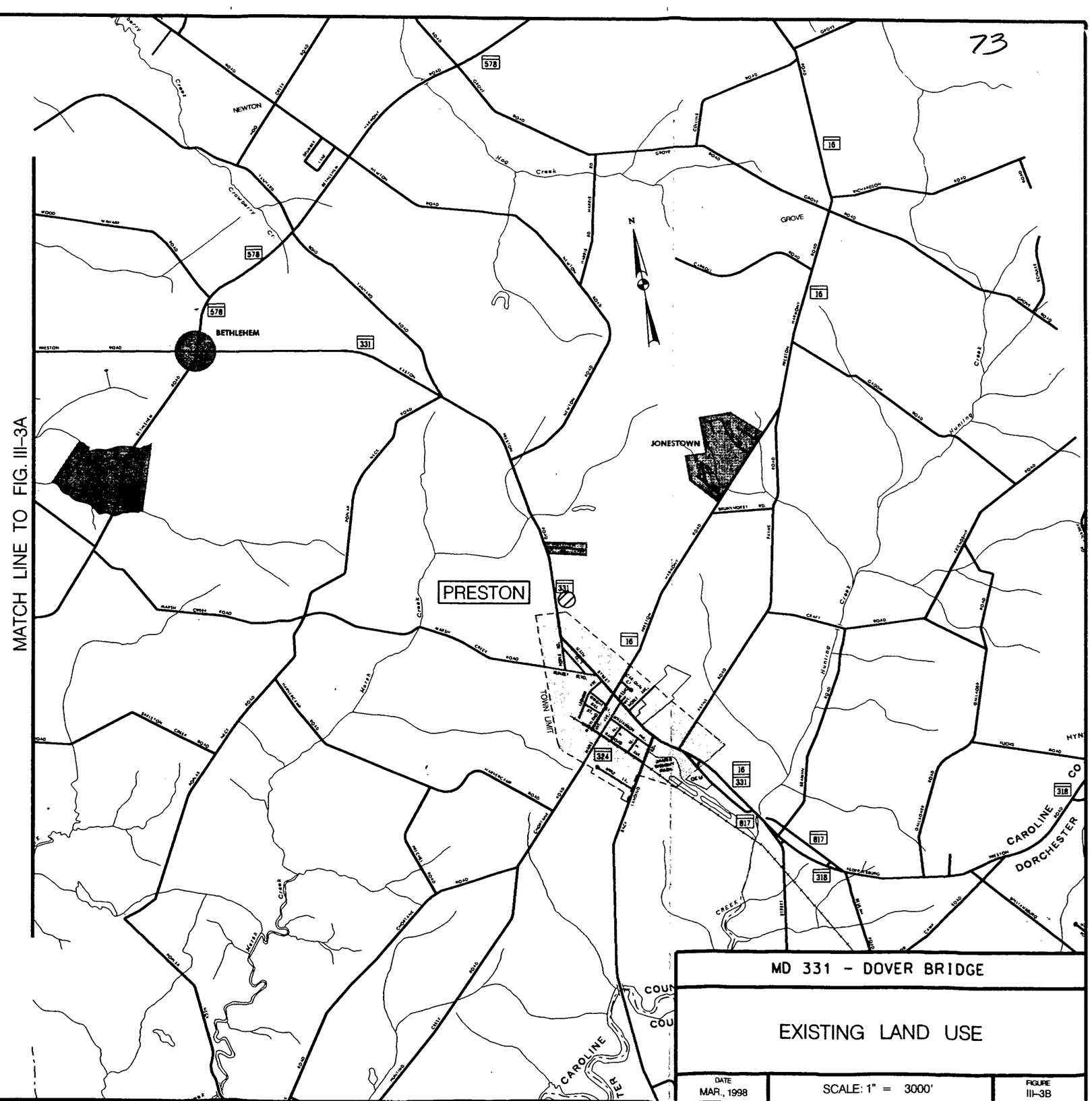
LEGEND

- INCORPORATED TOWN
- RESIDENTIAL
- COMMERCIAL /INDUSTRIAL
- RURAL AGRICULTURE



MD 331 - DOVER BRIDGE

EXISTING LAND USE

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	III-3B

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on the Talbot County side was and is zoned agricultural, while the tidal marsh on the Caroline County side is zoned residential. There are no indications from either county's planning offices that the land has ever been or is being used for anything except farming.

The Midshore Regional Landfill is located approximately 1.5 miles southwest (downstream) of the existing bridge. This is a modern, fully lined, solid waste facility that serves Caroline, Kent, Queen Anne's, and Talbot counties. It has a leachate collection system that collects and delivers the leachate to a treatment facility. There is a series of both surface and groundwater monitoring stations, that are used to detect any contamination of these resources. This modern facility was designed to replace the older Easton Municipal Landfill. The Easton Municipal Landfill has been closed and capped and does not pose a threat to the existing groundwater quality in the project area. Groundwater near the closed facility is still being monitored for groundwater contamination.

The U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE) both maintain records of known hazardous waste sites. This information is contained in a report known as the "State Master List", and is a compilation of state and federally listed sites, including State Superfund sites and the EPA's Compensation and Liability Information System (CERCLIS). The State Master List (December 1997) does not list any hazardous waste sites within the project area.

b. Field Visit/Site Reconnaissance

Field visits to the project area did not reveal any potential for hazardous waste sites. There are relatively few buildings within the project area. A six inch natural gas line runs parallel to MD 331. The farm in the northwest quadrant is in good repair and the storage tanks are all outside of the project area. The bridge tenders' building in the southwestern quadrant is in good repair and has little potential hazardous materials. The sea container, immediately south of the tenders' building, is being used for storage of materials (tools, hardware, paint, etc.) for bridge maintenance. A dilapidated farmhouse, also in the southwestern quadrant, has been empty for some time and has a low potential for hazardous materials. The entire eastern half of the project area is devoid of buildings.

3. Future Land Use in the Study Area

The Talbot County Comprehensive Plan and the Caroline County Comprehensive Plan contain Land Use Plans which depict the desired pattern of land use within their respective jurisdiction. The underlying goal of Talbot County's Land Use Plan is to "Promote and maintain a well-planned pattern of compatible and efficient utilization of land and water resources which concentrates development in suitable areas." Caroline County's goals include the following: discourage a scattered development pattern and concentrate development nearer the towns, preserve Caroline County as a rural county, improve and expand public facilities but urban type services should not be provided in rural areas, plan new development to avoid undesirable effects such as strip commercial development along major highways, preserve and enhance agriculture which is a key to the local economy and character.

The future land use designated in the study area consists of several land use categories from each county's land use plan - Rural and Agricultural Conservation Area (Talbot County), Agriculture/Rural Residential (Caroline County) and Chesapeake Bay Critical Area. Each county's individual land use plan contains its own specific land use categories except for Chesapeake Bay Critical Area which is common to both counties. The future land use categories within and surrounding the study area are discussed below and shown on Figures III-4A and 4B.

Incorporated Towns

Within Talbot County, there are five incorporated towns, including the town of Easton. These towns are the principal residential, commercial and industrial centers of the county and are areas intended for future residential, commercial and industrial growth and development. Growth in the incorporated towns will prevent the outward sprawl of development, keep new growth within existing centers where adequate public facilities and services can be provided efficiently and relieve development pressure in rural and agricultural areas. Each incorporated town has its own independent planning and zoning authority. The incorporated towns land use category is used in Talbot County's Land Use Plan. Caroline County's Land Use Plan contains a similar category, growth centers, which is discussed later in this section.

Development Areas

Within Talbot County, an area around an incorporated town is generally designated a development area representing a transitional area between the compact settlement pattern in the town and the surrounding rural countryside. Development areas could potentially be annexed by the town when the town's facilities and services can be extended. Development areas are generally characterized by medium density residential development, limited commercial and industrial development, farmlands and open space. The majority of future growth and development in the development area should be medium density residential development with the density sufficient to support the extension of public utilities. The development areas land use category is used in Talbot County's Land Use Plan. Caroline County's Land Use Plan contains specific residential, industrial and commercial land use categories which are discussed later in this section for areas surrounding the study area that are designated for these land uses.

Rural and Agricultural Conservation Areas

Rural and agricultural conservation areas include the majority of the inland rural and agricultural lands within Talbot County. These areas are intended to be characterized by open space, agriculture, forestry, low density single-family homes, and agriculturally-related commercial and industrial land uses. The preferred land uses within the rural and agricultural conservation areas are agricultural and forestry activities. Of primary importance is the conservation of the open space character of these areas and maintenance of the land base required to support the county's agricultural industry. Future residential development in the rural and agricultural conservation areas should be designed in such a way as to preserve productive agricultural lands, woodlands, open space, environmentally sensitive resources and rural character. The rural and agricultural conservation areas land use category is used in Talbot County's Land Use Plan. Caroline County's Land Use Plan contains a similar category, agricultural/rural residential, which is discussed later in this section.

Chesapeake Bay Critical Area

Pursuant to state requirements, all waterfront areas within 1,000 feet landward from the shoreline or the inland edge of tidal wetlands are regulated so that the adverse impacts of growth are minimized. A discussion of this land use category is provided in Section III.C.1. Within the study area, Chesapeake Bay Critical Area is located in Talbot County and Caroline County, along both sides of the Choptank River.

Growth Centers

Preston and the towns of Denton, Federalsburg, Greensboro and Ridgely are the five largest towns in Caroline County. These towns have municipal water and sewerage facilities and are designated as growth centers. It is intended to concentrate commercial, industrial and residential development in these areas. The growth centers land use category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan contains a similar category, incorporated towns, discussed earlier in this section.

Villages/Small Towns

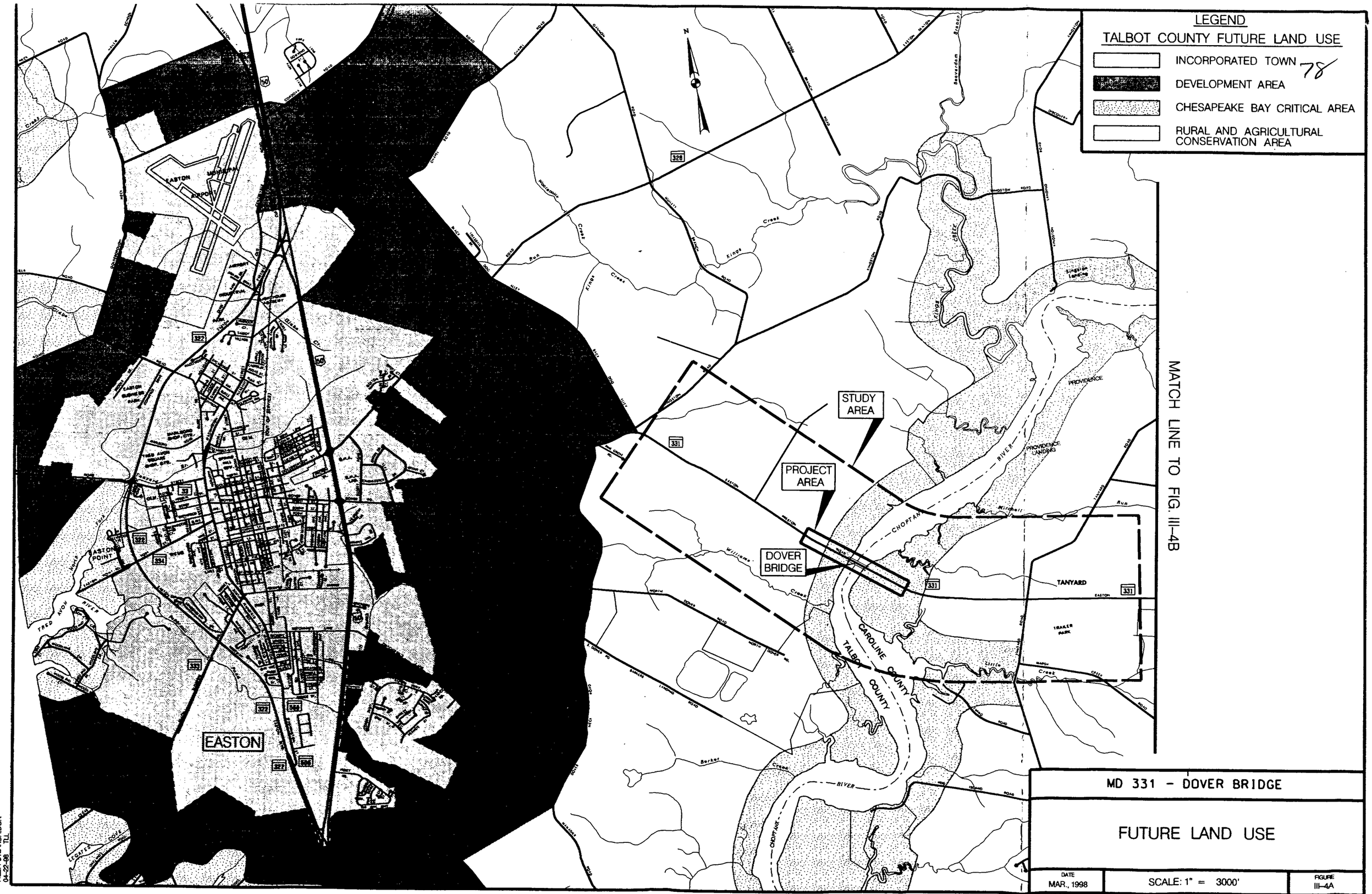
Bethlehem and Jonestown are small unincorporated villages located outside the study area in Caroline County that are designated for limited future development. The following mixture of land uses is intended to occur in these villages: limited single-family residential and neighborhood commercial development from in-fill and limited peripheral expansion. The villages/small towns land use category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan contains a similar category, village centers, which do not occur in the vicinity of the study area.

Single-Family Residential

Within Caroline County, single-family residential development generally occurs in two forms - major subdivisions containing five or more lots and minor subdivisions containing from one to four lots. The zoning and subdivision regulations specify the particular design standards that are required for the area to be developed There are several areas near the town of Preston that are intended for single-family residential development. The single-family residential land use category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan does not contain specific residential land use categories, but rather includes residential land use within broader categories, such as the development areas category previously discussed.

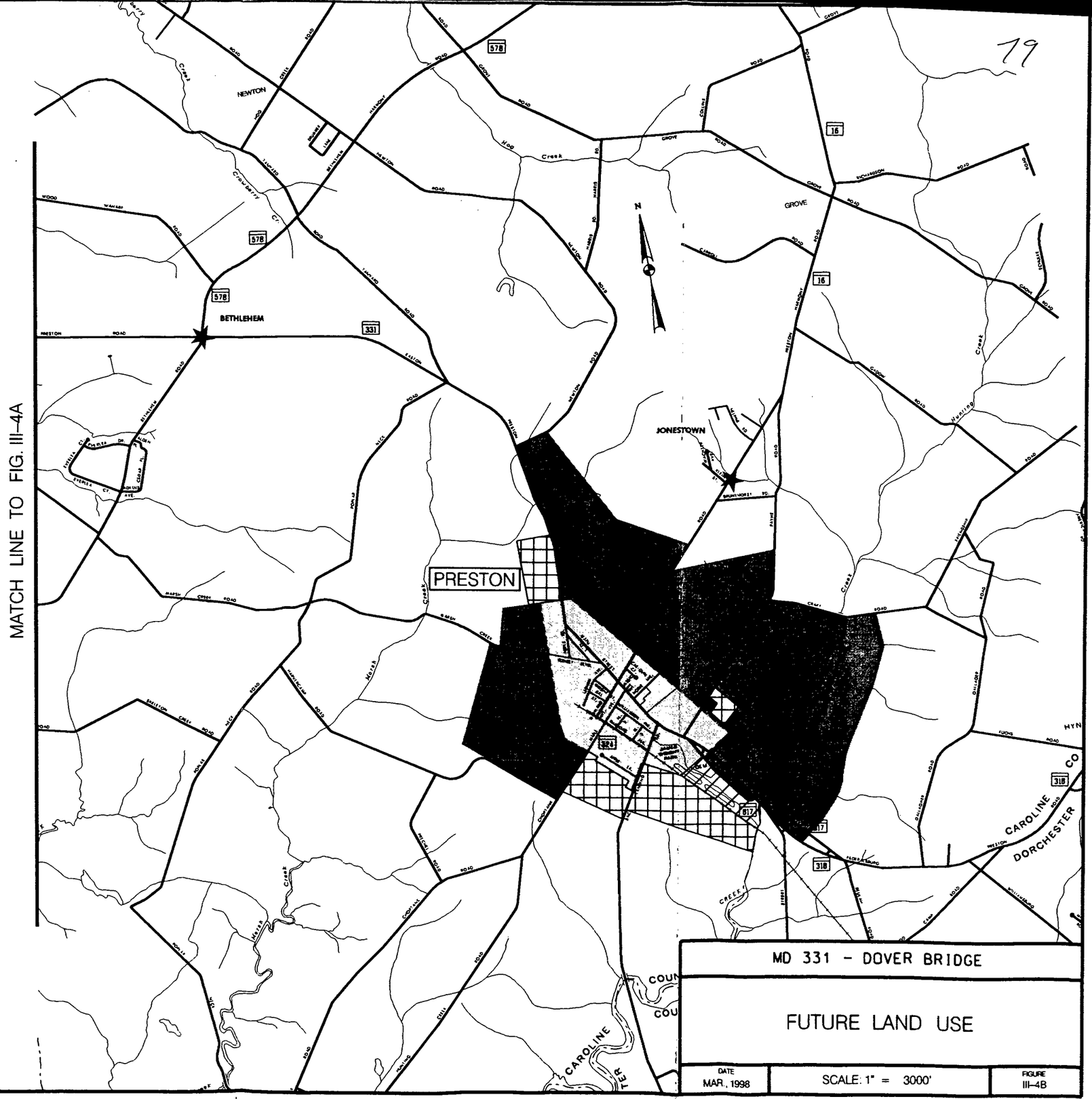
Industrial

Industrial land use in Caroline County is intended primarily for light manufacturing, fabricating and warehousing. There are several areas near the town of Preston that are intended for industrial development. Industrial land uses are to be compatible with adjacent uses in order to avoid adverse effects on health, safety, welfare and the environment. The industrial land use


LEGEND
TALBOT COUNTY FUTURE LAND USE
INCORPORATED TOWN
DEVELOPMENT AREA
CHESAPEAKE BAY CRITICAL AREA
RURAL AND AGRICULTURAL CONSERVATION AREA
78
STUDY AREA
PROJECT AREA
DOVER BRIDGE
EASTON
EASTON POINT
TANYARD
MATCH LINE TO FIG. III-4B
MD 331 - DOVER BRIDGE
FUTURE LAND USE
DATE MAR., 1998
SCALE: 1" = 3000'
FIGURE III-4A
FILE: FUTLANDA.DGN 04-22-98 TLL

LEGEND
CAROLINE COUNTY FUTURE LAND USE

- GROWTH CENTER
- VILLAGES /SMALL TOWNS
- SINGLE FAMILY RESIDENTIAL
- AGRICULTURE /RURAL RESIDENTIAL
- INDUSTRIAL
- INDUSTRIAL /COMMERCIAL MIXED USE



MATCH LINE TO FIG. III-4A

MD 331 - DOVER BRIDGE

FUTURE LAND USE

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	III-4B

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category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan includes industrial land use within their broader land use categories, such as incorporated towns and development areas previously discussed.

Industrial/Commercial Mixed Use

There is an area outside the town of Preston on the southeast side that is intended for industrial/commercial mixed use development. Industrial land use in Caroline County is generally intended for light industry. Commercial development in the county, depending on the zoning regulations, is in the form of three types of commercial districts - highway, neighborhood or general. Commercial development in Caroline County has historically not been vigorous due mainly to a widely scattered population and lack of a concentrated commercial center. The industrial/commercial mixed use land use category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan includes industrial/commercial land uses within their broader land use categories, such as incorporated towns and development areas previously discussed.

Agricultural/Rural Residential

Agricultural land is an economic resource which supports the largest industry in Caroline County. The majority of the Caroline County portion of the study area is intended for agricultural/rural residential land use. Goals of the Caroline County Comprehensive Plan that guide residential development in this land use category include: avoid conflicts between agriculture and residential development, preserve agricultural lands, and preserve open spaces and the aesthetic appearance of the rural countryside. The agricultural/rural residential land use category is used in Caroline County's Land Use Plan. Talbot County's Land Use Plan contains a similar category, rural and agricultural conservation areas, discussed earlier in this section.

In summary, there are opportunities in the area surrounding the study area for planned growth in residential, commercial and industrial development in accordance with the land use policies and recommendations for future development contained in the Talbot County Comprehensive Plan and the Caroline County Comprehensive Plan.

D. Cultural Resources

1. Historic Standing Structures

The National Historic Preservation Act (NHPA) of 1966, as amended, the National Environmental Policy Act (NEPA) of 1969, and other applicable federal, state, and local legislation govern the identification, analysis, and treatment of cultural (historic) resources. The lead federal agency (in this case FHWA) is required to take into account, during the planning process, the effect of its proposed project on historic properties which are listed on, or eligible for, the National Register of Historic Places (NRHP) prior to the issuance of a permit or license, or before the approval of any funds. On the Federal level, the NRHP was established by NHPA to record resources significant in our understanding of American history and culture. Historic properties are defined as districts, sites, buildings, structures, and objects significant in American resources. In keeping with the NHPA language and its implementing regulation, 36 CFR 800, the term "historic property" only refers to resources listed on or eligible for the National Register. For purposes of this discussion, archeological resources (sites) refer to cemeteries, prehistoric, historic, and underwater archeological sites, whereas historic resources refer to building, structures, districts, or objects which meet the 50-year age consideration.

All historic resources identified during cultural resource studies for MD 331 were evaluated and submitted to the State Historic Preservation Officer (SHPO) for their opinion on NRHP eligibility determinations. These properties were evaluated using the criteria of the NRHP. These criteria state that "the quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of locations, design, setting, materials, workmanship, feeling, and association, and; that are associated with events that have made significant contribution to the broad patterns of our history (Criterion A): or that are associated with the lives of persons significant in our past (Criterion B): or that embody the distinctive characteristics of a type, period, or method of construction that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); or that have yielded, or may likely to yield, information important in prehistory or history" (Criterion D) (Criteria for Evaluation, NRHP).

In the study area, two resources meet the NRHP criteria. These include Troth's Fortune (T-50), located in Talbot County and listed on the National Register in 1974 and the Dover Bridge (T-487), determined eligible for the National Register in 1993. The State Historic Preservation Officer concurs with this determination. See Section VI.D. Agency Correspondence, letter from Maryland Historic Trust dated April 1, 1998. Statements of the significance of each of these sites are listed below and their location is shown on Figure III-2A. No rural historic districts or landscapes exist within or adjacent to the project area.

For the purposes of identifying historic resources a historic context was developed for the study area. The historic context is an organizational framework that groups information about related cultural resources, based on a cultural theme, geographic limits, and chronological period.

The historic context for the study area illustrates an area of early settlement on Maryland's eastern shore. The development of the area, facilitated by the rich agricultural land and its proximity to navigable waterways resulted in a diversity of property types, including residential, agricultural, commercial, and transportation, and a variety of architectural styles. Both the property types and architectural styles illustrate the evolution of the area through the eighteenth, nineteenth, and twentieth centuries from the era of tobacco predominance before the Civil War through the period of regional diversification enabled by water and land-based transportation advances.

This historic context provides an overview of the development of the area surrounding Dover Bridge on MD 331 in Talbot and Caroline Counties. A description of Talbot and Caroline County's settlement patterns, economic development and system of transportation also covers general trends for the Eastern Shore of Maryland. The context emphasizes the history of the village and port of Dover, Dover Road and the Dover Bridge.

The village of Dover arose from a ferry crossing which existed at the mouth of Barker Creek. The area was first surveyed in 1663. Because of the fresh water content of the river at that point, ships from England sought Dover's harbor in order to kill the salt water shipworms which were destructive to wooden ships. This situation contributed to making Dover a center of trade. Local tobacco was exported through Dover for England. Dover prospered through most of the eighteenth century. By the late eighteenth century, Dover began to decline.

A bridge was constructed to replace a historic ferry crossing capable of accommodating the height of the vessels which navigated the Choptank River. The crossing was labeled the "Dover Draw Bridge" on an 1873 map of the area. The current structure is a swing movable bridge built in 1933.

Methodology

The goal of the Historic Resource Survey and Determination of Eligibility Report (1998) was to identify and evaluate historic standing resources, and provide descriptions, study area map, project area topography, and current and anticipated land use.

Background information on the history and resources was collected from a variety of sources, including local and county histories, atlases and county maps, deeds and tax resources. These sources are located at the Talbot County Historical Society, the Maryland Historical Trust, and the Towson Branch of the Baltimore County Public Library. Deed research was also conducted in the project area.

In January 1998, a historic resource survey was conducted of all properties which are fifty years old or older within the APE. Twelve resources were identified in the study area including Troth's Fortune and the Dover Bridge. Building materials, construction techniques, architectural details and individual integrity were addressed for each property. Where applicable, resources were evaluated for their potential contributions to historic districts or farm complexes. Sites were located on a field map and photographed.

The potential for a rural historic district in the project area was evaluated. Although the area retains much of its rural character, there are a number of modern intrusions and substantial demolition of both residential and agricultural structures has occurred.

Phase I investigations were conducted for the MD 331 project and are included in Archeological Report Number 198 (1998).

Terrestrial archeology involved excavation of 40 centimeter diameter, screened, shovel test pits at 20 meter intervals within the area that would be impacted by the various project alternates. When potentially significant archeological resources were encountered, supplemental shovel test pits were excavated to determine the nature of the resource and define its boundaries. Underwater archeological survey involved remote sensing of the river bottom, using

magnetometer and side-scan sonar, to identify any potentially significant submerged archeological resources. Targets identified by remote sensing were explored by divers to identify them, evaluate their integrity, and evaluate their potential eligibility for the NRHP. Marshy areas on the east bank of the Choptank River were surveyed by pedestrian transects to determine if the remains of potentially significant vessels were present in the area.

Troth's Fortune (T-50)

Troth's Fortune was listed on the NRHP in 1974 and is significant under Criteria A and C. Troth's Fortune (T-50) is an excellent example of a vernacular farm dwelling dating to the settlement period of Maryland's eastern shore. The National Trust for Historic Preservation (NTHP), a quasi-public organization, holds a deed of easement on Troth's Fortune which restricts development and use of the property for the purpose of preservation. The NTHP, charted by Congress in 1949, is a non-profit organization that provides advice and financial assistance to non-profit organizations and public agencies engaged in preservation. The main residence, located on a 100 acre site, is a 1 ½ story, 3-bay structure with a gambrel roof, symmetrical endwall chimneys and an unusual stair tower in the rear. It was constructed between 1686 and 1710 by William Troth, a wealthy Quaker merchant with substantial land holdings. In addition to architectural significance, the property relates to broad patterns of development with respect to economic and religious life in colonial Talbot County. A photograph of the site is shown on Figure IV-1, and a resource sketch map is provided in the Appendix. The Main House is located approximately 1200 feet from the Choptank River.

Dover Bridge (T-487)

The Dover Bridge was previously determined eligible for inclusion on the NRHP by the SHPO in 1993. It is significant under Criteria A and C. The Dover Bridge (T-487) is significant as the only National Register eligible swing span bridge owned by the Maryland State Highway Administration, a combination swing movable bridge and metal through truss designed by the J.E. Greiner Company and built in 1933. The bridge is 851 feet long and carries two lanes.

Movable bridges are perhaps the rarest bridge type in Maryland. While exceptionally significant for the unique engineering solution they provide for challenging transportation crossings, maintenance issues related to their mechanical operation have required the replacement of many such structures in response to increased transportation demands. At least

thirteen movable vehicular bridges have been replaced in Maryland during the last twenty years, leaving only twenty four remaining in the state. Fifteen of the twenty four are considered potentially eligible for the National Register of Historic Places by virtue of being fifty years or older.

Among movable bridges, swing span bridges are the rarest. Since 1981, four swing span bridges have been removed and one historic bridge totally reconstructed. Today, only three swing span structures remain on Maryland's roads: Bridge 2081 on MD 181 over Weems Creek, Bridge 4008 on MD 31 over the Patuxent River, and Bridge 20023 on MD 331 over the Choptank River.

Presently only one of these, the Dover Bridge, in considered National Register eligible, for its importance in the development of transportation on the Eastern Shore as well as the example it provides of this very rare bridge type. While Bridge 4008 may be eligible in the future, Bridge 2081 was reconstructed in 1997 and does not maintain the historical integrity requisite to meet the eligibility criteria. Removal of the Dover Bridge would leave only one potentially eligible swing span bridge on Maryland's state roads. The Dover Bridge, therefore, is among the most significant historic bridges in Maryland.

Maryland State Police Barracks (T-950)

The Maryland State Police barracks, located approximately one mile west of the bridge, is a one-story stucco-building with Spanish-eclectic style influences and an associated garage. Coordination with the SHPO is underway to determine the significance of its association with the growth of the State Police in the 1930's, especially with respect to the use of motorcycles. Should the site be determined significant, concurrence with an effect determination would be sought from the Maryland Historical Trust.

2. Archeological Sites

Phase I archeological survey has been completed. Terrestrial investigations recorded two archeological sites. Site 18TA315 is a late 17th/early 18th century farmstead with intact subsurface features able to yield information on several issues of interest to the study of early colonial period society, including consumer behavior, patterns of food consumption as it reflects social structure, and spatial patterning as it reflects household affluence. The site is considered eligible for the National Register under Criterion D, for its information potential. There appears

to be no evidence however, to suggest that site 18TA315 would warrant preservation in place. Further investigations are to be completed if impacted by the selected alternate to delineate site boundaries and to better evaluate the contents.

Site 18TA316 is a sparse scatter of historic and pre-historic artifacts confined to the plowzone. The site is considered ineligible for the National Register, and no further investigation is required.

Underwater archeological survey identified six targets, three of which were determined to represent natural or modern debris. The remaining three targets represent submerged archeological sites and are located outside the area of potential effect. 18TA317 is the remains of a steamboat wharf. 18TA318 and 18TA319 are remains of small deadrise workboats dating to the 20th century, possibly parts of the same vessel. 18CA202 is the remains of a bridge pier. All three resources have poor integrity, and are considered ineligible for the National Register of Historic Places, thus no further investigation is required.

E. Natural Environment

1. Physiography, Topography, and Soils

a. Physiography andTopography

The project area is located within the Atlantic Coastal Plain physiographic province with surface elevations ranging from approximately 0 to 30 feet above mean sea level. Existing slopes range from 0 to 8%. Flat or nearly level agricultural lands are the most common land use in the Coastal Plain of the Delmarva Peninsula. Steep slopes are often forested, while low lying areas around the margins of waterways are frequently wetlands.

Exposed geologic formations within the Atlantic Coastal Plain are relatively young. They formed from marine sediments that were deposited during various geologic epochs. These sediments vary considerably, as do the soils that formed from them. Many of these formations have not been appreciably consolidated or cemented into solid bedrock formations, and thus offer little or no difficulty in excavating. Some of these formations include beds of sand or gravel that have become cemented by limonite, producing relatively hard layers intercalated with soft beds of silt or clay. In general, the older strata of the Coastal Plain series have been more firmly consolidated than the younger beds.

In the project area, the Choptank formation is exposed in the vicinity of the existing bridge on the Talbot County side of the river. This formation is described as interbedded brown to yellow, very fine grained to fine grained sand and gray to dark bluish green argillaceous silt. Locally, it may contain indurated to calcareous sandstone and/or prominent fossil shell beds. The thickness of this formation varies from 0 to 50 feet.

The lowland deposits of the Talbot Formation underlie the tidal marsh on the Caroline County side of the river. This formation is described as gravel, sand, silt, and clay; medium to coarse-grained sand and gravel with cobbles and boulders near the base. The formation commonly contains reworked Eocene glauconite, varicolored silts and clays, and brown to dark gray lignitic silty clay. It may contain estuarine to marine fauna fossils in some areas. Its thickness ranges from 0 to 150 feet.

b. Overburden/Saprolite

Weathering of bedrock forms a sandy, silty, clayey, and rocky material termed saprolite that generally grades downward into weathered rock. The base of the saprolite is a subdued replica of the land surface, with the thickest saprolite layer beneath interstream areas. The relatively high porosity and groundwater storage capacity of saprolite is important to local groundwater resources.

c. Soils

The study area has four main soil associations:

Sassafras – Woodstown Association – Level to strongly sloping well drained and moderately well drained soils that have a subsoil of sandy clay loam.

Mattapex – Matapeake Association - Level to strongly sloping, well drained and moderately well drained soils that have a subsoil of loam to silty clay loam.

Elkton – Othello – Barclay – Association – Level and nearly level, poorly and somewhat poorly drained soils that have a subsoil of silty clay to silt loam.

Tidal Marsh Association – Low-lying level areas that are subject to flooding by salt water.

Within each soil association there are one or more soil series that are derived from the same underlying parent material.

Table III-4 lists the soils that are found in the project area.

TABLE III-4
DESCRIPTION OF SOILS IN THE PROJECT AREA

Soil Map Symbol	Soil Name	Drainage	Drainage Class
BaA	Barclay silt loam, 0 to 2 percent slopes	Somewhat Poorly Drained	C
BaB2	Barclay silt loam, 2 to 5 percent slopes, moderately eroded	Somewhat Poorly Drained	C
MkA	Matapeake silt loam, 0 to 2 percent slopes	Well Drained	B
MkB2	Matapeake silt loam, 2 to 5 percent slopes, moderately eroded	Well Drained	B
MpA	Mattapex loam, 0 to 2 percent slopes	Moderately Well Drained	C
MxA	Mattapex silt loam, 0 to 2 percent slopes	Moderately Well Drained	C
SaB2	Sassafras sandy loam, 2 to 5 percent slopes, moderately eroded	Well Drained	B
SaC3	Sassafras sandy loam, 5 to 10 percent slopes, severely eroded	Well Drained	B
ST	Steep land	Moderately Well Drained	--
Tm	Tidal Marsh	Flooded	--

(See Fig. III-5)

Soil drainage classes are identified as follows:

Class	Description
A	(Low runoff potential) – Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission.
B	Soils having moderate infiltration rates when thoroughly wetted and consisting of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
C	Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.
D	(High runoff potential) – Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

The majority of soils in the project area are either class B or C.

Soils of the Sassafras-Woodstown Association include: Sassafras sandy loam, 2-5% slopes and Sassafras sandy loam, 5-10% slopes. Descriptions of these soils follow.

Sassafras sandy loam, 2-5% slopes (SaB2), occurs on uplands northwest of the bridge within the project area. This is a deep, well drained, moderately fertile, moderately fine textured soil developed in sandy Coastal Plain sediments. Capability unit is IIe-5 (some limitations or requires moderate conservation practices). Permeability ranges from 2.0–6.3 inches/hr. Soil pH is 4.6–5.0. Shrink-swell potential is low. Suitability for winter and wet weather grading is poor to fair. This soil is considered erodible.

Sassafras sandy loam, 5-10% slopes (SaC3), occurs on uplands west of the bridge within the project area. This is a deep, moderately sloping soil that has a sandy loam surface layer. This soil is acidic and tends to be droughty. Capability unit is IVe-5 (severe limitations). Permeability ranges from 2.0–6.3 inches/hr. Soil pH is 4.0–5.0. Shrink-swell potential is low. Suitability for winter and wet weather grading is fair. This soil is considered moderately erodible.

Soils of the Mattapex - Matapeake Association include: Mattapex loam, 0-2% slopes; Mattapex loam, 2-5% slopes; Mattapex silt loam, 0-2% slopes; Matapeake silt loam, 0-2% slopes; and Matapeake silt loam, 2-5% slopes. Descriptions of these soils follow.

Mattapex loam, 0-2% slopes (MpA), occurs on uplands southwest of the bridge within the project area. It is a deep, moderately well drained, moderately fertile, dark brown soil with a loam or silt loam surface layer developed in a silty mantle over sandy Coastal Plain sediments. This soil is seasonally wet. Capability unit is IIw-1 (moderately limited). Permeability ranges from 0.63–2.0 inches/hr. Soil pH is 4.5-5.5. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered erodible.

Mattapex loam, 2-5% slopes, moderately eroded (MpB2), occurs on uplands southwest of the bridge within the project area. It is a deep, moderately well drained, moderately fertile, dark brown soil with a loam or silt loam surface layer developed in a silty mantle over sandy Coastal Plain sediments. This soil is seasonally wet. Capability unit is IIe-16 (moderately limited). Permeability ranges from 0.63–2.0 inches/hr. Soil pH is 4.5-5.5. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered erodible.

Mattapex silt loam, 0-2% slopes (MxA), occurs on uplands west of the bridge within the project area. It is a deep, moderately well drained, moderately fertile, dark brown soil developed in a silty mantle over sandy Coastal Plain sediments. This soil is seasonally wet. Capability unit is IIw-1 (moderately limited by excess water). Permeability ranges from 0.63–2.0 inches/hr. Soil pH is 5.1–6.0. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered erodible.

Matapeake silt loam, 0-2% slopes (MkA), occurs on uplands southwest of the bridge within the project area. It is a deep, well drained; fertile, medium textured soil developed in a silty material, probably loess, which overlies a sandy substratum. Capability unit is I-4 (few limitations). Permeability ranges from 0.63–2.0 inches/hr. Soil pH is 6.1–7.0. Shrink-swell

potential is low. It is not suitable for winter and wet weather grading. This soil is considered erodible.

Matapeake silt loam, 2-5% slopes (MkB2), occurs on uplands west of the bridge within the project area. It is a deep, well drained; fertile, medium textured soil developed in a silty material, probably loess, which overlies a sandy substratum. Capability unit is IIe-4 (some limitations or requires moderate conservation practices). Permeability ranges from 0.63–2.0 inches/hr. Soil pH is 6.1–7.0. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered erodible.

Soils of the Elkton – Othello – Barclay – Association within the project area are limited to Barclay silt loam, 0-2% slopes and Barclay silt loam, 2-5% slopes.

Barclay silt loam, 0-2% slopes (BaA), occurs on uplands west of the bridge within the project area. It is a deep, somewhat poorly drained, level soil formed in marine sediments with a silty surface layer and a silty subsoil in which little or no clay has accumulated. Capability unit is IIIw-1 (Severe limitations). Permeability ranges from 0.2–0.63 inches/hr. Soil pH is 4.0-5.0. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered highly erodible.

Barclay silt loam, 2-5% slopes (BaB2), occurs on uplands west of the bridge within the project area. In some areas this soil has lost as much as 75% of its original surface layer through sheet erosion. Capability unit is IIIw-1 (severe limitations). Permeability ranges from 0.2 - 0.63 inches/hour. Soil pH is 4.0 - 5.0. Shrink-swell potential is low. It is not suitable for winter and wet weather grading. This soil is considered highly erodible.

The Tidal Marsh Association occurs on the eastern half of the project area. This land is inundated by brackish water on each flood tide. It has a silt or very fine sand surface layer containing much partly decomposed organic matter. Below this is organic silt that has a few lenses of sand extending in some areas to a depth of 32 feet. Capability unit is VIIIw-1 (not suitable for commercial plants and restrictions on other uses).

d. Sedimentation and Erosion

Sediment yield from construction sites is dependent upon soil erodibility, rainfall frequency and magnitude, degree of vegetative cover, slope, and degree of control practiced. It

ranges from 35 tons to 45 tons of soil per acre per year (Schueler, 1987). The efficiency of sediment and erosion controls (about 65 percent overall, and about 46 percent for outfall flows; Schueler, 1990) may greatly limit the amount of sediment actually leaving a construction site. All soils identified in the project area are erodible, moderately erodible, or highly erodible.

e. Prime Farmland Soils and Soils of Statewide Importance

Six Prime Farmland soils and two Soils of Statewide Importance, as defined through coordination with the U.S. Department of Agriculture, occur in the project area. These are soil classification groups, identified by the Natural Resources Conservation Service, with the potential for high agricultural productivity. They are located on the western half of the project area (Fig. III-5). The completed Farmland Conversion Impact Rating Form is located in the Appendix.

TABLE III-5
PRIME FARMLAND SOILS AND SOILS OF STATEWIDE IMPORTANCE IN THE PROJECT AREA

Soil Map Symbol	Soil Name	Prime	Statewide Importance
MkA	Matapeake loam, 0-2 percent slopes	X	
MkB2	Matapeake loam, 2-5 percent slopes, moderately eroded	X	
MpA	Mattapex loam, 0-2 percent slopes	X	
MpB2	Mattapex loam, 2-5 percent slopes, moderately eroded	X	
MxA	Mattapex silt loam, 0-2 percent slopes	X	
SaB2	Sassafras sandy loam, 2-5 percent slopes, moderately eroded	X	
BaA	Barclay silt loam, 0-2 percent slopes		X
BaB2	Barclay silt loam, 2-5 percent slopes, moderately eroded		X

2. Water Resources and Fish Fauna

a. Surface Water

The project area is within the Choptank River sub-basin. Because of low elevations within the sub-basin, surface waters flow sluggishly in winding courses toward the Chesapeake Bay.

At the extreme western end of the project area, there is an intermittent tributary to William's Creek that arises within about 60 feet south of the existing road surface. The project crosses the Choptank River at a point where the river ranges from 600 to 646 feet wide between mean low and mean high tide lines. Volume of flow at the USGS flow gage at Greensboro, MD (upstream of the project) varies from a low of 1.5 ft^3/sec (August 29, 1966) to a recorded high of 6,970 ft^3/sec (August 4, 1967). Mean tidal range is 3 feet.

(1) Existing Surface Water Users

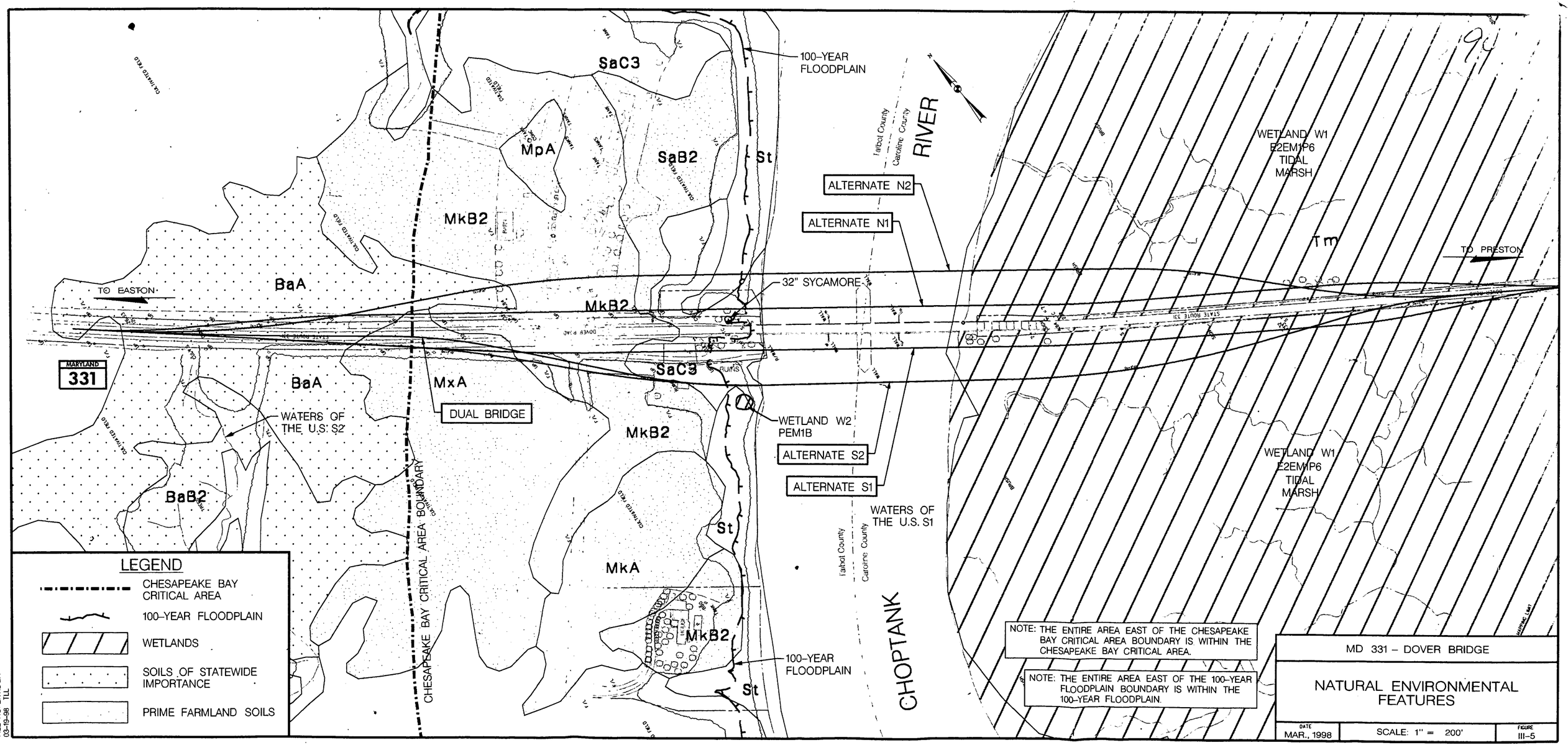
There are no existing surface water users (surface water withdrawals for irrigation, industry, etc.) within or immediately downstream of the project area.

(2) Surface Water Quality

Much of the information needed for this study came from the Maryland Water Quality Inventory 1993-1995 (MDNR 1996). Water quality in the Upper Choptank River generally is good, and supports its designated Use classifications. Table III-6, Maryland Water Quality Criteria and Designated Uses, shows the ranges of values of various criteria used to determine whether a stream segment supports its Use Designation. In tributaries, water quality degrades to fair and poor because of high bacteria, nutrient, and sediment loads from agricultural and urban runoff.

The designated uses of the streams within or adjacent to the project area are:

Use I (water contact recreation and the protection of aquatic life) for all waters within the project area.


SaC3
MpA
SaB2
MkB2
BaA
MkB2
SaC3
BaA
MxA
MkB2
BaB2
MkA
MkB2
St
St
St
100-YEAR FLOODPLAIN
ALTERNATE N2
ALTERNATE N1
32" SYCAMORE
TO EASTON
TO PRESTON
MARYLAND 331
DUAL BRIDGE
WATERS OF THE U.S. S2
WETLAND W2 PEM1B
ALTERNATE S2
ALTERNATE S1
WATERS OF THE U.S. S1
100-YEAR FLOODPLAIN
CHESAPEAKE BAY CRITICAL AREA BOUNDARY
Talbot County
Caroline County
RIVER
CHOPTANK
WETLAND W1 E2EM1P6 TIDAL MARSH
WETLAND W1 E2EM1P6 TIDAL MARSH
LEGEND
CHESAPEAKE BAY CRITICAL AREA
100-YEAR FLOODPLAIN
WETLANDS
SOILS OF STATEWIDE IMPORTANCE
PRIME FARMLAND SOILS
NOTE: THE ENTIRE AREA EAST OF THE CHESAPEAKE BAY CRITICAL AREA BOUNDARY IS WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
NOTE: THE ENTIRE AREA EAST OF THE 100-YEAR FLOODPLAIN BOUNDARY IS WITHIN THE 100-YEAR FLOODPLAIN.
MD 331 – DOVER BRIDGE
NATURAL ENVIRONMENTAL FEATURES
DATE MAR., 1998
SCALE: 1" = 200'
FIGURE III-5
FILE NO. ENV.DGN 03-19-98 TLL

The Maryland Department of Natural Resources (MDNR) monitors water quality at two stations (Maryland Eastern Tributary (MET) 5.1 and MET 5.2) upstream and downstream of the project area, respectively. MET5.1 is located at Ganey's Wharf, approximately 6 miles upstream, just below the confluence with Tuckahoe Creek. At this station, increased nutrient levels (ammonia, nitrate, total nitrogen, orthophosphate, and total phosphate) and high turbidity were observed. Seasonally high chlorophyll levels were recorded in summer and fall, although algal blooms where chlorophyll was greater than 50 milligrams per liter (mg/l) occurred only occasionally. Turbidity is high enough to reduce light penetration to a degree that may adversely affect submerged aquatic vegetation (SAV) growth. Seasonal declines in dissolved oxygen occurred during summers and dropped below the Use criteria of 5 mg/l in August 1985, June and July 1989, June 1995, and June 1996.

MET5.2 is located at the US 50 bridge at Cambridge, more than 10 miles downstream of the project. Water quality data collected at this station from 1984-1997 show moderate to high levels of chlorophyll, indicative of occasional algal blooms. Seasonal declines in dissolved oxygen also occurred. Dissolved oxygen concentrations dropped below the Use criteria of 5 mg/l in July and August 1985, August 1989, July and August 1990, June and July 1991, June, July and August 1993, June and September 1994, May, June and August 1995, June, August and September 1996. Lower oxygen levels in this part of the Choptank River may be caused by intrusions of anoxic water from the Chesapeake Bay.

Metals were detected in sediment samples collected at stations MET5.1 and MET5.2 from June 1987 to May 1995. Samples were tested for arsenic, cadmium, chromium, copper, iron, lead, manganeso, mercury, nickle, and zinc. All metals detected were below the designated Use criteria. The sampling results are shown in the Appendix.

b. Groundwater Resources

(1) Existing Groundwater Users

Site visits and coordination with Maryland Department of the Environment (MDE), MDNR, and Natural Resources Conservation District personnel (formerly SCS) confirmed that there are no industrial groundwater withdrawals in the project area. While irrigation is common on the Eastern Shore, there are no irrigation groundwater withdrawals within the study area. Existing groundwater users in the project area consist of two residences and one farm that are serviced by wells within or adjacent to the project limits.

TABLE III-6
MARYLAND WATER QUALITY CRITERIA AND DESIGNATED USES

Water Quality Criteria	Use I Water Contact Recreation, Aquatic Life
Bacteriological	Presumed health hazard if fecal coliform bacteria exceed: ♦Log mean of 200/100 ml based on 5 samples in a 30-day period,or ♦If 10 percent of samples in a 30-day period exceed 400/100 ml ♦Except when a sanitary survey discloses no significant health hazard.
Dissolved Oxygen	Not less than 5mg/l.
Temperature	Not to exceed 32°C or 90°F.
pH	Greater than 6.5 and less than 8.5.
Turbidity	Not to exceed 150 NTU at any time, or not to exceed 50 NTU as a monthly average.
Total Residual Chlorine	Non-detectable
Toxic Substances	All toxic substance criteria to protect: ♦fresh water organisms in freshwaters, ♦estuarine or saltwater organisms in designated salt or estuarine waters, and ♦wholesomeness of fish for human consumption.

(2) Groundwater Resources Quantity and Quality

Aquifers are geologic units that yield economic quantities of water. The project area is underlain by at least six aquifers of varying thickness and yields. Listed in order of depth from surface, these aquifers are Frederica, Federalsburg, Cheswold, Piney Point, Aquia, and Magothy. The Piney Point, Aquia, and Magothy Aquifers, at depths of approximately 400 feet, 600 feet,

and 900 feet, respectively, yield commercial quantities of groundwater that are utilized by the Easton Utilities Commission (Magothy and Aquia) and the town of Easton (Piney Point). The 1985 withdrawals from Easton Utilities Commission wells were 1,040,553 gallons per day (gpd) from the Magothy Aquifer and 346,851 gpd from the Aquia Aquifer. The town of Easton withdraws less than 100,000 gpd from the Piney Point aquifer (MDE 1987).

The most productive Piney Point wells are near the city of Cambridge about 15 miles south of the project area, where yields range from 10 to 1,200 gallons per minute (gpm). In this area, the aquifer is composed of medium to coarse sand. Specific capacities range from 1 to 88 gpm per foot of drawdown. The average storage coefficient is 0.00037 near Cambridge. Water quality in this aquifer is generally good and is uniform. The Piney Point Aquifer's water has consistently low dissolved iron usually less than 0.3 parts per million (ppm), pH from 7.7 to 8.7, total dissolved solids (TDS) usually less than 250 ppm, and varying hardness.

Most reported well yields in the Aquia Formation aquifer range from 4 to 350 gpm. Specific capacities range from 1 to 20 gpm per foot of drawdown. Water quality is generally good in this aquifer. Dissolved iron ranges from 0.04 to 0.9 ppm, pH ranges from 6.7 to 8.5, and TDS ranges from 125 to 250 ppm.

Magothy aquifer wells commonly yield from 5 to 400 gpm and have specific capacities from 1 to 7 gpm/ft of drawdown. Water quality is acceptable for most uses. This water tends to be acidic and contains undesirable concentrations of iron. Southeast of the project area, the water becomes brackish, with TDS over 1,000 ppm.

