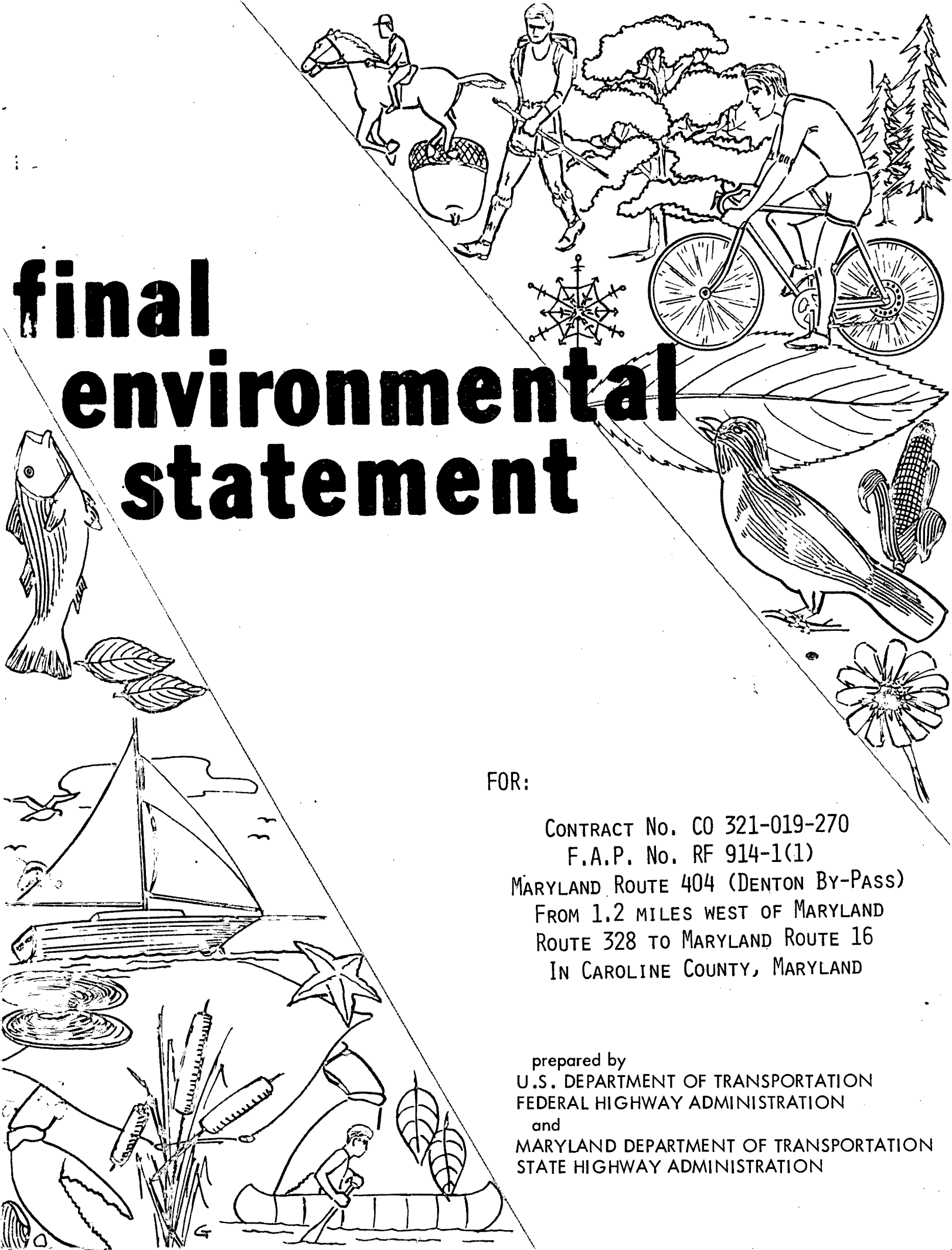

final environmental statement

FOR:

CONTRACT No. CO 321-019-270
F.A.P. No. RF 914-1(1)
MARYLAND ROUTE 404 (DENTON BY-PASS)
FROM 1.2 MILES WEST OF MARYLAND
ROUTE 328 TO MARYLAND ROUTE 16
IN CAROLINE COUNTY, MARYLAND

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

REPORT NUMBER: FHWA-MD-EIS-77-02-F

REGION III

Maryland Route 404 (Denton By-Pass)
From 1.2 miles west of
Maryland Route 328 to Maryland Route 16
in Caroline County, Maryland

ADMINISTRATIVE ACTION

FINAL ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

and

State of Maryland
Department of Transportation
State Highway Administration

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

M. S. Caltrider
State Highway Administrator

6/28/78 by: Hal Kassoff

Date

Hal Kassoff
Director, Office of Planning
and Preliminary Engineering

10/25/78 by: R. A. Damino

Date

Federal Highway Administration
Regional Federal Highway
Administrator

ACKNOWLEDGEMENT

This Environmental Statement was prepared under the direction and review procedures of the Maryland State Highway Administration and the U. S. Department of Transportation - Federal Highway Administration. Assistance was provided by WHITMAN, REQUARDT AND ASSOCIATES.

During the course of study, meetings were held with public officials, representatives of public and civic groups, and with private citizens. The cooperation of all is hereby gratefully acknowledged.

Attachment A

SUMMARY

1. Administrative Action

Federal Highway Administration

Administrative Action Environmental Statement

( ) Draft (X) Final
( ) Section 4(f) Statement Attached

2. For further information concerning this Statement, contact:

Mr. Eugene T. Camponeschi, Chief (383-4327)
Bureau of Project Planning (Office Hours 8:15 AM - 4:15 PM)
Maryland State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Mr. Roy Gingrich, District Engineer (962-4011)
Federal Highway Administration (Office Hours: 8:00 AM - 4:30 PM)
The Rotunda, Suite 220
711 West 40th Street
Baltimore, Maryland 21211

3. Description of Action

The project is a Federal Aid Primary Route and has a functional classification of principal arterial highway. Specifically, the project is the relocation and/or reconstruction of Maryland 404 to provide a multi-lane highway facility around Denton, Maryland from 1.2 miles east of Maryland 328 to Maryland 16, south of Denton.

When on new location, a four-lane freeway with a wide median section is planned. The freeway will have full control of access. Where the project follows the existing road, the construction will be four-lane expressway with a lesser median width. The expressway portion of the project will have only partial control of access.

The primary purpose of this project is to eliminatc traffic congestion and the problems inhcrent thcreto on the local streets of Denton, particularly during thc summer weekends. This condition has existed for a number of years and is becoming increasingly worse as Ocean City, Maryland, and the shore resorts of Delaware continue to expand. A secondary purpose is to reduce the volume of truck traffic traveling through town on Maryland 313.

4. Summary of Alternates

A total of four alternates werc considercd, including the "no build" option. Alternate C, leaving Maryland 404 west of Denton, passing north of West Denton and Denton proper and connecting to the existing Denton Bypass at Franklin Street, had three different variations between Sharp Road and Watts Creek, described in detail in Chapter 6. In addition, Alternate F leaving Maryland 404 in the samc area as Alternate C, passing south of West Denton and Denton and connecting to Maryland 404 near Watts Creek, was considered. A third alternate (Alternate F-1) included all of Alternate F plus an extension of the existing Denton Bypass east of Denton, northward to Maryland 313.

5. Sclected Alternate

Alternate C, Variation 2 was selected as thc most desirable route for implementation for the following reasons:

a) Thc great majority of Denton area residents, elected officials, and local planning jurisdictions all favored the northern alternate. Residents feel that they will get more use from a northern bypass, and that such a bypass will

best enhance the area's economic growth.

b) The Public Hearing comments indicate a mandate for this alternate.

c) Dissent generally came from those property owners whose interests would be directly affected by the construction of Alternate C, Variation 2.

d) Adverse environmental considerations can be mitigated.

e) A portion of the northern bypass has already been constructed and right-of-way purchased as part of Denton's one-way street system.

f) Businesses and schools have been located convenient to a northern bypass route, based on the State Highway Administration preliminary studies dating from the early 1960's, as requested by local officials.

6. Summary of Environmental Impact

The construction of a highway of this magnitude will result in both beneficial and adverse environmental effects. The most obvious beneficial effect will be the improved safety and convenience for both travelers and local residents. Removal of both the seasonal vacation traffic and the through heavy trucks to areas outside the central business district is desirable. By reducing traffic congestion, economic activity in the central business district will be stimulated.

The principal adverse effects will be the necessity to acquire land, houses, and businesses for project construction. Some land to be acquired includes wetlands designated by the Department of State Planning in its Wetlands Habitat Inventory.

A brief environmental impact summary follows:

a. Safety and efficient transportation - The combination freeway and expressway with a minimal number of slowdowns and stops will substantially reduce the accident rate. A freeway has full access control with all traffic entering or leaving the facility via interchanges. An expressway has only partial access

control with access limited to public road intersections or interchanges. Traffic flow of both through and local nature will be facilitated.

b. National Defense - affords better mobility due to additional facility and reduced congestion on present system.

c. Economic Activity - project will reduce traffic congestion through the commercial center bordering existing Maryland 404 in downtown Denton, improving access to local businesses, and stimulate growth potential.

d. Recreation and Parks - No public facilities affected.

e. Aesthetics - Aesthetic impact of this project is expected to be minor. The Denton Historic District, a significant aesthetic asset, will not be affected by the project.

f. Fire and Emergency Health Protection - response to emergency situations will be improved through reduced congestion on the city streets.

g. Public Utility - no significant adverse effect, although some utility facilities will require relocation or adjustment.

h. Neighborhood Character and Location - The necessity of taking some residences, business property and farmland should not significantly change the character or location of adjacent neighborhoods. No division of neighborhoods will occur along the project.

i. Minority Groups - No adverse effects are expected. The establishment of one minority businessman is close to the project, but no adverse effects to his business are expected.

j. Religious Institutions and Practices - The project impacts the privately owned Wesleyan Campgrounds and a new church. This church, Calvary Baptist Church, will be taken by the project right-of-way. Noise will become a problem at the outdoor activities adjacent to the proposed project at the Wesleyan campgrounds. This noise will be mitigated by implementation of a sound barrier or other appropriate measures.

k. Conservation - No natural resources will be significantly affected, although small quantities of prime agricultural land will be taken for right-of-way. Wetlands will be spanned by the improvement.

l. Archeological and Historical Features - No effect.

m. Noise - The project will result in adverse impact on noise sensitive areas and create noise in excess of Federal design noise levels.

n. Air Quality - Carbon Monoxide concentrations for the project will be significantly less than the National Ambient Air Quality Standards in both the near-field analysis and also at sensitive receptors in the project area for both the expected completion year 1982 and the design year 2005.

o. Water Quality - The quality of the ground and surface waters in the Denton area will not suffer major or permanent impairment as a result of the construction, use, or maintenance of the project.

p. Property Values - Construction of the project should increase both residential and business property values in the Sharp Road-Deep Shore Road area.

q. Education - School buses travelling to local schools are expected to operate more safely. There will be no effect on schools.

r. Replacement of Housing - The project displaces 28 families. The real estate market in the Denton area will be unable to absorb these families in a reasonable length of time. Housing of last resort may be required.

7. Federal, State and local agencies and concerned organizations from whom comments were solicited are listed on the following sheets. An asterisk (*) denotes agencies which commented by letter, 2 asterisks denote agencies commenting at the Public Hearing and 3 asterisks denotes agencies commenting both by letter and at the Public Hearing.

DISTRIBUTION LIST

Comments Requested From:

Federal Agencies:

U. S. Department of the Interior
Assistant Secretary for Program Policy
Washington, D.C. 20240
Attn: Director, Environmental Project Review

* Regional Director
National Marine Fisheries Service
Federal Building
14 Elm Street
Gloucester, Massachusetts 01930

Regional Administrator
Department of Housing & Urban Development
Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106
Attn: Mr. William Kaplan
Assistant Regional Administrator

* Office of the Secretary
Department of Agriculture
Washington, D.C. 20250

State Conservationist
Soil Conservation Service, USDA
4321 Hartwick Road
Room 522
College Park, Maryland 20740

Deputy Assistant Secretary for Environmental Affairs
U. S. Department of Commerce
14th and Constitution Avenues
Room 3876
Washington, D.C. 20235

Department of Health, Education and Welfare
Assistant Secretary for Health and Science Affairs
HEW - North Building
Washington, D.C. 20202

Federal Agencies (Continued)

* Environmental Protection Agency
Environmental Impact Statement Coordinator
Curtis Building - 6th Floor
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Office of Economic Opportunity, Director
1200 19th Street, N.W.,
Washington, D.C. 20506

* Executive Director of Civil Works
Office of the Chief Engineer
Department of the Army - Corps of Engineers
Washington, D.C. 20314

* Commander (O.A.N.)
5th U. S. Coast Guard District
Federal Building
431 Crawford Street
Portsmouth, Virginia 23705

Commander (M.E.P.)
5th U. S. Coast Guard District
Federal Building
431 Crawford Street
Portsmouth, Virginia 23705

Federal Energy Administration
Department of Energy
Office of Environmental Programs
New Post Office Building
12th and Pennsylvania Avenues, N.W.,
Washington, D.C. 20461
Attn: Mr. Ernest E. Sligh , Director
Environmental Impact Statements

State Clearinghouse

Local Governments

* Department of State Planning

Department of Natural Resources

Department of Budget & Fiscal Planning

State Clearinghouse (Continued)

Department of General Services

Department of Economic and Community Development

Department of Education

Department of Health and Mental Hygiene

Interagency Committee for School Construction

Maryland Environmental Trust

Maryland Historical Trust

Maryland Geological Survey

Department of Public Safety and Correctional Services

Maryland Department of Transportation

Mr. Michael F. Canning, Director
Public Affairs
Maryland Department of Transportation

Mr. Clyde E. Pyers, Director
Division of Systems Planning & Development
Maryland Department of Transportation

Elected Federal, State and Local Officials

The Honorable Robert E. Bauman
United States Congress
House of Representatives
Washington, D.C. 20515

The Honorable Charles McC. Mathias
United States Senate
Old Senate Building - Suite 406
Washington, D.C. 20510

The Honorable Paul S. Sarbanes
United States Senate
Old Senate Building - Suite 362
Washington, D.C. 20510

Elected State and Local Officials

** The Honorable Frederick C. Malkus, Jr.,
State Senator
Caroline County
P. O. Box 316
Cambridge, Maryland 21613

** The Honorable William S. Horne
Delegate
Caroline County
P. O. Box 204
Easton, Maryland 21601

** The Honorable John R. Hargreaves
Delegate
Caroline County
Route 2, Box 44L
Denton, Maryland 21629

The Honorable W. Henry Thomas
Delegate
Caroline County
1009 Radiance Drive
Cambridge, Maryland 21613

* The Honorable A. Curtis Andrew
President
Board of County Commissioners
Route 2, Box 144
Denton, Maryland 21629

The Honorable Edwin G. Richards
County Administrator
Caroline County
Box 207
Denton, Maryland 21629

** The Honorable Richard T. Warfield
Mayor - Town of Denton
Denton, Maryland 21629

*** Mr. Wilbur Hoopengardner
Superintendent
Caroline County Board of Education
Law Building
Denton, Maryland 21629

Elected State and Local Officials (Continued)

The Honorable Paul Yoash
President of Commissioners
Hillsboro, Maryland 21641

Local Citizens' Groups

** Reverend Paul D. Dieter
District Superintendent
Delmarva District of the Wesleyan Church
809 South Second Street
Denton, Maryland 21629

*** Quentin R. Walsh, Chairman
Northern Bypass Committee
Route 3, Box 184
Denton, Maryland 21629

*** Francis E. Yeoman, Secretary
Rotary Club of Denton
Denton, Maryland 21629

*** Ms. Ann C. Ogeltree
c/o Kent , Ogletree & Thornton
118 Market Street, P. O. Box 560
Denton, Maryland 21629

The Denton Bypass Draft E. I. S. was forwarded and submitted to the Council on Environmental Quality (C. E. Q.) on November 3, 1977.

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* Responded with letter
** Responded at public hearing
*** Responded both at public hearing and with letter

TABLE OF CONTENTS

15

19

FOLLOWING PAGE

EXHIBITS

TABLES

CHAPTER 1 NEED FOR THE PROJECT

The purpose in constructing the proposed project is to eliminate through traffic from the downtown streets of Denton. During summer weekend periods, the streets of Denton are extremely congested with ocean bound traffic, to the detriment of local business establishments. By removing through traffic, normal traffic flow such as is now experienced during the winter months will be maintained on the Denton street system on summer weekends. The ocean resort areas of Maryland and Delaware will benefit from the improvements in traffic flow, which will make these areas more attractive to persons living on the western shore of the Chesapeake Bay as well as in Washington, D.C., and northern Virginia. Denton will benefit in many different ways from the removal of this transient traffic from its local street system, as enumerated elsewhere in this report. Safety, emergency service flexibility, and access to local businesses by residents will be enhanced by the presence of a bypass route.

Construction of a Denton Bypass is in line with projected plans for Md. 404. The Maryland State Highway Administration 20-Year Needs Study indicates improvements to several primary routes in the Denton area as being critical needs. A series of four projects extending eastward from U.S. 50 to Maryland 16 (the Greenwood Road) are scheduled which would dualize Maryland 404. The only critical secondary highway project in the Denton area is the reconstruction of Maryland 313 between Franklin Street and the project at Fleetwood Road, using an urban type section. On the non-critical list, Maryland 313 is proposed as a 4 lane divided highway between Fleetwood Road and Maryland 311 at Goldsboro. Maryland 328 is scheduled on a non-critical basis to be reconstructed as a 4-lane divided highway between the beginning of the Maryland 328 relocation and the Talbot County line.

As an adjunct to the problem of traffic congestion on Maryland 404 in Denton as outlined above, there is heavy truck traffic on Maryland 313 through Denton. Many truckers find Maryland 313 a most desirable north-south route when traveling the Eastern Shore Peninsula. They now must travel through downtown Denton, with the attendant risks of accidents, pedestrian hazards, and short turn radii on city streets. In addition, this situation yields undesirable effects environmentally, those effects including noise, vibration, diesel exhaust and ash and broken-up streets from the heavy loads. The project will also serve as a bypass for Md. 313 traffic.

Denton at present represents a bottleneck of 25 mph streets along a series of 50 and 55 mph highways (U.S.50, Maryland 404, etc.) between the Bay Bridge and Ocean City. This situation invites the transient traffic to run at higher-than-legal speeds within the town of Denton, particularly during off-peak periods. Enforcement by radar or VASCAR does not really inhibit speeding, since these methods are highly selective and cannot effectively reduce the speed of the majority of the traffic. Only the obvious omnipresence of a fair-sized police force could effectively control the speed of traffic through town. It is too costly for the town of Denton to hire and detail the necessary number of police officers to this one purpose at the cost of other strictly local needs.

During high volume periods, pedestrian and traffic controls at intersections along Maryland 404 are necessary because of the presence of the transient traffic. Where there are no signals or police, crossing the streets assigned as Maryland 404 is virtually impossible by either pedestrians or vehicles. The situation leads to citizens frequently encountering an unsafe and time-consuming delay. The construction

of the project will substantially reduce this problem.

The routes affected by the construction of the project experienced 87 accidents during 1973 and 1974. The computed accident rate for these routes based on the ratio of accident history to travel was 301.43 accidents per 100 million vehicle miles of travel (acc/100MVM). This rate is presently higher than the statewide average of 287.79 acc/100MVM of travel for all similar design highways now under State maintenance. Studies of the relationship between the seasonal increase in traffic and the accident rate indicate that the accident rate can be expected to increase to 370.35 acc/100MVM by 1980 if no improvements are made. The accident rate will undoubtedly continue to rise with a corresponding increase in motor vehicle accident costs exceeding the present cost of approximately $1,389,100/100MVM of travel for the motorist now using Md. 404/313.

According to traffic accident studies of this project, the proposed four-lane, divided highway should experience an accident rate of 184.91 acc/100MVM of travel after completion. This safer type highway will bring about an accident cost to the motorist of $867,700/100MVM of travel, with an anticipated savings of $512,400/100MVM of travel for the motorist now using Md. 404/313.

In accordance with consolidated transportation plans, the section of highway between U.S. 50 and the Denton Bypass is in the 1979-1983 Highway Improvement Plan for expansion to a four-lane facility. The 1979-1998 Twenty Year Highway Needs Study indicated that Md. 404 east of the Denton Bypass to the Delaware Line was to be upgraded to 4 lanes within this time period. The State of Delaware has abated all capital highway improvement expenditures, and as a consequence, the Maryland State Highway Administration is not considering construction of four lanes on Md. 404 in the foreseeable future.

CHAPTER 2 DESCRIPTION OF PROPOSED ACTION

1. Location, Type of Facility and Length

Existing Maryland 404 is a primary east-west highway extending through Queen Annes and Caroline Counties on the Eastern Shore of Maryland. Maryland 404 begins at U.S. 50 on the west and runs due east to the Delaware State line where it continues as Delaware 404 to a connection with U.S. 313 at Bridgeville, Delaware. This two-lane road provides an important route to the recreational areas along the Atlantic coast in Delaware and Maryland. Denton, Maryland, located in Caroline County, is the only town with a population greater than 1,000 people occurring along the length of Maryland 404. Hillsboro is bypassed by Maryland 404.

Maryland 404, from its junction with U.S. 50 at Wye Mills approximately 13 miles west of Denton, is a two lane highway to the Choptank River area on the west side of Denton. The route then splits onto a pair of one-way streets to pass through the town. Maryland 313 enters Denton from the north at the center of town and coincides with Maryland 404 to the east and south of Denton. These coincident routes continue to a point beyond the limits of this project where they again diverge. East of town, the one-way system merges with the partial construction of an earlier planned northern bypass, herein called the existing Denton Bypass and ultimately transforms to a two-lane highway south of town. The two-lane highway continues to the Delaware State line.

On March 22, 1976, a section of the 24-foot-wide bascule bridge at Denton, carrying Md. 404 over the Choptank River, collapsed. Emergency repairs to the bridge were completed in early May and it was reopened to traffic but with restrictions

on loading. A 25' fixed span bridge which will replace the existing bascule span will be under construction later this year.

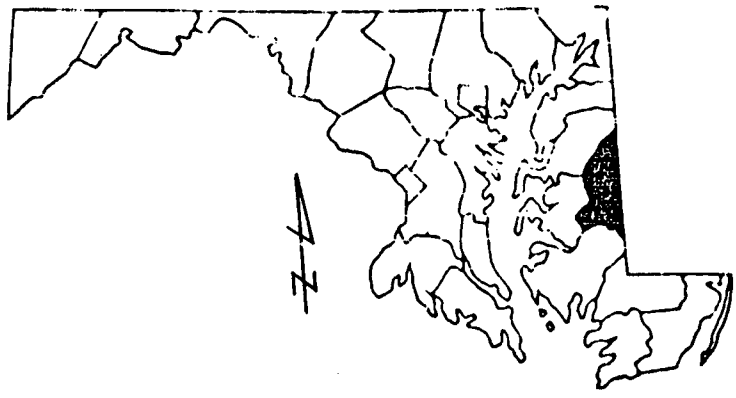
The Selected Alternate (described as Alternate C Variation 2 in the Draft E.I.S.) leaves Maryland 404 approximately 1.3 miles west of Maryland 328 and heads in an easterly direction until it turns northeast to overpass the Penn Central railroad tracks which parallel Maryland 404 to the north, approximately 1,000 feet west of River Road. (See Exhibit No. 2). It then proceeds across River Road and the Choptank River to a point 650 feet north of Fleetwood Road. After paralleling Fleetwood Road to Maryland 313, it turns south between the Delmarva Power and Light Company Sub-station and the Wesleyan Camp on Camp Ground Road, and connects to the northern end of the existing Denton Bypass. The alignment then continues to the south along existing Maryland 313-404. (See Exhibit No. 12, Plan and Profile Sheet Nos. 1, 2, 3 and 4).

There are two major water crossings by the alternate. The Choptank River will be spanned by a 1,200-foot-long bridge. The crossing includes a 500' wide wetland area identified as Wetland 59*.

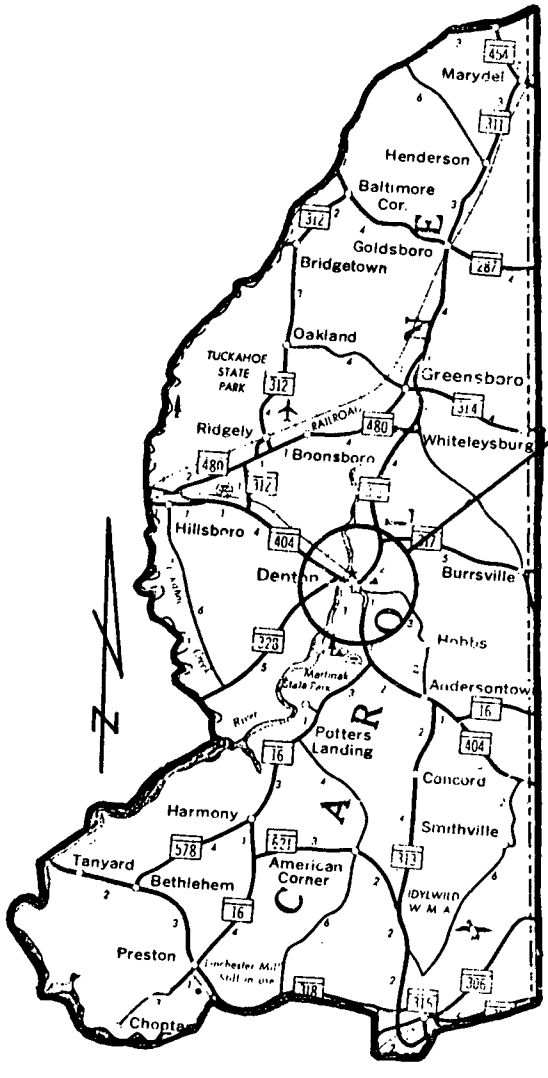
At the present time, commercial water traffic on the Choptank River does not go beyond a point just north of the existing Maryland 404 bridge in Denton, which is to be rebuilt with a 25' vertical clearance and a 100' horizontal clearance. At the project crossing, a vertical clearance of 20 feet and a horizontal channel clearance of 40 feet is planned. The approval of these horizontal and vertical clearances is the responsibility of the U.S. Coast Guard. Prior to final design, the Coast Guard will announce horizontal and vertical clearances based on their established procedures, which allow for community input.

*Wetland Habitat Inventory, Maryland Department of State Planning, 1968.

KEY MAP



MARYLAND



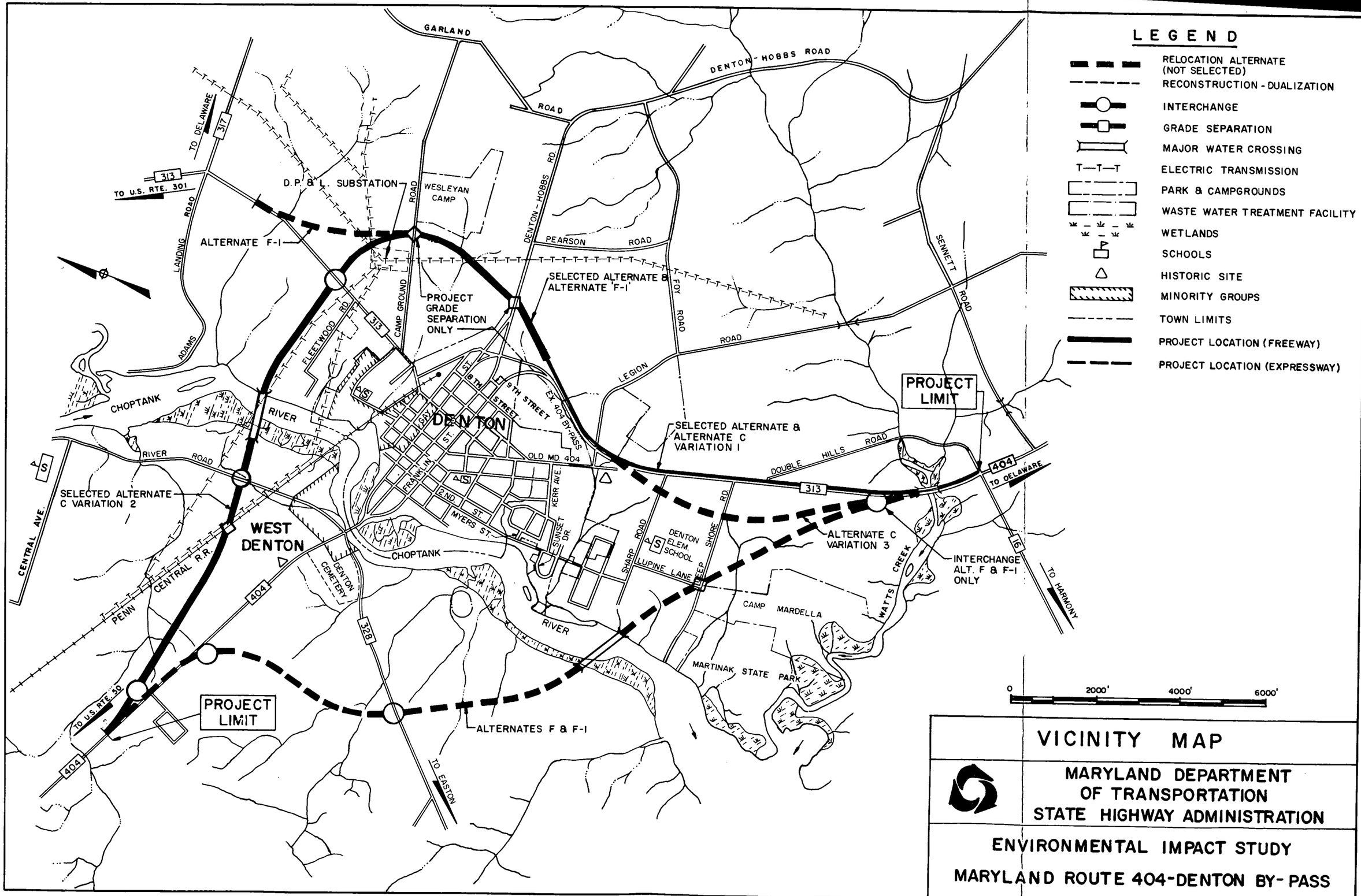
PROJECT AREA

CAROLINE COUNTY

SCALE: 1 INCH = 6 MILES

LOCATION MAP

EXHIBIT 1



LEGEND

- RELOCATION ALTERNATE (NOT SELECTED)
- RECONSTRUCTION - DUALIZATION
- INTERCHANGE
- GRADE SEPARATION
- MAJOR WATER CROSSING
- T—T—T ELECTRIC TRANSMISSION
- PARK & CAMPGROUNDS
- WASTE WATER TREATMENT FACILITY
- WETLANDS
- SCHOOLS
- HISTORIC SITE
- MINORITY GROUPS
- TOWN LIMITS
- PROJECT LOCATION (FREEWAY)
- PROJECT LOCATION (EXPRESSWAY)

VICINITY MAP

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 2

The project also traverses Watts Creek adjacent to existing Maryland 313-404. The eastbound lanes of the project will use the existing structure, which may be widened. The westbound lanes will cross the river on a new structure. This crossing will occur 30± feet upstream of the existing bridge and will parallel the existing structure. The combined Watts Creek and wetlands width that must be crossed for dualization of Maryland 313-404 is approximately 100 feet (predominantly stream with negligible wetlands) as indicated on the Department of Natural Resources wetlands map. The area described is a part of Wetland 61.*

2. Traffic Data

Average daily traffic on Maryland 404 at the present time is in excess of 6,000 vehicles per day (VPD). On summer weekends counts in excess of 10,000 VPD have been noted. Along Maryland 404 in the Denton area, the principal cause of congestion is a lack of capacity sufficient to carry the traffic loads imposed. The existing bridge and the nearby Maryland 328-River Road intersection are bottlenecks which will be alleviated to some extent by the construction of the new bridge and by a relocation of the intersection with Maryland 404.

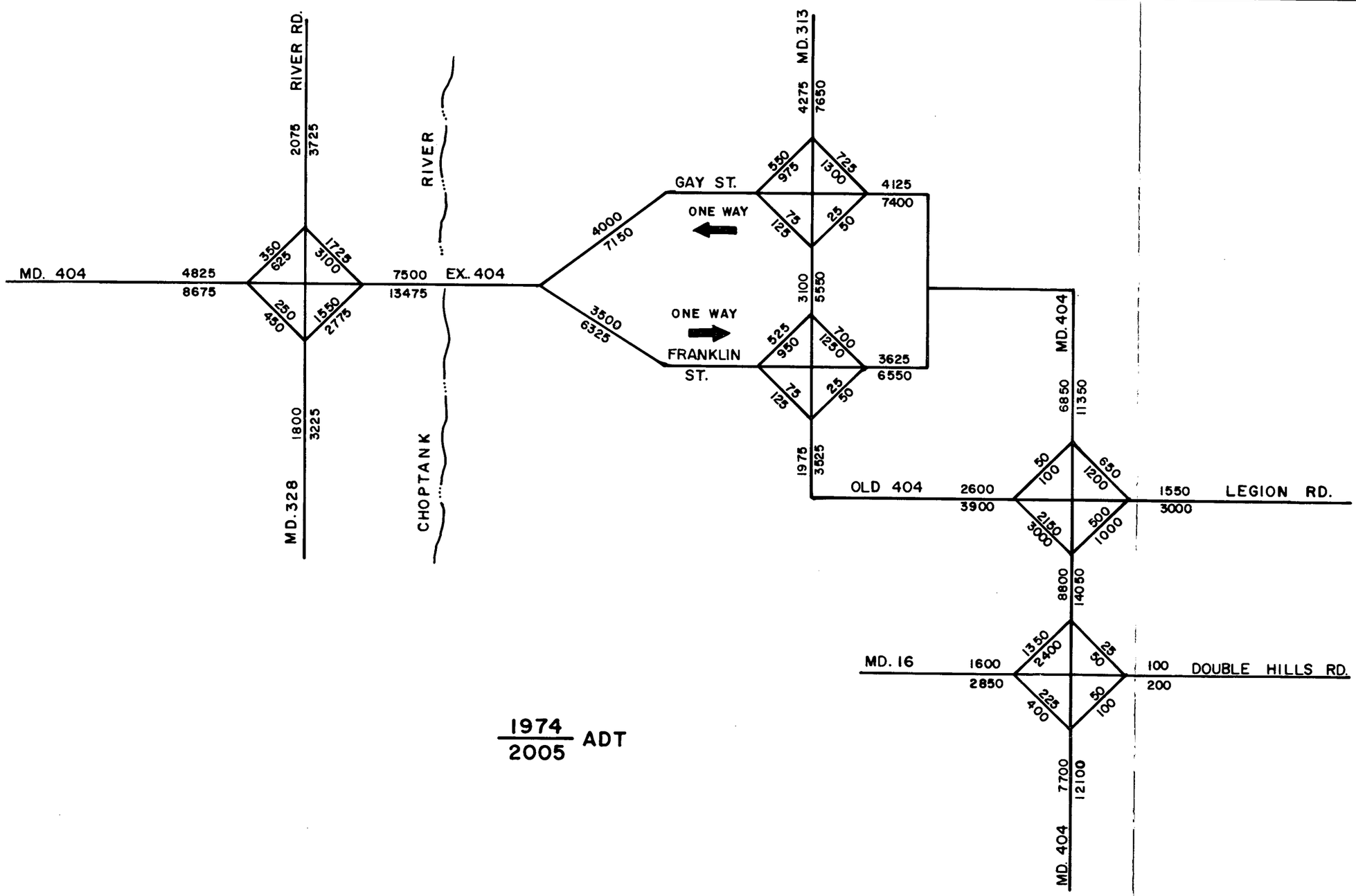
The construction of the four-lane freeway and expressway-type bypass discussed in this document will vastly improve service on Maryland 404. By the year 2005, average daily traffic on Maryland 404 west of Denton is expected to be 21,000 VPD with the construction of a bypass. Summer weekend traffic volumes are estimated at 27,500 VPD. With these volumes, the level of service on the bypass is estimated to be 'B' on summer weekends and 'A' during the week. The term "level of service" defines the operating conditions under various speed and volume conditions. A highway is graded from best to worst using letters 'A' through 'F'. Level of

*Wetland Habitat Inventory, Maryland Department of State Planning, 1968.

service 'A' describes a condition of free flow so that traffic speeds and maneuverability are not at all restricted by traffic density. Level of service 'B' is a condition of stable flow, with operating speeds restricted somewhat by traffic density, although drivers still have reasonable freedom to select speed and lane of operation. Under level of service 'B' there is a low probability of traffic being restricted. Level of service 'C', the lowest level recommended for design, is still a condition of stable flow but most of the drivers are restricted in their ability to select speeds, change lanes, or pass. Operating speed is still satisfactory under level of service 'C'. Level 'D' is defined as approaching unstable flow. Levels 'E' and 'F' are defined as unstable flow and forced flow, respectively.

