



final environmental statement

SECTION 4 (f) STATEMENT

CONTRACT No. B 818-11-471
F.A.P. No. F 166-1(6)
MARYLAND ROUTE 43
(WHITEMARSH BOULEVARD)
FROM I-95 To
PROPOSED PERRING FREEWAY

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

REPORT NUMBER: FHWA-MD-EIS-73-03-F

MARYLAND ROUTE 43
(WHITE MARSH BOULEVARD)
I-95 TO PROPOSED PERRING FREEWAY
BALTIMORE COUNTY

ADMINISTRATIVE ACTION
FINAL ENVIRONMENTAL/SECTION 4(f) 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) and (when applicable) 49 U.S.C. 1653(f) and 16 U.S.C. 470(f).

Bernard M. Evans
State Highway Administrator

Date

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

Date

By: _____
Federal Highway Administration
Division Engineer

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ACKNOWLEDGMENTS

FUNK, FLETCHER AND THOMPSON, INC. wishes to express its deep appreciation for the assistance, information, and contribution from the following sources:

STATE OF MARYLAND

State Highway Administration

Bureau of Accident Statistics and Analysis

Bureau of Highway Planning

Bureau of Highway Design

Bureau of Landscape Architecture

Bureau of Location and Surveys

Bureau of Project Planning

Bureau of Soils and Foundation

Department of Health and Mental Hygiene

Environmental Health Administration

Bureau of Air Quality Control

Maryland Park Service

BALTIMORE COUNTY

Baltimore County Planning Board

Department of Public Works

Department of Recreation and Parks

Extension Agent, Agricultural Science

BALTIMORE CITY

Department of Recreation and Parks

INSTITUTIONS

Maryland Academy of Science

St. Joseph's Church and School

Baltimore Fish & Game Protective Association

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SUMMARY SHEET

(1) ADMINISTRATION ACTION:

- () Draft (X) Final
- () Environmental Statement
- (X) Combination Environmental/Section 4(f) Statement

(2) DESCRIPTION:

The subject proposed project is the extension of Maryland Route 43 (White Marsh Boulevard) from existing interchange at I-95 (John F. Kennedy Memorial Highway) westerly for approximately 5.4 miles to interchange at proposed Perring Freeway. According to the State Highway Administration's Primary Construction and Reconstruction Program, the initial construction will consist of a four (4)-lane divided highway from I-95 to U.S. Route 1. The proposed project is in the Eleventh Election District, Baltimore County, Maryland.

The primary purpose of the project is to provide a fundamental link in the total system of highways serving the area between U.S. Route 1 (Belair Road) and U.S. Route 40 (Pulaski Highway) north of Interstate Route 695 (Baltimore Beltway).

(3) SUMMARY OF ENVIRONMENTAL IMPACT:

The construction of a highway of this magnitude will result in both beneficial and adverse environmental effects. The beneficial effects would be improved safety and convenience for the traveling public and the enhancement of economic activity in the area. The adverse effects would be the loss of some park land and the necessity to acquire houses and businesses for the construction of this project.

A brief Environmental Impact Summary follows:

- (a) Safety and efficient transportation - excellent, accident rate will be substantially reduced.

- (b) National Defense - affords better mobility and provides an efficient evacuation route in the event of an enemy attack.
- (c) Economic Activity - in the long term will be promoted through improved accessibility. In the short term, however, it will be adversely affected through displacement of some people and a few businesses.
- (d) Recreation and Parks - some land taking from Gunpowder State Park will be required.
- (e) Aesthetics - open and free flowing view combined with landscaping offers opportunity for improvement, especially beneficial for the barren territory.
- (f) Fire Protection - response by fire department will be faster through improved accessibility.
- (g) Public Utilities - no significant adverse effect, although some utility facilities will require relocation or adjustment.
- (h) Public Health and Safety - provides rapid access to hospitals located in nearby metropolitan centers.
- (i) Neighborhood Character and Location - the necessity of taking some residences and a few businesses would not significantly change the character and location of the neighborhood.
- (j) Minority Groups - not identifiable in the subject study area and hence no adverse effects will be anticipated.
- (k) Religious Institutions and Practices - the proposed interchange at U.S. Route 1 is close to St. Joseph's Church but no significant adverse effect is expected.
- (l) Conservation - no significant natural resources will be affected.
- (m) Natural and Historical Landmarks - no adverse effects.

- (n) Noise, Air and Water Pollution - significant temporary adverse effects during the period of construction; however, effective remedial measures are available.
- (o) Property Values - no adverse effect.
- (p) Multiple Use of Space - not planned.
- (q) Education - the proposed Hines Elementary School site and St. Joseph's School are close to the recommended alignment E; however, no significant adverse effect is anticipated.
- (r) Replacement of Housing - due to the availability of housing in the nearby area, no problems are expected.

(4) ALTERNATIVES CONSIDERED:

Two (2) basic alignments were used with a total of ten (10) combinations from these basic lines. Some of these alternates involve different crossings of U.S. Route 1; some of the alternates avoid damage to nearby parks. A Do-Nothing alternate was also considered.

Due to coordinated planning between Baltimore County and the State, the location of this project has been generally established and various adjustments could be made during the design stage to the recommended Alignment E wherever feasible and prudent to minimize any adverse effects, especially in the area of Gunpowder State Park.

(5) COMMENTS REQUESTED FROM THE FOLLOWING:

(Asterisk denotes written comments received)

Agency Comments on Page(s)	SHA Responses on Page(s)
----------------------------------	--------------------------------

FEDERAL GOVERNMENT

* U.S. Department of Transportation	X.81-83	I.32-35
U.S. Department of Housing and Urban Development		
* U.S. Department of Agriculture	X.63	I.6
U.S. Department of Commerce		

	Agency Comments on Page(s)	SHA Responses on Page(s)
* U.S. Department of the Interior	X.69-74	I-13-19
* U.S. Department of Health, Education and Welfare	X-68	I.12
* U.S. Environmental Protection Agency	X.75-80 & X.108	I.19-23 & I.47
<u>MARYLAND STATE GOVERNMENT</u>		
* State Clearinghouse	X.104-105	I.47
Maryland Historical Trust		
* Department of Natural Resources	X.103	I.45-47
Water Resources Administration		
* Department of Juvenile Services	X.64	I.6
Department of Transportation		
* Bureau of Air Quality Control	X.57-60 & X.106-107	I.2-5 & I.47
* Interagency Committee for the Public School Construction Program	X.56	I.1-2
* Department of Economic and Community Development	X.61	I.5
<u>OTHER GOVERNMENT AGENCIES</u>		
* Baltimore Regional Planning Council	X.84-102	I.36-45
* Baltimore County Department of Public Works	X.100-101	I.10-11
* Baltimore County Department of Recreation and Parks	X.102	I.11
* Baltimore County Office of Planning and Zoning	X.66-67	I.6-10
Baltimore County Board of Education		
* Baltimore City Department of Planning	X.92-99	I.23-32
* Baltimore City Department of Recreation and Parks	X.54	I.1

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	<u>Agency Comments on Page(s)</u>	<u>SHA Responses on Page(s)</u>
* Harford County Department of Planning and Zoning	X.89-90	I.12
* Harford County Department of Public Works	X.91	I.12

Local Elected Officials

- (6) Copies of the Draft Statement were mailed to the Council on Environmental Quality through the Federal Highway Administration on February 26, 1973.
- (7) Subsequent to the circulation of the Draft Environmental Impact Statement, the Draft Air Quality Supplemental Statement was prepared in accordance with the Federal Aid Highway Program Manual, Volume 7, Chapter 7, Section 9.

FINAL ENVIRONMENTAL IMPACT STATEMENT

WHITE MARSH BOULEVARD (I-95 to Proposed Perring Freeway)

FHWA-MD-EIS-73-03-F

CONTRACT NO. B 818-11-471

A. PROJECT DESCRIPTION

1. LOCATION

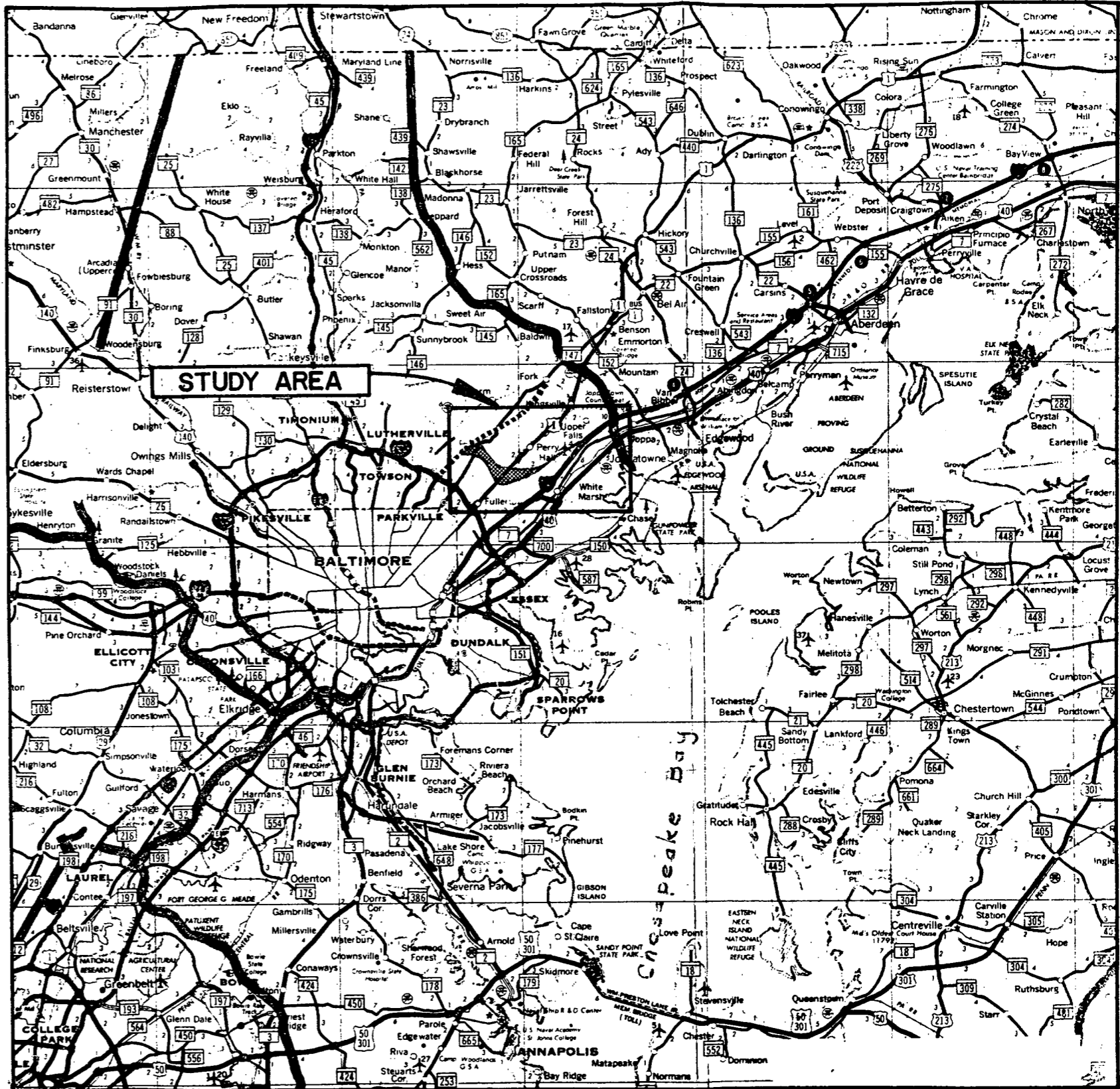
This proposed project, entirely located in the Northeast Sector of Baltimore County, will be the extension of Maryland Route 43 currently called White Marsh Boulevard from the existing interchange with John F. Kennedy Memorial Highway (I-95) northward to the proposed Perring Freeway. (Exhibit 1)

The proposed corridor is approximately two and one-half miles to the north of Baltimore Beltway (Exhibit 2) and is located south of Perry Hall, otherwise the project would create a maximum adverse effect upon the school and residential developments of Perry Hall. Referring to Exhibit 16, the recommended route "E" (or A-E-C from Point 1 to Point 3) of the proposed White Marsh Boulevard is also the alignment shown on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan. The existing I-95 - White Marsh Interchange must be used because a new interchange with I-95 north of Perry Hall cannot be considered due to the spacing required for the proposed Outer Beltway - I-95 Interchange, under study by the State Highway Administration.

The length of this project will vary from 4.8 to 5.9 miles in length, depending on which of the alternative routes under study is selected.

2. PURPOSE

The purpose of this project could be generally summarized as the following:



LOCATION MAP

STATE HIGHWAY ADMINISTRATION

**ENVIRONMENTAL IMPACT STUDY
WHITEMARSH BLVD. (Md. Rte. 43)**



**PREPARED BY
FUNK, FLETCHER & THOMPSON, INC.
ARCHITECTS, ENGINEERS & PLANNERS
LUTHERVILLE, MARYLAND.**

SCALE IN MILES

(a) To provide a fundamental link in the total system of highways serving the area between Maryland Route 147 (Harford Road) and U.S. Route 40 (Pulaski Highway) north of I-695 (Baltimore Beltway).

(b) To serve as a distributor of traffic between the new land developments in the area and the major radial highways with adequate design capacity.

(c) To provide access for local residents to and from the many industrial installations in eastern Baltimore County.

(d) To relieve the Baltimore Beltway traffic overload between Perring Parkway and the I-95 Interchange and also I-95 from the Beltway to Maryland Route 43.

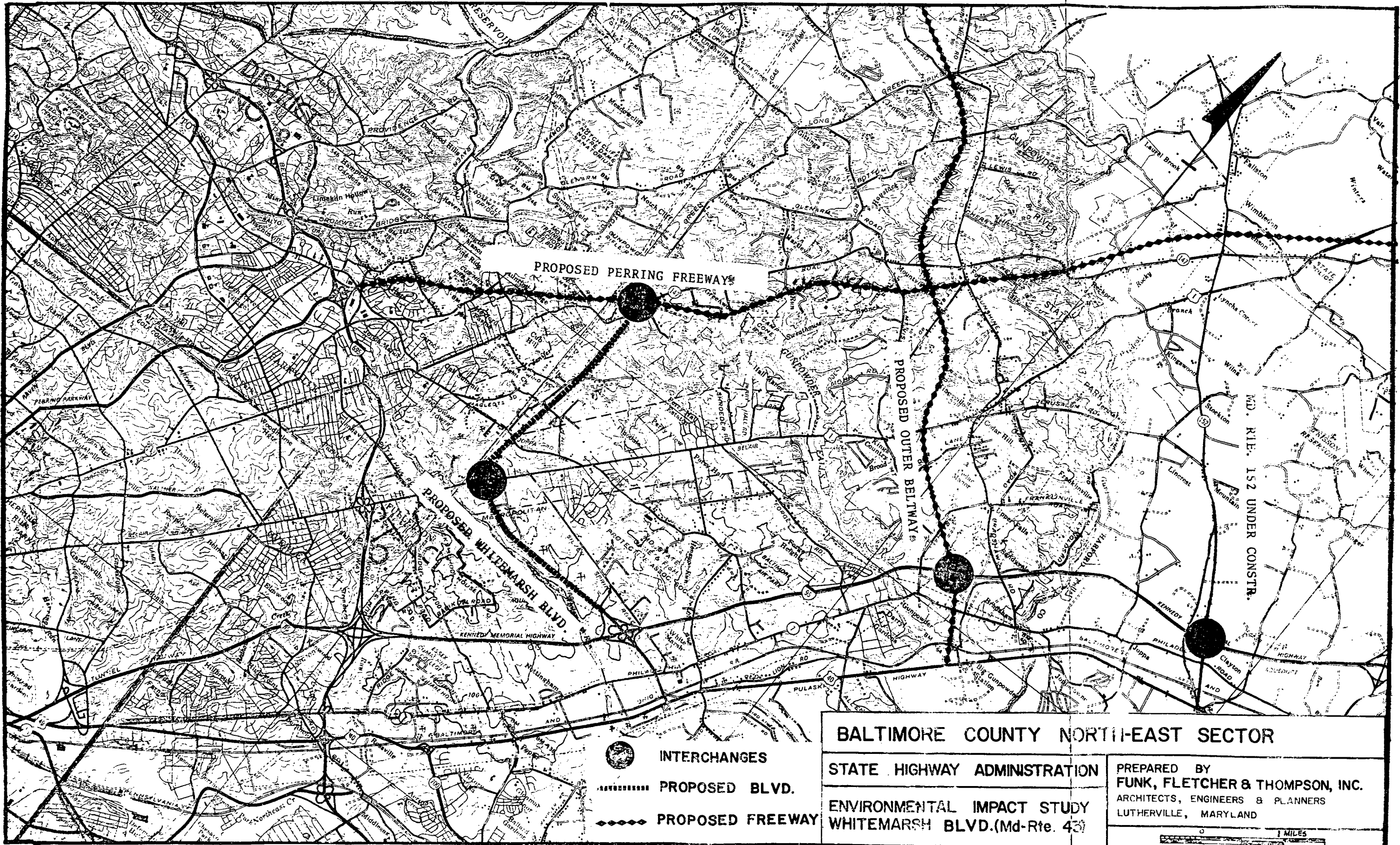
(e) To utilize the only local-to-freeway interchange access to I-95 in Baltimore County.

(f) To meet the demand of the projected traffic volumes and patterns expected to increase in the subject area.

The first phase would comprise that section from I-95 to U.S. Route 1 (2.4 miles ±) which is scheduled for construction in Fiscal Year 1977 according to the latest State Highway Improvement Program for Primary Projects for Fiscal Years 1975 - 1979.

The portion of White Marsh Boulevard from U.S. Route 1 to Perring Freeway is a planned facility. It has not been programmed for engineering nor construction. It is shown in the latest 20-Year Highway Needs Study 1975 - 1994 for non-critical projects.

Baltimore County's long-range planning for future growth anticipates the possibility that White Marsh Boulevard may be extended northwestward from Perring Freeway. Though no definite location has been studied, it could serve as a radial connector between Interstate 83 and the northeastern and eastern sections of the County, thus relieving possible future traffic congestion on the Baltimore



Beltway, I-695. White Marsh Boulevard will also be extended southeastward from U.S. 40, where it now ends, to Eastern Avenue (Maryland Route 150). These eventual extensions of White Marsh Boulevard (wholly or in part) would greatly increase its usefulness to serve residential, commercial, and industrial traffic relating to the ultimate development of northeastern and eastern Baltimore County.

3. DESIGN CRITERIA

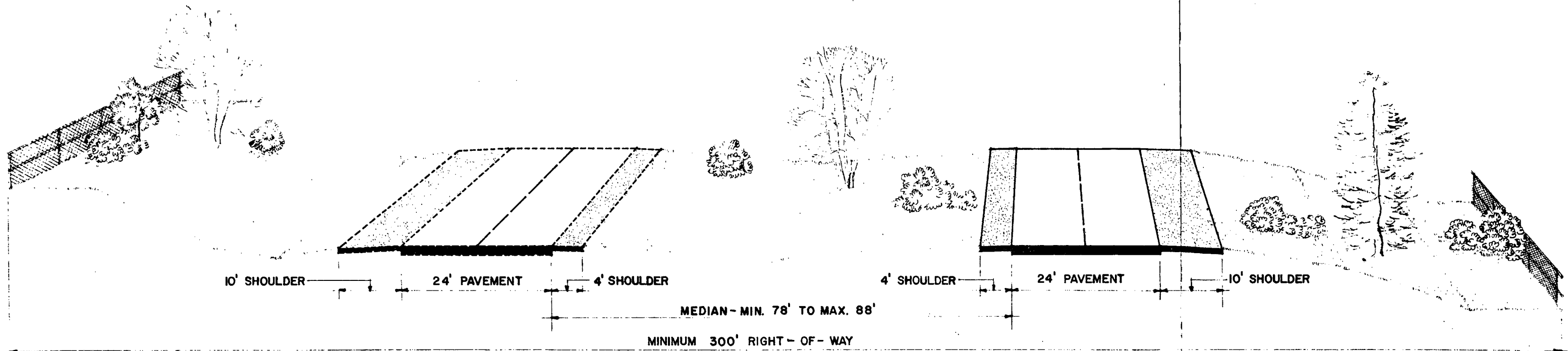
The basic criterion for the alignment studies within the corridor is for a multi-lane, wide median highway with a proposed minimum right-of-way width of 300 feet. A proposed typical roadway section is shown on Exhibit 3. The design speed for this project is 70 miles per hour.

All design criteria will be in conformance with the latest A.A.S.H.T.O. standards. Maximum horizontal curvature, excluding interchange ramps, will be 3 degrees. Maximum vertical grade will not be more than 4%.

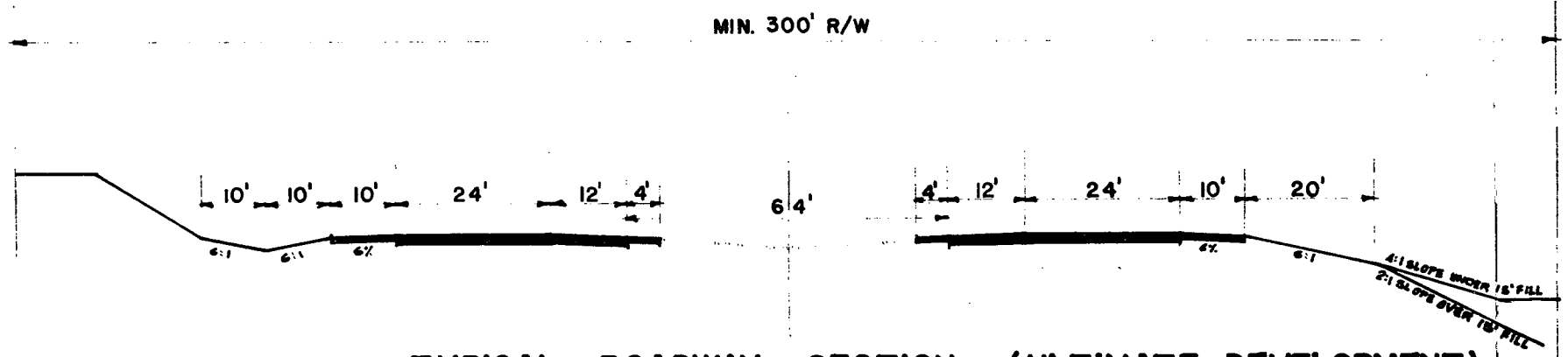
The functional classification of White Marsh Boulevard is a major arterial highway with full control of access. The design criteria for the section between I-95 and U.S. Route 1 will be an expressway or freeway by A.A.S.H.T.O. standards, with access only through interchanges now proposed at U.S. Route 1, the proposed Radecke Avenue and off ramp only at the proposed Perry Hall Road. The section between U.S. Route 1 and Perring Freeway will be a controlled access arterial highway, where access to White Marsh Boulevard can be made by interchanges and/or minimally spaced at-grade intersections with major crossroads as traffic warrants and design criteria dictate.

4. TRAFFIC DATA

Exhibits 5 and 6 show existing and projected Annual Average Daily Traffic and turning movements for the years of 1971, 1978, and 1996, respectively, for the major roads in this project corridor. Other traffic design data for White

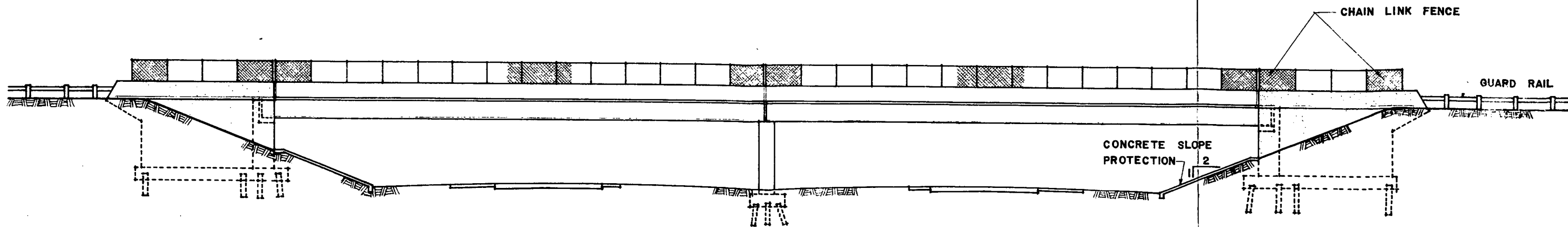


TYPICAL ROADWAY SECTION

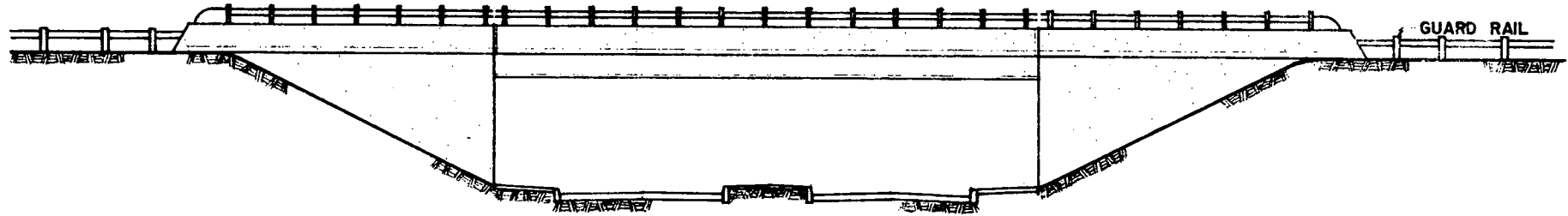


TYPICAL ROADWAY SECTION (ULTIMATE DEVELOPMENT)

TYPICAL ROADWAY SECTION	
STATE HIGHWAY ADMINISTRATION	PREPARED BY: FUNK, FLETCHER & THOMPSON, INC.
ENVIRONMENTAL IMPACT STUDY WHITEMARSH BLVD. (Md-Rte. 43)	ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND



WHITEMARSH BLVD. UNDER



WHITEMARSH BLVD. OVER

NOTES

ARCHITECTURAL TREATMENT OF STRUCTURES SHALL CORRESPOND TO THAT OF SIMILAR STRUCTURES IN THE GENERAL AREA.