There is sufficient groundwater in the project area for existing and proposed uses.

c. Fish Fauna

The fish fauna of the Choptank River is diverse and includes anadromous (fish that live the majority of their life in brackish or saltwater and migrate to freshwater for spawning), catadromous (fish that live the majority of their life in freshwater and migrate to saltwater for spawning), and freshwater fishes. Anadromous fishes with documented spawning in the Choptank River include yellow perch (*Perca flavescens*), white perch (*Morone americana*), striped bass (*Morone saxitilis*), and herring species (*Alosa* species). The only catadromous fish species is the American eel (*Anguilla rostrata*). The freshwater fishes collected during the 1994 Maryland Biological Stream Survey (MBSS) are listed in the letter from MDNR dated

November 7, 1997 in Section VII. Due to the presence of spawning yellow perch, no instream work is permitted during the period of February 15 through June 15, inclusive, during any year.

3. Waters of the U.S., Including Wetlands

a. Introduction

Waters of the United States, including wetlands, potentially affected by the proposed project have been identified. Waters of the U.S. include resources such as streams, lakes, tidal waters, and wetlands, which are a transitional area between water and land. Wetlands are defined by the federal government as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (EPA, 40 CFR 230.3 and CE, 33 CFR 328.3).

These resources, which provide many valuable functions in both the natural and cultural environment, are regulated primarily by Section 404 of the Clean Water Act administered by the U.S. Army Corps of Engineers (COE). The U.S. Environmental Protection Agency (EPA), U.S. Fish & Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Natural Resources Conservation Service (NRCS) are also involved with the protection of these resources at the federal level. The Maryland Department of the Environment also regulates Waters and wetlands at the state level.

Existing information, including National Wetland Inventory (NWI) mapping, soil survey mapping, and U.S. Geological Survey topographic maps were reviewed by the Study Team in the early stages of the present study.

b. Methods

All jurisdictional wetlands were identified, mapped, and described in accordance with procedures outlined in the U.S. Army Corps of Engineers Wetlands Delineation Manual (USACOE, 1987). This study used a three-parameter approach to wetland identification and delineation in which all three parameters, hydrophytic vegetation, hydric soils, and wetland hydrology must be met to qualify for jurisdictional wetland status. A Routine Data Sheet was completed for each wetland, providing documentation for these parameters. Soils information

was obtained from Talbot County (1970) and Caroline County (1964) Soil Surveys published by the U.S. Soil Conservation Service (Natural Resources Conservation Service). The indicator status for the dominant plant species encountered were taken from the National List of Plant Species That Occur in Wetlands: Maryland (Reed, 1988). The Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979), developed by the U.S. Fish and Wildlife Service was used to classify wetlands in the Study Area. Wetland limits were mapped using topographic and planimetric features and were not surveyed. The wetland limits were accepted by the COE during the January 15, 1998 wetland field review (see Section VI).

Hydrophytic vegetation is ranked by the frequency with which it is found in wetlands. This ranking ranges from Obligate wetland (OBL) to Obligate Upland (UPL).

Indicator Categories

Obligate Wetland (OBL). Occur almost always (>99%) under natural conditions in wetlands.

Facultative Wetland (FACW). Usually occur in wetlands (67% - 99%), but occasionally found in nonwetlands.

Facultative (FAC). Equally likely to occur in wetlands or nonwetlands (34% - 66%).

Facultative Upland (FACU). Usually occur in nonwetlands (67% - 99%), but occasionally found in wetlands (1% - 33%).

Obligate Upland (UPL). Occur almost always (>94%) under natural conditions in nonwetlands.

The Highway Methodology Workbook Supplement - Wetland Functions and Values: A Descriptive Approach (COE, 1995) was used to assess the functions and values of wetlands. The final result of this methodology is a determination of the functions and values that exist in a particular wetland, and a determination of those that are considered the principal functions and values. The functions and values assessed by this methodology are as follows:

Groundwater Recharge/Discharge - This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

Floodflow Alteration - This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

Fish and Shellfish Habitat - This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

Sediment/Toxicant/Pathogen Retention - This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, and pathogens in runoff water from surrounding uplands, or upstream eroding areas.

Nutrient Removal/Retention/Transformation - This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands, and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

Production Export - This function evaluates the effectiveness of the wetland to produce food or usable products for man or other living things.

Sediment/Shoreline Stabilization - This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.

Wildlife Habitat - This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge.

Recreation - This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities.

Educational/Scientific Value - This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

Uniqueness/Heritage - This value considers the effectiveness of the wetland or its associated water bodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location.

Visual Quality/Aesthetics - This value considers the visual and aesthetic quality or usefulness of the wetland.

Endangered Species Habitat - This value considers the suitability of the wetland to support threatened or endangered species.

c. Results

A total of two wetlands and two Waters of the U.S. were identified in the project area. Table III-7 provides general information for each resource area. Figure III-5 is a generalized summary map of these resource areas, showing their position in a landscape perspective. Wetland function and values data sheets are provided in Section VI as an attachment to the Agency Field Review minutes.

TABLE III-7
WATERS OF THE U.S./WETLANDS SUMMARY

Area	Resource	Watershed/ Use	Resource Type
1	Wetland	Choptank (W1)	E2EM1V (Estuarine wetland)
2	Wetland	Choptank (W2)	PEM1B (Palustrine wetland)
3	Waters of U.S.	Choptank/ I (S1)	River
4	Waters of U.S.	Choptank/ I (S2)	1st order stream

Resource 1 - Wetland (W1 on Figure III-5)

This resource is a large (≥ 50 acres) tidally influenced estuarine wetland with persistent emergent vegetation that is inundated on most flood tides. It is located east of the Choptank River on both the north and south side of MD 331. Principle Functions and Values were identified as Floodflow alteration, Fish and shellfish habitat, Sediment/toxicant retention,

Nutrient removal, Production export, Wildlife habitat, Recreation, and Visual quality/aesthetics. The dominant vegetation includes: *Typha latifolia, T. angustifolia, Hibiscus mosheutos, Spartina cynosuroides, S. patens, Scirpus americanus, Pontederia chordata, peltandra virginica* and *Juncus roemeranus* all of these plants are either OBL or FACW for Maryland. The soil consists of muck and a sandy silt loam layer.

Resource 2 - Wetland (W2 on Figure III-5)

This resource is a small (< 1 acre) palustrine persistent emergent wetland that receives runoff from an adjacent agricultural field and floodwaters from the Choptank River. It is located on the western shore of the Choptank, south of MD 331. Principle Functions and Values were identified as Floodflow alteration, Fish and shellfish habitat, Nutrient removal, and Wildlife habitat. The dominant vegetation includes *Typha latifolia, Solidago sempervirens, Phragmites australis, Polygonum spp.,* and *Cornus amomum* all of these plants are either OBL or FACW for Maryland. The soil consists of silty loam over a silty sandy loam of low chroma.

Resource 3 - Waters of the U.S. (S1 on Figure III-5)

This resource is the Choptank River. It is a perennial river with an unconsolidated bottom. This resource is subject to tidal influences within the project area. It is designated Use I.

Resource 4 - Waters of the U.S. (S2 on Figure III-5)

This resource is a 1st order tributary to Williams Creek, which is a tributary to the Choptank River. This resource is located south of MD 331 approximately 1,600 feet west of the Choptank River. It is designated Use I.

4. Floodplains

Floodplains have been identified in the project area in accordance with Executive Order 11988; Floodplain Management, and 23 CFR 650, Subpart A. State regulations impose limitations on construction activities within floodplains. The purpose of these regulations is to avoid the long and short-term impacts associated with the occupancy and modification of floodplains, and to restore and preserve the natural and beneficial values served by floodplains. These values include Floodflow alteration, sediment and toxicant retention, nutrient removal, production export, and fish

and wildlife habitat. The floodplain found in the project area is largely natural and not modified, except in the vicinity of the existing road crossing.

The 100-year floodplain associated with the Choptank River has been delineated using a variety of sources: the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM); floodplain studies prepared by Talbot and Caroline Counties; and floodplain studies prepared in conjunction with this study. Figure III-5 shows the 100-year floodplain in the project area.

5. Terrestrial Ecosystem

a. Flora

(1) Plant Communities

The project area consists of three main plant communities:

Tidal Marsh - Tidal marsh comprises the entire eastern half of the project area. The most notable physical features of this plant community are shaped by the influence of daily tidal flushing. This flushing has resulted in a predominance of hydrophytic and halophytic (salt tolerant) plants, which in turn provide cover and food for large flocks of migrating waterfowl. The dominant plants are sedges, rushes, and grasses.

Forest – In the project area the forests consist of pioneer communities rising from previously logged/disturbed areas. Existing forests are typically found on steep ground, the area adjacent to waterways, and along fence rows and property boundaries. The forested tracts are early secondary successional forests.

Agriculture – Agricultural land comprises a large portion of the upland areas within the project area. The nearly level to moderately sloping soils have good tilth and are well drained. The majority of farming consists of row crops such as corn, soybeans, winter wheat, and hay crops of alfalfa.

(2) Large (≥ 100 acre) Contiguous Forests

Large tracts of forest (≥ 100 acres) that are ≥ 300 feet wide (and thus important forest interior dwelling bird breeding habitat) do not occur within the project limits.

(3) Specimen Trees

Methods

Specimen trees were located and mapped during the plant community surveys, using the Study Area limits. In general, specimen trees for most large overstory tree species were defined as being greater than 30 inches diameter at breast height (DBH). Specimen trees for smaller species were defined as those individuals within 75% of the state or county champion.

Results

One specimen tree was located during the study. It is not eligible as a state or county champion. The specimen tree is a 32-inch DBH sycamore (*Platanus occidentalis*) found on the north side of MD 331 about 100 feet west of the Choptank River.

b. Fauna

The occurrence, distribution, and abundance of wildlife may be used to qualitatively evaluate habitats. The fauna inventory included in this section contains lists of vertebrates known or expected to occur in the project corridor, exclusive of fish fauna.

Results

Nine species of salamanders are reported to occur in the Study Area. The species most commonly observed included northern dusky salamander (*Desmognathus fuscus*), redback salamander (*Plethodon cinereus*), and northern two-lined salamander (*Eurycea bislineata*). Northern dusky salamanders are common in wooded spring seeps. Redback salamanders occur commonly under logs in upland habitats. Northern two-lined salamanders are found near the margins of headwater streams.

Thirteen species of frogs and toads are reported to occur. Common species inhabiting marshes, ponds, and swamps include northern spring peeper (*Pseudacris crucifer*), bullfrog

(*Rana catesbeiana*), green frog (*Rana clamitans*), wood frog (*Rana sylvatica*), and southern leopard frog (*Rana utricularia*).

Three species of lizards and twelve species of snakes are reported to occur. Snakes are more common than lizards. Snakes that occur in aquatic habitats include northern water snake (*Nerodia sipedon*). Upland species include northern brown snake (*Storeria dekayi*), eastern garter snake (*Thamnophis sirtalis*), eastern ribbon snake (*Thamnophis sauritus*), eastern hognose snake (*Heterodon platyrhinos*), northern ringneck snake (*Diadophis punctatus*), and black rat snake (*Elaphe obsoleta*).

Eight species of turtles are reported to occur. Eastern box turtles (*Terrapine carolina*) are a common upland species. Common aquatic species include snapping turtle (*Chelydra serpentina*) and eastern painted turtle (*Chysemys picta*).

One hundred seventy five species of birds are reported to occur. Species common to aquatic or semi-aquatic habitats include great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), and American black duck (*Anas rubripes*). Several gulls and terns occur, including herring gulls (*Larus argentatus*), ring-billed gulls (*Larus delawarensis*), and common terns (*Sterna hirundo*). Common vultures, hawks, and owls include turkey vulture (*Cathartes aura*), black vulture (*Coragyps atratus*), red-tailed hawk (*Buteo jamaicensis),* American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), and barred owl (*Strix varia*).

Birds common to agricultural lands include mourning dove (*Zenaida macroura*), rock dove (*Columba livia*), barn swallow (*Hirundo rustica*), European starling (*Sturnus vulgaris*), common grackle (*Quiscalus quiscula*), brown-headed cowbird (*Molo thrusater*), and house sparrow (*Passer domesticus*).

Birds common to old fields include northern bobwhite (*Colinus virginianus*), northern mockingbird (*Mimus polyglottos*), gray catbird (*Dumetella carolinensis*), white-throated sparrow (*Zonotrichia albicollis*), song sparrow (*Melospiza melodia*), northern cardinal (*Cardinalis cardinalis*) and indigo bunting (*Passerina* cyanea).

Birds common to forested habitats include northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescens*), blue jay (*Cyanocitta cristata*), Carolina chickadee (*Parus*

carolinensis), wood thrush (*Hylocichla mustelina),* red-eyed vireo (*Vireo olivaceous*), and scarlet tanager (*Piranga olivacea*).

Forty species of mammals are reported to occur. Common insectivores include short-tailed shrew (*Sorex brevicauda*) and star-nosed mole (*Condylura cristata*). Bats include little brown myotis (*Myotis lucifugus*) and big brown bat (*Eptesicus fuscus*).

Mammals that inhabit old fields include meadow vole (*Microtus pennsylvanicus*), eastern cottontail (*Sylvilagus floridanus*), woodchuck (*Marmota monax*), and red fox (*Vulpes vulpes*).

Mammals that are common to forests include Virginia opossum (*Didelphis virginiana*), eastern chipmunk (*Tamias striatus*), gray squirrel (*Sciurus carolinensis*), southern flying squirrel (*Glaucomys volans*), white-footed mouse (*Peromyscus leucopus*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), and white-tailed deer (*Odocoileus virginianus*).

c. Rare, Threatened, and Endangered Species

Coordination with the U.S. Fish and Wildlife Service and MDNR indicates that a Federally Threatened Species, the bald eagle (*Haliaeetus levcocephalus*) is reported to nest approximately ¼ mile northeast of the existing bridge structure (letter from U.S. Fish and Wildlife Service to Maryland SHA dated December 1, 1997 in Section VI). No other federal or state listed species are known to inhabit the project area (letters from DNR dated November 18, 1997 and November 7, 1997) in Section VI.

6. Unique or Sensitive Areas

The project is located within the limits of the Chesapeake Bay Critical Area in designated Resource Conservation Areas in both Caroline and Talbot counties. Because anadromous fish spawning locations have been documented within the project area, in-stream construction restrictions apply from February 15 to June 15, inclusive. Additionally, the project area is a documented waterfowl wintering area. Therefore, construction activities should be restricted during the wintering period, from October 15 to March 31.

F. Air Quality and Noise Environment

Air quality and noise receptors were not identified for this project and no analyses performed since the purpose and need did not lead to the development of alternates that add capacity to MD 331 or change traffic patterns/volumes in the area.

IV. ENVIRONMENTAL CONSEQUENCES

A. Social

1. Displacements

None of the alternates under consideration will require any residential or business displacements, thereby not requiring relocation of any individuals or families.

Alternates N1 - 50 Foot (Structure), N2 - 30 Foot (Embankment) and N2 - 30 Foot (Structure) would each require the demolition of one building, a tractor shed on an operating farm. The farm property is large and it is anticipated that the shed would be rebuilt as part of the cost of the project in another location on the farm.

Although residential or business displacements will not be required, right-of-way would need to be acquired for each alternate under consideration except the No-Build Alternate and the Modification Alternate. Based on preliminary estimates, the amount of right-of-way that would be required by the alternates is listed below:

Alternate N1 - 50 Foot (Structure)	-	7.6 acres
Alternate N2 - 30 Foot (Embankment)	-	10.5 acres
Alternate N2 - 30 Foot (Structure)	-	8.6 acres
Dual Bridge Alternate - 30 Foot	-	6.1 acres
Alternate S1 - 50 Foot(Structure)	-	7.1 acres
Alternate S2 - 30 Foot (Embankment)	-	9.8 acres
Alternate S2 - 30 Foot (Structure)	-	7.7 acres
Alternate S2 - 50 Foot (Structure)	-	8.9 acres

The preliminary right-of-way report is available for review at the State Highway Administration's District 2 Right-of-Way Office.

2. Environmental Justice

As stated previously, the purpose of Environmental Justice is to identify and address "disproportionately high and adverse impacts" on minority populations and low income

populations resulting from the alternates under consideration and to provide the opportunity for these populations to be involved in the public participation process.

A census tract analysis was conducted to identify minority and low income populations in the study area. No minority or low income communities have been identified in the vicinity of the alternates under consideration; therefore, there would not be disproportionately high and adverse impacts on minority or low income populations with this project.

3. Title VI Statement

It is the policy of the Maryland State Highway Administration to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964 and related civil rights laws and regulations, which prohibit discrimination on the grounds of race, color, sex, national origin, age, religion, physical or mental handicap or sexual orientation, in all State Highway Administration projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, design, or construction, the acquisition of right-of-way, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process to ensure that proper consideration may be given to the social, economic and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland State Highway Administration for investigation.

4. Parks and Recreation Facilities

There are no publicly owned public parks in the areas affected by any of the build alternates.

5. Access to Community Services and Facilities

There are no community facilities located in the immediate vicinity of the project. MD 331 is the only direct route between Easton and Preston and the existing services and facilities at these locations. The new alignment alternates would generally enhance accessibility to community services and facilities in these towns by providing a fixed span crossing of the Choptank River designed in accordance with current standards. With the Dual Bridge Alternate, non-emergency vehicular traffic crossing the Choptank River would be disrupted for marine traffic that would require the existing bridge to be opened, but emergency vehicles would be

allowed to cross using the new fixed bridge. The Modification Alternate would provide improvements to the existing crossing of the Choptank River through bridge widening/the addition of walkways. Minimal disruption to vehicular traffic traversing the project area would occur during construction with any of the new alignment alternates, the Dual Bridge Alternate or the Modification Alternate. The existing bridge crossing would remain functional in order to maintain vehicular traffic during construction of any of the alternates under consideration. Also, some lane closings with alternating one way traffic controlled with flagging could be expected during construction of any of the alternates, particularly the Modification Alternate.

B. Economic Impacts

1. Local Business

The MD 331 - Dover Bridge project is located in a rural agricultural area. None of the alternates under consideration would require the relocation or displacement of any businesses or farms.

The new alignment alternates (N1, N2, S1, S2) and the Dual Bridge Alternate would require right-of-way to be acquired from an active farm located along MD 331 in the Talbot County portion of the project area. The farm is approximately 300 acres in size and includes cultivated fields and facilities for raising chickens. The approximate amount of right-of-way that would be required from the farm for each alternate is listed below. In each case, the land that would be required is located adjacent to MD 331 within 300 feet of the existing road.

N1 - 50 Foot (Structure)	-	3.3 acres
N2 - 30 Foot (Embankment or Structure)	-	5.0 acres
Dual Bridge - 30 Foot	-	2.7 acres
S1 - 50 Foot (Structure)	-	2.7 acres
S2 - 30 Foot (Embankment or Structure)	-	3.5 acres
S2 - 50 Foot (Structure)	-	4.0 acres

In addition to the above noted right-of-way requirements, new alignment alternates N1 and N2 would each require the demolition of one farm building - a tractor shed.

Several of the alternates would have a positive effect on local tourism by attracting pedestrians and bicyclists to use the bridge. The Modification Alternate by providing walkways

on the existing bridge would accommodate pedestrians and bicycles. The new alignment alternates in combination with either option, maintaining the Dover Bridge fully operational or retaining the existing truss spans with the swing span open, would encourage pedestrians, bicyclists and fishermen to use the existing bridge.

2. Regional Business

The MD 331 Dover Bridge crossing of the Choptank River connects Talbot and Caroline Counties on Maryland's Eastern Shore. Located in close proximity to Dorchester County, this segment of MD 331 serves as the only east-west connection for approximately 12 miles (MD 404 to the north or US 50 to the south) for the residents and businesses in this tri-county area. It provides access for residents and businesses to the towns and villages in the area, linking Easton in Maryland and the town of Seaford in Delaware via MD 318, MD 577 and DE 20. Easton is the main commercial and employment center in the mid-shore area. The MD 331 Dover Bridge crossing of the Choptank River provides the only direct connection between the towns of Easton and Preston which are identified as planned growth areas by their respective county comprehensive plans.

The existing Dover Bridge is deemed functionally obsolete due to its narrow bridge width which in turn presents safety problems. Records indicate a high accident rate at this site. With traffic crossing the bridge forecasted to increase in the future, the safety conditions will become more of a problem for users of the Dover Bridge.

The new alignment alternates (N1, N2, S1, S2), Dual Bridge Alternate and Modification Alternate (widened bridge deck) would address safety problems at the existing bridge providing an improved crossing which would generally enhance accessibility and mobility for people and businesses in the area.

3. Tax Base

None of the alternates considered would alter the intensity or pattern of land use and planned growth in the area. Furthermore, the minor amount of right-of-way required for the new alignment alternates and Dual Bridge Alternate would have a negligible impact on property values. Therefore, none of alternates would have an impact on the tax base.

C. Land Use Impacts

1. Land Use

Both the Talbot County and Caroline County comprehensive plans recognize the necessity of an adequate roadway system in order to provide mobility for people, emergency services and goods, and access to land. A good highway system is essential to the orderly functioning of a rural county.

The new alignment alternates (N1, N2, S1, S2), Dual Bridge Alternate and Modification Alternate provide for an improved MD 331 crossing of the Choptank River. These alternates would not add capacity to the existing facility but would replace or modify the existing bridge to provide a safer crossing. Therefore, the intensity or pattern of land use would not be altered. Although these alternates would enhance the MD 331 Dover Bridge, it is not expected that they would place additional development pressure on low growth areas in the general vicinity, nor encourage land uses that are not compatible with the comprehensive plans of Talbot and Caroline Counties.

The No-Build Alternate would not alter the intensity or pattern of land use in the area.

2. Hazardous Materials/Waste Sites

A field survey and land use examination of the project area did not identify any land uses likely to have potential for hazardous waste contamination. In addition, the U.S. Environmental Protection Agency (EPA) listing of Superfund sites (CERCLIS) did not identify any sites within the project area.

D. Impacts on Historic and Archeological Sites

Project effects on all cultural resources were assessed in accordance with Section 106 of the National Historic Preservation Act and the accompanying regulations of the Advisory Council on Historic Preservation (36CFR800.5). The regulations provide that a project will have an effect on a resource when "the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to features of property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered" [36CFR800.9(a)]. The

regulations further provide that an undertaking will have an adverse effect when "the effect on a historic property may diminish the integrity of the property's locations, design, setting, materials, workmanship, feeling, or association" [36CFR800.9(b)].

The focus of the assessment is to (1) determine whether an action has an effect, and subsequently (2) if that effect is adverse. Using the Criteria of Effect and Adverse Effect specified in 36 CFR Part 800.9, three basic findings can be made:

- No Effect: there is no effect, either harmful or beneficial, on the historic property.
- No Adverse Effect: there could be an effect, but the effect would not be harmful to those characteristics that qualify the property for inclusion in the NRHP.
- Adverse Effect: there could be an effect, and that effect could diminish the integrity of such characteristics.

The Criteria of Adverse Effect state that "an undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." Five conditions are specified in Part 800.9(b) that are considered adverse effects:

(1) Physical destruction, damage, or alteration of all or part of the property;
(2) Isolation or alteration of the property from the property's setting if that setting contributes to the property's qualifications for the National Register;
(3) Introduction of visual, audible or atmospheric elements that are out of character with the property or alter its setting,
(4) Neglect of the property resulting in deterioration or destruction, and
(5) Transfer, lease, or sale of the property.

Effects that otherwise would be adverse, may be considered to be "not adverse" if one or more of the following conditions are met:

(1) When the property is of value only for its potential contribution to archaeological, historical, or architectural research, and when such value can be substantially preserved through appropriate research, and such research is conducted in accordance with applicable professional standards and guidelines;
(2) when the undertaking is limited to rehabilitation of buildings and structures in a manner that preserves the historical and architectural values, or
(3) when the undertaking is limited to the transfer, lease or sale of historic properties and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

The determination of effect on cultural resources was received from the State Historic Preservation Officer (SHPO) in a letter dated April 1, 1998. (See Section VI.D. Agency Correspondence.)

1. Historic Resources

The following assessment of impacts on historic standing structures has been coordinated with the SHPO (Section VI.D. Agency Correspondence). Right-of-way, visual, design, functional and structural impacts were among the factors considered. Noise impacts were not considered because none of the alternates considered would add capacity or induce traffic on MD 331 and because of the substantial distance between Troth's Fortune and the proposed alternates.

Troth's Fortune (T-50)

Troth's Fortune, a 17th century structure, is located along the west bank of the Choptank River, approximately 1800 feet north of the Dover Bridge. No property is required from this site for any of the alternates under consideration. The No-Build or Modification Alternate would have no impact on Troth's Fortune.

The existing Dover Bridge is presently visible from Troth's Fortune. Line of sight photographs taken from the primary structure and several locations within the property (Figure IV-1) confirm that while not visible from the house itself, the Dover Bridge presently exists within the view shed of the National Register boundary. A line of sight profile is shown on Figure IV-2. Construction of a modern bridge of higher elevation within this view shed would be more obtrusive than the present, thereby constituting a visual impact on a flat and rural setting of the historic resource. Therefore, the northern alternates, N1-50 foot and N2-30 foot, (all options) would have adverse impacts on Troth's Fortune. The southern alignments, S1-50 foot, S2-30 foot and S2-50 foot, would also have adverse impacts (visual) on Troth's Fortune in that they alter its setting. The Dual Bridge Alternate would adversely impact (visual) Troth's Fortune in that its rural setting would be altered.

Dover Bridge (T-487)

The Secretary of the Interior's Standards recognize that some alterations to historic structures are generally needed to assure their continued use, and can be considered provided "such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes." Therefore, the No-Build would have no adverse impact on the Dover Bridge provided that SHA will agree to maintain the bridge in good working order and condition. Also, the Modification Alternate would have no adverse impact on the Dover Bridge based on the fact that it maintains the historic character, function, setting and location of the existing bridge. Final plans for the modifications would require review by Maryland Historic Trust and the Advisory Council on Historic Preservation to assure conformance. The new alignment alternates, including N1-50 foot, N2-30 foot, S1-50 foot, S2-30 foot, or S2-50 foot, and the Dual Bridge Alternate would alter the setting and use of the Dover Bridge as a result of constructing a new bridge parallel to the existing bridge. The height of any of the proposed structures would alter the Dover Bridge's flat, rural setting. The option to close the bridge and leave the swing span open would prevent through traffic and alter its primary function — the ability to swing open and closed. However, limiting bridge traffic to bicycle and pedestrians only would not alter the bridge's use since it would still allow people to cross the Choptank. Removal of the Dover Bridge would further impact its location. The Dual Bridge Alternate, while retaining the historic use of the Dover Bridge, would still require construction of a fixed high level structure that would alter the setting of the historic structure by virtue of its scale. Therefore, the northern alternates (all options), the southern alternates (all options) and the Dual Bridge Alternate would have adverse impacts on Dover Bridge.

In summary, based on the above assessment of impacts, the SHPO has concurred with a no adverse effect determination on standing cultural resources for both the No-Build and Modification Alternate. Also, the SHPO has concurred that all of the new alignment alternates would have an adverse effect on standing cultural resources. (See Section VI.D. Agency Correspondence, letter dated April 1, 1998.)

2. Archeological Resources

Phase I archeological surveys have been completed. Site 18TA315 is a late 17th/early 18th century farmstead considered eligible for the National Register for its information potential. There appears to be no evidence however, to suggest that site 18TA315 would warrant preservation in place. If impacted by the selected alternate, further investigations will be

View towards Dover Bridge from main house

View of Dover Bridge from midway between main house and river

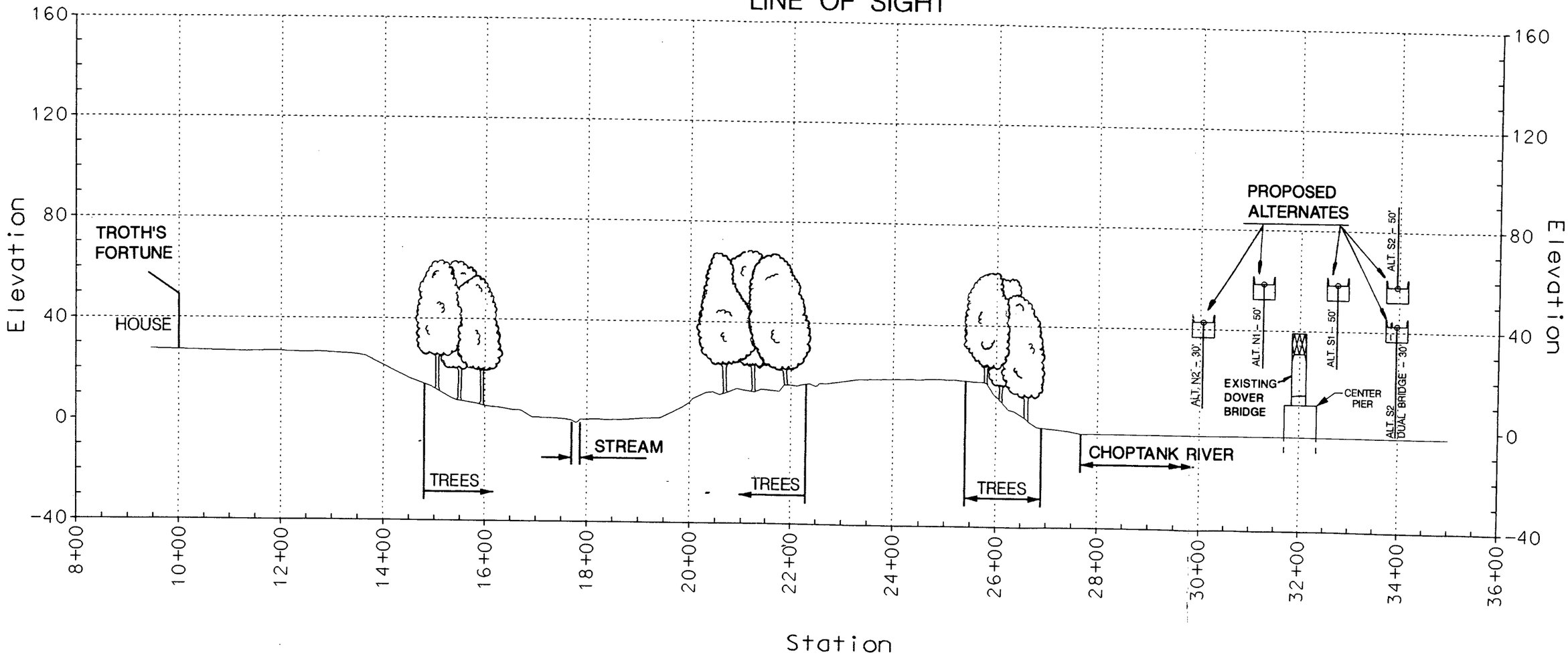
View of Dover Bridge from southeastern property corner

MD 331 - DOVER BRIDGE

VIEWSHED PHOTOGRAPHS BETWEEN TROTH'S FORTUNE AND THE DOVER BRIDGE

DATE		FIGURE
APRIL, 1998		IV - 1

TROTH'S FORTUNE
LINE OF SIGHT



FILE NO. LINE2.DGN
04-23-98 TLL

MD 331 – DOVER BRIDGE

TROTH'S FORTUNE
LINE OF SIGHT PROFILE

DATE	SCALE	FIGURE
APRIL, 1998	HORIZ. 1" = 200' VERT. 1" = 40'	IV-2

completed and coordinated with SHPO to delineate site boundaries and to better evaluate the contents. The No-Build Alternate, the Modification Alternate, and the northern alternates including N1 and N2 would not impact this archeological site. Only the southern alternates including S1, S2-30 foot and S2-50 foot, and the Dual Bridge Alternate would adversely affect this site.

3. Mitigation of Effects

The northern alternates (all options) and the southern (all options) will have adverse impacts to the Dover Bridge and Troth's Fortune. In addition, the southern alternates, all options, including the Dual Bridge Alternate would adversely impact archeological site 18TA315. The No-Build Alternate and Modification Alternate will have no adverse impact on the Dover Bridge or any other historic property. If an adverse effect is determined, the agency would consult with the SHPO and others in an effort to find ways to make the undertaking less harmful. Consultation is designed to result in a Memorandum of Agreement (MOA) which outlines measures agreed upon that the agency will take to reduce, avoid, or mitigate the adverse effect.

A major consideration in the development of mitigation measures for the new alignment alternates (N2, N1, S1 and S2) is the disposition of the existing Dover Bridge and eastern approach spans. There are basically three options for treating the existing bridge following the construction of any new alignment alternate:

1. Retain the existing bridge, including the swing span, other truss spans and approach spans in functioning condition for use as a pedestrian, bicycle, and/or fishing facility and provide a connection to the new alignment for access as needed.
2. Retain the existing western approach and truss spans, but remove the eastern approach spans and eliminate the functioning aspect of the swing span, leaving it permanently in the open position. Or, retain the fixed truss spans only, based on U.S. Coast Guard concerns regarding the open swing span and pivot island being a hazard to river navigation.
3. Remove the existing roadway truss and approach spans between the tie-ins of the new alignment.

Options 1 and 2 would depend upon the identification of a party willing to take ownership, maintain and, if desired, operate the existing bridge, as SHA will not participate in its

maintenance and operation once a new structure is in place. SHA would make every effort to find another party including placement of advertisements in local and preservation organization newspapers and newsletters to take over ownership of the bridge. SHA will also explore funding options such as providing the same amount of money that would have been required to remove the bridge to the new owner for maintenance and operation.

Should a MOA for the project be required, it would be developed between the SHPO, the Advisory Council on Historic Preservation, the Federal Highway Administration and the SHA to provide for the minimization and mitigation of adverse effects on significant cultural resources. During the development of the terms of the MOA, consultation with other interested parties would occur as appropriate. The National Trust for Historic Preservation holds a preservation easement on Troth's Fortune. Accordingly, they have requested to participate as an interested person and coordination has also been initiated with local historic societies including Talbot County Historical Trust, Talbot Historic Preservation Commission, and Caroline County Historical Society (See Agency Coordination in Section VI).

If impacted, further study will be completed at archeological site 18TA315 to record the important information that contributed to site significance. The data recovery plans will be developed in consultation with the SHPO and included with any MOA for the project.

E. Natural Environment

1. Physiography, Topography, and Soils

a. Physiography and Topography

The No-Build and Modification Alternates would have no effect on the Physiography, Topography, or soils in the project area.

The build alternates under consideration would not substantially change the overall existing topographic conditions within the project area. The grades of the build alternates follow the existing grades closely. The embankment alternates would have a fill height of approximately 40 feet within wetland W-1.

No impacts to the underlying geological structures would occur as a result of the build alternates. Based on the soil surveys and the physiography of the Coastal Plain, no rock is likely to be encountered within the depths of excavation associated with the build alternates. The final geotechnical investigation for the selected alternate will determine the properties of the materials to be excavated during construction and to establish their weathering characteristics. The actual cut and fill slope configurations required to provide a stable roadway with minimal damage to the environment will be established at that time.

b. Soils

Implementation of any build alternate would result in some disturbance of soils, notably erosion and sedimentation during construction. All of the soils found in the study area are erodible to highly erodible. The removal of vegetation from the construction area would expose soils and increase the probability of runoff. Removal of vegetation would reduce the ability to intercept sediment loaded runoff.

The potential for soil erosion and sedimentation would become greater as soils are disturbed. The highest potential for sedimentation to receiving waters would occur where these soils are in close proximity to surface waters. Therefore, it is important that soil erosion and sedimentation be minimized as much as possible. Measures to minimize these effects include structural, vegetative and operational methods. These methods will be developed as part of a

Soil Erosion and Sediment Control Plan for the project, which will be prepared in accordance with the Maryland Standards and Specifications for Soil Erosion and Sediment Control. Long-term impacts to the soils in the project area would be negligible. Introduction and establishment of grasses and herbaceous vegetation would stabilize the soils as soon as possible after construction is completed.

Specific control measures cannot now be identified, but may include:

- Staging of construction activities to permanently stabilize ditches at the tops of cuts and at the bottom of fill slopes prior to excavation and formation of embankments;
- Construction will be subject to seasonal restrictions to minimize adverse effect on fisheries;
- Seeding, sodding, or otherwise stabilizing slopes as soon as practicable to minimize the area exposed at any time;
- Appropriate placement and maintenance of sediment traps, temporary slope drains and other control measures;
- Placement of diversion dikes, energy dissipators, mulches and netting on slopes too steep to support vegetation.

c. Prime Farmland Soils and Soils of Statewide Importance

Important farmland soils of Caroline and Talbot counties have been mapped by the Natural Resources Conservation Service of the U.S. Department of Agriculture. A review of mapping and soil classifications indicate the presence of both Prime Farmland Soils and Soils of Statewide Importance in the Talbot County portion of the project area (Table III-5, Figure III-5).

The No-Build and Modification alternates would have no effect on Prime Farmland Soils or Soils of Statewide Importance.

The build alternates would have impacts to these soils as shown in Table IV-1, and

TABLE IV-1
IMPACT TO PRIME FARMLAND SOILS AND
SOILS OF STATEWIDE IMPORTANCE

Alternate	Prime Farmland	Statewide Importance
N2 - 30' Structure	2.8 acres	1.9 acres
N2 - 30' Embankment	2.8 acres	1.9 acres
N1 - 50' Structure	1.8 acres	1.9 acres
S1 - 50' Structure	2.4 acres	0.7 acre
S2 - 30' Structure	2.8 acres	0.8 acre
S2 - 30'	2.8 acres	0.8 acre
S2 - 50' Structure	3.0 acres	0.8 acre
Dual Bridge	2.5 acres	-0.1 acre

as required by the Farmland Protection Policy Act (FPPA), the Farmland Conversion Impact Rating Form AD-1006 (see Appendix) was completed through coordination with the Natural Resource Conservation Service in Talbot County. As indicated on Form AD-1006, the total point value of the impacts resulting from any alternate is less than 160; therefore, as set forth in the FPPA, the alternates warrant a minimal level of consideration and no additional alternates which further minimize impact to farmland need to be considered.

2. Water Resources and Fish Fauna

a. Surface Water

The No-Build and Modification alternates would have no impact to surface waters within the project area.

All of the build alternates would have short term construction impacts and limited long term impacts to surface water resources. Surface water resources impacted would include both the Choptank River (S1) and the unnamed tributary to Williams Creek (S2).

Short term construction impacts could consist of siltation, release of sediment laden runoff, and contamination from spills or leaks from construction equipment.

Impacts can be minimized by the use of the Best Management Practices (BMP's) listed in Section IV.E.1.b.

The effects on water resources from spills or leaks from construction equipment may be reduced by both structural and non-structural methods. Effective sediment and erosion control measures may help contain surface spills or leaks on unvegetated ground. Secondary containment for portable equipment fueling tanks may help control accidental spills or leaks. Vegetation, when established rapidly, may attenuate and absorb contaminants from spills or leaks.

Construction operation and maintenance practices that prevent releases are the most effective measures to prevent contamination. Well-controlled oil changing, lubrication, fueling operations, and immediate repair of any fuel or hydraulic fluid leaks may eliminate the source of potential hydrocarbon contamination.

Long term effects to surface waters stem mostly from new impervious surface area. These effects include increases in peaks, duration, and frequency of erosive storm flows; increases in chemical contaminant mass in runoff; and increases in temperature extremes. These effects may be minimized to various degrees by stormwater management. A detailed Stormwater Management Report will be prepared during final design if a build alternate is selected.

Long term effects to surface waters are expected to be limited due to the relatively small area of new impervious surface compared to the large size of the Choptank River Watershed.

b. Groundwater

The No-Build and Modification alternates would have no impact to groundwater resources within the project area.

All of the build alternatives could have minimal impacts to groundwater resources in the project area. These impacts will be lower groundwater recharge due to increased impervious surface. Reductions in groundwater recharge can be minimized by stormwater management designs utilizing infiltration. A Detailed Stormwater Management Report will be prepared for the selected alternate.

Long term reductions in groundwater recharge are not expected due to the relatively small amount of new impervious surface compared to the recharge areas of the groundwater resources within the project area.

c. Fishes

Short term impacts associated with temporary turbidity increases, reduced water flow, and low level pollutant loads are likely to be minor due to the elasticity (the ability of a system to recover after a stress is applied) of the study area streams. This stems largely from the general occurrence throughout the area by the fish assemblage. The widespread nature of most species' distribution and the extent of available habitat throughout the study area suggests that the major stream systems operate as metapopulations (population sources for re-colonization). Should fishes become displaced or destroyed, there is a large colonizing pool and sufficient avenues of dispersal to repopulate the region.

Fishes located in the project area that may be affected in the longer term include those species that are intolerant of reduced water quality and/or habitat degradation. These species require clean water of ample flow velocity. High sedimentation loads may pose the greatest danger by limiting foraging and spawning substrates, effectively displacing the fishes that feed mainly on bottom-dwelling macroinveretbrates and the fishes that require clean sediment for spawning (e.g. rosyside dace, tadpole madtom, and margined madtom). None of the build alternates, including those that seek to replace the existing bridge, will result in heavy sediment loads, and therefore, should have no long term impact to these fishes.

3. Assessment of Impacts on Waters of the U.S., including Wetlands

Impacts to Waters of the U.S., including wetlands, can be described as either direct or indirect, and these impacts can be either permanent or temporary in nature. Direct impacts are those associated with grading, filling, culverting, or the removal and manipulation of vegetation. Indirect impacts are more difficult to quantify and occur as a result of the more obvious direct impacts. Examples of indirect impacts include alterations to hydrology, isolation of biological communities, and the water quality impacts of transportation facilities. These impacts are more difficult to quantify and must be analyzed for each resource individually.

A summary of the direct impacts of each alternate and/or option to Waters of the U.S., including wetlands, is provided in Table IV-2. Impact acreage is based upon the disturbed area,

assumed to encompass an area extending ten feet beyond the grading limits shown on the Alternates Mapping on Figures II-1 through II-10. Acreage of direct impacts are given for both wetland types (Cowardin) occurring in the study area. Stream impacts are given in square feet of stream channel bridged.

Avoidance and Minimization

As indicated on Table IV-2, only resources W1 and S1 would be impacted by the build alternates for this project. Resources W2 and S2 are not impacted by the alternates. Avoidance and minimization measures for each of the impacted resources are addressed in the following discussion.

W1

W1 is a large (≥50 acres) tidally influenced estuarine wetland with persistent emergent vegetation that is inundated on most flood tides. It is located east of the Choptank River on both the north and south side of MD 331. This resource is impacted by all of the build alternates. The impacts of these build alternates include filling for embankments and piers, draining for embankments and piers for any structure or bridge, shading from structures/bridges, muck removal in areas to be filled, and areas of construction equipment disturbance (see Figure III-5).

TABLE IV-2
IMPACTS TO WATERS OF THE U.S., INCLUDING WETLANDS

ANALYSIS ITEM	ALTERNATE										
	NO BUILD	MODIFY EXISTING BRIDGE		N1 50'	N2 30'		S1 50'	S2 30'		S2 50'	Dual Bridge
		Widen Roadway	5' walk-ways out-side truss	Structure	Embank-ment	Structure	Structure	Embank-ment	Structure	Structure	Structure
Number of Stream Relocations	0	0	0	0	0	0	0	0	0	0	0
Number of Stream Crossings (Choptank River)	0	0	0	1	1	1	1	1	1	1	1
Waters of the U.S. Affected S1 (Choptank River)	0	0	0	28,600 SF	28,600 SF	28,600 SF	28,600 SF	28,600 SF	28,600 SF	28,600 SF	20,800 SF
W1 E2EM Wetlands Affected (acres)	0	0	0	3.1	4.1	2.5	2.4	4.7	2.5	3.1	2.1
# of Piers within W1	0	0	0	10	0	7	11	0	8	11	8
Embankment (acres)	0	0	0	1.4	4.0*	1.2	1.0	4.6*	1.1	1.3	0.9
Shading (acres)	0	0	0	1.7	0.1	1.3	1.4	0.1	1.4	1.8	1.2
W2 PEM Wetlands Affected (acres)	0	0	0	0	0	0	0	0	0	0	0
Total Wetlands Affected (acres)	0	0	0	3.1	4.1	2.5	2.4	4.7	2.5	3.1	2.1

*Impact area includes a narrow piece of wetland between the existing causeway and the proposed alternate. This piece of W1 would cease to function as part of W1 because of anticipated changes in hydrology.

126

Alternate	Total Imp.	Shading	Piers/Area	Embankment
N1 - 50' Structure	3.1 acres	1.7 acres	10/0.2 acre	1.4 acres
N2 - 30' Embankment	4.1 acres	0.1 acre	0/	4.0 acres
N2 - 30' Structure	3.5 acres	1.3 acres	7/0.1 acre	1.2 acres
S1 - 50'Structure	2.4 acres	1.4 acres	11/0.2 acre	1.0 acres
S2 - 30' Embankment	4.7 acres	0.1 acre	0/	4.6 acres
S2 - 30' Structure	2.5 acres	1.4 acres	8/0.2 acre	1.1 acres
S2 - 50' Structure	3.1 acres	1.8 acres	11/0.2 acre	1.3 acres
Dual Bridge Structure	2.1 acres	1.2 acres	8/0.2 acre	0.9 acre

Avoidance of this resource can be accomplished with the No-Build or Modification Alternate.

Minimization strategies for each of the alternates may involve the use of longer approach spans (wider spacing for piers). This strategy would require the use of steel I-beams instead of pre-stressed concrete construction. This would result in a much greater price per square foot of construction. The foundations of the more widely spaced piers, would also have to be larger, therefore somewhat offsetting the benefits of fewer piers. Another possible strategy includes the use of retaining walls to reduce the footprint of the fill embankment for the Preston-side approach. A summary of these and other minimization strategies, with costs, for each alternate is as follows:

As indicated in the table above, Alternate S1 has the least total wetland impact of the new alignment alternates, partially because S1 follows the alignment of pre-1933 Dover Road, utilizing the minor remnants of the original road bed.

Minimization for the N1 - 50' structure alternate could consist of wider spaced footing/piers with 5 less piers resulting in a 0.06 acre reduction of impacts at an additional cost of $5.8 million. A retaining wall 8 feet high (max.) and 675 feet long resulting in a 0.4 acre reduction of impacts at an additional cost of $746,000 could be installed.

Minimization for the N2 - 30' embankment alternate could consist of retaining walls 38 feet high (max.) and 2150 feet long resulting in a 1.9 acre reduction of fill impacts at an additional cost of $4.9 million. A selection of the structure option would result in a 1.6 acre

reduction in total impacts and a 2.8 acre reduction of fill impacts at an additional cost of $3 million.

Minimization for the N2 - 30' structure alternate could consist of wider spaced footing/piers with 3 less piers resulting in a 0.03 acre reduction of impacts at an additional cost of $4.5 million. A retaining wall 8 feet high (max.) and 550 feet long would result in a 0.3 acre reduction of fill impacts at an additional cost of $615,000.

Minimization for the S1 - 50' structure alternate could consist of wider spaced footing/piers with 5 less piers resulting in a 0.05 acre reduction of impacts at an additional cost of $5.8 million. A retaining wall 8 feet high (max) and 624 feet long would result in a 0.4 acre reduction of impacts at an additional cost of $696,000.

Minimization for the S2 - 30' embankment alternate could consist of retaining walls 39 feet high (max.) and 2350 feet long resulting in a 2.3 acre reduction of fill impacts at an additional cost of $5.2 million. A selection of the structure option resulting in a 3.5 acre reduction in overall impacts and a 2.2 acre reduction of fill impacts at an additional cost of $2.4 million.

Minimization for the S2 - 30' structure alternate could consist of wider spaced footing/piers with 4 less piers resulting in a 0.05 acre reduction of total impacts at an additional cost of $4.6 million. A retaining wall 8 feet high (max.) and 600 feet long would result in a 0.3 acre reduction of impacts at an additional cost of $693,000.

The COE has suggested an S2 Minimization Alternate (Figure IV-3). This alternate was developed to minimize wetland impacts from the S2 30' embankment alternate and reduce the extent of intrusion into the wetland and temporary construction impacts associated with the S2 structural alternates. The existing road bed could be used as the construction platform. Total wetland impacts for this alternate would be 3.2 acres at an extra cost of $400,000 more than the S2 Structural Alternates and $2.5 million more than the S2 Embankment Alternate. This alternate also moves the area of wetland impacts closer to the existing road bed and eliminates a narrow sliver of wetland being isolated between the two structures. Other impacts associated with this alternate would be 3.8 acres of Prime Farmland Soils, 0.9 acre of Soils of Statewide Importance, 3.1 acres of agricultural land, and 1.1 acres of woodland.

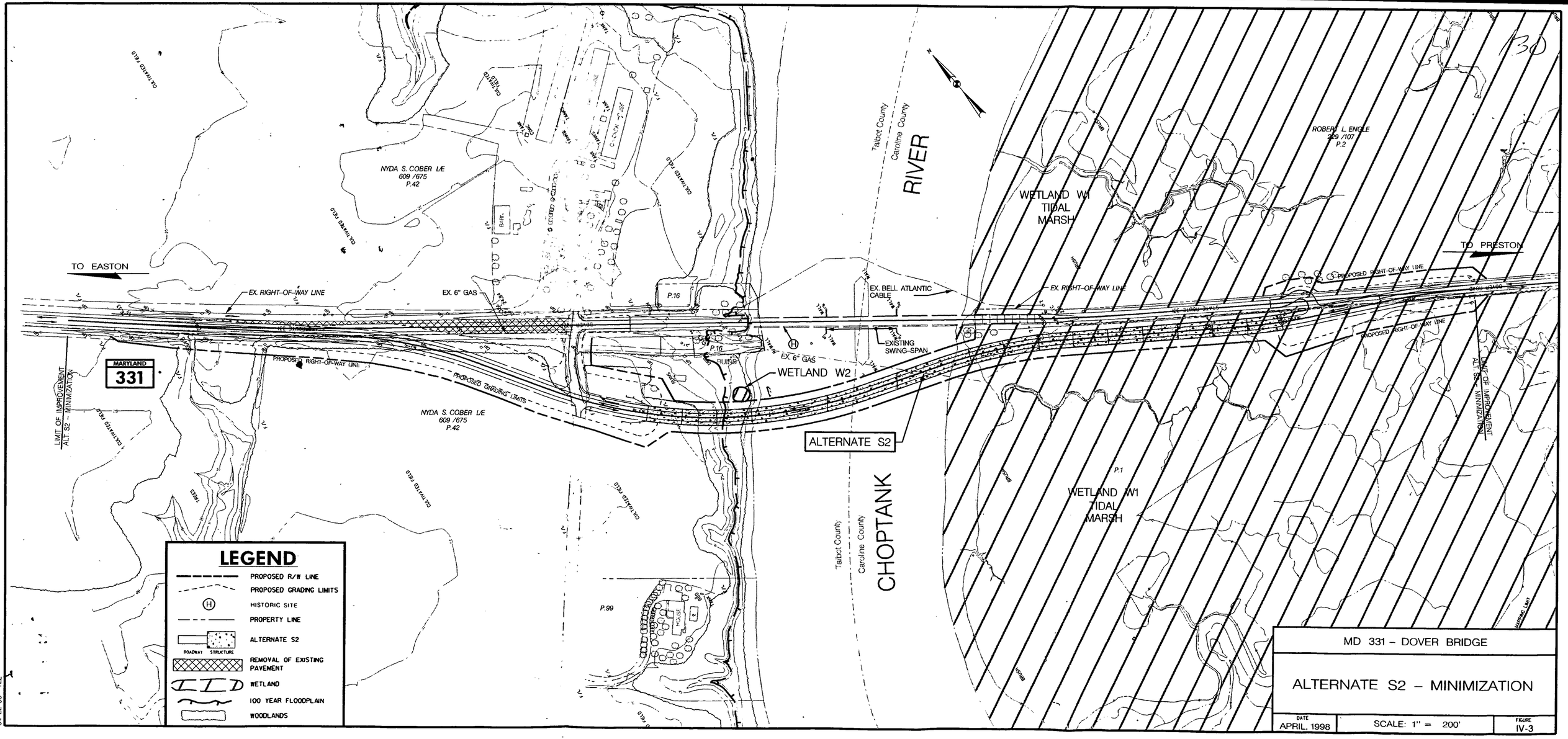
Minimization for the S2 - 50' structure alternate could consist of wider spaced footing/piers with 5 less piers resulting in a 0.05 acre reduction of total impacts at an additional cost of $5.4 million. A retaining wall 8 feet high (max.) and 600 feet long would result in a 0.4 acre reduction of impacts at an additional cost of $693,000 (i.e., the total cost of Alternate S2-50' would increase from $24.2 million to $24.9 million).