Immediately after construction of the project, with through traffic removed from Denton, the town streets will function at a high level of service. In the ensuing years, local traffic is expected to increase so that by 2005, average traffic volumes in town may approach present summer weekend loads.

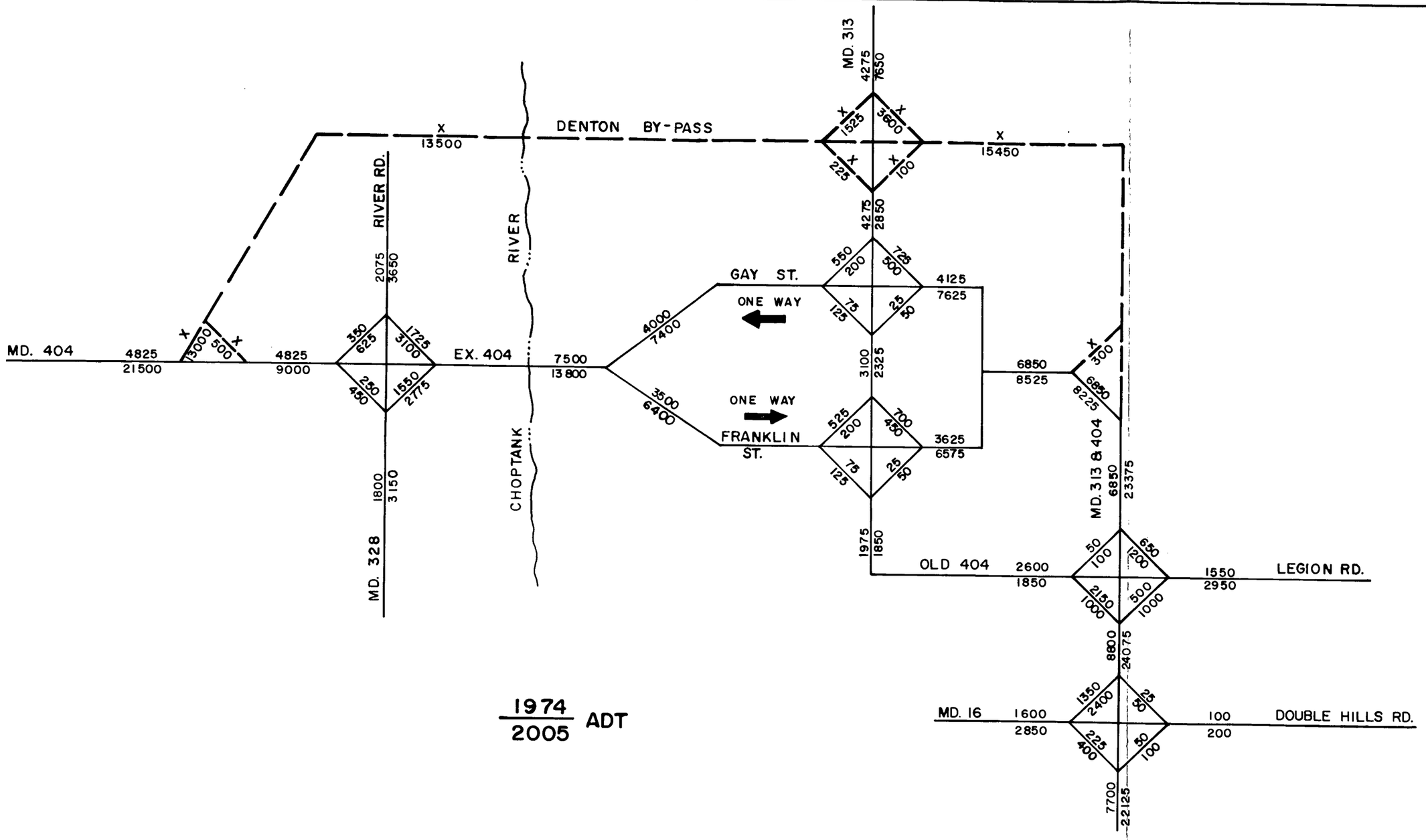
Without the Bypass, average daily traffic on Maryland 404 west of Denton is only expected to increase to 8,675 VPD by the year 2005. Average daily traffic on the one-way street system in Denton at present is about 8,000 VPD, with a capacity (Level B Service) approaching 14,000 VPD, a volume expected to be reached shortly after the year 2005. As noted previously, however, summer weekend traffic volumes are already approaching average daily traffic volumes for the year 2005. Operations at Level of Service 'E' or 'F' for extended periods of time are unacceptable. The need for the project is obvious, as these levels are already occurring on most summer weekends.



1974/2005 ADT

MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION	NO-BUILD SCHEMATIC TRAFFIC DIAGRAM
	ENVIRONMENTAL IMPACT STUDY MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 3



1974
2005 ADT

MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION	DENTON BYPASS SCHEMATIC TRAFFIC DIAGRAM
	ENVIRONMENTAL IMPACT STUDY MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 3

3. Right-of-Way Width and Aecess Control

In the Maryland 404 corridor west of Denton, right-of-way has been acquired for dualization from the Queen Annes County line near Hillsboro to a point 0.85 miles west of the Choptank River. At this point, the right-of-way becomes 75 feet wide and this width continues easterly to a point 0.28 mile west of the river. The right-of-way is only wide enough (roughly 40 feet) to eneompass the existing curb and gutter roadway between the point 0.28 mile west of the Choptank River to the Choptank River Bridge itself. Through Denton along the one-way street systems, the right-of-way is only wide enough to conta in the present street widths plus sidewalks.

At the eastern town limits of Denton, the State Highway Administration previously purehased right-of-way for the eonstruetion of the existing Denton Bypass. From Gay Street at a point 300 feet east of 8th Street to the Bypass, a 100-foot width of right-of-way was purehased by the State Highway Administration for a ramp. Similarly, a 100-foot width of right-of-way was purchased beginning at 9th Avenue and Franklin Street for a ramp to eonneet Franklin Street to the Bypass. The existing Denton Bypass itself was built along a 200-foot-wide controlled aecess right-of-way running northeast from Legion Road for a distance of 3,200 feet. Right-of-way for the existing Denton Bypass south of Legion Road includes the area bounded by the existing Denton Bypass, Old Maryland 404 and Legion Road. All the right-of-way associated with the existing Bypass provides for aceess control. From Sharp Road to Watts Creek, the original right-of-way is intact and is approximately 30 feet wide.

Continuing east from Watts Creek to the Delaware State line, the State Highway Administration has purchased a right-of-way without access controls for dualization of Maryland 404.

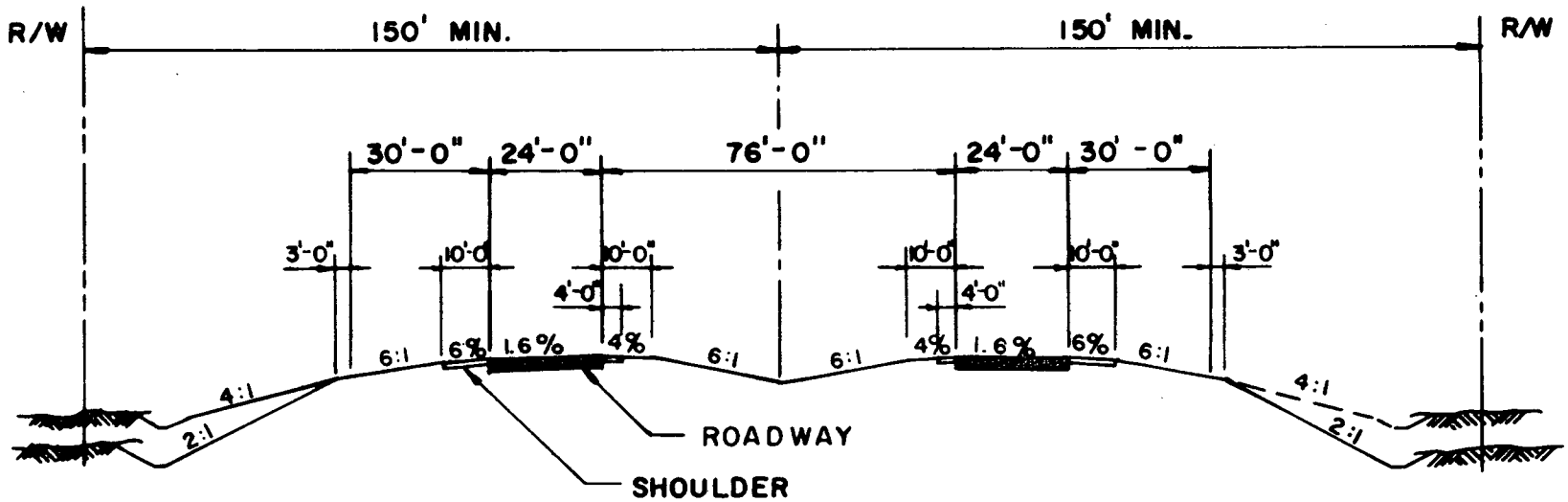
At the present time, the relocated portion of the project is envisioned as a four-lane divided highway with two 24-foot roadways separated by a graded median contained within a minimum 300-foot right-of-way. (See Exhibit 4). The relocated portion will have full control of access with grade separations at the Penn Central Railroad, Camp Ground Road and Denton-Hobbs Road. Interchanges will be located at River Road and at Md. 313. An interchange is also being planned at the western terminus of the project where the relocation joins existing Maryland 404.

Portions of the project which follow existing roadways will consist of dualization of the facility with provisions for partial control of access, utilizing frontage roads where necessary. (See Exhibit 4). At-grade intersections will be provided at county roads.

4. Other Major Design Features

As presently conceived, the design standards recommended by the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration relating to highway safety will be used. The posted speed expected along this route is 55 miles per hour.

Vertical grades will be a maximum of 3% and horizontal curves will have a maximum curvature of 3 degrees, in keeping with the AASHTO specifications to safely accommodate the proposed posted speed of 55 miles per hour.

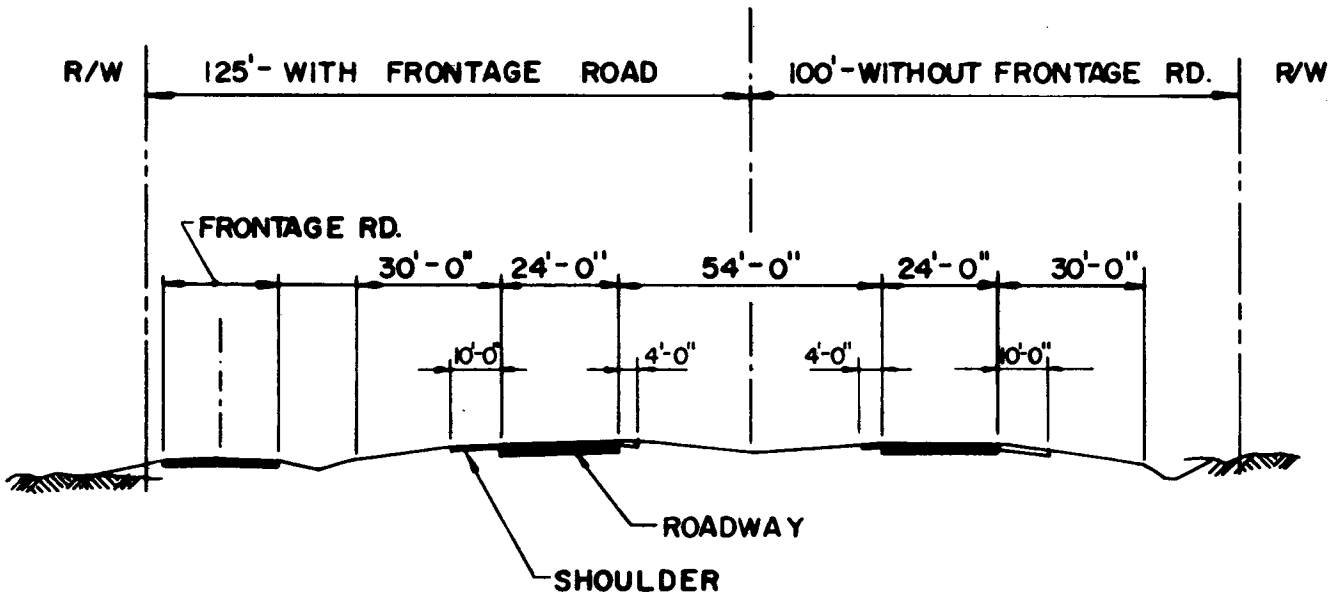


TYPICAL SECTION

DENTON BYPASS

(MD. 404 WEST OF DENTON TO EXISTING BYPASS)

EXHIBIT 4



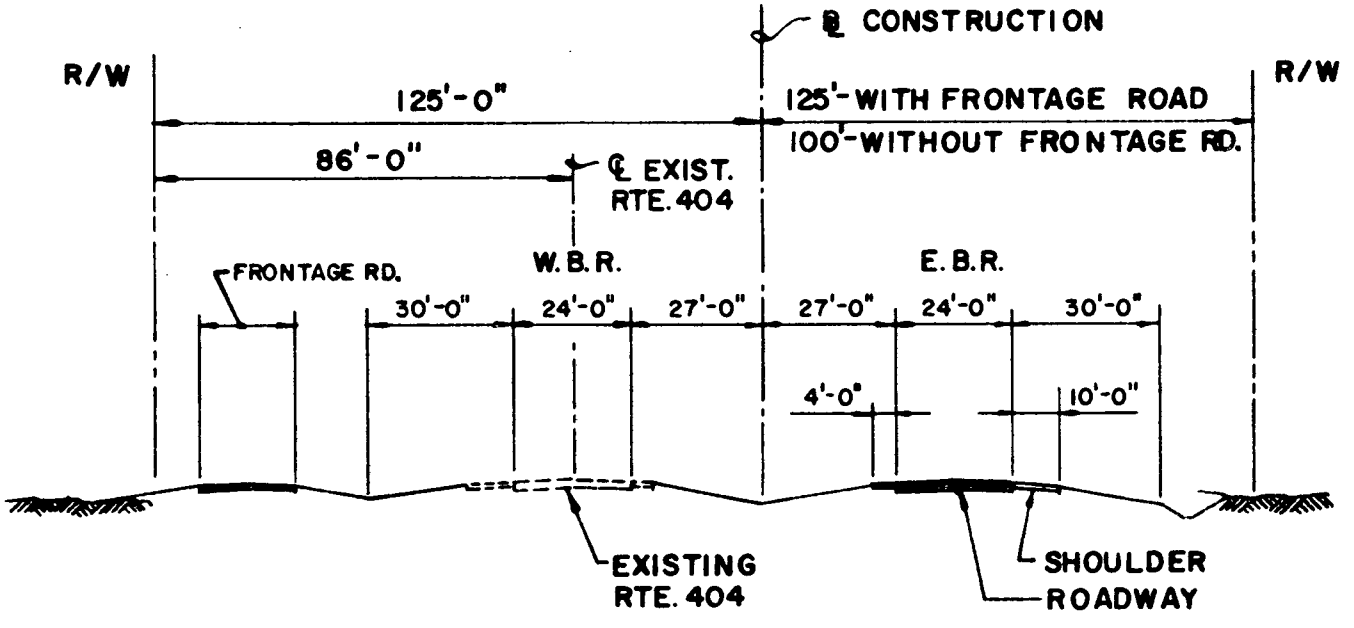
TYPICAL SECTION

DUALIZATION OF EXISTING ROADWAY

(EXISTING BYPASS TO SHARP RD.)
(DEEP SHORE ROAD TO MD. 16)

34

EXHIBIT 4



TYPICAL SECTION

DENTON BYPASS

(SHARP ROAD TO DEEP SHORE ROAD)

EXHIBIT 4

CHAPTER 3 THE SOCIAL, ECONOMIC AND ENVIRONMENTAL CONTEXT OF THE PROJECT

1. Climate[1]

The project is in an area that has a humid, semi-continental climate. Winters are usually mild, and summers are hot. Spring and Fall are the most pleasant seasons. The Eastern Shore of Maryland lies in a region of eastward moving weather systems; consequently, the influence of the Atlantic Ocean is slight. In summer the temperature is lowered by cool air from the water. In the winter, winds from the northeast are raw and uncomfortable, and bring much of the precipitation. The Appalachian Mountains and the waters of the Chesapeake Bay have a moderating effect on weather patterns from the northwest.

Generally, the rainfall is adequate for good yields of crops, but unequal distribution of rainfall in summer makes irrigation advisable. In winter, precipitation occurs in the form of general storms that cover large areas. The average snowfall is 15 to 20 inches annually, but the amount varies from year to year. The State Highway Administration Resident Maintenance Engineer in Denton estimates that there are 3 to 5 snowfalls a year that require the use of plows and salt to maintain the "bare lanes" policy of the State Highway Administration.

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1. For more detailed information, see the Kappe Associates report for this project, pp III-1 to III-3, available from the State Highway Administration offices.

2. General Description of Terrain [1]

The terrain varies from level to steeply sloping near major watercourses in the Denton vicinity. The entire area has elevations ranging from sea level to approximatcly 55 feet above sea level.

The Denton area is underlain by very permeable sand and gravel deposits. Much of the soil in the area is moderately coarse and coarse textured. They are very acidic, usually friable when moist, and non-plastic and non-sticky to slightly plastic and slightly sticky when wet. Roots are abundant in the top soil, which is gencrally only a few inches thick and fairly common in the subsoil; but, other than roots, the soils contain very little organic matter.

Along the Choptank River and along Watts Creek as far upstream as the Maryland 404 bridge and beyond the Double Hills Road, there are tidal marshes. These land areas, which are periodically flooded by tidal waters, support such vegetation as rushes, coarse grasses and some trees and shrubs that can tolerate brackish waters. The soils of these marshes range in texture from sand to clay; and, in some places, they contain large concentrations of sulfur compounds and include muck. Muck is the only organic soil in Caroline County. It consists of mainly well decomposed plant material and ranges in organic content from 30 to 60% and more.

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1. For more detailed information, refer to the Kappe Associates Report for this project available from the State Highway Administration offices.

Upland areas are predominantly loams, sandy loams and loamy sands. Floodplains and upland depressions are predominantly sandy loams and loamy sands.

Susceptibility to frost action varies in the uplands from low to high. In the floodplains and upland depressions, susceptibility varies from moderate to very high. Swamp and tidal marsh susceptibility is high.

Water erosion hazard potential throughout the project area is moderate, except in cut and fill areas where the potential is very high.

Wind erosion potential in well drained upland areas, where loamy sand soils occur with water tables deeper than 4.0 feet, is high. Potential in floodplains and other upland areas is low to moderate.

Surface drainage in upland areas is good to poor, in floodplains and upland depressions is fair to very poor, while surface drainage in swamps and tidal marshes is rated as very poor.

Subsurface drainage in upland areas is good to very poor, in floodplain and upland depressions is rated as poor to very poor, while subsurface drainage in swamps and tidal marshes is very poor.

3. Ground Water - Area Wells[1]

The town of Denton has its own water supply system and sewerage system. It obtains its water from three wells which penetrate artesian aquifers. The wells are located at 5th and Gay Streets, Carter Avenue and Edenton Street, and on the grounds of a nursing home located near Old Maryland 404 and Kerr Avenue. The well at the latter location is the newest of the three municipal

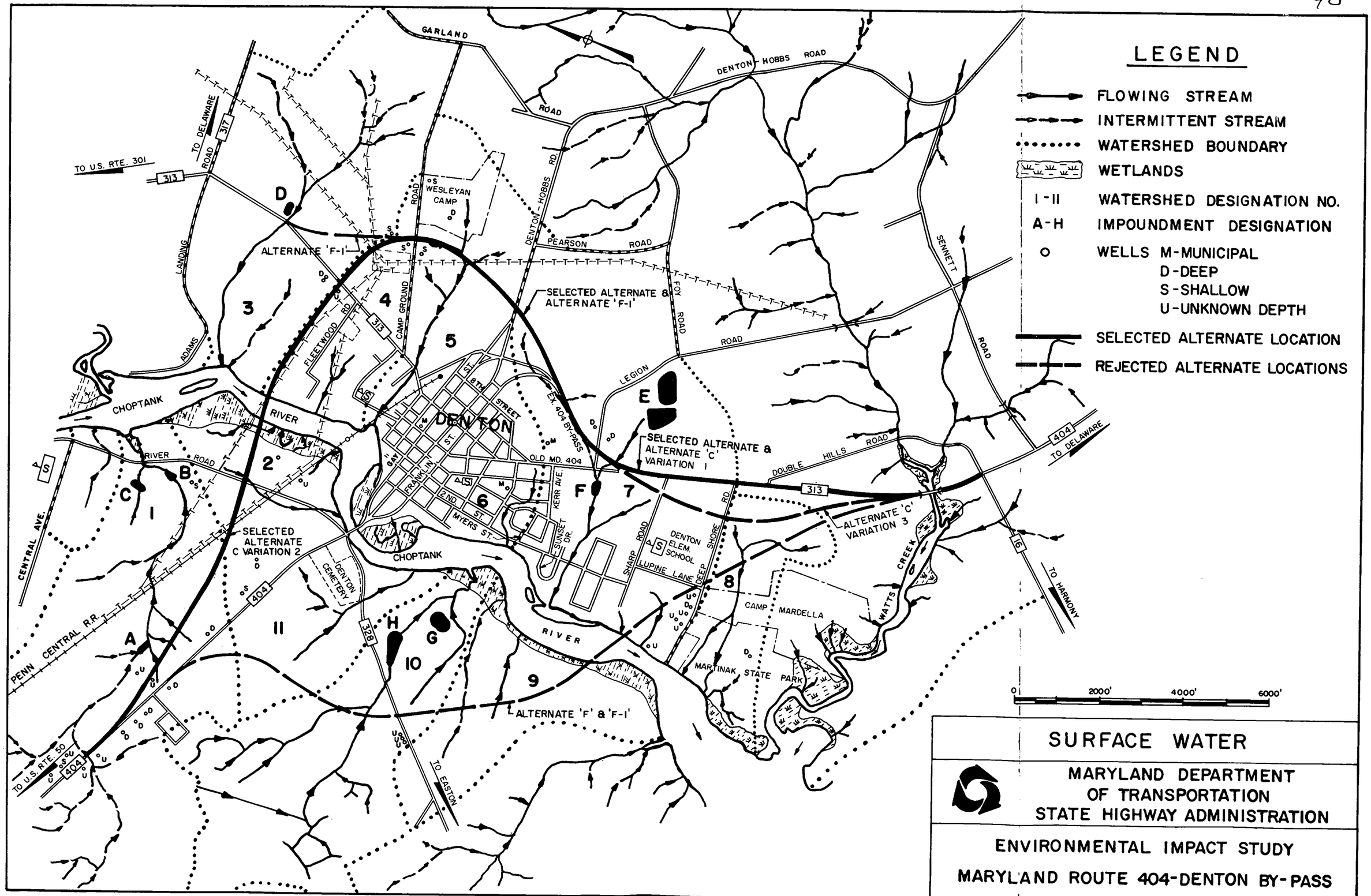
1. For more detailed information on ground water conditions, refer to the Kappe Associates Report on the subject project available at the State Highway Administration offices.

wells, having been drilled in 1969. Its altitude is 42 feet above sea level. It is 439 feet deep and is sereened from 364 to 439 feet. It is the main souree of water for the eity. The two other wells are used only as demand requires with the 5th and Gay Streets well being brought into supplementary serviee first and then, if neeessary, the Carter Avenue and Edenton Street well. The well at 5th and Gay Streets was drilled in 1904 and is the oldest of the three wells. It stands at an altitude of 42 feet and is 400 feet deep. The well at Carter Avenue and Edenton Street was drilled in 1938 to a 402 foot depth and its altitude is 35 feet above sea level. The homes and industries outside of the serviee area of the water supply system of Denton obtain their water from individual wells. Most wells supplying homes penetrate only the water table aquifer and are relatively shallow.

4. Surfaee Waters

a. Tributary Streams Traversed by Alternates

The Choptank River is fed by a number of small tributary streams and ponds. Exhibit 5 shows these tributary streams and ponds in the study area. Code numbers are applied to eaeh stream watershed for eonsisteney of diseussion. Code letters are applied to ponds or other impoundments and are listed in the following table:



SURFACE WATER

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 5

LIST OF IMPOUNDMENTS

Designation	Type of Impoundment	Use
A	Farm Pond	Recreation and Irrigation
B	Diversion Impoundment	Recreation
C	Diverted Impoundment	Irrigation & Stock Watering
D	Pond	Agriculture Uses
E	Lagoons	Municipal Waste Treatment
F	Earthen Dam with Concrete Spillway	Wildlife Refuge
G	Carousel Sanitation System	Waste Treatment for Chicken Packing Plant
H	Earthen Dam with Drop Tube Spillway	Swimming, Boating, Fishing and Irrigation

b. Choptank River and Watts Creek

The Choptank River in the area of the project has a water use classification of Class I, Water Contact Recreation and Aquatic Life. This upstream area is the main source of water for the Shellfish Harvesting Waters (Class II) of the lower watershed. Class II waters require more stringent bacteriological and temperature standards than do Class I waters. Otherwise, standards are identical.

The State of Maryland has no plans to modify either the standards within the classification or the classifications of the Choptank River within the foreseeable future.[1]

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1. Department of Natural Resources, Rules and Regulations 1973.

Existing water quality data is available for the Upper Choptank River area. Longwell's 1967 study of the Choptank River found that the water quality was generally good, but certain river areas were of poorer quality as indicated by depressed dissolved oxygen concentrations and/or increased coliform bacterial concentration. He cites the towns of Denton and Greensboro as factors in this depressed quality. Since that time, Denton has improved its biological stabilization waste disposal system and added chlorination facilities. Long range plans include at least two more cells in the municipal lagoon system. The most recent Md. Environmental Service 305-B report again found depressed dissolved oxygen concentrations in the Choptank River between Goldsboro and the mouth of Tuckahoe Creek. Increasing chlorophyll a values have also been found. The survey found that dissolved oxygen, temperature and pH parameters were met on Choptank River headwater and main stem segments. Some areas did, however, exceed the numerical limit for bacteria.

Samples taken on November 23, 1975 compare favorably with Longwell's 1967 data on the Choptank River and Watts Creek and with the more recent data supplied by the Water Resources Administration of the Department of Natural Resources.

Soil erosion makes water temporarily muddy, then settles, covering the bottom with a layer of silt. Long range effects include altering or eliminating bottom flora and fauna, changing the bottom substrate, affecting the reproduction and growth rate of fishes, and altering the number and variety of fish species. Examination showed that both Watts Creek and especially

the Choptank River, are already silted to some degree and its suitability for certain types of fish spawning has been reduced. The sediment in Watts Creek is medium to coarse sand, covered with a thin layer of decaying plant material. This implies that periodic high flows and rapid currents prevent the buildup of silt; between such periods of high flow, plant materals from surrounding marshes fall into the water and decay.

The bottom samples of the Choptank River indicated heavy siltation with very fine mineral and organic material. The river bed under the highway bridge has been drastically narrowed by filling. The river moves rapidly through this narrow constriction, resulting in a well scoured bottom. Material recovered at the railroad bridge indicated that the bottom is composed of coarse gravel, sand, and large pieces of debris. This type of bottom would be suitable for fish spawning; however, it is improbable that these conditions extend beyond the narrows at this bridge.

There are no projects planned within the river watershed area that require an improved water quality. No municipalities take water from the river for municipal use.

The Water Resources Administration is attempting to upgrade the operations of the wastewater treatment plants in a number of the small towns along the river to improve the water quality of the river itself. The town of Greensboro has recently completed a secondary waste treatment facility and Denton has, as previously mentioned, recently added chlorine treatment to the municipal lagoon system.[1]

1. Refer to the Water Quality Report for the subject project, available from the State Highway Administration offices for more detailed information.

5. Pertinent Local Economic Factors

The town of Denton, County Seat of Caroline County, Maryland has a population of 1,561 people (1970 census). Major highways serving the area include Maryland 313, 328, and 404. A spur line of the Penn Central Railroad enters Denton from the west, across a swing-span bridge over the Choptank River just north of the existing Maryland 404 bridge. There are no airfields in the immediate vicinity.

Denton is a typical Eastern Shore town surrounded by farms and some light industry. The Delmarva poultry industry provides a sizeable portion of the community's income. Corn, soybeans, wheat and barley are grown in abundance. Local sweet corn, string beans and lima beans are canned in the area providing employment of a seasonal nature. Unemployment is a problem but does tend to improve during the summer months when local farms are active. Local light manufacturing products include buttons, electric heating elements, plastic and metal products, soft drink bottling, and construction lumber products.

6. Agriculture

The Soil Conservation Service of the U.S. Department of Agriculture has determined that certain types of soils occurring in Caroline County shall be considered as prime agricultural land. A list of these soil types accompanies the S.C.S. letter dated December 15, 1977 included in the Comments and Coordination section of this Statement. A map indicating the location of this prime agricultural land in the vicinity of the project has been included as Exhibit 6. Of greatest interest are the categories of prime agricultural land and non-prime agricultural land, because these indicate the location of land that is both currently being used for farming and is likely to remain in productive use as farmland at least through 1985.

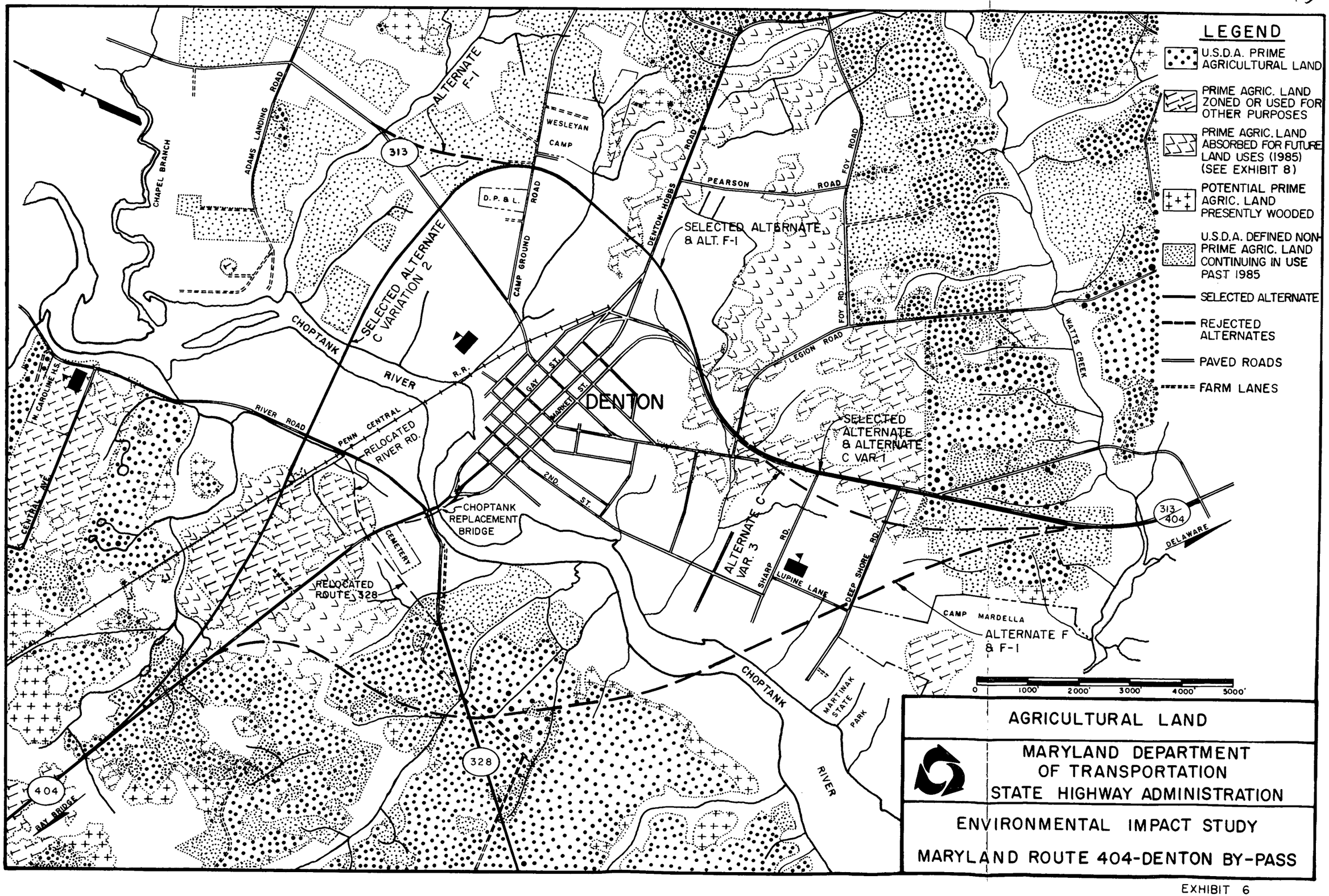

LEGEND
U.S.D.A. PRIME AGRICULTURAL LAND
PRIME AGRIC. LAND ZONED OR USED FOR OTHER PURPOSES
PRIME AGRIC. LAND ABSORBED FOR FUTURE LAND USES (1985) (SEE EXHIBIT 8)
POTENTIAL PRIME AGRIC. LAND PRESENTLY WOODED
U.S.D.A. DEFINED NON-PRIME AGRIC. LAND CONTINUING IN USE PAST 1985
SELECTED ALTERNATE
REJECTED ALTERNATES
PAVED ROADS
FARM LANES
ALTERNATE F-1
WESLEYAN CAMP
313
ADAMS LANDING ROAD
CHAPEL BRANCH
D.P. & L.
CAMP GROUND ROAD
SELECTED ALTERNATE C VARIATION 2
DENTON-HOBBS ROAD
PEARSON ROAD
FOY ROAD
SELECTED ALTERNATE & ALT. F-1
FOY RD.
LEGION ROAD
WATTS CREEK
CHOPTANK RIVER
R.R.
RIVER ROAD
PENN CENTRAL
RELOCATED RIVER RD.
W. CAROLINE H.S.
CENTRAL AVE.
GAY ST.
MARKET ST.
DENTON
2ND ST.
SELECTED ALTERNATE & ALTERNATE C VAR-1
CHOPTANK REPLACEMENT BRIDGE
CEMETERY
RELOCATED ROUTE 328
ALTERNATE C VAR. 3
SHARP RD.
LUPINE LANE
DEEP SHORE RD.
313/404
DELAWARE
CAMP MARDELLA
ALTERNATE F & F-1
CHOPTANK RIVER
MARTINAK STATE PARK
328
404
BAY BRIDGE
0 1000' 2000' 3000' 4000' 5000'
AGRICULTURAL LAND
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
ENVIRONMENTAL IMPACT STUDY
MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 6

7. Surrounding Natural and Cultural Features

Denton is located along the Choptank River just north of Watts Creek. These bodies of water, as well as natural inlets, streams and lakes in the area, provide a basis for much of the area's industry and recreation. Three park type areas are located in the Denton area. Two of these are private religious camps and the third is Martinak State Park. The Denton area therefore appears to be increasingly oriented toward recreation as a predominant cultural feature.

Two historic sites have been identified in the project area by the Maryland Historical Trust. Plain Dealing, an eighteenth century brick and wood house, designed to function as the county's alms house and presently a private residence, stands approximately 500 feet south of the project. A second historic site, the Neck Quaker Meeting House, is located on Maryland 404 west of Denton. It is a small wood frame structure owned and maintained by the local electric cooperative. A major portion of the town of Denton has also been evaluated as a significant historical resource. (See Chapter 10 for more detailed historical data).

8. Description of Surrounding Neighborhoods

Racial composition of the area is predominantly white with some blacks and Puerto Ricans. There are two locations in the Denton vicinity that provide the majority of minority housing in the area; these areas being a section of River Road near Maryland 404 in West Denton and an area in Denton proper bounded by the railroad, Maryland 313 and Gay Streets. Neither area will be impacted by the project. The income strata of the populace, like many sister

towns, ranges from the poverty level to the upper incomc level.