MINIMUM VERTICAL CLEARANCES

- FREEWAY UNDER 16'-4"
- FREEWAY OVER U.S. & STATE HWYS 16'-4"
- FREEWAY OVER OTHER SURFACE STREETS 14'-6"

HORIZONTAL CLEARANCES

- FREEWAY UNDER - MINIMUM 30' FROM THE EDGE OF ROADWAY PAVEMENT
- FREEWAY OVER - CLEARANCE SHALL MEET REQUIREMENTS OF AGENCY HAVING JURISDICTION.

PROPOSED TYPICAL STRUCTURES

STATE HIGHWAY ADMINISTRATION	PREPARED BY: FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND.
WHITEMARSH BLVD. (Md.Rte. 43)	

Marsh Boulevard between I-95 and the proposed Perring Freeway is shown below:

- D.H.V. (Design Hour Volume).....11% of A.D.T.
(Average Daily Traffic)
- D.D. (Directional Distribution).....60%
- Truck Traffic (T/A.D.T.)..... 8%
- Truck Traffic (T/D.H.V.).....4%

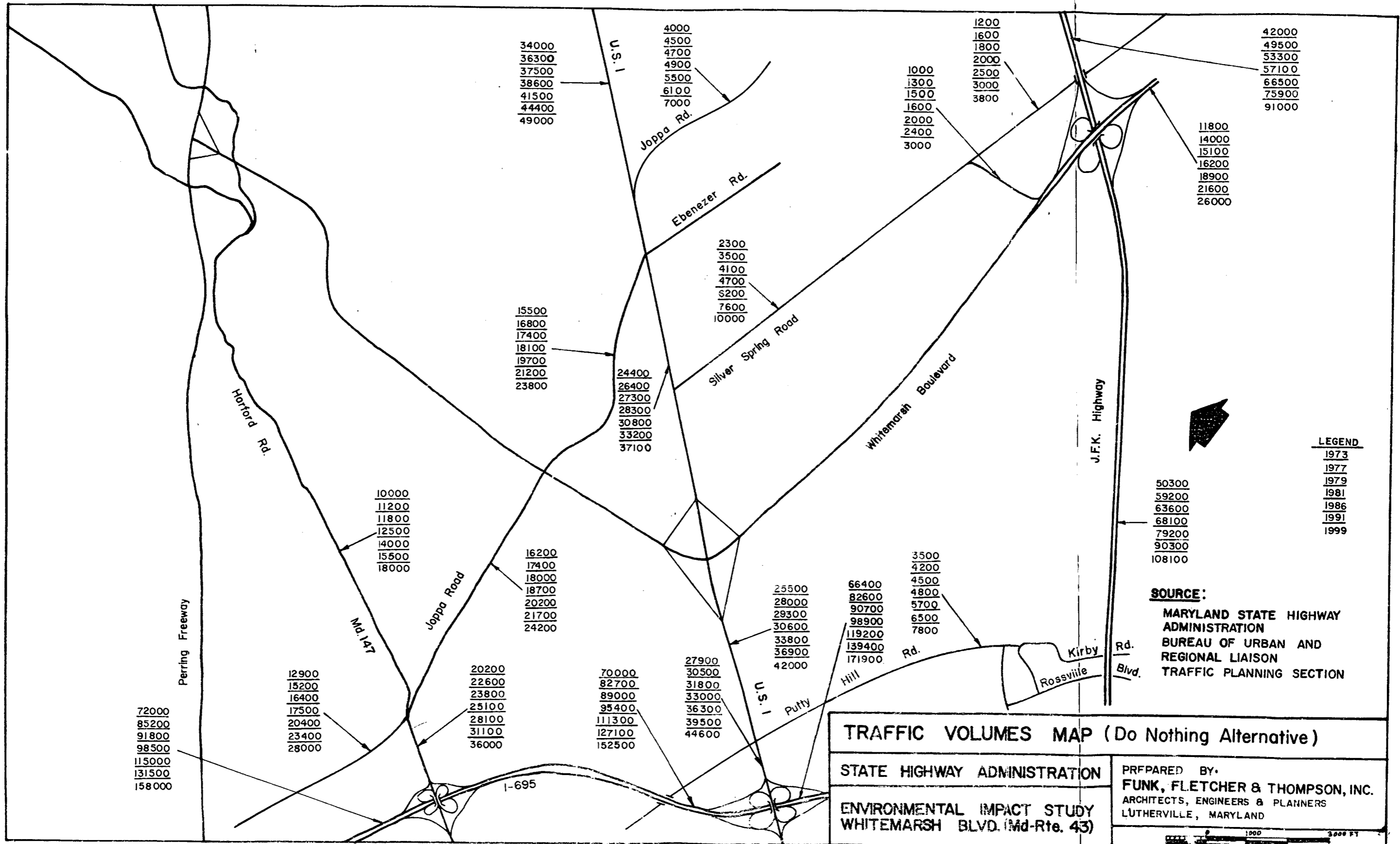
ACCIDENT STATISTICS

During the years of 1971, 1972, and 1973, the existing routes now serving this corridor experienced an average accident rate of 272.32 accidents per 100 million vehicle miles of travel. This rate is comparable to the state-wide rate for similar types of highways of 290.70 accidents per 100 million vehicle miles of travel.

If no improvements are made in the future to the subject roadways, we can expect, in addition to the normal traffic growth, an increase in vehicular conflicts which are normally associated with congestion on highways of this design considering the fact that a majority of the traffic in this corridor is traveling on non-interstate type highways. The accident rate will undoubtedly continue to rise with a corresponding increase in motor vehicle accident cost exceeding the present cost of \$673,439 per 100 million vehicle miles of travel.

The proposed four-lane divided highway should, however, according to our state-wide studies, experience an accident rate not over 162.66 accidents per 100 million vehicle miles of travel, resulting in an accident cost to the motorist of approximately \$433,431 per 100 million vehicle miles of travel, brought about by the reduction of 109.66 accidents per 100 million vehicle miles of travel.

The effect of this proposed construction, on the existing highway network in this area, indicates that there will be no significant changes in the long-range accident rate expected in this area. Construction versus "no build"



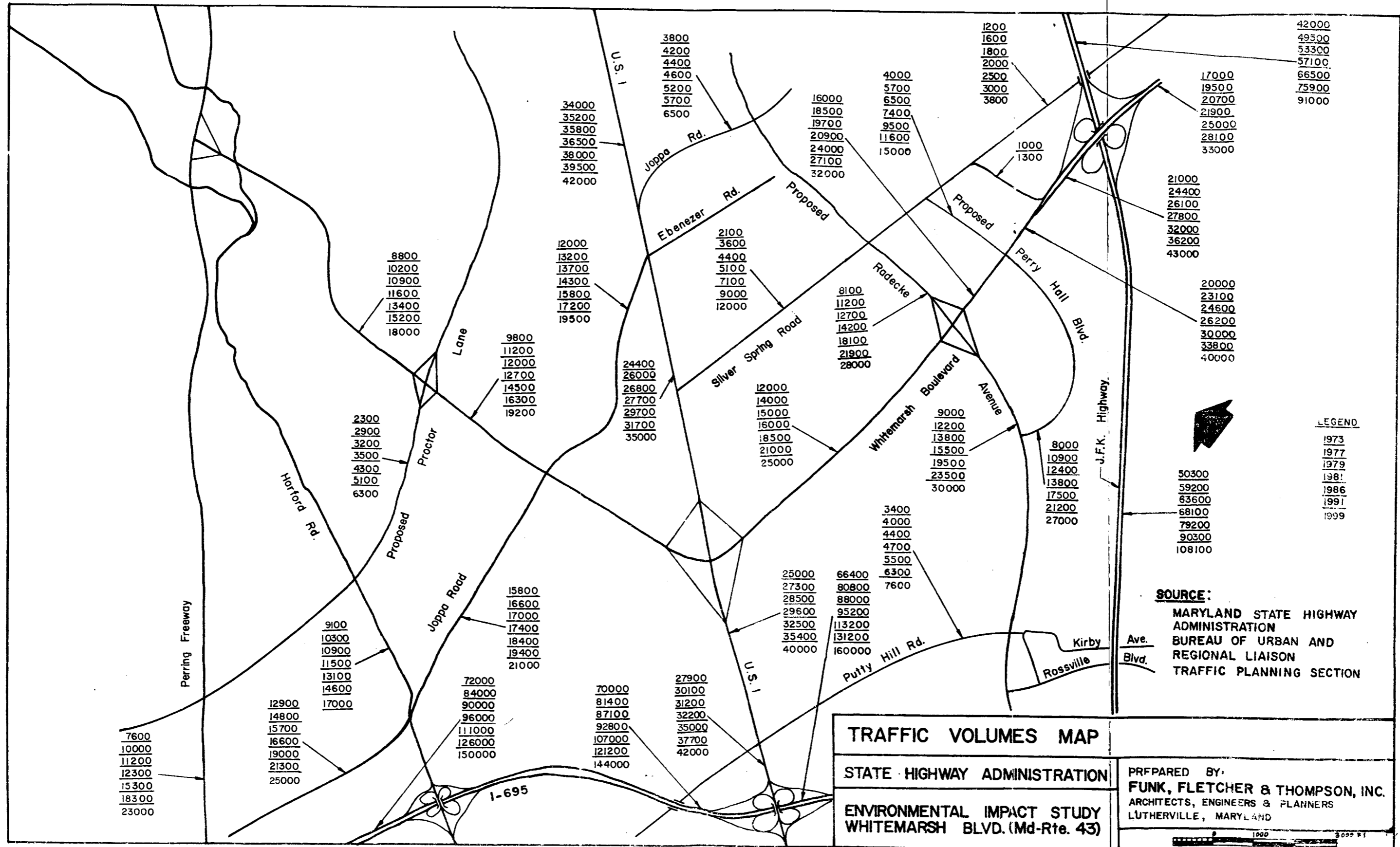
TRAFFIC VOLUMES MAP (Do Nothing Alternative)

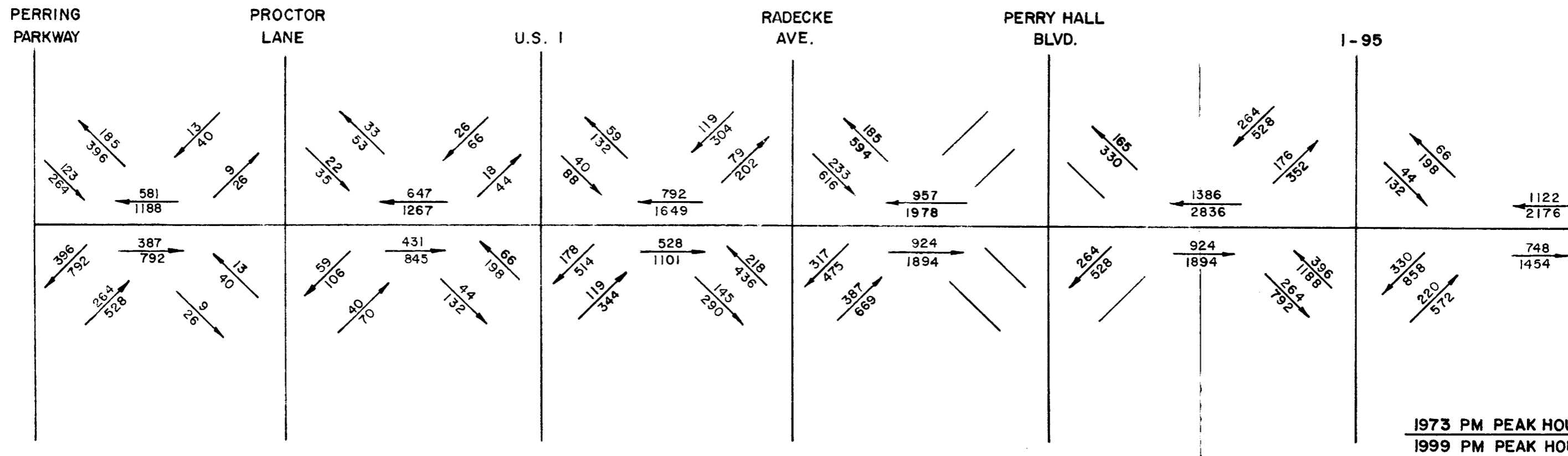
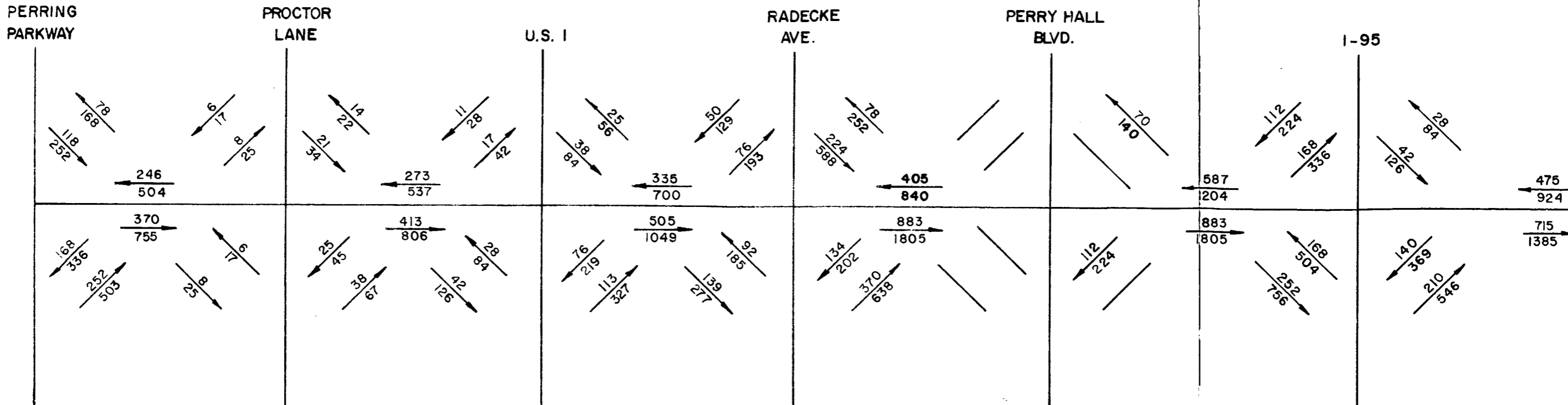
STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY
WHITEMARSH BLVD. (Md-Rte. 43)

PREPARED BY:
FUNK, FLETCHER & THOMPSON, INC.
ARCHITECTS, ENGINEERS & PLANNERS
LUTHERVILLE, MARYLAND

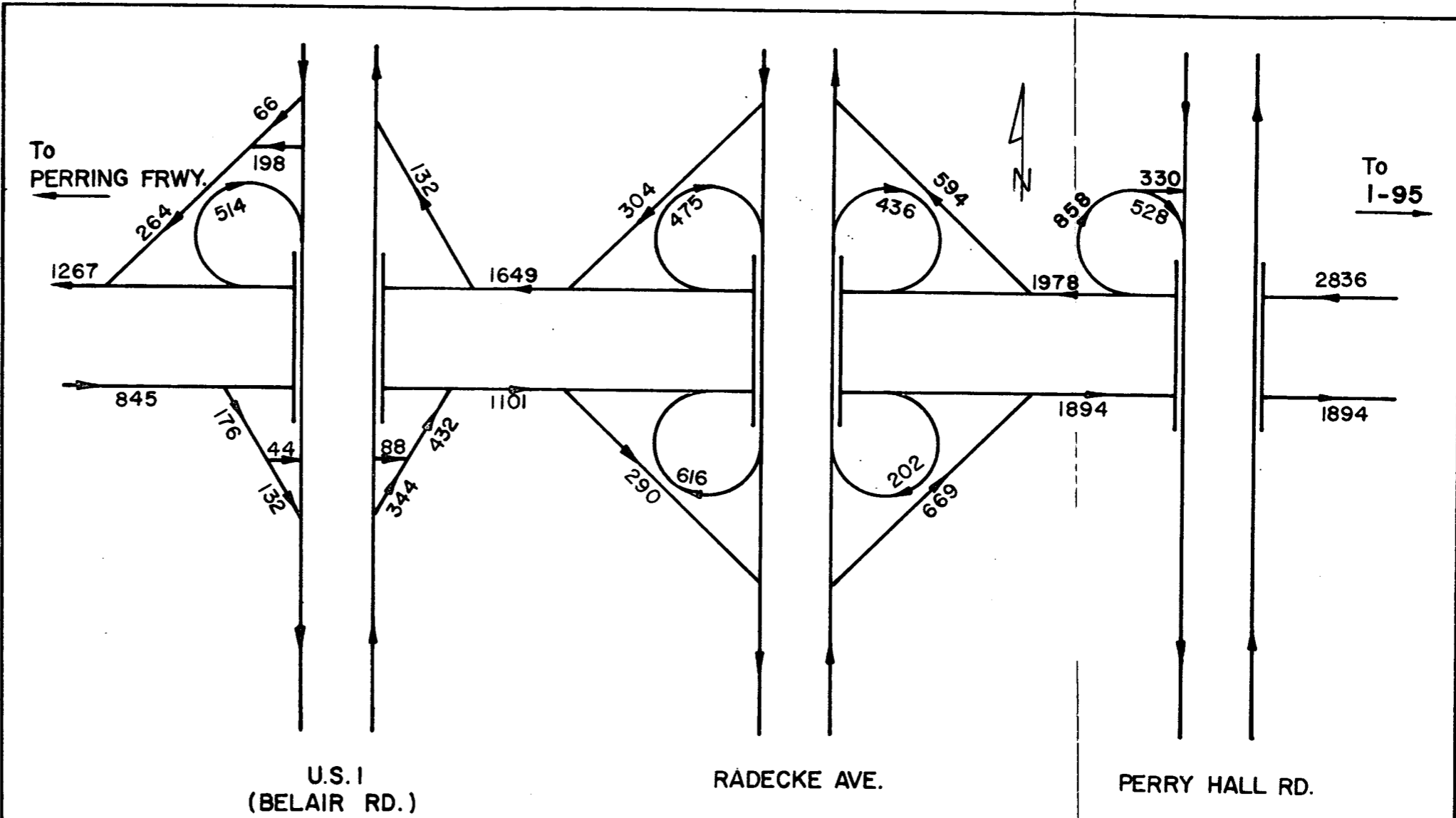
SCALE: 0 1000 3000 FT





SOURCE
 MARYLAND STATE HIGHWAY ADMINISTRATION
 BUREAU OF URBAN AND REGIONAL LIAISON
 TRAFFIC PLANNING SECTION

INTERCHANGE TRAFFIC DIAGRAM (I)	
STATE HIGHWAY ADMINISTRATION	PREPARED BY:
ENVIRONMENTAL IMPACT STUDY WHITEMARSH BLVD. (Md. Rte. 43)	FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND



INTERCHANGE TRAFFIC DIAGRAM (2)	
STATE HIGHWAY ADMINISTRATION	PREPARED BY FUNK, FLETCHER & THOMPSON, INC.
ENVIRONMENTAL IMPACT STUDY	ARCHITECTS, ENGINEERS & PLANNERS
WHITEMARSH BLVD. (Md. Rte. 43)	LUTHERVILLE, MARYLAND

EXHIBIT 8

alternates having rates of 270.86 versus 264.32 accidents per 100 million vehicle miles of travel respectively. Important to note here is that although there is no change expected for the entire network on an accident rate basis, there will be a noticeable gain for the motorist using this corridor in decreased travel time with less delays and congestion.

More important than this added convenience or the monetary motor vehicle operating savings to be realized by the construction of the proposed highway is the corresponding anticipated decrease in the loss of life and human misery brought about by the reduction in accidents.

The accident cost, as indicated, includes the present worth of future earnings of persons killed or permanently disabled, as well as monetary losses resulting from injury and property damage accidents. The unit costs utilized in the above computations were based on actual cost values obtained from three independent accident cost studies conducted in Washington, D.C., Illinois, and California Division of Highways, and were updated to 1973 prices.

5. MAN-MADE ENVIRONMENTAL FEATURES

(a) LAND USE

(Referring to Exhibit 9) In the corridor under study extending westward from I-95 there has been for many years very extensive excavation of sand and gravel on both sides of White Marsh Run; also between it and Joppa Road to the north and, to a lesser extent, within the corridor strip north of Joppa Road. Except for some limited small operations, these areas are now essentially mined-out.

Near the northeastern termini of the corridor, with about a half-mile frontage on Harford Road, lies Graham Memorial Park. This tract of 185.45 acres, which was given to the City of Baltimore as a park, consists of gently rolling open land and steep wooded slopes. Detailed notation of its facilities, usage,

LEGEND

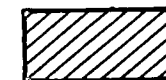
 WHITEMARSH BLVD.
 PERRING FREEWAY

 INTERCHANGES

 RESIDENTIAL

 COMMERCIAL

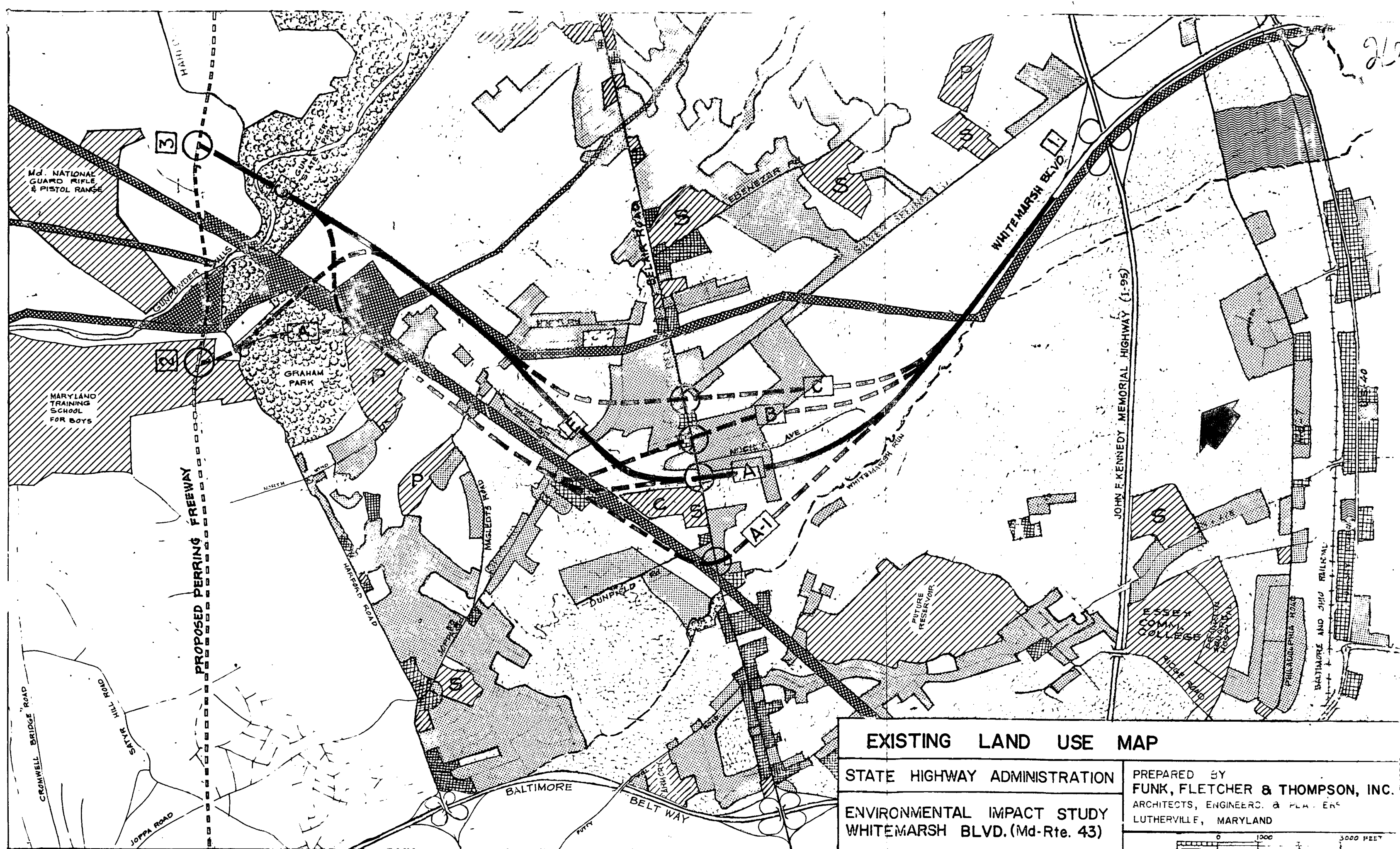
 PARKS OR OPEN SPACES

 INSTITUTIONAL USES:
 S. SCHOOLS
 P. PRIVATE RECREATION
 C. CEMETERY

 AGRICULTURAL AND UNDEVELOPED LAND

 UTILITIES

 INDUSTRIAL

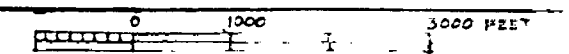


EXISTING LAND USE MAP

STATE HIGHWAY ADMINISTRATION

ENVIRONMENTAL IMPACT STUDY
WHITEMARSH BLVD. (Md. Rte. 43)

PREPARED BY
FUNK, FLETCHER & THOMPSON, INC.
ARCHITECTS, ENGINEERS & PLANNERS
LUTHERVILLE, MARYLAND



and the environmental effects that each of the alternate routes would have on the park land will be discussed in the Section 4(f) Determination near the end of this report.