Minimization for the Dual Bridge alternate with a structure could consist of wider spaced footing/piers with 4 less piers resulting in a 0.05 acre reduction of total impacts at an additional cost of $3.8 million. A retaining wall 8 feet high (max.) and 600 feet long would result in a 0.3 acre reduction of impacts at an additional cost of $670,000 (i.e., the total cost of the Dual Bridge Alternate would increase from $16.7 million to $17.4 million)..

Temporary construction impacts associated with the Preston-side approach spans are anticipated to be minimal with the structure alternates. The use of temporary construction foundations will likely need to be employed, to accommodate the necessary equipment. Once one pier is constructed, the superstructure between the abutment and first pier can be erected and the machinery (e.g., pile drivers, cranes, etc.) and temporary foundations will be lifted by crane, leap-frogged, to the next pier site. It is estimated that the temporary construction foundation will encompass an area of approximately 500 square feet per pier. Total temporary construction impacts are shown for each of the Structure Alternates in Table IV-3. The use of wider spaced piers would necessitate the use of a temporary access road, because the distance between piers is too large to leap-frog equipment. An access road would be 15' wide and run the entire length of the structure within W-1. For the embankment alternates construction impacts are included as permanent impacts, given that construction activity will take place within the footprint of the embankment.

TABLE IV-3
CONSTRUCTION IMPACTS

Alternate	Conventional Leap-Frog	Wider Spaced Piers Access Road
N1 50' Structure	0.1 acre	0.41 acre
N2 30' Structure	0.1 acre	0.31 acre
S1 50' Structure	0.1 acre	0.41 acre
S2 30' Structure	0.1 acre	0.31 acre
S2 50' Structure	0.1 acre	0.41 acre
Dual Bridge	0.1 acre	0.31 acre



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It is estimated that the 0.2 to 0.3 acre of additional construction impact in the marsh associated with wider spaced piers would only be offset by a 0.03 to 0.06 acre reduction in permanent impact.

S1 (Choptank River)

S1 is the Choptank River. It is a perennial river with an unconsolidated bottom. Within the project area the river is subject to tidal influences. This resource is impacted by all of the build alternates. The impacts of these build alternates include disturbance for piers, draining within a cofferdam for bridge piers, and shading from structures/bridges (see Figure III-5).

Alternate	Total Imp.	Shading	Piers/Area
N2	0.66 acre	0.66 acre	2/0.05 acre
S1	0.66 acre	0.66 acre	2/0.05 acre
S2	0.66 acre	0.66 acre	2/0.05 acre
Dual Bridge Structure	0.48 acre	0.48 acre	2/0.05 acre

Avoidance of this resource can be accomplished with the No-Build and Modification Alternates.

Mitigation

Following the steps outlined by the NEPA and 404 guidelines any proposed impact must be mitigated by: avoidance, minimization, and compensation. Avoidance of wetland and stream impacts is preferred. Minimization stresses the need to reduce impacts when impacts cannot be avoided. Minimization can be realized through the selection of various options; design features such as retaining walls, bridges, and grading refinements; and construction techniques such as end-on-end construction. The use of various Best Management Practices and restoration of the affected areas can minimize temporary impacts from construction activities. Compensation is obtained through wetland mitigation. Studies are being conducted to find suitable wetland mitigation sites within the watershed in or adjacent to the project area. The results of these studies, including the identification and analysis of prospective mitigation sites will be included in the Final Environmental Impact Statement. Mitigation plans would be developed through coordination with various agencies, including the National Marine Fisheries Service, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the Maryland Department of the Environment.

4. Floodplains

The No-Build and Modification Alternates would not adversely affect floodplains in the study corridor.

Effects to floodplains in the study area under the build alternates, as indicated on Table IV-4, would occur at the Choptank River. Pursuant to the Flood Hazard Management Act of 1976 and in accordance with Executive Order 11988, The State Highway Administration has determined that all highway projects should not restrict the flow of the 100-year storm event.

It is intended that the project would not cause an increase in the 100-year floodplain. The State Highway Administration will prepare a detailed hydrologic and hydraulic study for the selected alternate during final design to identify the existing 100-year storm discharge and floodplain. Stormwater management will be provided and all hydraulic structures will be designed to accommodate the 100-year flood without causing substantial impact.

The use of standard hydraulic design techniques for all waterway openings which limit upstream flood level increases and approximate existing downstream flow rates will be utilized where feasible.

Use of state-of-the-art sediment and erosion control techniques and stormwater management controls will ensure that none of the encroachments would result in risks or impacts to the beneficial floodplain values or provide direct or indirect support to further development within the floodplain.

In accordance with the requirements of FHPM 6-7-3-2, which is a FHWA guideline for ensuring compliance with Executive Order No. 11988, the impacts of each encroachment have been evaluated to determine if it is a significant encroachment. A significant encroachment would involve one of the following:

- a significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route,
- a significant risk, or
- a significant adverse impact on natural and beneficial floodplain values.

Preliminary analyses indicate that no significant floodplain impacts are expected to occur as a result of any proposed build alternates. A floodplain finding, if required, will be presented in the final environmental document.

TABLE IV-4
IMPACT TO 100-YEAR FLOODPLAIN

Alternate	Area of Impact
No-Build	0.0 acre
Modification	0.0 acre
N1 - 50' Structure	3.2 acres
N2 - 30' Embankment	4.2 acres
N2 - 30' Structure	3.9 acres
S1 - 50' Structure	2.9 acres
S2 - 30' Embankment	4.8 acres
S2 - 30' Structure	2.7 acres
S2 - 50' Structure	3.2 acres
Dual Bridge	2.2 acres

5. Assessment of Impacts on Terrestrial Ecosystem

a. Impacts on Flora

The No-Build and Modification Alternates would have no effects on the plant communities in the project area.

Impacts to flora include direct losses associated with clearing within rights-of-way and changes in plant community structure and composition. Direct losses of plant communities caused by the build alternates are listed in Table IV-5. The S2 - 40' Structure Alternate would result in the greatest loss of woodland, 2.2 acres. The S2 - 30' alternates would result in the greatest loss of agricultural lands, 3.2 acres. Changes in plant community structure and composition result from creating edge habitats or ecotones. Edge habitats admit greater incidence of light to forest floors causing changes in micro-climates. The result is replacement or partial replacement of moist, mesic forest conditions with brighter, drier micro-habitats. The greater incidence of light usually results in a greater profusion of herbaceous and woody understory

species. Stem densities are higher and the probability of invasion by exotic species such as Japanese honeysuckle, tearthumb, multiflora rose, etc. is increased. Since most of the effected woodland areas are low quality pioneer communities with many invasive alien species already existing, the build alternates would have minimal impacts.

The State Forest Conservation Act of 1991 includes Section 2 (the "Reforestation Act") which requires the minimization of cutting or clearing trees, replacement of wooded areas affected and/or contributions to a Reforestation fund for highway construction projects. The build alternatives for this project would comply with the Forest Conservation Act.

TABLE IV-5
PLANT COMMUNITY IMPACTS

Alternate	Woodland Area	Agricultural Area
N1 - 50' Structure	0.3 acres	2.8 acres
N2 - 30' Structure	0.9 acres	3.2 acres
N2 - 30' Embankment	0.9 acres	3.2 acres
S1 - 50' Structure	1.9 acres	1.5 acres
S2 - 30' Embankment	1.7 acres	1.7 acres
S2 - 30' Structure	1.7 acres	1.7 acres
S2 - 50' Structure	2.2 acres	1.9 acres
Dual Bridge	1.5 acres	0.8 acres

Note: Acreage is calculated from the proposed right-of-way to allow for temporary construction impacts.

Specimen Tree

The N1 - 50' Alternate would require the removal of the 32-inch diameter sycamore tree. All other alternates pass to either the north or south of this tree (Fig. III-5).

b. Direct and Indirect Impacts on Fauna

Direct and indirect impacts of the alternates on fauna include:

- habitat loss and alteration;
- changes in animal populations and communities;

- mortality from wildlife-vehicular collisions.

The No-Build and Modification Alternates would have no impact on fauna.

For any build alternate the greatest impact to fauna would be from habitat loss. Alteration of existing habitats rendering them unsuited to their original faunal assemblages is also considered habitat loss (USFWS 1987). Construction activities would result in actual acreage losses of habitats and habitat alterations.

Some species of herptiles are especially vulnerable to changes in their environment and habitat alterations that result from road construction and maintenance. The less mobile populations of some herptiles are more sensitive to environmental disturbance.

Forest dwelling reptiles and amphibians such as the black rat snake, five-lined skink, and several salamanders that prefer mature timber may decline while edge dwelling species may increase. The S2 - 50' Alternate would result in the greatest loss of woodland habitat, 2.2 acres (Table IV-5). This alternate can be expected to have greater impacts on forest dwelling herptiles than the other alternates.

Aquatic species, or those dependent on transitory rather than permanent water, may be affected more severely by new road construction than terrestrial species such as the red-backed salamander. Spotted salamanders, spring peepers, and wood frogs are examples of species dependent on transitory ponds. The loss or alteration of wetlands has particularly negative impacts on amphibians and aquatic reptiles. The S2 - 30' embankment Alternate would result in the largest amount of wetland habitat loss of all of the alternates, 4.7 acres (Table IV-2).

The greatest impact of the build alternates on birds would be loss and alteration of habitats. Table IV-5 includes the acreage of habitats lost as a consequence of each of the build alternates. Loss of forest habitat would be greatest for the S2 - 50' Alternate. As a result; this alternate would have the most serious negative impacts on forest dwelling bird species such as vireos and tanagers. Loss of agricultural habitat would be greatest for the N2 Alternates. This alternate would have the greatest impacts on species common to agricultural fields such as mourning doves and pheasants. Birds inhabiting wetlands would be most adversely affected by the S2 - 50' Alternate (Table IV-2 shows wetland losses of each alternate). Wetland bird species include red-winged blackbirds, herons, and waterfowl. As determined through coordination with Maryland Department of Natural Resources (see letter dated November 18, 1997in Section VI),

the project area is a documented waterfowl wintering area. Therefore, construction activities would be restricted during the wintering period, from October 15 to March 31.

The bird species that benefit from the increased edge (e.g. brown thrasher, eastern kingbird, indigo bunting, blue grosbeak, American goldfinch, red-tailed hawk, mourning dove, barn swallow, and northern flicker), low successional areas and disturbed habitats common to new rights-of-way have a wider range of acceptable habitats than forest interior dwelling species. Consequently, the edge and open area dwelling species favored by highway construction are also found in many suburban/urban areas. Since all of the forested areas within the project area are narrow or adjacent to field edges, and thus already ecotones, the project is not expected to cause additional changes in local speciation.

The greatest adverse impact of the project on mammals would result from habitat loss. Some species use roadside vegetation in addition to adjacent habitats for foraging, so the total area included in the Alternate rights-of-way is not necessarily lost as habitat to those species (Michael 1975). The combination of right-of-way vegetation and adjacent habitats provides food and/or cover attractive to some mammals such as deer, rabbits, woodchucks, and mice (Adams and Geis 1981).

All Impacts to Fauna are limited due to the relatively small area of disturbance and the presence of large areas of woodland and agricultural lands near the proposed project.

c. Impacts on Rare, Threatened, or Endangered Species

Coordination with the U.S. Fish and Wildlife Service and MDNR indicates that a Federally Threatened species, the bald eagle (*Haliaeetus leucocephalus*) is reported to nest in the study area. Currently the easternmost portion of the proposed project is within the protection zone; however, MDNR has determined that because the eagles' nest is not within line-of-sight of the project due to surrounding trees (see letter from MDNR, dated March 10, 1998, Section VI) eagles at that location would not be affected. Since eagles will periodically use an alternate nest site, coordination with MDNR will continue throughout the project to ensure that the eagles are not adversely impacted. No other federal or state listed species are known to inhabit the project area (letters from DNR dated November 7, 1997 and November 18, 1997 in Section VI).

6. Permits/Approvals Required

- Waterway Construction Permit from the Maryland Department of Natural Resources
- Section 404 Permit from the U.S. Army Corps of Engineers (incorporates section 106 consultation with the Maryland Historical Trust)
- U.S. Coast Guard Bridge Permit
- Stormwater Management from the Maryland Department of the Environment (MDE)
- Approved Erosion and Sediment Control Plan from MDE

F. Air Quality and Noise Impacts

None of the proposed build alternates would result in any impact to air quality or the noise environment because of the following:

- No-build and build traffic volumes and projections are identical; the project does not induce traffic onto MD 331 or change travel patterns.
- The proposed build alternates do not add capacity to MD 331.

During the construction period, areas around the construction site would be likely to experience varied periods and degrees of noise impact. This type of project would probably employ the following pieces of equipment which would likely be sources of construction noise:

Bulldozers and Earth Movers
Graders
Cranes
Pile Drivers
Front End Loaders
Dump and other Diesel Trucks
Compressors

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

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

G. Relationship Between Short-Term Effects and Long-Term Productivity and Enhancement

All of the build alternates would allow traffic to move at generally the same efficiency and speed through the Study Area as the No Build condition. The Dual Bridge and new alignment alternates, and to some extent the Modification Alternate, would provide improved safety. The Dual Bridge and new alignment alternates would eliminate the possibility of a bridge malfunction disrupting MD 331 traffic across the Choptank River.

Long-term environmental effects of the build alternatives include loss of wildlife habitat, including woodland and wetlands; acquisition of floodplain; and effects upon significant historic and potentially significant archeological resources. In general, the new alignment alternates would have the largest long-term environmental effects, followed closely by the Dual Bridge Alternate. The Modification Alternate would have negligible long-term environmental effects.

Short-term effects that would occur as a direct result of this project include the dust erosion and noise associated with construction; and increased siltation and turbidity in the Choptank River. In general, the new alignment alternates would have the largest short-term effects, followed by the Dual Bridge Alternate. The Modification Alternate would have few short-term effects other than the disruption of traffic which may be to a greater degree than the other build alternates.

H. Irreversible and Irretrievable Commitments of Resources

The principal irreversible and, for all practical purposes, irretrievable commitment of resources for any of the build alternatives would be the land acquired for the transportation facility right-of-way. This land is considered permanently committed to a transportation facility.

In addition, construction materials such as steel and concrete and suitable fill materials for construction would be irretrievably committed.

I. Secondary and Cumulative Assessment

1. Introduction

An assessment of potential Secondary and Cumulative impacts is a requirement of the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) of 1969. These include direct and observable effects, plus those that may be indeterminate and not easily recognizable but still have functional relationships between this proposed action and the surrounding socioeconomic and natural environmental systems. Following is how the CEQ regulations define these impacts:

> Secondary Effects are those impacts that are "caused by an action and are later in time or further removed in distance but are still reasonably foreseeable" (40 CFR 1508.8).
>
> Cumulative Effects are those "impacts on the environment which result from incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR 1508.7).

For highway projects, secondary and cumulative impacts typically include development activity occurring primarily due to changes in access. As a result of this development, there may be changes in land use, socioeconomic features, loss of environmental resources, and changes in air, noise and water quality. Because the build alternates do not add capacity, improve access or open new areas for development, no secondary impacts as a result of project induced development are anticipated. Therefore, the following discussion focuses on the issue of cumulative effects. The purpose of assessing cumulative effects is to determine whether resources of concern have already been affected by past and present activities and will be further impacted by future activities.

2. Methods

Effects on wetlands and historic bridges have been determined to be important from a cumulative effects perspective.

Wetlands

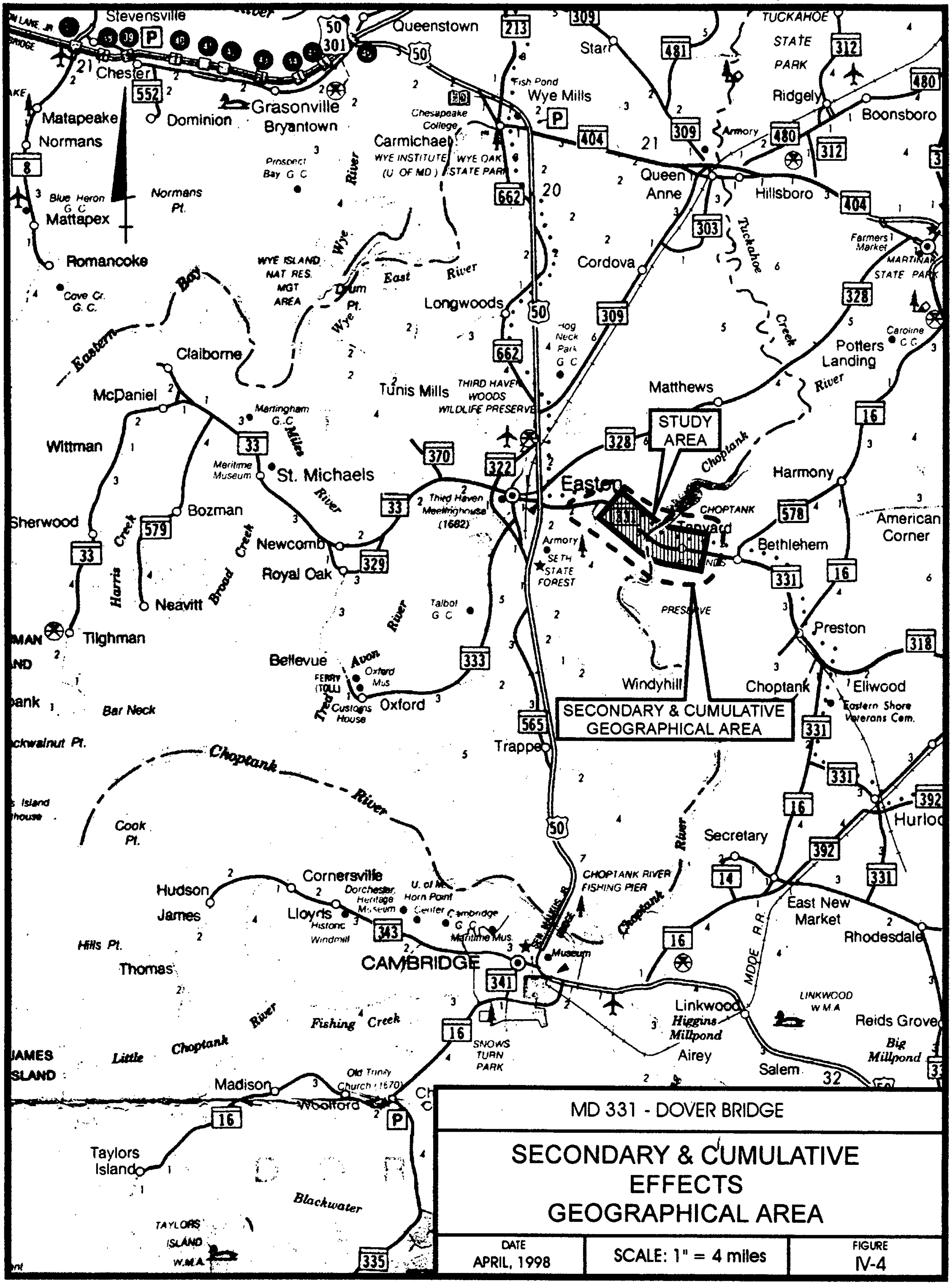
In addressing wetland impacts a time frame from 1972 to 2020 was defined for the temporal boundaries. 1972 was selected as the starting point based on the increased rate of development which was spurred at that time on Maryland's Eastern Shore due to the opening of the second span of the Chesapeake Bay Bridge. 2020 was selected, as it is generally the available time frame for population projections and county long range plans.

The Secondary and Cumulative Effects Geographical Area (SCEGA) is delimited by the subwatersheds of Williams Creek, Little Creek, Mitchell Run, and that portion of the Kings Creek subwatershed consisting of the unnamed tributary to the Choptank River northeast of MD 331 (Figure IV-4). Subwatersheds were considered the appropriate boundary criteria for aquatic resources since population densities are relatively low and patternless in Talbot and Caroline Counties.

Historic Bridges

In recognition of the value of historic highway bridges as elements of national, state, and local historical development, examples of engineering and architecture, and the location of important events, the Maryland State Highway Administration (SHA), working with an interagency committee comprised of representatives from Federal Highway and Maryland Historical Trust, seeks to integrate historic preservation into transportation planning. This goal will be realized upon the completion of SHA's Preservation Plan for Historic Highway Bridges, a tool being developed to ensure effective use of historic bridges, respect their value, extend their lives, and improve environmental review for highway projects with respect to this important category of cultural resources.

Following the ***Secretary of the Interior's Standards for Preservation Planning, Identification, Evaluation, and Registration,*** SHA has established a historic context addressing historic highway bridges in Maryland constructed between 1631 and 1960. The report provides a basis or analyzing timber, stone arch, metal truss, movable, metal girder, metal suspension, arch, and cantilever, and concrete bridges. After taking into account the resource base of National Register eligible bridges of each type, determined through a comprehensive inventory of bridges on state roads throughout Maryland, SHA is establishing goals and priorities for preservation. When completed, the Historic Bridge Preservation Plan will categorize the identified resources by levels of significance and provide guidelines for their treatment.



MD 331 - DOVER BRIDGE		
SECONDARY & CUMULATIVE EFFECTS GEOGRAPHICAL AREA		
DATE APRIL, 1998	SCALE: 1" = 4 miles	FIGURE IV-4

3. Results

Wetlands

Development caused by the dualization of the Chesapeake Bay Bridge primarily occurred along US 50, the principle access to Ocean City, MD and within the city of Easton, MD. This development did not increase substantially along MD 331 nor within our defined geographical area. The Study Area is sparsely developed with farming as the only land use except for the Midshore Regional Landfill a fully lined, modern facility 1.5 miles South of Dover Bridge. It is evident from the pristine quality and bucolic nature of the Study Area that past and present activities have not resulted in any substantial impact to wetlands. As described in Section III. Affected Environment, the Study Area supports healthy and diverse populations of terrestrial and aquatic habitats. Water quality has been carefully monitored due to the proximity to the landfill and is known to be good. The area does not classify as a rural landscape district because of the limited number and mixture of man-made elements that have been imposed on the area.

Current land use and development is restricted in both Talbot and Caroline counties. As outlined in the 1996 Talbot County Comprehensive Plan, the entire SCEGA within Talbot County, chosen for this project, is designated as either Chesapeake Bay Critical Area (CBCA) or Rural and Agricultural Conservation Area. The entire SCEGA within Caroline County is designated as either CBCA or Agricultural/Rural Residential as outlined in the 1986 Caroline County Comprehensive Plan. To minimize cumulative impact of current development to water quality and natural habitat, pursuant to Natural Resources Article, Section 8-1814, Annotated Code of Maryland, COMAR 14.19.05, coordination has been initiated with the CBCA Commission.

These regulated areas were designated to preserve productive agricultural lands, woodlands, open space, environmentally sensitive resources, and rural character. The potential for any substantial development that would have an adverse effect on is low due to these land use designations.

Historic Bridges

Movable bridges are perhaps the rarest bridge type in Maryland. While exceptionally significant for the unique engineering solution they provide for challenging transportation crossings, maintenance issues related to their mechanical operation have required the

replacement of many such structures in response to increased transportation demands. At least thirteen movable vehicular bridges have been replaced in Maryland during the last twenty years, leaving only twenty four remaining in the state. Fifteen of the twenty four are considered potentially eligible for the National Register of Historic Places by virtue of being fifty years or older.

Among movable bridges, swing span bridges are the rarest. Since 1981, four swing span bridges have been removed and one historic bridge totally reconstructed. Today, only three swing span structures remain on Maryland's roads: Bridge 2081 on MD 181 over Weems Creek, Bridge 4008 on MD 31 over the Patuxent River, and Bridge 20023 on MD 331 over the Choptank River.

Presently only one of these, the Dover Bridge, in considered National Register eligible, for its importance in the development of transportation on the Eastern Shore as well as the example it provides of this very rare bridge type. While Bridge 4008 may be eligible in the future, Bridge 2081 was reconstructed in 1997 and does not maintain the historical integrity requisite to meet the eligibility criteria. Removal of the Dover Bridge would leave only one potentially eligible swing span bridge on Maryland's state roads. The Dover Bridge, therefore, is among the most significant historic bridges in Maryland. An effective preservation plan will provide guidance to SHA on how to preserve and maintain such a resource in use if possible, in recognition of the historic and architectural value it embodies. While the Preservation Plan for Historic Highway Bridges is still being developed, SHA's commitment to this end is reflected in the "No-Build" Alternate and the "Modification" Alternate, which was developed in accordance with the ***Secretary of the Interior's Standards for Rehabilitation.*** Other preservation alternatives include adaptive use, HABS/HAER recordation, and other means of documenting and preserving valuable information about the structure.

The information compiled for the historic bridge inventory and used to evaluate the bridges additionally represents a valuable source of information for other state agencies such as the Maryland Historical Trust; for local governments; and for the broader public. To facilitate access to this information, SHA is developing a searchable database and exploring its potential applications. SHA is studying examples of other states that have allowed public access to historic highway bridge information through the internet and the publication of books.

V. SECTION 4(f) EVALUATION

A. Introduction

Section 4(f) of the Department of Transportation Act, 49 U.S.C. 303(c), requires that the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site as part of a federally funded or approved transportation project is permissible only if there is no feasible and prudent alternative to the use. Final action requiring the taking of such land must document that there are no feasible and prudent alternatives to the use of land from the property, and that the proposed action includes all possible planning to minimize harm to the property.

A Section 4(f) "use" occurs when:

1. Land from a Section 4(f) site is acquired for a transportation project.
2. There is an occupancy of land that is adverse in terms of the statute's preservationist purposes; or
3. The proximity impacts of the transportation project on the Section 4(f) site, without acquisition of land, are so great that the purposes for which the Section 4(f) site exists are substantially impaired.

Provided that the historic qualities of the facility would not be adversely affected, the maintenance/rehabilitation of a historic bridge would not constitute use of a Section 4(f) site. Section 4(f) would apply if a historic bridge or highway is demolished or if its historic integrity (the criteria for which the bridge was designated historic) is adversely affected due to the proposed improvement. The effect on the historic integrity is determined in consultation with the State Historic Preservation Officer (SHPO), which is the Maryland Historical Trust (MHT) for this project. Section 4(f) does not apply to the construction of a replacement bridge when a historic bridge is left in place and the proximity impacts of the replacement bridge do not substantially impair the historic integrity of the historic bridge.

B. Description of Proposed Action

MD 331 is functionally classified as a rural minor arterial. It provides access for residents and businesses to the towns and villages in the area, linking Easton in Maryland and the town of Seaford in Delaware via MD 318, MD 577 and DE 20. The MD 331 Dover Bridge crossing of the Choptank River provides the only direct connection between Easton and Preston.

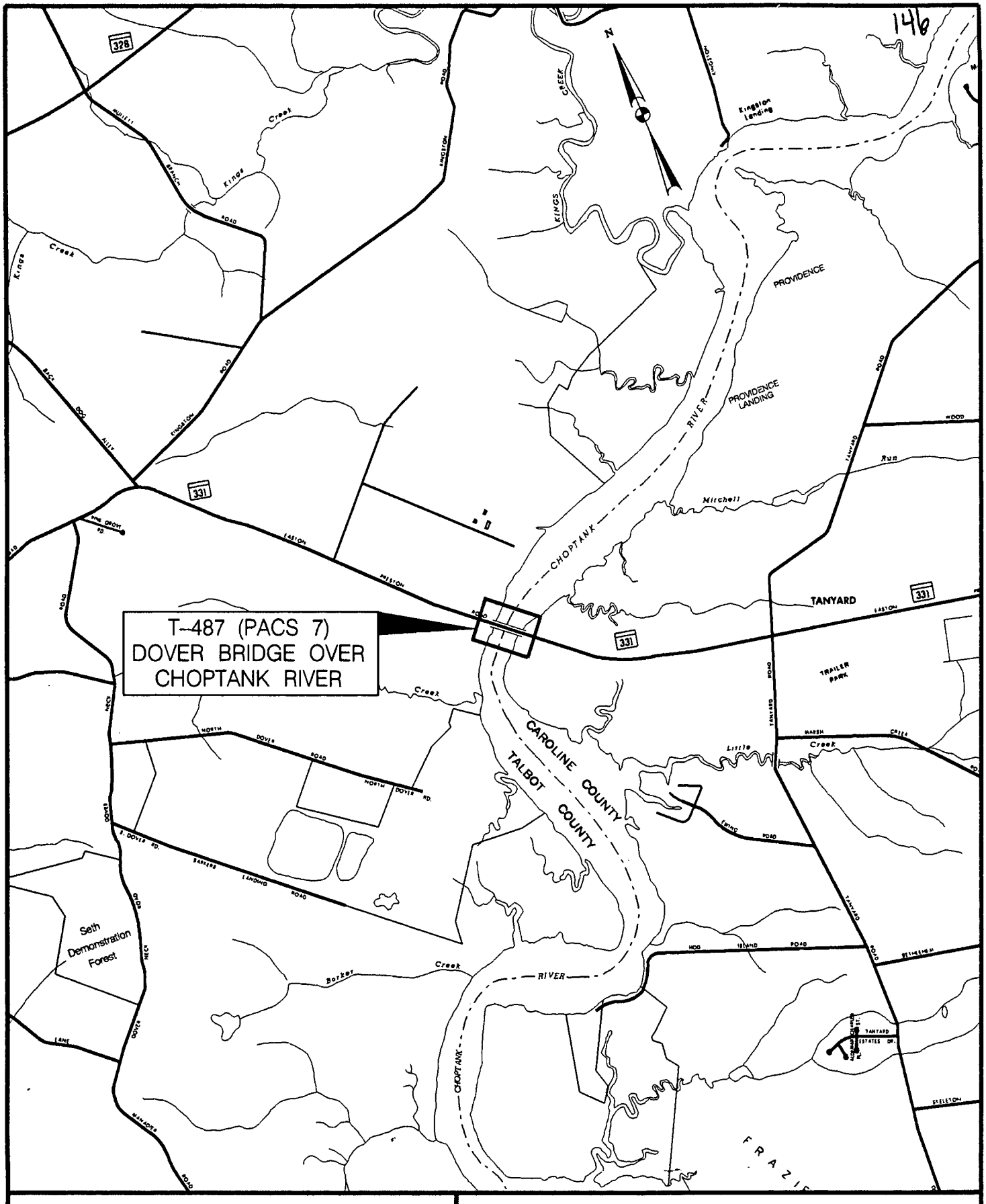
Alternative routes to the north and south result in a 27 mile detour and a 31 mile detour, respectively, between Easton and Preston. This crossing of the Choptank River is critical to fire and emergency equipment that must cross the Talbot County/Caroline County line expeditiously. Easton, the main commercial and employment center in the mid-shore area, contains a regional hospital that is the primary provider of medical and health care in the area. The Dover Bridge also controls boating access to and from the upper reaches of the Choptank River and Tuckahoe Creek.

Recently, the Dover Bridge has experienced mechanical and operational problems that have resulted in the bridge remaining in the open position after being opened for the passage of marine traffic. Also, the bridge is deemed functionally obsolete due to its narrow bridge width. The ensuing safety problems have resulted in a high accident rate at this site. With traffic crossing the bridge forecasted to increase in the future, the operational deficiencies and safety conditions will become more of a problem for users of the Dover Bridge.

This study evaluates alternate methods to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate both vehicular and marine traffic while minimizing disruptions to the environment. Alternates under consideration include: utilizing the existing Dover Bridge and providing routine maintenance and spot improvements to improve its reliability, modifying the existing bridge to provide additional usable roadway width and accommodate pedestrian and bicycle traffic, using the existing bridge for westbound traffic and constructing a new, single lane, fixed parallel structure for eastbound traffic; and providing a new fixed span structure entirely on new location (four alternate alignments have been developed). A detailed description of the alternates under consideration can be found in Section II of this document.

C. Description of 4(f) Resource

A historic reconnaissance of the project area resulted in the identification of one site which is a Section 4(f) resource for the project. A description of this resource and a statement of its significance are given below. The location of the site is shown on Figure V-1, and photographs are included on Figure V-2.



LEGEND

RESOURCE PREVIOUSLY DETERMINED ELIGIBLE FOR THE NATIONAL REGISTER

MD 331 – DOVER BRIDGE

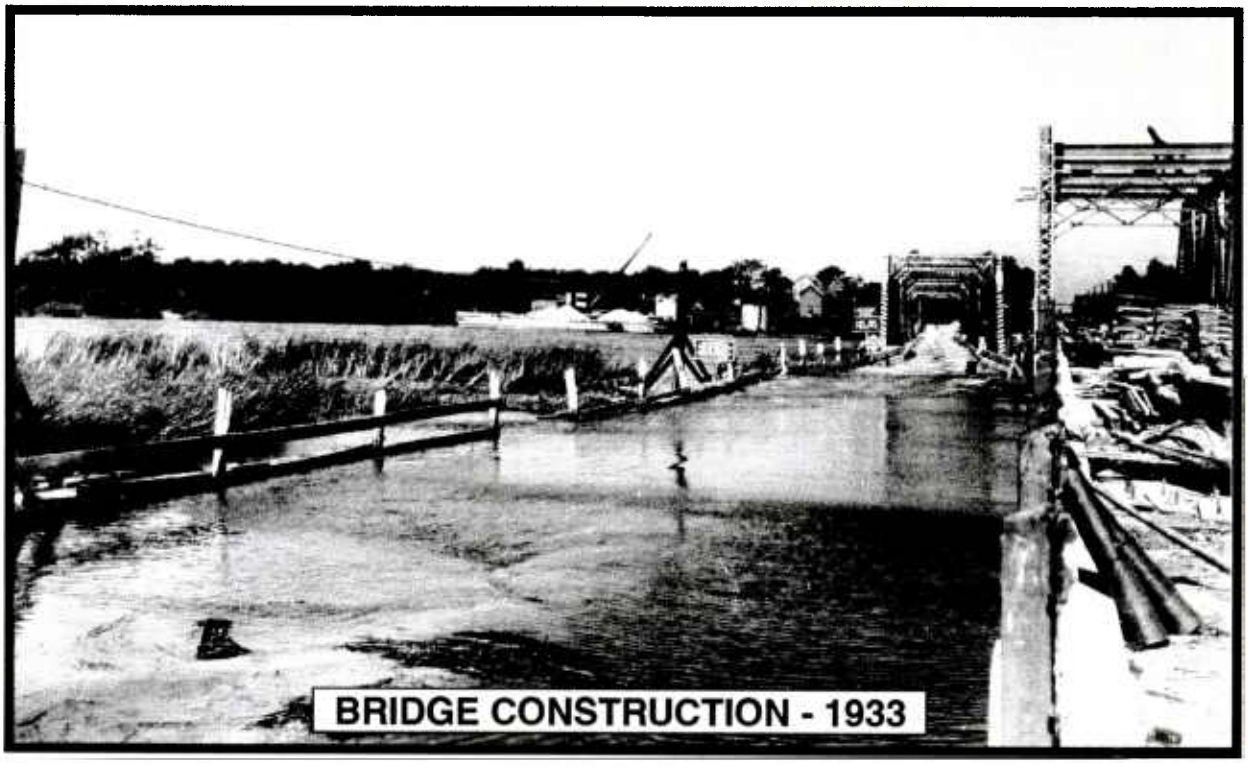
SECTION 4(f) RESOURCES

DATE	SCALE	FIGURE
MAR., 1998	SCALE: 1" = 3000'	V-1

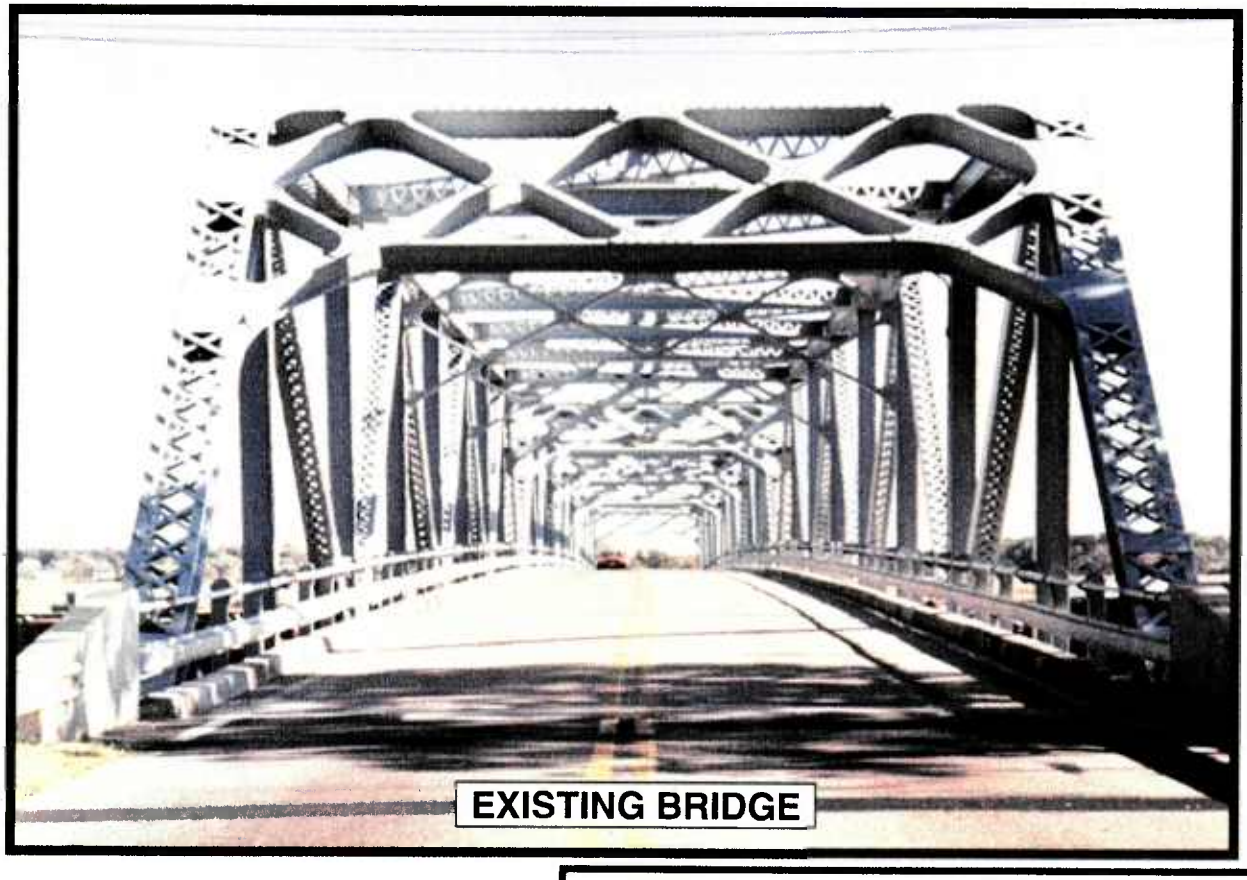
FILE: 4F-RES.DGN
04-22-98 TLL

S:\COREL\MD331\FIG_V2

147



BRIDGE CONSTRUCTION - 1933



EXISTING BRIDGE

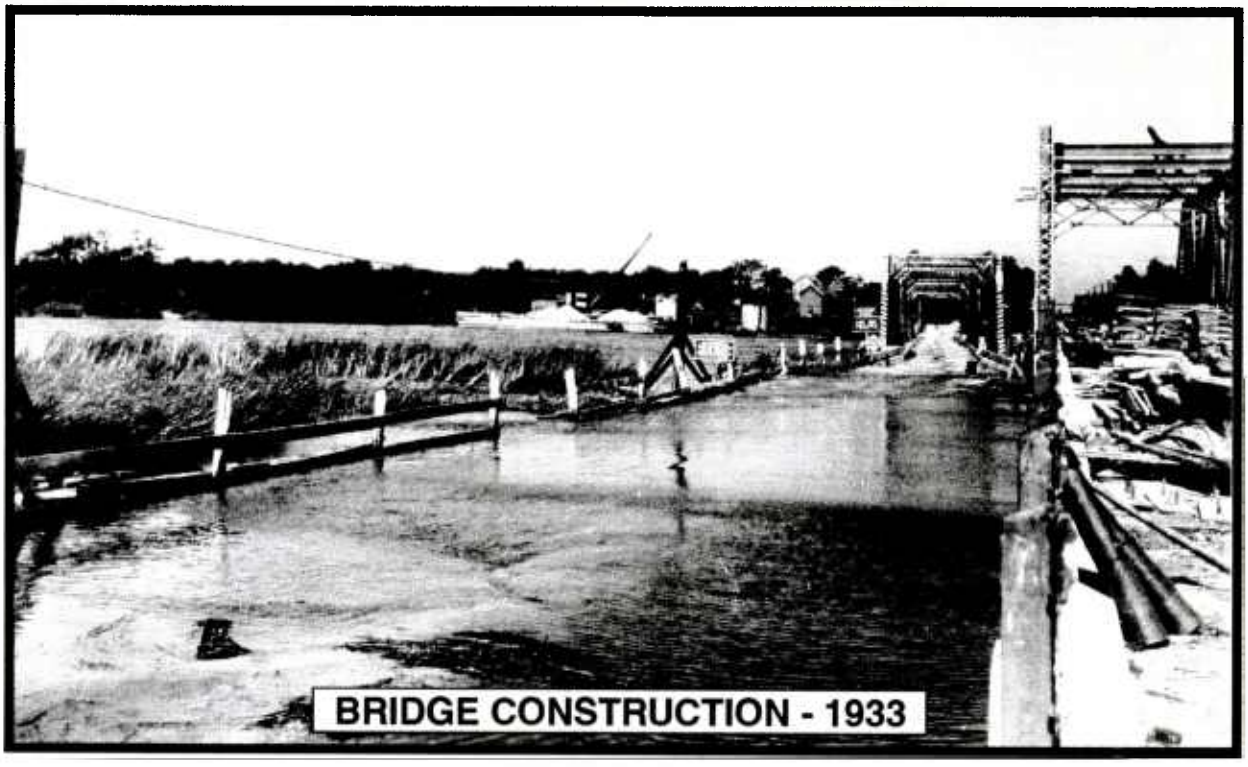
MD 331 - DOVER BRIDGE

DOVER BRIDGE PHOTOGRAPHS

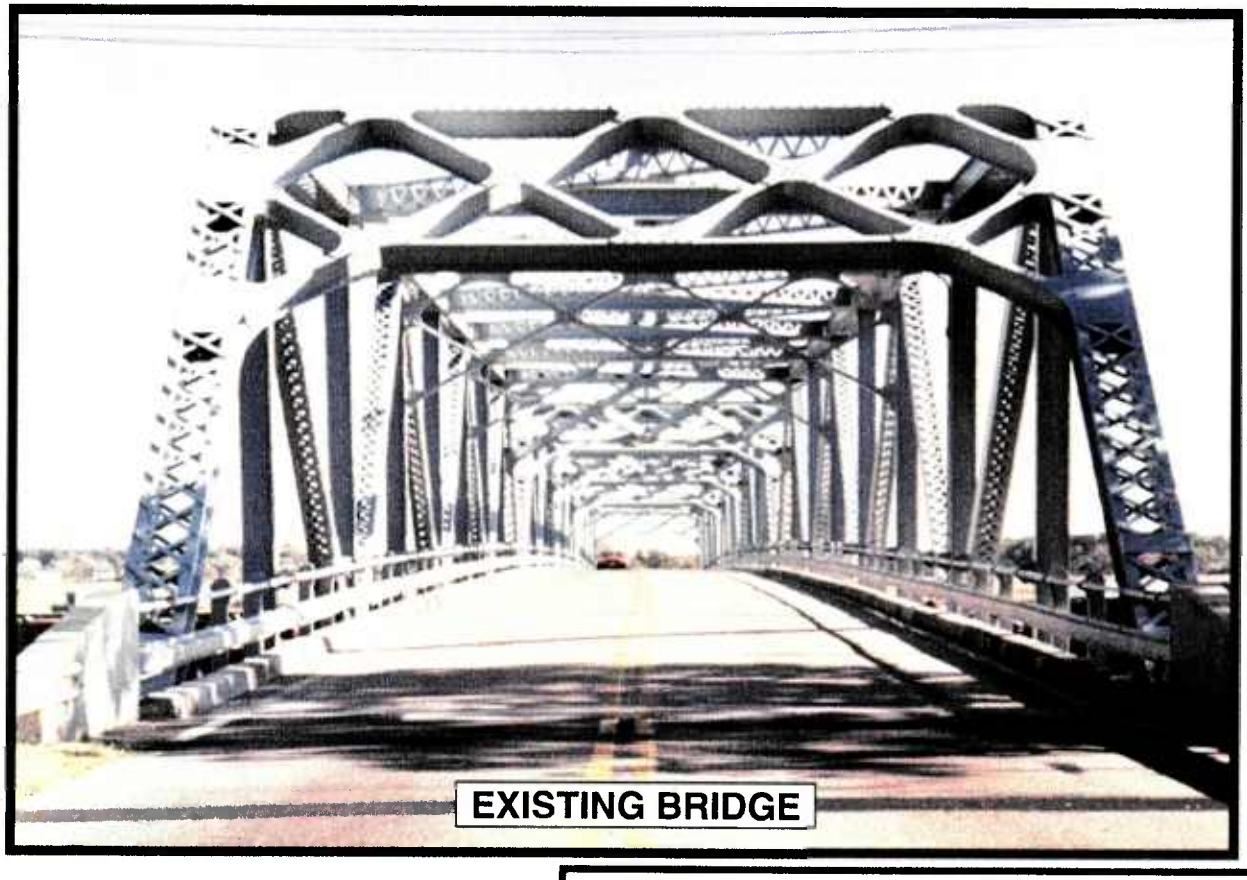
DATE		FIGURE
APRIL, 1998		V - 2

S:\COREL\MD331\FIG_V2

147



BRIDGE CONSTRUCTION - 1933



EXISTING BRIDGE

MD 331 - DOVER BRIDGE

DOVER BRIDGE PHOTOGRAPHS

DATE		FIGURE
APRIL, 1998		V - 2

Dover Bridge (T-487)

The Dover Bridge (T-487) is significant as the only National Register eligible swing span bridge owned by the Maryland State Highway Administration (SHA). The Dover Bridge is a combination swing movable bridge and metal through truss designed by the J.E. Greiner Company and built in 1933. The architectural and engineering significance of the bridge relate to the rarity of historic movable bridges in Maryland, as well as Dover's representation of a bridge type developed to meet the requirements of low-level water crossings in response to navigational needs stemming from industrial and urban expansion. As such, the Dover Bridge is also significant for its association with the economic development of Maryland's eastern shore and the navigable river system and maritime history.

Movable bridges are perhaps the rarest bridge type in Maryland. While exceptionally significant for the unique engineering solution they provide for challenging transportation crossings, maintenance issues related to their mechanical operation have required the replacement of many such structures in response to increased transportation demands. At least thirteen movable vehicular bridges have been replaced in Maryland during the last twenty years, leaving only twenty four remaining in the state. Fifteen of the twenty four are considered potentially eligible for the National Register of Historic Places by virtue of being fifty years or older.

Among movable bridges, swing span bridges are the rarest. Since 1981, four swing span bridges have been removed and one historic bridge totally reconstructed. Today, only three swing span structures remain on Maryland's roads: Bridge 2081 on MD 181 over Weems Creek, Bridge 4008 on MD 31 over the Patuxent River, and Bridge 20023 on MD 331 over the Choptank River.

Presently only one of these, the Dover Bridge, in considered National Register eligible, for its importance in the development of transportation on the Eastern Shore as well as the example it provides of this very rare bridge type. While Bridge 4008 may be eligible in the future, Bridge 2081 was reconstructed in 1997 and does not maintain the historical integrity requisite to meet the eligibility criteria. Removal of the Dover Bridge would leave only one potentially eligible swing span bridge on Maryland's state roads. The Dover Bridge, therefore, is among the most significant historic bridges in Maryland.

D. Impacts to 4(f) Property

New Alignment Alternates

Each of the new alignment alternates consists of a new fixed span structure, entirely on new location, that would carry all traffic on MD 331 across the Choptank River. The four alternate alignments (N2, N1, S1 and S2) that are under consideration parallel the existing Dover Bridge and allow any one of three options to occur to the existing bridge once a new bridge is completed. The first option is to completely remove the existing bridge - main truss and approach spans. Regardless of the new alignment alternate, this option would clearly violate the historic integrity of the Dover Bridge by removing it from its present location. A second option is to retain the existing truss spans, but remove the eastern or Preston-side approach spans. The swing span would either remain in the open position or be removed. The second option would depend upon the identification of a party willing to take ownership and maintain the existing bridge, as SHA will not participate in its maintenance once a new structure is in place. This option in combination with any of the new alignment alternates would constitute a Section 4(f) use of the resource as it would adversely affect the historic integrity of the Dover Bridge by removing a portion of the bridge and altering its primary function to swing open and closed to allow people to cross the Choptank River.

E. Avoidance Alternates

No-Build Alternate

This alternate consists of utilizing the existing Dover Bridge while performing routine maintenance and includes the installation of a new electrical system which is being completed in the spring of 1998 as an emergency project by SHA's bridge remedial division. The electrical work consists of a new primary electrical system, tender control panel, observation cameras, a back-up electrical system and a back-up electrical source. Based on the scope of the work, the historic integrity of the existing Dover Bridge is not adversely affected. The No-Build Alternate would not constitute a Section 4(f) use provided that SHA maintains the bridge in good working order and condition. Examples of measures to achieve these goals include provision of signing to show the vertical clearance along the edge of the roadway to help alleviate the perception that the truss members may be an obstacle for trucks. In addition, this alternate includes providing additional guidance and training to the bridge tender (e.g., procedures for coordinating with emergency services providers prior to bridge openings), increasing the frequency of inspection of

the bridge's mechanical/electrical systems from once per year to once every six months, and publicizing the reliability of the newly installed electrical system.

Modification Alternate

This alternate consists of several options for modifying the existing bridge. The modifications include installing a 4 foot 3 inch to 5 foot 0 inch walkway outside of the existing truss on one or both sides of the span to accommodate pedestrian and bicycle traffic, modifying the curb and rail system to provide additional usable roadway width, and removing the architectural knees at the entrance portals to increase the perception of lane space for truck traffic. In addition, this alternate includes providing additional guidance and training to the bridge tender (e.g., procedures for coordinating with emergency services providers prior to bridge openings), increasing the frequency of inspection of the bridge's mechanical/electrical systems from once per year to once every six months, and publicizing the reliability of the newly installed electrical system. As with the No-Build Alternate, this alternate would include provision of signing to show the vertical clearance along the edge of the roadway to help alleviate the perception that the truss members may be an obstacle for trucks.

Bridge historian and engineer Dr. Abba Lichtenstein developed this alternate in accordance with the **Secretary of the Interior's Standards for Rehabilitation.** In addition, Dr. Lichtenstein has preliminarily determined a method of attaching the proposed sidewalks that could be reversed without impairing the essential form and historic integrity of the bridge. A report containing more information concerning this alternate is included in the Appendix.

The Secretary's Standards recognize that some alterations to historic structures are generally needed to assure their continued use, and can be considered provided "such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes." The Modification Alternate would address the project purpose while not adversely affecting the historic integrity of the Dover Bridge. This alternate would not constitute a Section 4(f) use of the resource, contingent upon the development of final plans that restrict modifications to those described herein, ensure the reversibility of the sidewalks, and confirm the ability of the existing structure to support the additional weight. Also, SHA would be required to maintain the bridge in good working order and condition.

Dual Bridge Alternate

The Dual Bridge Alternate uses the existing Dover Bridge to accommodate one-lane westbound traffic and a new, single lane, fixed parallel structure to accommodate eastbound traffic. In combination with a traffic signal that could reverse the direction of traffic using the fixed span, this dual bridge combination ensures that if a malfunction were to occur on the swing span, a route to the emergency location or the hospital would still be available. The alignment of this alternate follows that of Alternate S2 - 30 foot, both horizontally and vertically. The Dual Bridge Alternate would retain Dover Bridge in fully operational condition allowing traffic to cross the Choptank River, not altering the bridge's primary function. This alternate would not adversely affect the historic integrity of Dover Bridge and would not constitute a Section 4(f) use of the resource, provided that SHA maintains the existing bridge in good working order and condition, including the measures discussed above for the No Build Alternate.