9. Public Facilities and Services

a. Churches - The Denton area provides a rich variety of religious institutions, most of which are of the Protestant persuasion. The nearest Jewish synagogue is located in Easton. There are two private Protestant church-owned camps in thc immcdiate Denton area. Camp Mardella is owned by the Mid-Atlantic District of the Church of the Brethren. The Wesleyan Camp on Camp Ground Road is owned by the approximately 50 churches of the Delmarva District of the Wesleyan Church and has been at its present location since 1898.

b. Health Care - There is no hospital in Dcnton, the closest being in Easton. The county volunteer fire departments and private ambulances provide hospital transportation upon request from a doctor. The Caroline County Health Department is located in Denton but providcs only limited clinical care at this site. A new, nonprofit Caroline County Nursing Home is located at Old Maryland 404 and Kerr Avenue. This facility has 52 beds and provides both skilled nursing and Intermediate A care.

c. Public Utilities - Thc Delmarva Power and Light Company of Maryland supplies electricity to most of the towns and developed areas of Caroline County from a transmission system consisting of lines of 69,000 and 138,000 volts. These lines are tied to two steam generating plants of 235,000 KW and 350,000 KW capacities and with the Pennsylvania-New Jersey-Maryland interchange. The tie with the interchange is by three 138,000 volt transmission lines.

The substation facilities in Caroline County are adequate for the electric load in the area and could be expanded to accomodate additional loads which might develop.

The Choptank Elcetrie Cooperative, Ine. supplies eentral station electricity in the rural areas of Caroline County. Both single and 3-phase electric eurrent is available from 20 large substations linked by over 3,800 miles of eleetric distribution lines on the Eastern Shorc of Maryland.

Denton has a municipal water system eonsisting of one 100,000 gallon elevated tank with thrce wells. The system has a prcscnt pumping eapacity of 1,467,000 gpd and an avcrage use of 250,000 gpd. Future expansion plans include the installation of additional wells, pumps, and elevated storage to accommodate urban growth and the eonstruction of transmission mains in areas of need.

Denton has a municipal lagoon-type sewer system with a design flow of 0.23 mgd and an averagc measured flow of 0.193 mgd. Future expansion plans include construction of sewer lines in areas having failing septic tank systems; extension of sewer lines in residential growth areas to the north and south of Denton; expansion of the system to serviee the proposed industrial park area; and construetion of future eells for the lagoon system.

d. Emcrgeney Services - Law cnforeement ageneies in the Denton area include the County Shcriff's Offiee, the State Police and the Denton Town Poliee. Volunteer fire fighting stations with radio-equipped vehieles are located in Denton and in six other sizcable towns in Caroline County. Thcse towns are reasonably close together so that ample equipment is available to fight any type of fire within the County.

e. Refusc Colleetion - The eounty provides refuse eolleetion throughout the County. Some of the towns in eooperation with each other and/or the

county maintain sanitary landfills in the outlying parts of the county. Additional landfills are planned.

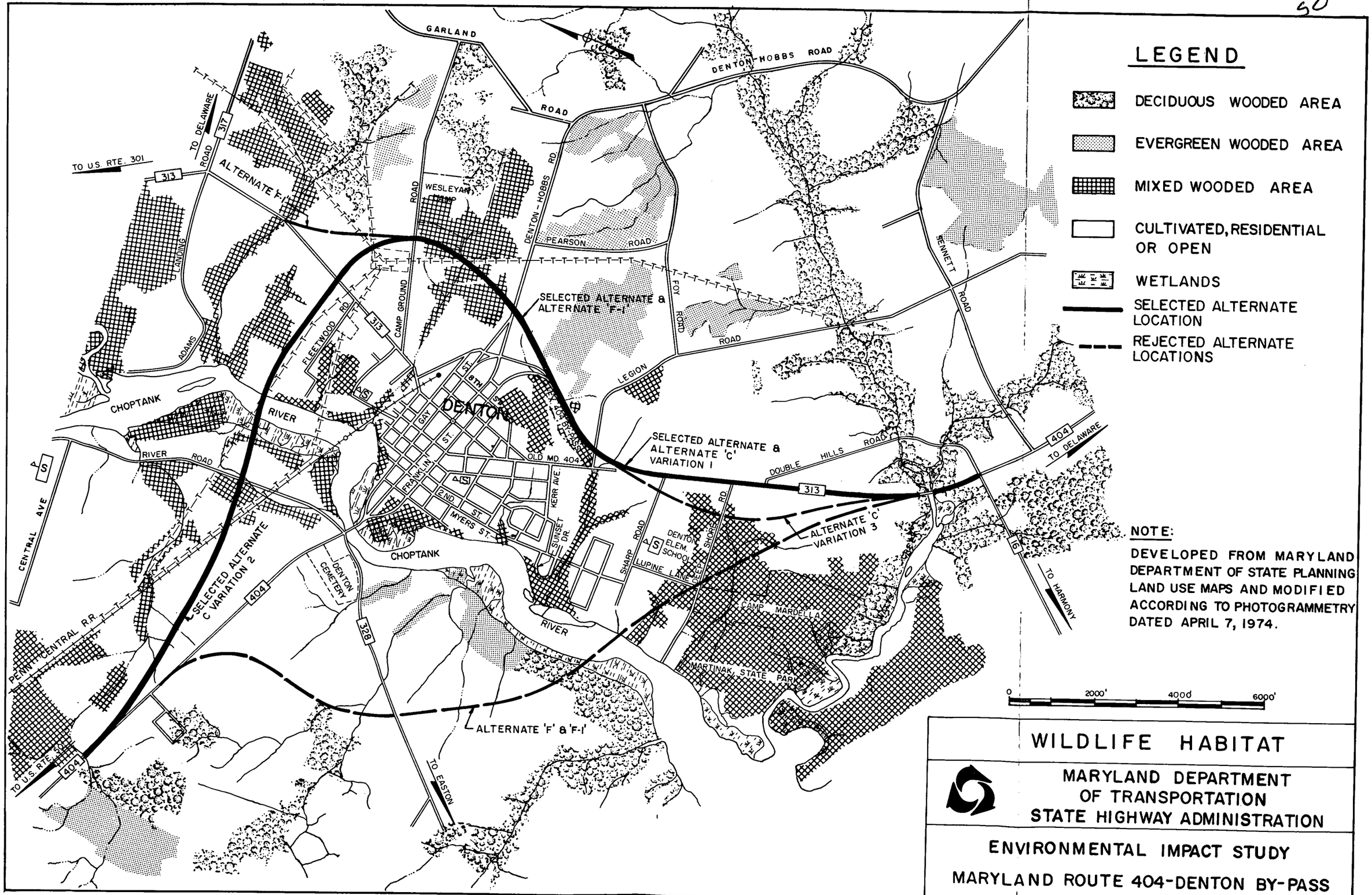
f. Schools - Schools are operated by the Caroline County Board of Education. The educational program includes grades K-12, plus programs of Adult, Vocational and Special Education. Schools located in the Denton area include North Caroline High School, at River Road and Central Avenue, Lockerman Junior High School, near Maryland 313, and a new elementary school at Sharp Road and Lupine Lane.

10. Terrestrial Ecology

According to the Wetland Habitat Inventories, the fields, woodlands, and upper wetlands in the project area are inhabited by the eastern cottontail, eastern grey squirrel, muskrat, opossum, racoon, river otter and whitetail deer. Birds found in this area include native resident and migratory species of game birds and non-game birds.

A major concern is the Delmarva Fox Squirrel, an endangered species (State of Maryland list; and included in Federal listing) found only in limited areas on the Eastern Shore of the Chesapeake Bay. This squirrel inhabits mature to over-mature mixed hardwood forests with little or no underbrush. The U. S. Fish and Wildlife Service Range Map places the nearest fox squirrel sighting approximately eight miles west of Denton in Queen Annes County. This project will not effect the range of the species.

Associated with the general area of the project are plant communities of three-square, cattail, smartweed, arrow-arum, big cordgrass and mallow. At the Watts Creek crossing, about 5 acres of mature mixed hardwoods,



LEGEND

- DECIDUOUS WOODED AREA
- EVERGREEN WOODED AREA
- MIXED WOODED AREA
- CULTIVATED, RESIDENTIAL OR OPEN
- WETLANDS
- SELECTED ALTERNATE LOCATION
- REJECTED ALTERNATE LOCATIONS

NOTE:

DEVELOPED FROM MARYLAND DEPARTMENT OF STATE PLANNING LAND USE MAPS AND MODIFIED ACCORDING TO PHOTOGRAMMETRY DATED APRIL 7, 1974.

0 2000' 4000' 6000'

WILDLIFE HABITAT

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 7

including river birch, poplar, and white oak, are situated on the north side of the project and about 5 acres of intermediate growth on the south side. Coastal plain plant species adjacent to this site include three-square, cattail, smartweed, cordgrass, arrow-arum, and arrowhead. Other plant species encountered include the loblolly pine, alder, willow, maple, ash, black oak and chestnut oak. 51

A large field (about 3 acres) of prickly pear cactus is located on the east side of River Road about 750 feet north of its intersection with the project alignment. While this cactus is not an endangered species and does appear scattered throughout Maryland, such an extensive growth is valuable as a unique plant community in the State. It is bisected by a number of motorcycle trails and appears to be used extensively for recreational motorcycling. This site will not be affected by this project.

11. Aquatic Ecology

The Wetlands Habitat Inventory data sheets for the points at which the project crosses the Choptank River and Watts Creek indicate the presence of several warm water resident and anadromous fish species including alewives and herrings, American shad, striped bass (rockfish), and white perch. The river serves as herring, shad, and striped bass spawning and nursery areas in the spring of the year. No data is available on specific benthic and plankton communities in the project area. Rooted aquatics are indicated below under wetlands; however, there are no known endangered or rare species within the project area.

12. Wetlands

The wetlands along the Choptank River and Watts Creek in the project

area support populations of various puddle ducks, swans, and geese in the water and adjacent fields. Sport fish such as largemouth and smallmouth bass, white and yellow perch, crappies, and bluegills are present as are commercial species such as shad and herring.

At the project's Choptank River crossing, the Wetland is identified as Wetland No. 59*. These wetlands are identified as type 12, containing cattail, arum, three-square, smartweed, alder, hibiscus and also as type 20, containing pine, cedar, gum, willow, tuliptree, maple and ash.

At the Watts Creek location, wetlands identified as Wetland No. 61*, are also type 12 wetlands, containing three-square, cattail, smartweed, cynos, arum and arrowhead. There are also type 7 wetlands involved at this crossing, these wetlands containing cedar, pine, alder, cornus, viburnum, maple and ash.

A total of about 4 acres of wetlands are expected to be impacted by the project at the Choptank River crossing and at Watts Creek. A description of that effect is addressed in Chapter 5.

*Wetland Habitat Inventory, Maryland Dept. of State Planning, 1968

CHAPTER 4 LAND USE PLANNING AND ZONING

1. Land Use

The existing Land Use Map, Exhibit 8, was developed from Maryland Department of State Planning aerial maps, Maryland State Highway Administration topographical maps and information of current status furnished by the Caroline County Planner. Official information is dated and has been updated for presentation here.

The basic information concerning future land use was derived from the 1985 Land Use Plan Map developed in 1965 by the Caroline County Planning Commission which is the latest official map. The future land use map as presented here (see Exhibit No. 9) is a modified version of this map revised in October, 1975 by the Caroline County Planner that has not, however, been adopted by the County Planning and Zoning Commission. Plans for preparing a new future land use map are under consideration by the County.

The project passes over relatively flat, open land, and involves a crossing of the Choptank River upstream of the existing Maryland 404 crossing. In the project vicinity, wetland areas exist along the west bank of the river.

Large portions of the area through which the project passes, regardless of its indicated future use, are presently rural agricultural or residential in nature. Some industrial areas exist in West Denton and commercial areas exist along Maryland 313, Maryland 404 at Legion Road and in the Sharp Road areas.

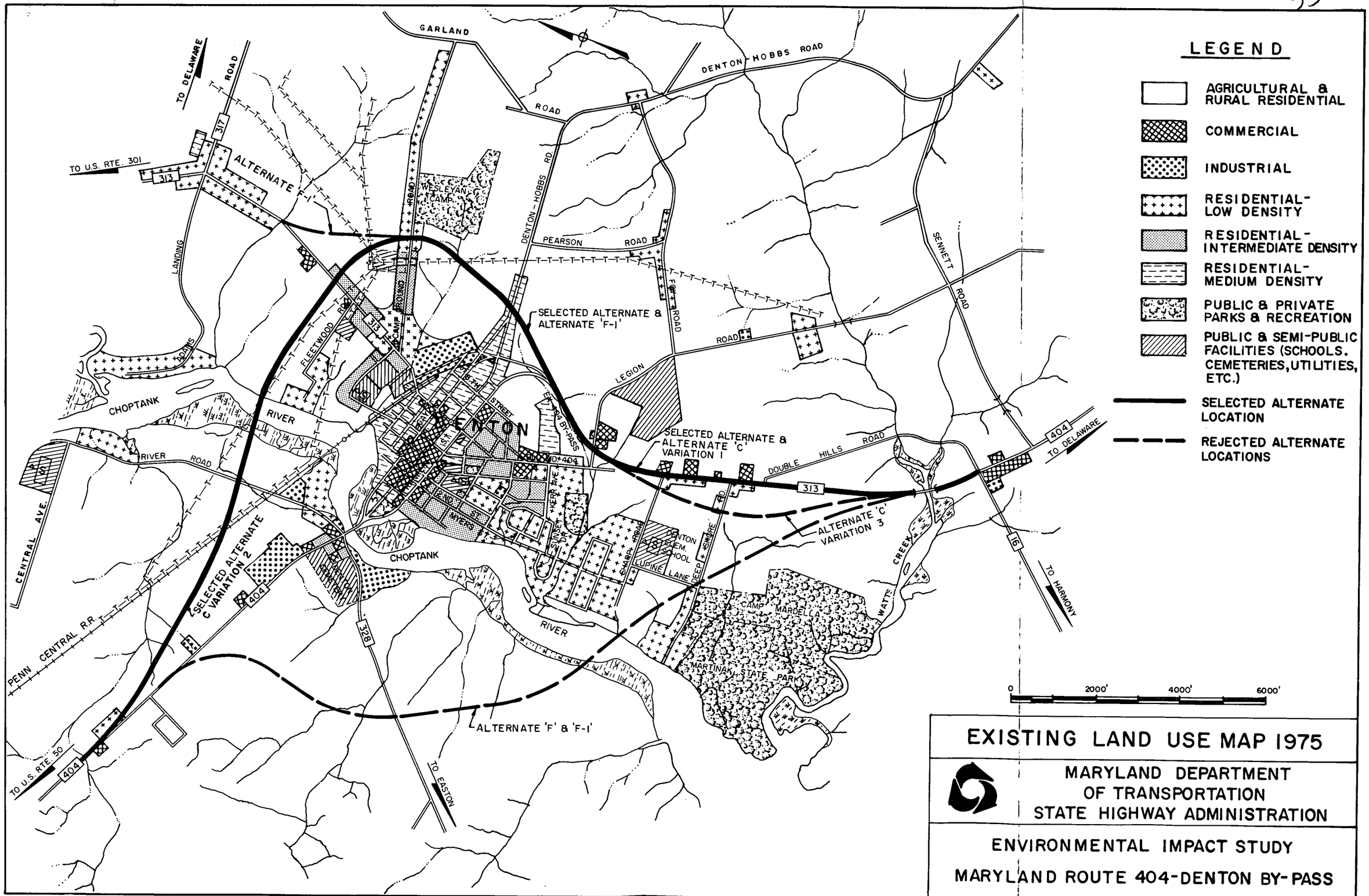
In West Denton, the project passes through areas which, for the most part, are slated for industrial development in the future land use plan. East of the Choptank River, low density residential development is contemplated eastward to the Campground Road area, excepting at Maryland 313 where a strip commercial development is planned. East of Campground Road, the project alignment traverses another industrial area to Legion Road. From Legion Road to Double Hills Road, both sides of existing Maryland 404 are being considered for commercial areas. The north side is now partially developed; however, the south side of the road is residential. Between Legion Road and Double Hills Road, the project requires right-of-way with all acquisition from the west side of the highway. This means that the residences will be removed, leaving the west side of the roadway agricultural in nature.

From Double Hills Road to Watts Creek the area is to remain agricultural with low density residential areas developing between Watts Creek and Maryland 16.

2. Zoning

Current zoning as indicated on the accompanying map (see Exhibit 10) actually involves two separate entities in the Denton area. The Town of Denton Planning and Zoning Commission establishes zoning within an area on the east bank of the Choptank River serviced by town water and sewerage facilities. Zoning outside of this area is established by the Caroline County Planning and Zoning Commission. The classifications used are similar, with only minor differences in establishment criteria.

The current area Zoning Map, as shown in this report, was developed from the Town of Denton Zoning Map and information provided by the Caroline County Planning and Zoning Commission. The Town of Denton Zoning Map



LEGEND

- AGRICULTURAL & RURAL RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- RESIDENTIAL - LOW DENSITY
- RESIDENTIAL - INTERMEDIATE DENSITY
- RESIDENTIAL - MEDIUM DENSITY
- PUBLIC & PRIVATE PARKS & RECREATION
- PUBLIC & SEMI-PUBLIC FACILITIES (SCHOOLS, CEMETERIES, UTILITIES, ETC.)
- SELECTED ALTERNATE LOCATION
- REJECTED ALTERNATE LOCATIONS

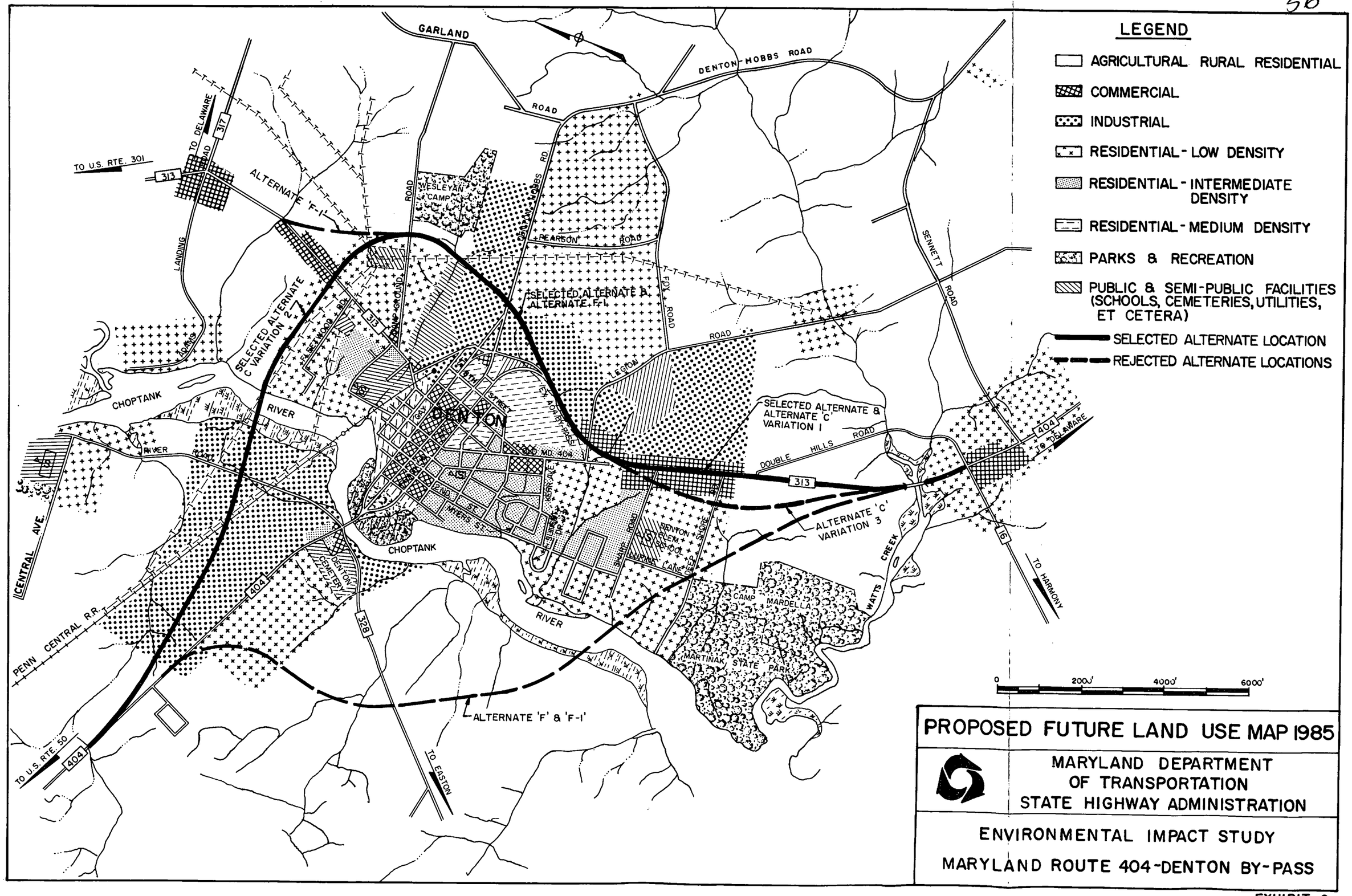
EXISTING LAND USE MAP 1975

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 8



LEGEND

- AGRICULTURAL RURAL RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- RESIDENTIAL - LOW DENSITY
- RESIDENTIAL - INTERMEDIATE DENSITY
- RESIDENTIAL - MEDIUM DENSITY
- PARKS & RECREATION
- PUBLIC & SEMI-PUBLIC FACILITIES (SCHOOLS, CEMETERIES, UTILITIES, ET CETERA)
- SELECTED ALTERNATE LOCATION
- REJECTED ALTERNATE LOCATIONS

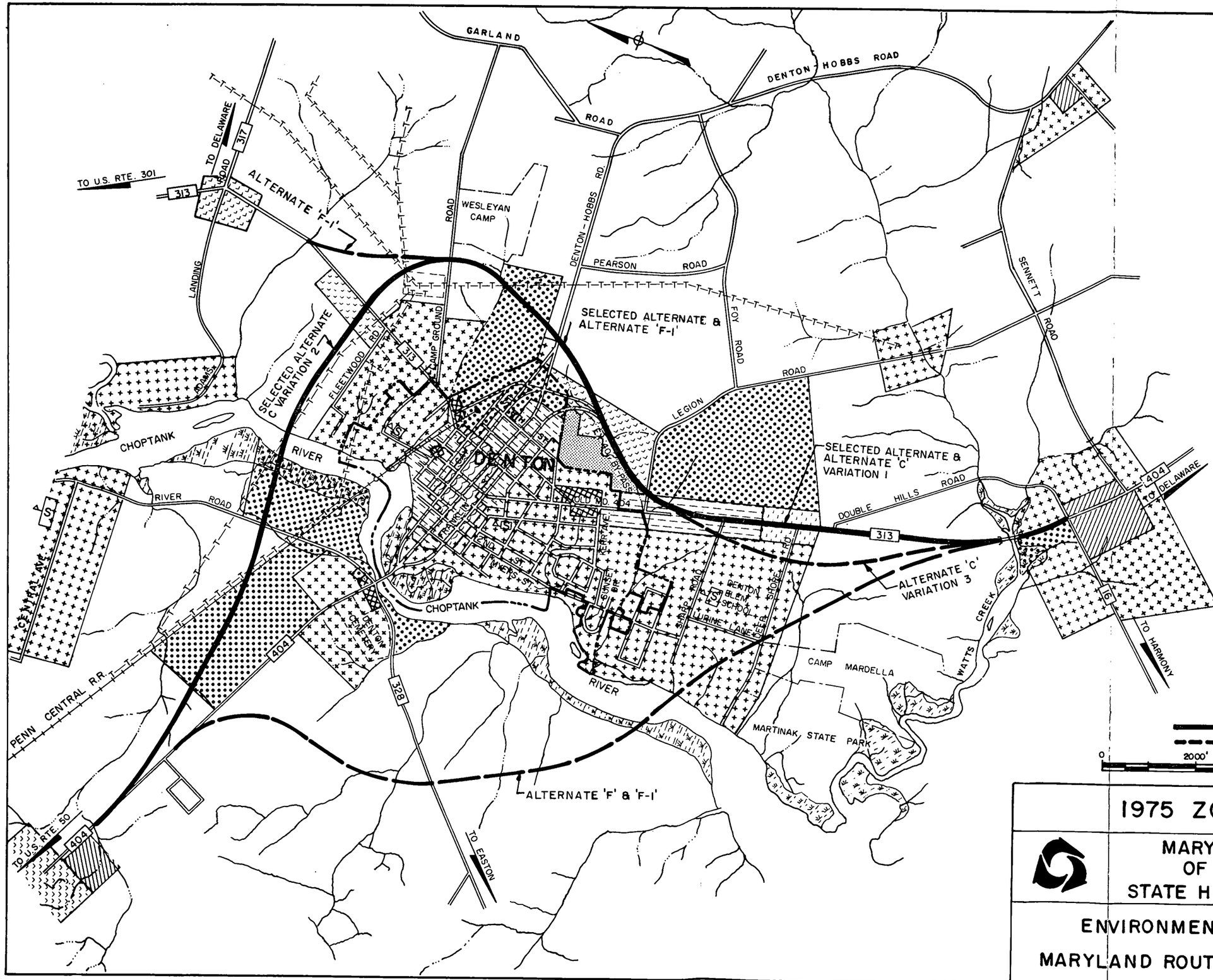
PROPOSED FUTURE LAND USE MAP 1985

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 9



LEGEND

STANDARD TOWN ZONING CLASSIFICATION

- SINGLE FAMILY RESIDENTIAL R-1
- MULTIPLE FAMILY RESIDENTIAL R-2
- GENERAL COMMERCIAL C-1
- CENTRAL COMMERCIAL C-2
- LIGHT INDUSTRIAL I-1
- TOWN LIMITS

STANDARD CAROLINE COUNTY ZONING CLASSIFICATIONS

- RURAL R
- SINGLE FAMILY RESIDENTIAL R-1
- SINGLE FAMILY RESIDENTIAL R-2
- MULTIPLE FAMILY RESIDENTIAL R-3
- HIGHWAY COMMERCIAL HC
- NEIGHBORHOOD COMMERCIAL C-1
- GENERAL COMMERCIAL C-2
- LIGHT INDUSTRIAL I-2
- SELECTED ALTERNATE LOCATION
- REJECTED ALTERNATE LOCATIONS

0 2000' 4000' 6000'

1975 ZONING MAP

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT 10

was adopted November 18, 1968 by the Town Commissioners. The Caroline County Planning and Zoning Commission provided information as adopted on recent changes by the County Commissioners and on outlying areas not within the Town of Denton proper.

The Zoning Map includes both existing and proposed development as approved by either the Town or the County Commissioners. It does not indicate present land use for areas that are to be developed in the future.

CHAPTER 5 THE PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

1. Secondary Impacts

Removal of the traffic from the streets of Denton will not only provide the desired effect of faster travel for those wishing to reach the ocean resort areas, but it will also provide an easier access to local recreation areas because this traffic is removed. The peak traffic periods for the existing street system occur on weekends, which is also the peak demand period for public recreation areas and also for religious camps. A reasonable expectation is that the Wesleyan Camp, Camp Mardella and Martinak State Park will experience increased local usage.

At the present time, the merchants in downtown Denton are losing business during summer weekends because of the heavy traffic passing through the town. Persons in the rural areas around Denton do much of their shopping in more distant towns rather than fight the congestion on Maryland 404. The merchants are of the opinion that business, which in some instances is at marginal levels, will improve when the bypass is constructed. In fact, some revitalization of the district can be expected to occur. Also, vacationers will be more inclined to stop in Denton for their needs if an easy return to Maryland 404 is available.

The heavy traffic passing through Denton during the summer weekends is a burden on the town's police force. The town, being relatively small, is not in a position to afford a force of sufficient size to police traffic of the volumes presently occurring. The removal of the traffic from the city limits

will free the police force for normal policing duties on these weekends rather than the heavily traffic-oriented duties now being performed.

Maryland 404 is one of only three routes on the Eastern Shore available to move traffic from the Bay Bridge to the resort areas of Delaware and Maryland on the Atlantic Ocean. The elimination of the Denton bottleneck will result in an increase in the capacity of the Maryland 404 route and an overall net increase in traffic. The increase in traffic capacity of any of the routes to the beaches will make the resort areas even more attractive to persons living on the western shore and encourage their further growth.

The Denton Bypass may stimulate some commercial and industrial development in the Denton area. At the present time, as with most small towns, there are not enough jobs in the area to support all persons wishing to work; therefore, many job-seekers must go elsewhere to find employment. The labor force is not large, however, and any expansion will undoubtedly be moderate. The inducements to new industries as a result of better transportation facilities cannot be expected to be significant until all of Maryland 404 is dualized. Any major expansion in the job market in the Denton area will undoubtedly attract more people to the community. Environmental problems associated with increased industry and housing can be expected if this occurs.

2. Primary Impacts

a. Natural Resources

The highway bypass around Denton will not affect the quality of the water in the wells in the local artesian aquifers because of the nature

of the geologic formations in the area (generally they are devoid of sinkholes, fissures, solution channels, etc.) and the remoteness of the aquifer recharge zones. Proper highway planning and construction techniques will ensure that vicinal wells and artesian ground water aquifers are adequately protected against highway surface runoff. (See also the discussion under Water Quality, Section k.)

The project will have some impact on local farmlands adjacent to the alignment although no farming operations are expected to cease because of this project. Prime agricultural land will be acquired as righty-of-way for this project. Approximately 21 acres of land designated by the U.S.D.A. Soil Conservation Service as prime agricultural land will be acquired, in addition to 26.5 acres of non-prime agricultural land that would otherwise remain as farmland at least through 1985. Eighteen of the 21 prime acres are in the area of the interchange at the western terminus of the project with Md. 404; another 3 acres are at Double Hills Road at Md. 313-404. The non-prime farmland affected occurs as follows: 6 acres at the western interchange, 7 acres between Md. 313 and Camp Ground Road and 13.5 acres between Double Hills Road and Watts Creek. The 47.5 acres of farmland represent less than one and one half percent of the more than 4,000 acres of farmland shown on Exhibit 6. In view of the amount of farmland in the area, the cost of this project in terms of agricultural land taken does not significantly detract from the benefits that the project will provide to all of the area's citizens.

There will be no impacts upon navigation of the Choptank River during the construction of the new bridge. The boating channel will be kept open during all construction activities. The project will require a Coast Guard permit which will be processed during the design of the project. The navigational clearances will be a minimum of twenty feet.

The trees in areas impacted by construction will be harvested prior to construction of the highway. There is a sawmill in Denton which uses such timber to produce heavy construction materials. Coastal plant species, if only temporarily disturbed, will re-establish quickly.

No energy resources of commercial value are located in the project area.

b. Scenic Resources - aesthetics

There are no scenic resources of any particular note in the project area other than the noted historical sites (see Chapter 10). There does not appear to be any serious visual impacts associated with this project, although some individuals may find the grade separation embankments and structures punctuating the rural landscape aesthetically unpleasant.

The natural scenic vista of woodlands, agricultural fields, wetlands, and rivers will be disrupted by the construction of the dual roadway. The existing highway now passes through an urban area.

Routing the bypass through natural areas of fields, forests and river wetlands will enhance the scenic experience of most highway travelers.

During construction, the scenic values of the areas involved will be affected by unattractive views related to heavy construction. The appearance of finished roads and bridges will be less disruptive of the natural landscape.

c. Ecological Resources

(1) Terrestrial Ecology

No impacts upon endangered or threatened species are expected. Habitats of more common species of animal life will be taken by construction, but these species can be expected to replenish the construction area fringes by natural processes in a relatively short period of time after completion of construction. For more information see Chapters 7 and 8 of this document.

(2) Aquatic Ecology

There will be approximately 1 and 2.5 acres of wetlands physically taken from Watts Creek and the Choptank River respectively by the recommended alternate. The damaged wetlands areas will be reconstructed upon completion of bridge construction.

There would have been 1.5 and .5 acres of wetlands physically taken from Watts Creek and the Choptank respectively under Alternates F and F-1.

Turbidity and siltation caused by construction operations in the Choptank River and Watts Creek will be disruptive to fish spawning if they occur during the spawning season. Herring eggs are coated with a layer of mucus resulting in a sticky surface. They normally sink and

adhere to rocks, sticks, and vegetation on the stream bottom. As a result, they are susceptible to damage from settling silt. Shad eggs are semibuoyant, rolling on the bottom with the current. If the current is not strong enough to keep the eggs moving, there is a danger they will be silted over during construction. To minimize effects on aquatic life, operations in the river affecting turbidity and siltation during the spawning season will not be permitted.

Pollutants attributable to road surface runoff will enter the river and affect the fish populations if pollutant concentrations reach a high level. This will not be the case; however, the volume of runoff from impervious roadway surface for the project is small compared to the receiving bodies of water and the runoff will be carrying relatively light loads of pollutants. Rainfall greater than the half-inch storm will not add significant amounts of pollutants since the road surface will be washed relatively clean by the first half-inch of rainfall. Roadway runoff pollutants introduced into the river include heavy metals, hydrocarbons, sulfur, nitrogen, acidic compounds, pesticides, herbicides and other organic and inorganic wastes from vehicle exhaust, fuels, tires and road salt. These substances affect the turbidity, pH and oxygen content of receiving waters. Some are poisonous to fish, their developing young or to prey species.

Adverse impacts on aquatic benthic and planktonic communities will be limited and of short duration. Since construction activities which would impact the river will be curtailed between mid-March through mid-June to protect anadromous fish reproduction, the principal plankton forms, specifically eggs and larvae, will be protected by this action.

Final design and hydrologic studies required will be accomplished during the design phase. Design and permit considerations will be coordinated with the Coast Guard, Corps of Engineers and Water Resource Agencies prior to permit issuance. Construction activities will be regulated by specific contract specifications.

d. Social Impact

The construction of the project is not expected to have any adverse effect on public facilities, churches, shopping areas or employment areas. In fact, considerable benefits will result. Congestion on Denton streets from the through traffic using Md. 404 and Md. 313 will be alleviated by the construction of the project. Elimination of this through-town traffic will be particularly significant on summer weekends.

In conjunction with the reduced traffic volumes, safety aspects of the local street system will be enhanced. Pedestrians and bicyclists will be afforded greater safety when crossing and/or using the local streets. Noise and air quality will be improved and vibrations resulting from truck traffic will diminish. There will be no adverse impact on any particular minority or ethnic group by the project. No significant impacts upon local educational facilities are anticipated. Response by the fire department and other emergency vehicles will be improved in several aspects. The removal of weekend traffic from local streets will improve accessibility during peak traffic periods. Although the bypass route offers only limited possibilities for advantageous use by emergency vehicles, in some instances access from one end of town to the other as well as access to outlying regions with their more extensive emergency facilities may be much quicker.

e. Relocation of Individuals and Families

The following is the estimated number of displacements resulting from the construction of the Denton Bypass:

84 Persons Displaced

28 Families Displaced

The majority of these occupants own their homes. North of town, the owners and tenants are in the middle to lower income group. In the area along Maryland 404 south of Denton, homes that are generally above average in size and value are affected.

At any particular time, there is not much available housing for sale in the Denton area. Realtors in the general area indicate that there is a very small turnover of properties within a year's time. Those homes that are sold vary in size and price and would not necessarily be within the financial means of dislocatees. The majority of the families involved are long-time permanent residents of the Denton area, with their job nearby. However, all of the people and families will be moved to safe, decent and sanitary housing. In some cases, Housing of Last Resort will be required. In those cases, new homes will be constructed for all families where existing replacement housing is not available. The construction of the new replacement housing and the relocation of the families will take approximately 2 to $2\frac{1}{2}$ years. A summary of the State of Maryland's relocation assistance program is in Appendix 2. There are no federal, state or municipal programs that would conflict with the project.

There are no minorities in the project area nor are there any handicapped.