Adjoining the southeast side of Graham Park for a distance of 2,000 feet is a tract owned by the Baltimore County Game and Fish Protective Association, a private organization which has about 350 members. It contains a rifle range and a man-made fish pond. As shown by both the Existing and Proposed Land Use Maps, alternate alignments in the corridor strip to a large extent run parallel to and occasionally cross major power line right-of-ways of the Baltimore Gas and Electric Company.

At the northern end of the corridor is a section of Gunpowder State Park. This park is under the jurisdiction of the Maryland Department of Forests and Parks. It basically consists of two river valleys, the Big Gunpowder Falls, between U.S. 40 and Prettyboy Dam, and the Little Gunpowder Falls, between U.S. 40 and Jarrettsville Pike (Maryland Route 146) where the river forms the boundary between Baltimore and Harford Counties. The total area of the park comprises approximately 11,600 acres of land with approximately 9,360 acres currently in State ownership. The branch in the vicinity of White Marsh Boulevard is Big Gunpowder Falls which involves approximately 4,200 acres and 10½ miles of river. The park is still basically undeveloped except for some facilities in the vicinity of U.S. 40. In the vicinity of the White Marsh Boulevard corridor the topography is very steep and almost entirely wooded. This park also will be discussed in detail subsequently in the Section 4(f) Determination.

In the past, residential development throughout the corridor has been quite scattered. There are occasional houses along Belair Road from just north of White Marsh Run to Silver Spring Road and on several cross streets at Belair Road on both sides. Houses also abut both sides of Joppa Road along Simms Avenue

LEGEND

▬▬▬▬ WHITEMARSH BLVD.
 ▬▬▬▬ PERRING FREEWAY

▬▬▬▬ PROPOSED ARTERIALS

○ INTERCHANGES

▨ RESIDENTIAL

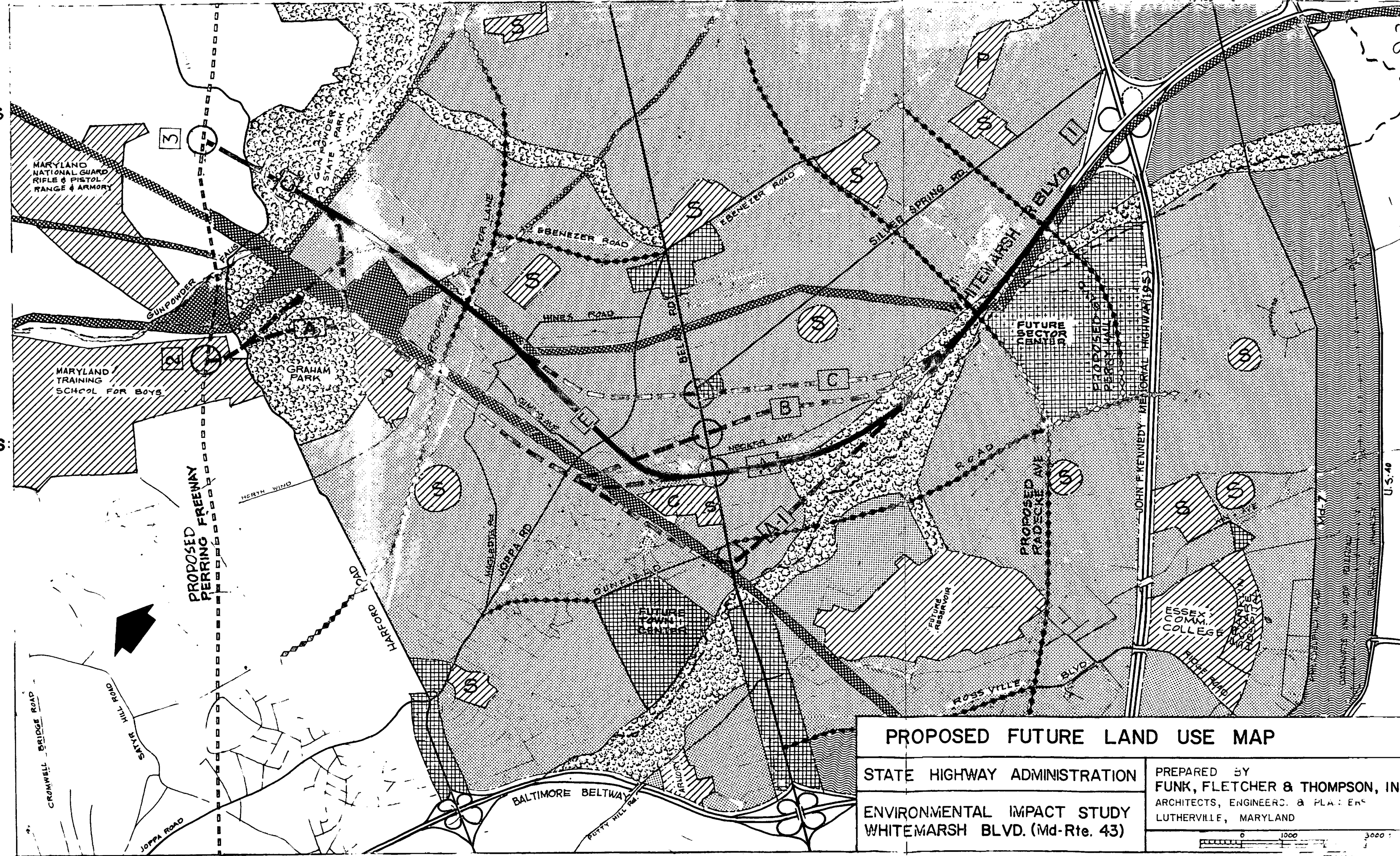
▧ COMMERCIAL

▩ INDUSTRIAL

▨ PARKS OR OPEN SPACES

▨ INSTITUTIONAL USES:
 S. SCHOOLS
 P. PRIVATE RECREATION
 C. CEMETERY

▨ UTILITIES



PROPOSED FUTURE LAND USE MAP

STATE HIGHWAY ADMINISTRATION	PREPARED BY FUNK, FLETCHER & THOMPSON, INC.
ENVIRONMENTAL IMPACT STUDY WHITEMARSH BLVD. (Md-Rte. 43)	ARCHITECTS, ENGINEERS, & PLANNERS LUTHERVILLE, MARYLAND

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 EXHIBIT

north of Joppa Road and along Hines Road and Magledt Road, especially north of its intersection with North Wind Road. Along Belair Road there are scattered commercial uses, south of Silver Spring Road within the corridor strip. There are also a few local businesses near the corridor on Joppa Road.

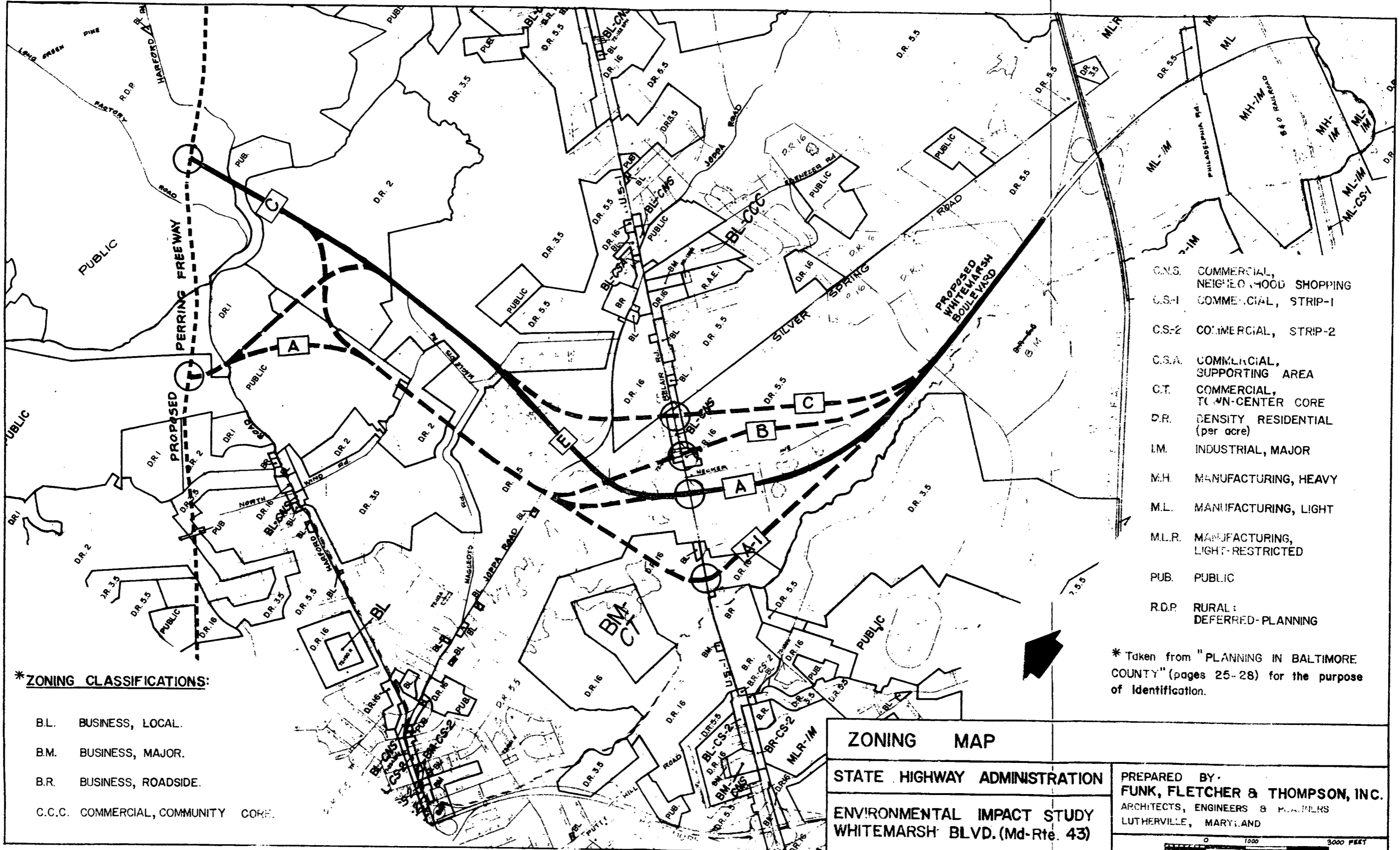
Recently, a large apartment-townhouse development called Hallfield Manor has just been completed on the north side of Mispillion Road (north of Necker Avenue). This tract is L-shaped, extending from Belair Road eastward and around to Silver Spring Road. Just north and next to Hallfield Manor, another subdivision known as Silvergate Village South is planned to be built. The Fulker Property, located north of Hallfield Manor and west of Silvergate South, has requested rezoning for local shopping center use.

A second large garden apartment and townhouse development known as Belmont has been under extensive construction west of Belair Road, just north of White Marsh Run where Baltimore County planners anticipate a "town center" for this area.

Another large development of multi-family units, Perry Hall Apartments, is also largely completed between Joppa Road and Belair Road, northwest of the Silver Spring Road intersection with Belair Road.

Near the northern termini of the proposed White Marsh Boulevard, a residential subdivision called Northwind Village - Section 3, has been completed at the end of Ferguson Avenue. Across the street from Northwind Village, a large tract of land comprising approximately 220 acres known as Spamer Property has requested rezoning for higher density.

In the essentially mined-out area between I-95 and the proposed Radecke Avenue on both sides of White Marsh Boulevard, it is learned that extensive development will take place in the very near future. Out of 700 acres of land, approximately 170 acres located south of White Marsh Boulevard will



***ZONING CLASSIFICATIONS:**

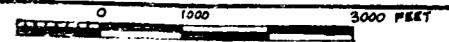
- B.L. BUSINESS, LOCAL.
- B.M. BUSINESS, MAJOR.
- B.R. BUSINESS, ROADSIDE.
- C.C.C. COMMERCIAL, COMMUNITY CORE.

- C.S. COMMERCIAL, NEIGHBORHOOD SHOPPING
- C.S-1 COMMERCIAL, STRIP-1
- C.S-2 COMMERCIAL, STRIP-2
- C.S.A. COMMERCIAL, SUPPORTING AREA
- C.T. COMMERCIAL, TOWN-CENTER CORE
- D.R. DENSITY RESIDENTIAL (per acre)
- I.M. INDUSTRIAL, MAJOR
- M.H. MANUFACTURING, HEAVY
- M.L. MANUFACTURING, LIGHT
- M.L.R. MANUFACTURING, LIGHT-RESTRICTED
- PUB. PUBLIC
- R.D.P. RURAL: DEFERRED-PLANNING

* Taken from "PLANNING IN BALTIMORE COUNTY" (pages 25-28) for the purpose of identification.

ZONING MAP
STATE HIGHWAY ADMINISTRATION
ENVIRONMENTAL IMPACT STUDY
WHITEMARSH BLVD. (Md-Rte. 43)

PREPARED BY:
FUNK, FLETCHER & THOMPSON, INC.
 ARCHITECTS, ENGINEERS & PLANNERS
 LUTHERVILLE, MARYLAND



be developed into a major commercial center (White Marsh Mall) which has 1,250,000 square feet of floor space for retail and 250,000 square feet for offices. It is one of only four Sector Centers planned in Baltimore County. Another 430 acres located north of White Marsh Boulevard will be developed into a combination of single family, townhouse, garden apartment, and patio homes totaling over 4,000 units. The remaining 100 acres located south of White Marsh Boulevard between I-95 and the proposed Perry Hall Road will be developed into a 300-room motel, a 15,000 square foot restaurant, an auto service center, and an office building offering 450,000 square feet of floor space.

ZONING

It should be noted that the map which shows current zoning in the subject area implies considerably different land uses from those on the Existing and Proposed Future Land Use Maps. Reasons for these differences include the fact that the Zoning Map (Exhibit 11) reflects to some extent both existing and proposed development. The current Zoning Map represents the comprehensive revision of zoning throughout Baltimore County as adopted by the County Council on March 24, 1971.

(b) AIR POLLUTION

~~Air is a mixture of gases, dust, particulates, of bacterial cells, pollen, viruses, molds, yeasts, and water vapor. All of these materials are moved with the air as it flows over the earth by movements of the wind. When automotive exhaust gases are added to these other components in the atmosphere, they too are carried along with the wind.~~

Wind speed and direction vary with the height above the earth's surface and with the topography of the area. Temperature, humidity, and wind all play a part in the determination of the kind of stability which can be ascribed

to the atmosphere and in determining the diffusion of the materials in the atmosphere.

Gases expelled as a result of combustion of gasoline or diesel oil contain a variable assortment of chemicals such as carbon monoxide, oxides of nitrogen, particulate suspenoids, hydrocarbons, aldehydes, acids, ammonia, and other carbon compounds. All of these can have an effect upon the air quality in the corridor of a highway. The discipline concerned with the prediction of these effects is a branch of micrometeorology and is referred to as atmospheric dispersion estimation.

The state-of-the-art of atmospheric dispersion estimation, or air dispersion modeling, is a developing field. Certain problems regarding the reactions which take place in the pollutants in the air and the effects which the constantly changing meteorology of an area have upon their diffusion are still under study. Progress is being made with urban models in which total areas are studied for the impact of all pollutants in the area. New theories of the diffusion of the pollutants are being developed.

In the area of the White Marsh Boulevard it would be best if a very accurate model could be developed of the area because the highway will go through areas of potential impact. Further, Baltimore City already has a recognized air pollution problem, and it is always best to know what impact a new project will have on an already existing problem.

Recognizing, however, that there are no readily available techniques for accurately modeling the entire area, the best that can be done is to model selected points along the proposed route and through careful qualitative assessment analyze the impact which may result upon selected receptors downwind. With this in mind, a line-source equation was used to measure the predicted levels of hydrocarbons downwind.

Table I

Age Distribution by Vehicle Age for Maryland and the United States

<u>Age in Years</u>	<u>MARYLAND</u> ⁽¹⁾		<u>Percent</u>		<u>UNITED STATES</u> ⁽²⁾		<u>Passenger</u>	
	<u>1976 %</u>	<u>1978 %</u>	<u>Simple</u>	<u>Cummulative</u>	<u>Simple</u>	<u>Cummulative</u>	<u>Vehicles</u>	<u>Vehicles & Trucks</u>
	<u>of Total Usage</u>							
1	76	78	4.6	100	7.8	100	7.7	100
1 - 2	75	77	13.1	95.4	11.6	92.2	11.4	92.3
2 - 3	74	76	12.7	82.3	11.0	80.6	10.6	80.9
3 - 4	73	75	11.4	69.6	9.8	69.6	9.5	70.3
4 - 5	72	74	10.0	58.2	10.6	59.8	10.2	60.8
5 - 6	71	73	10.2	48.2	10.6	49.2	10.0	50.6
6 - 7	70	72	9.8	38.0	8.8	38.6	8.4	40.6
7 - 8	69	71	8.0	28.2	7.8	29.8	7.4	32.2
8 - 9	68	70	6.6	20.2	6.3	22.0	6.0	24.8
9 & over	67	69	13.6	13.6	15.7	15.7	18.8	18.8

(1) From registration figures as of June 7, 1971, furnished by Motor Vehicle Administration, Dept. of Transportation. (Excluding motorcycles)

(2) For year 1970, from 1971 Automobile Facts and Figures, Automobile Manufacturers Association.

Table II

Model Year	Hydrocarbons*	
	Exhaust gm/mile	Blow-by gm/mile
1967 & earlier	7.00	4.1 ⁽¹⁾
1968 thru 1971	2.45	0.0
1972 thru 1974	1.75	0.0
1975 & later	.12	0.0

(1) 0.80 in 1966 & 1967

SOURCE: Method of Estimating Light Duty Vehicle Emissions ON a Sub-Regional Basis. Bureau of Air Quality Control, Environmental Health Administration, State of Maryland. Table VIII.

Data were generally selected for use in assessing the worst condition probable for the area. Emission factors were derived from information from the State Motor Vehicle Administration on the distribution of motor vehicles by age (Table I) and from the State Bureau of Air Quality (Table II). With this information, estimates were made on the number of vehicles in 1976 and 1978 which would be meeting certain emission levels. This was aggregated to determine an emission factor for 1976 and 1978 to be used in the dispersion model.

Data were gathered on hydrocarbons, carbon monoxide, and oxides of nitrogen for use in the model. However, because techniques are still being developed and there is controversy in the field as to which is best for comparison purposes, it was determined that the best alternative would be to base the evaluation on hydrocarbon emissions alone.

NOTE: Following the final promulgation of Volume 7, Chapter 7, Section 9 of the Federal Aid Program Manual, an Air Quality Supplement was subsequently prepared and is included in the Appendix.

(c) NOISE ENVIRONMENT

The Federal Standards and Some Interpretations

Standards for highway traffic noise have been set forth in the January 29, 1973, Policy and Procedure Memorandum (PPM90-2) of the Federal Highway Administration of the U.S. Department of Transportation. The following table summarizes the design noise levels to be used during project development of a highway section:

DESIGN NOISE LEVEL/LAND USE RELATIONSHIPS

<u>Land Use Category</u>	<u>Design Noise Level - L₁₀</u>	<u>Description of Land Use Category</u>
A	60 dBA (Exterior)	Tracts of lands 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. 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.

- B 70dBA
 (Exterior) Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
- C 75dBA
 (Exterior) Developed lands, properties or activities not included in categories A and B above.
- D - - - For requirements on undeveloped lands see paragraphs 5.a(5) and (6) of PPM 90-2.
- E* 55dBA
 (Interior) Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

*See paragraph 1.c of the Policy and Procedure Memorandum (PPM 90-2) for method of application.

The exterior noise levels apply to outdoor areas which have regular human use and in which a lowered noise level would be of benefit. These design noise level values are to be applied at approximate ear level where outdoor activities occur. They need not be applied to areas having limited human use or where lowered noise levels would produce little benefit. Such areas would include but not be limited to junk yards, industrial areas, railroad yards, parking lots, and storage yards.

The majority of the noise sensitive areas for the various routes of the proposed White Marsh Boulevard are in Land Use Category B where 70 dBA (exterior) in the L₁₀ design noise level. The L₁₀ noise level is the level that will be exceeded 10% of the time. Category A of Land Use applies to Graham Memorial Park. Empirical studies indicate that for highway noise the L₁₀ level of noise corresponds to an L₅₀ level of about 65-67 dBA which will be exceeded 50% of the time.

In order to put the significance of these noise levels in perspective, some noise levels associated with familiar daily situations are given in the following table:

<u>Situations</u>	<u>Level</u>
Sidewalk noise in a downtown shopping area.	70 - 80 dBA
TV Audio	70 dBA
Quiet conversation	60 dBA

The meaning of dBA can be further clarified. The suffix A on the dB level refers to a weighting network used in sound level meters that approximates the relative loudness of various frequencies as perceived by the human ear.

The ear does not perceive a low pitch as equal in loudness to a higher pitch even though both may be actually of the same physical sound level. Consequently, the use of A scale on sound level meters results in the dBA level approximating the actual perceived sensation.

It should be noted that the occupant of a building perceives a noise level much lower than the exterior L_{10} level of 70 dBA. The following table gives the approximate interior noise levels perceived by the occupants of typical buildings when the exterior noise level is 70 dBA:

<u>Type of Building</u>	<u>State of Windows</u>	<u>Interior Noise Level</u>	<u>Comparable Situation Producing Comparable Noise Level</u>
All	Open	60 DBA	Quiet conversation
Light Frame	Closed	50 dBA	Quiet residential street
Light Frame	Closed with storm windows	45 dBA	Bird calls
Masonry	Closed	25-35 dBA	Quiet executive office

EXISTING NOISE ENVIRONMENT

Along the proposed White Marsh Boulevard corridor a variety of noise environments presently exist. The following list sets forth typical noise levels at 100-foot distances from the roads in the corridor that are of interest due to the high traffic volume.

<u>Site</u>	<u>dBA (L₁₀)</u>
100-foot distance from U.S. 1 (from Silver Spring Road to Joppa Road)	70
100-foot distance from Joppa Road (from John F. Kennedy Highway to U.S. 1)	63
100-foot distance from Silver Spring Road (from John F. Kennedy Highway to U.S. 1)	53

The above table gives the noise level at 100 feet from the road. To find the noise level at larger distances, one subtracts an appropriate corrective number from the dBA noise levels in the above table. While the exact corrective number to be subtracted depends upon the topography, density of shrubbery, and shielding effects due to intervening buildings, the following table provides a rough rule of thumb:

<u>Distance from Roadway</u>	<u>Corrective Number</u>
100 feet	0 dBA
200 feet	4.5 dBA
400 feet	9.5 dBA
800 feet	15.0 dBA

As can be seen, except for that property along U.S. 1 that is closer than 100 feet to the roadway, all sites meet the noise standards for Category B of

Land Use described in the previous section. Another exception is in the area near the shooting range of the Baltimore County Game and Fish Protective Association. During shooting practice, the noise generated would be much higher than 75 dBA.

6. NATURAL ENVIRONMENTAL FEATURES

(a) GEOLOGY

The project area consists primarily of slightly sloping fine marine sediments overlying various deposits and land forms. Exhibit 12, Geological Elements Map, shows that the greatest percentage of the land areas is occupied by fine sediments of marine origin (Potomac Group).

Depths to rock are undetermined but are great in portions of contract within the Coastal Plain. The unconsolidated sedimentary materials are composed predominately of sands and gravels with lesser amounts of clays and sands. Power equipment should be sufficient to meet excavation needs.






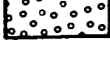
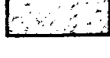
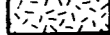
Depths to rock vary from 4 - 12 feet in portions of contract within Piedmont Plateau. Types of available rock include: (1) granite, (2) gneiss, (3) gabbro, and (4) schist. Blasting will be necessary to meet excavation requirements.