New Alignment Alternates

As discussed previously, each of the new alignment alternates consists of a new fixed span structure entirely on new location. One option allowed to occur to the existing bridge once a new bridge is completed is to maintain the Dover Bridge in fully operational condition with connections to the new alignment on each side of the river for use by pedestrians, bicycles and maintenance vehicles. This option would depend upon the identification of a party willing to take ownership and maintain the existing bridge, as SHA will not participate in its maintenance once a new structure is in place. This option would not adversely affect the historic integrity of Dover Bridge since the bridge's primary function, to swing open and closed, is retained and the existing bridge would still allow people to cross the Choptank River. This option in combination with any of the new alignments (N2, N1, S1 and S2) would not constitute a Section 4(f) use of the resource, provided the new owner of Dover Bridge maintains it in good working order and condition, including the measures discussed under the No-Build Alternate.

F. Measures to Minimize Harm

No-Build Alternate

To highlight and summarize the most important measures outlined in the section above, the No-Build Alternate would include the following:

- Provision of signing to show the vertical clearance along the edge of the roadway to help alleviate the perception that the truss members may be an obstacle for trucks.

- Implementation of a maintenance plan especially designed for historic bridges with a swing span (e.g., increased frequency of inspection).

Modification Alternate

To highlight and summarize the most important measures outlined in the section above, the Modification Alternate would include the following:

- Provision of signing to show the vertical clearance along the edge of the roadway to help alleviate the perception that the truss members may be an obstacle for trucks.
- Implementation of a maintenance plan especially designed for historic bridges with a swing span (e.g., increased frequency of inspection).
- Rehabilitation consistent with the Secretary of Interior's Standards, to avoid affecting the bridge's historic integrity while maintaining consistency with such requirements as safety and bicycle/pedestrian accommodation.

Dual Bridge Alternate

To highlight and summarize the most important measures outlined in the section above, the Dual Bridge Alternate would include the following:

- Provision of signing to show the vertical clearance along the edge of the roadway to help alleviate the perception that the truss members may be an obstacle for trucks.
- Implementation of a maintenance plan especially designed for historic bridges with a swing span (e.g., increased frequency of inspection).
- Design of new bridge which is compatible with the existing bridge. Design plans will be developed through consultation with the SHPO and the Advisory Council on Historic Preservation (ACHP).

New Alignment Alternate - Existing Bridge Left In Place and Not Used for Vehicular Traffic

Potential measures to minimize harm for this alternate would include the following:

- Development of a marketing plan to market the bridge to new owners with covenants to maintain and operate the bridge for marine traffic consistent with U.S. Coast Guard requirements.
- Furnishing new owners with funding equivalent to that which would have been allocated for the demolition of the bridge.

- Design of new bridge which is compatible with the existing bridge. Design plans will be developed through consultation with MHT and ACHP.

New Alignment Alternate - Existing Bridge Removed (Entirely or Center Span Only)

Potential measures to minimize harm for this alternate would include the following:

- Development of a marketing plan for new owners to maintain the remaining bridge sections (if center span is removed.), consistent with U.S. Coast Guard and U.S. Army Corps of Engineers requirements. Possible uses of the fixed spans may include use as fishing piers. Or, if the entire bridge is removed, development of marketing plan should be undertaken for removal of the bridge and preservation off-site.
- Recordation of the historic bridge, consistent with Historic American Engineering Record (HAER) standards.
- Development of an informational brochure, video or other publication which would be available to the public to illustrate and describe the Dover Bridge.
- Design of new bridge which is compatible with the existing bridge. Design plans will be developed through consultation with MHT and ACHP.

With any preferred alternate identified, consultation with MHT and ACHP would continue to develop measures in addition to or in lieu of those discussed above. Depending on the alternate selected, a Memorandum of Agreement may be developed to stipulate the measures to be taken to minimize harm to the resource.

G. Coordination

Throughout this project and the development of alternates, coordination has occurred between the various participating agencies, including MHT and ACHP. This coordination is documented (either summary, letter or meeting minutes) in Section VI. Comments and Coordination. ACHP participation was provided at the Joint Agency Meeting and Field Review held on April 8, 1998 (see minutes in Section VI).

A. Interagency Meetings

The project was discussed at two MD State Highway Administration Interagency Meetings. The first meeting was held on November 19, 1997 and included a project introduction and overview. Representatives from the US Army Corps of Engineers, MD Department of Natural Resources, MD Department of the Environment, U.S. Fish and Wildlife Service, Federal Highway Administration, MD Department of Transportation, MD Office of Planning, Environmental Protection Agency, and the Maryland Historical Trust were present. A copy of the draft Purpose and Need Statement was distributed to all in attendance and also to National Marine Fisheries, U.S. Coast Guard, Chesapeake Bay Critical Area Commission, the Talbot County Historic Preservation Commission and the Caroline County Historical Society. The Maryland Historical Trust requested that the setting for the Dover bridge be considered as a rural historic landscape. SHA has considered the significance of the surrounding landscape and viewshed in the evaluation of study area cultural resources.

Subsequent to the November 19th meeting, in response to agency requests, SHA provided additional information regarding bridge type, height of boats using the channel, and accident data. A representative from FHWA expressed concern that if accidents did not occur on the bridge, that perhaps the bridge narrowness was not a safety problem. SHA responded that all accidents listed have occurred within 500 feet of the bridge and discussed their causes relative to the width of the bridge.

A draft package of Alternates Retained for Detailed Study was distributed for review at the December 17, 1997 Interagency meeting and was also sent to those not present including: the Talbot Historic Preservation Commission, the Caroline County Historical Society, and the U.S. Coast Guard.

The second Interagency Meeting for the project was held on January 21, 1998, at which the Alternates Retained for Detailed Study were presented. Representatives from the Federal Highway Administration, Maryland Historical Trust, MD Office of Planning, U.S. Army Corps of Engineers, Environmental Protection Agency, MD Department of the Environment, MD

Department of Natural Resources, MD Department of Transportation, and National Marine Fisheries were present.

The Federal Highway Administration requested that more information be provided including operation/maintenance costs associated with a dual bridge alternate and impacts associated with a one lane bridge. The Maryland Historical Trust requested modification of an attached chart depicting environmental impacts and alternates costs. A revised Alternates Retained for Detailed Study package including chart was sent to the agencies. The U.S. Army Corps of Engineers requested to be copied on Section 106 correspondence, which has also been completed.

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

MEMORANDUM

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

FROM: Michelle Hoffman
Project Manager
Project Planning Division

DATE: April 21, 1998

SUBJECT: Project Number TA392A11
MD 331 over the Choptank River
Dover Bridge

RE: April 8, 1998
Joint Agency Meeting and Field Review

On Wednesday, April 8, 1998, a joint agency meeting and field review was held at the Easton SHA office and project site. The agency meeting included introductions, a discussion of the project progress, and environmental overview. A field visit followed, which allowed participants an opportunity to provide comments on alternates, as presented in the preliminary DEIS, and other project issues. The following people attended:

Mary Ann Naber	ACHP	(202) 606-8534
Ann Hersey	FHWA	(410) 962-4342
Pam Stephenson	FHWA	(410) 962-4342
Anne Bruder	MHT	(410) 514-7636
Beth Cole	MHT	(410) 514-7651
Michael Day	MHT	(410) 514-7629
John Nichols	NMFS	(410) 226-5771
Anne Elrays	SHA	(410) 545-8562
Brian Martin	SHA	(410) 545-8304
Jill Dowling	SHA	(410) 545-8559
Michelle Hoffman	SHA	(410) 545-8547
Richard Ervin	SHA	(410) 321-3233
Mark Lotz	The Wilson T. Ballard Co.	(410) 363-0150

My telephone number is _____

Maryland Relay Service for d Hearing or Speech
1-800-735-2258 e Toll Free

Mailing Address: P.O. Box 71 timore, MD 21203-0717

Robert Bull	The Wilson T. Ballard Co.	(410) 363-0150
Vance Hobbs	US COE	(410) 962-6084

Pam Stephenson opened the meeting stating that the purpose of the meeting was to follow up on various issues associated with the study, including the documentation decision of an EIS rather than an EA. This decision was based on potential impacts to the historic Dover bridge, and other project impacts, including wetlands.

Pam Stephenson led the meeting and began with agency introductions and stating that the purpose of this meeting was to discuss project issues and the historic effects determination. The U.S. Coast Guard (USCG) was invited but unable to attend. Ms. Stephenson summarized the Coast Guard's comments that she has received to date. Their comments have essentially been concerned with liability issues related to private ownership of the existing bridge. They have not dictated a clearance requirement for the project, stating only that the underclearance should accommodate the majority of boats. The USCG has confirmed that they will not be participating in the Public Hearing.

Mark Lotz provided a project overview and summary of the alternates presented in the DEIS which consist of the following:

- The No-Build Alternate
- The Modification Alternate
- The Dual Bridge Alternate
- The New Alignment Alternates: N2-30 foot underclearance; N1-50 foot underclearance; S1-50 foot underclearance; S2-30 foot underclearance; S2-50 foot underclearance

The three options for the existing bridge under the New Alignment Alternates were reviewed as follows:

1. Retain with full operation as pedestrian/bicycle, ownership and maintenance by others.
2. Retain the truss spans with the swing span in the open position; remove the approach spans.
3. Remove the existing bridge entirely.

Some of the agencies, including FHWA, have requested that Dr. Abba Lichtenstein attend the Informational Public Workshop to field any technical questions regarding his suggested Alternate. Anne Elrays gave a brief summary of the environmental features.

158

Other issues discussed, grouped by the agency that initiated the comment, are summarized as follows.

Advisory Council on Historic Places

- Requested that they be a consulting party for the project and added to the project mailing lists.

Maryland Historic Trust

- Highlighted several items contained in their April 1 letter, particularly that documentation should be corrected to indicate that the Dover Bridge is a Warren Truss rather than a Pratt truss.
- The Dual Bridge Alternate should be addressed separately in the Effects Determination.
- Could the Dual Bridge Alternate, with a 32-foot deck width, be converted to two-way operation in the future and still accommodate pedestrians? [Response: yes, since 4 foot shoulders are acceptable for pedestrians.]
- Ms. Cole questioned SHA's position of not wanting to retain ownership and maintain the existing bridge in light of their historic bridge program.

National Marine Fisheries Service

- Concerned primarily with construction impacts.
- Prefer temporary roadway for construction equipment to access site.
- The environmental document should describe potential construction methods that will minimize construction impacts.
- Suitable wetland mitigation on-site may be difficult to find.
- The Dual Bridge Alternate sounds "interesting."
- Time of year restrictions will likely be February 15 to June 15.

Corps Of Engineers

- Individual permits will be required.
- The COE will be an official participant in the Hearing (a joint Public Notice is being issued).
- The No-Build and Modification Alternates are the only avoidance alternates.
- Minimization options should be explored; the smallest impact options are preferred.
- Construction impact minimization measures, as discussed at the last interagency field review, such as geogrid, should be considered.
- Staging areas should be kept on the west side of the river, due to wetland impacts.

FIELD REVIEW

The field review began at the southwest quadrant of the project study area on the Easton side of the Dover Bridge. The group proceeded to the northwest quadrant, then over the bridge to the southeast and northeast quadrants of the project. General comments received are summarized as follows.

- COE requested that SHA consider an alignment shift with Alternate S2 (30 foot) and the Dual Bridge that brings the alignment as close as possible to the existing bridge or area of previous disturbance on the Preston side approach. This would reduce the amount of construction within the wetland.

- It was recommended that vertical clearance advisory signs be placed at the approaches to the bridge so that truckers realize that the diagonal portal knees are not an obstacle that needs to be averted.

If you should have any questions or comments, please contact Michelle Hoffman, the SHA Project Manager at (410) 545-8547, or Anne Elrays, the Environmental Manager at (410) 545-8562. They can all be reached toll-free in Maryland at (800) 548-5026.

cc: Attendees
File

160

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

MEMORANDUM

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

FROM: Joseph Kresslein JK
Assistant Division Chief
Project Planning Division

DATE: February 6, 1998

SUBJECT: Project Number TA392A11
MD 331 over the Choptank River
Dover Bridge

RE: January 15 Interagency Meeting and Field Review
(Wetland Delineation and Functional Assessment)

On Thursday, January 15, a joint Interagency Meeting and Field Review was held at the State Highway Administration's Easton shop and at the project site. The agency meeting included introductions, an environmental overview, and discussion of the project progress and alternates under consideration. A field visit/van tour followed, which allowed participants an opportunity to provide comments on alternates developed and wetland boundaries delineated by The Wilson T. Ballard Company. Handouts indicating the alternates, environmental features and impact summaries were provided. The following people attended:

Robert Bull, The Wilson T. Ballard Company	(410) 363-0150
Emily Burton, SHA/EPD	(410) 545-8627
Stanley Causey, MDE	(410) 221-2588
Mary Deitz, SHA (MDOT - CBAPC Rep.)	(410) 545-5677
Joe Dement, The Wilson T. Ballard Company	(410) 363-0150
Jill Dowling, SHA	(410) 545-8559
Anne Elrays, SHA	(410) 545-8562
Richard Ervin, SHA	(410) 321-3233
Jack Hett, SHA/EPD	(410) 545-8617
Vance Hobbs, COE	(410) 962-6084

My telephone number is _____

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Street Address: 707 North C[illegible] Street • Baltimore, Maryland 21202

161

Michelle Hoffman, SHA	(410) 545-8547
Howard Johnson, SHA	(410) 545-5675
Roland Limpert, DNR	(410) 260-8333
Mark Lotz, The Wilson T. Ballard Company	(410) 363-0150
Andrew Myers, CBCAC	(410) 479-2412
John Nichols, NMFS	(410) 226-5771
Joe Policelli, FHWA	(410) 962-4243
Pat Quinn, SHA/ORE	(410) 778-3112
Steve Rice, SHA/ORE	(410) 778-3112
Glenn Vaughan, SHA/OBD	(410) 545-8345
Bihui Xu, MOP	(410) 767-4567

AGENCY MEETING

Glenn Vaughan opened the meeting by discussing the existing conditions within the limits of the MD 331 Dover Bridge study area, highlighting the operational problems and mechanical malfunctions on the existing bridge. The mechanical problems have resulted in the bridge being opened and remaining in the open position.

Anne Elrays gave a brief summary of the study area's environmental features, as well as the range of anticipated impacts. Michelle Hoffman discussed the agenda items for the field review, which was to refresh the group on the environmental features within the Dover Bridge study area and review the alternates under consideration. Glenn led the group through a video presentation of the operations of the existing bridge.

Remarks from the agencies are summarized below:

- The US Army Corps of Engineers (COE) requested a copy of the "Notice to Mariners" letter for the bridge closure related to the on-going electrical work. This was given to the COE on January 16.

- The COE requested a determination of impacts to existing underground and underwater utilities and quantification of impacts and costs in the assessments of the alternates, which will be done in the detailed study stage. The COE will provide input as to how wetland impacts should be broken down in the environmental document (e.g., shading, construction, fill) as the study progresses.

- The group consensus was for the proposed alignments to be on structure on the Preston (east) side of the project, rather than the lower-cost embankment option, in order to minimize and/or avoid impacts to the tidal marsh wetland area.

162

- The COE requested a meeting with the Maryland Historical Trust (MHT) regarding Section 106 issues, which should include local agencies. The COE is interested in Section 106 issues which could affect the COE's decisions on the alternates. It was agreed that the COE will be carbon copied on any Section 106 correspondence, and that a Section 106 meeting is unnecessary until all of the historic standing structures have been identified. Related Section 106 issues include archeology and other significant cultural resources within the project viewshed of the historic Dover Bridge. Trost's Fortune, a significant standing structure, is located on the west side of the river, north of Dover Bridge. The southwest quadrant contains a potentially significant historic archeological site known as "the ruins." The COE suggested that if the Dover Bridge was declared "historic but not national register eligible," the Section 106 process would be simplified.

- The COE requested a project planning study schedule for the MD 331 project and requested a meeting with the project management team prior to the public meeting in May. This was given to the COE on January 16. The COE also inquired as to why an Environmental Assessment (EA) will be prepared for this project. It was stated that preparation of an EA is anticipated to address both FHWA's and the US Coast Guard's NEPA documentation requirements related to historic bridges.

- Representatives from the Chesapeake Bay Critical Area Commission (CAC) stated that consideration of a four-lane bridge may be warranted and that a submerged aquatic vegetation study should be performed. It was explained that four-lanes are not warranted on MD 331 due to existing and projected Average Daily Traffic (ADT) traffic volumes and Level of Service (LOS) Analyses. A submerged aquatic vegetation study is not viable in the Winter time, therefore, the SHA will investigate existing information on submerged aquatic vegetation in this project area.

FIELD REVIEW

The field review began at the southwest quadrant of the project area on the Easton side of the Dover Bridge. The group proceeded to the northwest quadrant, then over the MD 331 bridge to the southeast and northeast quadrants of the project. General comments pertaining to the alternates and wetlands are summarized as follows:

1) The COE requested that SHA consider lengthening the proposed structure as much as possible to minimize impacts to wetlands, including wetlands W-1 and W-2. Consideration should also be given to reducing the number of spans on the east side approach by lengthening the spans, thereby reducing the amount of construction within the wetland. SHA's Bridge Design Division will determine the minimum allowable clearance required from the elevation of a wetland to the bottom elevation of the structure to determine placement of an abutment.

168

2) The COE also requested that consideration be given to retaining walls or sheeting as a possible way to reduce impacts to wetlands in embankment areas.

3) The COE also stated that the Maryland Department of the Environment (MDE) will indicate the ratio of wetland mitigation. Normal replacement is 2:1 or 1:1 for all wetlands, depending upon classification. Tidal mitigation must be provided for tidal impacts. Jack Hett (SHA) will coordinate with the project team in order to initiate the search for mitigation sites.

4) Construction on the Preston side in the tidal marsh wetland area is a concern of all agencies. It was suggested that, if channel construction were to be performed, a geogrid or honeycomb-type matting be used (allowing steeper fill slopes) to decrease the impacts to wetlands. Vance Hobbs (COE) also stated that, if dredging is required for bridge foundations, the Section 9 and Section 404 permit processes may apply.

5) John Nichols of the National Marine Fisheries Service (NMFS) stated that there are concerns about the wetland system continuity with maintaining the existing Preston approach spans and embankment.

Comments pertaining to each wetland and Waters of the US location are summarized as follows:

W-1

Wetland W-1 is a tidal marsh wetland area located on the entire eastern side of the Choptank River separated by the existing MD 331 roadway. W-1 would be impacted by alternates S1 and S2 to the south and alternates N1 and N2 to the north of MD 331.

All Participants concurred on delineation.

W-2

Wetland W-2 is located on the southwestern bank of the Choptank River downstream from the existing Dover Bridge. W-2 would be impacted by alternates S1 and S2. The COE suggested lengthening the structure on the west side to minimize or possibly avoid impact to this wetland.

All participants concurred on the delineation.

Waters of the US #1

By inspection of the Talbot County soil survey, Vance Hobbs stated that the portion of this stream designated as Waters of the US is located downstream of a point approximately

164

200 feet south of MD 331. This area is located south of MD 331, near the western tie-in of the alternates and is outside the area affected by any of the alternates.

Subsequent to the agency field review, the meeting continued in the SHA Easton Shop conference room. Several participants assessed wetlands W-1 and W-2 using the New England functional assessment method, resulting in minor modifications to the principal functions that were included in the meeting handout.

Principal wetland functions and values added for W-1 are Production Export and Uniqueness/Heritage. For wetland W-2, Flood Flow Alteration, Fish and Shellfish Habitat, and Nutrient Removal were added. The resulting Wetland Function - Value Evaluation Forms for W-1 and W-2 are enclosed.

The SHA thanks the agencies for participating in this Interagency Field Review. This tour was beneficial for the group to review the study area, the environmental issues and the alternates under consideration. If you should have any questions or comments, please contact Michelle Hoffman, the SHA Project Manager at (410) 545-8547, or Anne Elrays, the Environmental Manager at (410) 545-8562. Both of them can be reached toll-free in Maryland at (800) 548-5026.

Enclosures
cc: Attendees with enclosures
Mr. Joseph Kresslein
Mr. James Wynn

Wetland Function-Value Evaluation Form

165

Total area of wetland _____ Human made? No In wetland part of a wildlife corridor? Yes or a "habitat island"? _____

Adjacent land use _____ Distance to nearest roadway or other development _____

Dominant wetland systems present Tidal Marsh Contiguous undeveloped buffer zone present _____

Is the wetland a separate hydraulic system? _____ If not, where does the wetland lie in the drainage basin? _____

How many tributaries contribute to the wetland? _____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-1

Latitude _____ Longitude _____

Prepared by: CB/RP Date 1/15/98

Wetland Impact:
Type ES Area _____

Evaluation based on:
Office _____ Field X

Corps manual wetland delineation completed? Y X N _____

Function/Value	Occurence Y	Occurence N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		4, 5, 7, 9, 10, 12, 15, 16		
Floodflow Alteration	✓		2, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, (17), 18	✓	
Fish and Shellfish Habitat	✓		2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16	✓	
Sediment/Toxicant Retention	✓		1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	✓	
Nutrient Removal	✓		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	✓	
Production Export	✓		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	(✓)	
Sediment/Shoreline Stabilization	✓		3, 6, 8, 9, 10, 11, 12, 13, 15		
Wildlife Habitat	✓		1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23	✓	
Recreation	✓		2, 3, 5, 6, 7, 8, 9, 11	✓	
Educational Scientific Value	✓		2, 4, 5, 7, 10, 11, 13		
Uniqueness/Heritage	✓		3, 5, 6, 7, 10, 11, 13, 14, 16, 19, 20, 22, 23, 28	✓	
Visual Quality/Aesthetics	✓		2, 3, 5, 6, 7, 8, 9, 11, 12		
ES Endangered Species Habitat		✓			Not known to contain any listed species.
Other					

Notes: The circled items were added as a result of discussions held during the January 15th Interagency Meeting

*Refer to back up list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland 0.05 Ac. Human made? No In wetland part of a wildlife corridor? Yes or a "habitat island"? _____

Adjacent land use Agriculture Distance to nearest roadway or other development 130 Feet

Dominant wetland systems present PEM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Yes

How many tributaries contribute to the wetland? _____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-2

Latitude _____ Longitude _____

Prepared by: RBW Date 1/15/98

Wetland Impact:
Type PEM Area 0.05

Evaluation based on:
Office _____ Field X

Corps manual wetland delineation completed? Y X N _____

Function/Value	Occurence Y	Occurence N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	✓		2, 4, 6, 7, 9, 10, [12], [13], 16	✓	
Floodflow Alteration	✓		[2], [6], [7], 9, 10, [11], 13	(✓)	
Fish and Shellfish Habitat	✓		4, [6], [7], [9], 11, 14, 17	(✓)	
Sediment/Toxicant Retention		✓	1, [2], [4], 15		
Nutrient Removal	✓		1, [3], [4], [5], [4], 11, [12], [13]	✓	
Production Export		✓	1, 2, [6], [7]		
Sediment/Shoreline Stabilization	✓		2, [3], [8], [15]		
Wildlife Habitat	✓		4, [5], 6, [7], [12], 13, 17	✓	
Recreation		✓			
Educational Scientific Value		✓			
Uniqueness/Heritage		✓			
Visual Quality/Aesthetics		✓			
ES Endangered Species Habitat		✓			
Other					

Notes: - The boxed numbers and circled checks indicate those items added at the January 15th Interagency Meeting.

*Refer to back up list of numbered considerations.

169

VI-13

Maryland Department of Transportation
State Highway Administration

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

MEMORANDUM

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

FROM: Michelle Hoffman Michelle D Hoffman
Project Manager
Project Planning Division

DATE: April 21, 1998

SUBJECT: Project Number TA392A11
MD 331 over the Choptank River
Dover Bridge

RE: April 8, 1998
Joint Agency Meeting and Field Review

On Wednesday, April 8, 1998, a joint agency meeting and field review was held at the Easton SHA office and project site. The agency meeting included introductions, a discussion of the project progress, and environmental overview. A field visit followed, which allowed participants an opportunity to provide comments on alternates, as presented in the preliminary DEIS, and other project issues. The following people attended:

Mary Ann Naber	ACHP	(202) 606-8534
Ann Hersey	FHWA	(410) 962-4342
Pam Stephenson	FHWA	(410) 962-4342
Anne Bruder	MHT	(410) 514-7636
Beth Cole	MHT	(410) 514-7651
Michael Day	MHT	(410) 514-7629
John Nichols	NMFS	(410) 226-5771
Anne Elrays	SHA	(410) 545-8562
Brian Martin	SHA	(410) 545-8304
Jill Dowling	SHA	(410) 545-8559
Michelle Hoffman	SHA	(410) 545-8547
Richard Ervin	SHA	(410) 321-3233
Mark Lotz	The Wilson T. Ballard Co.	(410) 363-0150

My telephone number is _____

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

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

Robert Bull	The Wilson T. Ballard Co.	(410) 363-0150
Vance Hobbs	US COE	(410) 962-6084

Pam Stephenson opened the meeting stating that the purpose of the meeting was to follow up on various issues associated with the study, including the documentation decision of an EIS rather than an EA. This decision was based on potential impacts to the historic Dover bridge, and other project impacts, including wetlands.

Pam Stephenson led the meeting and began with agency introductions and stating that the purpose of this meeting was to discuss project issues and the historic effects determination. The U.S. Coast Guard (USCG) was invited but unable to attend. Ms. Stephenson summarized the Coast Guard's comments that she has received to date. Their comments have essentially been concerned with liability issues related to private ownership of the existing bridge. They have not dictated a clearance requirement for the project, stating only that the underclearance should accommodate the majority of boats. The USCG has confirmed that they will not be participating in the Public Hearing.

Mark Lotz provided a project overview and summary of the alternates presented in the DEIS which consist of the following:

- The No-Build Alternate
- The Modification Alternate
- The Dual Bridge Alternate
- The New Alignment Alternates: N2-30 foot underclearance; N1-50 foot underclearance; S1-50 foot underclearance; S2-30 foot underclearance; S2-50 foot underclearance

The three options for the existing bridge under the New Alignment Alternates were reviewed as follows:

1. Retain with full operation as pedestrian/bicycle, ownership and maintenance by others.
2. Retain the truss spans with the swing span in the open position; remove the approach spans.
3. Remove the existing bridge entirely.

Some of the agencies, including FHWA, have requested that Dr. Abba Lichtenstein attend the Informational Public Workshop to field any technical questions regarding his suggested Alternate. Anne Elrays gave a brief summary of the environmental features.

169

Other issues discussed, grouped by the agency that initiated the comment, are summarized as follows.

Preservation

Advisory Council on Historic Places

- Requested that they be a consulting party for the project and added to the project mailing lists.

Maryland Historic Trust

- Highlighted several items contained in their April 1 letter, particularly that documentation should be corrected to indicate that the Dover Bridge is a Warren Truss rather than a Pratt truss.
- The Dual Bridge Alternate should be addressed separately in the Effects Determination.
- Could the Dual Bridge Alternate, with a 32-foot deck width, be converted to two-way operation in the future and still accommodate pedestrians? [Response: yes, since 4 foot shoulders are acceptable for pedestrians.]
- Ms. Cole questioned SHA's position of not wanting to retain ownership and maintain the existing bridge in light of their historic bridge program.

National Marine Fisheries Service

- Concerned primarily with construction impacts.
- Prefer temporary roadway for construction equipment to access site.
- The environmental document should describe potential construction methods that will minimize construction impacts.
- Suitable wetland mitigation on-site may be difficult to find.
- The Dual Bridge Alternate sounds "interesting."
- Time of year restrictions will likely be February 15 to June 15.

Corps Of Engineers

- Individual permits will be required.
- The COE will be an official participant in the Hearing (a joint Public Notice is being issued).
- The No-Build and Modification Alternates are the only avoidance alternates.
- Minimization options should be explored; the smallest impact options are preferred.
- Construction impact minimization measures, as discussed at the last interagency field review, such as geogrid, should be considered.
- Staging areas should be kept on the west side of the river, due to wetland impacts.

FIELD REVIEW

The field review began at the southwest quadrant of the project study area on the Easton side of the Dover Bridge. The group proceeded to the northwest quadrant, then over the bridge to the southeast and northeast quadrants of the project. General comments received are summarized as follows.

- COE requested that SHA consider an alignment shift with Alternate S2 (30 foot) and the Dual Bridge that brings the alignment as close as possible to the existing bridge or area of previous disturbance on the Preston side approach. This would reduce the amount of construction within the wetland.

- It was recommended that vertical clearance advisory signs be placed at the approaches to the bridge so that truckers realize that the diagonal portal knees are not an obstacle that needs to be averted.

If you should have any questions or comments, please contact Michelle Hoffman, the SHA Project Manager at (410) 545-8547, or Anne Elrays, the Environmental Manager at (410) 545-8562. They can all be reached toll-free in Maryland at (800) 548-5026.

cc: Attendees
File

171

Federalsburg, Md
PRIDE IN THE PAST ★ FAITH IN THE FUTURE

118 NORTH MAIN STREET
P. O. BOX 471
FEDERALSBURG, MARYLAND 21632

410-754-8173

March 3, 1998

Mr. Parker Williamson
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Williamson:

The Federalsburg Mayor and Council would like to express their support for the construction of a **new** Dover Bridge. We have received concerns from our constituents, as well as, local trucking industries about the narrowness of the existing bridge. The bridge is too narrow for tractor trailers to adequately pass one another without damage to the trucks and/or possibly causing an accident.

We have read in the local newspapers of your proposal to upgrade the existing electrical system, and I am sure you feel this will alleviate the existing problems so that a new bridge will not be necessary. However, the Mayor and Council of Federalsburg and their constituents feel that due to the problems that have occurred on the Dover Bridge (i.e. ambulance calls being rerouted) reveal a need for a **NEW** bridge. The need for a new bridge is far more important for the safety of the citizens of the Eastern Shore than just making electrical repairs.

The Dover Bridge is a vital thoroughfare for many citizens of Federalsburg, Caroline and Talbot County. I hope you will realize the importance to replace this bridge, rather than try to repair it.

Should you have any questions, please contact me 410-754-8173.

Sincerely,

Benjamin A. Happersett
Mayor

cc: Governor Parris Glendening

David L. Winstead, Secretary
Department of Transportation

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

March 16, 1998

The Honorable Benjamin A. Happersett
Mayor
Town of Federalsburg
118 North Main Street
P. O. Box 471
Federalsburg MD 21632

Dear Mayor Happersett:

Thank you for your recent letter regarding the MD 331 Dover Bridge Project Planning Study. As always, I appreciate your sharing your concerns on this project.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to evaluate alternatives for providing a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternates that have been investigated as part of this study include the no-build alternate, modification of the existing bridge, and several fixed span structures on new alignment both north and south of the existing bridge.

At this point, all alternates are moving forward in this study and will be compiled in a draft environmental document. In addition, information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. You will be notified of the dates and locations of the meetings.

Thank you again for your letter. If you need any additional information, please do not hesitate to contact me or Ms. Michelle D. Hoffman, our project manager, who can be reached at 410-545-8547 or 1-800-548-5026.

Sincerely,

Parker F. Williams
Administrator

cc: Ms. Michelle D. Hoffman, Project Manager, State Highway Administration
Mr. Richard Lindsay, District Engineer, State Highway Administration
Mr. Neil J. Pedersen, Director, State Highway Administration

My telephone number is 410-545-0400/1-800-206-0770

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

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

bcc: Ms. Pamela Stephenson, Environmental Specialist, Federal Highway Administration (w/attachment)
Mr. Louis H. Ege, Jr., Deputy Director, State Highway Administration
Ms. Anne Elrays, Environmental Manager, State Highway Administration
Mr. John Lewis, Legislative Officer, Maryland Department of Transportation
Ms. Peggy Schafer, Administrative Assistant, State Highway Administration

SER 98-314

175

SENATOR DELORES G. KELLEY
10TH LEGISLATIVE DISTRICT
JUDICIAL PROCEEDINGS COMMITTEE
CHAIR, JOINT COMMITTEE ON FEDERAL RELATIONS
PRESIDENT-ELECT, WOMEN LEGISLATORS OF MARYLAND

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

ANNAPOLIS OFFICE:
SENATE OFFICE BUILDING
ROOM 209
TOLL FREE (410) 841-3606
(410) 841-3669 (FAX)

DISTRICT OFFICE:
6000 SECURITY BOULEVARD
SUITE 10
BALTIMORE, MARYLAND 21207
(410) 298-9797
(410) 298-3656 (FAX)

38701

July 11, 1997

The Honorable Parris N. Glendening
State House
Annapolis, MD 21401

Dear Governor Glendening:

I am writing in support of Senator Richard Colburn's request for funds to plan and to implement the replacement of the sixty-six year old Dover Bridge, where deferred maintenance and structural problems are posing untenable hazards for the traveling public.

Located in a beautiful region of our great State, where we are trying to encourage tourism as a boost to the local and State economies, the Dover Bridge should no longer be neglected as a repeated cause of vehicular accidents and personal injury.

In the spirit of "smart growth" and of proper enhancement of our existing crumbling infrastructure, I implore you to give a high priority to the replacement of the Dover Bridge in the Comprehensive Five Year Consolidated Transportation Program FY 1998-2003.

Thanks for your continued leadership, and for your evenhanded concern for every region of the State.

Sincerely

Delores G. Kelley

Delores G. Kelley

cc: Senator Richard F. Colburn

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor
David L. Winstead
Secretary
John D. Porcari
Deputy Secretary

August 1, 1997

The Honorable Delores G. Kelley
Senate of Maryland
Suite 10
6660 Security Boulevard
Baltimore MD 21207-4012

Dear Senator Kelley:

Thank you for your recent letter to Governor Glendening regarding the MD 331 (Dover Road) bridge over the Choptank River. The Governor asked me to respond on his behalf. I understand and share your concerns about the bridge and I assure you it is safe and structurally sound.

There have been some occasions during the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has repaired problems when they occur and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components has been implemented this summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing that there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. Funding for the formal project development activities will be considered as decisions are made this summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program which will be presented to state and local officials this fall during the Department's annual tour of Maryland counties.

My telephone number is (410)- 865-1000
TTY For the Deaf: (410) 865-1342
Post Office Box 8755, Baltimore-Washington nal Airport, Maryland 21240-0755

Again, thank you for your letter. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If you need any additional information regarding SHA's bridge program, please do not hesitate to contact Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David L. Winstead

David L. Winstead
Secretary

cc: The Honorable Richard F. Colburn, Senate of Maryland
Mr. Earle S. Freedman, Deputy Chief Engineer, State Highway Administration
Mr. Parker F. Williams, Administrator, State Highway Administration

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer - Office of Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District 2 Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, July 22, 1997

P. 002 179

F. VERNON BOOZER
STATE SENATOR
NINTH DISTRICT
BALTIMORE COUNTY, MARYLAND
MEMBER
SENATE BUDGET & TAXATION COMMITTEE
SUBCOMMITTEE PUBLIC SAFETY, TRANSPORTATION, ECONOMIC DEVELOPMENT AND NATURAL RESOURCES
SENATE RULES COMMITTEE
LEGISLATIVE POLICY COMMITTEE
JOINT COMMITTEE ON MANAGEMENT OF PUBLIC FUNDS
MINORITY LEADER

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

[illegible] AVENUE
TOWSON, MARYLAND 21[illegible]
410-[illegible]
FAX 410-[illegible]

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JUL 16 1997
8603
SECRETARY DEPARTMENT
OF TRANSPORTATION

July 14, 1997

Parker
pl prepare
response for DLW signature

The Honorable Parris N. Glendening
Governor
State House
Annapolis, Maryland 21401-1991

Dear Governor Glendening:

I have been informed of a serious traffic problem on the Eastern Shore. The 66-year-old Dover Bridge on Route 333 between Talbot and Caroline Counties has been the source of concern over the past two years. The bridge continues to malfunction threatening the safety of Maryland's residents as documented in a February 1997 crash which left two people seriously injured.

Although the Dover Bridge is not in my district, the responsibility of my office dictates that I safeguard the best interests of all Maryland citizens. As such, I would respectfully urge the inclusion of planning, design, engineering, permitting and right-of-way funds for the Dover Bridge Transportation Program (FY98-01).

Very truly yours,

F. Vernon Boozer

FVB/nk
cc: Secretary, David L. Winstead
Senator Richard Colburn

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

July 28, 1997

The Honorable F. Vernon Boozer
Senate of Maryland
410 Senate Office Building
Annapolis MD 21401-1991

Dear Senator Boozer:

Thank you for your recent letter to Governor Glendening regarding the MD 331 bridge over the Choptank River. The Governor asked me to respond on his behalf. I understand and share your concerns about the bridge and I assure you it is safe and structurally sound.

There have been some occasions during the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has repaired problems when they occurred and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components is underway this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing that there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. Funding for the formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program. The CTP will be presented to State and local officials this Fall during the Department's annual tour of Maryland counties.

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

181

Again, thank you for your letter. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If you need any additional information regarding SHA's bridge program, please do not hesitate to contact Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David Winstead

David L. Winstead
Secretary

cc: The Honorable Richard F. Colburn, Senate of Maryland
Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, State Highway Administration
Mr. Parker F. Williams, Administrator, State Highway Administration

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer - Office of Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District 2 Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, July 22, 1997

PLEASE PREPARE RESPONSE FOR SECRETARY'S SIGNATURE

cc: D. Petty J. Lewis

183

District Office
2917 Schubert Drive
Silver Spring, Maryland 20904-6293
Telephone: (301) 890-0225
FAX to same number

Chairman
County Affairs Committee
Montgomery Delegation

State House Office
219-A Lowe House Office Building
Annapolis, Maryland 21401-1991
Telephone: (410) 841-3052
Toll Free from Washington Area (301) 858-3052

Chairman
Civil Law Subcommittee
House Judiciary Committee

HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401-1991

Dana Lee Dembrow

RECEIVED
9526
JUL 16 1997
SECRETARY DEPARTMENT OF TRANSPORTATION

July 8, 1997

Mr. David L. Winstead
Maryland Department of Transportation
The Secretary's Office
Post Office Box 8755
BWI Airport, Maryland 21240-0755

Re: Dover Bridge

Dear Secretary Winstead:

This correspondence is directed to you at the request of Senator Richard Colburn, who advises that the Dover Bridge is in need of repair. It is respectfully requested that you include funding in the Maryland Department of Transportation's Comprehensive Five Year 1998 Consolidated Transportation Program FY 1998 - 2003, for this most important project.

We would appreciate your usual careful and deliberate evaluation of his request and prioritization of this project as appropriate in light of the resources available.

Sincerely yours,

Dana Lee Dembrow

cc: Governor Glendening
Senator Colburn

Maryland Department of Transportation
The Secretary's Office

184

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

July 28, 1997

The Honorable Dana Lee Dembrow
Maryland House of Delegates
2917 Schubert Drive
Silver Spring MD 20904-6893

Dear Delegate Dembrow:

Thank you for your recent letter regarding the MD 331 bridge over the Choptank River. I understand and share your concerns about the bridge and I assure you it is safe and structurally sound.

There have been some occasions during the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has repaired problems when they occurred and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components is underway this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing that there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. Funding for the formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program. The CTP will be presented to State and local officials this Fall during the Department's annual tour of Maryland counties.

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

185

Again, thank you for your letter. If you need any additional information regarding SHA's bridge program, please do not hesitate to contact Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David Winstead

David L. Winstead
Secretary

cc: The Honorable Richard F. Colburn, Senate of Maryland
Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, State Highway Administration
Mr. Parker F. Williams, State Highway Administrator

186

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer - Office of Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District 2 Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, July 22, 1997

RICHARD F. COLBURN
STATE SENATOR

37TH LEGISLATIVE DISTRICT

CAROLINE COUNTY
DORCHESTER COUNTY
TALBOT COUNTY
WICOMICO COUNTY

MEMBER
JUDICIAL PROCEEDINGS COMMITTEE
SPECIAL JOINT OVERSIGHT COMMITTEE ON CHESAPEAKE BAY CRITICAL AREAS

18.7

RECEIVED
JUL 07 1997
BY:

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

IN REPLY PLEASE REFER TO OFFICE INDICATED
ANNAPOLIS OFFICE:
ROOM 311 SENATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401-1991
(410) 841-3586 OR TOLL FREE
1-800-492-7122 EXT 3586
MID-SHORE OFFICE:
P.O. BOX 1297
CAMBRIDGE, MARYLAND 21613
(410) 228-1737, 819-3237
OR 376-3737 (FAX)
WICOMICO COUNTY OFFICE:
P.O. BOX 257
HEBRON, MARYLAND 21830
(410) 548-5737

June 30, 1997

Dear Senators/Delegates :

As the State Senator representing both Caroline and Talbot Counties, I am asking you to write Governor Glendening regarding replacement of the Dover Bridge which I believe is one of the most significant transportation issues facing the State of Maryland for both these counties. I am respectfully requesting that Governor Glendening include funding in the Maryland Department of Transportation's Comprehensive Five Year Consolidated Transportation Program (FY 1998 - 2003), for this most important project for planning, design, engineering, permitting, and right-of-way purchase.

The 66 year old Dover Bridge has experienced extensive problems over the past few years which has caused public outcry in the form of letters of complaint to their local newspapers and legislators. There have been many operational breakdowns which, have caused public concern for our citizens safety notify as this is one of only two (2) routes which connect Caroline and Talbot Counties.

On August 6, 1996, an incident occurred when the span was not seated properly and the gates were raised. A malfunction of the Dover Bridge on Route 331 caused a four-car accident and injuries to two people in February of 1997. It was reported by the State Highway Administration, that this occurred because the traffic lights on the bridge malfunctioned when the bridge tender began the cycle to open the bridge and allow a boat to pass through.

188

While the Maryland Department of Transportation continually assures the public that the problems with the Dover Bridge have been rectified, it is apparent that the only long term appropriate safety precautions to prevent incidents should be initiated immediately, which must include the initial construction phases for a new fixed span Dover Bridge on Route 331 beginning with the 1998 Consolidated Transportation Program (FY 1998 - 2003).

P.S. I've enclosed a "Sample Letter" for your own personal use.

Sincerely,

Richard F. Colburn

Enclosures

NORMAN H. CONWAY
38TH LEGISLATIVE DISTRICT
WICOMICO-WORCESTER-SOMERSET

VICE CHAIRMAN,
COMMITTEE ON APPROPRIATIONS

CHAIRMAN
CAPITAL BUDGET SUBCOMMITTEE

JOINT COMMITTEE ON
SPENDING AFFORDABILITY

ANNAPOLIS OFFICE:
416 LOWE HOUSE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401-1991
(410) 841-3425
TOLL FREE 1-800-492-7122 EXT. 3425

DISTRICT OFFICE:
1313 WHITTIER DRIVE
SALISBURY, MARYLAND 21801-3241
(410) 543-8060
HOME PHONE: (410) 896-4177

189

HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401-1991

July 15, 1997

RECEIVED
Williams
JUL 17 1997
8544
SECRETARY DEPARTMENT
OF TRANSPORTATION

Prepare response
for Diane's
signature

David L. Winstead, Secretary
Department of Transportation
P.O. Box 8755
BWI Airport, MD 21240-0755

Dear Secretary Winstead:

I am enclosing a copy of a letter circulated by Senator Richard Colburn referencing problems with the "Dover Bridge" on Route 331.

The bridge has apparently had several problems and potentially could cause serious traffic concerns. The problem is compounded by the fact that this bridge serves one of the only two routes connecting Caroline and Talbot Counties.

As the Eastern Shore Delegation Chairman, I would appreciate your review and comments as soon as possible. Many thanks.

Sincerely,

Norman H. Conway

NHC/sm
Enclosure

Maryland Department of Transportation
The Secretary's Office

190

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

July 28, 1997

The Honorable Norman H. Conway
Maryland House of Delegates
1312 Whittier Drive
Salisbury MD 21801-3241

Dear Delegate Conway:

Thank you for your recent letter regarding the MD 331 bridge over the Choptank River. I understand and share your concerns about the bridge and I assure you it is safe and structurally sound.

There have been some occasions during the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has repaired problems when they occured and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components is underway this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing that there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. Funding for the formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program. The CTP will be presented to State and local officials this Fall during the Department's annual tour of Maryland counties.

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

191

Again, thank you for your letter. If you need any additional information regarding SHA's bridge program, please do not hesitate to contact Mr. Earle S. Freedman, SHA's Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David L. Winstead

David L. Winstead
Secretary

cc: The Honorable Richard F. Colburn, Senate of Maryland
Mr. Parker F. Williams, Administrator, State Highway Administration

192

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer - Office of Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District 2 Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, July 22, 1997

193

RICHARD F. COLBURN
STATE SENATOR

37TH LEGISLATIVE DISTRICT

CAROLINE COUNTY
DORCHESTER COUNTY
TALBOT COUNTY
WICOMICO COUNTY

MEMBER
JUDICIAL PROCEEDINGS COMMITTEE
SPECIAL JOINT OVERSIGHT COMMITTEE ON CHESAPEAKE BAY CRITICAL AREAS

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

IN REPLY PLEASE REFER TO OFFICE INDICATED
ANNAPOLIS OFFICE
ROOM 311 SENATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401-1991
(410) 841-3586 OR TOLL FREE
1-800-492-7122 EXT 3586
MID-SHORE OFFICE
P.O. BOX 1297
CAMBRIDGE, MARYLAND 21613
(410) 228-1732, 819-3237
FAX 376-3737 (FAX)
WICOMICO COUNTY OFFICE
P.O. BOX 257
HEBRON, MARYLAND 21830
(410) 548-4737

June 30, 1997

Dear Senators/Delegates :

As the State Senator representing both Caroline and Talbot Counties, I am asking you to write Governor Glendening regarding replacement of the Dover Bridge which I believe is one of the most significant transportation issues facing the State of Maryland for both these counties. I am respectfully requesting that Governor Glendening include funding in the Maryland Department of Transportation's Comprehensive Five Year Consolidated Transportation Program (FY 1998 - 2003), for this most important project for planning, design, engineering, permitting, and right-of-way purchase.

The 66 year old Dover Bridge has experienced extensive problems over the past few years which has caused public outcry in the form of letters of complaint to their local newspapers and legislators. There have been many operational breakdowns which, have caused public concern for our citizens safety notify as this is one of only two (2) routes which connect Caroline and Talbot Counties.

On August 6, 1996, an incident occurred when the span was not seated properly and the gates were raised. A malfunction of the Dover Bridge on Route 331 caused a four-car accident and injuries to two people in February of 1997. It was reported by the State Highway Administration, that this occurred because the traffic lights on the bridge malfunctioned when the bridge tender began the cycle to open the bridge and allow a boat to pass through.

194

While the Maryland Department of Transportation continually assures the public that the problems with the Bower Bridge have been rectified, it is apparent that the only long term appropriate safety precautions to prevent incidents should be initiated immediately, which must include the initial construction phases for a new fixed span Bower Bridge on Route 331 beginning with the 1998 Consolidated Transportation Program (FY 1998 - 2003).

P.S. I've enclosed a "Sample Letter" for your own personal use.

Sincerely,

Richard F. Colburn

Enclosures

MAJORITY WHIP
CHAIR:
MONTGOMERY COUNTY SENATE DELEGATION
CHAIR:
SUBCOMMITTEE PUBLIC SAFETY, TRANSPORTATION, ECONOMIC DEVELOPMENT AND NATURAL RESOURCES
MEMBER
SENATE BUDGET & TAXATION COMMITTEE
CAPITAL BUDGET SUBCOMMITTEE
JOINT COMMITTEE ON SPENDING AFFORDABILITY
LEGISLATIVE POLICY COMMITTEE
JOINT COMMITTEE ON BUDGET AND AUDIT
EXECUTIVE NOMINATIONS COMMITTEE
JOINT COMMITTEE ON PROTOCOL

Parker from
PLEASE PREPARE RESPONSE
FOR SECRETARY'S SIGNATURE
195

cc: J. Petty
J. Lewis

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

IDA G. RUBEN
MONTGOMERY COUNTY
39TH LEGISLATIVE DISTRICT
OFFICE ADDRESS:
204 SENATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401-1991
(301) 858-3634 (WASHINGTON AREA)
FAX 301-858-3665
(410) 841-3634 (BALTIMORE AREA)
800-492-7122 EXT. 3634
HOME ADDRESS:
11 SCHINDLER COURT
SILVER SPRING, MARYLAND 20906-1338
(301) 460-2838

RECEIVED
JUL 16 1997
8:24
SECRETARY DEPARTMENT OF TRANSPORTATION

July 10, 1997

Mr. David Winstead
Secretary, Maryland Department of Transportation
The Secretary's Office
Post Office Box 8755
BWI Airport, Maryland 21240-0755

Dear Secretary Winstead: David

I received the attached letter from a colleague in the Maryland General Assembly regarding the replacement of the Dover Bridge. Could you look into this matter and provide me with additional information?

I look forward to hearing from you. If you have any questions or comments, please feel free to contact me at (301) 858-3634.

Sincerely,

Ida

Ida G. Ruben
Senator

IGR:cd

Attachment

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

196

July 28, 1997

The Honorable Ida G. Ruben
Senate of Maryland
204 Senate Office Building
Annapolis MD 21401-1991

Dear Senator Ruben:

Thank you for your recent letter regarding the MD 331 bridge over the Choptank River. I understand and share your concerns about the bridge and I assure you it is safe and structurally sound.

There have been some occasions during the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has repaired problems when they occurred and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components is underway this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing that there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. Funding for the formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program. The CTP will be presented to State and local officials this Fall during the Department's annual tour of Maryland counties.

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

197

Again, thank you for your letter. If you need any additional information regarding SHA's bridge program, please do not hesitate to contact Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David L. Winstead

David L. Winstead
Secretary

cc: The Honorable Richard F. Colburn, Senate of Maryland
Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, State Highway Administration
Mr. Parker F. Williams, State Highway Administrator

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer - Office of Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District 2 Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, July 22, 1997

RECEIVED

JUL 29 1997

8688

SECRETARY DEPARTMENT OF TRANSPORTATION

Parker Jones

PLEASE PREPARE RESPONSE FOR SECRETARY'S SIGNATURE

HOUSE OF DELEGATES

ANNAPOLIS, MARYLAND 21401-1991

KATHERINE KLAUSMEIER
EIGHTH DISTRICT
COMMITTEE:
ENVIRONMENTAL MATTERS

ANNAPOLIS
207 LOWE HOUSE OFFICE BUILDING
PHONE: (410) 841-3368
1-800-492-7122 EXT. 3368
FAX: (410) 841-1127
e-mail: Katherine_Klausmeier@house.state.md.us

DISTRICT OFFICE:
9600 BELAIR ROAD
BALTIMORE, MARYLAND 21236-1644
PHONE: (410) 256-1259
FAX: (410) 256-0660

HOME:
4108 WALTER AVENUE
BALTIMORE, MARYLAND 21206-1533
PHONE: (410) 256-3042

July 25, 1997

Secretary David L. Winstead
Maryland Department of Transportation
PO Box 8755
BWI Airport MD 21240-0755

Dear Secretary Winstead:

As a legislator, I regard the Dover Bridge as one of the most significant transportation issues facing Talbot and Caroline County. Therefore, I respectfully request that you include funding in the Maryland Department of Transportation's Comprehensive Five Year 1998 Consolidated Transportation Program FY 1997-2003, for this most important project.

The 66 year old Dover Bridge has had extensive problems over the past two years which have caused the public to write many letters of complaint to their local newspapers and legislators. There have been operational errors which caused breakdowns which though not unusual for a bridge of this age, have caused a public outcry for some relief.

On August 6,1996, an incident occurred when the span was not seated properly and the gates were raised. A malfunction of the Dover Bridge on Route 331 caused a four-car accident and injuries to two people in February of 1997. It was reported by the State Highway Administration that this occurred because the traffic lights on the bridge malfunctioned when the bridge tender began the cycle to open the bridge and allow a boat to pass.

While the Maryland Department of Transportation continually assures the public that the problems with the Dover Bridge have been rectified, it is apparent that the only appropriate safety precautions to prevent further incidents should be initiated immediately, which is to include the construction of a new fixed span Dover Bridge on Route 331 beginning with the 1998 Consolidated Transportation Program 1998-2003.

Sincerely,

Kathy Klausmeier

Kathy Klausmeier

cc: Governor Glendening

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

August 7, 1997

The Honorable Katherine Klausmeier
Maryland House of Delegates
9500 Belair Road
Baltimore MD 21236-1544

Dear Delegate Klausmeier:

Thank you for your recent letter to Governor Glendening and me regarding the Dover Bridge on MD 331 over the Choptank River in Caroline County. The Governor asked me to respond to you on his behalf.

Over the past several months, electrical or mechanical components in the bridge have experienced malfunctions on several occasions. Occurrences like these are not uncommon for a movable bridge of this type and age. More importantly, they do not compromise the structural capacity or safety of the bridge, and the existing bridge is both safe and structurally sound.