Two broiler houses are affected by the project on the west side of the Choptank River can either be moved or rebuilt on remaining

land of the owners. The Calvary Baptist Church would also be acquired by the project. The relocation of the church can be accomplished through normal procedures and no significant problems are anticipated.

f. Title VI Concerns

"It is the policy of the Maryland State Highway Administration to insure compliance with the provisions of the 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 , religion, national origin, physical or mental handicap in all State Highway program projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, highway design, highway construction, the acquisition of right-of-way or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration be given to the social, economic, and environmental effects of all highway projects. Alleged discrimination actions should be addressed to the State Highway Administration for investigation." - The aims and goals of this policy were considered during the course of this project.

g. Construction Impacts

(1) Construction in Waterways and Wetlands

In their letter of December 30, 1977, The U.S. Fish and Wildlife Service (U.S. Dept. of the Interior) stated that their probable position on future Corps of Engineers and Coast Guard bridge construction permits "would be one of concurrence provided safeguards to avoid damage to wetlands and fishery resources and/or mitigative features to restore or enhance these public resources are made part of the project plans." Several methods of crossing wetlands were discussed with the Department of Natural Resources.

The Denton Bypass involves crossings at the Choptank River and Watts Creek, each crossing involving wetlands of varying sizes. On the basis of discussions with the Department of Natural Resources, the

State Highway Administration proposes to span both the open water and wetlands at the Choptank River crossing. Construction of the bridge will be from barges. To accommodate the barges, shallow sections of the river and the wetlands will be dredged to provide an approximately six-foot-deep by 100-foot-wide channel. Material removed from the river and wetlands will be stockpiled on shore and used to refill the portion of the dredged channel which traverses the wetlands. Barges cannot be used at Watts Creek because of the limited depth and width of the creek; therefore, a temporary timber structure will be utilized to construct the Watts Creek bridge.

Since long spans are not required on the Choptank and Watts Creek structures and the structures are low in profile, they will be designed using light individual members for deck girders and piles. By using light bridge members, light construction equipment can be used to build the bridge and will result in the least disturbance to the ecology. Piers will be of the pile bent type.

The impact upon the wetlands of the dredging and filling required for construction by barge will tend to vary in degree and kind with the type of soil dredged and the amount of dredging necessary. Some parts of the river are relatively shallow. The consequence of dredging to facilitate construction operations will include turbidity and siltation. Any disturbance of the very fine silt in the wetlands will cause at least a temporary impairment of water quality. Likewise, dredging a channel in the wetlands will temporarily destroy those sections involved as well as add sediments to the river. Actual

construction activities such as driving piles into marsh and channel bottom will increase the turbidity resulting from displacement of subsurface silt and sediment. Disturbance during actual construction activities will be considerable; therefore, construction will be scheduled to avoid silt-producing activities during the period of mid-March through mid-June, the peak spawning period for most fish species.

The choice of pile types will not make a significant difference environmentally. The use of a larger number of small piles (some battered) versus a smaller number of larger piles will not adversely affect the wetlands because the rate of flow in the river at the crossing site will not create eddies capable of moving large amounts of sediment.

The highly organic wetlands material that is removed by dredging will be tested at the time of construction to see if inland deposition poses a threat to surrounding areas. The area for disposal of excess material will also be checked for compatibility with the dredged material not used in this refilling of the wetlands before it is dumped. For example, dumping in the area of a flowing stream could cause suspension of organic materials in the stream with higher biochemical oxygen demand resulting.

Since sediment contained in the wetlands is highly organic (i.e., primarily detrital plant material), any re-suspension of this material will introduce an oxygen demand substance into the river. As a consequence of the muck and sulfur compounds, tidal marsh areas disturbed by dredging and other construction activities can lead to the introduction into the Choptank River and Watts Creek of materials that can exert both biochemical and chemical demands for oxygen as well as increase the suspended solids concentrations

in these water bodies.

71

The dredged wetland areas will be refilled after construction is complete. This, of course, involves very specific design in terms of tidal elevations (i.e., maintaining a similar elevation to that of the pre-disturbance marsh). Conditions of this sort will be written into any licenses and/or permits that are issued for the project. Actually, this is not a difficult endeavor and works well. Under such conditions, volunteer invasion is quite quick since abundant propagules are usually present from surrounding wetlands. Undesirable upland vegetative invasion occurs when the refill elevation is higher than that of the original marsh.

Contacts have been made with the United States Coast Guard to fulfill coordination requirements necessary for permit applications for this project. Since 1976, extensive coordination has also been underway for replacement of another nearby crossing of the Choptank River for existing Maryland 404. Contacts have also been made on March 1, May 19 and 25, 1977 concerning bridge alternates, types of construction, clearances, and hearing requirements relative to the Denton Bypass project. The Coast Guard's comments regarding the Draft Environmental Statement were contained in their letter dated Dec. 28, 1977, a copy of which is included herein. Active coordination will be continuing.

(2) Construction in Upland Areas

The soil in the vicinity of Denton is low in soluble organic and inorganic matter, thus, sediment related increases in organic and

inorganic loads are limited.

A consideration of the estimated acreages of disturbed land within watersheds is presented in the Kappe Associates Water Quality Report[1]. Exhibit 5 shows that there are 5 tributary streams of the Choptank River associated with the construction of the project.

Grade separations and major water crossings require the construction of embankments which can be a source of gravity erosion. In the construction of the project, six grade separations are required.

Drainage to tributary streams caused by sedimentation from construction will be transient in nature, passing after the end of the construction phase.

In both the planning and construction phases, sedimentation will be held to a minimum by employing the following procedures:

(a) thorough site planning with the aid of a geologist or soil scientist;

(b) exposing soils only as needed for immediate development and roughening the surface of exposed banks to decrease runoff and slow downhill soil movements; planting fast-growing annual and perennial plants to cover denuded areas;

(c) using natural plant mulches, chemical soil stabilizers, fiber mulches or netting to cover the soil;

(d) building soil or stone dikes, ditches and terraces to intercept run-off and divert it from erodible soil.

1. KAPPE, pages VI-8, 9, 10, 11

(e) gravel inlet filters consisting of stone or gravel will be placed around or in front of all inlets to a drainage channel;

(f) sediment traps of straw bales, sandbags or stones will be placed across small drainageways;

(g) sediment basins, designed to hold storm waters, will be provided to temporarily delay run-off and allow time for settling sediments.

All sediment control measures will be maintained for the duration of construction activity, as directed by the engineer in the field.

(3) Borrow

The project is expected to require approximately two million cubic yards of borrow.

Use of any material from any location depends upon the suitability of the soil for use in a fill embankment. If unsuitable materials are encountered, small borrow pits will be dug and refilled with these materials, if the area is compatible with the dumped material as determined by tests. The refilled areas will be graded and landscaped to blend with existing topography, in accordance with current State Highway Administration practice.

Consideration was given to underpassing existing roads to reduce the amount of required borrow; however, because of the built-up nature of the areas adjacent to the proposed crossings, there would have

been a significant increase in property damage and acquisition of homes over the twenty-eight which are within the proposed right of way as it is now envisioned. This would have increased the effects of an already serious impact.

(4) Noise

During the construction phases of this project, the noise sensitive areas referred to later in this chapter will experience increased noise emanating from equipment utilized in construction processes. Depending upon the area, this noise may exceed that from the completed highway although the duration of impact will vary and will probably not occur earlier than 7 a.m. nor later than 7 p.m. Due to the varying duration and intensity of this impact, no physical controls such as temporary barriers are planned. One measure which can be implemented is to require that construction equipment be maintained to insure low noise levels. This will be included in the construction specifications.

h. Flood Hazard Evaluation

The flood plains adjacent to the Choptank River and Watts Creek will be completely spanned by the proposed structures. There will be no fill material placed within the areas designated as flood plains by the United States Department of Housing and Urban Development.

Storm drainage facilities for new construction will be designed according to Maryland State Highway Administration drainage criteria. Facilities along existing roadways to be widened or dualized will not be replaced unless they are in unsatisfactory condition. Where feasible, multiple pipe culverts will be used in place of box culverts because less disturbance to the natural streambed occurs during construction when using single or multiple pipe culverts. No streams will be relocated as a part of this project.

Storm drainage facilities for the Denton Bypass will, where possible, utilize existing streams and intermittent streams, as indicated on the U. S. Geological Survey map of the Denton Area (dated 1944), in order to prevent the diversion of dry weather and storm water flow. Every effort will be made not to lower the existing stream inverts when outfalling roadway storm drainage into natural streams and intermittent streams.

i. Air Quality

The near field analysis was carried out using the EPA HIWAY program for five road sections and six sensitive receptors. Carbon

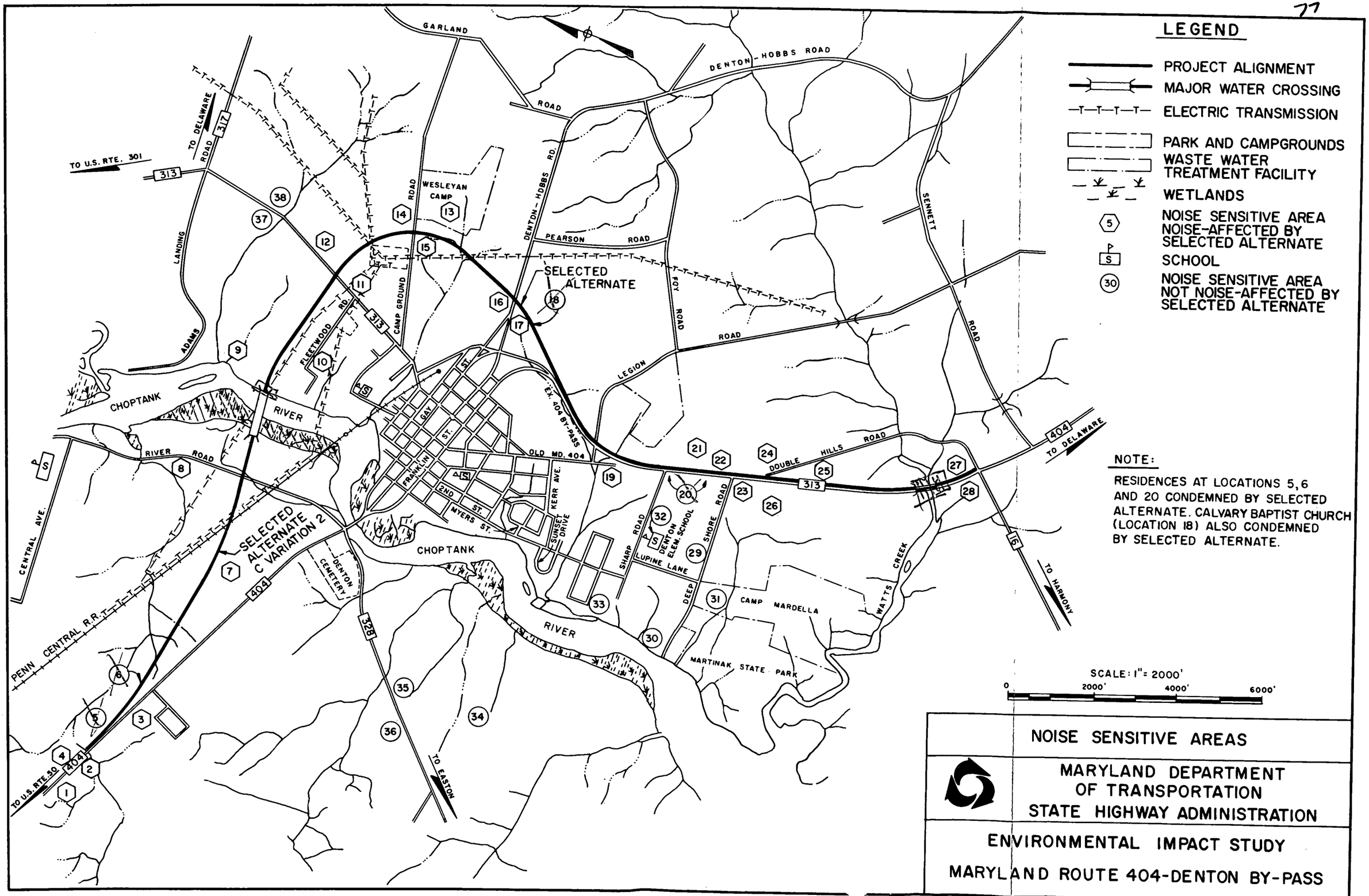
monoxide concentrations were calculated for one hour and eight hour peak traffic assuming worst condition meteorology and added to the background assumed concentrations of 5 ppm for one hour and 2 ppm for eight hours.

The assumed background concentrations of 5 ppm for the one-hour averaging period and 2 ppm for the eight-hour period are supported by monitoring conducted on the property of the Crownsville State Hospital in Crownsville, Maryland. Both the monitoring location and the project area are classified as Rural-Agricultural as defined by the EPA Publication AEROS Manual of Codes, Volume V, SAROAD Site Description Definition and both locations have typical coastal plain topography.

Monitoring was conducted from January to March, 1976, using a Beckman Model 865 Non-Dispersive Infrared Analyzer, following the quality assurance guidelines published by the U.S. Environmental Protection Agency. Wind speed and direction were measured using a Climet Instruments CI-25 Wind Recording System.

The maximum one-hour average recorded was 3.0 ppm, the maximum eight-hour average 2.5 ppm; these maximums occurring on February 4, 1976. As these concentrations would be reduced by over 50 percent when adjusted to 1982 and 2005 levels through the use of the roll-back method, the use of 5 ppm and 2 ppm provides a very conservative estimate of background carbon monoxide.

In every case, in 1982 and 2005, the calculated carbon monoxide concentrations are well below the 35 and 9 ppm National Ambient Air Quality Standard for both one and eight hour averages at the six selected sensitive sites and also along the road sections. The calculated CO levels



LEGEND

- PROJECT ALIGNMENT
- MAJOR WATER CROSSING
- ELECTRIC TRANSMISSION
- PARK AND CAMPGROUNDS
- WASTE WATER TREATMENT FACILITY
- WETLANDS
- (5) NOISE SENSITIVE AREA NOISE-AFFECTED BY SELECTED ALTERNATE
- S SCHOOL
- (30) NOISE SENSITIVE AREA NOT NOISE-AFFECTED BY SELECTED ALTERNATE

NOTE:

RESIDENCES AT LOCATIONS 5, 6 AND 20 CONDEMNED BY SELECTED ALTERNATE. CALVARY BAPTIST CHURCH (LOCATION 18) ALSO CONDEMNED BY SELECTED ALTERNATE.

SCALE: 1" = 2000'

0 2000' 4000' 6000'

NOISE SENSITIVE AREAS

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

EXHIBIT II

The project is located within the Eastern Shore - Interstate Air Quality Control Region, and two characteristics of the proposed facility were evaluated to determine consistency with the Maryland State Implementation Plan; microscale carbon monoxide levels and the impact of construction activities.

The project Air Quality Analysis assessed the microscale carbon monoxide impact of the facility. This analysis determined that no violation of State or Federal Ambient Air Quality Standards for carbon monoxide will occur adjacent to the project during the completion and design years. As as result of this conclusion, the project is consistent with this aspect of the Maryland State Implementation Plan.

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

If there are any questions regarding the analysis, please contact the Maryland State Highway Administration, Baltimore, Maryland.

j. Noise Impacts[1]

Construction of the project will result in adverse impact upon noise sensitive areas and in noise levels in excess of Federal Highway Administration

1. For more detailed information, refer to the Noise Analysis Report for the subject project, available from the State Highway Administration offices.

design noise levels. The majority of noise sensitive areas are either single or several structures for which control of noise is impractical from a cost viewpoint. The project affects 24 noise-sensitive areas, violates design noise levels in 15 areas, causes significant ambient noise increases in 4 of the 15 locations and severe ambient increases in 2 of the 15 areas. A detailed breakdown of the above areas is shown in Table 2. Mitigation of noise impacts is considered in Chapter 7, section 7 of this document.

Coordination with Local Officials

A copy of the Noise Report will be forwarded to the following to serve as an aid in providing for desirable land use compatibility:

Caroline County Planning Commission
Caroline County Court House
Denton, Maryland 21629

In addition a copy of "The Audible Landscape: A Manual for Highway Noise and Land Use" has been forwarded to the aforementioned agency.

k. Water Quality

The following is an examination of water quality factors as they apply to the operation and maintenance as well as to the presence of a highway bypass around Denton, Maryland. Effects of the project on water quality related to the wetlands and construction impacts are covered in another section.

(1) Drainage Diversion:

No significant change in drainage paths will result from the construction of the Denton Bypass. Maryland State Highway Administration drainage criteria discourage even minor diversions. Drainage design will be based on these criteria.

(2) Possible effects on ground water movement:

It is highly unlikely that ground water flow will be affected by such

NOISE SENSITIVE AREAS - MAP KEY (Exhibit 11)

Noise Sensitive Area (NSA)	Description
1	Single family residence east of Denton on the south side of Maryland 404.
2	Single family residence approximately 1,000' east of NSA 1.
3	Two single family residences along Maryland 404 approximately 1,500' east of NSA 2. A tract of land of which these two residences are a part has been subdivided for development. Eighteen lots exist of which three are presently developed.
4	Three single family residences approximately 150' apart opposite NSA's 1 and 2.
7-12	These noise sensitive areas are each single family residences located adjacent to the project between the point where it diverges from existing Maryland 404 and its crossing of Camp Ground Road. Ambient levels are in the 40's and 50's indicative of a lack of traffic noise influence.
13	This area is the Wesleyan Camp, located adjacent to Camp Ground Road. The camp consists of 53 acres of land, 90 cottages plus 26 camp owned buildings. The area is used for children's, youth and family camp activities including open air services. The administration of the camp has expressed a concern for potential disruption of camp activities by noise generated from the project.
14	A single family residence west of Camp Ground opposite NSA 13.
15	Several single family residences along Camp Ground Road immediately south of the point where the project crosses.
16-17	Two groups of single family residences along Denton-Hobbs Road north of where Denton-Hobbs Road joins with Gay and Market Streets.
18	The Calvary Baptist Church will be removed by the project.

(Exhibit 11 Continued)

Noise Sensitive Area (NSA)	Description
19	Two and one-half story brick residence south of existing Maryland 404 at the end of Old Maryland 404.
20	Six single family residences on the south side of Maryland 404, between Sharp and Deep Shore Roads. This area would be removed by the project.
21	A single family residence north of Maryland 404 opposite NSA 20.
22	A motel east of NSA 21.
23	A single family residence 400'± east of Deep Shore Road south of the existing bypass.
24	Large farmhouse north of the intersection of Maryland 404 and Double Hills Road.
25	Farmhouse and assorted out-buildings north of the existing highway approximately 1,300' east of Double Hills Road.
26	Farmhouse and out-buildings south of the existing highway opposite NSA 24.
27	Single family residence north of the existing highway east of Watts Creek.
28	Single family residence south of the existing highway opposite NSA 27.
40	This noise sensitive area represents sensitive receptors along Gay Street in Denton.
41	Sensitive receptors along Market Street in Denton.
42	Sensitive receptors along Franklin Street in Denton.

ALTERNATE C

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE SENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10} (2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
1	Residential	72dBA	74dBA	+2	+4	Negligible impact; design noise level exceeded
2	Residential	72dBA	74dBA	+2	+4	Negligible impact; design noise level exceeded
3	Residential	72dBA	75dBA	+3	+5	Negligible impact; design noise level exceeded
4	Residential	69dBA	72dBA	+3	+2	Negligible impact; design noise level exceeded
7	Residential	53dBA	69dBA	+16	-1	Severe increase in ambient levels
8	Residential	53dBA	60dBA	+7	-10	Minor increase in ambient levels
9	Residential	47dBA	60dBA	+13	-10	Significant increase in ambient levels
10	Residential	47dBA	58dBA	+11	-12	Significant increase in ambient levels
11	Residential	58dBA	71dBA	+13	+1	Significant increase in ambient levels; design noise level exceeded
12	Residential	58dBA	75dBA	+17	+5	Severe increase in ambient levels; design noise level exceeded
13	Religious	53dBA	70dBA	+17	equals	Severe increase in ambient levels
14	Residential	53dBA	71dBA	+18	+1	Severe increase in ambient levels; design noise level exceeded
15	Residential	53dBA	72dBA	+19	+2	Severe increase in ambient levels; design noise level exceeded
16	Residential	60dBA	74dBA	+14	+4	Significant increase in ambient levels; design noise level exceeded

SHA 61.5-34
4-3-75

Sheet 1 of 6

TABLE 2

ALTERNATE C

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE SENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10} (2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
17	Residential	60dBA	73dBA	+13	+3	Significant increase in ambient levels; design noise level exceeded
18	Religious	48dBA	NSA would	be in r.o.w.	of alternate.	
19	Residential	59dBA	67dBA	+8	-3	Minor increase in ambient levels
20 Variation 1	Residential	64dBA	79dBA	+15	+9	Significant increase in ambient levels; design noise level exceeded
21 Variation 1	Residential	64dBA	81dBA	+17	+11	Severe increase in ambient levels; design noise level exceeded
21 Variation 2	Residential	64dBA	76dBA	+12	+6	Significant increase in ambient levels; design noise level exceeded
22 Variation 1	Residential	64dBA	79dBA	+15	+9	Significant increase in ambient levels; design noise level exceeded
22 Variation 2	Residential		74dBA	+10	+4	Minor increase in ambient levels; design noise level exceeded
23 Variation 1	Residential		78dBA	+14	+8	Significant increase in ambient levels; design noise level exceeded
23 Variation 2	Residential	64dBA	76dBA	+12	+6	Significant increase in ambient levels; design noise level exceeded
23 Variation 3	Residential		62dBA	-2	-8	Positive impact through a decrease in ambient levels
24 Variation 1	Residential	57dBA	71dBA	+14	+1	Significant increase in ambient levels; design noise level exceeded
24 Variation 2	Residential		68dBA	+11	-2	Significant increase in ambient levels; design noise level exceeded

SHA 61.5-34
4-3-75

Sheet 2 of 6

TABLE 3

SHA 61.5-34
4-3-75

ALTERNATE C

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE SENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10}(2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
25 Variation 1	Residential	57dBA	67dBA	+10	-3	Minor increase in ambient levels
25 Variation 2	Residential		67dBA	+10	-3	Minor increase in ambient levels
26 Variation 1	Residential		68dBA	+11	-2	Significant increase in ambient noise levels
26 Variation 2	Residential	57dBA	68dBA	+11	-2	Significant increase in ambient noise levels
26 Variation 3	Residential		65dBA	+8	-5	Minor increase in ambient levels
27 Variation 1	Residential		76dBA	+23	+6	Severe increase in ambient levels;design noise level exceeded
27 Variation 2	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise level exceeded
27 Variation 3	Residential		76dBA	+23	+6	Severe increase in ambient levels; design noise level exceeded
28 Variation 1	Residential		70dBA	+17	equal	Severe increase in ambient levels; design noise level exceeded
28 Variation 2	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise level exceeded
28 Variation 3	Residential		76dBA	+23	+6	Severe increase in ambient levels; design noise level exceeded

Sheet 3 of 6

TABLE 2

ALTERNATE F

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE SENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10} (2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
3	Residential	72dBA	72dBA	0	+2	No increase in ambient levels; design noise level exceeded
5	Residential	72dBA	77dBA	+5	+7	Negligible increase in ambien levels; design noise level exceeded
6	Residential	63dBA	69dBA	+6	-1	Minor increase in ambient levels
26	Residential	57dBA	64dBA	+7	-6	Minor increase in ambient levels
27	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise levels exceeded
28	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise levels exceeded
29	Residential	45dBA	62dBA	+17	-8	Severe increase in ambient levels
30	Residential	45dBA	64dBA	+19	-6	Severe increase in ambient levels
31	Religious	45dBA	70dBA	+25	equal	Severe increase in ambient levels
32	Educational	43dBA	60dBA	+17	-10	Severe increase in ambient levels
33	Residential	43dBA	62dBA	+19	-8	Severe increase in ambient levels
34	Residential	43dBA	58dBA	+15	-12	Significant increase in ambient levels
35	Residential	63dBA	69dBA	+6	-1	Minor increase in ambient levels
36	Residential	63dBA	72dBA	+9	+2	Minor increase in ambient levels; design noise level exceeded

TABLE 2

SHA 61.5-34
4-3-75

ALTERNATE F_1

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE SENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10} (2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
3	Residential	72dBA	72dBA	0	+2	No increase in ambient levels; design noise level exceeded
5	Residential	72dBA	77dBA	+5	+7	Negligible increase in ambie levels; design noise level exceeded
6	Residential	63dBA	69dBA	+6	-1	Minor increase in ambient levels
13	Religious	53dBA	65dBA	+12	-5	Significant increase in ambient levels
14	Residential	53dBA	65dBA	+12	-5	Significant increase in ambient levels
15	Residential	53dBA	69dBA	+16	-1	Severe increase in ambient levels
16	Residential	60dBA	69dBA	+9	-1	Minor increase in ambient levels
17	Residential	60dBA	69dBA	+9	-1	Minor increase in ambient levels
26	Residential	57dBA	64dBA	+7	-6	Minor increase in ambient levels
27	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise levels exceeded
28	Residential	53dBA	76dBA	+23	+6	Severe increase in ambient levels; design noise levels exceeded
29	Residential	45dBA	62dBA	+17	-8	Severe increase in ambient levels
30	Residential	45dBA	64dBA	+19	-6	Severe increase in ambient levels
31	Religious	45dBA	70dBA	+25	equal	Severe increase in ambient levels

TABLE 2

SHA 61.5-30
4-2-75

ALTERNATE F_1

COMPARISON OF PREDICTED NOISE LEVELS WITH AMBIENT AND DESIGN GOALS (FHPM 7.7.3)

NOISE ENS. AREA	LAND ACTIVITY	AMBIENT L_{10}	DESIGN YR. L_{10} (2005)	CHANGE IN L_{10}	RELATION TO DESIGN GOAL	ASSESSMENT
32	Educational	43dBA	60dBA	+17	-10	Severe increase in ambient levels
33	Residential	43dBA	62dBA	+19	-8	Severe increase in ambient levels
34	Residential	43dBA	58dBA	+15	-12	Significant increase in ambient levels
35	Residential	63dBA	69dBA	+6	-1	Minor increase in ambient levels
36	Residential	63dBA	72dBA	+9	+2	Minor increase in ambient levels; design noise level exceeded
37	Religious	58dBA	63dBA	+5	-7	Negligible increase in ambient levels
38	Residential	58dBA	65dBA	+7	-5	Minor increase in ambient levels
39	Residential	53dBA	69dBA	+16	-1	Severe increase in ambient levels

Sheet 6 of 6

TABLE 2

things as compaction of the roadbed or vibration from traffic, especially since most of the length of the facility proposed under the project will be constructed on fill 5 or more feet in height and the soils are primarily sand and gravel, which are not easily compacted.

(3) Water quality changes from terrain and from highway and bridge surface runoff:

Stormwater runoff from roadways is known to contain toxic materials, particulates, nutrients and oxygen demanding substances which can affect receiving bodies of water. Traffic related heavy metals -- lead, zinc, copper, nickel and chromium -- constitute the most serious contaminants in roadway stormwater runoff. Since impervious surfaces obviously cannot be eliminated in building a roadway, contamination of the feeder streams and the river waters by drainage from the roadway can be minimized in both design and construction phases by means of procedures discussed below:

1. Grades will be designed to conform to the natural pattern of surface flow which will ordinarily direct run-off water through vegetated areas and soils, which will tend to stabilize flow and promote the natural removal of pollutants, It is usually undesirable to short circuit flows to simplify drainage.

2. Ditches will be seeded and mulched or sodded to provide grassed ditches for further removal of roadway contaminants while they are being transported by runoff. Use of these methods of stabilization is controlled by the flow velocity and soil type in the ditch.

3. Vegetative buffer areas can be used to filter and detain the movement of runoff water. These control practices include leaving natural

vegetation between sediment sources and waterways or designing buffer areas into artificial landscapes.

(4) Highway Maintenance effects on critical water uses:

The maintenance of a highway after construction includes the use of such materials as deicing compounds, herbicides and pesticides to keep the roadway and surrounding areas both serviceable and aesthetically appealing. The State Highway Administration operates on a "bare-lanes"policy, that is, the elimination of all ice on the entire road surface. The State Highway Administration uses 500 pounds of salt per 2-lane mile as the deicing material. In the course of any one salting of the project, approximately 6,000 pounds of salt will be spread on the nearly 6 miles of 4-lane highway. If this amount of salt were to be introduced into the Choptank River at one single point over a period of one hour, an increase in dissolved solids of the river of roughly 85 mg/l would result. Data made available by the Surface Water Quality Branch of the Water Resources Administration of Maryland shows that the dissolved solids concentration in the Choptank River at Denton over the past several years has ranged from 56 mg/l to 1040 mg/l and averaged 405 mg/l during the months of October through March. Thus, the increase in dissolved solids concentration in the river due to the addition of salt from highway runoff would result in a dissolved solids concentration well within the present normal fluctuations of this constituent in the river. The increase in dissolved solids in the Choptank River from salting will never be this great because runoff waters flushing the salt from the highway to the river, as well as the waters which normally flow to the river from the upper reaches of the watershed will serve to decrease even further the final salt concentration in the river.

The flow of the river itself will constantly flush the salt downstream to the normally saltier reaches of the river. It will be washed into the river over a longer period of time than one hour and will be entering the river at a number of points instead of a single point to provide somewhat greater dilution. Moreover, since the river is carrying the salt downstream and the salt is being introduced into the river over a limited period, the increase in dissolved solids in transient in nature.

The effects of highway salting on the Choptank River and feeder streams will be minimal. The surface area of a highway is a fraction of a percent of the total watershed area. Dilution of surface runoff containing high salt concentrations by receiving stream water will reduce the effective salt solution to a negligible total concentration in the stream. The exact magnitude of the reduction will, of course, vary from stream to stream and associated highway segment to segment.

The effects of salting on shallow wells may in some cases be significant. The several shallow (driven) wells located along Camp Ground Road, Watersheds 4 and 5 (Exhibit 5) on the project, and a shallow well at the Cropp's home in Watershed 1 just south of the project may be affected by increased chloride concentrations resulting from seepage of the salt into the water tables feeding these wells or by the flow of contaminated surface runoff into those wells that are improperly protected. This situation can be remedied by digging wells which penetrate deeper aquifers.

Farm ponds on the project in Watersheds 1 and 10 (Exhibit 5), may also be affected. Sodium from road salts which serves to increase existing levels of one of the monovalent ions essential for optimum growth of blue-green

algae, also tends to stimulate the growth of nuisance algal blooms.

It is also the practice of the Maryland State Highway Administration to use herbicides and pesticides within the highway right-of-way. Since the use of both herbicides and pesticides will be relatively limited and periodic in nature, their use will not significantly affect the water quality of the Choptank River, other smaller area streams, or the local ground waters.

(5) Water quality effects caused by the disturbance of existing waste treatment systems:

There are several areas along the Denton Bypass project where septic system tile fields are in or near highway rights-of-way. Although utmost care will be taken not to encroach upon the tile fields, some of them may be cut short in the process of construction.

The State Highway Administration will use all necessary and required methods, including relocation, to ensure that any tile fields affected will meet health standards.

3. Impacts Not Applicable to This Project

There are no stream modifications other than the placement of underground culverts in stream beds where necessary. As little of the incoming and outgoing channels as possible will be widened or improved at these culverts, in order to maintain as much as possible of the natural channel. Velocities of flow in the culverts will be inspected during design to prevent design storm flows from damaging the downstream channel. Other impacts not specifically mentioned in this document can be considered as non-applicable to this project.

CHAPTER 6 ALTERNATES

Three basic alternate alignments were developed during the study phases of this project which would alleviate the traffic congestion in Denton. Alternate C bypassed the town of Denton to the north, while Alternates F and F-1 were bypasses that ran to the south of town. Alternate F-1 included an at-grade connection between Maryland 313 and the existing Denton bypass on the northeastern side of Denton. These alternates were the result of the development and systematic examination and rejection of a number of other construction alternates, which originally included 3 northern, 3 southern, and 5 modified routes based on combinations of the 6 basic routes. (See Chapter 11).

Each of the alternates provided a different degree of service and thus cannot be directly compared. Alternate C provides for a bypass of Md. 404, Md. 313 and Md. 313 to Md. 404 (west) traffic; Alternate F for Md. 404 traffic only; and Alternate F-1 for both Md. 404 and Md. 313 traffic. Both Alternates F and F-1 provide for a bypass of Md. 328 traffic destined for Md. 404 to the east, which is a substantial volume.

1. The Selected Alternate (Alternate C Variation 2)

The Selected Alternate leaves Maryland 404 west of Denton at an interchange located approximately 1.3 miles west of Maryland 328 as a freeway type facility and passes behind the commercial development along the north side of Maryland 404, heading in an easterly direction for 0.75 mile before turning northeast, overpassing the Penn Central Railroad approximately 1,000 feet west of River Road.

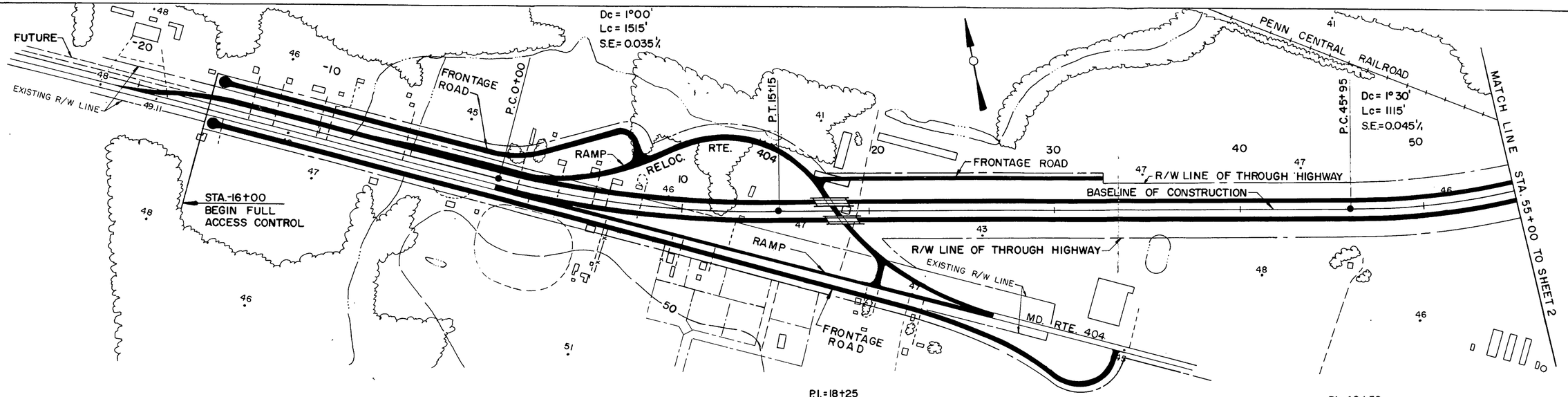
From this point, the Selected Alternate continues in a northeasterly direction, passing over River Road at a modified interchange and over the Choptank River and its wetlands, connecting to the east shore of the river approximately 650 feet north of Fleetwood Road.

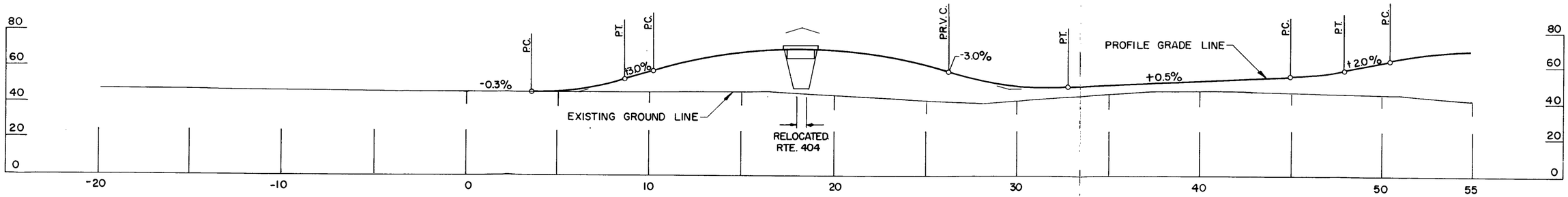
A bridge at the Choptank will span the river and the wetlands.

Paralleling Fleetwood Road to an interchange at Maryland 313, the Selected Alternate turns south to a grade separation at Camp Ground Road between the Delmarva Power and Light Substation and the Wesleyan Camp, about 3,000 feet east of the intersection of Camp Ground Road and Maryland 313.

From this point, the Selected Alternate continues to turn towards the southwest, crossing the Denton-Hobbs Road at a grade separation just east of its juncture with Gay Street, aligning with the existing Denton Bypass and terminating the relocation portion at a channelized intersection at the north end of the existing bypass, ending the freeway section. To this point, access is fully controlled (access via interchanges only). From this location to Maryland 16 the proposed construction will be an expressway with partially controlled access (access via at-grade intersections of public streets only).