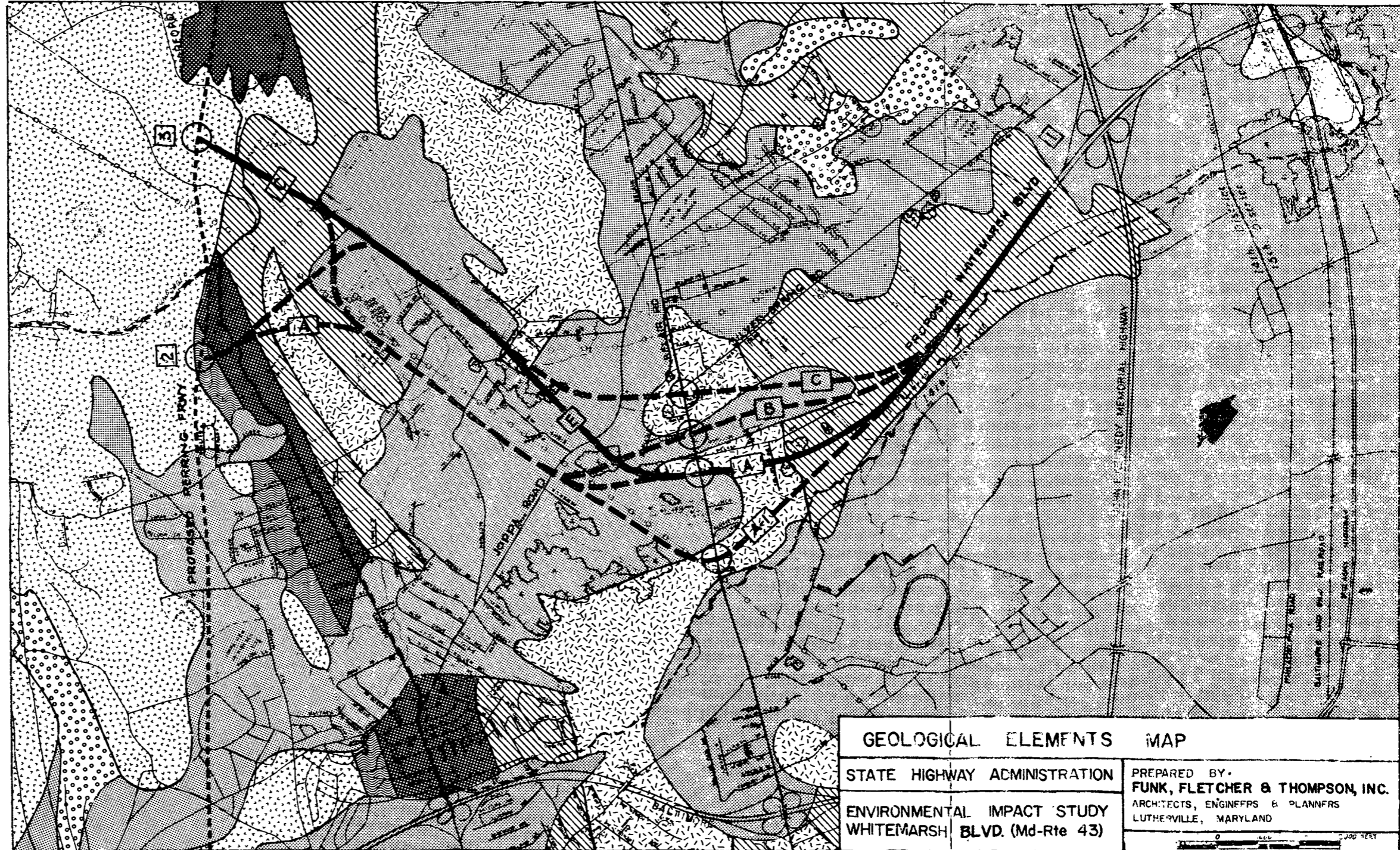
(b) SOILS

General characteristics of soils in area are as follows:

(1) Soil textures: Generally loamy with significant proportions of sand, silt, and clay present. In coastal plain areas soils often have high sand contents and may contain gravel in certain areas. Some Coastal Plain soils may have high clay contents, however.

LEGEND

-  GUNPOWDER GRANITE
-  LOWER PELITIC SCHIST
-  BALTIMORE GABBRO COMPLEX
-  POTOMAC GROUP
-  SETTERS FORMATION
-  UPLAND DEPOSITS
(western shore)
-  LOWLAND DEPOSITS
-  PORT DEPOSIT GNEISS



GEOLOGICAL ELEMENTS MAP

STATE HIGHWAY ADMINISTRATION
 ENVIRONMENTAL IMPACT STUDY
 WHITEMARSH BLVD. (Md-Rte 43)

PREPARED BY:
FUNK, FLETCHER & THOMPSON, INC.
 ARCHITECTS, ENGINEERS & PLANNERS
 LUTHERVILLE, MARYLAND

(2) Soil stability: Fair to good in loamy textured soils; poor in clayey soils; very good in sandy, gravelly soils.

(3) Susceptibility to frost action: Moderate in loamy textured soils; high in finer textured (clayey, silty) soils; low in coarser textured (sandy, gravelly) soils.

(4) Seasonally high ground water table: Found at depths of less than 3.0 feet in flood plains, depressions, and lower slopes.

(5) Water erosion hazard: Moderate throughout contract area, except hazard is high in more steeply sloping areas.

(6) Drainage: Good in upper slopes, hilltops, and plateaus; often poor in flood plains, depressions, and lower slopes.

(c) TOPOGRAPHY







The project area varies from nearly level to steeply sloping (see Exhibit 13 following this page). Area is within transitional zone ("fall line") between lower lying Coastal Plain and higher lying Piedmont Plateau. Surface elevations above sea level range from approximately 70 - 350 feet. Slopes in this area are generally within a range of 0% - 40%. Steepest slopes occur in river and stream valleys.

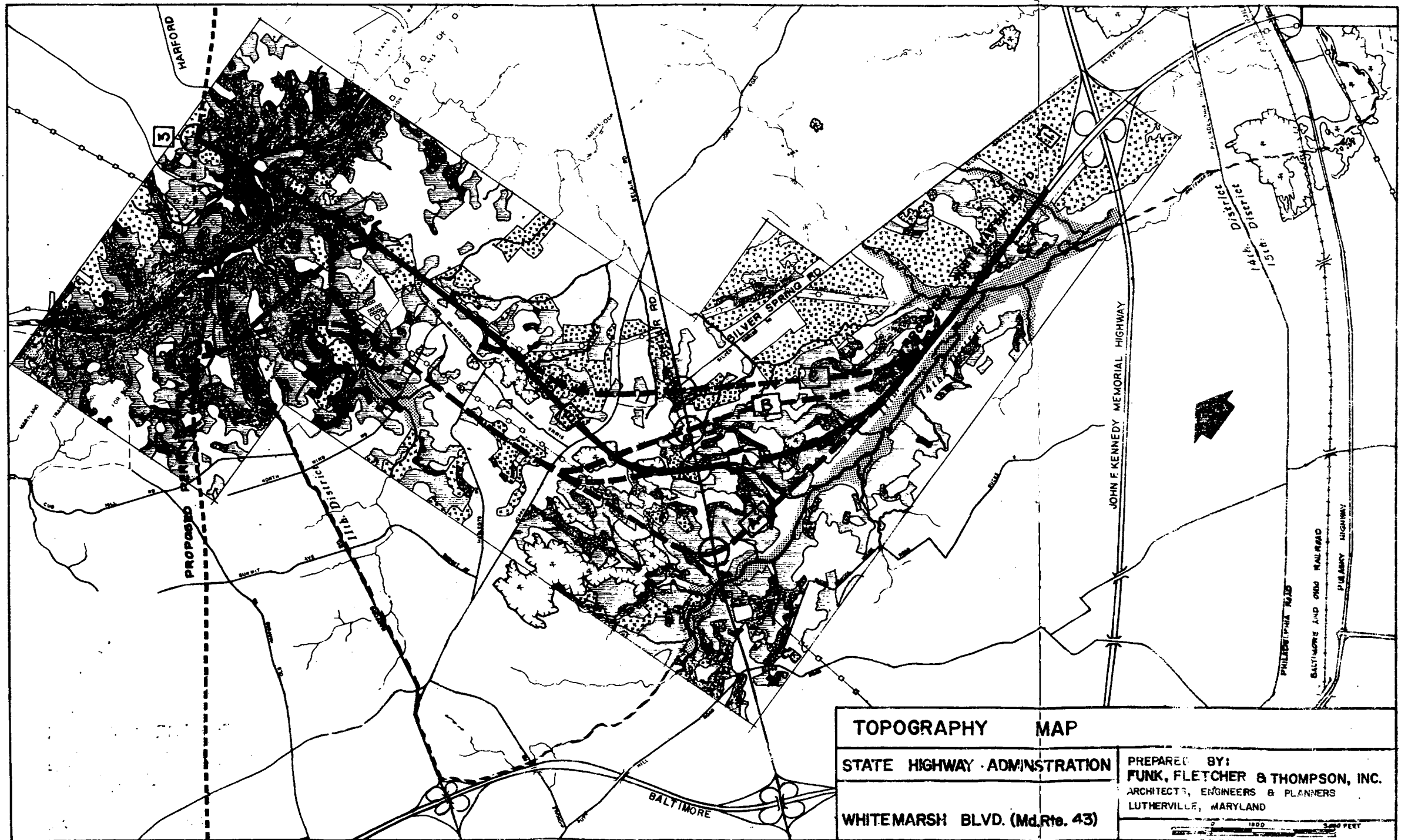
(d) SURFACE WATERS


Exhibit 14 is a map of surface waters within the project area. Surface waters are either drained into Gunpowder Falls or into White Marsh Run.

Based on the past experience and field inspection in this area, major flooding will generally occur only during the period of high spring runoff, notably in the vicinity of White Marsh Run. Little flooding can be expected during most months of the year except when spring tides coincide with storm

LEGEND

-  RELATIVELY FLAT SLOPES
-  10%-15% SLOPES
-  OVER 15% SLOPES
-  STREAM
-  SWAMP & FLOOD PLAIN
-  FOREST COVER & WOODED AREA



TOPOGRAPHY MAP	
STATE HIGHWAY ADMINISTRATION	PREPARED BY: FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND
WHITEMARSH BLVD. (Md. Rte. 43)	 EXHIBIT 13

period of extensive rainfall and on-shore winds. Normally, this flooding would be of short duration and amount to no more than a few inches over normal high water. However, there was one exception.

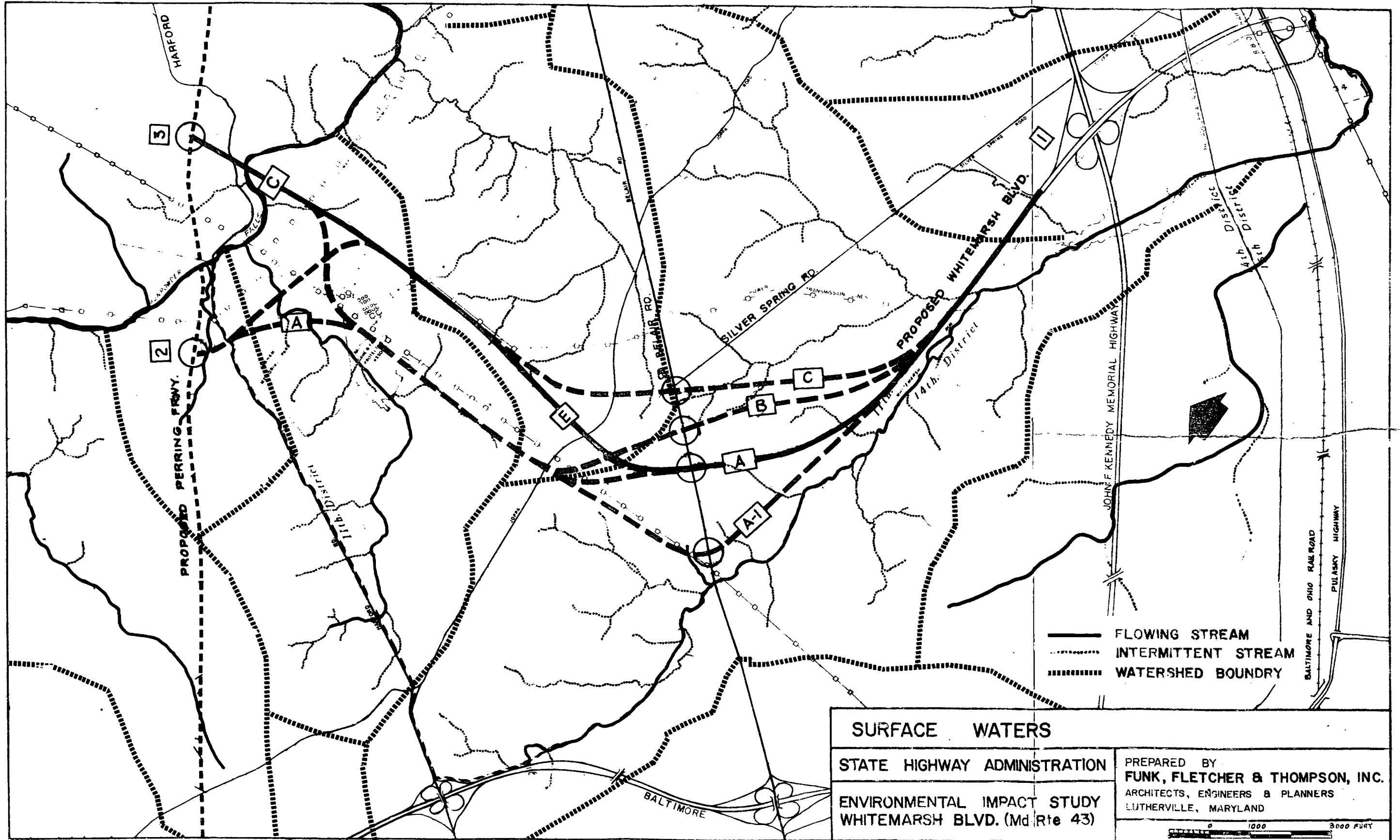
On August 1, 1972, one of the most severe storms on record occurred in the metropolitan area surrounding Baltimore City. It has been estimated by meteorologists that a storm of this magnitude would occur on the average of once in every 150 to 200 years. The storm was concentrated in the northeast quadrant of Baltimore County especially in the White Marsh Run Drainage Area consisting of approximately 10,000 acres. During this storm White Marsh Run overtopped and completely washed away the roadbed of U.S. Route 1 at the point where it crossed the highway through a 10' x 8' slab bridge structure. This storm caused severe flooding and substantial property damage occurred throughout the White Marsh area.

(e) SUBSURFACE WATERS

Ground water depths to seasonally high water table (usually occurring in early spring) in Coastal Plain areas vary from less than 3.0 feet in flood plains, depressions, and lower slopes to 5.0 feet or more on upper slopes and hilltops. Major water problems may be encountered during construction in flood plains of streams.

Depths to seasonally high water table in Piedmont Plateau areas vary from less than 4.0 feet in flood plains, depressions, and lower slopes to 20.0 feet or more on upper slopes, hilltops, and plateaus. The water table in higher topography within the Piedmont Plateau is usually located in the bedrock.

The compaction of soils through which superficial water moves reduces horizontal travel through shallow aquifers. The water table rises on the "upstream" side of the highway and drops on the "downstream" side. There have



been many reports of changes in springs and shallow wells close to newly constructed highways. Changes in the horizontal flow of ground water are limited to the depths of altered soil, but they may be appreciable. A survey of all registered wells and springs in the area through which the Boulevard and accesses are projected shows only two wells which draw from aquifers of 20 feet or less and which lie within 1,000 feet of the projected right-of-way. No springs are recorded within this line.

In swampy areas and low lying flood plains, this change in water table on the "upstream" and "downstream" sides of the highway will show in vegetation. The upstream section will become more swamplike; the water table rises on this side and surface ponding prevails for longer periods. On the opposite side, the shallow waters drain away to depress the water table and vegetation that sends roots to a lower prevailing water base will dominate.

Roadbeds of heavy duty modern highways crossing flood plains conserve water and moderate flood runoff. Culverts and underdrains, necessary for the preservation of the structure of the bed, direct and regulate the upstream flood waters into controlled channels. During drought, the increased resistance imposed by the compacted bed crossing the superficial aquifers maintains a relatively larger reservoir of subsurface water on the upstream section of the plain.

(f) VEGETATION

In many sections of the project area, sand and gravel surface mining has destroyed the topsoil necessary to the support of plant life in many areas along the proposed routes.

These now arid lands cannot maintain any plants in their present condition. Conditions similar to that of the now famous "dust bowl" in the Far West of years back exist in these spots.

Secondary plant communities can be found in areas where surface mining has been discontinued. Annual and perennial weeds have become established and are beginning to make their contributions to the soil nutrients and water supply.

Hedgerow communities of locust, honeysuckle, wild cherries, and black-berry bushes have become established in other areas indicating that a greater advance has been made toward soil reclamation here.

The presence of these plant stands, in various stages of plant succession, indicates that the soil has recovered from the ravages of extensive sand mining.




The acres of forests, especially in the vicinity of Gunpowder State Park and Graham Memorial Park, are plant communities in a stable, climax stage of development. The forest community is a vigorous climax cluster of deciduous oaks, hickories, and tulip trees indigenous to the State of Maryland. These are mature stands of deciduous trees which, in theory, will maintain themselves for long periods of time, dependent upon the longevity of the life span of each species, the reproductive rate of each species, the nutrient-space-water-sunlight requirements of the new generation of trees, and the ability of the "space available" to provide these limiting factors.

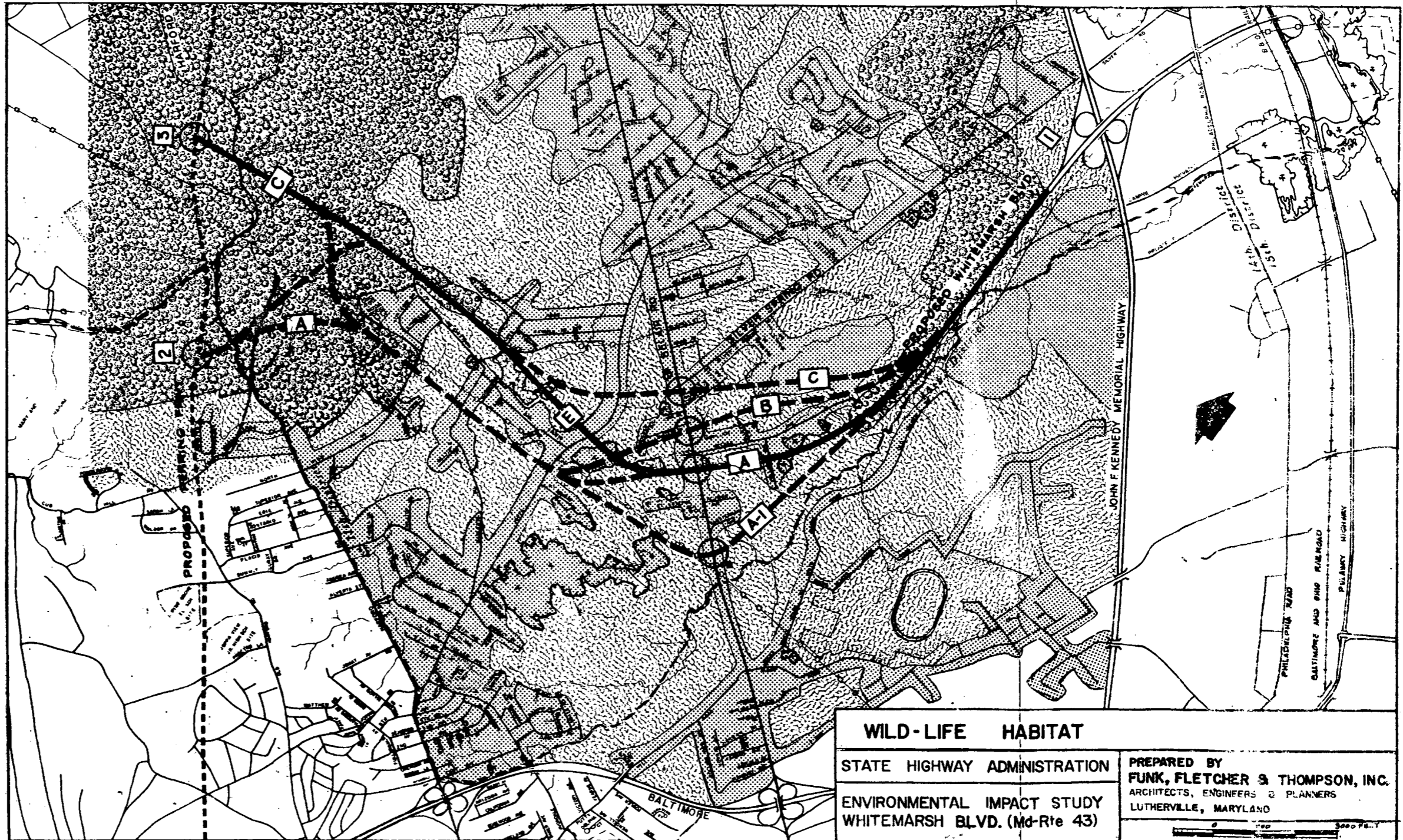
(g) WILDLIFE


Wildlife in the project area is predominantly associated with water passages. The existing vegetation, particularly along Gunpowder Falls, serves as

55

LEGEND -

-  HEAVY WOODED,
SPARSE DWELLING,
UNCULTIVATED
-HEAVY WILDLIFE -
-  LIGHT WOODS, FARMS,
CULTIVATED AREA
-GOOD WILDLIFE -
-  RURAL RESIDENTIAL
-POOR WILDLIFE -



WILD-LIFE HABITAT	
STATE HIGHWAY ADMINISTRATION ENVIRONMENTAL IMPACT STUDY WHITEMARSH BLVD. (Md-Rte 43)	PREPARED BY FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND 

nesting and food source for a variety of small birds and fishes. Thrushes, ground squirrels, and several species of field mice and pheasants have been found to inhabit the area (see Exhibit 15).

The Gunpowder Falls and tributaries below Loch Raven Dam are classified by Maryland Department of Natural Resources, Water Resources Administration, as Group C waters -- to be maintained at quality levels for water contact sports, agricultural uses, and for the propagation of trout. The low temperatures and normal turbulence of rapids sections make the area below the Loch Raven Dam and Route 1 (Belair Road) Bridge a favorable habitat for trout. This area is stocked regularly with trout by the Department's Fisheries Administration. Because of its accessibility to northeastern Baltimore and to the rapidly developing suburbs of the area, it is a popular fishing area.

It is to be noted that the general area proposed for this highway development is within the expected territorial range of the Bog Turtle (Clemmys muhlenbergi), a reptile that is on Maryland's list of endangered species. The Wildlife Administration of the Department of Natural Resources is beginning a survey within the area of proposed alignments to determine whether this species does, in fact, inhabit the specific areas proposed for highway alignment and how habitat can be preserved with highway development.

(h) METEOROLOGY

WIND AND PRECIPITATION

The average annual wind rose and data from the Climatological Summary for Baltimore, Maryland, indicate that the most frequent wind direction is from the West-Northwest, occurring approximately 11% of the year. Northwest winds are

reported 10% of the year. Calm is observed about 3% of the year, and winds from 8-12 miles per hour occur about 40% of the year. Average wind speed during 1971 ranged from 6 to 10 miles per hour (2.9 to 4.9 meters per second). Compared with other areas of the United States, the Baltimore area has a relatively high frequency of light winds. (See Figure 1.)

Rain literally can wash pollutants out of the air. Thus, concentrations of pollutants in the atmosphere are diluted during periods of rain. Likewise, fog accepts the presence of aerosols. As particles of pollution cool, the moisture in the air is attracted to them and they become nuclei or centers of the fog droplets.

In the Baltimore area there were 38 fog days reported in 1971. Additionally, there were 53 days of rain in 1971.