The State Highway Administration (SHA) has worked diligently to repair problems when they occur and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components was implemented this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge needing to be replaced eventually, and recognizing that significant environmental resources are located in the immediate vicinity of the bridge, SHA is beginning to look into where and how a replacement bridge could be provided. Funding for formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to our Consolidated Transportation Program which will be presented to State and local officials this Fall during the Department of Transportation's annual tour of Maryland counties.

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

201

Again, thank you for your letter. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If I may be of further assistance on this or any other matter, please do not hesitate to contact me or SHA's Administrator, Mr. Parker F. Williams, who may be reached at 410-545-0400.

Sincerely,

David L. Winstead

David L. Winstead
Secretary

cc: Mr. Parker F. Williams, Administrator, State Highway Administration

207

bcc: Mr. Earle S. Freedman, Deputy Chief Engineer-Bridge Development, State Highway Administration
Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Richard Lindsay, District Engineer, State Highway Administration
Mr. Joseph Miller, Chief, Bridge Inspection and Remedial Engineering, State Highway Administration
Mr. Neil Pedersen, Director of Planning and Preliminary Engineering, State Highway Administration

Dictated by Robert J. Healy, State Highway Administration, Office of Bridge Development, R.C. 61.20, Phone 410-545-8063, August 1, 1997

Maryland Department of Transportation
State Highway Administration

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

203

November 24, 1997

The Honorable Richard Colburn
Senate of Maryland
4731 Egypt Road
P.O. Box 1237
Cambridge MD 21613-1237

Dear Senator Colburn:

This is a follow up to a request made at the Maryland Department of Transportation's Consolidated Transportation Program (CTP) Tour in Caroline County. The request was for a milestone schedule for the Dover Bridge project planning study.

As you now know, an evaluation has been initiated for the MD 331 Dover Bridge across the Choptank River between Caroline and Talbot counties for planning purposes. The purpose of this evaluation is to provide a safe and dependable highway crossing of the Choptank River at MD 331 that will not disrupt river navigation. We are negotiating a schedule with Federal and State agencies which will be as compressed as we can feasibly complete. We will share a more detailed schedule with you in December.

Thank you again for your interest. If I may be of further assistance on this or any other matter, please do not hesitate to contact me or our Planning Director, Mr. Neil J. Pedersen, who may be reached at (410) 545-0411.

Sincerely,

Parker F. Williams
Administrator

cc: The Honorable Andrew H. Anderson, Talbot County Commissioner
The Honorable Herbert L. Andrew, Talbot County Commissioner
The Honorable Walter M. Baker, Senate of Maryland
The Honorable Wheeler R. Baker, Maryland House of Delegates
The Honorable Clinton S. Bradley, III, Talbot County Commissioner
The Honorable Don William Bradley, Mayor of Hurlock
The Honorable Glenn Levi Bramble, Dorchester County Commissioner

My telephone number is 410-545-0400

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

Mailing Address: P.O. Box ltimore, MD 21203-0717
Street Address: 707 North Calve VI-51 t • Baltimore, Maryland 21202

The Honorable Lester Branson, Mayor of Denton
The Honorable C. Eugene Butler, Mayor of Easton
The Honorable John Cole, Caroline County Commissioner
The Honorable Adelaide C. Eckardt, Maryland House of Delegates
The Honorable Gerald Edmondson, Mayor of St. Michaels
The Honorable Effie M. Elzey, Dorchester County Commissioner
The Honorable Ronald A. Guns, Maryland House of Delegates
The Honorable Benjamin Happersett, Mayor of Federalsburg
The Honorable Robert D. Higgins, Talbot County Commissioner
The Honorable Don B. Hughes, Maryland House of Delegates
The Honorable Steven F. Kinlock, Talbot County Commissioner
The Honorable John C. LeGates, Caroline County Commissioner
The Honorable Margaret Myers, Caroline County Commissioner
The Honorable William Nichols, Dorchester County Commissioner
The Honorable Jeffrey C. Powell, Dorchester County Commissioner
The Honorable Kenneth D. Schisler, Maryland House of Delegates
The Honorable Mary Roe Walkup, Maryland House of Delegates
The Honorable Stephen M. Willey, Dorchester County Commissioner
The Honorable David J. Wooten, Mayor of Cambridge
Mr. Donnie Drewer, District Engineer, State Highway Administration
Mr. Richard Lindsay, District Engineer, State Highway Administration
Mr. Neil J. Pedersen, Director, State Highway Administration

205

Maryland Department of Transportation
State Highway Administration

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

January 5, 1998

The Honorable Richard Colburn
Senate of Maryland
Post Office Box 1237
Cambridge MD 21613-1237

Dear Senator Colburn:

As indicated in my November 24 letter, this is the follow up to a request made at the Maryland Department of Transportation's Consolidated Transportation Program (CTP) Tour in Caroline County. We are sending you a milestone schedule for the Dover Bridge project planning study.

The State Highway Administration (SHA) has developed a one year planning study for the MD 331 Dover Bridge across the Choptank River between Caroline and Talbot counties. The purpose of this study is to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. The following are the major milestones for the completion of the engineering and environmental documentation.

Alternatives Development	Fall/Winter, 1997
Informational Public Meeting	Spring, 1998
Public Hearing	Summer, 1998
Selected Alternate	Summer/Fall, 1998
Location/Design Approvals	Fall/Winter, 1998

Our ability to maintain this schedule will be dependent on no unforeseen circumstances arising and the cooperation of federal and state review agencies. Thank you again for your interest in the MD 331 Dover Bridge project. If I may be of further assistance on this or any other matter, please do not hesitate to contact me or Planning Director Neil J. Pedersen at (410) 545-0411.

Sincerely,

Parker F. Williams
Administrator

My telephone number is 410-545-0400

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

Mailing Address: P.O. Bo Baltimore, MD 21203-0717
Street Address: 707 North Cal VI-53 eet • Baltimore, Maryland 21202

bcc: Mr. John Lewis, Jr., State Legislative Officer, Maryland Department of Transportation
Mr. Louis H. Ege, Jr., Deputy Director, State Highway Administration
Ms. Anne Elrays, Environmental Manager, State Highway Administration
Mr. Joseph Finkle, Assistant Division Chief, State Highway Administration
Mr. Robert Healy, Assistant Deputy Chief Engineer, State Highway Administration
Ms. Michelle D. Hoffman, Project Manager, State Highway Administration
Mr. Howard Johnson, Regional Planner, State Highway Administration
Mr. Rogers Jorss, Senior Travel Forecaster, State Highway Administration
Mr. Joseph Miller, Chief of Budget Inspection, State Highway Administration
Mr. Douglas Simmons, Chief, State Highway Administration
Mr. James Thompson, Assistant Division Chief, State Highway Administration
Mr. Glenn Vaughan, Project Engineer, State Highway Administration

207

From: Budne <Budne@aol.com>
To: MDSHAHQ.SHADGN(mhoffman)
Date: 4/24/98 4:58am
Subject: MD 331-Dover Bridge

Dear Ms. Hoffman,

Please consider this as my in put regarding the above subject.

My corporation owns property in Preston. A house my son own's is held in Trust for him.

I would like the bridge to remain the same. I think the speed limit should be sharply reduced for vehicles passing over the bridge.

Warning should be posted for motorists unfamilar with Dover Bridge that delays may occur due to the opening of the bridge. These should be posted for vehicles leaving Preston and Easton as they could been seen when heading towards the bridge.

I'm conserned about the environmental effect other alternatives might have. These being to the marsh and the increased traffic that would come with a new bridge, dual bridge, etc..

Sincerely,

Budne Reinke
2503 Henderson Avenue
Silver Spring, Maryland #20902

Please confirm you received this message.

Thank you.

208

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

April 30, 1998

Mr. Budne Reinke
2503 Henderson Avenue
Silver Spring MD 20902

Dear Mr. Reinke:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I have added your name on behalf of your corporation to our project mailing list.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular, marine and pedestrian traffic while minimizing the disruption to the environment. Some alternates that have been investigated as part of this study include the no-build alternate (do nothing), modification of the existing bridge and several structures on new alignment to the north and south of the existing bridge. If a new bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Alternates for the Dover Bridge are being considered since the existing bridge, while structurally sound, has a substandard, or functionally obsolete, bridge deck, and because the bridge has experienced some operational problems. However, the No-Build Alternate is a consideration, as is the Modification Alternate. The Modification Alternate consists of modifying the existing Dover Bridge to accommodate an extra foot of clear roadway, a raised centerline, an adjustment to increase lane width perception and the option to incorporate a reversible 4-5 foot pedestrian pathway outside and on both sides of the existing truss. This could be reversible, in the sense that it could be removed in the future if no longer needed.

The State Highway Administration has been evaluating all of the new alignment alternates with the same speed that is currently existing on MD 331. In addition, traffic would not be increased based on any new bridge alternates, since one lane in each direction is consistent with the current conditions. The only improvements being made with the typical section are adding shoulders to create safer driving and pedestrian

My telephone number is _____

209

conditions. Information on alternates developed during this project planning study, including the environmental impacts, will be available for review at an Informational Public Workshop on May 20th from 5:00 - 8:00 PM in the Easton High School. In addition, formal presentations will be given and testimony taken for the official public record on June 24th at 7:00 PM at the Colonel Richardson High School. The conclusion of this study is anticipated this Winter, with the recommendation of a selected alternate and Location and Design approvals, if a build alternate is chosen.

Thank you again for your email. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

bcc: Ms. Anne Elrays, SHA Project Planning, Environmental Manager
Mr. Mark Lotz, The Wilson T. Ballard Company (with incoming)
Mr. Richard Lindsay, SHA District Engineer

211

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
JAN 21 11 00 AM '98

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat?

☐Yes ☑No

2) What kind of boat do you own?

☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other _____

If you navigate on the Choptank River, where do you navigate? (Please check all that apply)

☐North of Denton
☐Between Dover Bridge and US 50
☐Between Denton and Dover Bridge
☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

* I do not have a boat but do travel over the bridge by car often. Why not have a vehicle study. I feel this is even more important than the boating aspect.

My telephone number is 410-822-5238

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

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

212

Maryland Department of Transportation
State Highway Administration

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

February 2, 1998

Ms. Susan K. Leonard
313 Brook Letts Avenue
Easton MD 21601

Dear Ms. Leonard:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what an appropriate bridge height should be. The results from this survey are important because marine traffic has the right-of-way, and must be given consideration. However, the MD 331 connection between Talbot and Caroline counties is critical. Several traffic studies are underway to help identify the primary vehicular usage of the Dover Bridge. In addition, several interim improvements are being investigated, such as adding rumble strips to slow traffic on the bridge and upgrading the electrical system to minimize bridge malfunctions. Marine traffic will be restricted between January 15 and February 15, while the electrical system is upgraded.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. Box altimore, MD 21203-0717
Street Address: 707 North Calve VI-60 t • Baltimore, Maryland 21202

213

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Ms. Anne Elrays, SHA Project Planning, Environmental Manager
Mr. Richard Lindsay, SHA District Engineer

214

COLDWELL BANKER

WATERMAN
REALTY CO.

109 COUNTRY DAY ROAD, SUITE 1
WATERMAN BUSINESS PARK
CHESTER, MD 21619
BUS. (410) 643-5005
FAX (410) 643-5213

January 12th, 1998

Mr. Neil Pedersen
Director
Office of Planning & Preliminary Engineering
707 North Calvert Street
Baltimore, MD 21202

Dear Mr. Pedersen:

I represent a customer interested in purchase of property on State Rt. 331 (Dover Road, Talbot County).

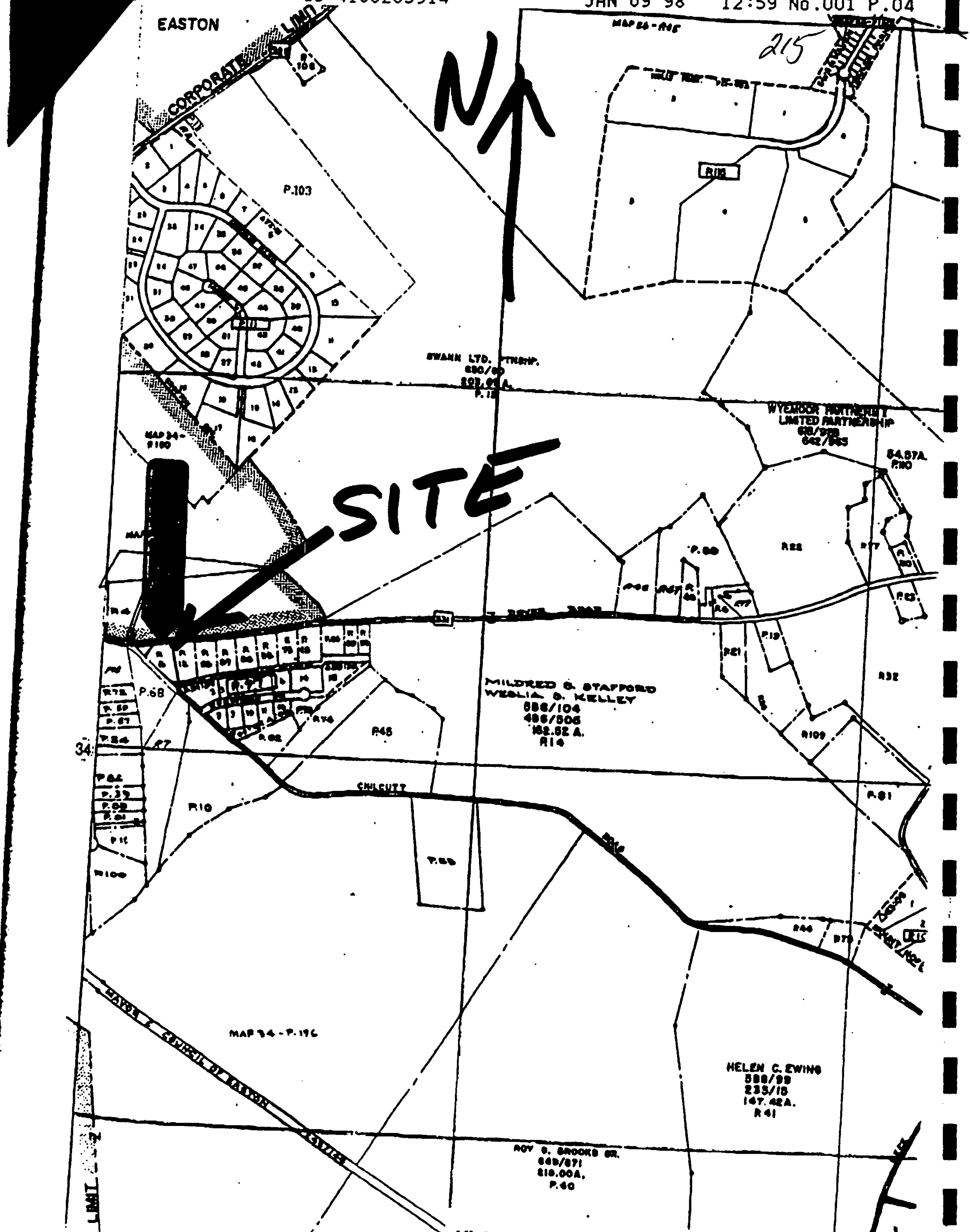
Please advise if there are any plans for widening Rt. 331, (even if long range), so that my customer can assess the possible impact on the site in question.

If a widening is planned -- even as a remote possibility -- can you advise the probable width by which the right-of-way would be expanded on the South Side of Rt. 331, near Chilcutt Road?

Very truly yours,

Mareen D. Waterman

MDW:vo


EASTON
CORPORATE LIMIT
215
N
P.103
SWANN LTD. PTRSHP.
WYEMOOR PARTNERSHIP
LIMITED PARTNERSHIP
SITE
P.68
MILDRED S. STAFFORD
WESLIA S. KELLEY
586/104
486/506
162.52 A.
R14
R45
R10
CHILCUTT
R32
R109
P.81
MAP 34-P.196
HELEN C. EWING
588/99
235/18
147.42A.
R41
ROY O. BROOKS SR.
649/871
210.00A.
P.60

Maryland Department of Transportation
State Highway Administration

216

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

January 21, 1998

Ms. Mareen D. Waterman
Waterman Realty Company
Suite 1
109 Country Day Road
Waterman Business Park
Chester MD 21619

Dear Ms. Waterman:

Thank you for your letter to the State Highway Administration (SHA) regarding improvements to MD 331 (Dover Road). The SHA currently has no plans to widen MD 331 east of US 50 in the vicinity of the property in question. However, the SHA does have an ongoing study of the Dover Bridge on MD 331, located six miles east of Easton.

As you may know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternates that will be investigated as part of this study include the no-build alternate (do nothing), enhancement of the existing bridge, and several low level and high level replacement structures to the north and south of the existing bridge.

Information developed through this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

My telephone number is 410-545-0411/888-204-4828

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

Mailing Address: P.O. Box 717 ıore, MD 21203-0717
Street Address: 707 North Calvert S VI-65 Baltimore, Maryland 21202

Thank you again for your letter. If you should have any questions on the Dover Bridge Study or would like to be included in the project mailing list, please feel free to contact me or Michelle Hoffman, the project manager, at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

cc: Ms. Michelle Hoffman, Project Manager, State Highway Administration

bcc: Mr. Howard Johnson, Regional Planner, State Highway Administration
Mr. Richard Lindsay, District Engineer, State Highway Administration
Ms. Peggy Schafer, Administrative Assistant, State Highway Administration
(Serial:# 2713)
Mr. Douglas Simmons, Division Chief, State Highway Administration

219

SHA

Maryland Department of Transportation
State Highway Administration

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

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☒ Yes ☐ No

2) What kind of boat do you own?
☒ power boat ☐ sail boat ☐ combination ☐ other

3) What is the height of your boat (including mast(s), if any)? 14 feet

4) In what waters do you navigate your boat? (Please check all that apply)
☒ Choptank River ☐ Tuckahoe Creek ☒ Other CORSICA RIVER

If you navigate on the Choptank River, where do you navigate? (Please check all that apply)

☐ North of Denton
☒ Between Dover Bridge and US 50
☒ Between Denton and Dover Bridge
☐ South of US 50

5) What marina or boat ramp do you use? CRYC BOAT CLUB MEMBER FOR 15+ YEARS

6) Please feel free to provide any additional information on boating habits along the Choptank River.

We used our boat 25 times last year. We travel to Cambridge and Suicide Bridge nearly every weekend. The Dover Bridge has restricted us from acquiring a larger boat due to the problems related to opening the bridge. We need a fixed high span bridge to be installed. This would help to bring larger boats to our club. CRYC in Denton.

My telephone number is 302-398-9636 or Work 302-422-253
Maryland Relay Service for Impaired Hearing or Speech ASK FOR DARRYL
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Ca[illegible]eet • Baltimore, Maryland 21202

220

Maryland Department of Transportation
State Highway Administration

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

January 16, 1998

Mr. D.B. Jopp
828 Whiteleysburg Road
Harrington DE 19952

Dear Mr. Jopp:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternates that will be investigated as part of this study include the no-build alternate (do nothing), enhancement of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternates to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternates are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. B • Baltimore, MD 21203-0717
Street Address: 707 North Ca VI-70 reet • Baltimore, Maryland 21202

221

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman

Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

Maryland Department of Transportation
State Highway Administration

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

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ☒No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other _____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☐North of Denton
☐Between Denton and Dover Bridge
☐Between Dover Bridge and US 50
☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

Is it true the repair man (gets the bridge closed after much time) lives in Basta?

My telephone number is _____

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

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

223

Maryland Department of Transportation
State Highway Administration

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

January 14, 1998

Mr. Walter Warren
22031 Gannon Drive
Preston MD 21655

Dear Mr. Warren:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternates that will be investigated as part of this study include the no-build alternate (do nothing), enhancement of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternates to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternates are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

In response to your question, we investigated the business location of the repair person, or the bridge contractor, for the Dover Bridge. The contractor's business is located in Annapolis, Maryland, with a travel time from his business to the bridge of less than one hour. The State Highway Administration (SHA) selected this contractor because he met SHA criteria and has had extensive experience, as well as a specialty in moveable bridges.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P. 17 • Baltimore, MD 21203-0717
Street Address: 707 Nort VI-73 : Street • Baltimore, Maryland 21202

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

225

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
JAN 2 00 PM '97

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ☒No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other_____

If you navi...SS ELSE A.
(Please ch... 23019 TUCKAHOE SPRINGS DRIVE
DENTON MD 21629-1618

☐North of Jer...
☐Between Dover B... Dover Bridge

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

I wanted to be included in the study & didn't know it was for sailing boats. Please remove my name. Thank you.

My telephone number is _____

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

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

226

Maryland Department of Transportation
State Highway Administration

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

January 9, 1998

Ms. Else A. Ross
23019 Tuckahoe Springs Drive
Denton MD 21629-1618

Dear Ms. Ross:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. Although this particular survey was to gather information about boats in the area your continued interest in the planning study is appreciated.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

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My telephone number is _____

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

Mailing Address: P.O. Box [illegible] Baltimore, MD 21203-0717
Street Address: 707 North Calv[illegible] et • Baltimore, Maryland 21202

227

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

228

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
DEC 29 10 30 AM '97

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ■No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other_____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☐North of Denton ☐Between Denton and Dover Bridge
☐Between Dover Bridge and US 50 ☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

Not only is boat traffic an issue, I feel with all the accidents on Dover Bridge there is a major safety Concern. I do not feel Dove Bridge is safe. The Bridge was b[illegible] Many years ago when traffic was lighter and speeds were slower.

Thankyou for reading my Comments.

Mark McCandless

My telephone number is Daytime 410-822-6700

Please Call

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

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

229

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

January 9, 1998

Mr. Mark McCandless
6074 Newton Road
Preston MD 21655

Dear Mr. McCandless:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The State Highway Administration (SHA) recognizes that traffic and accidents have increased on MD 331 recently and will continue to do so. Therefore, the purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

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My telephone number is _____

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

Mailing Address: P.O. [illegible] • Baltimore, MD 21203-0717
Street Address: 707 North [illegible] treet • Baltimore, Maryland 21202

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

331

Maryland Department of Transportation
State Highway Administration

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

MD 331 - DOVER BRIDGE STUDY

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1) Do you own a boat? ☑Yes ☐No

2) What kind of boat do you own?
☑power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

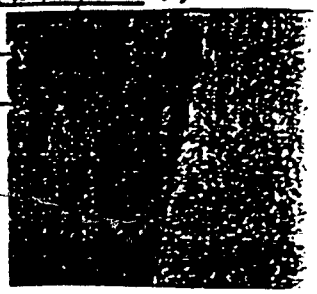
☑Choptank River ☐Tuckahoe Creek ☐Other_____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☐North of Denton ☐Between Denton and Dover Bridge
☑Between Dover Bridge and US 50 ☐South of US 50

5) What marina or boat ramp do you use? Choptank MARINA

6) Please feel free to provide any additional information on boating habits along the Choptank River.
Why are you so interested in the MINOR AMOUNT of boat traffic? Thousands of motorist daily are affected by the MALFUNCTION of this bridge that is existing (My family and I were one of them 2 times because of electrical problems.
A new bridge is Needed open to road traffic and navigation.



My telephone number is 410-673-2668

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

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

232

Maryland Department of Transportation
State Highway Administration

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

January 9, 1998

Mr. Edwin Schanken
2900 Choptank Road
Preston MD 21655-1205

Dear Mr. Schanken:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

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My telephone number is _____

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

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

233

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman

Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

234.

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
2:00 PM '97

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ☒No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other_____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☐North of Denton ☐Between Denton and Dover Bridge
☐Between Dover Bridge and US 50 ☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

Please note that road traffic is a critical variable in this study. This includes emergency as well as regular vehicles.
Please provide any information that may help us afford (as a State) the replacement of this bridge when we build bridges such as the one on Hooper Island?

My telephone number is 410 - 820 - 4542

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

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

235

Maryland Department of Transportation
State Highway Administration

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

January 9, 1998

C. Gersdone
29317 Pin Oak Way
Easton MD 21601

Dear C. Gersdone:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

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

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

Maryland Department of Transportation
State Highway Administration

PROJECT DEVELOPMENT DIVISION
Dec 29 10 30 AM

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

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ☒No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other_____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☐North of Denton
☐Between Denton and Dover Bridge
☐Between Dover Bridge and US 50
☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

Would it be possible to set times for the bridge to open/
for boats (every hour, every other hour, etc) ? Certainly if
no boat is there at the appointed time, the bridge would remain
closed. Until the new bridge at Kent Island was built - this
appeared to work well — and there were many more boats.

My telephone number is 4106737315

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

Mailing Address: P.O. Box 717 [illegible]ore, MD 21203-0717
Street Address: 707 North Calvert St Baltimore, Maryland 21202

238

Maryland Department of Transportation
State Highway Administration

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

January 9, 1998

Mr. Harry Rieck
2978 Back Landing
Preston MD 21655-1257

Dear Mr. Rieck:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The State Highway Administration (SHA) realizes the importance of the MD 331 crossing of the Choptank River. Therefore, while the Dover Bridge is under study, several interim improvements are being investigated, such as adding rumble strips to slow traffic, upgrading the electrical system to minimize bridge malfunctions, and the possibility to schedule bridge openings and closings. While limiting the number of openings for marine traffic along the Choptank River through scheduled bridge openings of the Dover Bridge could potentially reduce the amount of malfunctions, this requires further review. As you may know, marine traffic will be terminated between January 15 and February 15, while the electrical system is upgraded. Since navigable waterways, such as the Choptank River, are maintained by the US Coast Guard and marine traffic has the right-of-way, the US Coast Guard will have to examine current river usage. A similar procedure was used for the Kent Island Bridge, as you mentioned in your response.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. I • Baltimore, MD 21203-0717
Street Address: 707 North C VI-88 treet • Baltimore, Maryland 21202

239

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer
Mr. Neil Pedersen, SHA Planning Director

240

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
Dec 29 10 30 AM '97

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☐Yes ☒No

2) What kind of boat do you own?
☐power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? _____ feet

4) In what waters do you navigate your boat? (Please check all that apply)

☐Choptank River ☐Tuckahoe Creek ☐Other_____

If you navigate on the Choptank River, where do you navigate? (Please check all that apply)

☐North of Denton
☐Between Denton and Dover Bridge
☐Between Dover Bridge and US 50
☐South of US 50

5) What marina or boat ramp do you use? _____

6) Please feel free to provide any additional information on boating habits along the Choptank River.

FROM OUR LOCATION AT GILPIN'S POINT A SHORT RUN TAKES US TO DOVER BRIDGE WHILE I AM AT PRESENT WITHOUT A BOAT MY NEIGHBORS ON THE POINT DO HAVE 1 SAILBOAT WITH 22' MAST PONTOON BOAT WITH ~ 10' CLEARANCE. EITHER A HIGH LEVEL BRIDGE OR OPENING BRIDGE IS CERTAINLY NECESSARY AT THIS DOVER BRIDGE LOCATION CABIN CRUISERS FROM CAMBRIDGE AND BELOW REGULARLY PASS HERE. ALSO A 22' SAILBOAT

My telephone number is (410) 673-2101

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

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

241

Maryland Department of Transportation
State Highway Administration

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

January 9, 1998

F. Ames Schuck
23270 Holly Park Drive
Preston MD 21655-1857

Dear F.A. Schuck:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

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

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

243

Re: Project Planning for a Safe and dependable Crossing of the Choptank River at Md. 331.

I have traveled this road regularly en route from my home in St. Michaels to Methodist Manor Home in Seaford, De.

At one time there was a very long delay at the bridge for no apparent reason (no boats in sight - signal was red.) Finally the car in front of me went across (light still red, gate was not down at any time). I was fearful of proceeding across but being the 2nd car in line decided it was malfunctioning. Therefore, I drove slowly across from Caroline Co. side to Talbot.

The frequent delays at the bridge often caused me to go to Delaware via Hurlock, a longer route.

I feel this project should be given top priority due to its constant use.

Margaret A. Cadell
24354 Widgeon Pl. #22
St Michaels, Md. 21663

244

Maryland Department of Transportation
State Highway Administration

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

December 31, 1997

Mrs. Margaret S. Cadell
24354 Widgeon Place #22
St. Michaels MD 21663

Dear Mrs. Cadell:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: P.O. Box 7 timore, MD 21203-0717
Street Address: 707 North Calvert VI-94 • Baltimore, Maryland 21202

245

Citizen involvement in the planning process is encouraged. Written comments, and requests to be included in the project mailing list, may be submitted to Ms. Michelle D. Hoffman, Project Manager, State Highway Administration, PO Box 717, Baltimore, Maryland 21203-0717. Ms. Hoffman can also be reached by telephone at (410) 545-8547, toll-free in Maryland at (800) 548-5026, or by e-mail at mhoffman@sha.state.md.us.

November 28, 1997
A-0144

Parker F. Williams
State Highway Administrator

To Whom it May Concern,

I feel that alot of money has been spent in the last couple years Scraping, Sandblasting, and Painting Dover Bridge. I think the Bridge is structually sound and has many years of use left. The bridge should remain in operating condition and continue to give us access to Easton. Building another bridge in its place will not solve our problems. Just a week ago an accident approching the bridge closed it down for several hours. A new bridge would not solve that problem. The real problem seems to be no other access crossing the Choptank River in our immediate location. We really need another bridge beside the depriating one to get us to Talbot County.

Sincerely,

246

Maryland Department of Transportation
State Highway Administration

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

December 31, 1997

Mrs. Anita Davis
Mr. Harlan Davis, Jr.
22209 Havercamp Road
Preston MD 21655

Dear Mr. and Mrs. Davis:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: P.O. Box 7[illegible] Baltimore, MD 21203-0717
Street Address: 707 North Calver[illegible] • Baltimore, Maryland 21202

247

December 23, 1997

Maryland Department of Transportation
State Highway Administration
office of Planning an
Preliminary Engineering
Box 717
Baltimore, MD 21203-0717

Subject: MD 331-Dover Bridge Study

Gentlemen:

I am happy to participate in the MD 331-Dover Bridge Project Planning Study, however I do not see what purpose it serves to find out how many little boats may go under the new span.

MD 331-Dover Bridge has been a lifetime link for me and my family between Caroline County and the rest of the United States. I was born, got my driving licenses and lived a short time on the other side of the bridge and would have been hard pressed to go around it in my lifetime.

I understand you must have all the survey imformation available before anything can be done and than the small county of Caroline must fight the big counties for funds. I do know It can be done very swiftly, if you will only look back in your records to the bridge over the Choptank Harry Hughes had built that was not used for 5 years.

I feel we need the same type of bridge and access provided route 50 at Vienna over the Nanticoke River. Every effort should be made to expidite this construction. Anything less will be a waste of taxpayors money.

Regards,

H. B. Wright
3622 Choptank Road
Preston, MD 21655

248

Maryland Department of Transportation
State Highway Administration

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

December 31, 1997

Mr. H. B. Wright
3622 Choptank Road
Preston MD 21655

Dear Mr. Wright:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your quick response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. Box altimore, MD 21203-0717
Street Address: 707 North Calve VI-98 t • Baltimore, Maryland 21202

249

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

12/16/97

250

I live at. 5211 Bethlehem Rd.
However due to my Employment
at Talbot County Health Dept,
it is easy to pick up my mail
at the Post office.

Thankyou

Ethel E. Benson

251

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 19, 1997

Ms. Ethel E. Benson
PO Box 2284
Easton MD 21601

Dear Ms. Benson:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, your name has been enrolled on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me, at (410) 545-8547 or toll-free in Maryland, at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: P.O. Bo **altimore, MD 21203-0717**
Street Address: 707 North Cal **t • Baltimore, Maryland 21202**

252

From: <Kenneth_A_Briers@parsons.com>
To: MDSHAHQ.SHADGN(mhoffman)
Date: 12/15/97 7:52pm
Subject: Choptank River Bridge / MD 331

Please include my wife and I on your mailing list, as follows:

Ken Briers / Sally Donner
2684 Choptank Main Street
Preston, MD 21655

253

Maryland Department of Transportation
State Highway Administration

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

December 16, 1997

Mr. Kenneth Briers
Ms. Sally Donner
2684 Choptank Main Street
Preston MD 21655

Dear Mr. Briers and Ms. Donner:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, your names have been enrolled on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your email. If you should have any questions, please feel free to contact me, at (410) 545-8547 or toll-free in Maryland, at (800) 548-5026.

Very truly yours,

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

By: Michelle D Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: P.O. B Baltimore, MD 21203-0717
Street Address: 707 North Ca VI-103 et • Baltimore, Maryland 21202

254

From: "Don Clark" <donclark@shore.intercom.net>
To: MDSHAHQ.SHADGN(mhoffman)
Date: 12/14/97 7:07pm
Subject: Dover Bridge Road

In response to the Public Notice my comment about the Md 331 (Dover Bridge Road)

The only thing "historic" about that bridge is the number of deaths, accidents, and injuries on it. It's dangerously narrow and should be torn down and replaced with a new - wider bridge.

Don Clark
Oxford, Maryland

255

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 16, 1997

Mr. Don Clark
email:donclark@shore.intercom.net

Dear Mr. Clark:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. If you are interested in being enrolled on the mailing list for this study, please forward your address.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. The Dover Bridge is considered historic since it is one of three remaining moveable swing span bridges in the State and the only remaining metal truss moveable swing span bridge in Maryland. We have included this information, as well as issues related to accidents and the narrow bridge width (24 feet in relation to more recent Federal and State standards of at least 28 feet for similar bridges), in our Purpose and Need Statement for this study.

Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your e-mail. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

256

Citizen involvement in the planning process is encouraged. Written comments to be included in the project mailing list, may be submitted to Ms. Michelle D. Hoffman, Project Manager, State Highway Administration, PO Box 717, Baltimore, Maryland 0717. Ms. Hoffman can also be reached by telephone at (410) 545-8547 or toll-free in Maryland at (800) 548-5026, or by e-mail at mhoffman@sha.state.md.us.

November 28, 1997
A-0144

Parker F. Williams
State Highway Administrator

We need a new bridge

I travel it daily to work - have had to go around several times which takes an hr. longer. The bridge is unsafe — it is constantly being worked on. There is plenty of marshland that will be left for the environmentalists the original road goes through it. Why can't a bridge go over it? Eagles, deer are threatened - last Sat. 4 accidents one morning. We don't need historic junk, we need a new bridge to start working on it.

Anna M. [illegible]

Melvin Thume
23190 Gilpin Point Rd.
Preston, MD 21655-1833

257

Maryland Department of Transportation
State Highway Administration

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

December 15, 1997

Mr. and Mrs. Melvin Thume
23190 Gilpin Point Road
Preston MD 21655-1833

Dear Mr. and Mrs. Thume:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

Citizen involvement in the planning process is encouraged. Written comments, and requests to be included in the project mailing list, may be submitted to Ms. Michelle D. Hoffman, Project Manager, State Highway Administration, PO Box 717, Baltimore, Maryland 21203-0717. Ms. Hoffman can also be reached by telephone at (410) 545-8547, toll-free in Maryland at (800) 548-5026, or by e-mail at mhoffman@sha.state.md.us.

November 28, 1997
A-0144

Parker F. Williams
State Highway Administrator

Dear Mr. Williams & Ms. Hoffman,

In answer to your project development, my husband and I have been married 49 years living in Caroline County with 8 children, all of which were born in Memorial Hospital in Easton. They all attended Ste. Peter & Paul School in Easton from which they graduated after 12 years each. We now have 9 grandchildren going to Ste Peter & Paul School and must use the bridge on Rt 331.

We average travelling this route about 3 times weekly. In all these years we have only had about half dozen times of waiting at the bridge for one reason or another and sometimes it was to let a boat go through. The bridge itself is very "sound" and to replace the entire bridge would be wasting the Taxpayers money. The "locks" which bring the draw back is really all that is needed to be replaced

059

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 12, 1997

Mr. Joseph Mueller
Mrs. Joyce Mueller
6299 Nagel Road
Preston MD 21655

Dear Mr. and Mrs. Mueller:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: VI-109 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202

2nd

Maryland Department of Transportation
State Highway Administration

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

PROJECT DEVELOPMENT DIVISION
Feb 3 8 31 PM '98

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? ☒Yes ☐No

2) What kind of boat do you own?
☒power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? 5 feet

4) In what waters do you navigate your boat? (Please check all that apply)
☒Choptank River ☒Tuckahoe Creek ☐Other _____

If you navigate on the Choptank River, where do you navigate? (Please check all that apply)

☐North of Denton
☒Between Dover Bridge and US 50
☒Between Denton and Dover Bridge
☐South of US 50

5) What marina or boat ramp do you use? Choptank

6) Please feel free to provide any additional information on boating habits along the Choptank River. There definitely has been increase in boat traffic in the last 15 years — most boaters on Choptank don't need to open bridge but there are increasing numbers that do. The problem with the bridge started when 'private' contractors took over its operation & were commanded by the Canton's. In view of Rural Legacy & Smart Growth does it make sense to waste money for a new bridge that will exacerbate development pressures in Caroline County.

My telephone number is 410-673-2195

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

Maryland Department of Transportation
State Highway Administration

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

261

February 26, 1998

Mr. John C. Schmidt
P. O. Box 520
Preston MD 21655

Dear Mr. Schmidt:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternatives that will be investigated as part of this study include the no-build alternative (do nothing), modification of the existing bridge and several replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternatives to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternatives are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what an appropriate bridge height should be. The results from this survey are important because marine traffic has the right-of-way, and must be given consideration. However, the MD 331 connection between Talbot and Caroline counties is critical. Several traffic studies are underway to help identify the primary vehicular usage of the Dover Bridge.

My telephone number is _____

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2 ide Toll Free
Mailing Address: P.O. Bo VI-111 altimore, MD 21203-0717
Street Address: 707 North Cal

A new contractor was sought because state officials were seeking a more dependable bridge tender. The former contractor, who had supplied bridge tenders for all of the movable bridges in Maryland, was placed in default for various reasons. In the interim, the SHA District personnel took over the bridge tending duties until a new contract could be advertised. This new contract requires, all the movable bridges (19) in Maryland be operated by various personnel. The SHA believes that the new contractor is competent and although training was necessary, this new contractor will provide better service.

Potential transportation solutions from the Dover Bridge Study will not create any development pressures in Caroline County since no capacity or access points will be added to MD 331 as part of this study. New alternatives for the Dover Bridge are being considered since the existing bridge, while structurally sound, has a substandard, or functionally obsolete, bridge deck, and because the bridge has experienced some operational problems.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Ms. Anne Elrays, SHA Project Planning, Environmental Manager
Mr. Richard Lindsay, SHA District Engineer

Maryland Eastern Shore RC&D Council, Inc.
8133 ELLIOTT ROAD, SUITE 201
EASTON, MARYLAND 21601
(410) 822-9300

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WORCESTER
COUNTY COMMISSIONERS
SOIL CONSERVATION DISTRICT

August 12, 1997

Honorable Parris N. Glendening
State of Maryland
Office of the Governor
State House
Annapolis, Maryland 21401

Re: Replacement of Dover Bridge (State Route 331)

Dear Governor Glendening:

During your consideration of the replacement of the failing Dover Bridge connecting Talbot and Caroline Counties, we wish to request that the use of timber construction materials be examined. Timber bridges built today are no longer the rickety structures of nostalgic times gone by. In fact, bridges built from timber are often far superior in performance and durability than those constructed from concrete and steel.

It has been our experience that modern timber bridges can potentially be installed at half the cost and within half the time as concrete and steel bridges. Modern timber bridges also typically last longer and require less maintenance than those built of concrete and steel. Moreover, timber bridges seem to aesthetically blend with their natural surroundings much more harmoniously.

Modern timber bridges are not necessarily limited to small stream crossings. As an example, the bridge crossing the river over to Wye Island is a 750-foot timber structure. This bridge will carry the same loads as Route 50! The curvilinear bridge crossing the Little Blackwater River in Dorchester County is also a recently constructed timber bridge. Both of these bridges have received national acclaim for their designs by the U.S. Forest Service which has been promoting timber bridges for at least 12 years. The use of timber in bridge construction will also support our regionally important forest products economy and our local loggers and mills.

RC&D is a nonprofit organization serving the Eastern Shore of Maryland by finding innovative means of improving local resources through practical services to our communities. We have assisted numerous counties in securing grant funding for the design and construction of many timber bridges, including the two mentioned above and another on Pepper Road in Caroline County. Since we know firsthand the great benefits of utilizing timber in bridge construction, we wish to recommend that the use of timber in the Dover Bridge replacement be explored fully.

Thank you for your consideration of this matter. Please refer to the enclosed informational materials and call us should you have any questions or comments.

Sincerely,

William S. Sutton

William S. Sutton
Chairman

Enclosures

Copy to:
All Council Members
Senator Richard Colburn
Delegate Kenneth D. Schisler
Delegate Addie C. Eckhardt
Roxanne Palone, U.S. Forest Service
Ed Richardson, Caroline County Administrator
Chuck Emerson, Caroline County Roads Department
Blenda Armistead, Talbot County Administrator
Ricky Ball, Talbot County Roads Department

Maryland Department of Transportation
The Secretary's Office

Parris N. Glendening
Governor

David L. Winstead
Secretary

John D. Porcari
Deputy Secretary

August 28, 1997

Mr. William S. Sutton
Chairman
Maryland Eastern Shore RC&D Council, Inc.
Suite 201
8133 Elliott Road
Easton MD 21601

Dear Mr. Sutton,

Thank you for your recent letter to Governor Glendening regarding the possible use of a timber structure to replace the Dover Road Bridge on Route 331 over the Choptank River. The Governor asked me to respond on his behalf.

I can assure you the existing bridge is structurally sound and will be able to remain safely in service until a replacement structure can be built. The State Highway Administration (SHA) has implemented a program to rehabilitate or replace various mechanical, electrical and other miscellaneous components to eliminate potential trouble spots and reduce the opportunity for bridge closures. We are committed to providing a safe and operational bridge which continues to meet the needs of the public.

In anticipation of the bridge eventually needing to be replaced and recognizing there are significant environmental resources in the immediate vicinity of the bridge, SHA is beginning preliminary activities looking into where and how a replacement bridge would be provided. The Governor has committed the initial funding to begin the planning process. Decisions regarding the type of replacement bridge will be made after the planning phase, during the design phase.

Timber bridges have been successfully utilized by SHA in the recent past and we have supported the counties in the use of timber bridges in appropriate locations. We believe timber will continue to be a viable construction option.

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

Again, thank you for your letter. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If you need any additional information regarding this bridge, please do not hesitate to contact Mr. Earle S. Freedman, SHA's Deputy Chief Engineer, Bridge Development, who may be reached at 410-545-8060.

Sincerely,

David L. Winstead
Secretary

cc: Mr. Earle S. Freedman, Deputy Chief Engineer, Office of Bridge Development, State Highway Administration
Mr. Parker F. Williams, Administrator, State Highway Administration

MDOT [illegible]

267

39918 RECEIVED

July 31, 1997
10060 [illegible] Pl.
Easton, Md. 21601

AUG

SECRETARY DEPARTMENT OF TRANSPORTATION

Dear Gov. Glendening,

We'd like to add our voice to the plea to find funding for a new bridge included in the F.Y. '98 budget. Dover Bridge on Route 331 has been a headache for quite some time.

We have a daughter, son-in-law + family that live at Rhodesdale - They have two daughters that drive daily to work at Easton. Also have two sons that live in Hurlock - One drives daily to Easton as he works at the Post Office in Easton. A granddaughter lives on this side of Hurlock and drives daily to Easton. As well as cousins by the dozens who frequent the bridge route!!

We were stuck in the traffic around Eastertime when it broke down for 3 hours. We happened to be coming back from Rhodesdale and had to drive to Harmony then Denton and around to Easton.

I hope by now you have taken time from your busy schedule to see the Dover Bridge we are talking about.

Thanks for your concern in this matter. We appreciate a good Senator like Richard Colburn that makes our problems on the Eastern Shore known.

Sincerely,

Mr. & Mrs. Roy D. Nordike

268

RECEIVED
AUG 04 1997
GOVERNOR'S OFFICE

August 21, 1997

Mr. and Mrs. Roy D. Nordike
30060 Chilcutt Road
Easton MD 21601-8616

Dear Mr. and Mrs. Nordike:

Thank you for your recent letter to Governor Glendening regarding the Dover Road Bridge on MD 331. He read your letter, visited the bridge and asked me to respond on his behalf. I understand and share your concerns about the existing bridge and I appreciate your support for funding for a replacement bridge. I assure you the existing bridge is safe and structurally sound.

There have been some incidents over the past several months in which electrical or mechanical components in the bridge have experienced malfunctions. These are not uncommon for a movable bridge of this type and age. While these incidents have been an inconvenience to marine and vehicular traffic when they occur, they do not compromise the structural capacity or safety of the bridge. The State Highway Administration (SHA) has worked to repair problems when they occur and will continue to do so. A program to rehabilitate or replace various mechanical and electrical components has been implemented this Summer. This will eliminate potential trouble spots and reduce the opportunity for further bridge closures. We are committed to providing a safe and operational bridge which meets the needs of the public.

In anticipation of the bridge eventually needing to be replaced, and recognizing there are significant environmental resources in the immediate vicinity of the bridge, the SHA is beginning preliminary activities looking into where and how a replacement bridge could be provided. Funding for the formal project development activities will be considered as decisions are made this Summer regarding new projects to be added to the Maryland Department of Transportation's Consolidated Transportation Program, which will be presented to State and local officials this Fall during the Department's annual tour of Maryland counties. The Governor has made a commitment for the initial funding needed to begin the planning studies.

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

Again, thank you for your letter. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If you have any additional questions regarding this matter, please do not hesitate to contact Mr. Earle S. Freedman, Deputy Chief Engineer, Bridge Development, SHA, who may be reached at 410-545-8060.

Sincerely,

David L. Winstead
Secretary

cc: Mr. Earle S. Freedman, Deputy Chief Engineer - Bridge Development, State Highway Administration
Mr. Parker F. Williams, Administrator, State Highway Administration

5911 Newton Rd
Mrs. Dixie F. Lomax
~~Box 186, Rt. 1~~, Preston, Maryland 21655

271

December 6, 1997

Dear Ms. Michelle D. Hoffman,

Working people need a dependable bridge to get to their jobs. People with various health problems need a dependable bridge to get to the hospital. On July 18, 1997, I was on my way to the hospital for a CT-scan to determine if the spot on my left lung had changed during the previous three-month period. I had to wait at the Dover Bridge for over 20 minutes, wondering the whole time if I could get to the hospital in time for my appointment.

This is not Russia. This is America. →

272

Build a dependable bridge.

Christie Lomel

273

Maryland Department of Transportation
State Highway Administration

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

December 12, 1997

Mrs. Dixie Fairbank Lomax
5911 Newton Road
Preston MD 21655-1724

Dear Mrs. Lomax:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

Mailing Address: P.O • Baltimore, MD 21203-0717
Street Address: 707 North VI-123 treet • Baltimore, Maryland 21202

Crystal L. Glanden
5034 Gina Lane
Federalsburg, Maryland 21632
(410)754-8207

274

December 9, 1997

Ms. Michelle D. Hoffman, Project Manager
State Highway Administration
Office of Planning & Preliminary Engineering
Box 717
Baltimore, Maryland 21203-0717

Re: Crossing of the Choptank River at MD 331
(Dover Bridge Road)

Dear Ms. Hoffman:

I would appreciate your enrolling my name to the project mailing list.

My husband and I are residents of Caroline County and we travel to work in Easton separately at least once a day and sometimes twice a day. I would prefer that a new bridge not be built. Alternate routes to and from Easton would be extremely frustrating and time-consuming, especially when traveling to Memorial Hospital at Easton in an emergency. I think that it would be best if the mechanicals of the existing bridge were fixed, or that it is not opened at all, for anyone.

I appreciate your consideration of the matter.

Sincerely,

Crystal L. Glanden

Crystal L. Glanden

275

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 12, 1997

Ms. Crystal L. Glanden
5034 Gina Lane
Federalsburg MD 21632

Dear Ms. Glanden:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

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

276

Caroline County
Department of Emergency Management

POST OFFICE BOX 151
DENTON, MARYLAND 21629
Telephone 410-479-2622

December 11, 1997

Ms. Michelle D. Hoffman, Project Manager
State Highway Administration
Mailstop C301
P. O. Box 717
Baltimore, Maryland 21203-0717

Dear Ms. Hoffman,

With regards to the current project planning study that is taking place on the Dover Bridge (Maryland Rt. 331) at the Caroline County/Talbot County Line, this office would like to be put on a mailing list, so we are kept aware of the progress of the study and the project.

Our office may already be on your list, as we have meet numerous times with Richard Lindsay, Terry Wright and Jeff Squires about the concerns of the emergency services with the problems that have occurred at Dover Bridge. We are currently working on alternate plans, in which emergency vehicles will travel on an alternate route, plus the bridge tender now has a radio on frequencies that are assigned to the emergency services and a dedicated phone line has also been established. So, we do greatly appreciated the efforts that are being put forth, in addressing the problems, when there is a malfunction with the bridge equipment.

If our agency is already on your mailing list, then you can disregard our request and we express our appreciation to your agency, for your assistance in helping to address the concerns that have been put forth.

Sincerely,

Philip M. Hurlock

Philip M. Hurlock
Special Projects

File

277

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

December 15, 1997

Mr. Philip M. Hurlock
Special Projects
Caroline County
Department of Emergency Management
Post Office Box 151
Denton MD 21629-2622

Dear Mr. Hurlock:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. As you requested, I have enrolled your name on the mailing list for this study.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternates that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge, and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

The development of this project planning study includes an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA

My telephone number is _____

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

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

278

Mr. Clifford Alpert, 01:18 PM 12/24/97, MD 331 Dover Bridge

To: Mr. Clifford Alpert <bubber@bwave.com>
From: David Winstead <winstead@clark.net>
Subject: MD 331 Dover Bridge
Cc:
Bcc: <governor@gov.state.md.us>
Attached:

December 24, 1997

Mr. Clifford Alpert
<bubber@bwave.com>

Dear Mr. Alpert:

Thank you for your recent internet message to Governor Glendening regarding the MD 331 Dover Bridge analysis and speed limits on the Eastern Shore. The Governor asked me to respond on his behalf.

The State Highway Administration (SHA) works within legislative authority to determine speed limits. All highways with signals or access directly onto the roadway (non-access controlled facilities) cannot have speed limits greater than 55 miles per hour. Since the Salisbury Route 13 Bypass is a controlled access highway, or one accessed solely by ramps, it could operate at higher speed limits once proper legislation was approved. The SHA will continue to identify access controlled highways within the State which fulfill these qualifications and could benefit from increased speed limits.

As you probably know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge analysis is to investigate alternatives to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternatives which will be investigated throughout this analysis include the no-build alternative, rehabilitation of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 during the construction of a new bridge.

Throughout the development of alternatives for this analysis, several interim improvements will occur at the Dover Bridge. For example, SHA will be renovating the electrical system this Winter to minimize the potential for operational malfunctions. In addition, SHA is investigating the implementation of traffic calming strategies, such as rumblestrips, to slow traffic on the bridge and minimize the potential for accidents. While we cannot guarantee that the electrical system renovation and traffic calming will eliminate all of the problems at the bridge, we expect this will work, in addition to sensitivity and awareness to emergency facility needs through a new traveler advisory radio station and increased communication, will decrease problems throughout this study.

The development of this project planning analysis includes an Information Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

Again, thank you for your internet message. The Governor appreciates hearing from you, and on his behalf, I also thank you for the interest which prompted you to write. If you need any additional information, please do not hesitate to contact Mr. Neil Pedersen, Director, Planning and Preliminary Engineering, State Highway Administration, who can be reached at 410-545-0411.

Sincerely,

David L. Winstead

279

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
Oxford, Maryland 21654

March 9, 1998

Susan J. Binder
Federal Highway Administration
The Rotunda, Suite 220
711 West 40th Street
Baltimore, Maryland 21211-2187

Attn: Renee Sigel

Dear Ms. Binder:

This pertains to your request, dated January 8, 1998, for our participation as a cooperating agency during the National Environmental Policy Act review process for the Maryland Route 331 Bridge (Bridge No. 20023, over the Choptank River) Study.

We appreciate your request, and the opportunity to provide our technical expertise for the Dover Bridge Study. While our small office staff generally limits our capability for becoming more fully involved in the highway review process, we should not have difficulty in fulfilling the types of activities required of us as a cooperating agency for this study. Therefore, we accept your request.

If there are any questions concerning these comments, you may call John S. Nichols at (410) 226-5771.