Continuing in a southwest direction, the Selected Alternate follows the existing bypass, which will be dualized as part of the project, to Legion Road and an at-grade intersection. From this point the proposed expressway generally follows the alignment of existing Maryland 313-404 between Legion Road and Maryland 16. The dualization encroaches on the residential development on the west side of the existing road to obtain adequate space for a median and frontage road. A 250-foot right-of-way will be acquired between Sharp Road and the

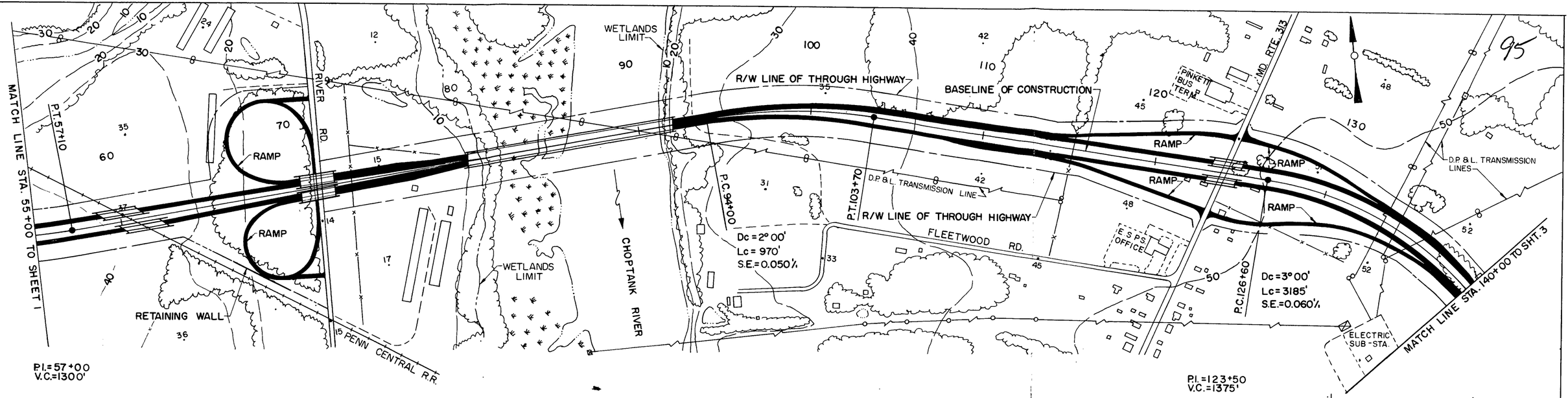


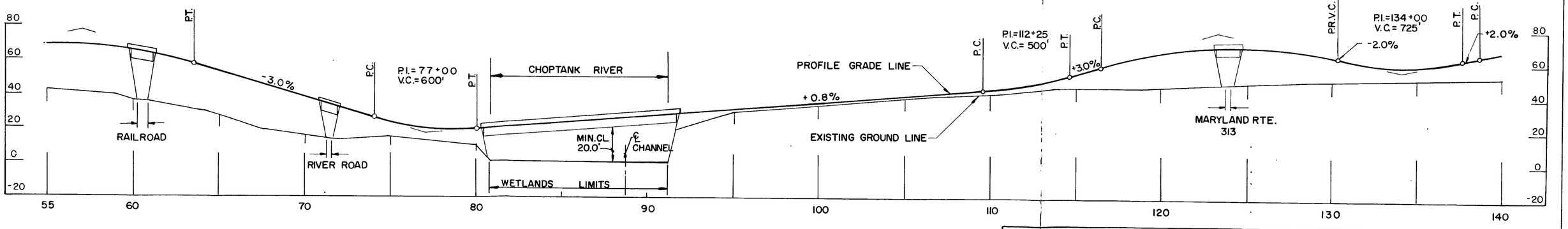


SCALE: PLAN : 1 IN. = 400'
PROFILE: HOR. 1" = 400'; VERT. 1" = 40'

MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION	DENTON BYPASS PLAN & PROFILE STA. -20+00 TO STA. +55+00	
	ENVIRONMENTAL IMPACT STUDY MARYLAND ROUTE 404-DENTON BY-PASS	SHEET NO. 1

EXHIBIT 12





SCALE: PLAN: 1 IN. = 400'
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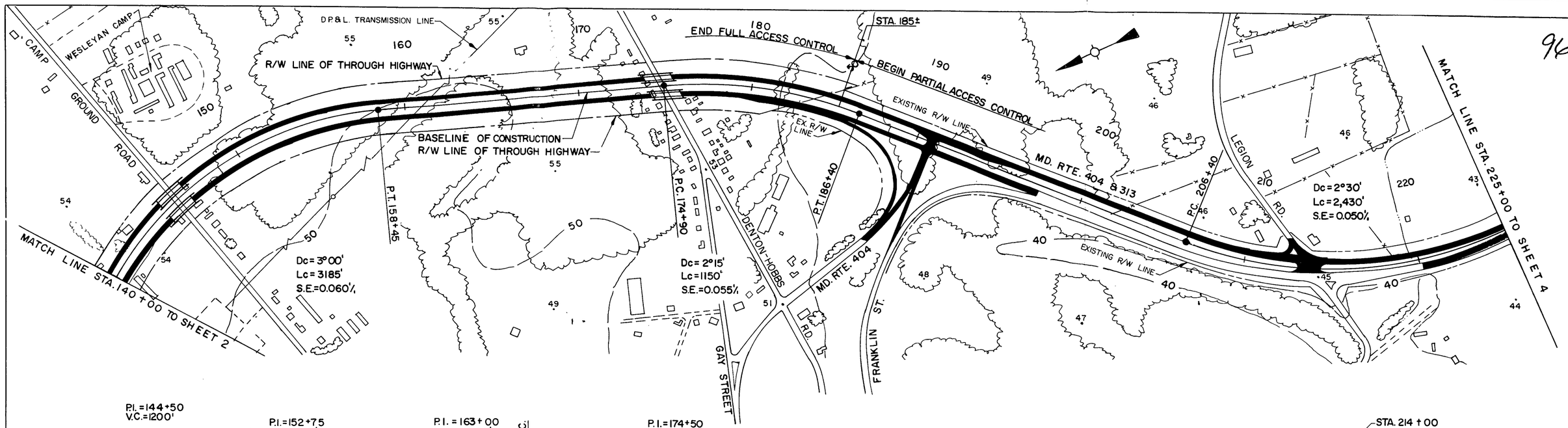
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

DENTON BYPASS
PLAN & PROFILE
STA. 55+00 TO STA. 140+00

ENVIRONMENTAL IMPACT STUDY
MARYLAND ROUTE 404-DENTON BY-PASS

SHEET NO. 2

EXHIBIT 12



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PROFILE: HOR. 1" = 400'; VERT. 1" = 40'

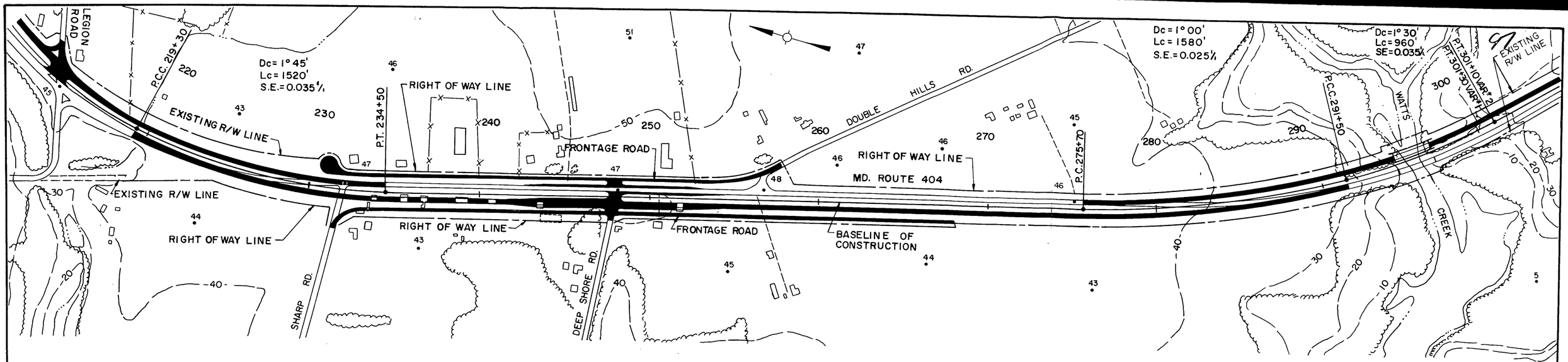
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

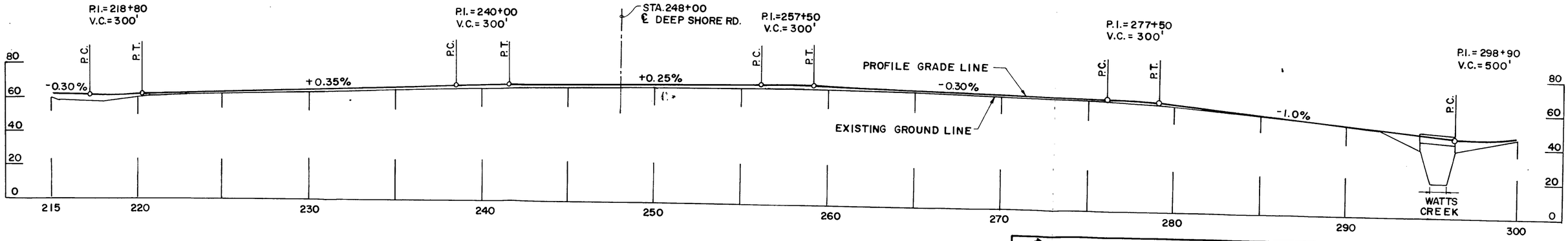
DENTON BYPASS
PLAN & PROFILE
STA. 140+00 TO STA. 225+00

ENVIRONMENTAL IMPACT STUDY
MARYLAND ROUTE 404-DENTON BY-PASS

SHEET NO. 3

EXHIBIT 12





SCALE: PLAN : 1 IN. = 400'
PROFILE: HOR. 1"=400' ; VERT. 1"= 40'

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

DENTON BYPASS
PLAN & PROFILE
STA. 219+30 TO STA. 301+10

ENVIRONMENTAL IMPACT STUDY
MARYLAND ROUTE 404-DENTON BY-PASS

SHEET NO. 4

EXHIBIT 12

point 600 feet south of Deep Shore Road. The existing road will become the northbound roadway in this section. The existing curve in Md. 404 in the Watts Creek area will be used to transition the new roadway to the opposite side of the existing road. From Watts Creek to Md. 16, the existing road will become the southbound roadway.

The Selected Alternate will cost $22,050,000 for construction and engineering and $2,690,000 for right-of-way. The relocation portion is approximately 3.8 miles in length. The existing road will be reconstructed for an additional 2.3 miles, so that the total length of the Selected Alternate is 6.1 miles. The project will require approximately 119 acres of open or agricultural land, of which 21 acres are designated prime agricultural land, and 26.5 acres are designated as non-prime farmland, 4 acres of wetlands, 33 acres of wooded land, 4 acres of commercial property and 36 acres of residential land, and will displace 28 dwellings. These acreages represent no significant loss in terms of total acreage of these types in the project area.

Local public sentiment leans strongly towards a northern bypass. The State Highway Administration constructed the existing portions of the Denton Bypass on the basis that the completed bypass would follow a northern route. According to local citizens, the North Caroline High School was located in its present location at River Road and Central Avenue because it would be convenient to a northern bypass. Several businessmen indicate that they located their businesses to be convenient to a northern bypass route, based on these pre NEPA location studies. The Selected Alternate fulfills these commitments and capital expenditures by the local citizens. The Selected Alternate has certain environmental advantages

over the southern bypass routes. As eompared to the Seleeted Alternate, southern alignments require relatively large aercages (53 aeres as eompared to 21 aeres for the Seleeted Alternate) of prime agrieultural land, whieh eould never be satisfactorily replaced or substituted for without eneroaching on wooded areas. The southern alternates F and F-1 also divided several large farms, whieh is not the ease with the Selected Alternate.

Alternate C Variation 2 was selected as the most desirable alternate for the following reasons:

1. Denton area residents, elected offieials and local planning jurisdictions overwhelmingly favored the northern route, as evideneed by eomments at the Publie Hearing.*

2. Dissent generally eame only from those individuals whose property or interests would be direetly impacted adversely by the Seleeted Alternate.

3. Although it is a reeognized faet that the southern alignments are more environmentally desireable (largely by virtue of their shorter length), adverse environmental impacts associated with the Seleeted Alternate ean be mitigated.

4. Alternate C Variation 2 does not have as severe an impaet upon farmland and agrieultural operations as the southern alignments.

5. Schools and businesses have been loeated eonvenient to the Selected Alternate.

6. A portion of the northern bypass has been constructed as a part of Denton's one-way street system. Right-of-way in this area has already been purehased. This right-of-way would be useless if a southern alternate were eonstrueted.

*See letters dated July 25, 1977 (Commissioners of Denton), August 3, 1977 (Christ Episcopal Church), August 3, 1977 (Rotary Club of Denton), August 9, 1977, Deeember 2[illegible] 1977 (Northern Bypass Committee), November 18, 1977 (Caroline County Planning Commission), Deeember 5, 1977 (Md. Dept. of Agrieulture), December 13, 1977 Board of Edueation).

7. Local residents will be able to use the Selected Alternate for many of their trips, whereas the location of access points on the Southern Bypass routes would discourage use by local traffic. Residents feel that they should be able to get some use from the Bypass in their travels even though its purpose is diversion of through traffic. 100

The Selected Alternate traverses undeveloped land in an existing industrial area in West Denton, in some instances severing parcels available for the expansion of industries already located there. Except for a sewage lagoon on the Thermolink property which must be relocated, there does not appear to be any effect on present operations of any of the firms.

The Selected Alternate is the most costly largely because its length is greater than the southern alternates.

2. Other Alternates Considered

Two other variations of Alternate C were considered in the area between Legion Road and Maryland 16.

Variation 1 followed the same alignment as the Selected Alternate to Maryland 16. The difference occurred in the cross sections of the two variations. This segment was proposed to be contained within a minimum 200-foot-wide right-of-way, except between Sharp Road and a point 600 feet south of Deep Shore Road, In order to minimize displacement of existing commercial development along the east side of Maryland 313-404 and the residential development along the west wide of the roadway in this area, the typical roadway section for Variation 1 would have been constructed within a 150-foot right-of-way for this four-tenths of a mile segment. The typical section included a narrow median and frontage roads. Left turns at the Deep Shore Road intersection were to be made from the frontage roads. The limited right-of-way would not have permitted future widening of this section to six lanes. Access to the properties fronting on the highway were to be maintained via the frontage roads.

Alternate C, Variation 1, would have cost $21,860,000 for construction and engineering and $2,440,000 for right-of-way. It would have displaced 22 dwellings and required 22.5 acres of designated prime and 27.5 acres of non-prime agricultural land. Its lengths of relocation and reconstruction would be identical to those of the Selected Alternate.

Alternate C, Variation 3, left the existing bypass at Legion Road and continued to the southwest, crossing Sharp Road approximately 400 feet west of existing Maryland 313-404 in a long arc turning towards the southeast. It crossed Deep Shore Road about 900 feet west of Maryland 404 and connected to the existing highway just north of Watts Creek. From Watts Creek south to Maryland 16, dualization of the existing roadway would have been generally contained within the existing right-of-way. (See Vicinity Map, Exhibit 2).

As in the other variations of Alternate C, Deep Shore Road was the only intersection between Legion Road and Maryland 16. The relocated portion of Variation 3 from Legion Road to Watts Creek was approximately 1.6 miles in length. Dualization of the existing roadway from north of Watts Creek to Maryland 16 was 0.4 mile in length. Total relocation was 5.4 miles with 0.7 mile of reconstruction along existing alignments, giving a total project length of 6.1 miles. Variation 3 impacted 22 dwellings and required 18.5 acres of designated prime and 34 acres of non-prime farmland.

Alternate C, Variation 3 cost $22,120,000 for construction and engineering and $2,300,000 for right-of-way.

Variation 2 was selected over Variation 1 because the constricted typical section of Variation 1 would not provide a desirable connection to Deep Shore Road. Deep Shore Road serves Martinak State Park and signing of the Bypass to

direct drivers to the Frontage Roads to make turns would be difficult. Also, many campers use the park and the roadway turning radii available might not have been sufficient in some instances. The Selected Alternate also provides room for expansion to 6 lanes in the future, whereas Variation 1 does not.

Variation 3 was not selected, as it did not follow the existing alignment and the existing right-of-way could not be utilized. Several acres of farmland would have been taken for right-of-way. The Selected Alternate is more direct and utilizes existing right-of-way.

Alternate F would have been constructed to freeway standards with fully controlled access throughout its entire length. The alignment left existing Maryland 404 west of Denton at a point 1.1 miles west of Maryland 328. It headed in a southerly direction for about 0.6 mile and then turned toward the southeast, crossing Maryland 328 approximately 0.9 mile south of Maryland 404 at an interchange.

From Maryland 328, the line continued in its southeasterly direction, crossing the Choptank River and its wetlands 1.25 miles down river from the existing bridge on Maryland 404. A bridge over the Choptank spanned the river and wetlands. Passing to the north of Martinak State Park, Alternate F crossed Deep Shore Road in the vicinity of Lupine Lane at a grade separation and turned southeast to the Watts Creek area, terminating the relocation of approximately 4.1 miles in length at an interchange. Continuing south, the dualization of the existing roadway from north of Watts Creek to Maryland 16 would have been 0.4 mile in length. The total length of Alternate F was 4.5 miles. It displaced 7 dwellings.

Alternate F would have cost $17,660,000 for construction and engineering and $1,090,000 for right-of-way.

Alternate F crossed theChoptank River south of Denton. The wetland area at this site is 120 feet wide. Immediately downstream from the site the marshland becomes considerably larger. The marsh area is identified as Wetland 60. This crossing would have been accomplished by a 1,320-foot-long bridge crossing the river and wetland.

Alternate F traversed Watts Creek adjacent to existing Maryland 313-404. The southbound lanes used the existing structure. The northbound lanes crossed the river on a new structure. The location of this crossing was dependent upon the particular interchange design used for the confluence of existing Maryland 313-404 and Alternate F. The combined Watts Creek and wetlands width that must be crossed for dualization of Maryland 313-404 under Alternate F was approximately 450 feet (70 feet of stream, 380 feet of wetlands), as indicated on the Department of Natural Resources wetlands map. The area described is a part of Wetland 61.

Alternate F was the most desirable alternate on the basis of cost, its short length with its beneficial cost-benefit ratio and the small number of dwellings (7) which would be affected. It did, however, impact considerable farmland (53 acres of designated prime agricultural land and 49 acres of non-prime farmland), split a desirable residential neighborhood, and passed in close proximity to Martinak State Park and Camp Mardella. Also, it did not provide service to the town other than as a bypass, collecting traffic only at Md. 328 between its termini. Traffic on Md. 313 would have continued on its present route through town.

Alternate F-1 was a modification of Alternate F. In addition to the complete Alternate F facility as described above, Alternate F-1 included one lane of an ultimate dual highway constructed to expressway standards with partially controlled access connecting the existing bypass east of Denton and Maryland 313 north of town. This relocation would have alleviated congestion in town resulting from through traffic along Maryland 313. Two hundred feet of right-of-way would have to have been acquired to accommodate the dual highway and necessary frontage roads. The Maryland 313 relocation would have proceeded northward from the existing bypass immediately south of Denton-Hobbs Road, along the line of Alternate C to Camp Ground Road and thence continued north to Maryland 313 at a point approximately 0.4 mile south of Maryland 317. Intersections would have been provided at Denton-Hobbs Road, Camp Ground Road and at the connection to existing Maryland 313. Total length of the expressway section was 1.7 miles. Fifteen dwellings were displaced.

Alternate F-1 would have cost $19,130,000 for construction and engineering and $1,740,000 for right-of-way. The total length of 6.2 miles would have included 5.8 miles of relocation (including the above-mentioned 1.7 miles), and 0.4 miles of reconstruction.

Alternate F-1 provided more service than Alternate F in that Md. 313 traffic would be bypassed and the cost would have been less than Alternate C. It did, therefore, provide one of the most desired features of the northern bypass although it did not provide for traffic destined for the west on Md. 404

from Md. 313, which is a substantial volume. It also had all of the undesirable features of Alternate F - it condemned 53 acres of designated prime and 62 acres of non-prime farmland, it impacted a desirable residential neighborhood and passed in close proximity to Camp Mardella and Martinak State Park. Fifteen dwellings would have been acquired. It also required construction of a multi-cell box culvert under its expressway section where it leaves Md. 313, in order to meet drainage criteria of less than one foot increase in back water for a 100-year storm.

The fourth alternate considered was the No-Build Alternate. Under this option, spot improvements only would have been made to existing Maryland 404. One such project, the Choptank River Bridge project to replace the existing 2-lane bascule bridge which collapsed in March of 1976, is expected to be built within three years. This new bridge, along with modifications to the Maryland 328-River Road intersection with Md. 404, will improve the flow of traffic in this particular area but will not eliminate the basic problem of heavy traffic and congestion in Denton.

Under present conditions, the streets of Denton designated as Maryland 404 are heavily loaded with transient traffic during summer weekend periods. In many instances long queues of traffic occur at the several traffic signals congesting the streets. As a consequence, local traffic cannot negotiate the streets, park to shop or utilize local government facilities without considerable inconvenience. Persons living out of town generally avoid the town during weekends and as a consequence, merchants suffer.

Pedestrians are also inconvenienced by the present facilities. In

order to cross the streets designated as Maryland 404 safely, pedestrians must use signal-controlled intersections. As these are widely spaced, this is not always practical and crossings between signal-controlled intersections must be made.

The long queues of traffic are also an obstacle to policing and emergency equipment. The congested streets are not conducive to rapid response to calls for assistance.

Upgrading the present through-town route to provide more capacity was considered impractical from a right-of-way standpoint. The widths of the existing right-of-way as noted in Chapter 2 will not permit substantial improvements. There would be a major impact on the heavy development along the rights-of-way if additional right-of-way were purchased, resulting in numerous displacements of residents. Relocation of these persons would be a highly significant social and economic problem.

ALTERNATE	ADVANTAGES & DISADVANTAGES
'C' Variation 2 (Selected Alternate)	ADVANTAGES 1. Shortest river crossing. 2. Removes through traffic on Route 313 through Denton. 3. Lowest projected accident rate. 4. Improves access of Northern Caroline County to Route 404. 5. Represents continuity of planning - Northern Bypass promised in previous stages of project. Utilizes existing Bypass. 6. Requires least woodland. 7. Requires least agricultural area and prime farm land. 8. Meets desires of majority of community and elected officials. DISADVANTAGES 1. Four at-grade intersections limit freeway concept. 2. Closest to historic site "Plaindealing" of build alts;same as no-build. 3. Requires largest amounts of borrow material of all alternates 4. Impacts open areas of Wesleyan Camp with noise. 5. Requires relocation of major power line. 6. Takes Calvary Baptist Church. 7. Most homes required. 8. Restricts access to existing and future development south of Denton. 9. Most costly alternate. 10. Longest wetlands crossing (500').

DENTON BY-PASS

SUMMARY OF SELECTED ALTERNATE

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

TABLE 3

ALTERNATES	ADVANTAGES	DISADVANTAGES
'C' Variations 1 & 3	1. Shortest river crossing. 2. Removes through traffic on Route 313 through Denton. 3. Lowest projected accident rate. 4. Improves access of Northern Caroline County to Route 404. 5. Represents continuity of planning - Northern Bypass promised in previous stages of project. Utilizes existing Bypass.	1. Four at-grade intersections limit freeway concept. 2. Closest to historic site "Plaindealing" of build alts; same as no-build. 3. Requires largest amounts of borrow material. 4. Heavily impacts open areas of Wesleyan Camp with noise. 5. Forces relocation of major power line. 6. Takes Calvary Baptist Church. 7. Longest wetlands crossing (500').
'C' Variation 1	1. Requires least amount of right-of-way. 2. Provides local service to bypass for residents located in southern parts of town. 3. Requires least woodland.	1. Highly constricted cross section in the Sharp Road area. 2. Restricts access to existing and future development south of Denton. 3. Most noise sensitive areas.
'C' Variation 3	1. Least noise sensitive areas of 'C' Alternates.	1. Requires most right-of-way of 'C' Alternates. 2. Requires the most woodland and agricultural area of 'C' Alternates.
'F'	1. Least number of homes required. 2. Complete circumferential bypass to freeway standards. 3. Least costly alternate. 4. Shortest alternate-requires least amount of paving material and borrow. 5. Least noise sensitive areas. 6. Best Route - Air Pollution Burden Standpoint, although all alternates are satisfactory. (NO_X and HC only). 7. Shortest crossing of Choptank River wetlands. (200').	1. Near State Park. 2. Bisects residential area south of Denton, as well as several farms. 3. Between project termini, Alternate serves Denton only at Maryland 328. 4. Requires longer bridge at Watts Creek than Alternate 'C'. 5. Highest Projected Accident Rate. 6. Requires most agricultural area, next to F-1.
'F-1'	1. Less homes required than any 'C' variations. 2. Utilizes existing bypass. 3. Best of construction alternates from viewpoint of total daily air pollution emissions, although all alternates are satisfactory. 4. Best Route-Air Pollution burden standpoint, although all alternates are satisfactory. (CO only). 5. Shortest crossing of Choptank River Wetlands (200').	1. Near State Park. 2. Bisects residential area south of Denton, as well as several farms. 3. Requires longer bridge at Watts Creek than Alternate 'C'. 4. Requires greatest amount of right-of-way. 5. Requires most woodland and agricultural areas. 6. Takes Calvary Baptist Church.
'No-Build'	1. Only noise sensitive areas along Md. 313 and Md. 404 would experience any increase in ambient noise level with increasing traffic levels. Areas within Denton would experience no increase. 2. No-build superior in air pollution burden analysis for projected years 1982 and 2005 to any build alternate. (NO_X and HC only).	1. Only a minimal capacity increase will result from Choptank River project. Project will attract more traffic to area. 2. Upgrading existing route would cause relocation problems. 3. Roadway pollutant runoff levels greater for No-Build Alternate during peak periods. 4. Roadway pollutants delivered directly to Choptank River rather than filtered through intermediate streams and ditches which would provide some land treatment.

NOTE: See Table for selected alternate.

DENTON BY-PASS

SUMMARY OF OTHER ALTERNATES CONSIDERED

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

TABLE 4

ALTERNATE	STREAM CROSSINGS	MAJOR DRAINAGE STRUCTURES*	RIVER CROSSINGS** (LENGTH)	GRADE SEPARATION STRUCTURES (RAILROAD)	GRADE SEPARATION STRUCTURES (ROADWAY)	AT-GRADE INTERSECTIONS	INTERCHANGES	RELOCATION RIGHT OF WAY REQUIREMENTS (IN ACRES)			DWELLINGS AFFECTED	NOISE SENSITIVE AREAS	LENGTH (MILES)			TOTAL COST (BASE 1976)
								OPEN OR AGRIC.†	WOODED	RES. & OTHER			RELOC.	RECONSTR.	TOTAL	
	SELECTED ALTERNATE:															
C VARIATION 2	3	3	1,200'	1	2	4	3	123.2 (21)	32.8 AC.	40.2 ACRES	28	25	3.8 MI.	2.3 MI.	6.1 MI.	$24,740,000
	OTHER ALTERNATES CONSIDERED:															
C VARIATION 1	3	3	1,200'	1	2	4	3	123.3 (20.5)	32.8 AC.	35.4 ACRES	22	26	3.8 MI.	2.3 MI.	6.1 MI.	$24,300,000
C VARIATION 3	3	3	1,200'	1	2	4	3	131.9 (18.5)	41.3 AC.	29.3 ACRES	22	21	5.4 MI.	0.7 MI.	6.1 MI.	$24,420,000
F	3	2	1,320'	0	1	1	3	147.1 (53)	37.8 AC.	8.3 ACRES	7	14	4.1 MI.	0.4 MI.	4.5 MI.	$18,750,000
F-1	4	3	1,320'	0	1	5	3	166.6 (53)	47.1 AC.	17.0 ACRES	15	22	5.8 MI.	0.4 MI.	6.2 MI.	$20,870,000

* INCLUDES BRIDGE AT WATTS CREEK.

** LENGTH REQUIRED TO CROSS RIVER AND WETLAND.

† ACRES OF PRIME AGRICULTURAL LAND INDICATED IN PARENTHESES.

COMPARISON OF ALTERNATES

ENVIRONMENTAL IMPACT STUDY
MARYLAND ROUTE 404-DENTON BY-PASS

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

CHAPTER 7 PROBABLE ADVERSE EFFECTS WHICH CANNOT BE AVOIDED

1. Ecology

a. Terrestrial Ecology - Indigenous wildlife will be displaced and their habitat destroyed during construction. This destruction of habitat will result in the permanent loss of some resident wildlife. In addition, wildlife living adjacent to the roadway will suffer a small, but continuous rate of highway mortality.

Approximately 156 acres of open, agricultural and wooded land will be removed along the project. The timber on the 33 acres of woodland will be harvested, but the land will be permanently removed from timber production. This area is relatively insignificant when compared to total timber-producing acreage in the project area. Twenty-one acres of designated prime agricultural land and 26.5 acres of non-prime farmland will be required by the project right-of-way. This does, however, represent a minimal loss of productive land, relative to that available in the area.

Based on demonstration projects, coastal plain plant species such as those found in the wetlands should re-establish after construction activities are completed and dredged areas are refilled.

b. Aquatic Ecology - There will be disturbances caused by construction activities and installations in the riverbed and adjoining wetlands of the Choptank River, Watts Creek, and the smaller streams which cross the proposed alignments. Turbidity and siltation caused by construction will have a deleterious effect on the fish population present. Spawning success, especially shad

and herring, will be reduced if turbidity and sedimentation is heavy during the spawning season from mid-March to mid-June. There will be some contamination of the river water by pollutants in road surface storm run-off that reaches the river directly.

2. Wetlands

Small areas of wetland habitat will be destroyed where the bridge approaches and/or bridge piers are placed. The total impacted area of designated wetland will be approximately four (4) acres at the Choptank River and the Watts Creek crossings. Approximately one acre of submerged wetland is affected by the dredging operations at the Choptank River crossing. At the conclusion of the construction sequence, dredged areas of the wetlands at the Choptank River crossing will be filled to their existing elevations previous to construction. With the exception of the pier and bridge approach areas, the entire acreage is expected to recover to its condition prior to construction within 2 years of refilling.[1]

3. Scenic Values

Roadway and bridge structures will bisect natural scenic areas. The most significant impact will be the bridge over the Choptank River and grade separation structures where the freeway will be elevated above the surrounding flat terrain.

4. Recreational Uses

The project passes immediately adjacent to the western boundary of the

1 Refer to the Dept. of Natural Resources-Water Resources Administration letter dated October 15, 1976.

Wesleyan Camp. Construction and traffic noise disturbances will have a deleterious effect on the camp's activities. Sound barriers will be constructed to reduce much of the noise impact from traffic.

The bridge across the Choptank River in conjunction with the channel depth will limit the size of boats that can operate in the Denton area.

5. Right-of-Way Acquisition

The project will require acquisition of property. Some businesses and homes will be displaced and natural wooded areas, farmland and open areas will be destroyed. Persons who experience displacement of their home or business or a portion of their property can expect to receive fair market compensation from the State Highway Administration.

Construction of the project will create severe problems in finding housing for relocation purposes as 28 dwellings must be acquired. In fact, 'Housing of last resort' may have to be used.[1] The project will affect residentially built-up fringe areas in some cases.

Properties adjacent to the project, for the most part, will not suffer in value.

6. Highway Construction

The construction of the bypass will disrupt traffic on existing roads to a varying degree during the construction period. Much of the proposed route follows existing road alignments and crosses existing roads (River Road, Maryland 313, Camp Ground Road and Denton-Hobbs Road). A section of

1 Refer to "Summary of the Relocation Assistance Program of the Maryland State Highway Administration" in Appendix 2 of this report.

Maryland 404 west of Denton will be disrupted, including revisions to access to abutting homes and businesses. 13

Dust can be controlled to a large degree by spraying. Along the project alignment, residences and businesses are adjacent to the construction in many areas, with the result that dust must be closely controlled.

7. Noise*

Although noise control measures (barriers) are feasible from a construction standpoint at 10 noise-sensitive areas (1, 2, 3, 4, 14, 15, 16, 17, 27, 28) they are not considered practical at the fifteen areas (1, 2, 3, 4, 11, 12, 14, 15, 16, 17, 21, 22, 23, 27 and 28) along the project that experience design year noise levels in excess of the established FHWA recommended design noise level (See Exhibit No. 11). This is due to the fact that these 15 areas consist of three or less structures and control at these areas is not a cost-effective solution. Exceptions to the recommended design noise levels will be required on this basis. These exceptions will be requested from the Federal Highway Administration during final design. See page 68a for the cost and approximate noise reduction of each required barrier.

Six of the noise sensitive areas (7, 9, 10, 13, 24 and 26) will experience severe or significant increased in ambient noise levels although design noise levels will not be exceeded. It is desirable where possible to reduce these increases to less than 10 dBA, a minor increase. Five of the six areas are single structures where noise controls are not a cost-effective solution. The sixth area (13), is the Wesleyan Camp. The Maryland State Highway Administration will minimize noise impacts upon the Wesleyan Camp. Measures to reduce the impact will most likely take the form of a sound barrier constructed within the

* Noise Analysis Report-Maryland Route 404 (Denton Bypass)

Maryland Route 404

NOISE ATTENTUATION COST ANALYSIS

NSA	BARRIER LENGTH	ESTIMATED COST	NOISE REDUCTION	NUMBER OF STRUCTURES
1	800'±	$ 80,000±	5-7dBA	1
3	1600'±	$160,000±	±8dBA	2
13	1000'±	$ 100,000±	±10dBA	Open air religious service area impacted
14	700'±	$ 70,000±	±9dBA	1
15	750'±	$ 75,000±	±9dBA	3
16	800'±	$ 80,000±	±9dBA	3
17	750'±	$ 75,000±	±9dBA	3
27	800'±	$ 80,000±	±9dBA	1
28	1000'±	$ 100,000±	±6dBA	1
	TOTAL-------	$ 820,000±		

Noise sensitive areas 2, 4, 21, 22 and 23 will experience violations of design noise levels, however, due to the presence of frontage roads construction of a noise barrier is not possible.

Area 13, the Wesleyan Camp, will be studied in greater detail in the design stage to determine the most feasible solution for a desirable 60 dBA level in the design year 2005.

Protection at area 28 would be limited to 5-7dBA due to the presence of Maryland Route 16, an intersection highway, which would not permit construction of sufficient length of barrier to the east of the area.

Areas 11 and 12 will also experience design noise level violations. The violations are created by traffic from Maryland Route 313 not Maryland Route 404 as discussed in the noise report.

highway right-of-way. The particular type of sound barrier to be used will be determined during design and after consultation with the affected parties.* Barriers types which will be considered include earth berms, and walls constructed of concrete, wood, stone and/or metal. Also, landscaping consisting of the planting of trees and shrubs will be considered as a mitigating measure.

Two sensitive areas (11 and 12) consist of individual structures adjacent to Maryland 313, one north and one south of the proposed interchange of Maryland 404 and 313. The controlling source of noise at each area has been found to emanate from Maryland 313 and control is not possible due to the entrances to each area. These would negate the effectiveness of a barrier. The proposed Maryland 404 will contribute only 1 dBA to the overall L_{10} level at each area, which is a negligible impact.

Construction of noise control measures to protect four noise sensitive areas (21, 22, 23 and 24) along Md. 404 in the Sharp Road-Deep Shore Road area is not feasible for several reasons. First, there is not sufficient space available between the mainline and the service road in which to construct a barrier. Secondly, if space was available, the breaks in any barrier caused by Sharp Road, Double Hills Road and Deep Shore Road would compromise barrier effectiveness.

8. Borrow

Two million cubic yards of suitable fill material will be required for the project and will necessitate the use of borrow pits. Although these pits will not necessarily be located in the immediate project area, they must be considered in order to gain a complete picture of the environmental

* See Letter dated August 16, 1977.

ramifications of the construction of a bypass around Denton.