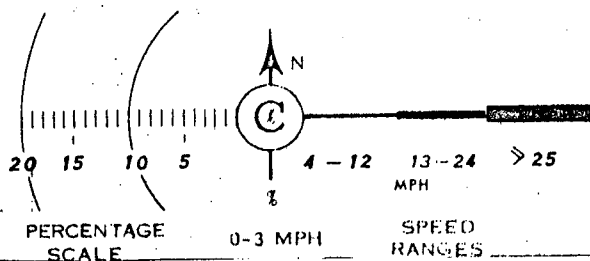
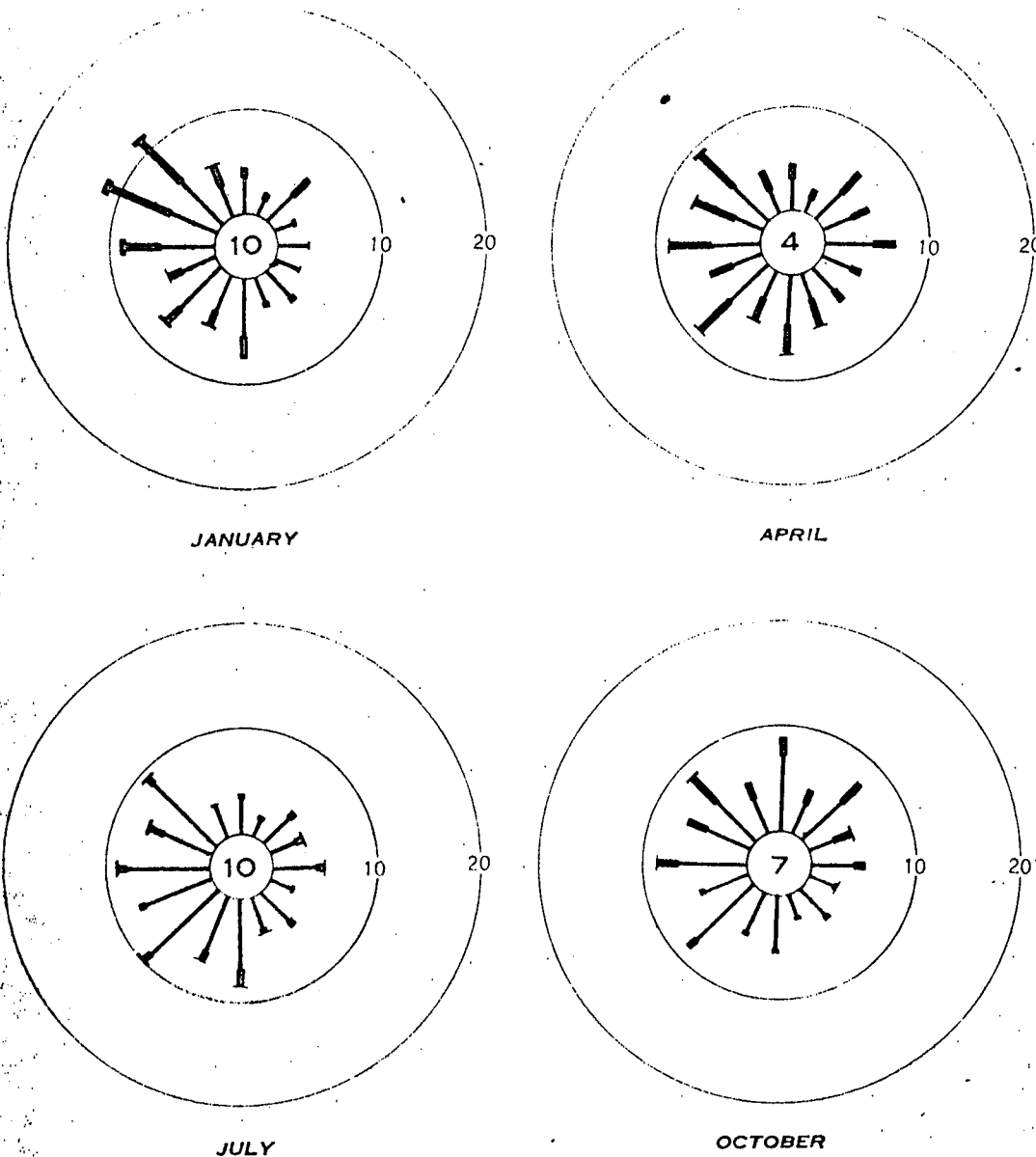
TEMPERATURE INVERSIONS

When air temperature increases with elevation or decreases at too slow a rate, vertical movement of the air is reduced and inversion takes place. Strong temperature inversions can occur when the ground is heated by solar radiation during the day, accompanied by rapid cooling of the air during the night when the winds are light and clouds are absent.

Light winds and temperature inversions promote poor atmospheric dispersion. Air pollutants remain suspended over the land on a longer period rather than being diluted and dispersed as they are moved by air currents away from the earth's surface and into the troposphere.

Temperature inversions of higher than 5 degrees centigrade were revealed for the Baltimore and Washington area for 28 days in 1971, or about 7.7% of the year. Many more of much lesser intensity occurred throughout the year.

FIGURE 1. Surface Winds for Baltimore, Maryland



Based on hourly observations

Period of Record Sept. 1950-
Aug. 1955 incl.

Terminal Forecasting Reference Manual

7. HISTORY

The early 1960's Baltimore County official plans showed a proposed important highway now known as White Marsh Boulevard. This was to be a connection from U.S. Route 40, Pulaski Highway, west to the Baltimore Beltway between Belair and Harford Roads. It was primarily intended to permit traffic to and from the northeast to connect with Towson and central and western Baltimore County without having to continue appreciably farther south and double back on the Beltway. Subsequently, the eastern portion was built between U.S. 40 and I-95 with interchanges at both. Later the then State Roads Commission concluded that completion of this route would overload the Beltway. After further study of the proper function of Maryland Route 43 and in concurrence with the Baltimore County Planning Board, the corridor from the interchange with I-95 through south Perry Hall to the proposed Perring Freeway in Gunpowder Falls was selected.

A Corridor Public Hearing has been held on this project to present to the public the alternate alignments being considered by the Maryland State Highway Administration in order that we may have their comments in evaluating the overall impact in this locality. An informal Informational Public Hearing was held on March 24, 1971, with the formal recorded Public Hearing held on April 7, 1971. Both public hearings were held in the Perry Hall Junior High School, located at 4300 Ebenezer Road, Perry Hall, Maryland 21128.

Subsequent to the Public Hearing, this Environmental Impact Statement is required in accordance with policies promulgated by the National Environmental Act of 1969.

Recently, the State Highway Administration requested and the Federal Highway Administration approved, construction of the two missing ramps at the I-95 - Md. Rte. 43 interchange. The two ramps involved are the loop ramp in the northeast quadrant and the outer ramp in the southwest quadrant. It is estimated that the construction will be completed sometime in 1976.

B. PROBABLE IMPACT ON ENVIRONMENT

The detail description of the ten (10) alternates under consideration will be presented under Section D.

1. LAND USE

Line "A" from Point #1 to Point #2: (Referring to Exhibit 16)

As described under existing land use of Section A, extensive development will take place in the essentially mined-out area between I-95 and the proposed Radecke Avenue. Due to the close coordination and careful planning between the State Highway Administration, the Baltimore County Department of Public Works, and the developers involved, no significant adverse impacts on the forthcoming developments are anticipated. It is learned that their construction schedule is compatible with the proposed White Marsh Boulevard project.

Line "A" curves away from White Marsh Run about one mile east of U.S. 1 (Belair Road). Except for crossing Vollmer Avenue, a minor road that gives access to a couple of homes, this alignment traverses currently vacant land to and beyond Belair Road, which would be bridged over it. The westbound lanes would be from 500 to 300 feet from the existing houses on the south side of Necker Avenue, which runs east from Belair Road. This is much more than the distance of the Baltimore Beltway from abutting houses in many parts of Baltimore County. Continuing west from Belair Road Line "A" follows the stream valley just north of and below the property of St. Joseph's Catholic Church and Parochial School, and a cemetery behind the church. The right-of-way for the southbound ramp would cut less than 1½ acres off the vacant wooded northeast corner near the property. Curving through the north-south power line, this alignment would run north parallel to it. About 1,000 feet south of Joppa Road, Line "A" would

conflict with a trash collecting operation, and between it and Joppa Road, with a greenhouse business property. The trash plant, according to Baltimore County officials, was placed there illegally and is in conflict with the existing zoning. In crossing Joppa Road the right-of-way would stay some 350 feet west of the power line right-of-way in order to take only a few houses along Joppa Road. The Gas and Electric Company right-of-way also contains a 26" underground gas main throughout the entire length. From Joppa Road northward, Line "A" right-of-way gradually approaches the transmission line but stays 200 - 300 feet away in order to avoid a half dozen or more houses just next to the power line right-of-way. Access for these houses can be provided from Simms Avenue or from Magledt Road. Beyond North Wind Road intersection, Line "A" takes a 300-400 foot strip off the east side of the tract belonging to the Baltimore County Game and Fish Protective Association, but probably would not interfere with its access road from North Wind Road, its rifle range, or its fish pond near the northwest corner of the property. From the north end of this tract Line "A" to Point #2 curves northwestward through the northeast section of Graham Memorial Park. This alignment would take 23.5 acres for right-of-way through the park and would essentially eliminate more than a quarter of the park's acreage because of severance. It would cut off the archery range from the park area to the south and seriously affect the riding trail north to the Gunpowder State Park.

South of Graham Memorial Park and the Game and Fish Association property it does not appear that Line "A" would have any appreciable unfavorable effects on future development of its surroundings. The intersection with North Wind Road would be replaced eventually by one with nearby Proctor Lane--a future arterial highway. (See Exhibit 10 - Proposed Land Use Map.) It appears that more detailed study of Line "A" to Point #2 could indicate the feasibility of carrying the alignment farther north along the transmission line, curving across the

small projecting area at the north end of the park (with the minimum acceptable curvature) and reaching Point #2 via the strip, several hundred feet wide, between the park boundary and the east-west power line. (See Exhibit 9 - Existing Land Use Map.) Personnel of the Baltimore Gas and Electric Company have stated that this would in no way interfere with its transmission line or its underground gas storage area between the power line and Gunpowder Falls.

Line "A" from Point #1 to Point #3: Referring to Exhibit 16, the effects that would result from the curving of Line "A" to the northeast at Windy Edge switch station to join Line "C" to Point #3 are very different from those of "A" to Point #2. The former would affect only about 4 acres at the eastern edge of Graham Park but would take 16 acres of Gunpowder Park. This matter will be discussed later in this section to compare the relative merits of termination at Point #2 or Point #3.

The probable effect of Line "A" on employment, adjacent property values, annual tax dollar loss, and displacement of families and/or businesses could be summarized in the following:

Employment - This alignment will displace four (4) businesses which employ an estimated fifteen (15) people. These businesses should be able to relocate in the eastern Baltimore County area.

Adjacent property values - The value of property adjacent to the proposed right-of-way is expected to increase.

Annual tax dollar loss - The tax rate for Baltimore County is \$3.75 per \$100 of assessed value, and the State rate is \$0.18 per \$100.

Improved property	\$13,670
Unimproved property	30,655
Total annual tax loss	44,325

Displacement - An estimated twenty-five (25) families will be displaced by this alternate. Four businesses, three farms, and one non-profit organization will also be affected. The families displaced will have suitable replacement housing available at time of displacement. The businesses should be able to find replacement sites in the Belair Road area. The farms appear to be the subsistence type and, therefore, may have discontinued operation. No unusual relocation assistance problems are anticipated.

Line "A-1" from Point #1 to Points #2 and #3: Line "A-1" as it differs from Line "A" would have some quite serious effects on present and future development. A section of Dunfield Road has been constructed three-fourths of a mile west from Belair Road with the intersection of Belair Road approximately 150 feet south of Klosterman Avenue. Dunfield Road is proposed to be an ultimately Baltimore County four-lane arterial highway. The newly built section of Dunfield Road is intended to provide additional access to the Belmont Townhouse Development now near completion. The Future Land Use Map (Exhibit 10) indicates the expected importance of Dunfield Road as a major arterial highway to serve future local traffic in the area between the Beltway and White Marsh Boulevard. It would be the major access road to the future Town Center west of Belair Road and would continue east from U.S. 1 to the future Sector Center of which Dunfield Road would form the southern boundary. Line "A-1," undoubtedly, would seriously jeopardize the future development of this area on both sides of Belair Road.

At the request of the Baltimore County Department of Public Works after consideration of the importance of the proposed Dunfield Road, the fact that Baltimore County has proceeded with design and right-of-way acquisition and

since Line "A-1" is not the preferred line, the State Highway Administration acquiesced to Baltimore County's request in November, 1973, and granted the County the right to construct Dunfield Road at Belair Road, subject to acceptable intersection design and that if Line "A-1" were selected, it would require a major relocation of Dunfield Road around the White Marsh-Belair Road interchange.

The probable effect of Line "A-1" on employment, adjacent property values, annual tax dollar loss, and displacement of families and/or businesses could be summarized in the following:

Employment - Three businesses will be acquired on this line, and approximately fifteen people employed by these firms will be required to move their place of employment.

Adjacent property values - The adjacent property values are expected to increase as a result of the proposed taking.

Annual tax dollar loss -

Improved property	\$16,945
Unimproved property	47,140
Total	64,085

Displacement - An approximate twenty-seven families will be relocated by this alignment. This may involve a total of 110 people. These families will have adequate replacement housing available to them at the time of replacement. Three businesses and three farms will be required to move. There should be no problem in accomplishing their relocation to sites nearby.

Line "B" from Point #1 to Points #2 and #3: The major problem inherent in Line "B" relates to its route east of Belair Road. Here it conflicts with the entire western half of Hallfield Manor subdivision, which is a long L-shaped tract with frontage on both Belair and Silver Spring Roads. Following Baltimore

County's approval of plans for the three-quarters of a mile-long east-west strip of land two years ago, extensive construction activities have taken place and the entire subdivision is about all completed. The State Highway Administration has been trying to hold up any further construction pending decision on the Belair Road-White Marsh interchange location. Basically, there is considerable merit in this route, but after several years' delay stemming from the environmental impact statement requirement, the authorized development can no longer be held up before risking serious legal action and high damages.

During the course of ground survey, a small, old cemetery, under 4,000 square feet (about one-tenth of an acre), was found approximately 800 feet south from Joppa Road and the same distance east from the Baltimore Gas and Electric transmission line. The exact location or number of graves is not known. No grave markers were found. After checking with the local residents, it was learned that the cemetery dates back to the early eighteenth century. Neither alignment "B" nor "C," the only two alignments close to this location, will encroach on any part of this cemetery. By either lengthening or shortening the curve connecting the two tangent lines east of Belair Road and west of Joppa Road, respectively, the cemetery can be easily avoided.

The probable effect of Line "B" on employment, adjacent property values, annual tax dollar loss, and displacement of families and/or businesses could be summarized in the following:

Employment - Approximately twenty individuals employed by five firms will have to move to new sites for employment. New business sites could be easily found in the nearby areas.

Adjacent property values - The value of the property adjacent to the

proposed right-of-way is expected to increase in value.

Annual tax dollar loss -

Improved property	\$ 8,560
Unimproved property	46,920
Total	55,480

Displacement - An estimated sixteen families will be relocated by the acquisition for this alignment. Available housing, suitable to the needs of those displaced, will be on the market at the time these people are displaced. Five businesses will also be required to move. As a result of the recent completion of Hallfield Manor, an additional forty (40) duplex dwellings and seventy-eight (78) garden-type apartments will be affected. An estimated 178 families or 535 people will be required to move if this alignment is selected after occupancy of the Hallfield Manor development.

Line "C" from Point #1 to Points #2 and #3: From the standpoint of present and future land use, the "C" location for an interchange with Belair Road would have at least as serious effects as are noted for the "A-1" location. In this case the problems apply to the areas on both sides of Belair Road. On the east side, Line "C" would cut diagonally across the same long strip of Hallfield Manor subdivision, though for a shorter distance than Line "B" would. However, two additional planned developments, namely Silvergate South apartments-townhouses and Fulker shopping center, both located near the southeast corner of Belair Road and Silver Spring Road will be seriously affected. On the west side there is an approved and now partially constructed apartment development, Perry Hall Apartments, which extends southwestward from the transmission line that crosses Belair Road 1,500 feet north of the Silver Spring Road intersection. As part of this development, which has had Baltimore County approval, the extension of Silver Spring Road from Belair Road to Joppa Road is planned on its west

perimeter. This is a badly needed complete route to provide local traffic with a direct connection between Joppa Road west of Belair Road and Silver Spring Road east of it. The "C" interchange location would make impractical, if not impossible, any extension of Silver Spring Road, which will have to be relocated northward on Belair Road so as to permit the interchange with Belair Road. Extensive construction of apartment building has already occurred and is continuing in the Perry Hall Apartment project. Also, as noted previously, the Line "C" crossing of Joppa Road would be too close to the Belair Road "C" interchange to permit grade access between White Marsh Boulevard and Joppa Road, thus further handicapping local traffic.

The probable effect of Line "C" on employment, adjacent property values, annual tax dollar loss, and displacement of families and/or businesses could be summarized in the following:

Employment - Employment is not affected by this alternate.

Adjacent property values - The values of the property adjacent to the new road are expected to increase.

Annual tax dollar loss -

Improved property	\$ 7,855
Unimproved property	46,220
Total	54,075

Displacement - Fourteen families will be required to move as a result of this line. Replacement housing will be available to those displaced. No businesses, farms, or non-profit organizations will have to relocate. With the completion of the Hallfield Manor subdivision and an estimated 275 apartment units of the Perry Hall Apartment complex which will be affected by this alignment, as many as 800 people will be displaced upon completion of the complex and houses.

Line "E" from Point #1 to Points #2 and #3: Referring to Exhibit 16, Line "E" combines the best sections of both Lines "A" and "C," and it avoids the

problems inherent in Line "C's" crossing of Belair Road and Line "A's" effects on Graham Memorial Park and the Game and Fish Association property.

The probable effect of Line "E" on employment, adjacent property values, annual tax dollar loss, and displacement of families and/or businesses could be summarized in the following:

Employment - One business might be acquired. The relocation of this firm and some five employees should not present any unusual problem.

Adjacent property values - The value of the adjacent property is expected to increase.

Annual tax dollar loss -

Estimated total - \$50,000

Displacement - Twenty-three families are estimated to be required to move on this alignment. Their relocation does not present any unusual problems. One business will also be required to relocate. No farms or non-profit organizations will be displaced.

Comparison of Impacts of Points #2 and #3

Impacts of the various alternate lines as they relate to a future interchange with Belair Road (U.S. Route 1) have been discussed in connection with the existing and future land uses. It remains to note the comparative impacts of Points #2 and #3 as alternate interchanges with the future Perring Freeway. One factor involves the question as to the ultimate northern terminus of White Marsh Boulevard. If it would never be extended beyond Perring Freeway, Point #3 is obviously more direct for traffic movements than Point #2, which would involve a rather devious route. If White Marsh might eventually go beyond Perring Freeway, it would have to turn northward rather quickly beyond Point #2 because of the necessity and logic of passing east of Loch Raven Reservoir and other factors such

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as further encroachment on the grounds of the Maryland Training School for Boys and the Maryland National Guard's Gunpowder Rifle and Pistol Ranges across the river. In addition to an imminent \$1,000,000 building for National Guard use, another future bridge over Gunpowder Falls will be necessary if White Marsh Boulevard is extended from the terminus from Point #2. From a long-range point of view, as well as for the nearer future, it appears that the advantages of Point #3 over those of Point #2 would warrant the considerably higher cost of bridging the Gunpowder Falls as part of this project. Lines "E" - "C" would avoid any possible effect on Graham Park. Gunpowder State Park has vast acreage as compared to Graham Park. Use of a high bridge across the river would permit trails to follow underneath it and should have minimal effect on the steep wooded slopes on both sides of the river and on Harford Road.

Historical Sites

The Maryland Historical Trust has a map entitled "Maryland Historical Sites Inventory," the Baltimore County material for which was furnished by the Baltimore County Historical Society. There are only two buildings of historical significance within a half-mile of any of the alternate routes for White Marsh Boulevard. One (number 136 on the Historical Sites map) is the Spamer Homestead, built about 1827. It is now reached by a small curving private road which extends about 2,000 feet eastward from the end of Ferguson Road, which is a northward extension of Magledt Road. This house is about the same distance north of Hines Elementary School site on Simms Road. (See Exhibit 16) In a direct line the house is about 1,700 feet east of Line "C" to Point #3.

The other building (number 280 on the Historical Sites map) is referred to as the Burgess-Magledt-Messner home, built about 1825. It is some 600-700 feet

2

west of Line "A" to Point #2 on the north side of Magledt Road where the latter makes a sharp curve to the south.

It does not appear that either of the two buildings would be significantly affected by its relation to any alignment of the proposed project.

2. AIR POLLUTION

Estimates of the concentrations of hydrocarbons from vehicular exhaust for White Marsh Boulevard were calculated from the Workbook of Atmospheric Dispersion Estimates (U.S. Environmental Protection Agency Publication No. AP-26). A line-source equation was used to predict the levels of hydrocarbons that could be expected at selected receptors within a mile of the proposed highway alternatives. The wind speed used was 1.5 m. sec.⁻¹ (meters per second), selected as representative of the lowest wind speed in the Baltimore area. Traffic flow input was the design hour volume, estimated to be 11% of the projected Average Daily Traffic for 1976 and 1978. The vehicle design speed was 70 miles per hour, and the emission factor was developed from data supplied by the Bureau of Air Quality Control and the State Motor Vehicle Administration.

Receptors that were chosen for analysis included all schools and proposed schools, residential sections and parks, and recreation areas. The values obtained were then compared to the State and Federal standards for hydrocarbons (Table I).

Maryland State Standard		Federal Standard
	Hydrocarbons	
160 ug/m ³	3-hr. conc.	160 ug/m ³

Table 1. State and Federal Standards for Hydrocarbons for 1975.

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For purposes of comparison the entire length of the proposed White Marsh Boulevard from I-95 to the proposed Perring Freeway was analyzed, assuming the complete project would be used in 1976 and 1978. In actual fact, the section from U.S. 1 to the proposed Perring Freeway is not planned for construction in the foreseeable future. The alternative which is chosen at this time, however, will determine the alternative chosen for the second half; thus there is need for comparison of the entire route.

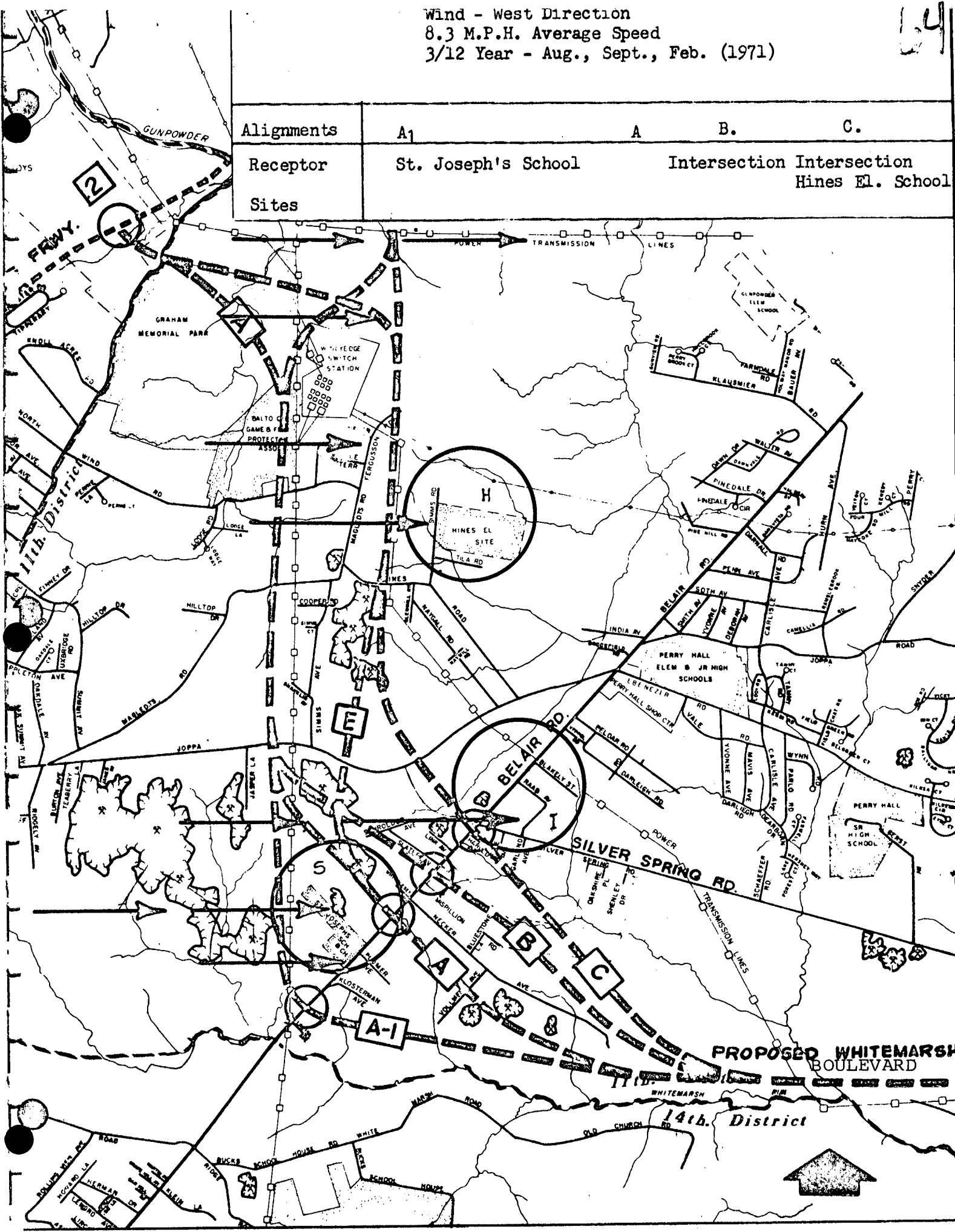
A total of 49 receptors was modeled; and it was found that in no instance will the contribution from the White Marsh Boulevard, by itself, cause the standards for ambient air quality to be exceeded. Furthermore, in the sections that will definitely be constructed for 1976 and 1978 use, there are no instances where the hydrocarbon concentrations can be expected to reach half of the standard (80 ug/m^3). The highest concentrations in the section from I-95 to U.S. 1 are expected to occur at St. Joseph's School and Church, especially if alternative A-1 or alternative A is selected. However, the standards are not expected to be exceeded by the contribution from these alternatives.