Sincerely,

Timothy E. Goodger

Timothy E. Goodger
Officer in Charge
Oxford Habitat Office

cc: Anne Elrays, Planning Division, SHA
Vance Hobbs, Baltimore COE, Regulatory Branch, Special Projects Section

280

Form FHWA-281 (Rev. 11-67)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
MINUTE - MEMO

Page of Pages

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SUBJECT

H5C6 - Dover Budge MD 331

TO	MESSAGE/COMMENT	FROM/DATE
From	Chief Budge Section Ann Deaton - verbal response - yes - agree to be cooperating agency	3/12/98

281

U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: (Aowb)
Phone: (757)398-6422

16595
17 April 1998

Federal Highway Administration
Ms Susan J. Binder
Division Administrator
Suite 220
711 W. 40th Street
Baltimore, Maryland 21211

Attention: Ms. Renee Sigel

Dear Ms. Binder:

This responds to your letter of February 20, 1998, which partially reviewed the environmental concerns in the preparation of the Environmental Impact Statement for the proposed improvements to MD 331, Dover Bridge in Talbot and Caroline Counties, Maryland. This project involves a Coast Guard bridge permit for a new bridge over the Choptank River.

We agree to be a cooperating agency in the preparation of the Environmental Impact Statement for the proposed construction of this bridge.

If you should have any questions regarding this matter, please contact Mr. Bill H. Brazier, Bridge Specialist, at (804) 398-6422.

Sincerely,

ANN B. DEATON
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District

4. Commencement of Construction. Commencement of construction is normally considered to be the date upon which work actually commences on the site of the proposed bridge, its approaches or ancillary works, including work in the water such as filling in, dredging, or other work authorized by the Corps of Engineers which is related to the bridge project. However, in cases where construction will be carried out under a construction contract with performance guaranteed by bond or other surety, the date of the contract shall be the date of commencement.

5. Completion of Construction. The completion date is normally considered to be the date upon which the structure completely spans the waterway in conformance with the configuration shown on the plans, any required navigational lights have been installed, it is open to traffic or placed in operation and all temporary falsework has been removed from the waterway.

6. Artificial Waterways. Artificial waterways substantively manmade dedicated for public navigation are navigable waters of the U. S. if actually used for substantial interstate or foreign commerce or if subject to tidal influence. Such nontidal waterways cease to be navigable upon cessation of actual use for navigation, reversion to dry land uses or rededication to non-navigation uses such as drainage canals, irrigation canals, water supply aqueducts, or water oriented recreation uses.

D. ALTERATION OF THE CHARACTER OF BRIDGES AND CAUSEWAYS.

1. Abandoned Bridges. The jurisdiction of the Secretary of Transportation and the Coast Guard over bridges and causeways includes the authority to require the removal of such structures when the owners thereof/desire to discontinue their approved use for transportation purposes. Each individual case must be treated according to the particular set of facts and circumstances surrounding it. 33 U.S.C. 502(a) states in part that "whenever the Secretary of Transportation shall have good reason to believe that any railroad or other bridge over any of the navigable waters of the United States is an unreasonable obstruction to the free navigation of such waters on account of insufficient height, width of span, or otherwise, ... it shall be the duty of the said Secretary, first giving the parties reasonable opportunity to be heard, to give notice to the persons or corporations owning or controlling such bridge so to alter the same as to render navigation through or under it reasonably free, easy and unobstructed; and in giving such notice he shall specify the changes that are required to be made, and shall prescribe in each case a reasonable time in which to make them. If the persons, corporation, or association ... willfully fail or refuse to remove the same or to comply with the lawful order of the Secretary of Transportation ... shall be deemed guilty ...".

a. Case law further supports Coast Guard authority in requiring the removal of abandoned bridges:

(1) "A bridge across a navigable stream is an obstruction to navigation tolerated only because of necessity and the convenience of commerce on land, ...". (33 U.S.C. 401, Note 30 *(Clement v. Metropolitan West Side Elevated Ry. Co., Ill. 1903. 123 F. 271, 59 C.C.A. 289))*.

(2) "Certain obstructions are under certain circumstances reasonable--such as duly authorized bridges which serve the interests of land transportation. ...When the bridge became unusable and was abandoned, it became an unreasonable obstruction, for whose existence the railroad was responsible". *(U.S.A. v. N.Y. Central Railroad Co., et al., No. 63-72, U. S. District Court, Mass., 9 November 1965)*.

b. In view of the above, bridge structures that are not used for the convenience of land transportation are considered unreasonable obstructions to navigation and cannot be tolerated. Please note that each case should be treated on an individual basis, giving consideration to the particular facts and circumstances surrounding it, and the procedures set forth in Chapter 7 should be followed in every alleged violation proceeding. The approval of Commandant (G-NBR) is required prior to any District action involving the removal of abandoned bridges.

2. Retention of Structures. If the owner of a bridge or causeway discontinues its use and wishes to remove or alter any part thereof in such a manner that it will lose its character as a bridge or causeway, the Coast Guard will normally require removal of the structure from the waterway in its entirety or to an elevation deemed appropriate by the cognizant Coast Guard District Commander. However, if the owner of a bridge or a causeway wishes to retain it in part for use other than for operation and maintenance as a bridge or causeway, the structure remaining will be considered as coming within the jurisdiction of the Corps of Engineers. The Coast Guard will refer the applicant for such uses to the Corps of Engineers for consideration. If the Corps of Engineers approves the conversion of a bridge or causeway to another structure, no residual jurisdiction over the structure will remain with the Coast Guard. However, if the Corps of Engineers declines jurisdiction or does not approve the proposed conversion, then the structure remains a bridge subject to the jurisdiction of the Coast Guard.

E. CLOSURE OF WATERWAYS AND RESTRICTION OF PASSAGE THROUGH OR UNDER BRIDGES.

1. Under the applicable bridge acts, the Commandant has the authority to approve the clearances required for navigation through or under bridges. It is understood that this duty and authority extends to and may be exercised in connection with the construction, alteration, operation, maintenance, and removal of bridges, and includes the power to authorize the temporary restriction of passage through or under a bridge by use of falsework, piling, floating equipment, closure of draws, or any works or activities which temporarily reduce the navigational clearances and design flood flows, including closure of any or all spans of the bridge.

2. Further, under the Ports and Waterways Safety Act of 1972, 33 U.S.C. 1221, the Commandant exercises broad powers in waterways to control vessel traffic in areas he determines to be especially hazardous and to establish safety zones or other measures for limited controls or conditional access and activity when necessary to prevent damage to or the destruction or loss of, any vessel, bridge or other structure on or in the navigable waters of the United States. Accordingly, in the event that work in connection with the construction, alteration, or repair of a bridge or causeway is of such a nature that for the protection of life and property navigation through or in the vicinity of the bridge or causeway must be temporarily prohibited, the Coast Guard may close that part of the affected waterway while the work is being performed. However, it is also clear that the Secretary of the Army and the Chief of Engineers have the authority, under Section 4 of the Act of August 18, 1894, as amended, 33 U.S.C. 1, to prescribe rules for the use, administration, and navigation of the navigable waters of the United States. In recognition of that authority, and pursuant to Section 102(c) of the Ports and Waterways Safety Act, 33 U.S.C. 1222(c), the Coast Guard will consult with the Corps of Engineers when any significant restriction of passage through or under a bridge is contemplated to be authorized or a waterway is to be temporarily closed.

U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
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Phone: (757)398-6629

284

16595

Mr. Parker F. Williams
Federal Highway Administration
Division Administrator
Suite 220
711 W. 40th Street
Baltimore, Maryland 21211

Dear Mr. Williams:

This responds to a telephone conference with Ms. Anne Bruder and Mr. Bill H. Brazier of my staff on March 5, 1998. Ms. Bruder had requested information pertaining to the Maryland 331 Dover drawbridge over Choptank River. Ms. Bruder also requested information concerning Federal Regulations governing the liabilities of a bridge owner, if that owner deeded that responsibility of ownership over to a private organization.

The Code of Federal Regulations (CFR) parts **117.1 Subpart A-General Requirements** lists all of the applicable requirements bridge owners are required to follow by law. Transfer of ownership will not change the Federal requirements for bridge owners set forth in the CFR.

In addition to the General Requirements the MD331 Dover Bridge has further opening requirements which must be followed. They are listed as:
CFR 117.553 Choptank River.

(a) The draw of the Maryland 331 bridge, mile 35.3, at Dover shall open on signal from 6 a.m. to 6 p.m., year round, and the draw shall remain closed from 6 p.m. to 6 a.m., year round, unless a twenty four hour notice is given by calling (301)820-8592 or (301)745-2096.

If ownership were to change, the new owners would be responsible to comply with these regulations and also provide updated phones numbers or a point of contact for the bridge to maintain a proper opening schedule.

Copies of the Code of Federal Regulations have been enclosed for your review. If you should have any questions regarding this matter, please contact Mr. Bill H. Brazier, Bridge Specialist, at (804) 398-6422.

Sincerely,

ANN B. DEATON
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District

285

National Trust for Historic Preservation
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036
202/588-6000 FAX 202/588-6038 TTY 202/588-6200

April 17, 1998

Mr. Bruce Grey
Project Planning Division
Maryland State Highway Administration
P.O. Box 717
Baltimore, Maryland 21203-0717

Re: **#TA392A11 Maryland 331: Dover Bridge, Bridge #20023 over the Choptank River**

Dear Mr. Grey,

It is the understanding of the National Trust for Historic Preservation that the above-referenced project would affect the historic Dover Bridge in Talbot County, which is eligible for the National Register of Historic Places, and may affect Troth's Fortune, a property listed on the National Register. It is also our understanding that your office is conducting review of the project, and will soon be issuing a draft Environmental Assessment ("EA"), pursuant to Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, the National Environmental Policy Act, 42 U.S.C. § 4332, and Section 4(f) of the Department of Transportation Act, 49 U.S.C. § 303.

Since 1975, the National Trust has held a preservation easement on Troth's Fortune. Accordingly, we hereby request to participate as an "interested person," as review of this project proceeds. Please send the draft EA, notices and any other information, to my attention at the address listed below:

Paul W. Edmondson, General Counsel
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, D.C. 20036

If there is any question about this request, please contact Laura S. Nelson, Assistant General Counsel, at (202) 588-6174. Thank you for your assistance.

Sincerely,

Paul W. Edmondson
General Counsel

cc: Ms. Pam Stephenson, FHWA
Ms. Ann Bruder, Maryland Historical Trust
Ms. Lisa Burcham, NTHP Southern Field Office

287

Maryland Department of Transportation
State Highway Administration

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

April 28, 1998

Mr. Paul W. Edmondson
General Counsel
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington DC 20036

Dear Mr. Edmondson:

Thank you for your letter of interest on the MD 331 Dover Bridge in Caroline and Talbot counties, Maryland. Pursuant to Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, the National Environmental Policy Act, 42 U.S.C. § 4332, and Section 4(f) of the Department of Transportation Act, 49 U.S.C. § 303, the Maryland State Highway Administration (SHA) and the Federal Highway Administration (FHWA) are preparing a Draft Environmental Impact Statement/Section 4(f) Evaluation. As you requested, the National Trust will be added to the distribution list for this environmental document as an "interested person," as well as added to the project mailing list.

Thank you again. If you have any questions, please feel free to call me. Questions can also be forwarded to the project manager, Michelle Hoffman, at (410) 545-8547, or the project historian, Jill Dowling, at (410) 545-8559. Both Michelle and Jill can be reached toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Bruce M Grey
Bruce Grey
Assistant Division Chief
Project Planning Division

My telephone number is _____

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

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

cc: Ms. Anne Bruder, MHT
Ms. Jill Dowling, SHA
Ms. Anne Elrays, SHA
Ms. Michelle D. Hoffman, SHA
Ms. Cynthia Simpson, SHA
Ms. Pamela Stephenson, FHWA

D·H·C·D

April 16, 1998

Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

100 Community Place
Crownsville, Maryland 21032

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1-800-756-0119
Fax 410-987-4071
Maryland Relay for the Deaf
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http://www.dhcd.state.md.us

Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, MD 21203-0717

RE: Project No. TA392A11 (FHWA)
MD 331 Dover Bridge (Structure No. 20023) over the Choptank River
Talbot and Caroline Counties, Maryland

Dear ~~Ms.~~ Cynthia Simpson:

On Wednesday, April 8, 1998, Trust staff members Michael K. Day, Elizabeth J. Cole and Anne E. Bruder attended a meeting and site visit concerning the above-referenced project conducted by the Maryland State Highway Administration at the Easton SHA Office. Representatives from the Federal Highway Administration, U.S. Army Corps of Engineers, National Marine Fisheries, and the Advisory Council on Historic Preservation also participated. We appreciated the opportunity to collectively discuss the project's multiple environmental and cultural concerns with the involved agencies. Based on those discussions, I would like to take this opportunity to address some of the points made at that meeting and express our continued concerns regarding this project.

During the meeting, we learned that SHA has decided to retain the Dual Bridge Alternate for detailed study. It is certainly appropriate for SHA to fully examine all prudent and feasible alternatives, particularly an option which enables the continued and viable use of the Dover Bridge in its current transportation function. SHA had not specifically presented the Dual Bridge Alternate as an option in its March 6, 1998 determination of effects letter. Both SHA and FHWA staff explained that the completion deadline of the effects letter had precluded SHA from highlighting the Dual Bridge option. Since it was not presented as an alternate option, the Trust has not specifically commented on the Dual Bridge Alternate's impacts on the Dover Bridge, Troth's Fortune, and archeological site 18TA315. Therefore, the Trust would appreciate receiving a letter from SHA which clearly explains this option and addresses its effects on all architectural and archeological resources. SHA should also revise the project's effects table to reflect the addition of the new alternate.

We understand that SHA has scheduled the project's Public Workshop for May 20, 1998, at Easton High School. We trust that the workshop will present appropriate and thorough materials regarding the significance of the Dover Bridge and the scarcity of this

particular resource type and discuss the project's pertinent historic preservation issues. The workshop should include participation by authorities knowledgeable about historic bridges and maintenance issues, specifically Dr. Abba Lichtenstein who recently completed a Feasibility Study of the Dover Bridge for SHA. Dr. Lichtenstein's presence at the workshop is critical for several reasons, but the most important is his ability to reassure the public of the bridge's excellent working condition, given the recent repairs to the electrical system. In addition, the Trust requests the opportunity to review the format and content of the historic preservation aspects of the workshop and participate in the meeting to discuss the cultural resources concerns with the public.

Following last week's meeting, the various agencies visited the Dover Bridge to view the different alignment options and existing conditions. Fortunately, the participants were present to observe the bridge opening at approximately 1:00 p.m. to allow a barge to pass through the channel. We noted that the center span swung open smoothly and evenly. As it closed, the center span did so more slowly, allowing the bearing to catch properly. The entire operation took less than 4 minutes to complete. Although traffic waited while the bridge opened and closed, no one was unduly delayed. Based on the results of the field visit, the Trust continues to believe that all the proposed build alternates will have severe, detrimental, and irreparable impacts on historic and environmental resources. While we acknowledge the need for SHA to provide a safe and dependable bridge crossing for the citizens of Talbot and Caroline Counties and other users, we also believe that the areas' unique and irreplaceable resources should be protected to the greatest extent possible. The results of last week's meeting confirm and support the Trust's continued opinion that SHA should thoroughly investigate and consider all possible No Build options for this undertaking.

Should you have any questions, please contact me at 410-514-7601, or Ms. Bruder at 410-514-7636, or Ms. Cole at 410-514-7631.

Sincerely,

Rodney

J. Rodney Little
Director/State Historic Preservation Officer

JRL/AEB/EJC

cc: Mr. Bruce Grey (SHA)
Dr. Charles Hall (SHA)
Ms. Jill Dowling (SHA)
Ms. Pam Stephenson (FHWA)
Ms. Mary Ann Naber (ACHP)
Mr. Vance Hobbs (COE)
Mr. Victor MacSorley
Mr. Mark Bower
Mr. Bill Brazier (USCG)
~~SHA IAR Group~~
Mr. Michael Day
Mr. Thomas Williams
Ms. Deborah Renshaw
Mr. J.A.K. Walsh

291

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

April 15, 1998

Re: Project No: TA392A11
MD 331: Dover Bridge (Bridge 20023)
over Choptank River
Talbot County, MD

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville MD 21032-2023

Dear Mr. Little:

Thank you for your April 1 letter responding to our architectural and archeological submissions addressing identification efforts, eligibility determinations, and effects for alternates presently under study. We appreciated the opportunity to further address these issues during the April 8 field meeting. This letter serves to clear up outstanding issues with respect to the dual bridge alternate, the Maryland State Police Barracks, and visual impacts on Troth's Fortune.

Dual Bridge Alternate

This letter responds to your request that we distinguish the dual bridge alternate from S2 Option A. We apologize if the State Highway Administration's (SHA) approach with respect to this alternate created confusion. Because the profile and relationship of this alternate to the historic bridge is identical to Alternate S2 Option A and based on the adverse impact of the construction of any of the proposed structures in alignment with the existing structure, SHA presented the dual bridge alternate within the assessment of effects for all southern options. We request your comments on the following dual bridge alternate description:

Dual Bridge: This would entail using the existing Dover Bridge to accommodate one-lane westbound traffic, and a new single lane, fixed parallel 30 foot high structure with a deck of 32 feet for eastbound traffic. In combination with a traffic signal that could reverse the direction of traffic using the fixed span, this dual bridge combination ensures that if a malfunction occurs on the swing span, a route to the emergency location or the hospital would still be available. This alternate is .63 miles long and costs approximately $13.2 million.
$16.4 million .64 miles

Effects Assessment: This alternate maintains the historic use and location of the Dover Bridge, but negatively impacts the bridge's setting through the construction of a fixed high level structure at

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1-800-735-225 : Toll Free

Mailing Address: P.O. Box VI-141 timore, MD 21203-0717
Street Address: 707 North Calve • Baltimore, Maryland 21202

approximately the level of the top of the truss. The proposed dual bridge would be eight feet less wide than the two lane structure proposed on the same alignment. The bridge tender's house would occupy an "island" between the two roadways. The new structure would likely be visible from the Choptank boundary of Troth's Fortune through the open trusses of the historic bridge, and eastern approach work may be visible from the historic structures. Given the topography and rural character of the region, this alternate would have a significant impact on the local environment. Relative to archeological resources, Site 18TA315 would be impacted by alignment S2, which is proposed for this alternate. The site contains intact, subsurface archeological features dating to the late 17th and early 18th centuries, and is considered eligible for listing on the National Register under Criterion D, for its information potential.

Based on impacts to the Dover Bridge and archeological resources, and potential visual impacts to Troth's Fortune, the Dual Bridge alternate would have an adverse effect on historic resources, although it would maintain the historic use of the Dover Bridge.

Maryland State Police Barracks (T-950): Eligibility and Effects

During the April 8 field meeting, the Maryland Historical Trust (MHT) and SHA staff independently confirmed that despite local topography, the southern alternates will not be visible from the Maryland State Police Barracks. Approach work for all proposed alternates will not extend near this property.

MHT's April 1 letter left some confusion about the eligibility status of this property. In the first paragraph on Page 2, consecutive sentences seem to contradict each other, asserting first: ***We concur that only Troth's Fortune (T-50) and the Dover Bridge (T-487) are eligible for the National Register of Historic Places*** and then stating ***We also find that the Maryland State Police Barracks (T-950) is eligible for the National Register***. The eligibility table clarifies this by providing MHT's opinion on SHA's determination as **Do not concur - Eligible**. The comments section provides some guidance relative to this opinion, but does not present the Criterion under which MHT feels that this resource qualifies as eligible.

SHA maintains the opinion that the Maryland State Police property is not National Register eligible and offers the following response to MHT's opinion. Based on the fact that important persons, architecture, and archeology were not mentioned in the comments, SHA assumes that MHT's comments provide an argument for eligibility under Criterion A, for association with events that have made a significant contribution to the broad pattern of our history.

National Register Bulletin 15 (NRB 15) instructs that properties not specifically associated with a single event must relate to an event or trends clearly important within the associated historic context. MHT writes: ***Spero's report addresses the project area's history from the colonial period to the present. The Trust agrees with the conclusions reached by the consultant.*** The historic context thoroughly addresses settlement patterns, religion, economy, and transportation, but provides no indication that the growth of the State police, especially with respect to motorcycle use, "is associated with the historic context in any important way."

293

Further, NRB 15 states that mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well. P.A.C. Spero found no evidence indicating that this barracks was significant in State Police history.

Finally, while the structure maintains integrity of location and setting, the other aspects of its integrity have been severely compromised. As the consultant states, the original design of the structure is obfuscated by the enclosure of the front porch as well as two rear additions. Material replacement includes exterior doors and windows on the main building and on the garage. There is no evidence that the historic windows and doors remain on the property. If this is the case, based on the apparent changes to fenestration openings, permanent alteration of the historic fabric has occurred. The extent of workmanship and feeling expressed by the building has been compromised by these changes. Feeling is further impacted by the apparent vacancy of the structure much of the time. Finally, and most importantly, the building retains no association with its former use. The structure has not served as a State Police Barracks in nearly 30 years, and has been adapted for use as a religious meeting place. Physical features conveying its use by the State Police have been removed or, in the case of the garage, altered.

SHA maintains that the Maryland State Police Barracks is not eligible for National Register listing, in accordance with the evaluation provided in the P.A.C. Spero report.

Visual impacts to Troth's Fortune

SHA provided MHT with photographs from various vantage points on the Troth's Fortune property, beginning east of the structures and looking toward the Choptank River with our effects determination. SHA asserted in the attached Effects table that both southern and northern alternates would result in adverse visual impacts to the National Register listed site. This determination was put forth for all alternates due to the low lying topography of the river corridor, the open trusses of the bridge, and a consideration of the boundaries for Troth's Fortune.

The historic boundary for the property extends to the Choptank River, where according to the report: "it has been postulated that Troth's store may have existed on the waterfront portion of his own property, thus suggesting that he had his own landing." (p. D-5) Despite the existence of the Dover Bridge between the property and the proposed structure, any of the southern alternates would be visible from this vantage at Troth's Fortune, and so SHA assessed southern alternates as impacting this site as well, as one consideration contributing to the overall "adverse effect" for these proposed alignments.

In the field, several individuals expressed the opinion that southern alternates would not have a visual impact on the National Register listed site. We request that you consult the photographs accompanying our earlier submission, and invite your comments clarifying MHT's opinion relative to this issue.

294

Review Request

Please consult the attached documentation and review the determinations generated by Maryland State Highway Administration regarding this project. We invite your comments on the Dual Bridge Alternate and the issue of potential visual impacts from southern alternates to Troth's Fortune. We look forward to your response on these issues by May 18. Please call Ms. Jill Dowling at 410-545-8559 with any questions about standing structures for this project. and Mr. Richard Ervin at 410-321-3233 with any questions about archeology.

Very truly yours.

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

by: _____
Cynthia D. Simpson
Deputy Division Chief
Project Planning Division

cc: Ms. Jill Dowling
Ms. Anne Elrays
Mr. Richard Ervin
Mr. Bruce M. Grey
Dr. Charles Hall
Mr. Vance Hobbs
Ms. Michelle Hoffman
Ms. MaryAnn Nabor (ACHP)
Ms. Pam Stephenson (w/ Attachments)

295

D·H·C·D

April 1, 1998

Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

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Crownsville, Maryland 21032

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Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, MD 21203-0717

RE: Project No. TA392A11 (SHA - FHWA)
MD 331: Dover Bridge (Bridge #20023) over Choptank River
Talbot County, Maryland

Dear ~~Ms.~~ Cynthia Simpson:

Thank you for your recent letters (dated February 17, March 2, March 6, and March 18) forwarding the architectural and archeological resources reviews and the effect determination for the above-referenced project.

Trust staff have carefully reviewed both reports: *Historic Resource Survey and Determination of Eligibility Report for MD 331 - Dover Bridge over the Choptank River*, by P.A.C. Spero and Company ("Spero") and *Phase I Terrestrial and Underwater Archeological Survey, Maryland 331 Dover Bridge Replacement Across the Choptank River, Talbot and Caroline Counties*, by Dr. William Barse, et al. ("Greiner"). While both reports represent reasonable and appropriate levels of effort for the relevant studies, it is our opinion that a unified, multidisciplinary identification and evaluation approach would have produced more useful and cost effective results for this project. Essentially, Spero and Greiner both generated historic overviews and contexts for their respective surveys and there was little to no coordination of architectural and archeological investigations. Likewise, the terrestrial and underwater surveys were conducted as totally separate endeavors. Given the compressed schedule for this project, it would have been feasible for SHA to implement a comprehensive, integrated evaluation of all historic property types. We encourage SHA to implement such inclusive investigations on future projects.

We have made our comments on the two reports and the survey forms below and in the attachments following this letter.

I. Eligibility Determinations

A. **Architecture:** Spero's report addresses the project area's history of development from the colonial period to the present. The Trust agrees with the conclusions reached by the consultant. Attachment 1 provides the Trust's additional comments about corrections which should be made to the final report. Likewise, the determinations of eligibility for

the standing structures are enclosed as Attachment II. We concur that only Troth's Fortune (T-50) and the Dover Bridge (T-487) are eligible for the National Register of Historic Places. We also find that the Maryland State Police Barracks (T-950) is eligible for the National Register.

Greiner's survey of the project area documents the development of the Dover Bridge from a mid-nineteenth century wooden structure to the present Warren Truss bridge. The information provided will be useful for future studies of the area. We would recommend that Greiner incorporate both the *Maryland Geological Survey*, Volume III. 1899, page 206 and Plate XIX, as well as *A History of Road Building in Maryland*, by the State Road Commission of Maryland, 1958, pages 125 and 134 as two sources for additional information regarding the earlier bridges.

Both Spero and Greiner should make changes as necessary to indicate that the present bridge is a Warren Truss rather than a Pratt Truss and that the bridge construction date was 1933, not 1932. We have forwarded the forms and the report to the Trust's library for accessioning. Please submit final copies of the inventory forms, unbound and double-sided copied on archival paper. The Report should be bound and double-sided copied on archival paper for accessioning in our library.

Since SHA has determined that the recent electrical work had *no adverse effect* on the Dover Bridge, the Trust concurs with that determination. We request that SHA provide the Trust with information regarding the precise elements of the work for our files. Because of the high profile nature of this project and the significant characteristics of the bridge itself, we would have appreciated SHA informing us of the proposed work and providing the Trust an opportunity to comment. We acknowledge that SHA considered the electrical work did not constitute an undertaking, in accordance with the February 1, 1995 Letter of Agreement. Nonetheless, coordination with the Trust on the electrical work would have been an advisable and considerate course of action, given the project circumstances.

B. Archeology: The draft Greiner report presents documentation on the goals, methods, results, and recommendations of the terrestrial and underwater surveys. The level of survey and resulting report generally meet the requirements of the *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994), with certain revisions. The survey identified two terrestrial and five underwater archeological sites within the area examined. We concur that only archeological site 18TA315 is eligible for the National Register of Historic Places. The site represents a domestic occupation dating from the late 17th - early 18th c. Testing identified two intact features (possible filled cellars or refuse pits) and recovered a variety of architectural, kitchen, and personal artifacts. The site appears to retain excellent subsurface integrity. The survey demonstrated that 18TA315 has the potential to yield important information regarding the early historic settlement of the area, homelot organization, and social and economic patterns. Attachment II provides the Trust's concurrence with SHA's evaluations of eligibility for the seven sites.

Attachment IV lists the Trust's substantive and editorial comments on the draft itself. We ask SHA to have the consultant address these issues, in addition to SHA's remarks, in the preparation of the final document. We look forward to receiving a copy of the final report, when available.

Attachment IV also expresses the Trust's concern regarding the adequacy of the underwater survey coverage and lack of coordination of the survey efforts with Trust underwater staff. We will continue to work with SHA and its consultants to improve such consultation on future projects. We emphasize that early and close coordination with the Trust will help to ensure that SHA is implementing reasonable and appropriate levels of investigation and avoid questions on the adequacy of survey efforts.

II. Effect Determination

Because SHA has requested our assessments of effect on several different alternates, we have included our comments in the attached chart (Attachment III) based on our review of the submitted documentation. Please note that SHA must still assess the alternates' impacts on the National Register eligible Maryland State Police Barracks (T-950). The Trust concurs with SHA's determination that the Northern Alternates - All Options and the Southern Alternates - All Options will have adverse effects on the Dover Bridge and Troth's Fortune. In addition, the Southern Alternates - All Options will adversely affect archeological site 18TA315. Conversely, the remaining two alternates, the No Build Alternate and Modification Alternate will have no adverse effects on the Dover Bridge or any other historic property. From a historic preservation viewpoint, the No Build and Modifications alternates are clearly the most preferable and least damaging options for this undertaking.

Throughout the consultation thus far on this project, the Trust has repeatedly urged SHA to explore all prudent and feasible alternatives which would avoid adverse effects on the Dover Bridge and ensure the continued use and preservation of this unique, significant and irreplaceable historic property. The Dover Bridge is the only surviving Warren Truss swing span bridge in Maryland, and represents one of a few remaining historic swing span bridges in the Chesapeake region. We are deeply concerned that SHA's current descriptions of its build alternates make reference to the possible relocation or destruction of the Dover Bridge. SHA should avoid such drastic and irreversible measures and take every possible effort to retain the Dover Bridge as a viable and functioning transportation crossing. The Trust requests that SHA give serious and considerable attention to selecting the No Build or Modification Alternates for this undertaking. These two alternates would have the least detrimental effects on the Dover Bridge and other historic properties, and would enable the continued use of this significant bridge.

We will continue to work with SHA, FHWA, and the other involved parties to determine the best solution for the project, and look forward to the upcoming meeting/site visit on April 8, 1998. If you have questions or require further assistance, please call Ms Anne Bruder (for standing structures) at (410) 514-7636, Ms. Beth Cole (for archeology) at (410) 514-7631, or Dr. Susan Langley (for underwater) at (410) 514-7662. Thank you for providing us this opportunity to comment.

Sincerely,

Rodney

J. Rodney Little
Director/State Historic Preservation Officer

JRL:EJC:AEB
Attachments
cc: Mr. Bruce Grey (SHA)
Dr. Charles Hall (SHA)
Ms. Jill Dowling (SHA)
Ms. Pam Stephenson (FHWA)
Ms. Mary Ann Naber (ACHP)
Mr. Vance Hobbs (COE)
Mr. Bill Brazier (USCG)
Dr. Susan Langley
SHA IAR Group
Mr. Thomas C. Williams
Mr. Victor MacSorley
Ms. Deborah Renshaw
Mr. Thomas C. Williams
Mr. Mark Bower (Talbot County Historical Trust)
Mr. J.A.K. Walsh (Caroline County Historical Society)

ATTACHMENT I
MHT COMMENTS ON DRAFT ARCHITECTURAL REPORT (SPERO)
April 1, 1998

1. All references to "Continuation Sheets" in both the context and on the forms for Troth's Fortune (MHT #T-50) and the Dover Bridge (MHT #T-487) should be changed to "Addendum [Sheet]" because the "Guidelines" indicate that Addenda are to be used for survey forms which are already complete and in the Trust's Inventory Books. (B-2)

2. The Area of Potential Effect map for the context should show both the boundary of the study area and the location of the resources surveyed. (C-2)

3. The word "colonization" is the noun form of the verb "to colonize." Colonization does not describe the architectural style which refers to either the seventeen and eighteenth century periods of settlement or the revival period which began at the end of the nineteenth century and continues to this day. (D-3)

4. The location arrow for the map showing the Dover Ferry should be moved. It's pointing to Easton and not to the Choptank River. (D-9)

5. Hog Island still exists south of the Dover Bridge.

6. There have been three bridges in the area of the present Dover Bridge site:
   a) a wooden draw bridge (1848-1898);
   b) a Pratt truss [draw] bridge (1898-1933); and
   c) a Warren truss swing bridge (1933-Present).

T-948	Dover Ferry Farm	Not Eligible	Concur -- not eligible	
T-949	Pascault-Sharp Property	Not Eligible	Concur -- not eligible	
T-950	Maryland State Police Property	Not Eligible	Do not concur -- Eligible	Although the site no longer functions as the State Police Barracks for the Eastern Shore, its construction is associated with the growth of the State Police in the 1930 Of particular importance was the use of motorcycles, and the garage provides evidence of the use of these vehicles by the MSP. Furthermore, although there have been several changes to the building since 1960, all are reversible and have not permanently altered historic fabric The consultant should also change the heading on the summary sheet to indicate that Law/Government/Transportation are areas of significance. rather than Religion
T-951	G. W. Councell Property	Not Eligible	Concur -- not eligible	
T-952	Charles W. Ross Property	Not Eligible	Concur -- not eligible	
18TA315	18TA315	Eligible	Concur -- eligible	
18TA316	18TA316	Not Eligible	Concur -- not eligible	
18TA317	DB-01	Not Eligible	Concur -- not eligible	
18TA318	Small Vessel #1	Not Eligible	Concur -- not eligible	
18TA319	DB-03	Not Eligible	Concur -- not eligible	
18TA320	Small Vessel #2	Not Eligible	Concur -- not eligible	
18CA202	DB-04	Not Eligible	Concur -- not eligible	

ATTACHMENT II
DETERMINATIONS OF ELIGIBILITY TABLE
April 1, 1998

INVENTORY NUMBER	PROPERTY NAME	SHA/PACS/ GREINER DETERMINATION	MHT DETERMINATION	COMMENTS
CAR-132	Engle Property	Not Eligible	Concur -- not eligible	
CAR-165	Bowdle Property	Not Eligible	Concur -- not eligible	
CAR-170	Banning Property I	Not Eligible	Concur -- not eligible	
CAR-187	Banning Property II	Not Eligible	Concur -- not eligible	
CAR-190	Montague Property	Not Eligible	Concur -- not eligible	
T-50	Troth's Fortune	Listed on National Register of Historic Places, 1975	Concur -- Eligible	
T-487	Dover Bridge over Choptank River	Eligible	Concur -- Eligible	Spero identified the Dover Bridge as a Warren Truss bridge in the Historic Bridge Context (see page 78). As a result of this identification, as well as Mr. Lichtenstein's comment on the truss type, the consultant should change all references in both the Context and the addendum form to correctly identify the bridge type. SHA should supply Spero with a copy of the Historic Bridge Inventory form for submittal to the Trust. However, SHA should request that the consultant who completed the Historic Bridge Inventory form should correct that form to also show the bridge as a Warren truss type. All forms should also be corrected to show that bridge construction date is 1933, not 1932. Based on the pictures available to the Trust, we disagree that the Bridge Tender's house was constructed according to the plans. If a picture or another source from 1933 is available to indicate that the house was constructed in accordance with those plans, we would appreciate receiving that confirmation. Otherwise, the consultant should seek to explain the difference between the speed lines (black stripes) and the projecting decorative bricks above the windows. The bridge tender's house is a primary CDE.

ATTACHMENT III
EFFECTS DETERMINATION TABLE FOR MD 331 OVER CHOPTANK RIVER, TALBOT AND CAROLINE COUNTIES
April 1, 1998

ALTERNATE	RESOURCE	SHA DETERMINATION	TRUST'S DETERMINATION	TRUST'S COMMENTS
No Build	Dover Bridge	No adverse effect	Concur with condition -- no adverse effect	The Trust agrees that this alternate would have no adverse effect on the historic structure provided that SHA will agree to maintain the bridge in good working order and condition.
	Troth's Fortune	No effect	Concur -- no effect	
	Site #18TA315	No effect	Concur -- no effect	
	Maryland State Police Barracks			The Trust cannot provide comments until SHA makes a determination (although we believe that there will be no effect to the historic structure).
Alternate Effect - No Build		**No adverse effect**	**No Adverse Effect with condition**	
Modification Alternate	Dover Bridge	No adverse effect	Concur with condition -- no adverse effect	Based on the information provided in SHA's effect determination letter, the Trust agrees that this alternate will have no adverse effects on historic fabric, provided that SHA submits the workplans for the Trust's review and approval.
	Troth's Fortune	No effect	Concur -- no effect	
	Site #18TA315	No effect	Concur -- no effect	
	Maryland State Police Barracks			The Trust cannot provide comments until SHA makes a determination (although we believe that there will be no effect to the historic structure).
Alternate Effect - Modification Alternate		**No adverse effect**	**No adverse effect with condition**	

Northern Alternates, all options	Dover Bridge	Adverse effect	Concur -- Adverse effect	The option to close the bridge and leave the swing span open would prevent through traffic and alter its primary function -- the ability to swing open and close. However, limiting bridge traffic to bicycle and pedestrian only would not alter the bridge's use since it would still allow people to cross the Choptank.
	Troth's Fortune	Adverse effect	Concur -- Adverse effect	
	Site #18TA315	No effect	Concur -- No effect	
	Maryland State Police Barracks			The Trust cannot provide comments until SHA makes a determination (although we believe that there will be no effect to the historic structure).
Alternate Effect - Northern Alts.		**Adverse effect**	**Adverse Effect**	
Southern Alternates, all options	Dover Bridge	Adverse effect	Concur -- Adverse effect	The option to close the bridge and leave the swing span open would prevent through traffic and alter its primary function -- the ability to swing open and close. However, limiting bridge traffic to bicycle and pedestrian only would not alter the bridge's use since it would still allow people to cross the Choptank.
	Troth's Fortune	Adverse effect	Concur -- Adverse effect	
	Site #18TA315	Adverse effect	Concur -- Adverse effect	
	Maryland State Police Barracks			The Trust cannot provide comments until SHA makes a determination (although we believe that there will be an effect to the historic structure).
Alternate Effect - Southern Alts.		**Adverse Effect**	**Adverse Effect**	

ATTACHMENT IV
MHT COMMENTS ON DRAFT ARCHEOLOGICAL REPORT (GREINER)
April 1, 1998

1. The title page should reflect the author(s) of the underwater sections.

2. As noted in the letter above, the architectural and archeological efforts would have benefited from a collaborative approach. Spero and Greiner should utilize and reference the other's work in the preparation of the final reports.

3. Figure 1.2 must illustrate the limits of the project's survey areas for terrestrial and underwater.

4. All figures should note the project area, when appropriate.

5. The report should provide a more detailed description of the project (length and width of alternates) and state the total acreage of the survey area.

6. The report should contain a Research Design, clearly describing the goals, methods, expected results, and relevant research topics for the survey.

7. The report presents a detailed historic context which highlights the specific history of the project area itself. It should also include a discussion of the general background history and development of the broader region (as was done in the Spero report).

8. The historic context should incorporate both the *Maryland Geological Survey*, Volume III, 1899, page 206 and Plate XIX, as well as *A History of Road Building in Maryland*, by the State Road Commission of Maryland, 1958, pages 125 and 134 as two sources for additional information regarding the earlier bridges. Greiner should make changes as necessary to indicate that the present bridge is a Warren Truss rather than a Pratt Truss and that the bridge construction date was 1933, not 1932.

9. The report should state the final disposition of the artifact collection and associated records generated by the project.

10. Figure 4.1 should illustrate the limits of the alternatives.

11. The title to Table 4.1 should include the appropriate site number. The table should be added in the List of Figures.

12. The report should contain artifact distribution maps to illustrate the locations and densities of recovered artifacts by type and time period.

13. The evaluations of site significance should reference the National Register criteria for evaluation (36CFR60.4) and provide more detailed justification to support the recommendations (particularly for 18TA316).

14. The summary and recommendations should discuss the project alternates' potential impacts on identified archeological resources.

305

15. The summary and recommendations should provide an interpretation for the lack of prehistoric resources identified by the survey, in light of the sizable collection of prehistoric materials recovered by the land owner.

16. The Trust defers comment on Appendix C, Phase II Work Plan for Site 18TA315, although we believe the recommended strategy of additional historical research and unit excavation to sample the plowzone is certainly appropriate. If SHA proposes additional investigation of 18TA315, we request the opportunity to review a more detailed scope of work proposal for the testing efforts.

17. The underwater portion needs to be formally incorporated into the overall project, including the scope of work, historical background, methodology etc. and not tacked on as an appendix, like an afterthought. The underwater section as a whole is pretty brief: the background for the targets consists of a few blithe statements completely unsupported by any references or citations. The research design should address the project area's potential for underwater cultural resources, based on the background research.

18. Figure 1 (Appendix B) should illustrate the limits of the project area and show the locations of the five identified sites.

19. The report must incorporate the official Trust inventory numbers for the underwater sites in the text and illustrations.

20. The report must contain vitae for the underwater principals.

21. The Trust remains concerned about the adequacy of the underwater survey coverage for locating submerged prehistoric sites. The report should address this issue and provide justification to support the level of effort performed. This office had advised against use of an ATV. The consultant remarks that cultural remains are generally near the surface or exposed in marsh environments; therefore use of an ATV runs the risk of damaging these. The bogging down and subsequent towing out activities may have already damaged fragile remains. This office suggested using either an inflatable or catamaraning two canoes at high tide, or walking and shovel/probe testing at low tides, although the final submission now states that this was not possible due to inadequate water coverage. While it was apparently possible to cover the area by foot during a period when the surface firmed up, testing seems to have consisted of only probing when material was encountered. No systematic probing appears to have been undertaken nor any other subsurface testing such as augering or shovel test pits. Because of the possibility of prehistoric remains, especially in a marsh environment, and because such remains would not appear in either magnetometer or side scan sonar survey data, and further because such sites are grossly under-represented due to the use of remote sensing survey techniques in general, it is particularly important that areas with the potential to harbor such sites be tested carefully whenever an opportunity is provided. Using the methods applied here, any prehistoric remains would not have been encountered unless they consisted of a large feature, such as a dugout canoe, protruding from the mud. Although the Trust is not requesting additional field work for this project, we want to continue to explore the use of more effective testing methods with SHA for future projects.

306

22. As we have mentioned in the past, the Trust requests the opportunity to review scopes of work/proposals for any underwater investigations, to ensure that a reasonable and appropriate level of investigation is performed. The coordination (between SHA, the Trust, and the consultant) for underwater on this project was poor to non-existent, and we hope that SHA will take measures to correct this problem on future projects. Early and close coordination on underwater investigations will help to eliminate and avoid future concerns regarding the adequacy of survey methods and coverage.

23. Other editorial remarks requiring attention on the underwater report include:

P. 3.1, Para. 3, Line 2	Capitalize "state"
P. 3.2	Change first word to "represent"
P. 3.3, Para. 3, Line 2	Remove space from "exploitation"
Line5	The initial reference to specific flora and fauna should include
the	Linnaean taxonomic classification in parentheses.
P. 3.6, Para. 4, Line 1	Change "develope" to "develops"
P. 4.6, Para. 4	The ceramics do not appear to total 73 specimens.
Para. 4. Line 2	Change "no" to "not"
P. 4.10, Para. 1, Line 7	Change "were" to "where"
Para. 5, Line 5	Change "hell" to "heel"
Bibliog.	Needs to be paginated
	After entry Coe, J. delete the additional lines
App. B, P. 3, Para 3, Line 2	Change "necessitates" to "necessitated"
P. 4, Para. 1, Line 6	Proper possessive nouns that end in "s," when plural, still use an
apostrophe;	
	for example, "Oceanographics's"
Para. 2, Lines 2 &3	Change "was" to "were" twice
Line 2	Change "it was" to "these were"
P 16. Para. 5. last line	Change "western most" to "westernmost"
P. 21. Para. 3, Line 2	Change "inter tidal" to "inter-tidal"

307

Maryland Department of Transportation
State Highway Administration

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

March 6, 1998

Re: Project No: TA392A11
MD 331: Dover Bridge (Bridge 20023) over
Choptank River
Talbot County, MD

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville MD 21032-2023

Dear Mr. Little:

Introduction and Project Description

This letter serves to transmit Maryland State Highway Administration's (SHA) determination of effects on cultural resources resulting from the alternates retained for detailed study for MD 331: Dover Bridge over the Choptank River. The effects analysis relies on determinations of eligibility supported in P.A.C. Spero's ***Historic Resource Survey and Determination of Eligibility Report for MD 331- Dover Bridge over the Choptank River*** (transmitted February 20) and Greiner's ***Phase I Terrestrial and Underwater Archeological Survey: MD 331 Dover Bridge Replacement across the Choptank River, Talbot and Caroline Counties, Maryland*** (transmitted March 3). These reports were prepared in compliance with Section 106 of the National Historic Preservation Act, as part of a planning study presently considering improvements to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate both vehicular and marine traffic while minimizing disruptions to the environment. The Dover Bridge, which provides emergency vehicle access to the Memorial Hospital of Easton, has recently experienced mechanical malfunctions and operational problems and is deemed functionally obsolete due to its narrow bridge width.

Area of Potential Effects (APE)

The APE for this project is based on the project description, the study area map. the project area topography, and current and anticipated land uses. Northern, southern, and eastern limits are delineated to include properties along Dover Bridge Road and/or properties along the Choptank River which will be potentially impacted, whether physically or visually, by the proposed project. The APE extends over U.S.G.S. quadrangle maps for Easton; Fowling Creek; Trappe; and Preston. (Attachment I)

My telephone number is _____

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Street Address: 707 North C VI-157 eet • Baltimore, Maryland 21202

Results of Identification

Potentially significant architectural and archeological resources were both investigated as part of the MD 331 study.

Architecture: P.A.C. Spero & Company identified 10 previously unsurveyed historic resources and provided additional information for 2 inventoried properties. SHA has requested MHT's concurrence that none of the newly identified structures or sites are eligible for the National Register, and no rural historic districts or landscapes exist within or contiguous to the APE.

Both of the previously identified resources have been determined eligible for listing on the National Register. One of these, Troth's Fortune (T-50) was successfully nominated to the National Register in 1975. The Dover Bridge (T-487) was previously determined eligible by MHT in1993. A summary table of SHA's eligibility and effect determinations accompanies this letter. (Attachment II)

Archeology: Phase I archeological survey has been initiated, and terrestrial archeological investigations have been completed. Investigations recorded two archeological sites. Site 18TA316 is not considered National Register eligible. Site 18TA315 contains intact, subsurface archeological features dating to the late 17th and early 18th centuries, and is considered eligible for listing on the National Register under Criterion D, for its information potential.

Remote sensing investigations have been carried as part of the underwater archeological survey, and examination of inter-tidal areas is still underway. The remote sensing survey recorded six targets, three of which represent archeological resources (the remaining three were modern debris). None of the three archeological targets is considered eligible for the National Register. Additional identification efforts are still underway for inter-tidal marsh areas on the east bank of the Choptank River, and the results of this work will be forwarded to MHT as soon as it is available.

Alternates

In addition to the No-Build Alternate, SHA developed a Modification Alternate and four alignments (with various options) involving the construction of a new structure. These alternates are described in detail **in Attachment III- Alternates Retained for Detailed Study** and illustrated in **Attachment IV- Project Plans and Elevations**.

Effects

- ***No-Build Alternate***

This alternate involves only the Dover Bridge, and primarily consists of upgrading the electrical system. This work has already been undertaken as an emergency project by SHA's bridge remedial division. No primary character defining elements (CDEs) have been affected by this work. The two major changes resulting from this upgrade included the addition of auxiliary drive machinery and the installation of a new control panel in the operator's house. The operator's house has undergone many modifications from its original design, and would not be considered a primary CDE for the bridge. This alternate will have no impact on archeological resources.

Based on the scope of the work and the fact that it did not alter the appearance, function, or design of the bridge, the no-build alternate constitutes no adverse effect on historic resources.

- ***Modification Alternate***

The modification alternate addresses the purpose and the need of the project by providing more guidance to the Dover Bridge tender, increasing the frequency of mechanical inspections from once a year to every six months, and publicizing the reliability of the newly installed electrical system. To improve the narrow bridge width, the architectural knees at the entrance portals would be removed to increase the perception of lane space for truck traffic. Guide rails would be set back to provide increased roadway width, and enhanced markings with rubber pipes would further delineate the centerline of the highway. The most significant structural modification to the bridge would involve the installation of a 4'3 walkway outside the truss on one or both sides of the span, to accommodate pedestrian and bicycle traffic.

Bridge historian and engineer Dr. Abba Lichtenstein developed this alternate in accordance with the **Secretary of the Interior's Standards for Rehabilitation**. The proposed approach maintains all primary CDEs of the structure. While altering historic fabric through the removal of the portal knees and setback of the guide rails, the modification alternate retains the historic character, use, setting, and location of the structure. In addition, Dr. Lichtenstein has preliminarily determined a method of attaching the proposed sidewalks that could be reversed without impairing the essential form and historic integrity of the bridge.

The Secretary's Standards recognize that some alterations to historic structures are generally needed to assure their continued use, and can be considered provided "such alterations do not **radically** change, obscure, or destroy character-defining spaces, materials, features, or finishes." Based on the fact that this alternate would maintain the historic character, function, setting, and location of the Dover Bridge, and given that it involves no archeological impacts, SHA feels that the modification alternate would have no adverse effect on historic resources. This determination is contingent upon the development of final plans that restrict modifications to those described herein, ensure the reversibility of the sidewalks, and confirm the ability of the existing structure to support the additional weight.[1]

- ***Northern Alternates***

Both options for northern alternates have impacts to historic properties, whether the bridge remains, is moved, or destroyed. The effects include the alteration of the setting and use of the Dover Bridge resulting from the construction of a new bridge parallel to the existing. The height and nature of any of the proposed structures would alter the Dover bridge's flat, rural setting. Transferring roadway traffic from the bridge and either leaving the structure open or adapting it for pedestrian or bicycle use constitute changes to the bridge's function. Removal of the bridge would impact its location.

The Dover Bridge is presently visible from the National Register-listed Troth's Fortune, a 17th century structure located north of the bridge on the west side of the Choptank River. Line of sight photographs taken from the primary structure and several locations along the property's western boundary confirm that while not visible from the house itself, the Dover Bridge presently exists within the view shed of the National Register boundary. (Attachment V) Construction of a modern bridge of significantly higher elevation within this view shed would be more obtrusive than the present, thereby constituting a secondary impact on a historic resource.

Relative to archeological resources, Site 18TA316 would be impacted by alignments N1 and N2, but is not considered eligible for the National Register.

[1] Dr. Lichtenstein feels that this is possible due to modifications made over the bridge's lifetime that have significantly reduced the load of the deck relative to its designed weight.

Based on impacts to the Dover Bridge and Troth's Fortune, either of the northern alternates would have an adverse effect on historic resources, regardless of whether the bridge remained in place.

- ***Southern Alternates***

The four alternates proposed to the south, including the dual bridge alternate, all have impacts on historic resources, whether the bridge remains, is moved, or is destroyed.

The primary effects include the alteration of the setting and use of the Dover Bridge resulting from the construction of a new bridge parallel to the existing. The height and nature of any of the proposed structures would alter the Dover Bridge's flat, rural setting. Transferring roadway traffic from the bridge and either leaving the structure open or adapting it for pedestrian or bicycle use constitute changes to the bridge's function. The southern dual bridge alternate, while retaining the historic use of the bridge, would still require construction of a fixed high level structure that would alter the setting of the historic structure by virtue of its scale. Removal of the bridge would further impact its location.

While less significant than the northern alternates, the southern alignments would also have visual impacts on Troth's Fortune.

Relative to archeological resources, Site 18TA315 would be impacted by alignments S1 and S2. The site contains intact, subsurface archeological features dating to the late 17th and early 18th centuries, and is considered eligible for listing on the National Register under Criterion D, for its information potential.

Based on impacts to the Dover Bridge, archeological resources, and Troth's Fortune, any of the four southern alternates would have an adverse effect on historic resources, regardless of whether the bridge remained in place.

Review Request

Please consult the attached documentation and review the determinations generated by Maryland State Highway Administration regarding this project. We request your concurrence with SHA's determinations of effect for the alternates proposed for the MD 331: Dover Bridge study by April 6.

Based on our assessment the no-build and modification alternates would have no adverse effect on historic properties, pending the successful development of plans for the modification alternate. All options for north and south alignments would have an adverse effect on historic resources. Please call Ms. Jill Dowling at 410-545-8559 with any questions about standing structures for this project, and Mr. Richard Ervin at 410-321-3233 with any questions about archeology.

Very truly yours,

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

by: _____
Cynthia D. Simpson
Deputy Division Chief
Project Planning Division

Attachments (3):
I. MD 331 Area of Potential Effects
II. Summary table for effects and eligibility
III. Alternates Retained for Detailed Study
IV. Project Plans and Elevations
V. Line of sight photographs- Troth's Fortune

cc: Ms. Jill Dowling
Ms. Anne Elrays
Mr. Richard Ervin
Mr. Bruce M. Grey
Dr. Charles Hall
Mr. Vance Hobbes
Ms. Michelle Hoffman
Mr. Mark Lotz
Ms. Pam Stephenson (w/ Attachments)

313

FEB20'98 AM 8:58 OPE

D·H·C·D

February 19, 1998

Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

100 Community Place
Crownsville, Maryland 21032

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Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, MD 21203-0717

RE: Project No. TA392A11 (FHWA/COE)
MD 331: Dover Bridge (Structure No. 20023) over the Choptank River,
Talbot and Caroline Counties, Maryland

Dear Ms. Simpson:

On January 21, 1998, SHA provided to the Trust a copy of the "Alternates Retained for Detailed Study" for the above-referenced project. On February 3, 1998, we also received the "Alternates Retained for Detailed Study" which further eliminated several alternates then under consideration. Trust staff have carefully reviewed each package. Following this review, we find that we have additional questions and issues which we would appreciate having addressed at the Interagency Review Committee's monthly meeting and in the final alternates package.