In accordance with the provisions and requirements of Chapter 245 of the Acts of 1970 for the State of Maryland, it is also necessary for the Contractor to obtain permits and/or approvals from the appropriate County agency for any off-site work, which includes off-site borrow pits, waste areas, and the treatment of these during and after the completion of the project. The County agency will refer the plan for such areas to the Soil Conservation District for review and approval of the erosion and sediment control provisions. A copy of the permits and/or approvals must be furnished to the Engineer prior to starting any work covering the said permits and/or approvals. Under the provisions of the Contractor's Erosion and Sediment Control, permits and/or approvals for work outside the right-of-way, temporary pollution control shall be inspected by the Commission's Project Engineer. Any deviation from or non-compliance with the provisions of the permits and/or approvals shall be reported to the appropriate agency to enforce compliance. The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor for the duration of the contract.

CHAPTER 8 SHORT TERM USE VERSUS LONG TERM PRODUCTIVITY

1. Ecological Resources

a. Terrestrial Ecology - Along the project, approximately 33 acres of woodland and 123 acres of open or agricultural land will be permanently taken by the highway right-of-way.

While some wildlife habitat will be removed, there will be an increase in "edge" habitat or ecotone; that area where natural open areas or woods adjoin the cleared highway right-of-way. Some ecotones enhance wildlife, increasing species diversity and population density.

During construction, wildlife populations will disappear from areas adjacent to the right-of-way due to unavoidable human disturbance from the construction activity; however, most species will repopulate the fields and woodlands adjacent to the highway once construction is completed, as new generations of small animals are born.

The timber in the woodlands along the project will be removed and harvested. This timber is largely mixed hardwoods and most likely could be used by the sawmill in Denton. These areas will be permanently removed from timber production.

Twenty-one acres of designated prime agricultural land and 26.5 acres of non-prime farmland will be required by the project right-of-way. This acreage will be permanently lost to farming. In the project area as delineated by Exhibit 6, there are approximately 4,000 acres of farmland in use. The 47.5

acres represents a loss in the order of magnitude of 1½% of the acreage represented by Exhibit 6. No local agricultural operations will be put out of business by the project.

b. Aquatic Ecology - During the period of roadway and bridge construction, there will be disturbance in and near the Choptank River and Watts Creek. Some turbidity and siltation will be unavoidable; however, the magnitude and effect will be minimized by employing construction techniques which reduce erosion and by scheduling construction so as to avoid the period of mid-March through mid-June, when fish spawning is at its peak.

2. Wetlands

During construction, the wetlands habitat at the Choptank River stream crossing will be disturbed and the aquatic wildlife driven from it. The area affected during construction will be larger than the area upon which the bridge approaches and supporting piers actually rest. After completion of the project, and the refilling operations, the wetland habitat is expected to recover to the conditions existing prior to construction.

At Watts Creek, a parallel span erected 30 feet east of the present span, as required by the project, will permanently affect only negligible areas of wetlands.

3. Scenic Values

During construction, the scenic values of the areas involved will be affected by unattractive views related to heavy construction. During normal use following construction, the appearance of finished roads and bridges will

be less disruptive to the natural landscape. The visual experience of the traveler utilizing the bypass will be greatly enhanced by the change from urban scenes to rural, natural vistas.

4. Recreational Uses

Short term disadvantages to local recreational facilities accrue with the construction of the project. The Wesleyan Camp will be impacted severely by ambient noise increases from the project, although the increases will be mitigated by the use of sound barriers.

The only long-term effect of the project upon the local recreational areas is secondary in nature. By removing traffic from downtown Denton to the fringe areas, the project will produce an image of greater accessibility for the local recreational sites. Since the greatest use of these sites is likely to be on warm summer weekends, the access to these sites will be improved, because a warm summer weekend produces peak traffic on the Denton street system.

Opportunities for multiple use of the area* adjacent to the bridge over the Choptank River for the Selected Alternate are poor. Access to a park or boat launching area would have to be developed across private property in view of the controlled access right-of-way which will be acquired. The west bank of the river is bordered by a 500-foot-wide strip of wetland in the bridge area which must be protected, and is unsuited to these uses. There is a new public park with public boat launching facilities located adjacent to the existing Md. 404 bridge on the eastern bank of the Choptank River. Meetings with the Department of Natural Resources and with local planners have not resulted in any proposals for joint development of the river crossing area.

* FHWA Policy and Procedure Memorandum 90-5 advocates "joint development of highway corridors and multiple use of roadway properties."

There may be some interference with the smooth flow of traffic to and from the Maryland and Delaware ocean resorts during actual construction; however, access to, and enjoyment of these resort areas will be enhanced by a completed bypass permitting smoother, safer and more rapid flow of traffic around Denton.

5. Local Economic Factors

On a short-term basis, construction of this project will remove taxable property from the tax rolls of Caroline County. Normal business and farming operations could conceivably be hindered during construction. Homes, some farm buildings, and possibly a small welding business at Sharp Road will have to be relocated. On the other hand, improved traffic service resulting from the construction of a bypass will contribute to the economic growth and development of the Denton area.

6. Transportation

During the various phases of construction, the citizens of the Denton area will most likely be inconvenienced to some degree. Problems of access will occur even though maintenance of traffic along major routes will receive a high priority during construction as required by the State Highway Administration. Problems with dust from construction activities will most likely cause some friction with local residents. Certainly, the construction site will offend the aesthetic values of some local citizens.

Long range effects at this point must be projected as similar to those effects experienced after construction of similar highways. A generally favorable

prognosis emerges - such a highway can be expected to provide relatively safe and efficient transportation through the project area freeing the local streets of the congestion which occurs on summer weekends.

7. Natural Resources

There will be no known significant loss of natural resources in the construction of the Denton Bypass that could be considered as a shortcoming in judgment by future generations.

8. Water Quality and Resources

Erosion and siltation are expected to be short-term problems primarily associated with construction. With adequate safeguards, siltation and erosion should not be a consideration in the long run after construction activities cease. Pollution from materials washing off of the roadway and shoulders will be an ongoing problem.

9. Noise

There are located along the project, areas, presently undeveloped, which may become developed for residential, commercial, institutional, industrial, etc. use after completion of the project. To assist in the development of a compatible land use, an estimation of noise levels at varying distances from the proposed highway has been made. The following table indicates these estimated levels:

L_{10}	Distance from Highway
76dBA	100'
74dBA	150'
70dBA	200'
69dBA	250'
68dBA	300'
65dBA	400'

CHAPTER 9 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

1. Ecological Resources

a. Terrestrial Ecology - Approximately 156 acres of existing or potential wildlife habitat, both open and forested, will be removed by the project.

The timber on 33 acres of woodland will be harvested along the project. The timber producing capacity of these areas will be permanently lost.

b. Aquatic Ecology - It is likely that the effects of disturbing or destroying wetlands during construction, pollution resulting from road surface runoff, and sedimentation of natural stream bottoms will have a deleterious effect on the fish in the Choptank River and Watts Creek. These effects will most likely be in the form of reduced reproduction. Since these impacts will be small relative to the total area of stream and wetlands involved, and disturbed areas will be restored after construction, it is unlikely that the effects upon the fish populations will be significant or lasting.

2. Wetlands

Small areas of wetland habitat will be permanently lost as a result of construction of piers and bridge approaches for the Choptank River and Watts Creek crossings. Wetland areas, totalling approximately four acres at the Choptank River crossing and at the Watts Creek crossing, will be impacted during construction, but can be expected to recover to their existing condition within two growing seasons after refilling operations have been completed. See page 33 for the approximate wetlands acreage to be physically required.

3. Scenic Values

The visual impact of roadway and bridge structures will irreversibly impose upon vistas of fields, woodlands, river and wetlands.

4. Recreational Uses

The Wesleyan Camp will be impacted by nearby passing traffic noise. The camp's usefulness as a site of religious retreat and reflection would be impaired except that the Maryland State Highway Administration has committed itself to the construction of noise barriers to mitigate the increase in noise level.

5. Transportation

An irretrievable commitment of resources will be made by committing materials and suitable fill material to the construction of the bypass. The land that is committed for right-of-way will be somewhat difficult to retrieve for other purposes because of the high fills used. Most of the irretrievable nature of this commitment results from the need for extensive amounts of borrow in order to construct a freeway of the length required for the project. Because of the flat nature of the Eastern Shore peninsula, fill obtained by leveling any hills will have to come from quite a distance, especially since any hills on the Eastern Shore are fairly unique regional resources. Transportation of the borrow represents an irretrievable commitment of energy resources. Borrow pits are an alternate method of obtaining fill, but these pits definitely represent an irretrievable commitment of resources once the borrow has been removed.

6. Agriculture

This project represents the commitment of 21 acres of designated prime agricultural land and 26.5 additional acres of non-prime farmland that would remain productive if the project were not constructed. Although there are wooded areas with the requisite soil types that could be cleared for farming, the loss of the above acreage can be considered an irreversible commitment of resources. If the wooded acreage were cleared, this would represent a loss of woodland. However, the 21 acres are not likely to be replaced because a displaced farmer is more likely to buy other cleared land rather than to clear wooded areas. In terms of significance, the farmland required by the project is small (about $1\frac{1}{2}\%$) relative to the amounts of farmland in the immediate area.

CHAPTER 10 IMPACT ON SITES OF ARCHAEOLOGICAL AND HISTORIC SIGNIFICANCE

1. Historic Sites

Two historically significant sites and one district have been identified in the vicinity of Denton by the Maryland Historical Trust.

Neck Quaker Meeting House (CAR-36) is located on the north side of Maryland 404 west of Denton. This site is a one-story wood frame structure. It was built in 1802 by the Quakers in Denton. It was placed on the National Register of Historic Places on October 22, 1976. The Selected Alternate lies about 2,000 feet to the north.

Plain Dealing (CAR-9) is another notable historical site. It is an 18th century brick and wood house, originally designed in the 1780's to function as a county alms house, and private residence. Investigation by historical sites surveyors identified Plain Dealing as a site which also may meet the criteria for inclusion in the National Register. It stands approximately 500 feet south of the Selected Alternate.

An historic district within the town of Denton has been tentatively identified also. Included in the District would be the Denton School House, which was placed on the National Register on April 19, 1978. Boundaries for the proposed District, as well as the locations of the Neck Meeting House and Plain Dealing, appear on a project map which follows a letter dated October 21, 1977 from the Maryland Historical Trust in the Correspondence Section of this Environmental Impact Statement.

In accordance with Section 106 of the National Historic Preservation

Act of 1966 (16 USC 470 (f)), the State Historic Preservation Officer and the Federal Highway Administration have reached a determination of no effect by the proposed project on sites either on or meeting the criteria of eligibility for the National Register. The State Historic Preservation Officer's letter dated March 13, 1978, also appears in the correspondence section.

A few houses of far lesser interest, but collectively notable, were identified by the State Historical Preservation Officer in his October 21, 1977 letter. These homes have been photographically documented by the Trust.

All requirements for historical coordination and evaluated, as well as all requests from this coordination, have been satisfied.

2. Archeological Sites

A preliminary archeological reconnaissance survey of the project area has been conducted by the Maryland Geological Survey. Six sites were identified; although there is potential for other archeological sites. Two of those identified would be destroyed by the project. None of these sites appear to meet criteria for inclusion in the National Register. Any significance associated with these sites would be based on retrievable artifacts.

The State Highway Administration will conduct an intensive archeological survey along the proposed right of way of the project prior to any construction. Salvage proceedings as detailed in FHPM 7-7-4 will be utilized if significant resources are located. Full coordination with the State Historic Preservation Officer and the State Archeologist will be met.

CHAPTER 11 COMMENTS, COORDINATION AND RESPONSE

1. History of Proposal

A Project Initiation Meeting was held on January 9, 1975, at the North Caroline High School in Denton, Maryland.

The Interim Alternates Location Meeting for the project was held at the same location as the Initiation Meeting on June 19, 1975. The meeting was attended by approximately 130 individuals, including interested local, State, and Federal officials.

Of the eleven alternates presented to the audience, three northern alignments, Alternates A, C, and H and one southern alignment, Alternate F, were recommended for further study with four northern alignments and three southern alignments recommended to be eliminated from further study. There were no comments at the meeting nor in any of the written statements advocating further consideration of any alignment that was eliminated from further consideration.

Alternate alignments A and H, which had been recommended for further detailed study at the June 19 meeting, were eliminated from further consideration by the State Highway Administration because both were prohibitively costly. Also, an initial assessment of the environmental aspects indicated no major differences between Alternates A and H and the less costly Alternate C. At the same time Alternate F-1 was created to provide a southern alternate more comparable in service with Alternate C.

The Alternates Public Meeting for the Md. 404 - Denton Bypass was held in the North Caroline High School, Denton, Maryland, on May 19, 1977 at 7:30 p.m. The meeting was attended by approximately 140 individuals,

including interested local and state officials.

The Location Public Hearing for the Denton Bypass Project was held at the North Caroline High School on December 13, 1977. Approximately 150 individuals attended. Comments received as a result of this hearing are addressed below.

As a result of environmental and engineering studies and public response, the State Highway Administrator is requesting location approval for Alternate C, Variation 2.

2. Comments and Response (Summaries) on the Denton Draft E.I.S. and the Alternates Made at the Public Hearing

1. Comment: Alternate F-1 as well as Alternate C impact the Wesleyan Camp. (page 38*).

   Response: Both of the full-service alternates, C and F-1 have the potential to have a noise impact on the Wesleyan Camp; however, they do not require any property taking. The difference is one of severity of impact. The freeway that will be constructed under Alternate C will produce a severe increase in ambient noise levels while the expressway proposed under Alternate F-1 would produce a significant increase in ambient levels. (See Table 2 in this Document and also the project Noise Analysis report. For a definition of "severe" and "significant" impacts, see Appendix I). Abatement measures will be provided as discussed on page 68.

2. Comment: Alternate F passes extremely close to Martinak State Park and Camp Mardella, producing many of the same problems that Alternate C produces at the Wesleyan Camp. (page 39*).

*page numbers refer to pages in the Transcript of Proceedings for the December 13, 1977 Public Hearing.

Response: Equivalent "severe' conditions as to noise pollution would be expected at Camp Mardella if Alternate F were constructed as will occur at the Wesleyan Camp for construction of Alternate C. However, there has been no indication that Camp Mardella is used for activities that would be disrupted by the highway or its construction in the vicinity of the proposed right-of-way. There has been discussion of purchase of the Camp Mardella site by the State of Maryland for inclusion as part of Martinak State Park. Whether or not this comes about, impact on the park would have been limited to temporary inconvenience during construction, since the existing roads would have been bridged by the freeway.

3. Comment: The F-1 route will also go through the Baptist church and also interfere with the Wesleyan Camp. (page 50*).

Response: Both Alternate C and F-1 will require condemnation of the Calvary Baptist church and will interfere with use of the Wesleyan Camp to varying degrees, Alternate C having the greater impact.

4. Comment: Alternate F or Alternate C Variation 3 would interfere with the operation of the Denton Elementary School in both access and noise pollution. (page 56*).

Response: Alternates F and F-1 would have had a severe noise impact on the site of the new Denton Elementary School. Alternate C Variation 3 would not have affected this site with noise. Local access to the school will be easier during school months for all of the build alternates. Access from Alternate C Variation 3

would have been no more difficult than that from Alternate C Variation 2, the Selected Alternate. Access to the school from Alternate F or F-1 southbound would have required passing the school site on the freeway and returning via existing Md. 313-404 to Deep Shore Road, an additional 1-1/2 miles.

5. Comment: Alternate F would prohibit continued development of the residential area to the south of Denton. (page 58* and 83*).

Response: In bisecting the residential area south of Denton, Alternate F would have separated eighteen acres of land bounded by the Choptank River, Martinak State Park, Camp Mardella and Alternate F from the main part of Denton (A bridge at Deep Shore Road would have provided continuity to the area). Some of this eighteen acre area is already developed. Expansion southward would, at most, have been limited by the loss of right-of-way and the separation of the eighteen acres which still could have been developed.

6. Comment: The northern part of the county is served by North Caroline Senior High School and Riverview Junior High School, both in the Denton area. The northern bypass best facilitates transportation to these schools from areas north of Denton. (page 59*).

Response: Agreed. See Chapter 6 Section 1 in this report.

7. Comment: Alternate F and F-1 take the most farm land, which cannot be replaced. (page 60-61*).

Response: Agreed. See Chapters 3,5,6 and 9 of this document.

8. Comment: The northern bypass will destroy the only industrial site zoned in the Denton area, located along Md. 404 in West Denton. (page 62*).

Response: Additional commercial-industrial sites have been zoned in the Denton area, (see Exhibit 10). In addition, the highway has been located to miss the installations of existing businesses to the extent possible. Additional alignment adjustments may be made during the design process.

9. Comment: Twenty-eight houses are being displaced by the Northern Bypass and the SHA says they cannot replace the housing. (page 64*).

Response: Relocation will be as described in detail in Appendix 2 of this document, including use of "housing as a last resort", if necessary.

10. Comment: The cost of Alternate C is more than the other alternates and represents poor use of our tax money. (page 64*, 76*).

Response: Cost is only one aspect in the evaluation of the alternates.

11. Comment: The curves on Alternate C represent a negative safety factor, like the curve coming into Denton on the existing road. (page 64*).

Response: The curve on the present road coming into Denton is not superelevated in accordance with current standards for roads having this particular speed limit. The new road will be designed according to current AASHTO and Maryland State Highway Administration specifications and as described in Section 4 of Chapter 2 in this document. Curves on all alternates are safe for at least 60 MPH.

12. Comment: The disadvantages claimed for the southern bypass have been distorted out of proportion to the facts. They said it would ruin

Martinak and the Brethren church's park there. (page 65*).

Response: No one has claimed that the southern alignments F and F-1 would "ruin" Martinak State Park or Camp Mardella. As far this document and the Draft E.I.S. are concerned, Table Nos. 3 and 4 list impacts without regard to their relative importance, or possible mitigation. The importance of each impact is left to the discretion of the reader.

13. Comment: The northern bypass will affect more than the one busine ss mentioned in the Draft E.I.S. It will affect Electrotherm, eliminate Jimmy the Greek's and will affect three on the other end (eastern), also eliminating a produce business and 2 chicken houses. (page 66*, 77*).

Response: 'Affect' as used in the Draft E.I.S. was meant to imply that acquisition of the business will be required. We agree there will be effects such as change in access, loss of property to right-of-way, and losses of portions of business operations.

14. Comment: If the southern routes F or F-1 are picked, there is going to be time-consuming hassle over navigable waterways and the clearance height of the bridge over the Choptank River. (page 73*).

Response: This situation is the same regardless of whether the bridge crossing is to the north or south of Denton, as the Choptank River is navigable as far north as Greensboro. A Coast Guard permit is required to construct a bridge over a navigable waterway and will be obtained during design.

15. Comment: The resurgence of interest in Md. 404 and the Denton Bypass is largely because the people of Talbot and Dorchester Counties do not want the shore traffic along U.S. 50, so that U.S. 50 will not be upgraded. Md. 404 will become the main route to the shore areas because it is the least expensive and most politically expedient. (page 75*).

Response: The proposed upgrading of U.S. Route 50 in Talbot and Dorchester Counties have the same priority as the Denton Bypass. However, the studies for the Denton Bypass project were initiated approximately 1 year before the other studies. Thus, this study is more advanced than the Talbot and Dorchester Counties' projects.

16. Comment: Lupine Lane is closed by Alternative F as indicated on plans in the Draft Environmental Impact Statement and at the Public Hearing. Lupine Lane is used extensively by local residents walking, riding bikes or driving to Martinak State Park because it is closer and less heavily traveled than Maryland 404. The plans as shown would force these people to travel Maryland 404 (pages 82-83* and 84*).

Response: Had Alternate F or F-1 been selected for construction, this problem would have been reconsidered in the design phase.

17. Comment: "While it may be less costly and more expedient for the State Department of Transportation to provide a bypass skirting the southern edges of Denton, it shows no concern for the welfare of anyone except those idiot-minded motorist speeding toward the beaches. Caroline County tax money will be used to help pay for something local people do not want."-Caroline County Journal editorial dated 12/7/77. (page 93*).

Response: Alternate C, the northern bypass, has been selected for construction. The comment does ignore the economic and environmental advantages of a southern bypass, as detailed both as in this document and in the Draft E.I.S.

18. Comment: Construction of the Denton Bypass will serve mainly to subsidize Delaware resorts at Maryland's expense. (page 115 of letters in Public Hearing Transcript).

Response: The project's purpose is to provide traffic relief for the Town of Denton and its environs. Beach traffic may move a bit faster as a result of building the project; however, this is not its primary purpose. Inorder to significantly improve beach traffic movement, the entire length of Md. 404 would have to be upgraded, including the Delaware portion.

19. Comment: The gas shortage and increasing gasoline costs will reduce traffic to the point where the existing bridge - or the new Md. 404 Choptank River Bridge - will be able to service the traffic. (page 117 of letters in Public Hearing Transcript).

Response: Thus far, there has been no significant reduction in traffic for the above noted reasons. Planning must continue,

using the latest projected traffic volumes for the design year until there is justification for changing these projections.

20. Comment: Will a mining permit for surface mining be required if we use a borrow pit to acquire fill material? (page 172 of letters in Public Hearing Transcript).

Response: Borrow pits are subject to a different permit requirement; application for such a permit must be made by the contractor before a borrow pit can be opened. A mining permit is not required.

21. Comment: Move the west project limit to the west to save houses situated on the north and south sides of the road. Also, "Jimmy the Greek's" is located in this area. (pages 66*, 77*, 85*).

Response: This will be studied during the design phase.

22. Comment: The northern bypass will require through traffic to travel 3.2 miles further each round trip. A southern bypass will save energy.

Response: Agreed; however, the portion of the public which took an active interest in the project indicated a preference for a northern bypass, with the belief that it will be the most beneficial route for the Denton community. The overwhelming public support for the Northern Bypass was instrumental in its selection.

23. Comment: Why a four-lane highway?

Response: The four lanes indicate future needs to the year 2005. It is quite possible initial construction will be limited to 2 lanes. A decision is this matter will be made during the design phase.

136

24. Comment: On Alternate F-1, move the Md. 313 relocation further west to avoid the Wesleyan Camp.

Response: Alternate F-1 will not be built. Had it been selected, an analysis of such a route would have been made during the design phase.

25. Comment: Employees of Thermolink in the West Denton area coming from the northern part of the county cannot get off the highway at that point to go to work.

Response: A freeway, by its nature, does not provide direct access to all the properties it traverses. An interchange at River Road will provide easy access to the West Denton area.

TABLE 6

SUMMARY OF COMMENTS FROM PUBLIC RECEIVED ON DENTON BYPASS PROJECT

	Alternate C	Alternate F/F-1	No Build
Recommendations:			
Individuals Responding at Public Hearing	20	3	0
Letters Received from Individuals	12	4	3
Public (unspecified)	55	2(F only)	3
Commissioners Caroline County	Yes		
Commissioners Town of Denton	Yes		
Mayor of Denton	Yes		
County Planner	Yes		
Superintendent of Caroline County Schools	Yes		
Caroline County Board of Education	Yes		
Rotary Club	Yes		
Women's Club	Yes		
Caroline County Retired Teachers' Association	Yes		
Christ Episcopal Church	Yes		
St. Luke's Methodist Church	Yes		
County Planning & Zoning	Yes		
A Group of Caroline County Farmers	Yes		
Merchants Survey (15) - 3 No Response	Yes(10)		
Federal Agencies:			
Department of Interior		Yes	
National Marine Fisheries		Yes	
Department of Agriculture	Suggest Reference to Maintenance of Sediment Control.		
Environ. Protection Agency	Air Monitoring Methods-Concern for Dredging & Other Comments.		
Corps of Engineers	Permits Needed.		
U.S. Coast Guard	Permits Needed for Any Bridge.		
State Agencies:			
Dept. of State Planning	General Comments.		
Bureau of Relocation Assistance	Scarcity of Housing in Area	Yes	
Department of Agriculture	Yes		
Maryland Historic Trust	Alternative C Intrusive.		
Miscellaneous Recommendations:			
1. Concerned About Project Impacts on Wesleyan Camp	17 Letters		
2. Favoring construction of West Interchange on Northern Bypass Farther to West Than Shown	3 Letters		

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APPENDIX 1

NOISE ANALYSIS TERMINOLOGY

Design Noise Level - the noise levels established by the noise standards set forth by the Federal Highway Administration for various land uses or activities to be used for determining traffic noise impacts and the assessment of the need for the type of noise abatement treatment for a particular highway section.

Design Noise Level

Noise Level	Activity Category
$L_{10}^{(h)}$ 60 dBA Leq(h) 57 dBA	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. For example, such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
$L_{10}^{(h)}$ 70 dBA Leq(h) 67 dBA	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playground, active sports area, and parks.
$L_{10}^{(h)}$ 75 dBA Leq(h) 72 dBA	Developed lands, properties or activities not included in above categories.
Unlimited	Undeveloped lands.
$L_{10}^{(h)}$ 55 dBA Leq(h) 52 dBA (INTERIOR)	Public meeting rooms, schools, churches, libraries, hospitals, and other such public buildings.

All ambient and predicted levels are exterior noise levels, unless otherwise stated.

Decibel (dB) - a logarithmic "unit" that indicates the ratio between two powers. A ratio of ten in power corresponds to a difference of ten decibels.

dBA - the sound pressures levels in decibels measured with a frequency weighting network corresponding to the "A-Scale" on a standard sound level meter. The A-Scale tends to suppress lower frequencies (e.g., below 1,000 Hz).

$L_{10}(h)$ - the sound level that is exceeded ten percent of the time (the tenth percentile) for the period under consideration. This value is an indicator of both the magnitude and frequency of occurrence of the loudest noise events.

Ambient Noise Level - the noise level existing in an area before the proposed roadway. This quantity is measured in dBA and expressed as L_{10} or L_{50} ambient noise levels.

Noise Control Measures - any of a number of means to attenuate noise including: walls, acoustic fences, earth mounds (berms), depressing the roadway, etc.

Severe Increase in Ambient Noise Level - An increase of 16 or more dBA over Ambient Levels.

Significant Increase in Ambient Noise Level - An increase of 11 to 15 dBA over Ambient Levels.

Minor Increase in Ambient Noise Level - An increase of 6 to 10 dBA over Ambient Levels.

Negligible Impact on Ambient Noise Level - An increase of 1 to 5 dBA over Ambient Levels.

APPENDIX 2

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

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

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

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

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

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

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move.

These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses. If the business is to be reestablished, and personal property is not moved but is replaced at the new location, the payment would be the lesser of the replacement costs minus the net proceeds of the sale or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the reestablished business, the payment will be the lesser of the difference between the value of the item for continued use in place and the net proceeds of the sale or the estimated cost of moving the item.

If no offer is received for the personal property and the property is abandoned, the owner is entitled to receive the lesser of the value for continued use of the item in place or the estimated cost of moving the item and the reasonable expenses of the sale. When personal property is abandoned without an effort by the owner to dispose of the property by sale, the owner will not be entitled to moving expenses, or losses for the item involved.

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

In lieu of the payments described above, the State may determine that the owner of a displaced business is eligible to receive a payment equal to the average annual net earnings of the business. Such payment shall not be less than $2,500 nor more than $10,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage, the business is not part of a commercial enterprise

having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

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

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

For displaced farms and non-profit organizations, actual reasonable moving costs generally up to 50 miles, actual direct losses of tangible personal

property, and searching costs are paid. The "in lieu of" actual moving cost payments provide that the State may determine that a displaced farm may be paid a minimum of $2,500 to a maximum of $10,000 based upon the net income of the farm; provided that the farm has been discontinued or relocated. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive "in lieu of" actual moving cost payments, in the amount of $2,500.

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

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

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

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

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

Bureau of Relocation Assistance
Office of Real Estate
300 West Preston Street - Room 402
Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION
OF THE
DEPARTMENT OF TRANSPORTATION
OF MARYLAND

S.H.A. 63.0-DP-1 (10-15-74) Page 1 Preliminary Relocation Studies

Maryland Project: CO-321-19-270 Federal Aid Project: _____

Termini: Md. Rte. 404, (Denton Bypass) Along Md. 404 S. of Denton only on this Rept.

Alternate Number: C-VAR & General File No. _____

Indicate which of the following applies to the information below: Draft Environmental Impact Statement X Conceptual Stage Study _____ Final Environmental Impact Statement _____ Acquisition Stage Study _____

TABLE 7

Sheet 1 of 3

RESIDENTIAL OCCUPANTS AND IMPROVEMENTS AFFECTED

OCCUPANCY STATUS	DWLGS.	DWLG. UNITS	FAM.	IND.	TYPE OF CONSTRUCTION: BRICK	FRAME	COMB.	DET.	SEM. DET.	ROW	MULTI FAM.	AGE: 0-10 YRS.	11-30 YRS.	31 YRS. UP	ROOMS: 3	4	5	6	7	8 up	BEDROOMS: 1	2	3	4 up	ESTIMATED VALUE (000's) OR RENT (USE 10%): $0-$20	$20-$40	$40 -
OWNER OCCUPIED	6		6		1	5							6					6					6		1	4	1
TENANT OCCUPIED																											
TOTALS	6		6		1	5							6					6					6			4	1

RESIDENTIAL IMPROVEMENTS AVAILABLE

FOR SALE

ASKING PRICE RANGE (000's)	DWLGS.	TYPE OF CONSTRUCTION: BRICK	FRAME	COMB.	DET.	SEM. DET.	ROW	AGE: 0-10 YRS.	11-30 YRS.	31 YRS. UP	ROOMS: 3	4	5	6	7	8 up	BEDROOMS: 1	2	3	4 up
$0-20																				
$20-40	4		4					1	1	2				1		1		1	1	1
$40 -	1		1						1											1
TOTALS	5		5					1	2	2				1		1		1	1	2

Sources: _____

FOR RENT

BDR.	MONTHLY RENT: 0 to $100	$100 to $150	$150 to $200	$200 to $250	$250 to $300	$300 & UP	APT.	ROMES	TOTALS
1									
2									
3									
4 up									

Sources: _____

BUSINESSES, FARMS, AND NON-PROFIT ORGANIZATIONS AFFECTED

OCCUPANCY STATUS	BUSINESSES: RETAIL	COMM.	MFR.	CHAIN	EMP.	FARMS: DAIRY	CATTLE	TRUCK	EMP.	NON-PROFIT ORGANIZATIONS: REL.	SOC.	INST.	EMP.
OWNER													
TENANT													
TOTALS													

AVAILABLE REPLACEMENT SITES

TYPE OF SITE	BUSINESS	NON-PROFIT	FARMS
SALE	REMAINING		
LEASE	L A N		D
TOTALS			

Sources: Mily Realty, Stewart-Wright

Remarks: Mary Jo Blight-All Licensed Brokers

Estimated average family size 3.

Estimated total number persons affected 18.

Estimated total number of minority group members affected 0, number of owner occupant families 0, number of tenant occupant families 0, and number of individuals 0.

Estimated number of minority owned or operated businesses 0.

Estimated number of minority employees 0.

Estimated number of minority owned or operated farms 0.

Estimated number of minority employees 0.

Estimated number of minority non-profit organizations 0.

Estimated number of minority employees 0.

Signature: John M. Barnett (RELOCATION OFFICER) 4/12/76 (DATE)

8/1

Bureau of Relocation Assistance
Office of Real Estate
300 West Preston Street - Room 402
Baltimore, Maryland 21201

STATE HIGHWAY ADMINISTRATION

OF THE

DEPARTMENT OF TRANSPORTATION

OF MARYLAND

S.H.A. 63.0-MP-1 (10-15-74) Page 2
Preliminary Relocation Studies
Maryland Project: CO-321-19-270
Federal Aid Project:
Termini: Md. Rte. 404
Denton Bypass
Alternate Number: C-2-Md. Rte. 404
~~XXXXXXXXXX~~ S. of Denton

A narrative statement must be prepared for all preliminary relocation studies. Utilize the outline below and the date on the reverse side to prepare the applicable narrative statement.

I. Community Impact

A. Describe the community affected including type of neighborhood, income levels, land usage, etc.

B. Does the alternate divide or disrupt an established community?

C. What is the effect upon adjacent communities?

D. What is the general effect of business, farm, and non-profit dislocation on the economy of the existing community including employment?

E. Is there any adverse impact on particular groups such as the elderly and handicapped?

F. How will the alternate effect the use of various community facilities and services such as hospitals, libraries, shopping areas, fire stations, police stations, schools, churches, and recreational facilities?

G. To what extent will the alternate produce adverse effect on residential, commercial, and industrial development that is existing or planned?

H. Will there be a significant change in population density or distribution?

I. Will the adjacent property values be altered? Discuss.
i.e. (increased, decreased, zoning, development)

II. Estimated displacement

A. Give an estimate of the number of persons, families, and individuals to be displaced. Discuss their characteristics such as occupancy status, minorities, economic level, age, large families, handicapped, etc.

B. How many and what type of businesses will have to be relocated? How many of these firms may be expected to discontinue?

C. How many and what type of farm operations will be relocated? How many of these may be expected to discontinue operations?

D. How many and what type of non-profit organizations will be affected?

E. Will functional replacement be necessary? If so, discuss any additional displacement that may result.

III. Minority displacement

A. What is the racial character of the area affected, including the appropriate number by race of persons and families (affected means all persons directly displaced or located in areas directly adjoining the road)?

B. What is the social and economic character of the area affected, including levels of income, whether the area is commercial or residential, and the approximate number of minority and non-minority owners of businesses and residences in the area?

C. What is the racial character of the people employed in the area affected by the alternate?

D. Are there any foreseeable problem areas or adverse impacts, such as rehousing difficulties, changes in income capabilities, mobility, or community cohesion?

E. Will a minority area be by-passed or separated from contiguous areas by the alternative and, if so, what effect will this have on the minority community? To what extent will it perpetuate patterns of segregation, if at all?

F. How will the alternate affect the use of various community facilities and services such as hospitals, libraries, shopping areas, fire stations, police installations, schools, churches, parks, and recreation centers by minority groups in the area?

G. To what extent will the alternate produce an adverse effect on residential, commercial, and industrial development that is existing or planned within minority communities?

IV. Relocation Plan

A. State the availability of DS&S housing which is within the financial means of those to be displaced that is normally available in the area. Will the housing be sufficient to meet the needs of those being displaced at the time displacement occurs? If not, describe the actions proposed to remedy the situation including housing of last resort. State the sources of this information.

B. What will be the impact on the neighborhood or communities into which the displaced persons are likely to move?

C. Give a statement of availability of replacement sites for businesses, farms, and non-profit organizations. State sources of this information.

D. Give an analysis of Federal, State, and municipal programs that may affect the supply and demand for housing at the time displacement occurs.

E. State the lead time required to complete relocation on the project. (i.e. from the Initiation of Negotiations to the last person moved)

F. Give a factual analysis showing that relocation can/cannot be resolved satisfactorily, and a statement that relocation can/cannot be accomplished in accordance with the requirements of the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 (P.L. 91-646).

TABLE 7

APPENDIX 3

ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

The submission of the following report as a part of the Environmental Impact Statement is intended to satisfy the Maryland Environmental Policy Act requirement.

DENTON BYPASS
CO-321-19-270

ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

The following questions should be answered by placing a check in the appropriate column(s). If desirable, the "comments attached" column can be checked by itself or in combination with an answer of "yes" or "no" to provide additional information or to overcome an affirmative presumption.

In answering the questions, the significant beneficial and adverse, short and long term effects of the proposed action, on-site and off-site during construction and operation should be considered.

All questions should be answered as if the agency is subject to the same requirements as a private person requesting a license or permit from the State or Federal Government.