The section from U.S. 1 to the proposed Perring Freeway, assuming use in 1976 and 1978 for comparison, also does not at any point have predicted levels of concentration which, by themselves, would exceed the standards. However, there are several instances where the standards are nearly reached, specifically at the proposed Hines Elementary School from alternative C (86 ug/m^3) and in the Graham Memorial Park ($100\text{-}150 \text{ ug/m}^3$) and Gunpowder State Park (100 ug/m^3). It must be remembered that this section is not planned for construction probably beyond 1990, at which time it is anticipated that the automotive contribution of hydrocarbons will be zero. Thus, these figures are only indicative of a potential which is not likely to exist when the road is finally built.

Wind - West Direction
 8.3 M.P.H. Average Speed
 3/12 Year - Aug., Sept., Feb. (1971)

14

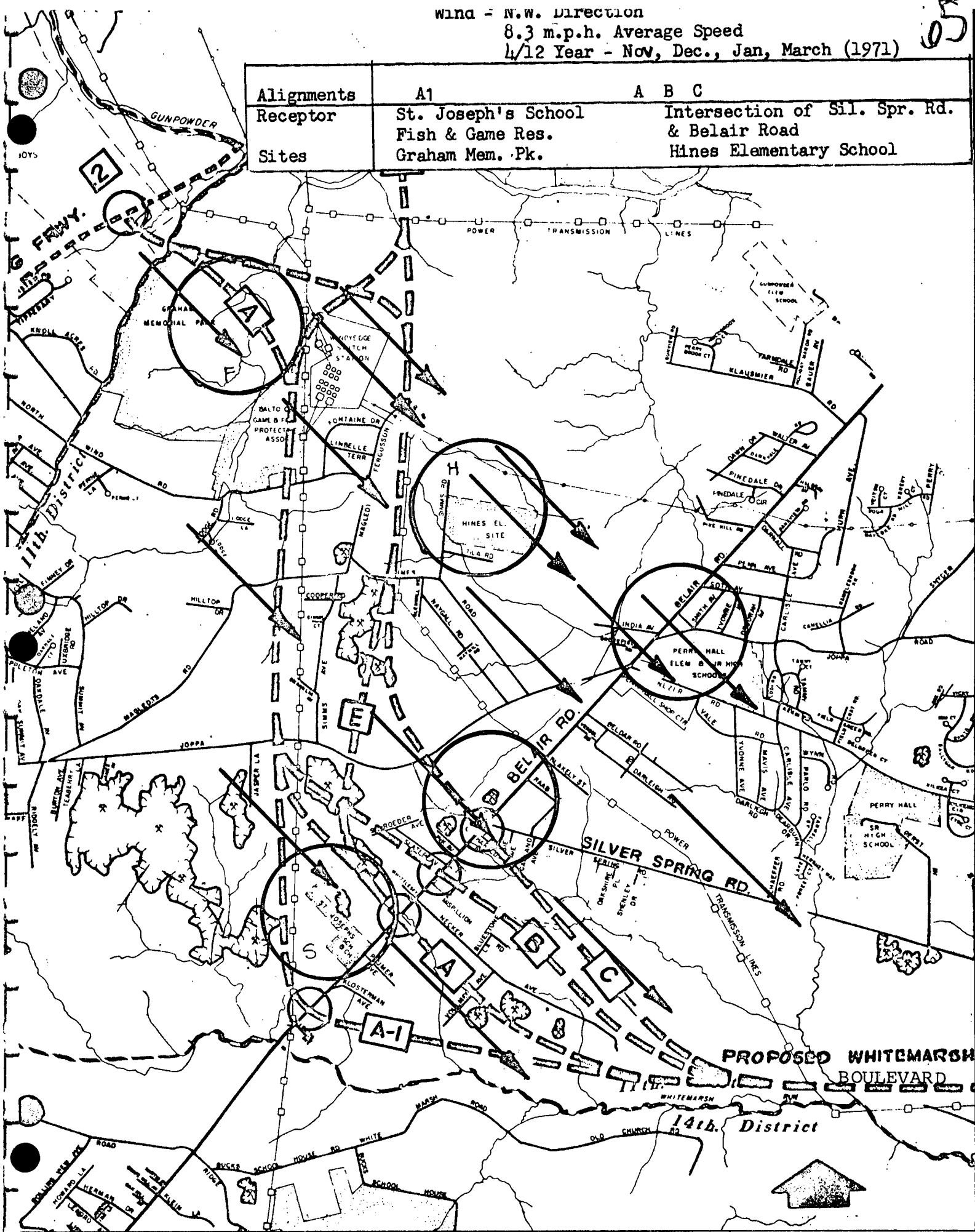
Alignments	A1	A	B.	C.
Receptor	St. Joseph's School		Intersection Intersection	
Sites			Hines El. School	



Wind - N.W. Direction
 8.3 m.p.h. Average Speed
 4/12 Year - Nov, Dec., Jan, March (1971)

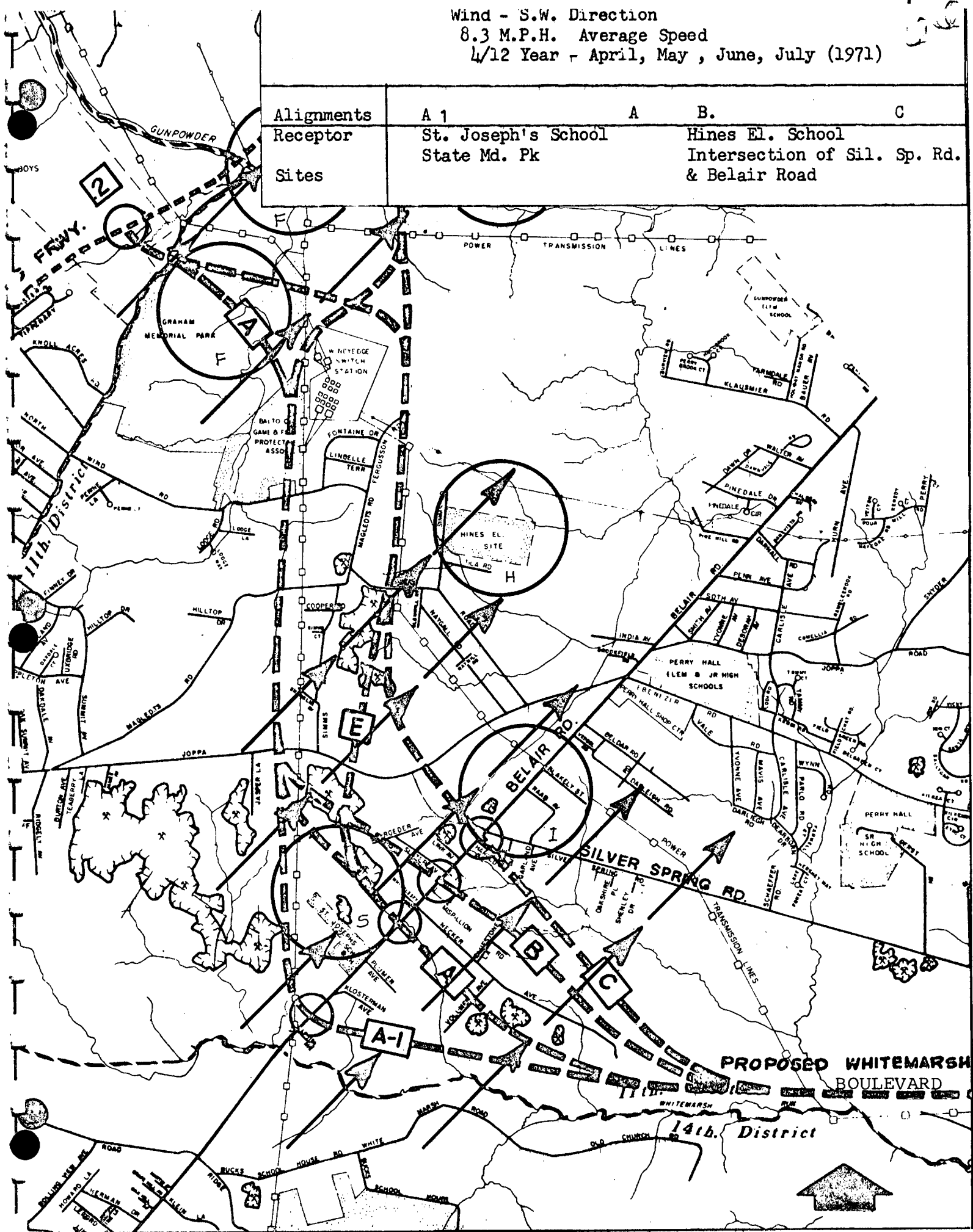
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Alignments	A1	A B C
Receptor	St. Joseph's School Fish & Game Res. Graham Mem. Pk.	Intersection of Sil. Spr. Rd. & Belair Road Hines Elementary School
Sites		



Wind - S.W. Direction
 8.3 M.P.H. Average Speed
 4/12 Year - April, May, June, July (1971)

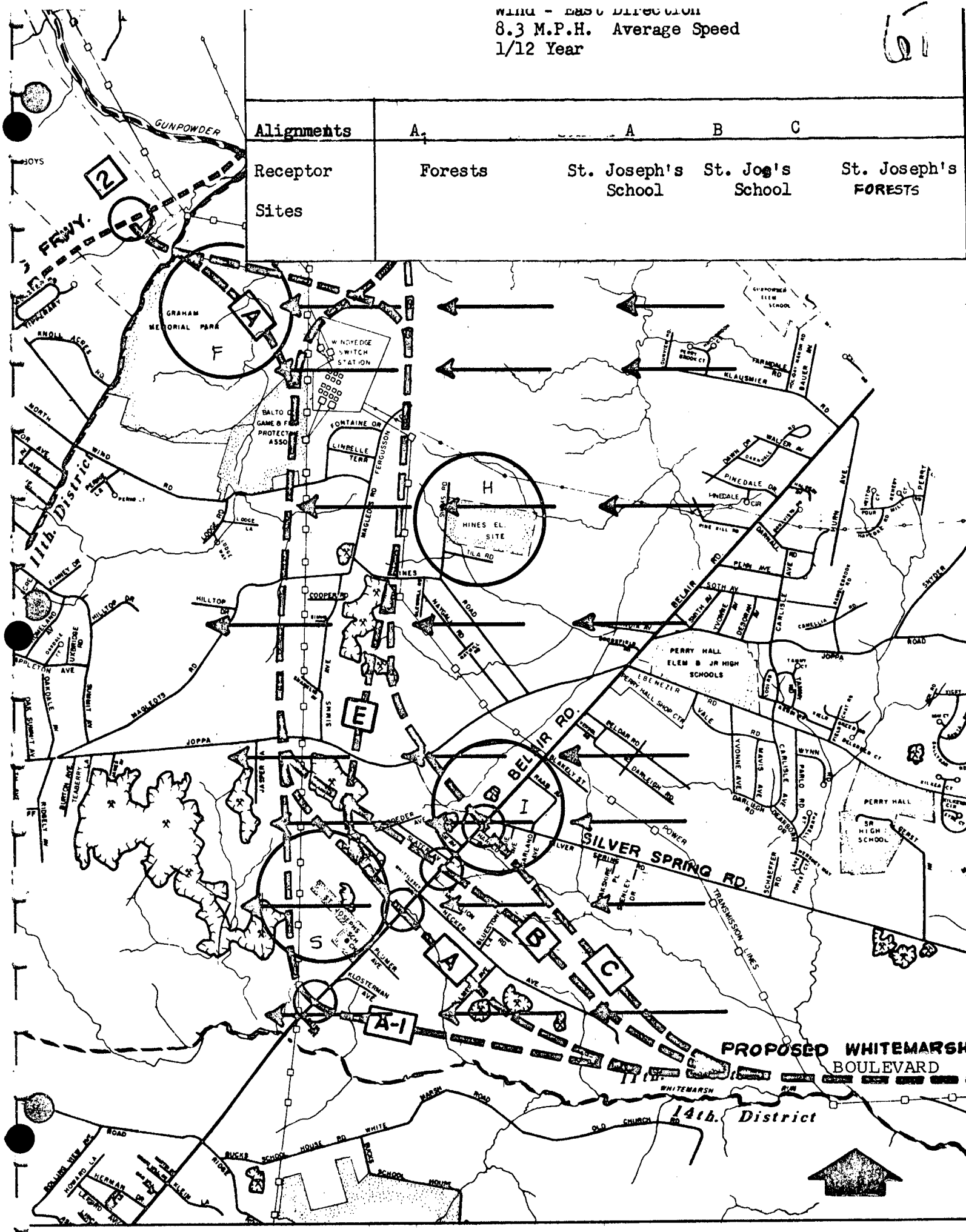
Alignments	A 1	A	B.	C
Receptor	St. Joseph's School State Md. Pk		Hines El. School Intersection of Sil. Sp. Rd. & Belair Road	
Sites				



WIND - EAST DIRECTION
 8.3 M.P.H. Average Speed
 1/12 Year

61

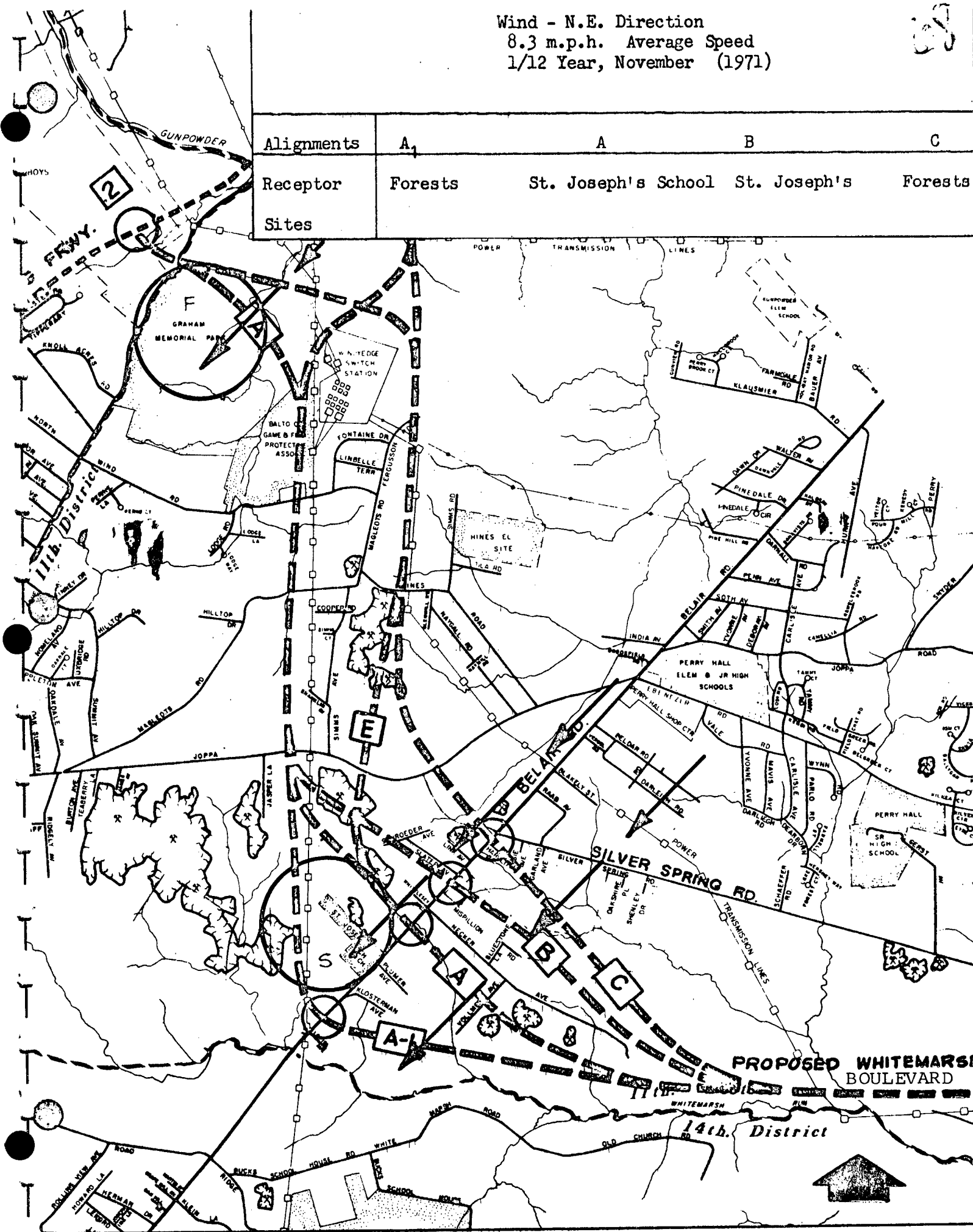
Alignments	A	A	B	C
Receptor Sites	Forests	St. Joseph's School	St. Joe's School	St. Joseph's FORESTS



Wind - N.E. Direction
 8.3 m.p.h. Average Speed
 1/12 Year, November (1971)

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Alignments	A ₁	A	B	C
Receptor	Forests	St. Joseph's School	St. Joseph's	Forests
Sites				



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There are a few areas along the proposed alternative routes where the topography is such that small pockets of air might on occasion become trapped under especially adverse meteorological conditions. At the St. Joseph's School and Church there are topographical variances of about 50 feet. In all alternative instances, the school and church will be higher than the proposed alignment. There are several residential areas, though, along the route of alternative C which are lower than the proposed highway and may possibly be impacted during an inversion. In such an instance, if other sources of pollution build up, the contribution from White Marsh Boulevard will only add to the local situation.

The paving used in construction of the roadway should decrease the amount of sand and soil now uncovered by vegetation in much of the area with a concurrent decrease in particulate dust material in the air because of the extensive sand and gravel surface mining. The curtailment of these activities which have ravaged the land in recent times will be of great benefit to the air and land in the area. The subsequent land development which will undoubtedly occur following the introduction of the traffic corridor should also be of benefit in land reclamation where mining occurred in the past.

Following the final promulgation of Volume 7, Chapter 7, Section 9 of the Federal Aid Program Manual, an Air Quality Supplement was subsequently prepared and is included in the Appendix.

3. NOISE LEVELS

Traffic projections have been made by the Maryland State Highway Administration for the proposed White Marsh Boulevard in 1999. Following the methods set forth in Report 117 of the National Cooperative Highway Research Program, the noise levels for this projected volume of traffic can be predicted.

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The predicted noise levels 100 feet from the roadway at a design speed of 70 miles per hour for White Marsh Boulevard are given in the following table:

<u>Route Section</u>	<u>L₁₀ Noise Level</u>
White Marsh Boulevard I-95 to Proposed Radecke Avenue	76 dBA
White Marsh Boulevard Proposed Radecke Avenue to U.S. 1	74 dBA
White Marsh Boulevard U.S. 1 to Proposed Perring Freeway	72 dBA
Off Ramp at Proposed Perry Hall Road	68 dBA
Proposed Radecke Avenue Interchange - Northeast Quadrant	69 dBA
Proposed Radecke Avenue Interchange - Southeast Quadrant	69 dBA
Proposed Radecke Avenue Interchange - Southwest Quadrant	67 dBA
Proposed Radecke Avenue Interchange - Northwest Quadrant	66 dBA
Proposed U.S. 1 Interchange - Northeast Quadrant	68 dBA
Proposed U.S. 1 Interchange - Southeast Quadrant	67 dBA
Proposed U.S. 1 Interchange - Southwest Quadrant	63 dBA
Proposed U.S. 1 Interchange - Northwest Quadrant	65 dBA
Proposed U.S. 1 Interchange - Northeast Quadrant	62 dBA
Proposed U.S. 1 Interchange - Southeast Quadrant	67 dBA
Proposed U.S. 1 Interchange - Southwest Quadrant	63 dBA
Proposed U.S. 1 Interchange - Northwest Quadrant	68 dBA

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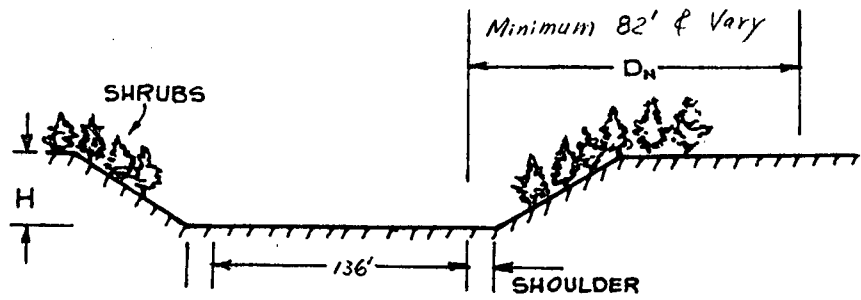
The above projected noise levels are based upon road gradients of 3% or less, a road surface of bituminous concrete, a design hour volume 11% of the average daily traffic, a truck traffic 8% of this average daily traffic and 4% of the design hour volume, and 60% directional distribution (predominant direction of traffic).

Referring to the Proposed Alignments Map (Exhibit 16) beginning at the John F. Kennedy Highway, along that part of White Marsh Boulevard that is in common to all of the proposed routes, no noise sensitive sites are encountered since the surrounding land is currently undeveloped. It has been previously stated that an area of approximately 700 acres between I-95 and the proposed Radecke Avenue will be extensively developed. Its development schedule will be compatible with the construction schedule of White Marsh Boulevard. However, based on the preliminary site plans available and provided that the nearest building be at least 100 feet away from the edge of the roadway or interchange ramp, the future noise levels will be within the standards.

Line A-1 - Along Line A-1, for those houses along U.S. 1 outside of the interchange area, the noise level due to traffic on White Marsh Boulevard satisfies the standards.

Along Line A-1 west of U.S. 1, the noise levels at those sites in the Belmont townhouses nearest the roadway will exceed the noise standards.

In view of the topography, depressing the roadway is an obvious measure. A five-foot depression of the roadway will produce marginal compliance, whereas a ten-foot depression will produce full compliance with the noise standards. If the measure is combined with the dense shrubbery illustrated in the figure, the following table is illustrative of the benefits in the amount of noise reduction that one would expect to obtain.



ESTIMATED NOISE REDUCTION FROM DEPRESSED ROADWAY

<u>Depth of Depressed Roadway</u> H (feet)	<u>Distance from Observer to Near Lane (D_N)</u>		
	100'	200'	300'
	Adjustment in dB		
0	0	0	0
5	-7.0	-7.0	-7.0
10	-12.0	-13.0	-14.0
15	-15.0	-16.0	-17.0

Due to the fact that about half of the noise from trucks comes from the exhaust which is often 8-10 feet above the roadway, these figures do not properly represent the rather intangible "annoyance factor." Consequently, larger depressions are to be preferred in order to take those "annoyance factors" into consideration. Noise levels at those houses farther than 200 feet from the roadway could be improved by barriers.

For each 50 feet of planting and provided the height of the shrubs and trees is at least 15 feet, one can expect between 2½ - 5 dB of noise reduction.

Barriers can be earth berms or, where space is tight, barriers can be fabricated from a variety of building materials. The barriers can be attractively landscaped, using appropriate shrubbery on either side of the barrier. The design parameters for such barriers are fairly well known; and when properly designed, noise reductions between 5-15 dB can be accomplished.

No other noise sensitive sites have been identified along the remainder of Line A-1 up to where it joins Line A south of Joppa Road.

Line A - Where Line A crosses Vollmer Avenue, the nearest house is 200 feet away from the edge of the roadway; the noise levels will be well within the standards.

Noise levels for houses on the south side of Necker Avenue will meet the noise standards. However, judicious use of shrubs would be psychologically beneficial for the residents in these houses.

In the interchange area where Line A crosses U.S. 1, depending on the selection of an interchange scheme, the Almar Kennels and existing houses may or may not have to be removed. Outside of this interchange area, noise levels due to traffic on White Marsh Boulevard for existing houses along U.S. 1 are within the standards.

The noise level due to traffic on White Marsh Boulevard at St. Joseph's School is within the standards. However, the terrain lends itself to a combination of earthworks, shrubs, and depression of the highway. The noise reduction data given earlier in this section are applicable to this site. In addition, for this particular site, there would be important psychological benefits from these measures.

Where Line A crosses Joppa Road, the noise levels at those houses within 200 feet of the roadway would exceed the noise standards if the roadway were neither elevated or depressed. Consequently, it is recommended that Line A be depressed where it crosses Joppa Road. Using the table on page B.16, one finds that for all houses remaining along Joppa Road, the depression of White Marsh Boulevard would result in noise levels well below standards.

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At the site where Line A passes through the grounds of the Baltimore County Game and Fish Protective Association, the noise levels at the main structure on these grounds only marginally satisfies the noise standards. However, this site is suitable for the planting of thick shrubs between the structure and the roadway; and this would help to bring the noise levels within the standards.

The noise levels in the northern part of Graham Memorial Park would exceed the standards. However, the terrain lends itself to earth mounding since the proposed roadway will be depressed by about 40 feet in this area. If the height of these mounds is in excess of 15 feet above the roadway and placed close to the roadway, the table on page B.16 shows that the noise levels in the northern part of Graham Memorial Park would be in conformity with the standards.