QUESTIONS AND ISSUES

1. Although the fixed span is less expensive and requires less maintenance than a moveable span, SHA should explain how a 50 foot bridge will accommodate all river traffic presently using the Choptank, particularly boats taller than fifty feet.

2. Please provide us examples of bridges which are 30 and 50 feet high. Are any of the following bridges examples: Severn River (Route 2 or Route 450 at its highest span) Bridge; Kent Narrows Bridge (US 50); or Assateague Island Bridge (MD 611)?

3. Several times the phrase "volumes of traffic" is used. Furthermore, SHA states that 12,300 vehicles per day use the Dover Bridge. The Trust has observed that the Dover Bridge is in a relatively rural area. We question the accuracy of the 12,300 figure given that the entire Talbot Countypopulation for 1997 is 12,623. Please accurately describe the traffic patterns on the Bridge and provide the traffic data SHA used to generate its numbers. Do traffic volumes change seasonally?

4. Please explain more clearly about the accidents on the Bridge. What precisely were the Bridge malfunctions which caused two accidents? What were the Bridge repairs

which caused other accidents? What is the qum quotient for the accident rate SHA cites?

5. Is SHA certain that 50 m.p.h. is the speed most drivers maintain on the Bridge? The Trust's experience would indicate that is not correct. We have observed many cars speeding at 55 or 60 m.p.h. at a minimum. Is it possible that the apparent speeding of cars across the Bridge is responsible for some of the accidents?

6. Why has SHA gone to the trouble and expense of replacing the electrical system of this Bridge if it is "functionally obsolete"? Does SHA expect the Bridge to constantly malfunction after the repair work has been completed? The Bridge engineer who described the work at the December Interagency meeting suggested that the Bridge would eventually wear out, but he did not indicate that the Bridge was likely to regularly malfunction, following completion of the new work. Has the work been done in accordance with the Secretary of Interior's Standards and Guidelines?

7. The training film which SHA provided to the Trust contains information regarding the insertion of expansion joints to alleviate some Bridge malfunctions. What sort of malfunctions occurred which made SHA believe such work would be necessary. What was the nature of that work? How did it help in alleviating any Bridge malfunctions?

8. Who has trained the new Bridge tender? Does he or she have sufficient experience to run the Bridge properly? Could the increased malfunctions be related to changes in personnel tending the Bridge?

9. The Trust does not believe that the addition of 5 foot walkways and stripping the Bridge of its bolts will meet the requirements of the Secretary's Standards. SHA should explain how this will maintain the Bridge's eligiblity for the National Register.

10. SHA should indicate if Caroline and Talbot County officials or bicycle clubs have been consulted about using the Dover Bridge as part of a bike trail. Furthermore, SHA should explain why preserving the Bridge in place as part of a bicycle trail is not an option that you are seriously pursuing.

11. SHA should eliminate the phrase "one of the only remaining metal truss swing span bridges in Maryland." The Dover Bridge is the <u>only</u> metal Pratt through truss swing bridge in the State of Maryland.

12. Because the Interagency Historic Bridge Committee is beginning to prepare a preservation plan for SHA's historic bridges, SHA should explain why the Dover Bridge is not being used to demonstrate the success of such a plan.

We continue to urge SHA to fully explore all prudent and feasible alternatives which would avoid and reduce adverse effects to the Dover Bridge and to ensure the continued use and preservation of this significant historic property. We await the results of SHA's efforts to identify and evaluate the National Register eligiblity of other cultural resources within the project's area of potential effects. Thank you for allowing us this opportunity to comment.

Sincerely,

Elizabeth J. Cole
Administrator, Archeological Services

EJC:AEB:

cc: Mr. Bruce Grey (SHA)
Ms. Jill Dowling (SHA)
Ms. Pamela Stephenson (FHWA)
Ms. Mary Ann Naber (ACHP)
SHA IAR Group

316

Maryland Department of Transportation
State Highway Administration

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

March 9, 1998

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville MD 21032-2023

Dear Mr. Little:

Thank you for reviewing the Alternates Retained for Detailed Study package for the MD 331 Dover Bridge Study. The State Highway Administration (SHA) has reviewed your letter and would like to take this opportunity to address your questions and comments.

1) How will a 50-foot bridge accommodate all river traffic presently using the Choptank River?

The SHA, after consultation with the US Coast Guard and Federal Highway Administration, conducted a survey of both residents in the vicinity of the Dover Bridge and marinas along the Choptank River. This survey, to which over 400 persons responded, indicated that there were only two boats requiring a clearance of 50 feet or more in the vicinity of the Dover Bridge. In fact, 97% of all marine traffic reported traveling in the vicinity of the Dover Bridge require less than 30 feet of clearance. In addition, the Marine Trade Association, as well as other navigators, have reported that the Choptank River's channel is relatively narrow, making it very difficult for large sailboats to navigate. Therefore, a 50-foot bridge would certainly accommodate a very large majority, if not all, of the marine traffic on the Choptank River.

2) *Please provide examples of bridges which are 30 and 50 feet high. Are any of following bridges examples ...?*

- *MD 450 over Severn River* - 75 feet
- *US 50 over Kent Narrows* - 65 feet
- *MD 611 (Assateague Island)* - 35 feet
- *US 50 over Nanticoke River* - 50 feet
- *MD 90 over St. Martin River* - 37 feet (listed as 30-40 foot range)
- *MD 90 over Assawoman Bay* - 37 feet (listed as 30-40 foot range)

My telephone number is _____

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

3) *We question the accuracy of the 12,300 [vehicles per day].... Please accurately describe the traffic patterns on the bridge and provide the traffic data SHA used to generate its numbers. Do traffic volumes change seasonally?*

The Average Daily Traffic (ADT) on MD 331 at the Dover Bridge was counted during the week of October 27, 1997 to October 31, 1997, both with portable traffic counts (road tubes) and a manual classified truck count, which was done with someone actually counting vehicles at the site. This raw data was then converted to an ADT volume by using factors from a nearby Permanent Traffic Count Station (ATR 22). The ADT on MD 331 east of Easton, in the vicinity of the Dover Bridge, has fluctuated from 9,175 to 12,400 on our ADT maps from 1987 to 1996, which indicates a low, relatively stable growth rate. This pattern, according to both the Maryland Office of Planning and our regional planner, is expected to continue for the foreseeable future. SHA anticipates that a summer traffic count will be taken early this summer; however, MD 331 is utilized during the summer as an alternate route when US 50 is overly congested between Cambridge and Easton.

4) *Please explain more clearly about the accidents on the bridge. What precisely were the bridge malfunctions which caused two accidents? What were the bridge repairs which caused other accidents? What is the [sum] quotient for the accident rate SHA cites?*

One of the accidents that actually occurred on the bridge was due to the bridge not seating properly (bridge malfunction), which caused a vehicle to collide with a raised edge. The other accident was caused by debris on the roadway portion of the bridge which caused a vehicle to strike the bridge after running over the debris (bridge repairs). The following table outlines the accident frequencies:

Severity	1994	1995	1996	Total	Study Rate	Statewide Average Rate
Fatal Accidents	0	0	1	1	18.5*	2.4
Number Killed	0	0	1	1		
Injury Accidents	2	3	2	7	129.2*	70.4
Number Injured	2	3	4	9		-
Property Damage Accidents	1	1	1	3	55.4	- 60.8
Total Accidents	3	4	4	11	203.0	133.6

*Significantly higher than the statewide average accident rate for similar maintained highways.

In addition, the sum quotient for an undivided two lane rural highway in the State of Maryland without access controls, which consists of 2,917 miles, is 30,600 accidents. Out of this sum quotient, there were 541 fatal accidents, 16,113 injury accidents, and 13,946 property damage accidents.

5) ***Is SHA certain that 50 mph is the speed most drivers maintain on the bridge? ... Is it possible that the apparent speeding of cars across the bridge is responsible for some of the accidents?***

Studies completed by SHA and consultants working for SHA have indicated that the actual running speed in the vicinity of the bridge varies on the average from 53 to 58 miles per hour. In fact, a spot speed study on the bridge indicated that the median speed was 52-54 miles per hour. Speeding on the bridge may have been a contributing cause of accidents in three incidents, where the accident report indicated that "speed too great for conditions," and "wet conditions" were factors. However, speeding on the bridge is an enforcement issue that should not alter or affect the design speed of the bridge. The design speed for the Dover Bridge should be consistent with American Association of State Highway & Transportation Officials (AASHTO) standards and the posted speed for both of the approaches to the Dover Bridge, which is 50 miles per hour.

6) ***Why has SHA gone to the trouble and expense of replacing the electrical system of this bridge if it is "functionally obsolete?" Does SHA expect the bridge to constantly malfunction after the repair work has been completed? ... Has the [electrical] work been done in accordance with the Secretary of Interior's Standards and Guidelines?***

The bridge, which provides an essential link between emergency care facilities and many communities, had experienced multiple electrical system problems and malfunctions, such as inoperability of the span itself and the gates. The SHA believed that repairing the electrical system was an immediate need in order to improve the reliability of this critical connection. Furthermore, SHA hopes that upgrading the electrical system will eliminate these types of malfunctions; however, we cannot assure 100 percent reliability. The bridge width of 24 feet of clear roadway, as mentioned, is the primary reason why this bridge is considered functionally obsolete, or substandard, since the Federal and State standard is 28 feet. While the upgrade to the electrical system was not completed in accordance with the Secretary of Interior's Standards and Guidelines, the electrical system itself is not classified as a character defining element of the bridge, and no character defining elements were altered during this emergency work.

7) *... What sort of malfunctions occurred which made SHA believe [inserting expansion joints] would be necessary [to alleviate some bridge malfunctions]. What was the nature of that work? How did it help in alleviating any bridge malfunctions?*

The SHA believed that the bridge's normal expansion of the span (and its steel) during prolonged periods of summer heat actually "bound up" the swing span, preventing the span from opening and closing freely. Therefore, a joint was cut in the concrete span and in the approach spans to give the bridge sufficient room to allow the swing span to operate more smoothly. This improvement involved cutting a six inch piece of the deck down to the pier, and installing a rubberized compression seal. This was accomplished on the approach spans by cutting the asphalt and installing an expansion gland material. To complete this work, steel was cut off the end of the span where the swing span rotates open. This expansion joint improvement was effective in creating a smoother connection between the swing span and the approach spans; however, as mentioned above it was not intended to solve the malfunctions associated with the electrical system.

8) *Who has trained the new bridge tender? Does he or she have sufficient experience to run the bridge properly? Could the increased malfunctions be related to changes in personnel tending the bridge?*

While some of the bridge malfunctions over the past few years may have been related to the inexperience of previous bridge tenders, other conditions also contributed to the malfunctions. The SHA hired a new contractor for the Dover Bridge this fall who employ two experienced and competent individuals, trained by the SHA District Office and the contractor in the operation of the Dover Bridge.

9) *SHA should explain how [the addition of 5-foot walkways] will maintain the bridge's eligibility for the National Register.*

The Alternates Retained for Detailed Studies package that MHT responded to was prepared prior to SHA's consultation with Dr. Abba Lichtenstein, a recognized bridge historian and engineer who has worked on the rehabilitation of historic bridges throughout the country. Dr. Lichtenstein's recommended approach to the modification alternate maintains the bridge's bolts and affixes the sidewalks in a reversible manner, in accordance with the Secretary's Standards. SHA is adopting Dr. Lichtenstein's approach based on his thorough understanding of the nature of the structure, and respects the historic spaces, materials, features and finishes of the bridge. By incorporating this approach into the Modification Alternate, it is his belief that the structure's character-defining elements would be retained and that the Modification Alternate would maintain the bridge's eligibility for the National Register.

10) SHA should indicate if Caroline and Talbot County officials or bicycle clubs have been consulted about using the Dover Bridge as part of a bike trail. Furthermore, SHA should explain why preserving the bridge in place as part of a bicycle trail is not an option that you are seriously pursuing.

Both Caroline and Talbot county officials have been notified of the Dover Bridge Study and are included as part of the SHA Project Team. In addition, when the SHA initiated this project, an advertisement was printed in the local papers and over 8000 initiation letters were distributed to people within the project area, in the towns of Preston and Easton, and special interest or community groups, including bicycle clubs. Preserving this bridge as a bicycle trail will be considered and discussed in the environmental document as an option if one of the new alignment alternates should be selected. However, since such a decision has not been made yet, none of the above groups have been approached to consider utilizing the Dover Bridge as a bicycle trail connection.

11) SHA should eliminate the phrase "one of the only remaining metal truss swing span bridges in Maryland." The Dover Bridge is the only metal Pratt through truss swing bridge in the State of Maryland.

The SHA will make note of this text change in the environmental document. In addition, for clarification, according to Dr. Lichtenstein and the SHA Office of Bridge Development, the Dover Bridge is better considered a "Warren" through truss bridge, based on the diagonal truss members forming the letter "W."

12) Why is the Dover Bridge not being used to demonstrate the success of the preservation plan currently being prepared by the interagency bridge committee?

The preservation plan is, as MHT states, only in its incipient development stage. As such, it has not been formally adopted and so its success cannot yet be demonstrated. The plan will be a tool to help SHA preserve and maintain a representative stock of historic bridges. As an example of a swing span bridge, preservation of the Dover Bridge should certainly be considered when developing the preservation plan. Upon adoption, the preservation plan will direct SHA's actions to prioritize maintaining such resources in situ if at all possible. The agencies have concurred on the serious threat to health and safety posed by the unreliable performance of the Dover Bridge. Maintaining the structure with absolutely no action was not reasonable, therefore, mechanical repairs were undertaken as an emergency measure. In consideration of the long term needs of the study area, all reasonable alternates are being considered, including the "no-build" alternate and "modification" alternate, which represents the second course of action the preservation plan would direct SHA to take toward the bridge: "rehabilitation to the Secretary of the Interior's Standards." In recognition of SHA's commitment to the preservation plan and the significance of the Dover Bridge, SHA consulted with bridge historian and engineer Dr. Abba Lichtenstein on the development of this modification alternate. Dr. Lichtenstein is a recognized expert who has rehabilitated many historic bridges, ensuring the preservation of their historic character while enabling their continued use.

Thank you again for your comments. If you have any further questions, please feel free to call me at (410) 545-8547, or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle Hoffman
Project Manager
Project Planning Division

cc: File (with incoming)
Ms. Danielle Algazi, Environmental Protection Agency
Ms. Anne Bruder, Maryland Historical Trust
Ms. Beth Cole, Maryland Historical Trust
Mr. Bill Brazier, US Coast Guard
Mr. Vance Hobbs, US Army Corps Of Engineers
Mr. Craig Koppie, US Fish and Wildlife Services
Mr. Bill Mangels, Chesapeake Bay Critical Area
Mr. John Nichols, National Marine Fisheries Service
Ms. Pamela Stephenson, Federal Highway Administration
Ms. Cynthia Wilkerson, National Park Service
Mr. Ray Dintaman, Maryland Department of Natural Resources
Ms. Emily Burton, State Highway Administration
Mr. Elder Ghigiarelli, Maryland Department of the Environment
Ms. Jill Dowling, State Highway Administration
Ms. Anne Elrays, State Highway Administration
Mr. Howard Johnson, State Highway Administration
Mr. Harvey Muller, State Highway Administration
Ms. Cynthia Simpson, State Highway Administration
Mr. Glenn Vaughan, State Highway Administration
Mr. James Wynn, State Highway Administration
Ms. Bihui Xu, Maryland Office of Planning, Regional Planner

Elrup

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TALBOT COUNTY HISTORICAL TRUST
POST OFFICE BOX 1481
EASTON, TALBOT COUNTY
MARYLAND
21601-1481

VOICE MAIL: 410-820-0549
FACSIMILE TRANSMISSION: 410-820-0614

22 February 1998

To: Anne E. Bruder
Preservation Officer, Project Review and Compliance
Maryland Division of Historical and Cultural programs
100 Community Place
Crownsville, Maryland, 21032

RE: MD331 -- Dover Bridge over Choptank River
Talbot County, Maryland

Dear: Ms. Bruder:

I want to thank you for meeting with Anne Pettit and me at the Dover Bridge on the 10th instant.

The following comments are based on the information supplied to us by the Maryland Department of Transportation, State Highway Administration (SHA) in its letter of 14 January 1998 and from your comments and observations on our site visit on 10 February 1998.

The SHA has made a strong case for improving the existing conditions in its Study Purpose and Need Statement. If demolition of the bridge is the preferred alternative this action will result in an adverse effect to this historic structure and its related resources and we would expect that the SHA would undertake mitigation in consultation with the MD Trust and the Advisory Council for Historic Preservation.

At this time we cannot support demolition of the bridge. However, in reviewing the alternatives presented by SHA we have several concerns. As we stated at the site visit the Dover Bridge site includes a broad expanse of marshland and the flat terrain of the project area results in a large view shed. All of the the alternatives proposed (including retention of the existing bridge) will require construction of a substantial new structure and approaches in order to provide the thirty to fifty foot clearance from the

323

To: Anne E. Bruder, Maryland Division of Historical and Cultural Programs

From: The Talbot County Historical Trust

Ref.: MD331 -- Dover Bridge over Choptank River
Talbot County, Maryland

22 February, 1998
Page 2

mean high tide line. Construction of such a magnitude would, in our opinion encompass a much larger view shed than has been currently studied. We request that a larger view shed be taken into consideration and any known or potentially eligible historic resources be taken into account prior to further selection of alternatives.

We further request that we have the opportunity to review and comment on the SHA historic consultants findings prior to the public meeting secluded for this summer.

In closing, we appreciate your meeting with us and we look forward to working with you and the SHA in developing design solutions that will be agreeable to all concerned parties.

Sincerely:

Mark A. Bower
President
Talbot County Historical Trust

cc: Thomas J. Stohlman, Talbot County Historic Preservation Commission
Bruce Grey, SHA Baltimore Office
Daniel Cowee, Talbot County Office of Planning and Zoning

Maryland Department of Transportation
State Highway Administration

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

March 3, 1998

Re: Project No: SP803B46
MD 331: Dover Bridge (Bridge 20023)
over Choptank River
Talbot County, MD

Mr. Mark A. Bower
President
Talbot County Historical Trust
P.O. Box 1481
Easton MD 21601-1481

Dear Mr. Bower:

Thank you for copying SHA on your recent letter to Anne Bruder of Maryland Historical Trust. We appreciate your comments and response to the information you have received, as well as your field visit with Ms. Bruder. SHA has forwarded a draft copy of the ***Historic Resource Survey and Determination of Eligibility Report for MD 331- Dover Bridge over the Choptank River*** to MHT for review. This report identified structures in both Talbot and Caroline Counties, and was prepared by P.A.C. Spero & Company as part of the planning study presently considering improvements to provide a safe and dependable MD 331 crossing of the Choptank River that will accommodate both vehicular and marine traffic while minimizing disruptions to the environment. We will send you a copy of the report upon receipt of MHT's comments and the production of the finalized historic structures study, prior to the public meeting per your request to Ms. Bruder.

Your letter expressed concern about the area of potential effects (APE) defined for the historic structures study. P.A.C. Spero & Company, our historic structures consultants, developed the APE for this project based on the project description, the study area map, the project area topography, and current and anticipated land uses. Northern, southern, and eastern limits were delineated to include properties along Dover Bridge Road and/or properties along the Choptank River which will be potentially impacted, whether physically or visually, by the proposed project. The APE extends over U.S.G.S . quadrangle maps for Easton; Fowling Creek; Trappe; and Preston (Attachment I) and takes into account primary and secondary impacts for both 30 and 50 foot alternates. P.A.C. Spero was specifically chosen to undertake this study on the strength of their experience assessing historic bridges and the qualifications of their staff, comprised both of historians and engineers.

My telephone number is _____

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

Mailing Address: P.O. Box timore, MD 21203-0717
Street Address: 707 North Calve VI-174 • Baltimore, Maryland 21202

As you can see from attached mapping, the viewshed considered was quite large, and all known or potentially eligible historic resources within the area have been investigated through efforts sufficient to identify historic structures, sites, and districts; traditional cultural properties; and rural historic landscapes.

If this transmission does not adequately address your concerns about the extent of our historic resource studies, please contact Ms. Jill Dowling at (410) 545-8559. We anticipate transmitting a copy of P.A.C. Spero's report to you early this spring.

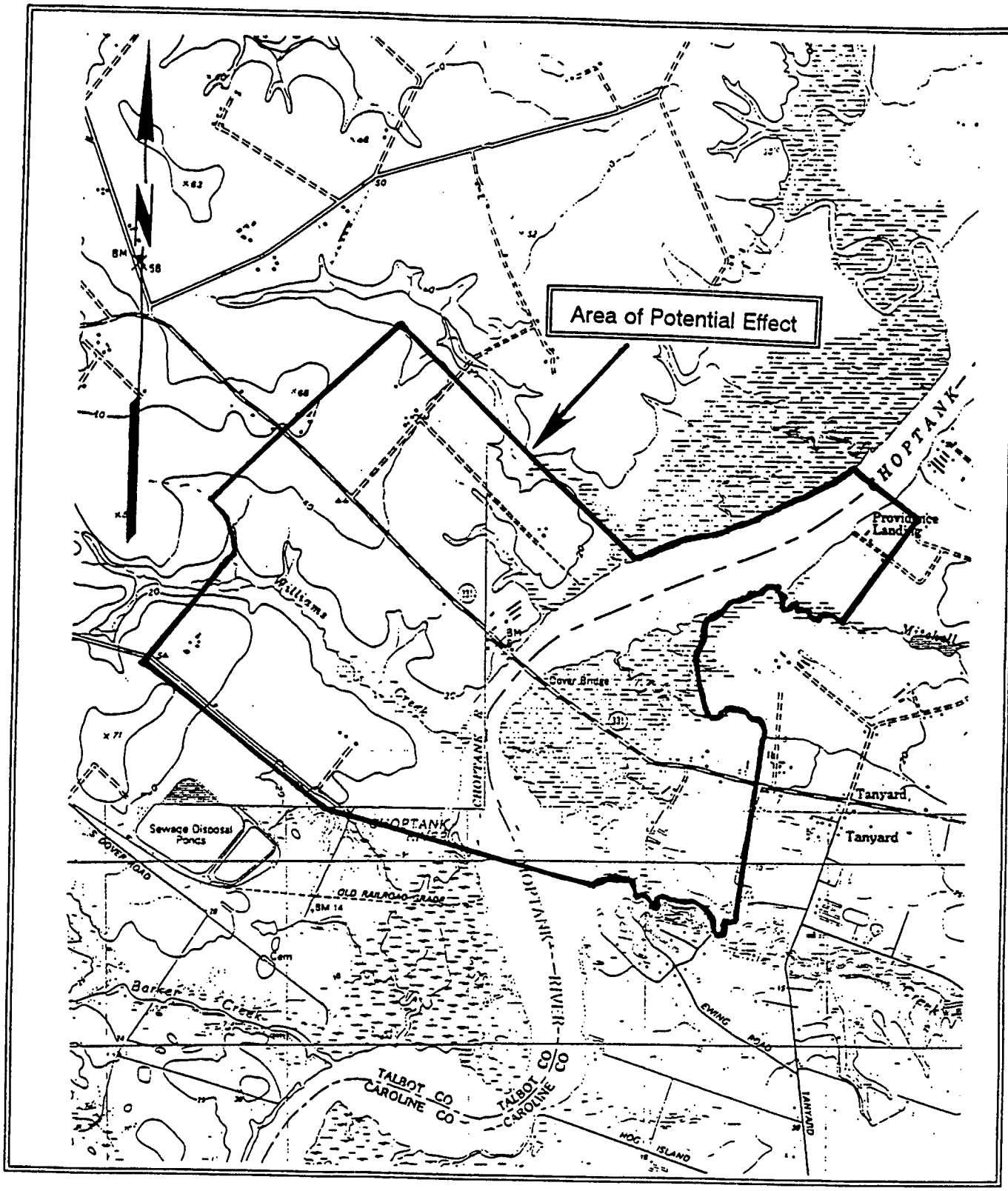
Very truly yours,

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

by: Bruce M. Grey
Bruce M. Grey
Assistant Division Chief
Project Planning Division

Attachments (1): I. MD 331 Area of Potential Effects

cc: Ms. Anne Bruder
Ms. Jill Dowling
Ms. Anne Elrays
Mr. Bruce M. Grey
Dr. Charles Hall
Mr. Vance Hobbes, Army Corps of Engineers
Ms. Michelle Hoffman
Ms. Cynthia D. Simpson
Ms. Pam Stephenson
Mr. Thomas Stohlman, Talbot County Historic Preservation Commission



MD 331-Dover Bridge over Choptank River
Talbot County/Caroline County, Maryland

Historic Resource Survey and
Determination of Eligibility Report

P.A.C. Spero & Company
February 1998

Figure C-1: Area of Potential Effect

U.S.G.S Quadrangle Map
7.5 Minute Series (Topographic)
Easton, MD - Fowling Creek, MD
Trappe, MD - Preston, MD

Scale 1 : 24,000

Hartman

327

TALBOT COUNTY HISTORICAL TRUST, INC.
POST OFFICE BOX 1481
EASTON, TALBOT COUNTY
MARYLAND
21601-1481

VOICE MAIL; 410-820-0549
FACSIMILE TRANSMISSION; 410-820-0614

6 January 1998

To: Anne E. Bruder
Preservation Officer, Project Review and Compliance
Maryland Division of Historical and Cultural programs
100 Community Place
Crownsville, Maryland, 21032

RE: MD331 -- Dover Bridge over Choptank River
Talbot County, Maryland

Dear: Ms. Bruder:

Thank you for your letter of 8 December 1997. The Talbot County Historical Trust (TCHT) met in December and your letter was discussed at that meeting. We identified several issues that we felt need to be addressed before we can render an opinion regarding the proposed demolition of the bridge.

The fist issue is the need for demolition of the existing structure. Would you kindly send us a copy of the State Highway Administration's (SHA) project need report. We assume that this report includes an analysis of the no build and rehabilitation of the existing structure alternatives.

In addition, we are concerned about the potential effect new construction and realignment could have on identified and potential historic resources and archeological sites. For example, there are buildings on the west side of the existing bridge which may be of an age to be considered historic. Further, as you know one of the Eastern Shore's geographic traits is the flat terrain which often results in a much larger view shed in projects such as the Dover Bridge. There are several important historic resources in the immediate vicinity of the bridge which could be visually effected by new construction. One such resource brought up at our last meeting is the National Register listed *Trost's Fortune* [T-50]. This resource includes not only the historic buildings but its rural historic setting as well which is currently protected by an easement.

We suggest at this juncture that we arrange for a site visit with you at

To: Anne E. Bruder, Maryland Division of Historical and Cultural Programs
From: The Talbot County Historical Trust, Inc.
and, the Talbot County Historic Preservation Commission

Ref.: MD331 -- Dover Bridge over Choptank River
Talbot County, Maryland

6 January, 1996
Page 2

which time we can discuss the view shed issue and then drive the area to establish which known and/or potential historic sites may be effected by the proposed bridge. We assume your office is conducting similar efforts regarding the archeological resources.

We all agreed at the last meeting that it is clear that the existing bridge is no longer safe and has severe operational problems involve significant life and safety issue. However, we all agreed that before we could comment to your letter, it is best that we review the SHA documents and to work with you to identify the historic resources in the area which SHA can then take into account when they begin the environmental assessment process.

I will forward a copy of this letter to Mr. Thomas Stohlman, Chairman of the Talbot County Historic Preservation Commission. Also, as per your request we are sending copies of this letter to Mr. Bruce Grey at SHA's Baltimore Office, and, Mr. Daniel Cowee at the Talbot County Office of Planning and Zoning. TCHT looks forward to your communication and, to hopefully have the opportunity to meet with you at the site.

Sincerely:

Mark A. Bower
Chairman
Talbot County Historical Trust, Inc.

Post script: Please note that we know have a permanent Post Office box at the Easton Post Office at Dover and Hansen Streets in Easton and all correspondence should be sent to that address.

cc: Thomas J. Stohlman, Talbot County Historic Preservation Commission
Bruce Grey, SHA Baltimore Office
Daniel Cowee, Talbot County Office of Planning and Zoning

329

Maryland Department of Transportation
State Highway Administration

Parris N. Glendening
Governor

David L. Winstead
Secretary

Parker F. Williams
Administrator

January 14, 1998

Mr. Mark A. Bower
Chairman
Talbot County Historical Trust, Inc.
P.O. Box 1481
Easton MD 21601-1481

Dear Mr. Bower:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. I received a copy of your letter to Ms. Anne Bruder of the Maryland Historical Trust (MHT). As you requested, I have enclosed a copy of the Dover Bridge Study's Purpose and Need Statement, along with a general fact sheet and an errata sheet outlining questions and answers raised by several of the participating Federal and State agencies.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternates that will be investigated as part of this study include the no-build alternate (do nothing), enhancement of the existing bridge, and several low level and high level replacement structures to the north and south of the existing bridge. A copy of the alternates under consideration has been enclosed.

Information developed through this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

I hope that the enclosed information will prove helpful and I thank you again for your interest. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

My telephone number is _____

Maryland Relay Service for Impaired Hearing or Speech
1-800-73[illegible] atewide Toll Free

Mailing Address: P.O. VI-179 • Baltimore, MD 21203-0717
Street Address: 707 North [illegible]treet • Baltimore, Maryland 21[illegible]

Enclosure
cc: Ms. Anne E. Bruder, MHT
Mr. Daniel Cowee, Talbot County
Mr. Thomas J. Stohlman, Talbot County
Ms. Jill Dowling, SHA
Ms. Anne Elrays, SHA
Mr. Bruce Grey, SHA
Mr. Richard Lindsay, SHA

Ho Stohlman

331

D·H·C·D

December 8, 1997

Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

100 Community Place
Crownsville, Maryland 21032

410-514-7600
1-800-756-0119
Fax: 410-987-4071
Maryland Relay for the Deaf:
1-800-735-2258

http://www.dhcd.state.md.us

Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

Chairman
Talbot County Historical Trust
P.O. Box 1481
Easton, MD 21601

Mr. Thomas Stohlman
Chairman
Talbot Historic Preservation Commission
The Courthouse
Easton, MD 21601

Mr. J. O. K. Walsh
c/o Caroline County Historical Society
P.O. Box 514
Denton, MD 21629

RE: MD 331 -- Dover Bridge over Choptank River
Talbot County, Maryland

Gentlemen:

I am writing to inform you that the State Highway Administration (SHA) is reviewing the Dover Bridge, MHT Survey #T-487, in preparation for possible bridge replacement. SHA surveyed the bridge and included it in its Bridge Inventory which identifies historic Maryland bridges. The Dover Bridge is a riveted through truss, center-bearing swing span with three steel six-panel Pratt through trusses. SHA states that the bridge is one of the few remaining swing span bridges in Maryland and the only one eligible for the National Register of Historic Places. The Trust concurs with SHA's determination of eligiblity.

SHA has advised the Trust as well as other Federal and State agencies that the situation with the bridge is serious. This primarily has to do with the bridge remaining in an open position, and the likelihood of an ambulance or other emergency equipment needing to cross the river between Talbot and Caroline Counties. SHA has maintained the bridge quite well, but over the past two years, the bridge has not always worked. At the present time, the problem is that the Dover Bridge's electrical system keeps failing. However, SHA will replace it in January and February, 1998. While SHA believes this will keep the bridge operable, it is not a permanent solution since the electrical system is liable to failure over time.

The Trust also understands from SHA that the citizens of Caroline and Talbot Counties are eager to have a new bridge. While the Trust acknowledges the citizens' concerns regarding safety issues, since the bridge is eligible for the Register it cannot simply be demolished. SHA recognizes its responsibilities to

historic structures and has no plans at the present time to pursue such a course. However, there are several options under consideration although still in the very early planning stages. These include building a new bridge either above or next to the present span, and leaving the swing span open in order to allow boat traffic to pass. The Trust will strongly argue against building a bridge over the present structure. Furthermore, we believe that leaving the swing span open is an adverse impact to the bridge. Since swinging is the bridge's primary character defining element, to lose that is essentially to lose the bridge. Of course, preservation in place is preferable to moving and/or selling the bridge. One option the Trust has suggested is building a new bridge close to the present alignment and using the current bridge as a hiker-biker trail. The new bridge could be higher so that it does not open and pedestrians would have a separate trail to use.

SHA seeks input from not only governmental agencies but also concerned local citizens. Please provide your comments to Mr. Bruce Grey in SHA's Baltimore Office. His address is:

Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, MD 21203-0717

SHA requests that you also give comments and input to the below-listed gentleman who is the local SHA contact:

Mr. Daniel Cowee, Planning Officer
Talbot County Office of Planning and Zoning
11 North Washington Street
Easton, MD 21601-3178.

The Trust would also very much appreciate receiving your thoughts and recommendations regarding this situation. Kindly copy us on any correspondence to either SHA or the Talbot County Office of Planning and Zoning. Enclosed is a copy of the survey form for the bridge for your review and information. As I stated earlier, SHA just began the review process and there is little information regarding potential alternatives at this time. As I receive information, I will keep you advised. However, I encourage you all to be in touch with the Talbot County Planning Office for additional information and to provide your guidance regarding this important and unique bridge. Should you have any questions or need to speak to me, I can be reached at 410-514-7636 during business hours.

Thank you for your assistance in this matter.

Sincerely,

Anne E. Bruder
Preservation Officer
Project Review and Compliance

AEB
Enclosures
cc: Mr. Bruce Grey, SHA

334

SHA Maryland Department of Transportation
State Highway Administration

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

OVER BRIDGE STUDY

MD 331 - Dover Bridge Project Planning Study. The
native that provides a safe and dependable MD 331
ar traffic while minimizing the disruption to the
ne has been added to the mailing list for this study.
uestionnaire to gather additional boating data for use
a few short moments to fill out the questionnaire and return it by
20th

1) Do you own a boat? ☐Yes ☒No SEE BELOW

2) What kind of boat do you ~~own~~? OPERATE
☒power boat ☐sail boat ☐combination ☐other

3) What is the height of your boat (including mast(s), if any)? 12 feet

4) In what waters do you navigate your boat? (Please check all that apply)
☒Choptank River ☒Tuckahoe Creek ☒Other ALL CREEKS + COVES - UPPER CHOPTANK RIVER

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

☒North of Denton
☒Between Dover Bridge and US 50
☒Between Denton and Dover Bridge
☒South of US 50

5) What marina or boat ramp do you use? CAMBRIDGE, CHOPTANK, WINDYHILL, GANEYS WHARF, NEW BRIDGE, MARTINAK, CROUSE MILL

6) Please feel free to provide any additional information on boating habits along the Choptank River.

I AM A DISTRICT SUPERVISOR FOR THE MD NATURAL RESOURCES POLICE, WITH 10 OFFICERS IN MY DISTRICT. WE CONSTANTLY PATROL THE UPPER CHOPTANK RV. W/ SMALL BOATS. WE DO NOT NORMALLY UTILIZE THE LARGE PATROL BOAT, (WHICH IS ESSENTIAL FOR USE AT NIGHT AND DURING INCLEMENT WEATHER) IN THE UPPER CHOPTANK RV. BECAUSE OF THE UNRELIABILITY OF THE DOVER BRIDGE. THIS IS NOT GOOD FOR THE PUBLIC IF THEY NEEDED OUR SERVICES (OR THE COAST GUARD) DURING AN EMERGENCY WHEN A LARGE BOAT WAS NEEDED. ALSO, I RESIDE IN THE AREA OF DOVER BRIDGE AND TRAVEL OVER IT FREQUENTLY, NEVER KNOWING IF YOU ARE GOING TO GET STRANDED AT THE BRIDGE BECAUSE OF MALFUNCTION.

MARYLAND NATURAL RESOURCES POLICE
Sgt. George N. Ball, Jr.
District Supervisor
Eastern Regional Office
Post Office Box 157
Queen Anne, Maryland 21657
(410) 364-5347
Res: (410) 822-6518
Pager: (410) 819-9668
1-800-628-9944

GEORGE N. BALL, JR.
CATHY A. BALL
6683 Manadier Rd.
Easton, MD 21601

My telephone number is (410) 364-5347 (W)
(410) 822-6518 (H)

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

335

Maryland Department of Transportation
State Highway Administration

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

January 23, 1998

Sergeant George N. Ball, Jr.
Maryland Natural Resources Police
Eastern Regional Office
PO Box 157
Queen Anne MD 21657

Dear Sergeant Ball:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study and for sharing your thoughts with us. I appreciate your response to the Dover Bridge boater survey.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for vehicular and marine traffic while minimizing the disruption to the environment. Some alternates that will be investigated as part of this study include the no-build alternate (do nothing), modification of the existing bridge and several low level and high level replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge.

Since the goal of this study is to investigate alternates to increase the dependency and safety of the MD 331 crossing, several replacement fixed bridge alternates are being developed. There have been recent discussions on what height a new fixed bridge should be since the Cambridge (US 50) Bridge downstream is 50 feet and the Denton (US 404) Bridge upstream is 25 feet. Initial discussions have led us to believe that most boats within the vicinity of the Dover Bridge are 25 feet or less; however, this survey will help in determining what the appropriate bridge height should be.

Information on options developed during this project planning study will be presented at an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. Box ltimore, MD 21203-0717
Street Address: 707 North Calv VI-185 • Baltimore, Maryland 21202

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer

331

Maryland Department of Transportation
State Highway Administration

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

January 26, 1998

Mr. Greg Shaner, Planner
Chesapeake Bay Critical Area Commission
45 Calvert Street, Second Floor
Annapolis MD 21401

Dear Mr. Shaner:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. I have enrolled your name on the mailing list for this study as the representative from the Chesapeake Bay Critical Area Commission. In addition, you are welcome to attend any of the project team meetings, which are held in Baltimore at the State Highway Administration's Headquarters Complex (707 North Calvert Street) every third Thursday at 10:00 AM in the third floor Project Planning Conference Room.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Please find a copy of the latest Purpose and Need Statement, as well as some of the agency questions and answers on this document, enclosed for your reference. Some alternates that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge, and several replacement structures to the north and south of the existing bridge.

The development of this project planning study includes an Informational Public Workshop this Spring and a Public Hearing this Summer. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternative and Location and Design approvals.

My telephone number is _____

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

Mailing Address: P.O. VI-187 • Baltimore, MD 21203-0717

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026 or through e-mail at < mhoffman@sha.state.md.us >.

Very truly yours,

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

By: Michelle D Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

Enclosure
cc: Ms. Anne Elrays, SHA
Mr. James L. Wynn, SHA

339

Caroline Soil Conservation District
640 LEGION ROAD #3 DENTON, MARYLAND 21629

26

January 20, 1998

Ms. Michelle D. Hoffman
Project Manager
State Highway Administration
PO Box 717
Baltimore, MD 21203-0717

Dear Ms. Hoffman:

As Chairman of the Caroline Soil Conservation District I am responding to your study of the Dover Bridge.

The Caroline Soil Conservation District recommends that you consider the cost of a new bridge versus the benefits. We know of very few people who need the swing span opened for boating.

Thank you for your attention and consideration.

Sincerely,

William G. Greenage
Chairman, C.S.C.D.

340

Maryland Department of Transportation
State Highway Administration

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

January 28, 1998

Mr. William G. Greenage, Chairman, CSCD
Caroline Soil Conservation District
640 Legion Road
Denton MD 21629

Dear Mr. Greenage:

Thank you for your interest in the MD 331 Dover Bridge Project Planning Study. We appreciate your comments on the alternates under consideration.

As you know, MD 331 (Dover Road) provides an essential connection between communities and emergency care facilities. The purpose of the Dover Bridge Study is to investigate alternates to provide a safe and dependable MD 331 crossing of the Choptank River for marine and vehicular traffic while minimizing the disruption to the environment. Some alternates that will be investigated throughout this study include the no-build alternative (do nothing), rehabilitation of the existing bridge, and several replacement structures to the north and south of the existing bridge. If a replacement bridge were to be selected for construction, traffic would be maintained on existing MD 331 throughout the construction of a new bridge. In addition, all alternates will be evaluated for both their benefits and impacts, including cost.

The development of this project planning study includes an Informational Public Workshop this Spring and a Public Hearing this Summer. You will be notified of the dates of these public meetings. The conclusion of this study is anticipated next Fall or early Winter, with the recommendation of a selected alternate and Location and Design approvals.

Thank you again for your letter. If you should have any questions, please feel free to contact me at (410) 545-8547 or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle D. Hoffman
Michelle D. Hoffman
Project Manager
Project Planning Division

cc: Mr. Richard Lindsay, SHA District Engineer
Ms. Anne Elrays, SHA Environmental Manager

My telephone number is _____

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

341

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

December 1, 1997

Mr. Parker F. Williams
Administrator
State Highway Administration
707 N. Calvert St.
Baltimore, MD 21203-0717

ATTN: Mr. Joseph R. Kresslein

RE: Contract No. SP803B46
Bridge No. 20023
MD 331 over Choptank River
Talbot and Caroline Counties, MD

Dear Mr. Williams:

This responds to your November 3, 1997, request for information on the presence of species which are Federally listed or proposed for listing as endangered or threatened within the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The Federally threatened Bald eagle *(Haliaeetus leucocephalus)* is present within the project vicinity. Nesting approximately one-quarter mile north of MD 331 in Caroline county, Bald eagles require tracts of undisturbed mature forests located in close proximity to aquatic foraging areas. Should any work be proposed north of the existing bridge location, time-of-year restrictions or other measures may be necessary to protect this bald eagle nesting territory. For additional information concerning nesting activity at this location in 1997 or future years, you should contact Glenn Therres of the Maryland Heritage and Biodiversity Conservation Program at (410) 260-8572.

This response relates only to Federally protected threatened or endangered species under our jurisdiction. It does not address the Service's concerns pursuant to the Fish and Wildlife Coordination Act or other legislation. For information on other rare species, you should contact Ms. Lori Byrne of the Maryland Heritage and Biodiversity Conservation Program at (410) 260-8570.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Andy Moser at (410) 573-4537.

Sincerely,

John P. Wolflin
Supervisor
Chesapeake Bay Field Office

343

RECEIVED
MAR 11 1998
THE WILSON T. BALLARD CO.
BY _____

Parris N. Glendening
Governor

Maryland Department of Natural Resources

John R. Griffin
Secretary

Ronald N. Young
Deputy Secretary

Wildlife Division
P.O. Box 68
Wye Mills, Maryland 21679

March 10, 1998

Robert M. Ball
Wilson T. Ballard Co.
17 Gwynns Mill Court
Owings Mills, MD 21117

RE: MD 331 Dover Bridge, Bald Eagle Nest Site

Dear Mr. Ball:

I have examined the proposed MD 331 Dover Bridge site plans you sent me (2/11/98 letter) to determine the distance from the proposed activities to the bald eagle nest (CAR-96-01). I have determined that the easternmost portion of the project is just within the 0.25 mile protection zone (by at most 100 feet), however, the eagle nest is not within line-of-sight of the project due to surrounding trees. Therefore, I do not believe this project will impact this pair of nesting bald eagles at their current location and do not recommend any time-of-year restrictions on the construction activities.

I presume it will take >1 year to get all the approvals needed and to begin construction. It is imperative if this project does not begin before the next nesting season (e.g., Dec. 15, 1998-June 15, 1999) or beyond that this office be contacted to determine if the eagles have moved and potentially placed their nest closer to the proposed bridge replacement project area. It is not uncommon for a pair of bald eagles to use an alternate nest site.

If I can be of any further assistance please contact me at our Wye Mills office (410-827-8612).

Sincerely,

Scott A. Smith
Eastern Regional Ecologist

cc: L. Byrne, DNR Wildlife & Heritage Div.
G. Therres, DNR Wildlife & Heritage Div.

ER#98X.CN

Telephone: _____
DNR TTY for the Deaf: (410) 974-3683

Parris N. Glendening
Governor

Maryland Department of Natural Resources
Forest, Wildlife and Heritage Service
Tawes State Office Building
Annapolis, Maryland 21401

John R. Griffin
Secretary

Carolyn D. Davis
Deputy Secretary

November 18, 1997

Mr. Louis H. Ege, Jr.
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
Baltimore, MD 21203-0717

RE: **Project No. SP803B46, Bridge No. 20023, MD 331 Over Choptank River, Talbot County**

Dear Mr. Ege:

The Wildlife and Heritage Division has no records for Federal or State rare, threatened or endangered plants or animals within the project site. This statement should not be interpreted as meaning that no rare, threatened or endangered species are present. Such species could be present but have not been documented because an adequate survey has not been conducted or because survey results have not been reported to us.

However, the open waters that are adjacent to or part of the site are known historic waterfowl concentration areas. If there is construction of any water-dependent facilities, it should not occur during the October 15 to March 31 wintering period. For technical assistance, please contact Mr. Larry Hindman, Waterfowl Project Manager, at (410) 827-8612 or at P.O. Box 68, Wye Mills, MD 21679.

In addition, the Wildlife and Heritage Division recommends that you avoid or at least minimize wetland disturbance to reduce the likelihood of the establishment or expansion of the invasive weed Phragmites in the otherwise healthy marsh around the project site.

Telephone: (410) 974-3195
DNR TTY for the Deaf: 301-974-3683

Your letter addressed to Mr. Robert Bachman requesting the above referenced project review was forwarded to me. Similar future requests would be handled more expediently if they were mailed directly to me at the address provided above. Thank you for your cooperation.

Sincerely,

Michael E. Slattery

Michael E. Slattery,
Associate Director,
Wildlife & Heritage Division

ER# 97.2901.ta

346

Parris N. Glendening
Governor

Maryland Department of Natural Resources

ENVIRONMENTAL REVIEW

Tawes State Office Building
Annapolis, Maryland 21401

John R. Griffin
Secretary

Carolyn D. Davis
Deputy Secretary

November 7, 1997

Joseph R. Kresslein
Project Planning Division
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
Baltimore, Maryland 21203-0717

Dear Mr. Kresslein:

This letter is in response to your letter of request, dated November 3, 1997, for information on the presence of finfish species in the vicinity of the Maryland Department of Transportation's Project No: SP803B46; Bridge No. 20023; MD 331 over Choptank River in Talbot County.

The Choptank River (Choptank River Drainage Area) is a Use I stream. Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year. If yellow perch spawning activity is documented, the closure period is expanded to February 15 through June 15, inclusive, during any year.

Our Fisheries Service has documented spawning activities of the following anadromous fish species in the Choptank River near the MD 331 Bridge: 1/ yellow perch (Perca flavescens); 2/ white perch (Morone americana); striped bass (Morone saxitilis); and 4/ herring species (Alosa species). In addition to anadromous fish species, this stream supports many resident fish species. Table B-1 (attached) lists fish species documented by our Maryland Biological Stream Survey project in the Choptank river Drainage Area. Many of these species could potentially be found near your project site. These species should be protected by the Use I instream work prohibition period, sediment and erosion control methods, and other Best Management Practices typically used for protection of stream resources.

If you have any questions concerning these comments, you may contact me at (410) 260-8330.

Sincerely,

Ray C. Dintaman, Jr.

Ray C. Dintaman, Jr., Director
Environmental Review Unit

RCD
Attachment

Telephone:
DNR TTY fo 10) 974-3683

Table B-1. Percentage occurrence, density, and population abundance of fish species collected during MBSS quantitative sampling in 1994 in the Choptank River Basin.[1]

Family	Common Name	Scientific Name	Percentage Occurrence	Density Fish/mile	Population Estimate
Petromyzonidae	Least Brook Lamprey	Lampetra aepyptera	17.3	27.5	2,629
Anguillidae	American Eel	Anguilla rostrata	54.0	108.1	27,765
Esocidae	Chain Pickerel	Esox niger	23.5	101.8	26,165
	Redfin Pickerel	Esox americanus	56.8	47.7	4,313
Umbridae	Eastern Mudminnow	Umbra pygmaea	86.4	1,395.4	358,527
Cyprinidae	Eastern Silvery Minnow	Hybognathus regius	3.7	4.5	1,164
	Fallfish	Semiotilus corporalis	23.4	29.9	7,866
	Golden Shiner	Notemigonus crysoleucas	28.4	45.9	11,803
	Ironcolor Shiner	Notropis chalybaeus	2.5	1.3	335
	Rosyside Dace	Clinostomus funuloides	7.4	24.5	6,298
	Satinfin Shiner	Cyprinella analostana	6.2	2.4	609
	Spottail Shiner	Notropis hudsonius	11.1	6.6	1,703
	Swallowtail Shiner	Notropis procne	4.9	5.6	1,450
Catostomidae	Creek Chubsucker	Erimyzon oblongus	63.0	5.0	1,368
Ictaluridae	Brown Bullhead	Ameiurus nebulosu	35.8	27.1	6,966
	Margined Madtom	Noturus insignus	6.2	3.2	830
	Tadpole Madtom	Noturus gyrinus	22.2	21.7	5,567
	Yellow Bullhead	Ameiurus natalis	8.6	1.6	422
Aphredoderidae	Pirate Perch	Aphredoderus sayanus	45.7	112.1	28,802
Cyprinodontidae	Banded Killifish	Fundulus diaphanus	3.7	5.9	1,508
Percichthyidae	White Perch	Morone americana	1.2	11.0	2,821
Centrarchidae	Bluegill	Lepomis macrochirus	44.4	157.4	40,446
	Bluespotted Sunfish	Enneacanthus gloriosus	17.3	11.8	3,028
	Largemouth Bass	Micropterus salmoides	22.2	23.5	6,038
	Pumpkinseed	Lepomis gibbosus	60.4	62.3	15,977
	Redbreast Sunfish	Lepomis auritus	29.6	29.6	7,608
Percidae	Swamp Darter	Etheostoma fusiforme	4.7	0.2	47
	Tesselated Darter	Etheostoma olmstedi	67.9	450.2	115,682
	Yellow Perch	Perca flavescens	6.2	18.9	4,860

[1] Quantitative estimates could only be made for fish species collected during quantitative sampling.

348

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
Oxford, Maryland 21654

March 9, 1998

Louis H. Ege, Jr.
Deputy Director, Office Of Planning & Preliminary Engineering
State Highway Administration
P.O. Box 717
Baltimore, Maryland 21203-0717

Attn: Gay Olson, Project Planning Division

Dear Mr. Ege:

We have reviewed the Purpose And Need Statement (P&N), dated December 17, 1997, for the Maryland Route 331 Dover Bridge Study in Talbot and Caroline Counties.

In general, we do not object to the contents of the P&N. However, we do recommend that additional documentation be provided on the source of the 1997 Average Daily Traffic (ADT) volume estimate for the bridge (i.e., 12,300 vehicles per day), which appears to be high relative to local population levels. If possible, an estimate of the percentage of the ADT that includes non-local transient motorists (e.g., beach traffic) should be provided, as well as an indication as to whether seasonal fluctuations in the ADT occur.

If there are any questions concerning these comments, you may call John S. Nichols at (410) 226-5771.

Sincerely,

Timothy E. Goodger

Timothy E. Goodger
Officer in Charge
Oxford Habitat Office

MAR13'98 AM 8:49 OPPE

Maryland Department of Transportation
State Highway Administration

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

March 13, 1998

Mr. Timothy E. Goodger
Officer in Charge
Oxford Habitat Office
National Marine Fisheries Service
Habitat Conservation Division
Oxford MD 21654

Dear Mr. Goodger:

Thank you for reviewing the Purpose and Need Statement from December 17, 1997 on the MD 331 Dover Bridge Study. The State Highway Administration (SHA) has reviewed your letter and would like to take this opportunity to address your questions and comments.

The Average Daily Traffic (ADT) on MD 331 at the Dover Bridge was counted during the week of October 27, 1997 to October 31, 1997, both with portable traffic counts (road tubes) and a manual classified truck count, which was done with someone actually counting vehicles at the site. This raw data was then converted to an ADT volume by using factors from a nearby Permanent Traffic Count Station (ATR 22). The ADT on MD 331 east of Easton, in the vicinity of the Dover Bridge, has fluctuated from 9,175 to 12,400 on our ADT maps from 1987 to 1996, which indicates a low, relatively stable growth rate. This pattern, according to both the Maryland Office of Planning and our regional planner, is expected to continue for the foreseeable future. SHA anticipates that a summer traffic count will be taken early this summer. MD 331 is utilized during the summer as an alternate route when US 50 is overly congested between Cambridge and Easton however the exact number may be difficult to determine.