	Yes	No	Comments Attached
A. Land Use Considerations			
1. Will the action be within the 100 year flood plain?	X		X
2. Will the action require a permit for construction or alteration within the 50 year flood plain?	X		X
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	X		X
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	X		X

		Yes	No	Comments Attached
5.	Will the action occur on slopes exceeding 15%?	___	X	___
6.	Will the action require a grading plan or a sediment control permit?	X	___	X
7.	Will the action require a mining permit for deep or surface mining?	___	X	X
8.	Will the action require a permit for drilling a gas or oil well?	___	X	___
9.	Will the action require a permit for airport construction?	___	X	___
10.	Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	___	X	___
11.	Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?	___	X	___
12.	Will the action affect the use of any natural or man-made features that are unique to the county, state or nation?	___	X	___
13.	Will the action affect the use of an archaeological or historical site or structure?	X	___	X
B.	Water Use Considerations			
14.	Will the action require a permit for the change of the course, current, or cross-section of stream or other body of water?	X	___	X
15.	Will the action require the construction, alteration or removal of a dam, reservoir or waterway obstruction?	___	X	___
16.	Will the action change the overland flow of storm water or reduce the absorption capacity of the ground?	X	___	X

		Yes	No	Comments Attached
17.	Will the action require a permit for the drilling of a water well?	___	X	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	___
20.	Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	___	X	X
21.	Will the action result in any discharge into surface or subsurface water?	X	___	X
22.	If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	___	X	X
C.	Air Use Considerations			
23.	Will the action result in any discharge into the air?	X	___	X
24.	If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	___	X	X
25.	Will the action generate additional noise which differs in character or level from present conditions?	X	___	X
26.	Will the action preclude future use of related air space?	___	X	___
27.	Will the action generate any radiological, electrical, magnetic or light influences?	___	X	___

	Yes	No	Comments Attached
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	___	X	X
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	___	X	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 preemption or division of properties or impair their economic use?	X	___	X
32. Will the action cuase relocation of activities, structures or result in a change in the population density or distribution?	___	X	___
33. Will the action alter land values?	___	X	___
34. Will the action affect traffic flow and volume?	X	___	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	___	X

	Yes	No	Comments Attached
38. Will the action affect the employment opportunities for persons in the area?	___	X	___
39. Will the action affect the ability of the area to attract new sources of tax revenue?	X	___	X
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	___	X	___
41. Will the action affect the ability of the area to attract tourism?	___	X	___
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	___	X	___
43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment?	___	X	X
44. Will the action be of statewide significance?	X	___	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	___	X
46. Will the action require additional power generation or transmission capacity?	___	X	___
G. Conclusion			
47. This agency will develop a complete environmental effects report on the proposed action.	___	X	X

COMMENTS

QUESTION NO. 1 - The project crosses the Choptank River and Watts Creek. Preliminary hydraulic computations indicate a drainage area of approximately 201 square miles and 22.6 square miles respectively. A 100-year discharge of 20,000 cfs and 2,200 cfs respectively occur at these crossings. The Choptank River discharge includes 8,000 cfs of tidal flow.

QUESTION NO. 2 - The structure waterway opening for the size drainage area noted above will require a permit from the Maryland Department of Natural Resources.

QUESTION NO. 3 - Refer to page 37 in the Final Denton Bypass E.I.S.

QUESTION NO. 4 - Dredged material from the river and wetlands not needed to refill the wetland areas after construction must be disposed of at another site. Plans will be developed for disposal of waste materials, probably in borrow pits used to obtain embankment material for the project.

QUESTION NO. 6 - Sediment Control Permits will be required from the Department of Natural Resources for construction of the Bypass

QUESTION NO. 7 - Permits for borrow pits will be obtained by the contractor prior to the time that fill for the project will be needed. This is not, however, a mining permit.

QUESTION NO. 13 - Some archaeological sites have been noted in the vicinity of the project. Though not of National Register caliber, any construction involving impact to these sites will be preceded by an intensive archaeological reconnaissance, and, where warranted by the State Archaeologist, SHPO and the Federal Highway Administration, salvage and excavation will be performed.

QUESTION NO. 14 - Changes to stream courses and directions will be limited to installation of necessary culverts with the requisite widening of the channel at inlet and outlet ends. Natural stream beds will be preserved as much as possible.

QUESTION NO. 16 - Absorption of storm water is reduced only on embankments and paved roadways and shoulders. This should have only a minimal effect upon the watersheds affected, which are relatively large in area, Runoff will be intercepted within the right-of-way by roadside ditches which will deliver their flow to natural watercourses. In no case will flow be diverted from the area to which it flowed before the construction of the project.

QUESTION NO. 17 - Should shallow wells in the vicinity of the project become polluted, deeper wells will be dug. Refer to page 51 in the Final Denton Bypass E.I.S.

QUESTION NO. 20 - Septic tanks and their associated systems must be relocated or replaced if they are displaced or disturbed by roadway construction.

QUESTION NO. 21 - The roadway drainage system will discharge into the Choptank River watershed. Because of the relatively large total discharges of Watts Creek and the Choptank River, runoff from the roadway area containing salt, hydrocarbons, pesticides, etc., is not expected to significantly affect water quality in either Watts Creek or the Choptank River. Some percolation into the upper strata of water aquifers is possible adjacent to the highway requiring deeper wells to be dug.

QUESTION NO. 22 - Stormwater entering Watts Creek and the Choptank River may contain oils, greases, sodium chloride and sediment as a result of

construction of the project. The Water Pollution Control Regulations adopted by the Water Resources Administration do not require a discharge permit for stormwater runoff. See pages VII-10 and VII-13 in the Kappe Associates Report on the subject project, available from the State Highway Administration.

QUESTION NO. 23 - Vehicles traversing the project will emit pollutants into the area. Burden analysis indicates that the project is inferior to the present roadway system both immediately following completion of the project and in 2005. National Ambient Air Quality Standards are not violated. Refer to the Air Quality Report on the subject project by David Swift, available from the State Highway Administration.

QUESTION NO. 24 - The air pollutants discharged will not violate the National Ambient Air Quality Standards. Disagreeable odors in the less developed areas of Maryland are generally associated with industrial processes and not vehicle exhaust.

QUESTION NO. 25 - Problems with noise levels are expected on this project because the higher freeway-expressway speeds produce greater levels of engine and tire noise. The construction alternates are routed through rural and rural-residential areas that will have their ambient noise levels raised significantly in many cases. Several areas exceed FHWA design noise levels. For more detailed information, see the Noise Analysis Report for the subject project available from the State Highway Administration.

QUESTION NO. 28 - See pages 22 and 33 of the Final Denton Bypass E.I.S.

QUESTION NO. 29 - See page 33 of the Final Denton Bypass E.I.S.

QUESTION NO. 31 - The project involves a relocation and thus some division of property, but was developed to minimize this effect. See page 36 of the Final Denton Bypass E.I.S. for more detailed information.

QUESTION NO. 34 - Construction of the project will have a desirable effect upon traffic flow, this being the principal purpose of the project. See pages 1 and 7 of the Final Denton Bypass E.I.S. for more detailed information.

QUESTION NO. 37 - The project is consistent with Caroline County Planning Commission objectives and conforms with local zoning. The project is developed as part of the State Highway Administration's 20-Year Needs Study and conforms with future State plans for the development of regional highways. For more detailed information, refer to page 1 of the Final Denton Bypass E.I.S.

QUESTION NO. 39 - The development of primary and secondary highways in the Denton area, with the Denton Bypass as the keystone section of highway, will enhance the desirability of the area for development by industry. Because of Denton's location, good highways are a key factor in the future development of the Town of Denton.

QUESTION NO. 43 - An Environmental Impact Statement is being prepared. This particular document substantiates the need for the action. See page 1 of the Final Denton Bypass E.I.S. concerning the need for the project.

QUESTION NO. 44 - The project, in combination with other Maryland and Delaware projects increases the accessibility of Ocean City and other Atlantic resorts to Maryland's western shore.

QUESTION NO. 45 - The primary and secondary road improvements in the Denton area planned for the next 20 years will result in greater relative traffic carrying capacity which will have some impact on the Denton area. See page 1 of the Final Denton Bypass E.I.S. for a list of these projects.

QUESTION NO. 47 - In accordance with Federal regulations, an Environmental Impact Statement has been developed. An Environmental Impact Statement is a document which says that in view of the Federal official, the proposal does have significant effects on the quality of the human environmental and proceeds to analyze these effects. Therefore, the Environmental Impact Statement is included as a part of this Environmental Assessment and a separate Environmental Assessment Report will not be developed.

CORRESPONDENCE SECTION
(arranged in Chronological order)

JAMES B. COULTER
SECRETARY

JOSEPH H. MANNING
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

July 30, 1973

COMMENTS OF THE DEPARTMENT OF NATURAL RESOURCES ON PROJECT 73-6-373

PE - Md. 404 (Relocated) 1.2 miles West of Denton
to Md. Rt. 16 South of Denton

The Department of Natural Resources will have a continuing interest in the proposed relocation of Route 404 in the vicinity of Denton, now proposed for Preliminary Engineering.

It is suggested that in this study, careful consideration be given to exploring means to fully protect Caroline County Wetland Units #59 (Denton), and #61 (Watts Creek). The fish and wildlife values associated with these two wetland units are very high, supporting reproductive habitat for birds, mammals, and fish meriting a high degree of protection. (1) Full consideration should be given in this study to the use of piers in the spanning of wetlands, and the ultimate in protection of the Choptank River and Watts Creek and their associated wetlands from sediment damage and other polluting forces associated with construction will be required to protect spawning areas of important anadromous and semi-anadromous fish species. (2) The wildlife habitat merits protection for its wide variety of wildlife usage, including nesting and feeding by wood duck and osprey. (3)

The Preliminary Engineering will also need to consider carefully the impact of the proposed highway development on Martinak State Park. The park is about one mile downstream of the proposed crossing of Watts Creek. Access to the park is at the intersection of Route 404 and Deep Shore Road. Park visitation involves rather heavy usage of trailer vehicles. (4)

The project for which this Preliminary Engineering is proposed would appear to require Department of Natural Resources permits for the use of State and private wetlands. (5)

RESPONSE:

1. protection of Caroline County Wetland Units: refer to Chapter 5 Sections 2c and g.

2. use of piers in spanning wetlands: refer to Chapter 5 Section 2g, Chapter 7 Section 2, Chapter 8 Section 2.

3. protection of wildlife habitat: refer to Chapter 5 Section 2c, Chapter 7 Section 1, Chapter 8 Section 1.

4. The selected Alternate C Variation 2 is not expected to directly impact Martinak State Park in any way. Access to the park will be comparable to that which presently exists. The turning radii on Md. 313-404 at Deep Shore Road will be designed to accommodate trailer-towing vehicles destined for Martinak State Park.

5. D.N.R. permits for the use of wetlands will be obtained as a part of Final Design.

165

MARYLAND DEPARTMENT OF NATURAL RESOURCES
WILDLIFE ADMINISTRATION

TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401
AREA 301-267 5199

RALPH A. BITELY
ADMINISTRATOR

EARL H. HOBBS
DEPUTY ADMINISTRATOR

May 27, 1976

Robert J. Hajzyk, Director
Office of Planning & Preliminary
Engineering
300 W. Preston Street
Baltimore, MD 21201

Subject: Environmental Impact Study, Route 404 - Denton By-Pass

Dear Mr. Hajzyk:

The Wildlife Administration recommends the southern alternative "F" route as the least damaging to the environment.

Sincerely yours,

Ralph A. Bitely
Administrator

RAB:CRB:jw

RESPONSE:

Alternate C, Variation 2 (the Northern Bypass) was selected for construction as the most desirable route for the following reasons:

a) Area residents, elected officials, and planning jurisdictions favor the northern alternate;

b) Public Hearing comments and transcript letters indicate a mandate for the northern bypass;

c) Businesses and schools have been located to be convenient to a northern bypass route, which the MSHA had indicated on several occasions as far back as the 1960's would be the location of The Bypass.

d) A portion of the northern bypass has been constructed to complement Denton's one-way street system and right-of-way has been purchased.

e) From an environmental standpoint, Alternate C, Variation 2 does not take as much farmland and does not impact individual farms as severely as the Southern Alternates F and F-1.

f) Although other environmental considerations tend to favor a southern bypass, impacts noted for the northern bypass can be mitigated.

166

State of Maryland

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
ENVIRONMENTAL HEALTH ADMINISTRATION
P.O. BOX 13387
201 WEST PRESTON STREET
BALTIMORE, MARYLAND 21203
PHONE • 301-383- 3245/3246/3247

NEIL SOLOMON, M.D., PH.D.
SECRETARY

DONALD M. NORRIS
DIRECTOR

August 23, 1976

Mr. Charles R. Anderson, Chief
Bureau of Landscape Architecture
State Highway Administration
Joppa and Falls Road
Brocklandville, Maryland 21022

Dear Mr. Anderson:

The Bureau of Air Quality and Noise Control has received the Draft Air Analysis for Denton By-Pass - Maryland Route 404.

Three proposed alternative routes for Denton, Maryland were analyzed to assess the air quality impact for the expected year of completion (1982) and the design year (2005) and compare these with the expected air quality if no road construction takes place.

The Bureau of Air Quality and Noise Control agrees with the analysis that for every case, both build and no-build alternatives in 1982 and 2005, neither the 1-hour nor the 8-hour carbon monoxide standard will be violated.

Very truly yours,

William K. Bonta, Chief
Division of Program Planning
and Analysis
Bureau of Air Quality and
Noise Control

WKB:RHH:gl

RECEIVED
AUG 26 19[illegible]
C R ANDERSON

167

HERBERT M. SACHS
DIRECTOR

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

October 15, 1976

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

Dear Mr. Camponeschi:

These comments are in response to a request by Mr. Williamson at our September 23, 1976 meeting on the Denton By-Pass. Comments were specifically requested in relation to the method of construction suggested for the proposed alternative bridge crossings of the Choptank River. My comments below reflect that request only; comments on the entire project will be in response to the eventual draft EIS. I have also consulted with Carlo Brunori (Wildlife Administration) and Nick Carter (Fisheries Administration) prior to formulating these comments.

As indicated at our meeting a bridge structure on pilings, rather than a causeway structure by filling, would be the ecologically best method of crossing the tidal marshland and/or swampland involved. With this method it was indicated at the meeting that a six (6) foot deep, 100 foot wide access channel would be required through the vegetated wetlands (as well as shallow open water). Although leaving this vegetative wetland cut open subsequent to working on the bridge would result in some additional fisheries values, it is felt that vegetated wetland restoration (to marshland) would be much more desirable and acceptable. This, of course, involves very specific design in terms of tidal elevations (preferably a similar elevation to that of the pre-disturbance marsh or even lower, but not greater). Conditions of this sort would be written into any licenses and/or permits that we issue for the project. Actually, this isn't really a difficult endeavor and works well if the desired elevation is achieved. Under such conditions volunteer invasion is quite quick since abundant propagules are usually present from surrounding wetlands. If elevations are too high, however, undesirable upland vegetative invasion occurs.

I have come to those conclusions about the marsh re-establishment based upon numerous literature sources, personal observations, and recent sampling projects. For example, one marsh restoration site in Baltimore County has been sampled by the Wetlands Permit Section of Water Resources Administration for two growing seasons subsequent to spoil disposal. Excellent marshland plant invasion occurred during the first growing season and by the end of the second it was essentially indistinguishable from the surrounding natural marshland. In Calvert County two pipeline marsh crossings were completed last year. After one growing season the pipeline ditch areas had open water and/or intertidal marshland (both desirable rather than upland). Of the four temporary spoil disposal sites involved, all of those restored to the required elevations had excellent marshland plant re-invasion. The one with undesired high elevations was sparsely vegetated by species that occur on higher wetlands and uplands and those from upland only.

I would like to add that, because most biologists would prefer a piered (bridge) structure over a causeway (fill) one, it is very encouraging to know that any reasonably necessary dredging for bridge construction access could be done knowing that the impact could be minimized by insuring marsh restoration under specified conditions.

Very truly yours,

William S. Sipple

William S. Sipple
Wetlands Permit Section

SS:crm
c: Mr. Jeffrey O. Smith, Watershed Permits Section
Mr. Nick Carter, Fisheries Administration
Mr. Carlo Brunori, Wildlife Administration

ESPONSE:

Disturbed areas of marshland will be reconstructed according to Wetlands Permit Section recommendations. Designated Wetland areas along the Choptank River will be spanned by bridge structures, so that only minimal areas of wetlands will be disturbed by pile driving and other construction operations.

169

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
1825B Virginia Street
Annapolis, MD 21401

February 22, 1977

Mr. Eugene Camponeschi
Chief, Bureau of Project Planning
State Highway Administration
Post Office Box 717
300 West Preston Street
Baltimore, MD 21203

Dear Mr. Camponeschi:

This is to acknowledge a coordination meeting on February 8, 1977, with representatives of the Maryland Highway Administration and this Service regarding Maryland Route 404, Denton By-Pass.

The alternative crossings of the Choptank River were discussed, one north and one south of the existing Rt. 404 bridge. We were informed that in either case, dredging of construction channels would be required. Highway Administration representatives indicated, however, that any marsh destroyed during the operation would be replaced and that the bridge would span all marsh areas as well as open waters in the river. Such construction is consistent with suggestions provided by Mr. William Sipple of the Wetlands Permit Section, Maryland Department of Natural Resources (letter to you dated October 15, 1976), and is also consistent with Fish and Wildlife Service policy regarding bridge construction. We also suggest that no dredging or construction in the river occur during the anadromous fish spawning period, as determined by the Maryland Fisheries Administration.

This letter provides technical assistance and is not to be considered as an official review by the Department of the Interior. Further review will be undertaken by this Service during the Departmental review process when a Departmental position will be provided on the environmental document. Under authority of the Fish and Wildlife Coordination Act, this Service will also be provided the opportunity to comment on any stream or river alteration requiring a Corps of Engineers permit.

/ ACTION	___ INFO		___ FILE
___ CAMPONESCHI	___ CATHERMAN	___ HELWIG	___ JANATA
___ SCHNEIDER	___ DODSON	___ HOFFMAN	___ KOLLER
___ HOUST	___ CHANDY	___ HONEYWELL	/ WILLIAMSON
___ KHOLAK	___ HANRAHAN	___ HOPKINS	
___ UHL	REMARKS:		

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

We appreciate the opportunity to discuss this project. Please contact us if we can be of further assistance.

Sincerely yours,

Ralph C. Pisapia
Acting Supervisor
Southern Area Office

RESPONSE: Refer to Chapter 5, Section g , Construction Impacts for a more complete discussion of construction in wetlands.

See also the October 15, 1976 letter from the Department of Natural Resources in this section.

171

RESOLUTION IN FAVOR OF CONSTRUCTION OF A NORTHERN BY-PASS OF THE

TOWN OF DENTON VIA MARYLAND ROUTE #404

WHEREAS, The Town of Denton is situated in a location central to Caroline County, Maryland and the Delmarva Peninsula;

AND WHEREAS, The Town of Denton serves as a crossroad of traffic utilizing The Choptank River, Maryland Route #404, Maryland Route #313, Maryland Route #317, Maryland Route #328, and Maryland Route #16;

AND WHEREAS, The most convenient vehicular routes between the metropolitan areas of Maryland, The District of Columbia and the recreational ocean beach facilities of the State of Maryland and Delaware are each restricted by water crossings of the Chesapeake Bay and its tributaries;

AND WHEREAS, The shortest vehicular route from the Baltimore and Washington metropolitan districts to all the ocean beaches of Maryland and Delaware is via Maryland Route #404;

AND WHEREAS, Maryland Route #404 in its present state as it passes through the Town of Denton endures very serious bottlenecks in the flow of through traffic;

AND WHEREAS, The danger of injury to life and personal property is greatly enhanced by the high volume of through traffic caused by public desire to conserve time and energy by use of the shortest possible route;

AND WHEREAS, The suffering and aggravation of Denton residents, particularly those residing along the through streets of Franklin and Gay in Denton, is greatly impacted by noise and chemical pollution principally from through traffic;

NOW, THEREFORE, BE IT RESOLVED that we the Commissioners of Denton hereby urge the State Highway Administration to proceed with great urgency for the earliest possible construction of a highway around the North perimeter of the Town of Denton and serving traffic from all the aforementioned routes with ready access to the central business district and Caroline County Offices in Denton without either impeding the flow of through traffic or greatly endangering the lives of pedestrians within the Town of Denton.

Attest:

Gerard T. Warwick, Jr.

Donald C. Messick

Carol D. Stockley

Joseph S. Loveless

Richard T. Warfield, Mayor
THE COMMISSIONERS OF DENTON

Mary K. Turkington
Secretary-Treasurer

July 13, 1977

RESPONSE: Alternate C Variation 2 (the Northern Bypass) has been selected for construction.

172

Christ Episcopal Church
Court House Green
Denton, Maryland 21629

ST HWY ADM

5 AUG 77 12: 19

August 3, 1977

Mr. Bernard M. Evans
State Highway Administrator
300 West Preston Street
Baltimore, Maryland 21201

Re: Northern By-Pass
Denton, Caroline County, Maryland

Dear Mr. Evans:

Speaking for the Vestry of Christ Episcopal Church, Denton, Maryland, may I assure you that this group is in complete accord with your Department's plans to construct a Northern By-Pass around the town of Denton.

As you well know, the Episcopal church and the rectory here in Denton are located on Gay Street, which serves as the return route for 404 beach traffic. The volume of traffic has grown so rapidly that it has become most undesirable.

Your efforts toward the early construction of the Denton Northern By-Pass will be greatly appreciated.

Very truly yours,

Herman C Keen

Herman E. Keen
Senior Warden
Christ Episcopal Church

cc: Mr. James M. Wright, District Engineer
Maryland State Roads
Chestertown, Maryland 21620

The Honorable John R. Hargreaves
House of Delegates Office Building
6 Bladen Street - Room 131
Annapolis, Maryland 21401

RESPONSE: Alternate C Variation 2 (the Northern Bypass) has been selected for construction.

173

"Service Above Self" "He Profits Most Who Serves Best"

THE ROTARY CLUB

DENTON, MARYLAND

August 3, 1977

STATE HWY ADM
AUG 77 12: 17

Mr Bernard M. Evans,
State Highway Admr.
300 West Preston, Street
Baltiomor, Maryland 21201

Dear Mr. Evans:

On August 2nd, 1977 the Rotary Club of Denton went on record by Unanimous resolution favoring the Denton Norther By-Pass.

We would appreciate any help you can give to speed up the construction of the Denton Northern By-Pass. The traffic gets worse each year and any time that can be saved will help us.

Thank you.

Sincerely yours,

Rotary Club of Dentor
Francis E. Yeoman
Secty.

RESPONSE: Alternate C Variation 2 (the Northern Bypass) has been selected for construction.

174

August 9, 1977

Mr. Bernard Evans, Administrator
State Highway Administration
P.O. Box 717
300 W. Preston Street
Baltimore, MD. 21203

Dear Sir:

We want to compliment the State Highway Administration on the recent decision to forego further public hearing concerning the replacement bridge at Denton in order to expedite the building of the structure.

We note also with approbation that first priority has been given to construct a Denton by-pass for relieving traffic conditions on Maryland Route 404 at Denton.

It is our understanding that the planning phase of the by-pass project will be essentially complete following a public hearing that is planned to be held in Denton at the end of this year.

We request the by-pass project be expedited with the same efficiency recently reflected in your efforts to expedite the replacement bridge because we do not believe the bridge replacement by itself will eliminate the traffic problems on Route 404 at Denton.

Accordingly, we request that a public hearing on the by-pass be held in Denton during the first week in October, 1977 or sooner if at all possible. This is one of the factors to the problem which should allow the by-pass to become a reality at the earliest possible date.

We want to take this opportunity to express our appreciation to the S.H.A. for their assistance, cooperation, and patience. Mr. James Wright, District Engineer and Mr. Vaughn Hutson, Resident Maintenance Engineer have been most helpful.

Very truly yours,

O. R. Walsh, Chairman
Northern By-Pass Committee

O.R.W./wp
cc: Secty Hermann K. Intemann, Md. Dept. of Transportation
cc: Mr. Frederick Gottemoeller, Dir., Office of Planning and Preliminary Engineering
cc: Mr. James Wright, Dist. Engr.
cc: Hon. John B. Hargreaves
cc: Caroline County Commissioners
cc: Denton Town Commissioners

RECEIVED
AUG 16 1977
DIRECTOR, OFFICE OF PLANNING & PRELIMINARY ENGINEERING

NOTE: Location Public Hearing held December 13, 1977 to allow full preparation and review of the Draft E.I.S.

175

DELMARVA DISTRICT of THE WESLEYAN CHURCH

"Serving Delaware, Maryland, and Virginia's Eastern Shore"

District Office:
P. O. Box 216
809 South Second Street
Denton, Maryland 21629
Rev. Paul D. Dieter
District Superintendent

August 16, 1977

Mr. Bernard M. Evans
State Highway Administrator
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Evans:

RE: DENTON NORTHERN BY-PASS AND ITS EFFECT ON THE WESLEYAN CAMP.

FROM: Rev. Paul D. Dieter, District Superintendent of The Delmarva District of The Wesleyan Church, Inc. and Director of the Wesleyan Camp.

Thank you for letting me share with you our concerns about the proposed Northern By-Pass. The By-Pass will be located approximately 200 yards from the area of the Camp where most of our activities center. Our meetings are held in an open sided tabernacle and most of our activities are in the open type camping setting. The noise factor of the proposed By-Pass will seriously affect these activities.

The Wesleyan Camp, as it is now known, has been in existence in this location since 1898. Up until 15 years ago it was just basically a ten-day camp. However, for the past 15 years we have been expanding its use. Twelve years ago we added 42 acres making a total of 54 acres. We have 27 buildings with 89 cottages owned by individual families. Over the past ten years we have invested a total of over $200,000 dollars worth of new construction and capital improvements.

There are 67 churches presently involved in the use of the facilities and another 25 are indirectly involved. At present the facilities are being used for a children's camp, two youth camps, a 10-day family camp, conferences, conventions, retreats, etc., with activities beginning in early April and ending in October.

The Annual District Conference of The Delmarva District of The Wesleyan Church in session at the Camp on July 11 and 12 voted to request the State Officials to give due consideration to the effect the Northern By-Pass will have on our Camp.

What we are asking is that the noise factor be seriously considered. Maybe the By-Pass could be routed further west toward [illegible] on the other

side of the Delmarva Power and Light sub-station. This would also eliminate the necessity for such a sharp curve as is presently proposed.

The Wesleyan Camp is an important part of this county and we believe you will give us proper consideration.

Thank you.

Sincerely,

Rev. Paul D. Dieter
District Superintendent

PDD:mb

CC: The Honorable John R. Hargreaves
Member of Md. House of Representatives

The Honorable Blair Lee, Governor

Mr. Herman K. Intemann
Sec. Md. Dept. of Transportation

Mr. Alfred H. Boldtmann
Project Engineer

Mr. James M. Wright
Dist. Engineer - District 2

State Highway Administration
Office of Planning and Preliminary Engineering

RESPONSE:

The Wesleyan Camp is considered a noise-sensitive area (number 13). The evaluation of impacts is summarized in Chapter 5 Section j, and in Chapter 7, Section 7. For the completed Alternate C, Variation 2, a severe increase in noise levels at this site is anticipated, although noise levels will not exceed design standards. Construction of a noise barrier at this site, to which the State Highway Administration has committed itself, should reduce the impact to less than 10dBA, a minor increase.

177

Maryland Historical Trust

October 21, 1977

Mr. Eugene T. Camponeschi
Chief
Bureau of Project Planning
Maryland Department of Transportation
P. O. Box 717
Baltimore, Maryland 21203

RE: Contract No. CO 321-019-270
Denton By-Pass
Maryland Route 404
Historic Sites

Dear Mr. Camponeschi:

Further to your letter dated July 20, 1977, and various subsequent communications concerning the proposed Denton By-Pass, the joint MHT/SHA sites survey team made this a first priority, and the historic sites have been indicated on the project location maps which are attached.

The historic sites consist of the Neck Meeting House (CAR-36), Plain Dealing (CAR-9), and the Denton Historic District (including the Denton School House approved for nomination to the National Register by the Governor's Consulting Committee and signed by Acting Governor Blair Lee).

For the Neck Meeting House, which is on the National Register, I would be prepared to concur in a determination of no effect for Alternative "F", (West bank of the Choptank River), adverse effect for the No-Build Alternative, and possibly no effect for Alternative "C", (pending further information as to visual effect) with Federal Highway Administration.

For the Denton Historic District, potentially eligible for the National Register and tentatively defined by the MHT/SHA surveyors, I would concur in a determination of no effect for Alternative "F", adverse effect for the No-Build Alternative and possibly no effect for Alternative "C" (pending further information as to visual effect) with Federal Highway Administration.

For Plain Dealing, potentially eligible for the National Register and tentatively defined by the MHT/SHA surveyors, I would concur in a determination of no effect for Alternative "F", possibly no effect for No-Build Alternative, and possible no effect for Alternative "C" (pending further information as to visual effect) with Federal Highway Administration.

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

For the purposes of 4(f), I concur with a finding of no effect for all three alignments. However, in addition to the historic sites of outstanding state and local significance there are several houses of sufficient interest that should be documented in the event of their removal.

Concerning Alternative "C",the houses 1, 3, 6, and 8 on Maryland Route 404, west of Denton and house Q on Campground Road, and concerning Alternative "F",the houses 3 and 6 on Maryland Route 404 west of Denton and house Q on Campground Road, I would readily confer with you or staff on these matters as well as others as this project progresses. As you know we will continue to make every effort to assist you in any way we can, in this very important project.

Sincerely yours,

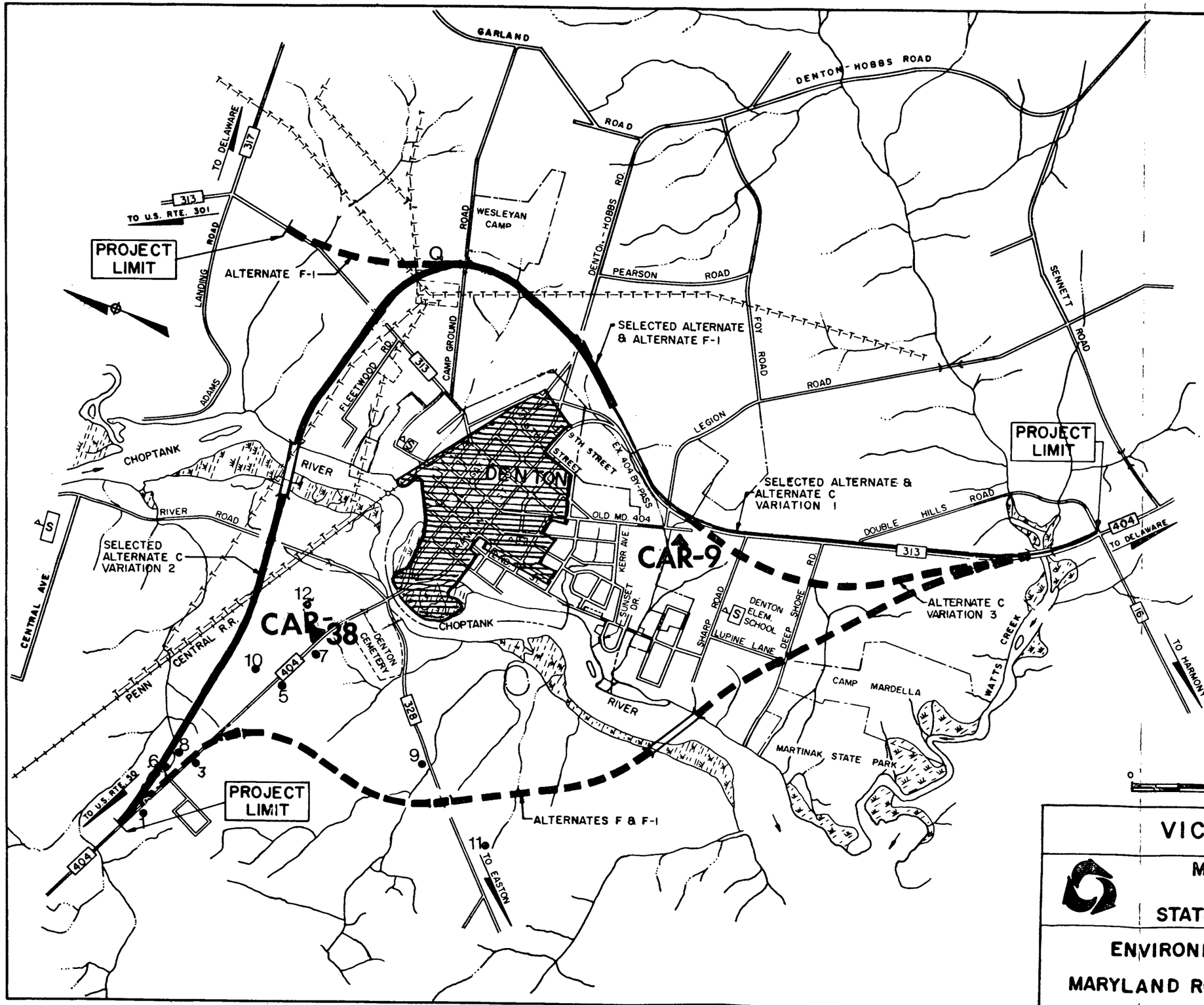
John N. Pearce

John N. Pearce
State Historic
Preservation Officer

JNP:BD:mms

cc: Acting Governor Lee
Mr. Carr
Mr. Clagett
Gen. Talbott
Miss Horsey
Ms. Ballard
Mr. Gottemoeller
Mr. Elinsky

DENTON HISTORIC SITES CAR 9 & 38 ▲ & DISTRICT ≡



VICINITY MAP

MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY

MARYLAND ROUTE 404-DENTON BY-PASS

180

CAROLINE COUNTY PLANNING COMMISSION

P. O. BOX 207
DENTON, MARYLAND 21629

CARL L. THORNTON, JR.
ZONING ADMINISTRATOR
479-1418

ALAN VISINTAINER
COUNTY PLANNER
479-2230

November 16, 1977

COMMENTS
DRAFT EIS - MD. 404 (DENTON BY-PASS)

Table 8 - This table omits several advantages for Alternative C. These include: (1)

1. Removes through traffic on MD 313 from Denton.
2. Safest route (lowest projected accident rate).
3. Improves access to Denton and industrial sites in West Denton.
4. Improves access of Northern Caroline County to MD 404.

A number of the disadvantages listed for Alternative C are insignificant. Their inclusion gives an impression that the disadvantages heavily outweigh the advantages for Alternative C. In our opinion, this is not the case. These include: (1)

1. Close to historic site "Plaindealing" - Alternative C is no closer to Plaindealing than the existing MD 404.

2. Heavily impacts open areas of Wesleyan Camp with noise - As discussed in the text, a noise barrier can reduce noise to acceptable levels.

3. Forces relocation of major power line - This creates no problem other than cost, which is reflected in the total cost for the alternative.

4. Heaviest burden CO,NOX,HC-1982-2005 - The text (p. 54) states that "In all cases, the calculated CO levels were well below the background levels so that the differences between alternatives were not significant".

Under advantages for Alternative F, it is stated that the route "avoids residential neighborhoods". In fact, it bisects the residential area south of Denton, which is stated under disadvantages (1)

in this same section. If this alternative is selected, we strongly encourage construction of the complete four-lane by-pass at one time. This would minimize the disruption to this residential area.

Alternatives F and F-1 require considerable more agricultural land than Alternative C. In addition these alternatives bisect several large farms and would severely disrupt agriculture in the area. This should be listed as a disadvantage. (1)

Under Alternative F-1, two of the advantages listed related to air pollution emissions. As discussed above, the difference between this and Alternative C is insignificant and should not be listed as an advantage. (1)

p. 77, Adverse Effects Which Cannot Be Avoided - The loss of productive agricultural land should be discussed. Alternatives F and F-1 require considerable more agricultural land. (2)

p. 85, Short-Term Use Versus Long-Term Productivity - The loss of productive agricultural land should also be discussed here. (2)

p. 91, Irreversible and Irretrievable Commitments of Resources - The loss of productive agricultural land should also be discussed here. (2)

RESPONSE: 1. Table 8 in the Draft E.I.S. has been updated for the Final E.I.S. Many of the suggested revisions in this letter have been made to this table. Several others were eliminated and not included in the table. This table was meant only to mention various impacts of the different alternates without regard to their relative importance, because of the subjective judgments required in establishing this importance.

2. Material on agricultural impacts has been added to the report body. See Chapters 3, 5, 7 and 9.

182

CAROLINE COUNTY PLANNING COMMISSION

P. O. BOX 207
DENTON, MARYLAND 21629

CARL L. THORNTON, JR.
ZONING ADMINISTRATOR
479-1418

ALAN VISINTAINER
COUNTY PLANNER
479-2230

November 18, 1977

Mr. Frederick Gottemoeller
Director
Office of Planning and
Preliminary Engineering
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Gottemoeller:

Enclosed are comments for the State Clearinghouse review of the Draft Environmental Statement, Denton By-Pass, Maryland Route 404. We are disappointed that comments are due on the report on November 29, 1977, several weeks prior to the public hearing in December. We feel that the Clearinghouse review should have been scheduled so that comments could be made after the presentation and public discussion in December.