Line B - Line B poses serious problems, passing as it would through the newly completed Hallfield Manor subdivision and a small shopping center on the west side of U.S. 1.

However, the terrain would make it desirable that Line B be depressed when it crosses U.S. 1 and the depression of the roadway could be continued beyond Schroeder Avenue. Using the table on page B.16, one finds that with a 15-foot depression of the roadway the noise levels for the houses along Slater Avenue and Schroeder Avenue could be brought within the design standards for the remaining houses.

North of Joppa Road, Line B merges with Line A; and the analysis previously given to Line A can be used beyond Joppa Road.

Line C - This line poses the same problem as Line B with respect to Hallfield Manor.

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It has an additional complication with respect to the interchange at U.S. 1 and with respect to the plans for extending Silver Spring Road to Joppa Road.

At the site of the Perry Hall Apartments presently under extensive construction, the minimum distance from Line C to the residences would have to be 200 feet in order to meet the noise standards.

Where Line C crosses Joppa Road, the analysis given for Line A at the comparable site is applicable. Using the table on page B.16, one finds that the depression of the roadway for Line C would be required in order to meet the noise standards.

Where Line C crosses Hines Road, several houses immediately west of the power lines would have to be removed along with several houses at the end of Ferguson Road. Noise levels at other houses in the vicinity would be within noise standards. The use of dense shrubbery and trees could produce an additional 5 dB of noise reduction and would add materially to the psychological benefits.

In the area where the Gunpowder State Park is traversed, Line C is elevated with a high bridge (about 80 feet) over the Gunpowder Falls. Noise levels will meet the standards specified in PPM 90-2.

Line E - This line runs between the proposed Line A west of U.S. 1 to the proposed Line C south of Hines Road. The only point of difficulty is where Line E crosses Joppa Road. The analysis of the comparable crossing of Joppa Road by Line A is applicable. Use of the table on page B.16 will bring noise levels for the present houses on Joppa Road within the design standards.

4. NATURAL ENVIRONMENT

The construction of White Marsh Boulevard necessitates the displacement of native trees, shrubs, and grasses of the roadway area and their replacement

with grasses, protective vegetation appropriate to the stabilization requirements of slopes, fills, and scenic qualities desired in the development of the freeway. Generally, this means that a controlled system of functional plants are substituted for the existing progressions, This system may also serve the ecological functions of the displaced growth, providing shelter and food for small wild animals and birds and blending with the undisturbed vegetation beyond the right-of-way.

The areas which will show the effects of this displacement to the most marked degree will be in the sections of the Graham Memorial Park and the Baltimore Game and Fish Protective Association properties traversed by Routes A and extension of E. These sections are well-developed secondary forest growths of oak, hickory, maple, and pine in varying mixtures on the relatively steep slopes of this area. The obstructing woods must be cleared in preparing cuts and fills and stabilizing vegetation substituted over the prepared surfaces of the right-of-way. These surfaces may be landscaped and maintained to satisfy aesthetic requirements, but the transition undoubtedly breaks the normal evolution of the forest system and its associated biota.

If carbon monoxide primarily coming from automotive emission were converted to carbon dioxide, a gas on which all life depends, an increase in CO₂ could be expected to exercise the photosynthetic activity of plants and the vegetation would become as luxurious as it was in the great Coal Age. But CO₂ absorbs infrared rays radiated back from the earth's surface very well; thus CO₂ prevents the escape of heat energy from the earth into the atmosphere. Keeping the heat in this manner has been called the "greenhouse effect."

Carbon dioxide is a gas on which we all depend, although it is only one of many gases making up the atmosphere and makes up a very small part--only

three parts per 10,000 (0.03%). This concentration varies with the place, being higher over cities where larger quantities of coal, oil, and gasoline are being burned and lower in country areas where extensive photosynthesis is proceeding. An increase in the CO₂ content of the atmosphere raises the photosynthetic rate of plants that are well supplied with light and water, but it may also injure certain sensitive leaves.

Some students of evolution believe that the CO₂ content of the atmosphere may have varied considerably in recent geological times and may have been responsible for certain changes of vegetation and climate. For example, an increase in the CO₂ level would not only increase photosynthesis and thus the amount of plant material, but would also cause a general warming of the earth. This is true because the earth, heated by the sun, normally reradiates a portion of the absorbed energy back into space as infrared (heat) radiation. It happens that CO₂ absorbs infrared very well, thus preventing the complete escape of this heat energy and creating a sort of planet-wide "greenhouse." Warming of the earth through such an effect could lead to partial melting of polar ice caps and glaciers and to flooding of the low lying land areas in which most of the world's major cities are located.

Thus, our rapid consumption of fossil fuels such as oil and coal and the release of extra CO₂ into the atmosphere may have profound consequences for man. This process, however, tends to limit and even reverse itself. Higher temperatures and higher CO₂ levels will result eventually in a higher rate of photosynthesis and a luxurious growth of plants such as occurred in the Carboniferous Era when dinosaurs abounded. This increase of absorption of CO₂ during photosynthesis should eventually lower the atmospheric CO₂ content significantly, causing a cooling of the earth and a reversal of the cycle mentioned above.*

*(A. Galston, THE GREEN PLANT, Prentice-Hall Publ., 1968, pages 34-5.)

Highway plants which are planned for White Marsh Boulevard should also be beneficial in the process of reclaiming the barren territory, especially east of U.S. 1. Selected plants which are tolerant to automotive exhausts will add nutrients and water to the now arid region. These plants should also contribute to air purification by removing a portion of the particulate suspensoids from the air, by absorbing some of the contaminant gases by gaseous absorption, and by contributing oxygen to the atmosphere.

Selected highway plantings should add to the beauty and aesthetic environmental aspects of the area, help with certain cooling effects, and, if skillfully planned into the design of the highway, be effective as traffic director indicators and as noise barriers.

C. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS

An important unavoidable adverse effect is the right-of-way required to support highway construction which necessitates displacement of residences, businesses, and park land. In spite of careful planning and refinement of the proposed improvement, construction of same will require the acquisition of between 12 to 27 homes, 0 to 3 businesses, and 16 to 23.5 acres of park land, depending on the selection of alignment.

Due to the substantial amount of replacement housing available in the Baltimore area, no significant problems are anticipated with regard to relocation. Relocation assistance will be conferred on those involved under guidelines set forth by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Detail discussion of the park land involved will be the subject of the attached 4(f) Determination.

Since this highway will be built where one does not presently exist, there will be an increase in the noise level and air pollution of the area. However, remedial measures to minimize these adverse environmental effects are available. (See Section G of the Statement.) It is expected that the noise level and air pollution will stay well below the limit specified by the Federal Highway Administration, U.S. Department of Transportation.

It is recognized that highways for the most part do not favorably lend themselves to the overall appearances of the abutting environs. However, landscape, aesthetic architectural treatment of structures, and design of interchange effects may be employed to reduce any harmful aesthetic effect.

During the construction period, noise, dust, and exhaust pollutants from construction equipment would create a temporary adverse effect on the environment as well as a small amount of unavoidable erosion from the roadway cuts and fills. Temporary and permanent erosion control practices that are now required on all highway projects in Maryland should keep these adverse environmental effects to an acceptable minimum.

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D. ALTERNATES

All alignments considered originate at the existing White Marsh interchange with I-95 (designated Point #1) and proceed in a northwesterly direction to two possible interchange locations with the proposed Perring Freeway (designated Points #2 and #3). Previous studies have produced ten possible combination alignments for White Marsh Boulevard. Heading west from I-95, the various alternates coincide for a distance of 1 1/3 miles. From there on they are contained in a corridor study area that averages 1/2 mile in width. White Marsh Run extends along the entire south boundary of the corridor. Big Gunpowder Falls essentially forms the northern boundary of the corridor.

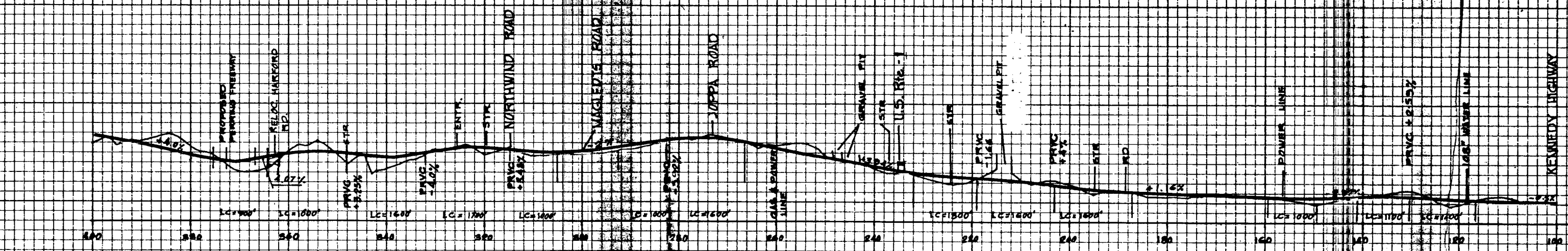
LINE "A" - From Point #1 to Point #2: (Referring to Exhibit 16)

From Interchange #1 at the John F. Kennedy Highway (Interstate Route 95), the proposed alignment proceeds in a westerly direction. It is to the north of White Marsh Run and generally parallels it. There is no conflict with nor anticipated ecological harm to the Run.

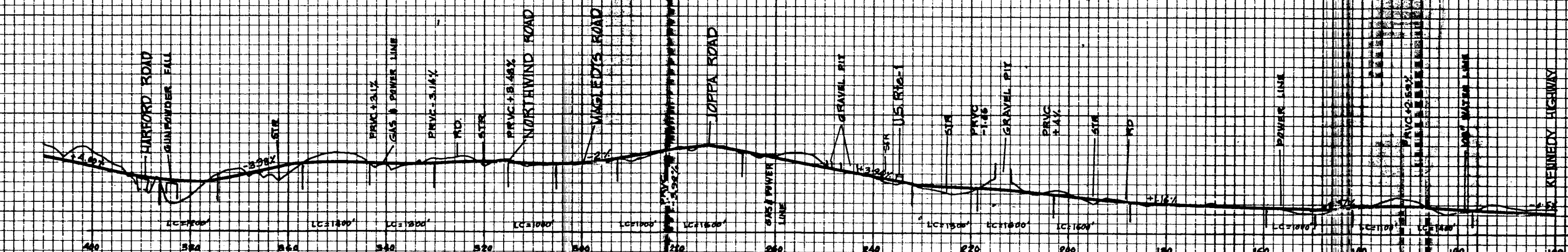
The alignment then proceeds in a northwesterly direction and parallels Necker Avenue to the south and intersects U.S. Route 1 (Belair Road) approximately 600 feet south of Necker Avenue. An interchange is proposed at this point.

The alignment continues in a northwesterly direction, crosses under the overhead transmission line and intersects Joppa Road to the west of the Baltimore Gas and Electric overhead transmission lines. A grade intersection is planned at Joppa Road.

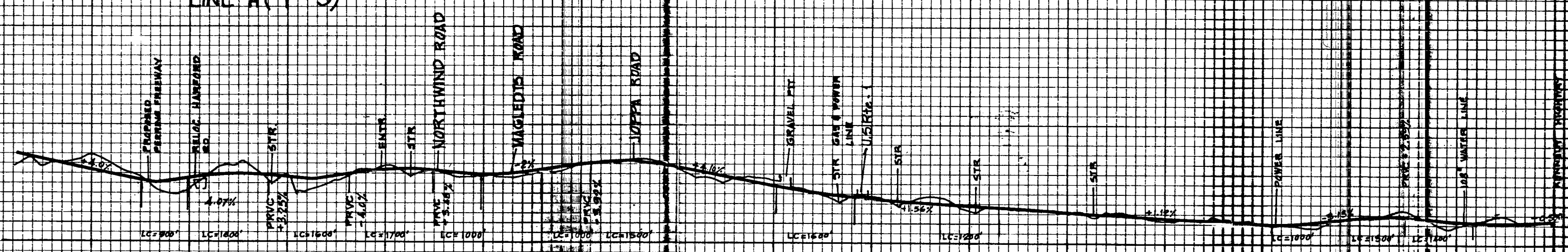
From Joppa Road, the proposed alignment heads in a northerly direction and generally parallels the transmission line on the west side. In order to miss the homes in this area, the alignment generally follows a stream valley.



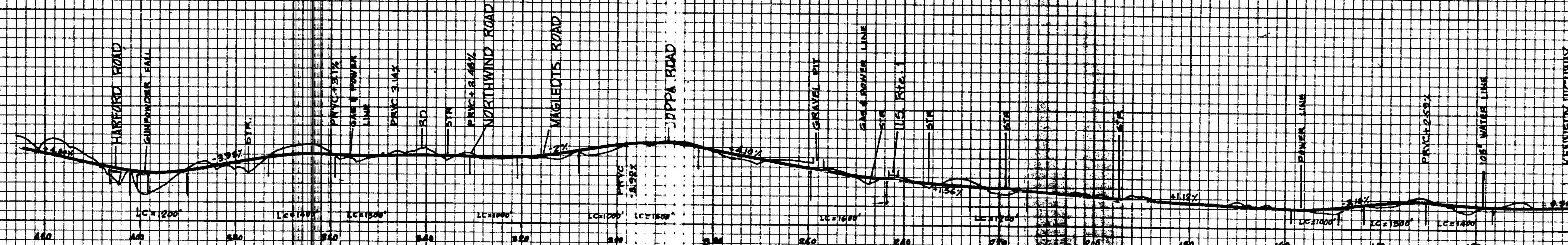
LINE A-1 (#1-#2)



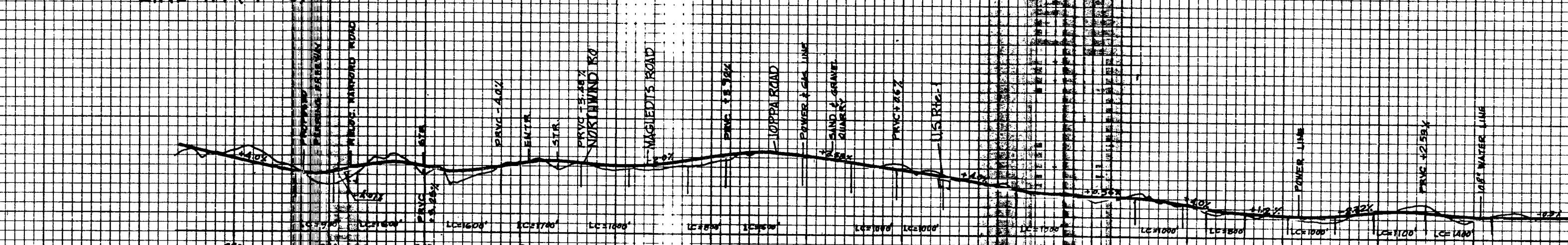
LINE A-1 (#1-#3)



LINE A-1 (#1-#2)



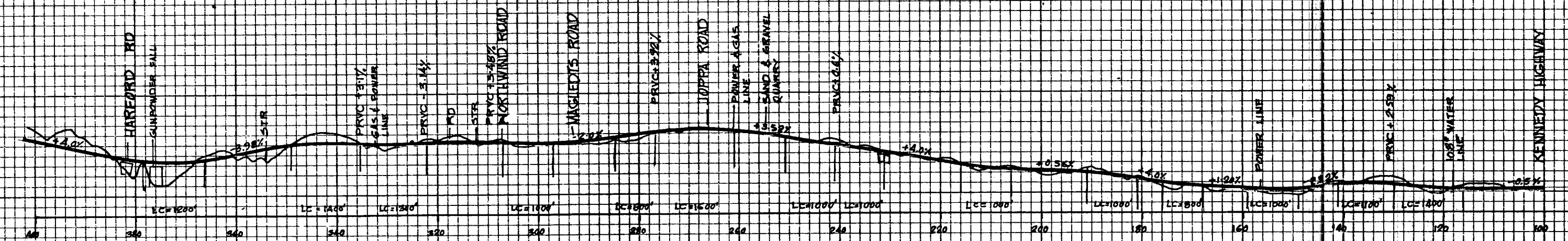
LINE A-1 (#1-#3)



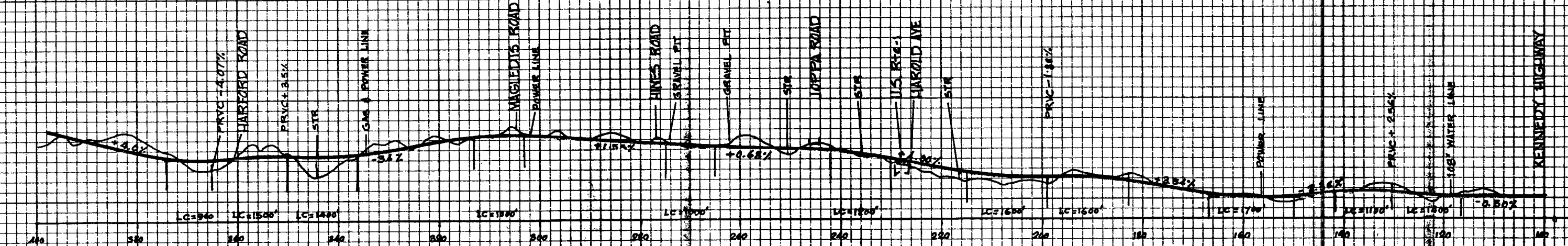
LINE B (#1-#2)

PROPOSED VERTICAL ALIGNMENTS (1)

STATE HIGHWAY ADMINISTRATION	PREPARED BY: FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND.
WHITEMARSH BLVD. (Md-Rte. 43)	



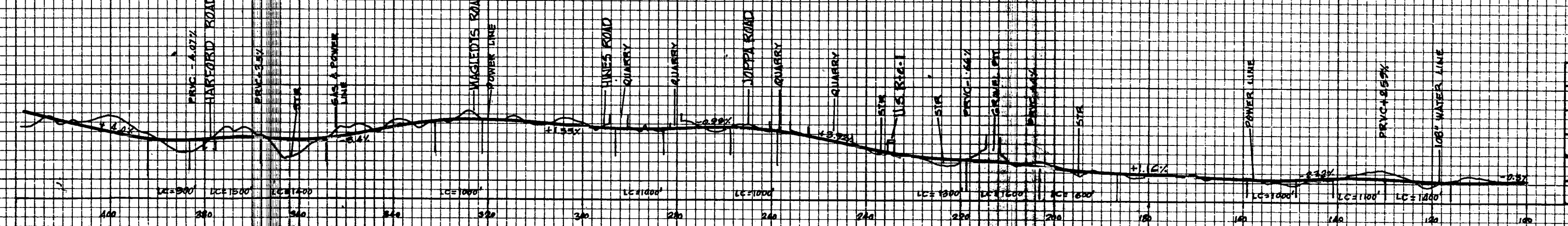
LINE B (#1-#3)



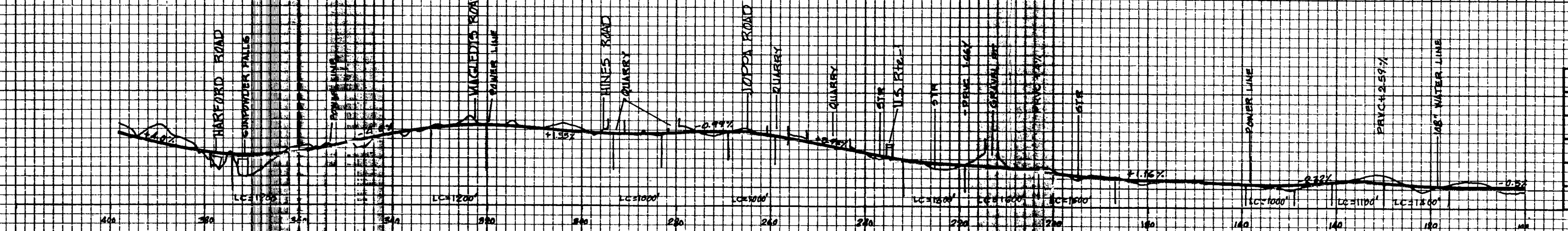
LINE C (#1-#2)



LINE C (#1-#3)



LINE E (#1-#2)



LINE E (#1-#3) (Recommended Alignment)

PROPOSED VERTICAL ALIGNMENTS (2)

STATE HIGHWAY ADMINISTRATION	PREPARED BY: FUNK, FLETCHER & THOMPSON, INC. ARCHITECTS, ENGINEERS & PLANNERS LUTHERVILLE, MARYLAND.
WHITEMARSH BLVD. (Md-Rte. 43)	

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In the vicinity of the Windy Edge Switch Station, the alignment heads northwest and traverses the northeast section of Graham Memorial Park. The White Marsh Boulevard would bridge over Harford Road with no connections and then interchange with the proposed Perring Freeway at Point #2 on the south side of the Gunpowder Falls and east of the Maryland Training School for Boys.

The length of Line "A" from Point #1 to #2 is 5.1 miles \pm .

LINE "A" - From Point #1 to Point #3:

This is the same as Line "A" from Point #1 to #2 as far as the Windy Edge Switch Station. From that point, this alignment departs and hits a small corner of the eastern boundary of Graham Memorial Park and then heads in a northeasterly direction crossing the northwest corner of the switch station to Line "C."

Continuing in a northerly direction, the alignment traverses the Gunpowder State Park. It would have a high bridge crossing over the Gunpowder Falls and a bridge over Harford Road. The White Marsh Boulevard would then interchange with the proposed Perring Freeway between Harford and Factory Roads.

This alignment is 5.6 miles \pm in length.

LINE "A-1" - From Point #1 to Points #2 and #3:

This alignment differs from Line "A" only in its crossing of U.S. Route 1. It parallels White Marsh Run for a longer distance and crosses Route 1 approximately midway between White Marsh Run and Klosterman Avenue. An interchange is planned at Route 1.

The proximity of Klosterman Avenue and the newly constructed Dunfield Road by the Baltimore County Department of Public Works to the White Marsh-U.S. Route 1 interchange would require closing their existing connections to U.S. Route 1 and providing new accesses to U.S. 1 to the north and south respectively.

From U.S. 1, the alignment heads in a northerly direction paralleling the west side of the transmission line and intersects Joppa Road at the same point as Line "A."

Line "A-1" from Point #1 to #2 is 5.4 miles \pm .

Line "A-1" from Point #1 to #3 is 5.9 miles \pm .

LINE "B" - From Point #1 to Points #2 and #3:

This alignment differs from Line "A" in its crossing of U.S. Route 1.

It leaves the vicinity of White Marsh Run and heads in a northwesterly direction and parallels Necker Avenue and Mispillion Road to the north. It intersects U.S. Route 1 approximately 500 feet north of Necker Avenue. An interchange at this point would have to be limited in design to minimize interference with Necker, Slater, Link, and Mispillion Roads and the homes located thereon.

The alignment continues in a northwesterly direction and intersects Joppa Road in the vicinity of Line "A."

The length of Line "B" is:

From Point #1 to #2 - 4.9 miles \pm .

From Point #1 to #3 - 5.4 miles \pm .

LINE "C" - From Point #1 to Point #2:

Alignment "C" heads in a westerly direction from the I-95 interchange for approximately one mile and then turns to the northwest and intersects U.S. Route 1 at Silver Spring Road.

An interchange at this point would require closing the existing connections of both Silver Spring Road and Link Avenue to U.S. 1. Silver Spring Road could be relocated to the north for access to U.S. Route 1 and Link Avenue can be connected to Slater Avenue for access back to U.S. Route 1.

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Continuing in a northwesterly direction, alignment "C" crosses Joppa Road approximately 3/4 mile from Route 1. Due to its proximity to U.S. Route 1 interchange, Joppa Road cannot be connected to the White Marsh Boulevard. A bridge would be required to separate the traffic.

From Joppa Road, the alignment heads in a northerly direction. It crosses Hines Road and runs parallel to the west side of the Baltimore Gas and Electric transmission line. The proposed Hines Elementary School site is located to the east on Simms Road.

Continuing to the north, Line "C" passes to the east of the Windy Edge Switch Station and then heads west. It runs inside the northern boundary of Graham Memorial Park, bridging over Harford Road, and interchanges with the Perring Freeway at Point #2.

The length of Line "C" from Point #1 to #2 is 4.8 miles \pm .

LINE "C" - From Point #1 to Point #3:

This alignment is the same as the previously described Line "C" from Point #1 to Point #2 as far as the northeast corner of the Windy Edge Switch Station. From there, this alignment departs in a northerly direction through the Gunpowder State Park. It would have a high bridge crossing the Gunpowder Falls, bridging over Harford Road and then interchanging with the Perring Freeway at Point #3.

The length of Line "C" from Point #1 to Point #3 is 5.0 miles \pm .

LINE "E" - From Point #1 to Points #2 and #3:

This alignment is a combination of Lines "A" and "C." From Point #1 to U.S. Route 1, it is the same as previously described Line "A," crossing Route 1 south of Necker Avenue.

From U.S. Route 1, Line "E" heads in a northerly direction and intersects Joppa Road east of Simms Avenue. Going north from Joppa Road, Line "E"

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intersects Hines Road west of the transmission line. From this point it is the same as previously described Line "C" to both Points #2 and #3.

From Point #1 to Point #2 - length - 5.1 miles ±.