Thank you again for your comments. If you have any further questions, please feel free to call me at (410) 545-8547, or toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Michelle S. Hoffman
Michelle Hoffman
Project Manager
Project Planning Division

cc: File (with incoming)
Ms. Danielle Algazi, Environmental Protection Agency
Ms. Anne Bruder, Maryland Historical Trust
Ms. Beth Cole, Maryland Historical Trust
Mr. Bill Brazier, US Coast Guard
Mr. Vance Hobbs, US Army Corps Of Engineers
Mr. Craig Koppie, US Fish and Wildlife Services
Mr. Bill Mangels, Chesapeake Bay Critical Area
Mr. John Nichols, National Marine Fisheries Service
Ms. Pamela Stephenson, Federal Highway Administration
Ms. Cynthia Wilkerson, National Park Service
Mr. Ray Dintaman, Maryland Department of Natural Resources
Ms. Emily Burton, State Highway Administration
Mr. Elder Ghigiarelli, Maryland Department of the Environment
Ms. Jill Dowling, State Highway Administration
Ms. Anne Elrays, State Highway Administration
Mr. Howard Johnson, State Highway Administration
Mr. Harvey Muller, State Highway Administration
Ms. Cynthia Simpson, State Highway Administration
Mr. Glenn Vaughan, State Highway Administration
Mr. James Wynn, State Highway Administration
Ms. Bihui Xu, Maryland Office of Planning, Regional Planner

bcc: Mr. Howard Johnson, State Highway Administration
Mr. Rogers Jorss, State Highway Administration
Mr. Mark Lotz, The Wilson T. Ballard Company
Ms. Diana Miller, State Highway Administration

352

U.S. Department
of Transportation

**Federal Highway
Administration**

Region 3
Maryland Division

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

February 20, 1998

IN REPLY REFER TO:

Alternates Retained for Detailed Study
MD 331-- Dover Bridge
Talbot and Caroline Counties, MD

Mr. Parker F. Williams
State Highway Administrator
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Attention: Neil Pedersen

Dear Mr. Williams:

FHWA has received the information we requested on the alternatives to be retained for detail study as recommended by SHA for the Dover Bridge project study. Base on this information, we can not concur with dropping the "Dual Bridge Alternative" from further consideration as it appears to have less impacts both to wetlands and historical resources than the wider new bridge alternatives that are being carried forward. Furthermore, the serious consideration of the Dual Bridge and the Bridge Rehabilitation Alternatives in the environmental document as feasible and prudent alternatives which avoid Section 4(f) resources is warranted.

If you have any questions, please call Pam Stephenson of my staff at 962-4342, ext 145.

Sincerely yours,

Renee Sigal

for Susan J. Binder
Division Administrator

cc sent:
Lou Ege/Michelle Hoffman, SHA
Interagency Review Group

Fax Note 7672

To Michelle Hoffman Company SHA Location Fax # 410-209-4004 Telephone # 410-545-8591

Pages 2 Today's Date 12/2/97 Time 10:00AM

From Bihui Xu Company MOP Location Dept. Charge

Fax # 410-767-4480 Telephone # 410-767-4567

Comments

Original Disposition: ☐ Destroy ☐ Return ☐ Call for pickup

MARYLAND *Office of Planning*

Parris N. Glendening, Governor

Ronald N. Kreitner, Director

MEMORANDUM

To: Michelle D Hoffman
Project Planning Division
State Highway Administration

From: Christine Wells CW
Maryland Office of Planning

Date: December 2, 1997

Subject: Draft Purpose and Need Statement for the MD 331 - Dover Bridge Project

Staff at the Maryland Office of Planning have reviewed the information provided in the draft Purpose and Need Statement for the MD 331 - Dover Bridge Project. The following comments and questions are provided for your consideration.

We recognize that there is a need to study provision of a dependable and safe crossing over the Choptank River along MD 331 and to correct mechanical malfunctions and operation problems.

According to the information presented in the report, replacement of the existing electrical system is to be completed by mid-February 1998. It is expected that this will minimize the malfunctions of bridge operations. Since mechanical malfunctions and operation problems are the major concerns for the bridge, we wonder if the electrical system replacement would largely solve these problems. Would the sufficiency rating of the bridge increase after the electrical system update? Wouldn't the bridge be more dependable after the replacement of the electrical system? The report should also be clear about the additional factors may still cause the need for additional operation improvements.

The accidents discussed in the report seem not to be closely related with the bridge conditions. If there are relationships between the bridge conditions and the accidents, that explanation should be provided.

More information on bicycle use crossing the bridge would strengthen the discussion.

What is the posted speed limit for traveling through the bridge?

Local Planning Assistance 410-767-4550 Fax: 410 767-4480
301 West Preston Street • Baltimore, Maryland 21201-2305

The report has a good discussion on the importance of the bridge to the movement of goods and services for the region. The background information included in the appendices is helpful. We also noted that this portion of the MD 331 corridor is located in the area designated as agricultural, rural residential, and natural resource conservation by both of Talbot and Caroline Counties. These areas are planned for preservation for agricultural, open space, and limited rural residential and not for future growth.

Should you have any questions regarding above comments, please do not hesitate to contact me at 410-767-4572.

Cc: Mark Gradecak, OP Regional Planner

Maryland Department of Transportation
State Highway Administration

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

December 15, 1997

Ms. Christine Wells
Maryland Office of Planning
Comprehensive Planning
301 West Preston Street
Baltimore MD 21202-2303

Dear Ms. Wells:

Thank you for your response to the MD 331 Dover Bridge draft Purpose and Need Statement. The Project Team has reviewed your questions and would like to address your questions and comments. An updated Purpose and Need Statement addressing your concerns, will be distributed at the December Interagency Review Meeting.

Would replacement of the electrical system largely solve most of the problems on the bridge?

We believe that replacement of the electrical system will greatly reduce the operational problems on the Dover Bridge; however, this replacement will not address safety concerns associated with the narrow roadway width. It is the narrow roadway width, coupled with the functional problems, that exacerbates the need to consider improvements.

Would the sufficiency rating of the bridge increase after the electrical system was updated?

Although upgrading the electrical system will improve the reliability of both the bridge's openings and closures, it will not change the bridge sufficiency rating. The bridge sufficiency rating is based solely upon the structural qualities of the bridge, which includes the functional classification, and are applied to all bridges, regardless of whether they include moveable spans.

Would the bridge be more dependable after the replacement of the electrical system?

As stated above, the bridge openings and closings would be more reliable if the electrical system were upgraded and replaced. This, however, would not address the bridge's existing wedges that aid in the bridge's closing, nor address the functional classification. The wedges are interlocking, finger-like devices on the swinging span that lock into the stationary spans when the bridge is in the closed position. In the past, these wedges have not been driven in correctly. This results in a misaligned bridge closing and requires a re-opening of the bridge in order to gain another attempt at driving the wedges correctly into place

What additional factors may cause need for additional repairs (other than the electrical work)?

In addition to the electrical work, standard bridge maintenance, such as improvements to the truss or machinery, will be required to keep the bridge in operating condition. However, this electrical work and spot maintenance will not upgrade the sufficiency rating, since the sufficiency rating is based on structural qualities, including the roadway width. As discussed at the November Interagency Meeting, increasing the bridge width is not achievable solely through rehabilitation, which would require modification of the truss component, and may adversely affect the historic characteristics of the bridge.

Can the accidents reported be attributed to the bridge conditions?

Over the last three years, eight out of eleven total accidents actually occurred on the Dover Bridge. Of these eight accidents, two were attributed to bridge malfunctions and two were attributed to repair construction on the bridge. The accident types were five rear-end collisions and six fixed object collisions. There were a total of 20 vehicles involved in these 11 accidents, two of which were trucks. Wet surface accidents accounted for four accidents in 1995 and 1996 and there was one alcohol related accident in 1994. There were two nighttime accidents, one each in 1994 and 1995.

What are the current bicycle travel statistics/conditions over the MD 331 Dover Bridge?

Maryland's Eastern Shore has been rated by some national bicycling magazines as one of the best places to bicycle in the nation. One of the most popular routes on the Eastern Shore is in the 30 mile Easton-St. Michaels-Oxford loop. Access to Easton by bicyclists is typically by way of MD 328 or MD 331 because they both maintain wide paved shoulders, except over the Dover Bridge, where there are no shoulders. Many times, MD 331 is the preferred roadway for bicyclists because it is designated on Maryland's tourism map as one part of the Oakland to Ocean City scenic route.

The fact that MD 331 over the Dover Bridge only has a width of 24 feet is a safety concern for bicyclists. Maryland's Transportation Plan states that it is Maryland's goal to make all of its roadways bicycle compatible. This can be accomplished by providing either wide curb lanes or paved shoulders. The remainder of MD 331 does have wide paved shoulders that are bicycle friendly, and the Dover Bridge should be consistent in maintaining wide shoulders as well.

What is the posted speed limit for the approaches and the bridge itself?

The posted speed limit is 50 miles per hour on both the north and south approaches to the bridge, as well as over the bridge itself.

The Project Team recognizes the fact that the Dover Bridge area of MD 331 is located in an area designated as an agricultural, rural residential, natural resource conservation, planned for preservation, and not planned for future growth. The Project Team would like to emphasize that no additional capacity or change in access is planned for the Dover Bridge. Any improvements, if selected, will only address those problems outlined in the Purpose and Need Statement.

Thank you again for your comments. If you have any further questions, please feel free to call Michelle Hoffman, the project manager, at (410) 545-8547, or Anne Elrays, the Environmental Manager at (410) 545-8562. Both can be reached toll-free in Maryland at (800) 548-5026.

Very truly yours,

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

By: Joseph R. Kresslein
Joseph R. Kresslein
Assistant Division Chief
Project Planning Division

cc: File (with incoming)
Ms. Danielle Algazi, Environmental Protection Agency
Mr. Vance Hobbs, US Army Corps Of Engineers
Mr. John Nichols, National Marine Fisheries Service
Ms. Elizabeth Cole, Maryland Historical Trust
Mr. Ray Dintaman, Maryland Department of Natural Resources
Ms. Ann Elrays, State Highway Administration
Mr. Elder Ghigiarelli, Maryland Department of the Environment
Mr. Mark Gradecak, Maryland Office of Planning, Regional Planner
Ms. Michelle Hoffman, State Highway Administration
Ms. Gay Olsen, State Highway Administration
Ms. Renee Sigel, Federal Highway Administration
Ms. Cynthia Wilkerson, National Park Service
Mr. Robert Zepp, US Fish and Wildlife Services
Mr. Howard Johnson, State Highway Administration
Mr. Joseph Kresslein, State Highway Administration
Mr. Neil Pedersen, State Highway Administration
Mr. Douglass Simmons, State Highway Administration
Ms. Cynthia Simpson, State Highway Administration
Mr. Glenn Vaughan, State Highway Administration

VII. LIST OF PREPARERS

A. Federal Highway Administration

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Planning, Research and Environmental Team Leader

Pam Stephenson
Environmental Protection Specialist

Ann Hersey
Area Engineer

B. Maryland State Highway Administration

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Michelle Hoffman
Project Manager

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Jill Dowling
Cultural Resources

C. The Wilson T. Ballard Company

Mark Lotz, P.E.
Associate - Transportation Planning

Joseph DeMent
Designer

Gerard Karczeski
Socio-economic Environmental Analyst

Robert Bull
Environmental Scientist

D. Other Consultants to SHA

PAC Spero - Historic Architecture

Paula A.C. Spero
Project Manager

Caroline D. Hall
Principal Investigator and Architectural Historian

Timothy Tamburrino
Field Investigator and Historic Sites Surveyor

Susan Taylor
Field Investigator and Historic Sites Surveyor

Lisa Driver
Historian

Julie Darsie
Historic Sites Surveyor and Graphics Delineator

URS Greiner - Archeology

Terry Hein
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Dr. William Barse
Principal Investigator

Mr. Marvin Brown
Historian

Mr. George Miller
Archeologist

Dr. Gordon Watts - Underwater Archeology

Dr. Abba Lichtenstein - Consulting Engineer for Historic Bridges

VIII. DISTRIBUTION LIST

A. Federal Agencies

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Natural Resources Conservation Service
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Mr. Jonathan Deason, Director
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Mr. Robert Lippsom
Assistant Regional Director
National Marine Fisheries Service
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Gloucester, MA 19130

Mr. Donald Klima, Chief
Office of Planning and Review
Advisory Council on Historic Preservation
The Old Post Office Building
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Mr. John Wolflin
U.S. Department of the Interior
Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Director
NOAA/CS/EC/Room 6222
Department of Commerce
14th and Constitution Avenue, N.W.
Washington, D.C. 20230

Commander
U.S. Army Corps of Engineers
P.O. Box 1715
10 S. Howard Street
Baltimore, MD 21201
Attention: CENAB-OP-RX

Commander
U.S. Coast Guard, 5th District
431 Crawford Street
Portsmouth, VA 23730

Ms. Cathryn Pomerantz
Environmental Officer
Federal Emergency Management Agency
Liberty Square Building
105 South 7th Street
Philadelphia, PA 19106
Attention: Mr. Walter Pierson

B. State Agencies

Ms. Linda Janey, Chief
State Clearinghouse
Maryland Office of Planning
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Ms. Kathleen Fay
Maryland State Department of Education
State Depository Distribution Center
Public Depository and Distribution Program
Enoch Pratt Free Library
400 Cathedral Street
Baltimore, MD 21201

Judge John North
Chesapeake Bay Critical Areas Commission
45 Calvert Street, 2nd Floor
Annapolis, MD 21401
Attention: Ms. Claudia Jones

Mr. Greg Shaner
Chesapeake Bay Critical Area Commission
45 Calvert Street, 2nd Floor
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Mr. Ray Dintaman, Director
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Mr. Elder Ghigiarelli
Water Management Administration
Maryland Department of the Environment
2500 Broening Highway
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C. Maryland Department of Transportation

Director
Public Affairs
Maryland Department of Transportation
BWI Airport

Mr. Fred Rappe, Director
Office of Systems Planning and Evaluation
Maryland Department of Transportation
BWI Airport

369

Office of General Counsel
Maryland Department of Transportation
BWI Airport

Others

Maryland State Law Library
Upper Level Court of Appeal Building
361 Rowe Boulevard
Annapolis, MD 21401

Ms. Lynda Davis, Director
Library and Information Services Division
Legislative Reference Library
90 State Circle, Annapolis, MD 21401-1991

D. County/Local Agencies

Caroline County

Ms. Sue Simmons, Director
Recreation & Parks
107A South Fourth Street
Denton, Maryland 21629

Ms. Elizabeth A. Krempasky
Planner/Codes Administrator
Courthouse, Post Office Box 207
Denton, Maryland 21629

Mr. Robert A. Balderson, Supervisor
Emergency Communications Division
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Denton, Maryland 21629

Mr. Bryan C. Ebling, Director
Emergency Management
218 Market Street, Post Office Box 151
Denton, Maryland 21629

Mr. William L. Pusey, Jr., Fire Marshall
Office of MD State Fire Marshall
315 Aurora Park Drive, Unit 2
Easton, Maryland 21601

Mr. Charles Emerson, Director
Public Works and Animal Control
Post Office Box 386, Wilmuth Street
Denton, Maryland 21629

Mr. John S. LeGates, Chair
Roads Board
Post Office Box 386, Wilmuth Street
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Mr. Philip L. Brown, Sheriff
Caroline County Detention Center
101 Gay Street
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Mr. Benjamin Happersett, Mayor
Federalsburg
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Ms. Delores Von Denbosch, Mayor
Post Office Box 91 (21655)
Preston

Talbot County

Mr. Karl Oesterling, Director
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10028 Ocean Gateway
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Mr. Daniel Cowee, Planning Officer
Department of Planning
Courthouse
Easton, Maryland 21601

Mr. James Heikes, Chairman
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Mr. Williams E. Mullikin, Director
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605 Port Street
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Public Works & County Engineer
Court House
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Mr. Richard T. Ball Jr.
Roads Superintendent
605 Port Street
Easton, Maryland 21601

Mr. Thomas G. Duncan
Sheriff
115 West Dover Street
Easton, Maryland 21601

Mr. C. Eugene Butler, Mayor
Easton
Post Office Box 520 (21601)

Mr. Ben Lineberry, Assistant Town Engineer of Easton
219 North Washington Street
Easton, MD 21601

E. Elected Officials

Caroline County

Senator Walter M. Baker
153 Main Street
Elkton, Maryland 21921

Talbot County

Senator Richard F. Colburn
4713 Egypt Road
Cambridge, Maryland 21613

F. Historic Preservation Organizations

Chairman
Talbot County Historical Trust
P.O. Box 1481
Easton, Maryland 21601

Mr. Thoma Stohlman
Chairman
Talbot County Historic Preservation Commission
The Courthouse
Easton, Maryland 21601

Mr. J.O.K. Walsk
c/o Caroline County Historical Society
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Denton, Maryland 21629

National Trust for Historic Preservation
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Washington, D.C. 20036

G. Others

Mr. H. Paul Friesema
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368

Abba Lichtenstein, P.E., Dr. Eng. (hc) *Consulting Engineer*
26 Trafalgar Road
Tenafly, N.J. 07670
(201) 567-7381
Fax (201) 567-3741

TRANSMISSION

Date: March 14, 1998
RE: Dover Bridge

To:Ms. Michelle Hoffman, Manager

Firm:Maryland State Highway Administration

Mail Stop C301 Baltimore, MD 21202

Dear Ms. Hoffman:

Enclosed please find the Feasibility Report on subject project, in its final form. I revised some areas and reworked others, in line with your latest comments and out tel/con of Friday 3/13. However all the typing embellishments have not been attended to and I am hoping that that you can have the manuscript re-typed in Baltimore if it has to be done. I can hire a typist here but that would cost in time and money. Good luck with your Enviromental Document!

Very truly yours,

Abba Lichtenstein

Abba Lichtenstein, P.E., Dr. Eng. (hc)

Consulting Engineer

26 Trafalgar Road
Tenafly, N.J. 07670

(201) 567-7381
Fax (201) 567-3741

March 16, 1998

FEASIBILITY REPORT

TO: Michelle Hoffman, Project Manager

FROM: Abba Lichtenstein, PE

COPY: Brian Martin; Jill Dowling

SUBJECT: Dover Bridge over the Choptank River

INTRODUCTION AND PURPOSE

The Dover Bridge is a swing span truss structure along MD Route 331 and provides an important east-west link in a three county area of Southern Maryland: Talbot, Caroline and Dorchester counties. It also accommodates marine traffic along the Choptank River. In 1997, the bridge experienced mechanical and electrical problems causing delays to the highway users and especially to vehicles traveling to the Memorial Hospital of Easton. The Maryland Department of Transportation (MDOT) State Highway Administration (SHA) has commenced a study into the various parameters affecting the performance and operation of the Dover Bridge, in which study contemplates several alternates from "do nothing" to total replacement by a fixed high level structure on new alignments, on either side of the present location. Included in the SHA's study is also an alternate entitled the "Modification Alternate" which envisions the rehabilitation of the existing bridge to improve its operation and serviceability, consistent with the Secretary of Interior's Standards and Guidelines for historic structures. It is the intent of this report to address the Modification Alternate only.

STEPS UNDERTAKEN BY LICHTENSTEIN

On February 20, 1998, a meeting was held at the Easton Shop of the SHA, where I was introduced to the history and recent problems related to the Dover Bridge. I was given a set of the original (1932) construction plans and several

sheets with studies of improving or replacing the present structure. Ms. Hoffman (Project Planning Division) and Mr. Brian Martin (Bridge Design Division) of the SHA explained the various political and technical features of the present situation; Ms. Jill Dowling, historian for the SHA, reviewed the historical and environmental issues and Mr. Joe Dement of the Wilson T. Ballard Company brought us up to date on the engineering aspects and studies. After a short but most rewarding trip to the site and an interview with the bridge tender, we observed the mechanical and electrical elements of the bridge and returned to Baltimore. There I was given additional documents on the 1996 load rating and a 1997 Hardesty & Hanover report on the swing span equipment. Subsequently, I received a set of Electrical Shop drawings and design drawings by Greiner on the swing span improvements, which had been recently complete (or almost completed).

On Friday, February 27, 1998, at my request to clarify the extent of Greiner's assignment, Brian Martin arranged a meeting with the Greiner engineers who had designed the improvements to the mechanical and electrical systems. These were being implemented by a contractor; however, the installation of some of the auxiliary and emergency equipment is still in progress.

On Monday morning of March 2, 1998, Ms. Hoffman called for a progress meeting in Baltimore to discuss my findings contained in a Memorandum to her, dated 2/25/98. Also discussed were the results of my subsequent review of the structural plans, rating calculations, repair plans, and discussions with several SHA engineers.

In the afternoon, I visited the Dover Bridge and interviewed at length the tender on procedures, timing and traffic matters. I also traveled along the approaches and took some additional measurements. It was extremely stormy and I decided to forgo an actual swing span opening for the sake of traffic safety.

FINDINGS

1. The Dover Bridge is only 65 years old. It appears to have been well maintained and its live load rating is high. The superstructure was designed for a double live load of AASHO H-20; the structural steel furnished was ASTM A-7-29 quality.
2. It is an important historic structure, one of three remaining swing spans in Maryland, and was found to be eligible for the Natural Register of Historic Places. Ample documentation is available in the SHA files to justify this determination.
3. There are three basic issues which must be solved if the Modification Alternate will be acceptable to the SHA and the public, as follows: a) reliable and safe operation of the swing span; b) the safe utilization to the roadway

lanes on the bridge; c) providing pedestrian and bicycle facilities across the span.

4. The reliable operation of the swing span is dependent on the installation of proper mechanical and electrical equipment and ensuring their continuous smooth performances by frequent and knowledgeable maintenance. Auxiliary equipment must be provided during unusual events and a substitute power source should be on hand in case of emergencies. I believe that the SHA has already fumished and contracted for the installation of this equipment. As to the main motor, which activates all the span machinery, except the wedges, it is the original 25 HP motor reconditioned. If the walkways are to be added to the bridge, the capacity of the motor should be checked against the increased loads.
5. The bridge tender (operator) is also an integral part of a trouble-free safe operation of the swing span. I interviewed the present operator at length. He is competent and works for a company called the Chesapeake Pilot Training Company of Chestertown, MD which is under contract to the SHA. His regular routine prescribed by the SHA is to make three phone calls to the local county police and emergency departments prior to opening the bridge. The boat waits until the tender gets an all-clear signal; then the safety gates drop, the wedges get pulled and the swinging motion begins. He has a radio, a camera/monitor and a cellular phone so that a smooth operation is assured. In addition, he is instructed to perform one complete opening daily and record it in his log. A single opening lasts about 6 to 8 minutes depending on the vessel type and weather conditions.
6. The information obtained from the SHA indicates that there are approximately 175 openings per year, mostly in the summer. The most openings in a singe day in 1997 were eight.
7. MD Route 331 is a two lane highway. The bridge width is 24' between curbs, which provides two traffic lanes to match the approaches. The rails and curbs along the trusses appear to offer some leeway which could be utilized in widening the roadway a modest amount, say 12 to 18 inches.
8. It is essential to minimize the possibility of a head-on collision on the bridge by including the truck drivers to stay within their prescribed lanes. To help achieve this psychological perception, it is suggested that the entrance and exit portals (only 2 portals total) be altered by removing the outside down sloping leg bracket. The intermediate cross frames, which are of much simpler construction, will need similar revision.
9. There is sufficient room in the middle of the roadway lanes as they continue from the approaches. It is possible to erect a light open barrier (say short rubber flex-posts delineators) between the stripes to accentuate the separation of opposing traffic directions. While this detail may not appeal to the maintenance personnel, it should be viewed as a trade-off for extra assurance of minimized opportunity for collisions.
10. The approach from Easton just before the tender's house has an undesirable feature, especially if it is used to re-enter Route 331 just before the first span.

There is a second similar lane about 2000 feet away from the bridge, along the old road servicing the pre 1932 bridge, and this lane can be improved when the near lane is abandoned.

11. In observing the traffic flow on Route 331 across the bridge, I estimated that the 50 mph speed limit was continually exceeded, even in inclement weather. It may be prudent for the SHA to consider a reduction of the speed limit to say 40 mph. While this suggestion points to the issue of enforcement, logic tells me that a lower posted speed limit would have the salutary effect of a proportionate slow-down at the bridge.
12. MD Route 331 is part of a state bicycle path and a safe crossing area for cyclists and pedestrians would be desirable. The capacity of the trusses, as published in the rating calculations, appears adequate top support a cantilevered sidewalk on each side. The attachment details for the sidewalks should be unobtrusive and of the reversible type as this is a historic structure and any visual intrusion should be kept to a minimum. This was discussed with the Ballard engineers who are developing appropriate details.
13. The center pier is framed by a timber fender system whose width is 40 feet. Assuming that the superstructure is 29 feet wide, it leaves room for two sidewalks, each at most 5 feet wide. This means that a baby carriage and wheel chair can be accommodated, but bicycles will need to be walked across.

SUMMARY

14. The Modification Alternate for the Dover Bridge improvement project contains sufficient benefits to deserve further study and consideration.
15. This alternate would retain the historically eligible extant structure in an unaltered state except for minor revisions to two portals and crossframes and the reversible attachment of outside light walkways.
16. The operation of the swing span has been repaired and refurbished to a point where a smooth reliable operation can be reasonably predicated. To maintain such a high level of performance, the SHA should arrange for frequent inspections of the swing span and keep the tenders' skills current, especially if a personnel change is indicated.
17. Certain minor improvements can be made to the bridge rails, curb and portals to force the driver to stay within their lanes.
18. The trusses are of riveted constructions and highly rated for live load so that they can safely accommodate two sidewalks for pedestrian and bicycle use.
19. The permit process for the Modification Alternate appears to be much shorter and simpler than the replacement schemes. Preparation of contract plans would also favor the Modification Alternate.
20. A construction cost estimate is beyond the scope of this assignment. It should be less than $1,500,000 including sidewalks and considering that the cost of the new mechanical and electrical equipment has already been expended. It may also be of interest to explore the existence of a federal

program for historic bridges which could be applied to the cost of rehabilitation.

I trust that you will find this Feasibility Report satisfactory for consideration in the evaluation process of alternates for the Dover Bridge project. Should you wish to discuss any item herein in greater detail, kindly contact me. Thank you.

ABBA LICHTENSTEIN, P.E., Dr. Eng.

U.S. Department of Agriculture

374

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: January 28, 1998
Name Of Project: MD 331 - Dover Bridge	Federal Agency Involved: State Highway Administration
Proposed Land Use: Roadway (Highway)	County And State: Talbot County, Maryland
PART II *(To be completed by SCS)*	Date Request Received By SCS: 2-3-98

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

Acres Irrigated	Average Farm Size
N/A	250 ac.

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
Corn, Soybean, Small grain	Acres: 161,461 % 90	Acres: 123,113 % 69
Name Of Land Evaluation System Used: LESA	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS: 2-19-98

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A N2	Site B N1	Site C S1	Site D S2
A. Total Acres To Be Converted Directly	6.42	4.90	4.21	5.08
B. Total Acres To Be Converted Indirectly	0	0	0	0
C. Total Acres In Site	6.42	4.90	4.21	5.08
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	2.70	1.60	2.12	2.77
B. Total Acres Statewide And Local Important Farmland	1.96	2.00	.73	.75
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.001	.001	.001	.001
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	68.7	68.7	68.7	68.7
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	72	72	72	72

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15	15	15	15
2. Perimeter In Nonurban Use	10	10	10	10	10
3. Percent Of Site Being Farmed	20	0	0	0	0
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	NA	NA	NA	NA	NA
6. Distance To Urban Support Services	NA	NA	NA	NA	NA
7. Size Of Present Farm Unit Compared To Average	10	10	10	10	10
8. Creation Of Nonfarmable Farmland	25	0	0	0	0
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	20	10	0	0
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	0	0	0
TOTAL SITE ASSESSMENT POINTS	160	80	70	60	60
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	72	72	72	72
Total Site Assessment *(From Part VI above or a local site assessment)*	160	80	70	60	60
TOTAL POINTS *(Total of above 2 lines)*	260	152	142	132	132

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

Reason For Selection:

(See Instructions on reverse side)

Form AD-1006 (10-83)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 – Federal agencies involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form.

Step 2 – Originator will send copies A, B and C together with maps indicating locations of site(s), to the Soil Conservation Service (SCS) local field office and retain copy D for their files (Note: SCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the SCS State Conservationist in each state).

Step 3 – SCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step 4 – In cases where farmland covered by the FPPA will be converted by the proposed project, SCS field offices will complete Parts II, IV and V of the form.

Step 5 – SCS will return copy A and B of the form to the Federal agency involved in the project. (Copy C will be retained for SCS records).

Step 6 – The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 – The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

Part I: In completing the "County And State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

Part III: In completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.

2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

Part VI: Do not complete Part VI if a local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in §658.5(b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will be weighed zero, however, criterion #8 will be weighed a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the FPPA rule. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

Part VII: In computing the "Total Site Assessment Points", where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points, and alternative Site "A" is rated 180 points

Total points assigned Site A = 180 x 160 = 144 points for Site "A."

Maximum points possible 200

Maryland Department of Transportation
State Highway Administration

David L. Winstead
Secretary
Parker F. Williams
Administrator

Please Reply To
Office of Traffic & Safety
7491 Connelley Drive
Hanover, Maryland 21076
Fax: (410) 787-5823

MEMORANDUM

TO: Mr. Douglas H. Simmons, Chief
Regional and Intermodal Planning Division

ATTN: Ms. Michella Hoffman

FROM: Dianna Miller
Traffic Safety Division

DATE: November 12, 1997

SUBJECT: MD 331 @ Dover Bridge
Over Choptank River
Talbot and Caroline Counties

Thank you for your recent memorandum requesting accident information for the subject location. An accident analysis and a study worksheet are attached characterizing the accident experience by year, severity, collision type, accident rates per 100 million vehicle miles of travel (acc/100mvm) and comparable statewide average accident rates. Also included for your review, is a summary of existing conditions observed during a recent field examination of this location.
Please note the traffic volumes used to calculate accident rates were obtained from Mr. C. Rogers Jorss of the Travel Forecasting Section.

Should you have any questions regarding this material, please contact me at (410) 787-5830.

DLM

Attachments

cc: Mr. Joe Finkle
Ms. Michelle Hoffman
Mr. Howard Johnson
Mr. Robert Kiel
Mr. Richard Lindsey
Mr. James Thompson
Mr. Gene Simmers

The collision types, accident study rates and comparative statewide average accident rates are listed in Table II. Rear-end and fixed object collisions occurred at a significantly high rate:

TABLE II

Collision Type	Total Accidents	Study Rate	Statewide Average Rate
Angle	0	0.0	18.2
Rear End	5	92.3*	24.8
Fixed Object	6	110.7*	41.4
Opposite Direction	0	0.0	9.2
Sideswipe	0	0.0	5.5
Left Turn	0	0.0	7.7
Pedestrian	0	0.0	2.0
Parked Vehicle	0	0.0	2.5
Other Collision Type	0	0.0	8.3

*- Significantly higher than the statewide average accident rate for similar State maintained highways.

Nighttime, wet surface and alcohol-related accidents are compared to statewide percentages in Table III:

TABLE III

Condition	1994-1996	% of Total Accidents	Statewide Average %
Nighttime	2	18	32
Wet Surface	4	36	28
Alcohol Related	1	9	8

Maryland Department of Transportation
State Highway Administration

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

318

MD 331 - DOVER BRIDGE STUDY

Thank you for your interest in the MD 331 - Dover Bridge Project Planning Study. The purpose of the study is to identify an alternative that provides a safe and dependable MD 331 crossing of the Choptank River for vehicular traffic while minimizing the disruption to the environment. As you requested, your name has been added to the mailing list for this study. The Project Team has prepared a short questionnaire to gather additional boating data for use in this study. Please take a few short moments to fill out the questionnaire and return it by January 20th.

1) Do you own a boat? **(197)**Yes **(219)**No

2) What kind of boat do you own?*
(149)power boat **(24)**sail boat **(6)**combination **(10)**other

3) What is the height of your boat (including mast(s), if any)?

4) In what waters do you navigate your boat? (Please check all that apply)*

(163) Choptank River **(73)**Tuckahoe Creek **(81)**Other_____

If you navigate on the Choptank River, where do you navigate?
(Please check all that apply)

(34) North of Denton **(82)**Between Denton and Dover Bridge
(134) Between Dover Bridge and US 50 **(83)**South of US 50

5) What marina or boat ramp do you use? _____*

*For question 2, all responses may not total number of cards received. Some response cards were only partially completed. 'Other' responses were mostly canoes and rowboats.
*For question 4, 'other' responses were primarily the Chesapeake Bay.
*For question 5, the results were mixed, with a major number of responses concentrating on: Choptank, Trappe, Ganey's Wharf, and 'own dock.'

This form is for your use to provide the State Highway Administration with information pertinent to the Dover Bridge Study. Please remove the form and answer the questions. Be sure to fold and close this form by stapling or taping prior to mailing.

Your comments are appreciated. All postage will be paid by the Maryland Department of Transportation. Thank you for your time and assistance. If you have any questions, please feel free to call Michelle D. Hoffman, the project manager, at (410) 545-8547, or toll-free in Maryland at (800) 548-5026.

Table 2-A

MD 331-Dover Bridge

Summary of Boat Survey Cards

Number of cards entered:	*416*	% returned:	*42.32%*				
Own a boat?							
	197	219	47.36%				
Type of boat...							
	149	24	6	10			
Height of boat...							
	105	24	13	12	6	4	2	85.54%
Where navigate?							
	163	73	81	51.42%			
On Choptank...							
	34	134	82	83	65.17%		

Table 2-B

MD 331-Dover Bridge

Summary of Boat Survey Cards

Boats that travel North of Dover Bridge on the Choptank River

Number of cards entered:	*101*	% of returned	*24.28%*	% of total	*10.27%*				
Height of boat									
	72	19	11	9	2	5	2	9	6.98%	93.02%
On Choptank...									
	33	105	113	74	55.08%		44.92%		

Revised

February 24, 1998

Dover Bridge Records

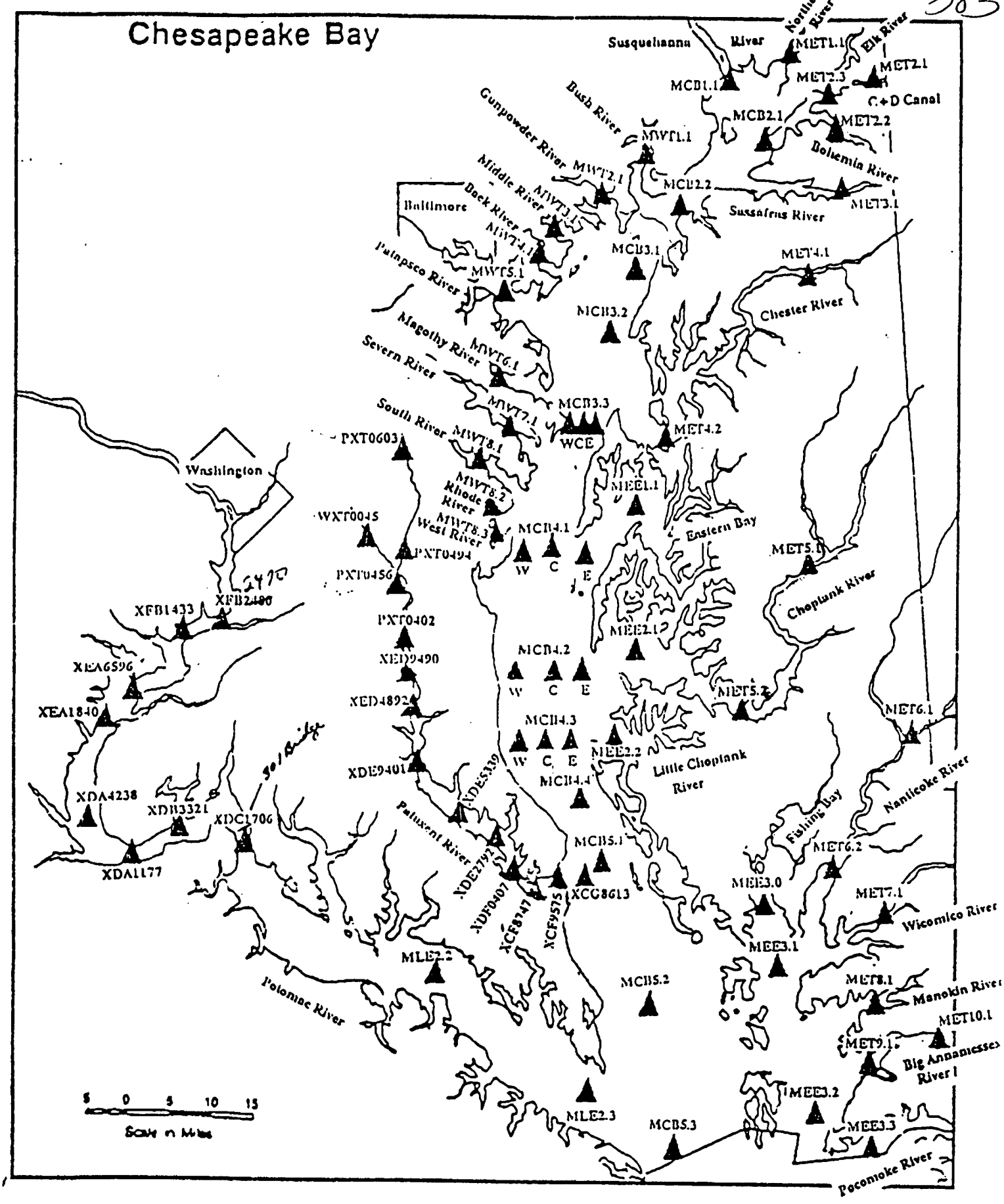
	1995			1996			1997		
	Boats	Malfunctions	Days of Maintenance	Boats	Malfunctions	Days of Maintenance	Boats	Malfunctions	Days of Maintenance
Jan	5	1	1	2	0	1	2	0	3
Feb	3	0	0	0	0	0	0	1	2
Mar	10	0	1	1	0	3	3	0	1
Apr	24	1	0	7	0	1	22	0	3
May	14	0	1	19	0	0	8	0	2
June	17	0	1	19	1	2	37	5	5
July	no logs	2	7	39	3	4	25	1	20
Aug	38	4	9	41	2	6	12	1	18
Sept	17	1	6	7 *	0	1	25	3	18
Oct	15	3	5	16	1	2	21	0	10
Nov	23	1	1	15	0	0	8	0	6
Dec	6	0	0	6	0	1	7	0	18

* - No logs 9/1 - 9/23

382

Table 2.1. (continued).

Station Name	Latitude / Longitude	Location/Depth	Region Characterized/ Sampling Coordination with Other Components	Historical Stations	Annual Sampling Frequency x No. of Depths Sampled
MET2.3	39° 30' 30" 75° 53' 54"	Elk R. SE of Oldfield Pt. at B 15; mid-channel; 12 m.	Tidal fresh; striped bass spawning; DNR juvenile; sediment toxicants.	XKI0661 EPA U10	12 x 2
MET3.1	39° 21' 51" 75° 52' 54"	Sassafras R. nr. Rte. 213 bridge; 5 m.	Tidal Fresh; stripedbass spawning; sediment toxicants.	XJI1970 EPA U1	12 x2
MET4.1	39° 14' 42" 75° 54' 30"	Chester R. at Crumpton nr. Rte. 290 bridge; 6 m.	Tidal fresh; striped bass spawning; sediment toxicants.	CHE0367	20 x 2
MET4.2	38° 59' 24" 76° 13' 00"	Lower Chester R. S of Eastern Neck Is. at buoy FlG 9; 12 m.	Lower estuarine; DNR oyster spat; sediment toxicants.	XGG9572 CBI CHO9C	20 x 4
	MIDDLE EASTERN SHORE:				
MEE1.1	38° 52' 48" 76° 15' 06"	Eastern Bay between Tilghman Pt. and Parsons Is., N of. buoy R4; 13 m.	Embayment; DNR oyster spat; sediment toxicants.	XFF9178 CBI 851N	20 x 4
MET5.1	38° 48' 25" 75° 54' 44"	Upper Choptank R. at Ganey Wharf, down-stream of confluence. Tuckahoe Cr.; 6 m.	Tidal fresh; plankton; DNR spawning habitat; DNRjuvenile; striped bass spawning; sediment toxicants	CHO0429	20 x 2
MET5.2	38° 34' 48" 76° 03' 36"	Lower Choptank R. nr. Rte. 50 bridge at Cambridge; 11 m.	Lower estuarine; plankton; DNR juvenile; DNR spawning habitat; sediment toxicants.	XEH4766	20 x 4
MEE2.1	38° 39' 18" 76° 15' 54"	Choptank embayment between Todds Pt. and Nelson Pt., midway between buoys BWN63B and R12: 8 m.	Embayment; nr. DNR oyster spat; sediment toxicants.	XEG9652	20 x 4
MEE2.2	38° 31' 30" 76° 18' 18"	Little Choptank R. mid-channel W of Ragged Pt.; W of Buoy FlG "3"; 14 m.	Embayment; DNR oyster spat; sediment toxicants.	XEG1617	20 x 4



Station locations in the mainstem and tributaries.

Choptank River Sediment Metals Data

OBS	STATION	YEAR	MONTH	PM	GL62	G62	GMAX	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN
1	MET5.1	88	6	75.0	51.7	48.1	0.2	21.37	0.23	23.56	8.23	22534	8.52	2014.40	0.147	15.25	86.41
2	MET5.1	89	6	76.3	71.3	28.3	0.4	32.40	0.42	37.00	11.00	29573	47.00	2801.00	0.111	21.00	110.00
3	MET5.1	90	6	75.6	89.5	10.3	0.2	29.70	0.50	37.40	12.70	33208	26.20	2251.00	0.050	26.70	124.20
4	MET5.1	91	6	79.3	86.1	13.7	0.2	8.00	0.60	31.00	11.00	32952	32.00	2236.00	0.050	21.00	118.00
5	MET5.1	92	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	MET5.1	92	6	78.0	89.5	10.4	0.1	22.90	0.50	35.20	10.60	28374	23.50	2528.00	0.290	26.00	112.00
7	MET5.1	93	5	79.6	92.2	7.6	0.2	9.54	0.80	29.60	11.50	28837	32.40	2601.00	0.170	25.20	137.00
8	MET5.1	93	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9	MET5.1	94	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10	MET5.1	94	6	.	.	.	.	7.40	0.76	51.60	13.40	33600	34.00	3390.00	0.100	33.90	139.00
11	MET5.2	87	6	72.5	87.1	12.5	0.4	48.26	0.59	47.70	18.30	32391	55.00	867.10	0.069	26.10	114.20
12	MET5.2	88	6	67.8	59.3	39.3	1.4	18.86	0.40	75.85	22.28	25886	20.33	921.28	0.051	47.40	105.87
13	MET5.2	89	6	72.9	76.4	20.2	3.5	25.00	0.44	36.00	14.00	23029	39.00	919.00	0.105	23.00	94.00
14	MET5.2	90	6	68.6	91.9	7.9	0.2	26.60	0.30	64.60	31.40	32118	39.30	1492.00	0.050	31.40	95.80
15	MET5.2	91	6	71.3	93.3	6.7	0.1	7.00	0.20	31.00	15.00	25520	24.00	1666.00	0.050	18.00	87.00

OBS	AL	CUMRECNO	SMSTUCO	SMREP	SEQUENCE	DAY	DEPTH	EDEPTH	HOUR	MINUTE	SMSUBCO	STYPE	DC	SGEAR	DATREC N	TIMREC N	GMAX G	TOCS	HG G	DATREP N	PP	PN	PC	REP
1	.	704	.	1	000083	15	4.5	.	13	30	60	8	ST	VV	880617	1312		5.49		890619	.	0.49	.	.
2	41500	401	2	1	00116	6	4.5	.	11	30	60	8	ST	VV	890608	.		6.02		900712	0.12	0.53	.	.
3	30715	.	.	1	00147	5	4.5	.	11	30	.	.		VV	900613	.		5.98	L	910626	0.10	0.52	.	.
4	28711	.	.	1	0253	11	3.0	.	9	45	.	.		VV	910621	.		6.01	L	911007	0.12	0.55	.	.
5	.	.	.	.		1	.	.	.	.	.	.			.	.		.		.	0.10	0.51	5.49	1
6	23772	.	.	1	00000289	1	4.5	.	12	45	.	.		VV	.	.		.		930225	.	.	.	.
7	24431	343	2	1	000324	27	0.0	2	11	5	60	8	ST	VV	930601	.		.		.	0.12	0.56	6.17	2
8	.	.	.	.		27	.	.	.	.	.	.			.	.		.		.	0.12	0.55	6.24	3
9	.	.	.	.		2	.	.	.	.	.	.			.	.		.		.	.	.	.	.
10	32300	361	2	1	00000375	2	0.0	2	13	25	60	8	ST	VV	940603	.		.		.	.	.	.	.
11	.	457	2	1	000040	24	0.0	2	13	50	60	8	ST	VV	870626	1600		2.18		880531	.	0.28	.	.
12	.	533	.	1	000076	15	12.3	.	11	30	60	8	ST	VV	880617	1312		2.48		890619	.	0.25	.	.
13	39000	381	2	1	00115	6	12.0	.	13	5	60	8	ST	VV	890608	.		2.46		900712	0.07	0.30	.	.
14	21918	.	.	1	00148	5	10.7	.	12	30	.	.		VV	900613	.		2.38	L	910626	0.06	0.30	.	.
15	25418	.	.	1	0254	11	10.5	.	11	30	.	.		VV	910621	.	L	2.37	L	911007	0.06	0.31	.	.

384

Choptank River Sediment Metals Data

OBS	STATION	YEAR	MONTH	PM	GL62	G62	GMAX	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN
16	MET5.2	92	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
17	MET5.2	92	6	71.7	92.4	7.2	0.4	29.30	0.20	32.20	13.80	21756	24.20	492.00	0.150	19.60	88.00
18	MET5.2	93	5	70.9	89.4	7.9	2.7	8.06	0.40	25.80	14.40	20866	28.60	632.00	0.080	19.30	130.00
19	MET5.2	93	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
20	MET5.2	94	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
21	MET5.2	94	6	.	.	.	.	6.80	0.30	43.00	16.70	29400	35.80	1370.00	0.100	27.90	103.00
22	MET5.2	94	6	.	.	.	.	6.70	0.33	39.50	17.50	29300	.	1380.00	.	25.60	104.00

OBS	AL	CUMRECNO	SM_STUCO	SM_REP	SEQUENCE	DAY	DEPTH	EDEPTH	HOUR	MINUTE	SM_SUBCO	STYPE	DCC	SGEAR	DAT_REC	TIM_REC	GMAX_G	TOCS	HG_G	DAT_REP	PP	PN	PC	REP
16	.	.	.	.		1	.	.	.	.	.	.			.	.	.			.	0.06	0.29	2.54	1
17	22140	.	.	1	00000290	1	10.0	.	10	15	.	.		VV	.	.	.			930225	.	.	.	.
18	20790	361	2	1	000325	27	0.0	2	9	25	60	8	ST	VV	930601	.	.			.	.	.	.	.
19	.	.	.	.		27	.	.	.	.	.	.			.	.	.			.	0.07	0.32	2.66	2
20	.	.	.	.		2	.	.	.	.	.	.			.	.	.			.	0.07	0.31	2.39	3
21	35600	379	2	1	00000376	2	0.0	2	11	25	60	8	ST	VV	940603	.	.			.	.	.	.	.
22	35200	757	2	1	00000397	2	0.0	2	11	25	60	8	ST	VV	940603	.	.			.	.	.	.	.

Choptank River Sediment Metals Data

CONTENTS PROCEDURE

Data Set Name:	WORK.DROPDATA	Observations:	22
Member Type:	DATA	Variables:	41
Engine:	V612	Indexes:	0
Created:	9:36 Tuesday, January 6, 1998	Observation Length:	303
Last Modified:	9:36 Tuesday, January 6, 1998	Deleted Observations:	0
Protection:		Compressed:	NO
Data Set Type:		Sorted:	NO
Label:			

-----Engine/Host Dependent Information-----

Data Set Page Size:	32768
Number of Data Set Pages:	1
File Format:	607
First Data Page:	1
Max Obs per Page:	108
Obs in First Data Page:	22
Filename:	CHESIE$DKA500:[DNRUSERS.WROMANO.DATAREQ.SAS$WORK00000FBA]DROPDATA.SASEB$DATA
Host Format:	AXP
Disk Blocks Allocated:	68

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label	
18	AL	Num	8	137		ALUMINUM WEIGHT PERCENT	
8	AS	Num	8	57		ARSENIC UG/G	
9	CD	Num	8	65		CADMIUM UG/G	
10	CR	Num	8	73		CHROMIUM UG/G	
11	CU	Num	8	81		COPPER UG/G	
19	CUMRECNO	Num	8	145			
32	DAT_RECN	Num	8	237		DATE RECEIVED BY LAB	
37	DAT_REPN	Num	8	263		DATE REPORTED BY LAB	
23	DAY	Num	8	177	2.	SAMPLING START DAY	
30	DCC	Char	2	233		DATA CATEGORY	CODE
24	DEPTH	Num	8	185		START DEPTH	CM
25	EDEPTH	Num	8	193		END DEPTH	CM
12	FE	Num	8	89		IRON UG/G	
6	G62	Num	8	41		PERCENT SAND (62-1000 UM)	
5	GL62	Num	8	33		PERCENT SILT/CLAY (<62 UM)	
7	GMAX	Num	8	49		PERCENT GRAVEL (>1000 UM)	
34	GMAX_G	Char	1	253		PERCENT GRAVEL GREATER THAN/LESS THAN	
15	HG	Num	8	113		MERCURY UG/G	
36	HG_G	Char	1	262		MERCURY GREATER THAN/LESS THAN	
26	HOUR	Num	8	201		SAMPLING START HOUR	
27	MINUTE	Num	8	209		SAMPLING START MINUTE	
14	MN	Num	8	105		MANGANESE UG/G	
3	MONTH	Num	8	17	2.	SAMPLING START MONTH	

376

Choptank River Sediment Metals Data

CONTENTS PROCEDURE

#	Variable	Type	Len	Pos	Format	Label	
16	NI	Num	8	121		NICKEL UG/G	
13	PB	Num	8	97		LEAD UG/G	
40	PC	Num	8	287	4.2	PERCENT PARTICULATE CARBON	
4	PM	Num	8	25		PERCENT MOISTURE	
39	PN	Num	8	279	4.2	PERCENTAGE OF NITROGEN IN SEDIMENT	
38	PP	Num	8	271	4.2	PERCENTAGE OF PHOSPHORUS IN SEDIMENT	
41	REP	Num	8	295			
22	SEQUENCE	Char	8	169		SEQUENCE NUMBER	
31	SGEAR	Char	2	235		SAMPLING GEAR	CODE
21	SM_REP	Num	8	161		SEDIMENT METALS REPLICATE NUMBER	
20	SM_STUCO	Num	8	153		SEDIMENT METALS STUDY CODE	CODE
28	SM_SUBCO	Num	8	217		SEDIMENT METALS SUBMITTER CODE	CODE
1	STATION	Char	9	0		SAMPLING STATION IDENTIFIER	
29	STYPE	Num	8	225		SAMPLE METHOD	CODE
33	TIM_RECN	Num	8	245		TIME RECEIVED BY LAB	
35	TOCS	Num	8	254		TOTAL ORGANIC CARBON % DRY WEIGHT	
2	YEAR	Num	8	9	2.	SAMPLING START YEAR	
17	ZN	Num	8	129		ZINC UG/G	

Choptank River Sediment Metals Data

OBS	SEQUENCE	STATION	CUMRECNO	SM_STUCO	SM_REP	YEAR	MONTH	DAY	DEPTH	EDEPTH	HOUR	MINUTE	SM_SUBCO	DC	SGEAR	STYPE	DAT_RECN	CD_G	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	AL
1	00000420	METS.1	289	2	1	95	5	31	0	2	15	0	60	ST	VV	8	950601	L	6.5	0.5	40.8	14.2	30780	33.6	3252	0.12	28.6	141	38400

Property Address 30774 Dover Road, Easton Vicinity, Talbot County
Owner Name/Address Charlas Elizabeth Williams Wise, 30774 Dover Road, Easton, MD 21601
Year Built circa 1700

Resource Sketch Map