The County Commissioners have previously endorsed the Northern By-Pass, Alternative C. This route has also been endorsed by the Caroline County Planning and Zoning Commission and the Denton Town Commissioners. It is our belief that this route offers clear and positive benefits to the community.

We reserve the right to make additional comments after the public has had an opportunity to hear and respond to your presentation in December. Whatever route you do select, it should be given priority for immediate funding in the Consolidated Transportation Program.

RECEIVED
NOV 25 1977
OFFICE OF
PLANNING & PRELIMINARY ENGINEERING

Sincerely,

A. CURTIS ANDREW, PRESIDENT
CAROLINE COUNTY COMMISSIONERS

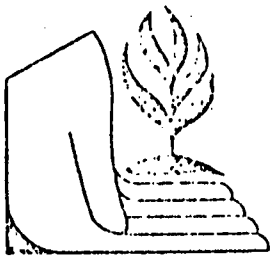
EARL R. BELL, MEMBER

RACHEL COLLISON, MEMBER

CC: Del. John Hargreaves
Mr. Bernard Evans
Mayor Richard Warfield
Mr. James McConnaughhy,
- State Planning
Mr. James Voss
Capt. Quentin R. Walsh

RESPONSE: Alternate C Variation 2 has been selected for construction.

153



MARYLAND

DEPARTMENT OF AGRICULTURE

Marvin Mandel, Governor
Young D. Hance, Secretary
John T. Cecil, Deputy Secretary

Parole Plaza Office Building, Annapolis, Maryland 21401
Phone 301 – 269-2161

December 5, 1977

Mr. James W. McConnaughhay
Chief, State Clearinghouse
Department of State Planning
301 West Preston Street
Baltimore, Maryland 21201

Reference: Clearinghouse Control Number 78-10-419.

Dear Mr. McConnaughhay:

Further inquiries have indicated the local citizens and other groups in Denton and Caroline County support the north route bypass for Maryland Route 404.

I, therefore, support the position of the people mostly affected by this proposal and urge action by the State Highway Administration to comply with this request.

Sincerely,

Young D. Hance
Secretary

YDH/pb

cc: Mr. Wayne Cawley

RESPONSE: Alternate C Variation 2 (the Northern Bypass) has been selected for construction.

184

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MARYLAND 21203

REPLY TO ATTENTION OF:
NABPL-E

1977 DEC 19 AM 10 59 December 1977

ACTION
PROJECT PLANNING

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

Dear Mr. Camponeschi:

Our office has reviewed the Draft Environmental Statement for the proposed Denton By-Pass, Caroline County, Maryland, in keeping with this office's direct responsibility. This agency's areas of concern are flood hazard potentials, permit requirements under Section 404 of the Federal Water Pollution Control Act of 1972, and other direct and indirect impacts on Corps of Engineers existing and/or proposed projects. In accordance with these responsibilities, our office has the following comments.

The Denton By-Pass project is not anticipated to have adverse effects on the existing Corps of Engineers navigation project on the Choptank River. No other existing or proposed Corps of Engineers projects are in the vicinity.

It is suggested that the discussion on the Choptank River Bridge project, (page 48 of the Draft Environmental Impact Statement), include the Gay Street Ramp project. The Gay Street Ramp project was the subject of an Environmental Assessment which indicated that an EIS was not required but did identify a wetland impact. Gay Street ramp plans were subsequently modified to reduce the impact on the wetlands to be less than one-tenth of an acre. Operations Division, Regulatory Functions Branch, is currently processing a Department of the Army permit for fill material proposed in support of the Gay Street ramp of the Choptank River Bridge which is part of the Denton By-Pass. The permit should be issued in the next 30 days.

185

NABPL-E
Mr. Eugene T. Camponeschi

8 December 1977

We appreciate this opportunity to comment on this statement and if we can be of further assistance in the future, please contact us.

Sincerely yours,

WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

RESPONSE: No response required.

186

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Federal Building, 14 Elm Street
Gloucester, Massachusetts 01930

DEC 1 - 1977

December 9, 1977

FNE62

TO: EE - Director, Office of Ecology and Environmental Conservation
Robert L. Schueler DEC 15 1977

THRU: for F5 - Acting Assistant Director for Scientific and Technical Services

FROM: for William G. Gordon
Mcrwin F. Bowne
Regional Director, FNE

SUBJECT: Comments on Draft Environmental Impact Statement--Maryland Route 404 (Denton By-Pass) from 1.2 miles W. of Maryland Route 328 to Maryland Route 16 in Caroline County, MD--DOT--DEIS #7711.02

The draft environmental impact statement for Maryland Route 404 (Denton By-Pass) from 1.2 miles W. of Maryland Route 328 to Maryland Route 16 in Caroline County, Maryland that accompanied your memorandum of November 3, 1977, has been received by the National Marine Fisheries Service for review and comment.

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

General Comments

Although little detail is given to describing those biological communities which will be affected by project implementation, other issues such as potential adverse primary environmental impacts to aquatic ecosystems, and practical mitigative measures are adequately addressed. We support the proposals to span wetlands as well as waterways, to prohibit construction operations in the water from mid-March through mid-June, and to restore vegetated wetland areas to their original elevations.

To further mitigate deleterious construction impacts, we recommend that areas dredged in submerged wetlands be restored to their original bottom contours, and that marsh creation be considered to compensate for areas permanently destroyed. (1)

Finally, we consider the southern route, Alternate F/F-1, the most acceptable from both a fisheries, as well as an overall environmental standpoint. (2)

Chapter 3. - THE SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONTEXT OF THE PROJECT

10. Aquatic Ecology

This section should be expanded to include discussions of the dominant benthic and planktonic communities in the project area. If rooted aquatic plants are presently found in the project area, those should also be described. (3)

11. Wetlands

The vegitative species composition of the wetland areas to be affected by the project should be given in this section. (4)

Chapter 5. - THE PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

1. Secondary Impacts

This section describes only the beneficial secondary impacts associated with project implementation. Adverse secondary impacts should also be addressed. For example, by-pass construction will increase the potential for suburbandevelopment with its concomitant environmental problems.. (5)

2. Primary Impacts

c. Ecological Resources

(2) Aquatic Ecology

Page 35, para. 1 - Although estimates are given for the acreage of vegetated wetland habitat disturbed during project implementation, no such estimates are stated for submerged wetlands. The total acreage of stream and river bottom which will be dredged should be included in the Final EIS. (6)

Para. 2 - The potential adverse impacts of turbidity and siltation on fish reproduction are well stated. It should be pointed out, however, that turbidity can reduce egg-buoyancy, and consequently striped bass eggs may also become subject to siltation. (7)

In addition to turbidity and siltation, dredging causes changes in pH and oxidation-reduction potential, and reduces light penetration thereby affecting photosynthetic rates. A consequence of these physical and chemical perturbations is reduced oxygen concentrations which can

adversely affect aquatic biota.

Adverse impacts associated with dredging in vegetated and submerged wetlands will affect benthic and planktonic communities as well as finfish. A discussion of the potential impacts on other biotic components should be included in this section.

Para. 3 - We support the concept of avoiding dredging and similar activities during primary spawning periods. We concur with the proposed period of restriction, mid-March through mid-June, as presented on Page 46, para. 1.

f. Construction Impacts

(1) Choptank River and Watts Creek Bridges

Page 44, para. 3 - We support the proposal to span both the river and wetlands.

Page 45, para. 1 - It is stated that the portion of channel dredged in wetlands will be refilled; however, no consideration is given to backfilling the river portions of the channel. We recommend that the river bottom be restored to its original contour, or nearly so, to alleviate construction impacts. (8)

(2) Construction in Waterways and Wetlands

Page 48, para. 1 - We reiterate our recommendation that submerged as well as vegetated wetlands disturbed by dredging be returned to original elevations following construction. (9)

j. Water Quality

(3) Water Quality Changes from Terrain and from Highway and Bridge Surface Runoff

Although highway runoff is recognized as a serious environmental problem, no discussion is given to methods which will be utilized to control or reduce runoff, as was done in the section entitled "Construction in Upland Areas" (pages 49-51). We recommend that this section be expanded to include those measures, such as vegetated swales, sediment basins, etc., which will be used, if any, to control highway runoff. (10)

Chapter 8. - SHORT TERM USE VERSUS LONG TERM PRODUCTIVITY

2. Wetlands

Page 86, para. 4: It is stated that the Watts Creek wetlands will suffer minimal impacts if a parallel bridge is constructed, as proposed for Alternate C, while three-quarters of an acre will be destroyed should a non-parallel bridge be constructed, as proposed for Alternate F and F/1. Since a parallel bridge creates less disturbance, it should be explained why such an alignment was not considered for the F F/1 Alternate. (11)

TEGoodger:djh

cc: F53(3)
FNE
FNE623

COMMENTS

1. Restoration of submerged wetlands to original contours and marsh creation to compensate for areas destroyed will be considered during final design, in consultation with the Department of Natural Resources.

2. Alternate C, Variation 2 (the Northern Bypass) was selected for construction as the most desirable route for the following reasons:

   a) Area residents, elected officials, and planning jurisdictions favor the northern alternate;

   b) Public Hearing comments and transcript letters indicate a mandate for the northern bypass;

   c) Businesses and schools have been located to be convenient to a northern bypass route, which the MSHA had indicated on several occasions as far back as the 1960's would be the location of the Bypass.

   d) A portion of the northern bypass has been constructed to complement Denton's one-way street system and right-of-way has been purchased.

   e) From an environmental standpoint, Alternate C, Variation 2 does not take as much farmland and does not impact individual farms as severely as the Southern Alternates F and F-1.

   f) Although other environmental considerations tend to favor a southern bypass, impacts noted for the northern bypass can be mitigated.

3. No data is available on specific benthic and planktonic communities in the project area. Nick Carter, of the anadromous fisheries section of the Md. Department of Natural Resources, works at the Wye Mills laboratory and fishes extensively in the Denton area. He was unable to provide any information and was doubtful that information on benthic-planktonic communities even exists.

   Information on rooted aquatic plants in the project area are enumerated in Chapter 3, Section 12, Wetlands.

4. See Chapter 3, Section 12, Wetlands.

5. Material added to Chapter 5, Section 1 of this document.

6. Of the 1200' long crossing of the Choptank River, 500' of this length passes through vegetated, unsubmerged wetlands and another 250' through the river channel, which does not need dredging. This leaves about 450' of submerged wetlands which must be dredged, which, for a 100' wide channel is 1.03 acres of submerged wetlands. The Watts Creek bridge will be constructed from a temporary span, eliminating the need for dredging at this site. The above acreage has been noted in the Statement.

U. S. Dept. of Commerce
December 9, 1977

COMMENTS (cont'd.)

7. Comments are noted and we generally agree. As a result of consultation with the Dept. of Natural Resources, because construction will be limited to times when spawning does not occur and because care will be utilized during construction to minimize any turbidity or silting, the impacts named, including pH and oxidation reduction potential and reduced oxygen concentrations are not significant. Similarly, potential impacts on benthic, planktonic and other biotic components are not expected to be significant. See Chapter 5 Section 2c(2).

8. Restoration of submerged wetlands to original contours and marsh creation to compensate for areas destroyed will be considered during final design, in consultation with the Department of Natural Resources.

9. Restoration of submerged wetlands to original contours and marsh creation to compensate for areas destroyed will be considered during final design, in consultation with the Department of Natural Resources.

10. Material added to Chapter 5, Section k (3).

11. Alternative C Variation 2 has been selected.

192

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
6th AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

1977 DEC 12 PM 2 59

PROJECT PLANNING

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

Re: Maryland Route 404; Denton Bypass; Caroline County, Maryland

Dear Mr. Camponeschi:

We have reviewed the draft Environmental Impact Statement for the above proposed project and have classified it as ER-2 in EPA's Reference Category. We have enclosed a copy of the Definition of Codes for the General Nature of EPA comments to provide a more detailed description of this rating. Also, in accordance with our responsibilities under Section 309 of the Clean Air Act to inform the public of EPA's views on the potential environmental effects of Federally assisted actions, this rating will be published in the Federal Register.

While the draft Environmental Impact Statement gives a generally adequate overview of the project and its potential environmental impacts, we have several concerns which should be addressed in the final statement. Our comments are outlined in detail below.

Water Quality

1) We wish to commend the department upon its decision to span both the river and wetland areas, and upon the measures that will be used to control erosion and sedimentation. We are somewhat concerned, however, over the decision to dredge a 6 foot deep by 100 foot wide channel in shallow sections of the river and the wetlands to construct the bridge from barges. Although the EIS gives a comprehensive description of the

measures that will be taken to restore the marsh, and references occurrences of similar marsh restoration, EPA discourages this construction technique when it appears feasible to utilize a temporary bridge. The use of a temporary bridge would avoid the initial disruption to the marsh and furthermore, there would be less potential for disrupting possible spawning and nursery areas in the shallow water areas. For these reasons, we recommend that either temporary bridge construction techniques be used, or that Alternative F or F-1 be selected for construction, since these alternatives eliminate the need for dredging of the wetlands.

2) The final EIS should include a more detailed physical-chemical description of the smaller tributaries to be crossed (width, depth, rate of flow, Ph, DO), as well as the design of the proposed crossings (single or multiple box/pipe culverts, bridges). The final EIS should also indicate if there are any wetlands adjacent to these tributaries at the site of the proposed crossing.

3) We recommend that storm drainage be directed into vegetated areas to allow natural filtering and uptake prior to it's entrance into existing area streams.

Air Quality

1) In our January 21, 1977 review of the air analysis, EPA stated that winter meteorological conditions should be used when determining CO concentrations. Therefore, the final EIS should state what ambient temperature was assumed in the analysis. A temperature of 40° F would be appropriate. If a higher temperature was used to correspond to summer traffic levels (which may be higher due to summer recreational traffic) then the carbon monoxide level at the most impacted site in the EIS should be recalculated using winter meteorological conditions and peak winter traffic levels.

2) Our January letter also requested a more detailed discussion of the derivation of the assumed 1 and 8 hour background levels. The final EIS should, therefore, state where these levels were obtained and why they are assumed to be representative of this project area.

3) We note that the traffic levels used in the burden analysis performed in the earlier air study differ from the traffic levels in the draft EIS, and consequently, the pollutant burdens differ. In the January 10, 1977 analysis, the pollutant burden for CO, HC, and NO_x are shown to be less for the build alternatives than the no build alternative. However, in the draft EIS the burden of CO, HC, and NO_x is lower for the no build alternative in both 1982 and 2005.

In light of the fact that this project lies within the Eastern Shore Interstate Air Quality Control Region, the final EIS should discuss the relevance of these new projections. Perhaps a burden analysis should be performed for existing traffic loads to demonstrate if pollutant levels will be reduced at all if any of the build alternatives are selected.

4) We understand that Supplement No. 5 to AP-42 was used to obtain emission factors in the EIS. While this is the currently accepted source for emission factors, you should be cognizant that Supplement No. 8 is currently being prepared and may be the appropriate source when the final EIS is prepared. Any revision should include the change of the implementation years for the Federal Motor Vehicle Control Program as amended last August.

Noise Impacts

1) The draft EIS addressed noise mitigation only in terms of barrier construction. Since 23 CFR Part 772 of April 23, 1976 "Preamble to Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic and Construction Noise" expands noise abatement measures to acquisition, relocation, and/or insulation of private structures when more conventional techniques such as barriers are not feasible, the final EIS should expand its discussion to include these measures.

2) The statements that barriers are not cost-effective solutions should be verified. Cost figures should be compared to benefit figures and the derivation of each should be described. Such cost/benefit relationships should also be performed for the alternative abatement techniques described above.

We hope that this review will assist you in the preparation of the final Environmental Impact Statement. If you have any questions, or if we can be of further assistance, you may wish to contact Mr. Sam Little or Mr. William Hoffman of my staff at (215) 597-2650. We would appreciate the receipt of 5 copies of the final Environmental Statement at such time as it is filed with the Council on Environmental Quality.

Sincerely yours,

Nicholas M. Ruha, Chief
EIS and Wetlands Review Section

Response to EPA Comments on SHA Contract CO 321-019-270

Maryland Route 404, Denton Bypass

Water Quality

Comment 1 - The decision to accomplish bridge construction through the use of barges from channels dredged in Choptank River wetlands was reviewed with the Maryland Department of Natural Resources and the U.S. Fish and Wildlife Service. Preliminary acceptance of this method was indicated by both agencies. Careful consideration of time of year dredging is done, storage of spoil and wetland restoration will be coordinated with both agencies during project design.

Comment 2 - A more detailed description of small tributaries to be crossed including the type of crossing and adjacent wetlands is a part of permit action and final design.

Comment 3 - This practice is utilized wherever possible by the Maryland State Highway Administration. See Chapter 5 Section k(3) of this Document.

Air Quality

Comment 1 - The EPA HIWAY program used to calculate near field CO concentrations does not contain dispersion parameters specifically denoted "winter meteorology". It does contain categories A through F, from good to poor dispersion. The calculation of near field CO was done at 75°F and with dispersion type F, the poorest dispersion category.

Since summer peak traffic levels were assumed, it is appropriate to use summer temperature and poorest dispersion for most realistic modelling. We have therefore not used 40°F for emission factors since the summer traffic loads more than compensate for the slightly higher emission at 40°F.

Comment 2 - Concerning background carbon monoxide data is answered in Chapter 5, Section i, Air Quality in this Document.

Comment 3 - Concerning changes in traffic data: The traffic data utilized in the initial air quality report was in error. The Draft E.I.S. document and the revised air quality report used revised data, which is both current and correct. There are no significant changes to the revised air quality data used in the Draft E.I.S.

Comment 4 - Comment noted. Supplement 5 was used.

Noisc Impacts

Comments 1 & 2 - The Federal Highway Administration, "Procedures for Abatement of Highway Traffic and Construction Noise", FHPM 7.7.3 does permit the use of extraordinary noise abatement measures. The regulations do not require that these measures be employed. Their use is left to decision of individual states. The Maryland State Highway Administration has made very limited use of some of these measures where an isolated severe impact occurs. Widespread application of these measures covering all impacted areas on each project is not considered to be the use for which the measures were intended.

There are numerous difficulties inherent to widespread application of these measures. The Maryland State Highway Administration will consider use of these measures on a limited case by case basis on this and future projects. Their use as an alternate mitigation solution at each impacted noisc sensitive area will not be utilized for cost comparison, etc.

198

Maryland Historical Trust

M E M O R A N D U M

TO: Venus Vaughn

DATE: December 13, 1977

FROM: George J. Andreve, Architectural Historian

SUBJECT: 78-10-419, SHA Draft EIS for Maryland Route 40

Alternate C as presented in the Draft EIS is a modification of the proposed alternatives presented to the Trust before John Pearce's letter of October 21, 1977 to Eugene T. Camponeschi. That letter is included in the appendix of the Draft EIS. Alternate C is regarded as being more intrusive, especially visually, in Plain Dealing than any of the other routes.

GJA/lkm

RESPONSE: Alternate C Variation 2 has been selected for construction.

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

199

BOARD OF EDUCATION OF CAROLINE COUNTY
Denton, Maryland

December 13, 1977

POSITION PAPER ON DENTON BYPASS PROPOSALS

At a regularly scheduled meeting of the Board of Education on Tuesday, December 6, 1977, the Board went on record favoring the proposal for a northern bypass for Denton. Specifically, the Board favors Alternate C with Variations 1 or 2.

The Board has taken this position for the following reasons:

1) It vastly improves the access roads to North Caroline High School, the largest of Caroline's two senior high schools. It also fulfills a promise by the State Roads Commission to an eighteen-member citizens site committee who picked the site for North Caroline in 1958. The site was picked primarily because a new northern bypass, promised within a few years for Denton, would give the location good accessibility.

2) The Board opposes the southern bypass, Alternate F and Alternate C - Variation 3, because either road would interfere with the operation of Denton Elementary School. Both the access and noise factors are objectionable to the Board.

3) The Board also believes that the northern bypass would take more of the Delaware-bound truck traffic out of Denton, thus, improving traffic conditions in the town, and safety for the ten school busses serving Riverview Middle School.

The Board hopes its position on this matter will be given serious consideration when the final decision is made on the location of the Denton Bypass.

Walter B. Palmer, Jr.
President

Wilbur S. Hoopengardner
Superintendent of Schools

RESPONSE: Alternate C -Variation 2 has been selected for construction.

200

KENT, OGLETREE & THORNTON
ATTORNEYS AT LAW
110 MARKET ST. — P. O. BOX 560
DENTON, MARYLAND 21629

ROLAND C. KENT
ANNE C. OGLETREE
ROBERT A. THORNTON, JR.

PHONE
479-2570

December 15, 1977

Mr. Frederick Gottemoeller
Director, Office of Planning &
Preliminary Engineering
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Gottemoeller:

I enclose a complete list of the persons on whose behalf I spoke at the Public Meeting held December 13, 1977 at North Caroline High School concerning the Denton By-Pass. The following list should be:

Wayne A. Cawley, Sr.
Wayne A. Cawley, Jr.
Wayne A. Cawley, III
Charles C. Cawley
Lance C. Cawley
Gail Cawley
Jane Cawley
Gay Cawley
Steven Sharp
Lynn Cawley
Mr. & Mrs. Melvin Brown
Mr. & Mrs. Andrew Myers
Mr. & Mrs. Robert Serviss, Jr.
Mr. Donald Weir

This information is furnished to you as promised in my statement given during the December 13th Public Meeting.

Sincerely,

Anne C. Ogletree

Anne C. Ogletree

bk
cc: Mr. James M. Wright
District Engineer
District 2
State Highway Administration
P. O. Box 299
Chestertown, Maryland 21620

Mr. Wayne Cawley

RESPONSE: No comment required.

201

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

4321 Hartwick Road, College Park, Maryland 20740

December 15, 1977

Mr. Frederick Gottemoeller, Director
Office of Planning and Preliminary Engineering
State Highway Administration
Maryland Department of Transportation
P.O.Box 717, 300 West Preston Street
Baltimore, Maryland 21203

Dear Mr. Gottemoeller:

Thank you for the opportunity to review the Draft Environmental Statement for the proposed Maryland Route 404 Denton By-Pass relocation or reconstruction. In our review we were unable to find any consideration of the impact of any of the alternatives on prime agricultural land. We feel that this consideration should be weighed in the final Environmental Statement and in final selection of alternative. The authority for this request is in the Council on Environmental Quality of August 30, 1976 to the heads of agencies. Attached you will find a list of soils which have been designated as prime agricultural land in Caroline County. (1)

We noted that you gave a good write-up on sediment control during construction but we were unable to find any reference to maintenance of the sediment control measures throughout the construction phase. We suggest a statement on maintenance be added in the final E.I.S. (2)

Sincerely,

Tommie J. Holder

Gerald R. Calhoun
State Conservationist Acting

cc: Administrator, R. M. Davis
Council on Environmental Quality
Environmental Services Division
Charles Hammer, Chairman, Caroline SCD

Mapping Units From the Caroline County Soil Survey Classified as Prime Agricultural Land

Map Symbol	Mapping Unit
MkA	Matapeake silt loam, 0 to 2 percent slopes
MkB2	Matapeake silt loam, 2 to 5 percent slopes, moderately eroded
MsA	Mattapex silt loam, 0 to 2 percent slopes
MsB2	Mattapex silt loam, 2 to 5 percent slopes, moderately eroded
SaA	Sassafras loam, 0 to 2 percent slopes
SaB2	Sassafras loam, 2 to 5 percent slopes, moderately eroded
ShA	Sassafras loam, heavy substratum, 0 to 2 percent slopes
SnA	Sassafras sandy loam, 0 to 2 percent slopes
SnB	Sassafras sandy loam, 2 to 5 percent slopes
SnB2	Sassafras sandy loam, 2 to 5 percent slopes, moderately eroded
SsA	Sassafras sandy loam, heavy substratum, 0 to 2 percent slopes
SsB	Sassafras sandy loam, heavy substratum, 2 to 5 percent slopes
WdA	Woodstown loam, 0 to 2 percent slopes
WdB2	Woodstown loam, 2 to 5 percent slopes, moderately eroded
WoA	Woodstown sandy loam, 0 to 2 percent slopes
WoB	Woodstown sandy loam, 2 to 5 percent slopes
WoB2	Woodstown sandy loam, 2 to 5 percent slopes, moderately eroded

United States Dept. of Agriculture
December 15, 1977

RESPONSE:

1. A map of prime agricultural land, as well as write-ups concerning agricultural land has been added to the Final E. I. S. document. These writeups conclude that the selected Alternate will have considerably less impact on both prime agricultural land and existing farm operations than either of the two southern alignments, F and F-1.

2. A statement on maintenance of sediment control throughout the construction phase of the project has been added to the Final E. I. S. document. This is normally also specified in the Special Provisions for any M. S. H. A. construction contract.

December 21, 1977

Mr. Frederick Gottemoeller
Director
Office of Planning & Preliminary Engr.
300 West Preston Street
Baltimore, Maryland 21201

Dear Sir:

In consonance with your November 8, 1977 Public Notice; Maryland Department of Transportation, State Highway Administration; the following facts and statements are submitted for your consideration.

It has been determined unequivocally that public officials and citizens of Caroline County and Denton, Maryland, want Alternate C, which by-passes the town of Denton to the north.

To substantiate this statement, we emphasize the following have approved Alternate C:

Commissioners of Caroline County
Commissioners of the Town of Denton
Mayor of Denton
County Planner
Superintendent of Caroline County Schools
Caroline County Board of Education
Rotary Club
Womens Club
Caroline County Retired Teachers Association
Christ Episcopal Church
St. Luke Methodist Church
County Planning & Zoning Commission
A Group of Caroline County Farmers

Further, a recent survey by a local newspaper, The Journal, of 15 Market Street merchants indicates 10 favored Alternate C and 2 were non-committal.

Also, may we point out that North Caroline High School was built at its present site in 1959 on the promise that a by-pass, when and if constructed, would be built in close proximity to this school. The construction of Alternate C satisfies this anticipated plan.

Local opinion indicates that about 90% of the approximately 200 persons attending the December 13, 1977 public hearing wanted Alternate C.

Accordingly, we request that further slippage be unhinged and the State Highway Administration proceed with all dispatch to construct Alternate C.

We compliment the State Highway Administration for its excellent presentation at the December 13, 1977 public hearing at North Caroline High School and take this opportunity to thank Mr. James Wright and Mr. Vaughn Hutson for the assistance and cooperation rendered during local consideration of this matter.

Very truly yours,

J. R. Walsh
Chairman
Northern By-Pass Committee

bk

cc: The Honorable Acting Governor Blair Lee
The Honorable Secretary of Transportation Herman K. Intemann
The Honorable Delegate John Hargreaves
The Honorable Delegate William Horne
The Honorable Delegate W. Henry Thomas
The Honorable Senator Frederick Malkus
Bernard Evans, Administrator, State Highway Administration
James Wright, District Engineer, State Highway Administration
Vaughn Hutson, Resident Maintenance Engineer
Caroline County Commissioners
Town of Denton Commissioners

RESPONSE: **Alternate C Variation 2 (the Northern Bypass) has been selected for construction.**

206

1977 DEC 23 AM 11 41

December 21, 1977

[illegible] HIGHWAY
ADMINISTRATION
PROJECT PLANNING

Director
Office of Planning & Preliminary Engr.
300 West Preston Street
Baltimore, Maryland 21201

Dear Sir:

The names of the persons comprising the Committee for the Northern By-Pass are submitted herewith in accordance with the statement made by James Voss at the December 13, 1977 Public Hearing at North Caroline High School conducted by the Maryland Department of Transportation, State Highway Administration.

Very truly yours,

Q R Walsh

O. R. Walsh
Chairman
Northern By-Pass Committee

bk

cc: James Voss

[illegible]

[illegible]

RESPONSE: No response necessary.

NAMES OF COMMITTEE

Quentin Walsh, Chr.
James Chaffinch
Eleanor Horsey
Charles Moore
James M. Voss
W. A. Stewart Wright, Jr.
John Asher
Homer Wayman
Louise Crouse
Rebecca Lane
J. D. Neal
Francis Yoeman
Ron Kent
Mary Ann Kent
John Burgess
Donald Trice
Sonya Feline
Mary Jo Shaffer
Lillian Hoare

Andrew Myers
Margaret Myers
Ernest Cooper
Frances Lee Cooper McCormick
J. Owen Wise
Francis Rogers
Herman Keen
Clayton Long
Pierce Adams
Richard Wilson
Gary Schoonover
Milton Godfrey
Paul Johnson
Ethel Johnson
Joyce Ellsworth
Talbert Rowe
Gordon Walls
Dorsey Wooters
George Clendaniel

208

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230
(202) 377-4335

December 22, 1977

1977 DEC 27 AM 11 13

...WAY
ADMINISTRATION
PROJECT PLANNING

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

Dear Mr. Camponeschi:

This is in reference to your Administration's draft environmental impact statement entitled "Maryland Route 404 Denton By-Pass from West of Maryland Route 328 to Maryland Route 16 South of Denton Caroline County, Maryland." The enclosed comments from the National Oceanic and Atmospheric Administration are forwarded for your consideration.

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

Sincerely,

George S. Gordon

for Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure: Memo from William G. Gordon
NOAA-National Marine Fisheries Service

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
COMMANDER (oan)
FIFTH COAST GUARD DISTRICT
FEDERAL BUILDING
431 CRAWFORD STREET
PORTSMOUTH, VIRGINIA 23705
PHONE: (804) 393-9611

16591

28 DEC 1977

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

Dear Mr. Camponeschi:

The Draft Environmental Impact Statement (DEIS) for Maryland Route 404, Denton By-Pass (F.A.P. No. RF 914-1(1), forwarded by Mr. F. Gottemoeller's letter of November 4, 1977, has been reviewed.

The following comments are offered:

a. The DEIS did not discuss the impacts on navigation in sufficient detail. The Final Environmental Impact Statement (FEIS) should discuss the impact of the project on navigation for both the Choptank River and Watts Creek.

b. A Coast Guard bridge permit will be required for each crossing of the waterways.

c. The following specific references to the Choptank River bridge were noted:

1. Pages 44 and 45 - "Construction of the bridge will be from barges". The creation of any work channel will require a Corps of Engineers permit.

2. Page 66 - "At Alternate C, vertical clearance will be 20 feet and horizontal channel clearance 40 feet under the bridge". The clearances listed may not meet the reasonable needs of navigation. Minimum clearances for navigational openings must be predicated upon the reasonable needs of maritime interests; these can be determined only after thorough analysis of each situation including public response.

3. Page 69 - "Accordingly, the bridge on Alternate F would provide a vertical clearance of 35 feet and horizontal channel clearance of 100 feet. The approval of these horizontal and vertical clearances is, as mentioned before, the responsibility of the U.S. Coast Guard". The clearances listed appear to meet the reasonable needs of navigation at this location. Minimum clearances for navigational openings must be predicated upon the reasonable needs of maritime interests; these can be determined only after thorough analysis of each situation including public response.

d. The following specific reference to Watts Creek was noted:

1. Pages 44 and 45 - "Barges cannot be used at Watts Creek because of the limited depth and width of the creek; therefore, a temporary timber structure will be utilized". If the temporary structure is to be other than a bridge, a Corps of Engineers permit may be needed. If the temporary structure is to be a bridge, it must be included in the application for a Coast Guard bridge permit.

Sincerely,

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

RESPONSE

Alternate C Variation 2 has been selected for construction. The Final E.I.S. document addresses only this selected alternate.

There will=be no impacts upon navigation on either waterway during the construction of the project. The navigational clearance for the Choptank River Bridge has been revised since the circulation of the Draft Environmental Impact Statement. The clearances may be modified further as coordination continues with the Coast Guard. See pages 6 and 32 for further information.

211

United States Department of the Interior

Northeast Region
15 State Street
Boston, Massachusetts 02114

December 30, 1977

ER-77/993

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

Dear Sir:

This is in response to a request for the Department of the Interior's comments on the draft environmental statement for Maryland Route 404 (Denton By-pass) in Caroline County, Maryland. These comments are provided in accordance with the National Environmental Policy Act.

General Comments

The draft statement adequately addresses cultural, hydrologic and fish and wildlife resources.

We note that alternates "F" and "F-1" would both be constructed within a mile of Martinak State Park. The document mentions that present access to Martinak State Park is from existing Route 404 and Deep Shore Road. Therefore, in order to improve access to the park, an interchange might be constructed at the new "F" or "F-1" alignment and Deep Shore Road. This interchange would not only improve access to the park, but would help compensate for the fact that existing access to the park might be temporarily inhibited, due to highway construction at the northwest corner of the park if these alternates are selected. (1)

Federal Highway Administration Policy and Procedure Memorandum 90-5, advocates the "joint development of highway corridors and multiple use of roadway properties." For example, Construction Provision 2(d) of the PPM states that certain development is eligible for funding such as "increased span length for structures or modifications or variation of structures or highway cross section where such would promote and encourage desirable public and/or private uses of land area beneath, over, and adjacent to the highway." A boat ramp adjacent to the new Choptank (2)

212

River bridge would be a significant recreation enhancement to the area. Additional support for this recommended action can be found in Section 147 of the Federal Aid Highway Act of 1976 (Public Law 94-280). That Section makes specific provision for situations of this kind. As shown on the DEIS maps, the bridge planned for alternates "F" and "F-1" is approximately one-half mile upstream from the park boundary. We suggest consultation with appropriate county or state officials on this matter. The final statement should contain evidence of this consultation and consideration of such public access facility.

The State Highway Administration has previously consulted with the U. S. Fish and Wildlife Service regarding the proposed bridges. The Service suggested that the alternatives of using mats or mats with causeways when working in wetlands in lieu of dredged channels be investigated. This is not discussed in this statement and should be addressed in the final statement. (3)

Based on the information presented in the statement, the U. S. Fish and Wildlife Service's most probable position on future Corps of Engineers and Coast Guard permits for bridge construction would be one of concurrence provided safeguards to avoid damage to wetlands and fishery resources and/or mitigative features to restore or enhance these public resources are made part of the project plans. Alternates "F" and "F-1" appear to offer the greatest potential for enhancement of recreational resources while having the least potential for harm to public fish and wildlife resources.

Sincerely yours,

William Patterson

William Patterson
Regional Environmental Officer

U.S. Department of the Interior
December 30, 1977

RESPONSE

1. Alternate C Variation 2 has been selected for construction.

2. Opportunities for multiple use of the area adjacent to the Choptank River Bridge for selected Alternate C are poor. Access to a park area or boat launching area would have to be developed across private property; there is no existing access to these sites at either end of the bridge. The west bank is wetlands, which must be protected and is, at any rate, unsuitable for these uses. Meetings with the Department of Natural Resources and with local planners have unearthed no proposals for joint development of the river crossing area. It is noted that there is an existing park with public boat launching facilities adjacent to the existing Md. 404 bridge on the eastern bank of the Choptank River.

3. The method of bridge construction from barges that requires 100' wide by 6' deep dredged channels was discussed with personnel of the Department of Natural Resources at a meeting on September 23, 1976. The discussions also included several other possibilities for crossing the Choptank, including:

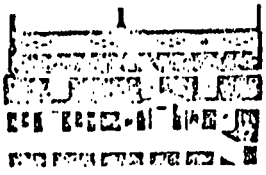
   a. filling across the wetlands to shorten the length of bridge required.

   b. temporary earth filling of the wetlands.

   c. construction of a temporary bridge.

   d. matting.

   In view of the success recently attained in refilling marshlands, the Department of Natural Resources reacted favorably to the dredge channel construction method as being the least damaging. See Department of Natural Resources letter dated October 15, 1976.



Maryland Historical Trust

March 13, 1978
[illegible] MAR 15 AM 9 29

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

[illegible] DAY
[illegible] TRATION
PROJECT PLANNING

Re: Contract No. CO 321-019-270
Denton By-Pass Md. Route 404

Dear Mr. Camponeschi:

The State Historic Preservation Office would concur with the Federal Highway Administration in a determination of no effect for historic properties on the above referenced project.

Sincerely,

Nancy A. Miller
Deputy State Historic
Preservation Officer

NAM:do

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

Maryland Historical Trust

October 4, 1978

MEMO

TO: Gene Camponeschi

FROM: Nancy Miller NM

RE: Archeological Sites
Denton By-pass (Md. Route 404)

The State Historic Preservation Office concurs with the State Highway Administration that the selcted alignment for the Denton By-pass will not impact archeological sites eligible for inclusinn in the National Register of Historic Places. (36 CFR Part 800.4a) No archeological sites eligible for listing on the NationalRegister exist in the selected alignment.

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STATE HIGHWAY ADMINISTRATION PROJECT PLANNING

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