From Point #1 to Point #3 - length - 5.4 miles ±.

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The following summarizes the length and cost (both Construction and Right-of-Way) required for all alternates.

COMPARATIVE COST (1975)

ALIGNMENT	LENGTH		COST		
	Miles		Construction	R/W	Total
A(1-2)	5.1		\$16,500,000	\$4,010,000	\$20,510,000
A(1-3)	5.6		21,290,000	4,023,000	25,313,000
A-1 (1-2)	5.4		17,080,000	4,480,000	21,560,000
A-1 (1-3)	5.9		21,900,000	4,490,000	26,390,000
B(1-2)	4.9		16,250,000	3,880,000	20,130,000
B(1-3)	5.4		21,050,000	3,895,000	24,945,000
C(1-2)	4.8		17,800,000	3,210,000	21,010,000
C(1-3)	5.0		21,160,000	3,015,000	24,175,000
E(1-2)	5.1		17,330,000	3,805,000	21,135,000
E(1-3)	5.4		20,710,000	3,615,000	24,325,000

Note: The above construction cost does not include 24% for Preliminary Engineering, Construction Engineering and Administrative Overhead.

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DO-NOTHING ALTERNATE

Discussion and evaluation of the impact from each of the ten (10) alternates upon the environment have been presented. An eleventh alternate is simply to do nothing.

One of the most common errors in popular ecological thinking and one that shapes much current public policy is that if nothing is done (a) things will stay as they are, and (b) that the balance of uncontrolled changes will be generally beneficial. Popular ecological education tends to the romantic notion that nature is kind, gentle, and cooperative; it minimizes the needs and values of public works programs as a necessary and evolving process for survival.

However, the observable historical fact is that the environment changes in spite of us and that every technical resource must be used to maintain elemental requirements for human survival. A balance between economic, social, and environmental consideration is essential.

With the prospective new land development in this area, one having the highest potential in this region, the proposed Sector Center, one of only five in Baltimore County, and the new industrial development along U.S. Route 40 north of the Baltimore Beltway (I-695), the lack of a direct, safe, fast, and efficient transportation route would become more unendurable. More traffic would continue to travel on the already congested Baltimore Beltway. With the extensive development underway and the traffic projection of 40,000 A.D.T. traversing this subject corridor by 1999, it is evident that a solution must be found in order to meet the ever increasing traffic demand.

If the Do-Nothing alternate were accepted, adverse effects, notably the displacement of residents, the localized deterioration in air quality, and increases

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in ambient noise levels could be avoided. On the other hand, economic and community benefits in this area would be seriously affected and would decline before long. It must also be noted that further traffic delays will result in increased congestion, noise, and air pollution.

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E. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT VERSUS LONG-TERM PRODUCTIVITY

It is recognized that during the construction period highways have adverse short-term impact upon the environment. Maintenance of traffic, tie-ups, air pollution, water pollution, noise, landscape damage, and construction activities will undoubtedly disturb many local residents. Another immediate short-term impact will be the removal from the tax rolls of approximately 180 acres of taxable property. It will be necessary to relocate about 20 homes and a few businesses. However, remedial measures for these adverse impacts are available and will be discussed in Section "G" of the Statement.

There will be no loss of important historic, cultural, or natural aspects of our national heritage; nor will there be a significant loss of natural resources which will be looked upon as a shortcoming of this generation in the years to come.

Long-range effects based on the experience from highway construction of similar types have proved to be generally favorable. A highway of this function is certainly considered a long-term productive facility. It will provide safe and efficient transportation through the area. This project, as part of a sector plan which includes Baltimore County facilities, will certainly help to solve many traffic problems in the existing congested roadways.

By increasing accessibility, new highways can affect several components of an area's economy. Improved traffic service to employment and retail centers contributes positively to economic growth. It is expected that expanded revenues will be generated as suburban developments accrue and land values increase.

Access to hospitals, schools, recreation areas, and other highways in this area will be expedited. Long-term effects to wildlife from White Marsh Boulevard intrusion should be minimal.

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F. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

All highway construction projects will involve an irreversible and irretrievable commitment of some resources in that material is required and the roadway itself does occupy land.

The only significant timber or wooded lands which would be affected by this proposal are those under city or state park jurisdiction. A certain clearing will be required to construct the roadway, but the highway will be landscaped and located to blend into the terrain.

Most of the land needed is presently either agricultural, undeveloped, or used for sand and gravel operations. The area between U.S. Route 1 and I-95 includes that area proposed by the County as a Sector Center. The idle quarries are located north and south of Joppa Road. Considering that these quarries are essentially mined-out and surrounded by residential development, the ultimate effect on mineral rights is not considered significant.

In comparing the construction of the highway to the proposed ultimate development for the region, it is not anticipated that the proposed highway will adversely affect the timber lands or waterways.

If the proposed transportation facility should no longer be needed as a transportation network or if a greater need arises for the area occupied by the highway facility, the roadway could be converted to a different land use at great expense. If such an improbable instance were to occur, recognition would be made of benefits derived and a proportionate amount of the public funds and efforts committed to the project could be classified as the irretrievable portion.

The monetary resources expended for development and construction of the highway will not be lost but will reflect as an increase in the local economy. It is

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felt the construction of White Marsh Boulevard will not constitute an irreversible and/or irretrievable commitment of resources that would be regretted by future generations.

G. STEPS TAKEN TO MINIMIZE UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

1. DISPLACEMENT OF PEOPLE, BUSINESS, AND PARK LAND

A major unavoidable adverse effect is the right-of-way required to support construction of the proposed highway which requires displacement of residences, businesses, and acquisition of park land. However, with the provisions outlined in the Relocation Assistance Program of the State Highway Administration of Maryland, these impacts will be substantially minimized.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" requires that the State Highway Administration shall not proceed with any phase of any project which will cause the relocation of any person, or

proceed with any construction project until it has furnished satisfactory assurances that the above payments will be provided and that all displaced persons will be satisfactorily relocated to comparable decent, safe, and sanitary housing within their financial means or that such housing is in place and has been made available to the displaced person.

State or City park land cannot be avoided by any of the alternates now being considered. Graham Memorial Park is 185.45 acres in size. It is a city park situated in Baltimore County. The alignments through this park and the required right-of-way would certainly alter the archery and horseback riding activities.

The Gunpowder State Park is regional in significance and traverses the length of Gunpowder Falls. However, Alignment "C" to Interchange #3 crosses the park at approximate right angles in an attempt to have the least intrusion to the environment.

More remedial measures to minimize unavoidable adverse environmental effects on the parks will be discussed in the attached 4(f) Statement.

2. HIGHWAY CONSTRUCTION

Most of the other adverse effects are of temporary nature and will be caused by activities connected with the construction phase of the project. The State Highway Administration will incorporate certain standardized specifications and various special provisions in the contract plan with the aim toward avoiding or minimizing damages to the environment in the highway construction. The contractor is required to conduct the work in a manner so as to cause the least practicable obstruction to traffic. This would include access to abutting businesses and residences. Barricades, warning signals, flagmen, and detours are to be used for added safety precautions. Construction activities and storage

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of material will be restricted to within the actual right-of-way limits. If dust conditions occur, they will be watered down or treated with discreet amounts of calcium chloride. Liability insurance is required against possible personal injuries and property damages. In addition, contractors are directly responsible for compliance with Local, State, and Federal laws applying to any aspect of project construction.

3. EROSION CONTROL

The control of runoff from modern expressways has in recent years been developed into a specialized branch of hydrological science. There is now a large background of both empirically derived information and basic hydrography in use in highway design. Much of this was developed within the State itself. Perhaps the most extensive and generally useful information was developed during the construction of the Baltimore-Washington Expressway in the studies of storm patterns and storm water hydrographs that were carried out jointly by the Federal Highway Administration, Maryland's State Highway Administration, and the Department of Sanitary Engineering of The Johns Hopkins University.

While these investigations were initially directed to solving problems associated with flooding at underpasses and traffic patterns in torrential storms, the work was enormously valuable in the design of storm drainage to eliminate flooding problems. The net result of this work has been so successful that those using the Expressway are unaware of the strides in highway engineering design made during this brief period. The principles are now used nationwide. They are, however, uniquely useful in the peculiarly violent and unpredictable storm areas through which the White Marsh Boulevard is projected.

A temporary control schedule and method of operation will be worked out and approved by the State Highway Engineer prior to construction operations.

The contractor will be required to control rain water runoff by means of earth berms, slope drains, portable flumes; where necessary energy dissipators, placed rip rap, sediment traps and basins and similar design items will be incorporated at the earliest time possible commensurate with the contractor's capability in keeping pollution control measures current in accordance with the approved schedule. Permanent items in the contract specifications restrict pollution by requirements such as: final clean-up on completion of project, careful handling and storage of material, controlled burning of debris, seeding embankments and cuts to insure stability, trimming of borrow pits after use, protection of adjacent properties during dredging or hydraulic fill activities, replacement of salvage topsoil, etc.

4. STREAM POLLUTION PREVENTION

The above temporary and permanent control measures will do much to reduce highway oriented pollution such as siltation and sedimentation. Continuing liaison will be maintained with the Maryland Department of Water Resources concerning the location and design of structures which affect water courses. It is a standard design procedure to maintain the maximum amount of existing vegetation and to require re-vegetation of all exposed soil areas. Drainage channels will be lined with appropriate material for the velocity of water carried. Culverts and bridges will be provided with waterway openings of proper shape and size to pass flood flows with a minimum increase in the natural or existing flood flow velocity at the structure and to keep the rise of the upstream flood surface to a minimum. Detailed standards and specifications are stated in the State Highway Administration's BOOK OF STANDARDS - HIGHWAY AND INCIDENTAL STRUCTURES, HYDRAULIC CRITERIA FOR DESIGN OF HIGHWAYS, and SPECIFICATIONS FOR MATERIALS, HIGHWAYS,

BRIDGES AND INCIDENTAL STRUCTURES. In addition, the Administration's "Erosion and Sediment Control Program" issued August, 1970, has been adopted and approved by the Maryland Department of Natural Resources. If all these measures are implemented, pollution on Gunpowder Falls and White Marsh Run is not expected to be significant. Strategically placed piers across the river channel will overcome siltation pollution connected with the bridge construction process.

5. BORROW PIT POLLUTION

Chapter 245 of the Acts of the 1970 Maryland General Assembly requires construction contractors to obtain permits and approval from the appropriate public agencies for work such as borrow pits and waste area operations performed outside of construction limits. The permits are predicated on treatment during and after completion of the grading. Borrow pits must be reseeded to return them to a natural state.

6. DE-ICING SALTS

The contamination of the surrounding lands adjacent to the roadway by de-icing salts can be overcome, at least in part, by the selection of salt-tolerant plants which will not be injured by these salts as they are carried in the slush and through the air during defrosting periods. A list of such plants is shown in the following table:

SALT-TOLERANT PLANTS

Grasses	Salt Tolerance
Bermuda	Good
Western wheat	
Tall wheat	
Tall fescue	
Birdsfoot trefoil	

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SALT-TOLERANT PLANTS

<u>Grasses</u>	<u>Salt Tolerance</u>
White sweet clover	
Yellow sweet clover	
Perennial rye	
Alfalfa	
Orchard	
Meadow fescur	Moderate
Reed canary	
Big trefoil	
Smooth brome	
<hr/>	
White Dutch clover	
Meadow foxtail	
Alsike clover	Poor
Red clover	
Ladino clover	

7. AIR POLLUTION

The most practical and efficient way to reduce automotive emissions is through the improvement of automotive internal combustion engines and the fuel they use. It is anticipated that action taken by the Federal Government requiring auto manufacturers to install effective auto pollution devices will minimize the contribution of pollutants from automobiles in the years to come.

Proper management with respect to construction units and their proximity to the highway and careful utilization of highway plantings can to some extent effectively counterbalance air pollution from automotive emissions. In regard to the White Marsh Boulevard, there are already residential areas, parks and recreation areas, and schools in proximity to the proposed alignments. There is, though, a good potential for the utilization of highway plantings. Not only will such plantings aid in other areas of potential impact than air pollution; but studies by the U.S. Department of Agriculture and the Material Forest Service have indicated that plantings may help clean the air.

Plants can reduce air pollution by decreasing dust fallout through the filtering effect of their leaves; they can de-toxify polluted air through gaseous absorption and plants supply fresh oxygen to fume-filled areas.

Certain plant species have been found to be more resistant to air pollutants than others. A list of all species studied to date with reference to their levels of toxic response to the oxides of nitrogen, ozone, PAN, and sulfur dioxide is presented in the following tables, taken from the U.S. Forest Service publication NE-INT-14-72.

POLLUTION TOLERANT PLANT SPECIES

Name of Plant	Hardiness Zone	Height	Plant Type	Evaluation and Comments
Autumnolive (Elaeagnus umbellata)	5	10'	Shrub	Tolerates alkaline and salt soils. Not sufficiently hardy in Minnesota.
American Plum (Prunes americana)	3	4'	Shrub	A low-growing variant not adequately evaluated.
Siberian Salt tree (Halimodendron halodendron)	2	6'	Woody	Extremely hardy, salt tolerant shrub adapted to saline/alkaline soils. Circumneutral to saline soils, full sun. Establish by transplants.

OXIDES OF NITROGEN

SOFTWOODS	Tolerant	Intermediate	Sensitive
European larch (<i>Larix decidua</i>)		*	
White spruce (<i>Picea glauca</i>)			*
Colorado spruce (<i>Picea pungens</i>)			*
Dwarf mugo pine (<i>Pinus mugo mughus</i>)			*
Austrian pine (<i>Pinus nigra</i>)			*
Eastern white pine (<i>Pinus strobus</i>)			*

PEROXYACETYL NITRATE (PAN)

SOFTWOODS	Tolerant	Intermediate	Sensitive
European larch (<i>Larix decidua</i>)	*		
Japanese larch (<i>Larix leptolepis</i>)	*		
White spruce (<i>Picea glauca</i>)	*		
Colorado spruce (<i>Picea pungens</i>)	*		
Jack pine (<i>Pinus banksiana</i>)	*		
Austrian pine (<i>Pinus nigra</i>)	*		
Pitch pine (<i>Pinus rigida</i>)	*		
Eastern white pine (<i>Pinus strobus</i>)	*		
Douglas fir (<i>Pseudotsuga menziesii</i>)	*		
Eastern hemlock (<i>Tsuga canadensis</i>)	*		

ETHYLENE

SOFTWOODS	Tolerant	Intermediate	Sensitive
Japanese holly (<i>Ilex crenata</i>)			*
ARBORVITAE (<i>Thuja sp.</i>)			*

OXIDES OF NITROGEN

HARDWOODS	Tolerant	Intermediate	Sensitive
Japanese maple (<i>Acer palmatum</i>)			*
Norway maple (<i>Acer platanoides</i>)			*
European hornbeam (<i>Carpinus betulus</i>)			*
European beech (<i>Fagus sylvatica</i>)			*
Maidenhair tree (<i>Ginkgo biloba</i>)			*
APPLE (<i>Malus sp.</i>)			*
Pear (<i>Pyrus communis</i>)			*
Black locust (<i>Robinia pseudoacacia</i>)			*
European elder (<i>Sambucus nigra</i>)			*
Little leaf linden (<i>Tilia cordata</i>)			*
Large leaf linden (<i>Tilia grandiflora</i>)			*

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PEROXYACETYL NITRATE (PAN)

HARDWOODS	Tolerant	Intermediate	Sensitive
Sugar maple (<i>Acer saccharum</i>)	*		
Tulip tree (<i>Liriodendron tulipifera</i>)			*
Little leaf linden (<i>Tilia cordata</i>)			*

OZONE

SOFTWOODS	Tolerant	Intermediate	Sensitive
Balsam fir (<i>Abies balsamea</i>)	*		
White fir (<i>Abies concolor</i>)		*	
Western juniper (<i>Juniperus occidentalis</i>)	*		
European larch (<i>Larix decidua</i>)			*
Japanese larch (<i>Larix leptolepis</i>)			*
Incense cedar (<i>Libocedrus decurrens</i>)		*	
Norway spruce (<i>Picea abies</i>)	*		
White spruce (<i>Picea glauca</i>)	*		
Black Hills spruce (<i>Picea glauca densata</i>)	*		
Colorado spruce (<i>Picea pungens</i>)	*		
Knobcane pine (<i>Pinus attenuata</i>)		*	
Jack pine (<i>Pinus banksiana</i>)			*
Coulter pine (<i>Pinus coulteri</i>)		*	
Jeffrey pine (<i>Pinus jeffreyi</i>)			*
Sugar pine (<i>Pinus lambertiana</i>)	*		
Singleleaf pinyon pine (<i>Pinus monophylla</i>)	*		
Austrian pine (<i>Pinus nigra</i>)			*
Ponderosa pine (<i>Pinus ponderosa</i>)			*
Monterey pine (<i>Pinus radiata</i>)			*
Red pine (<i>Pinus resinosa</i>)	*		
Pitch pine (<i>Pinus rigida</i>)			*
Digger pine (<i>Pinus sabiniana</i>)	*		
Eastern white pine (<i>Pinus strobus</i>)			*
Scotch pine (<i>Pinus sylvestris</i>)			*
Torrey pine (<i>Pinus torreyana</i>)	*		
Virginia pine (<i>Pinus virginiana</i>)			*
Big cone Douglas fir (<i>Pseudotsuga macrocarpa</i>)		*	
Douglas fir (<i>Pseudotsuga menziesii</i>)	*		
Giant sequoia (<i>Sequoia gigantea</i>)	*		
Redwood (<i>Sequoia sempervirens</i>)	*		
ARBORVITAE (<i>Thuja</i> sp.)	*		
Eastern hemlock (<i>Tsuga canadensis</i>)			*

OZONE

HARDWOODS	Tolerant	Intermediate	Sensitive
Boxelder (<i>Acer negundo</i>)			*
Norway maple (<i>Acer platanoides</i>)	*		
Red maple (<i>Acer rubra</i>)	*		
Silver maple (<i>Acer saccharinum</i>)			*
Sugar maple (<i>Acer saccharum</i>)	*		
ALDER (<i>Alnus</i> sp.)			*
European white birch (<i>Betula pendula</i>)	*		
CATALPA (<i>Catalpa</i> sp.)			*
Judas tree (<i>Cercis chinensis</i>)			*
White dogwood (<i>Cornus florida</i>)	*		
White ash (<i>Fraxinus americana</i>)			*
Green ash (<i>Fraxinus pennsylvanica</i>)			*
Honeylocust (<i>Gleditsia triacanthos</i>)			*
Black walnut (<i>Juglans nigra</i>)	*		
Sweetgum (<i>Liquidambar styraciflua</i>)			*
Tulip tree (<i>Liriodendron tulipifera</i>)			*
Siberian crab (<i>Malus baccata</i>)			*
Maple leaf mulberry (<i>Morus alba acerfolia</i>)			*
American planetree (<i>Platanus occidentalis</i>)			*
California sycamore (<i>Platanus racemosa</i>)			*
Quaking aspen (<i>Populus tremuloides</i>)			*
White oak (<i>Quercus alba</i>)			*
Scarlet oak (<i>Quercus coccinea</i>)			*
Gambel oak (<i>Quercus gambelii</i>)			*
Shingle oak (<i>Quercus imbricaria</i>)	*		
Pin oak (<i>Quercus palustris</i>)			*
English oak (<i>Quercus robur</i>)	*		
Red oak (<i>Quercus rubra</i>)	*		
Black locust (<i>Robinia pseudoacacia</i>)			*
Weeping willow (<i>Salix babylonica</i>)			*
European mountain ash (<i>Sorbus aucuparia</i>)	*		
Little leaf linden (<i>Tilia cordata</i>)			*

The actual on-site monitoring of air alert conditions is of recent origin for many parts of the country, although hurricane monitoring has been successful in the recent past. Data in connection with air pollution alerts along White Marsh Boulevard are not yet available, although the Maryland State Health Department has begun some on-site air monitoring. In the summer of 1972 extensive analyses were carried out during the air alert of July 17-22, 1972.

It is most probable that in the near future information will become available which will allow for modeling procedures with regard to automotive exhaust gases and their concentrations in the air immediately above highways during air stagnation periods.

When this information becomes available, it can be coupled with engineering techniques for possible ventilation techniques to clear the air in cases of emergency, should the concentration rate in an air alert ever warrant such measures.

8. NOISE POLLUTION

There are a number of measures which will bring the noise levels into conformity with the Federal standards. They have been discussed in Section B, Probable Impact on Environment, and will be summarized here.

One of the most common remedial measures is to depress or elevate the roadway. Where the terrain is suitable, depressing the roadway is an effective measure. The table presented on page B.16 shows noise reduction at various depths of depressed roadway and at various distances from the source of noise.

Noise levels could also be effectively reduced by means of barriers. Barriers may be earthworks (embankment) buffer zone or, where space is tight, barriers can be fabricated of Cor-ten steel. These barriers can be attractively landscaped; and when properly designed, noise reduction between 5-15 dB can be accomplished.

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Another popular measure is the planting of dense shrubs and trees away from the roadway. For each 50 feet of planting and provided the height of the shrubs and trees is at least 15 feet tall, one can expect between 2½ -5 dB of noise reduction. Furthermore, these barriers would have a beneficial psychological effect on the residents in the houses near the White Marsh Boulevard.

Combination of these measures should result in noise levels well below the Federal standards as specified in PPM 90-2.

9. OTHER REMEDIAL MEASURES

Any adverse aesthetic or visual effects will be reduced by flattening curves and slopes. The back slopes will be rounded and landscaping will be employed to blend the highway into the environment. Every effort will be made to disturb as little existing vegetation as possible. Seeding used for erosion control and right-of-way revegetation, coupled with controlled mowing techniques, will encourage natural regeneration of native plant material and turf on the right-of-way and be attractive to native animals for nesting and feeding purposes.

In all instances where new fishing stream channel work is planned, it will be necessary to inspect existing conditions prior to final design to determine existing pools and their frequency, percentage of shade provided as compared to the new channel, amount of fish cover available in the form of pools or tree and brush shelter. It will then be possible to approach the determination of minimum habitat requirements for the new channel with those facts in mind. The State Highway Administration will cooperate with the Department of Natural Resources to assure that a proper design is achieved.

SECTION 4 (f) DETERMINATION
IN THE MATTER OF WHITE MARSH BOULEVARD
GRAHAM MEMORIAL PARK AND THE GUNPOWDER STATE PARK
BALTIMORE COUNTY, MARYLAND

1. INTRODUCTION

The State Highway Administration, Department of Transportation, State of Maryland, hereby makes notice of the proposed State Highway Project B 818-11-471, known as the White Marsh Boulevard (Maryland Route 43), from Interstate 95 (John F. Kennedy Memorial Highway) to the proposed Perring Freeway, whose alternate alignments affect Graham Memorial Park and/or the Gunpowder State Park. Accordingly, approval of the project is prohibited by Section 4(f) of the Department of Transportation Act and Section 138 of Title 23, United States Code, unless: (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area resulting from such use.

This statement, therefore, will set forth determination pursuant to applicable law.

It is to be emphasized that this final statement is prepared following the corridor public hearing, the circulation of the draft statement, and the air quality supplemental statement. All the comments received from government agencies, business organizations, private citizens, and other interested parties have been carefully considered and evaluated before a recommended alignment is reached in this final document.

2. THE HIGHWAY PROPOSAL

This project is located in Baltimore County and is the proposed extension of White Marsh Boulevard (Maryland Route 43) from the existing interchange at the John F. Kennedy Memorial Highway (I-95), northward to the proposed Perring Freeway.

The basic design criterion for the alignment studies within the corridor is for a multi-lane, wide median highway with a minimum right-of-way width of 300 feet. The design speed is 70 miles per hour.

The total route is approximately 5.4 miles in length. The first phase would comprise that section from I-95 to U.S. Route 1 (2.4 miles \pm), which is scheduled for construction before 1977 under the Maryland Department of Transportation Consolidated Transportation Program.

The purpose of the corridor study for the complete route at this time is to properly evaluate and plan the total highway plan for the future development of the area. A further discussion of the purpose and function of this project is presented in the accompanying Environmental Statement, Section A.

It is true that the taking of any park land can be avoided if some other corridor were selected. In fact, many alternate highway corridor locations had been studied and considered long before the corridor public hearing held on April 7, 1971. The so-called "Proctor Lane Corridor," southwest of alignment "A" suggested by the Regional Planning Council, and another corridor north from Perry Hall are among the alternate corridors considered. As pointed out in the response to the comments from the Regional Planning Council, it was found that there is no way to traverse well-developed areas (referring to Exhibit 21), such as Oak Summit and Linden Heights without displacing many families and imposing serious infringement on the schools either existing or proposed. Furthermore,

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in reaching a later terminus at Dulaney Valley Road, this corridor would damage already existing recreational facilities, namely, the Pine Ridge Golf Course. Similarly, the proposed corridor cannot be considered north of Perry Hall (referring to Exhibit 2) because it would create a maximum adverse effect upon the senior high school and residential developments of Perry Hall. As a result of these severe damages, these and other alternate corridor locations were dropped from further consideration. It is thus determined that no feasible and prudent alternatives exist to the use of park lands.

3. THE 4(f) TYPE LANDS

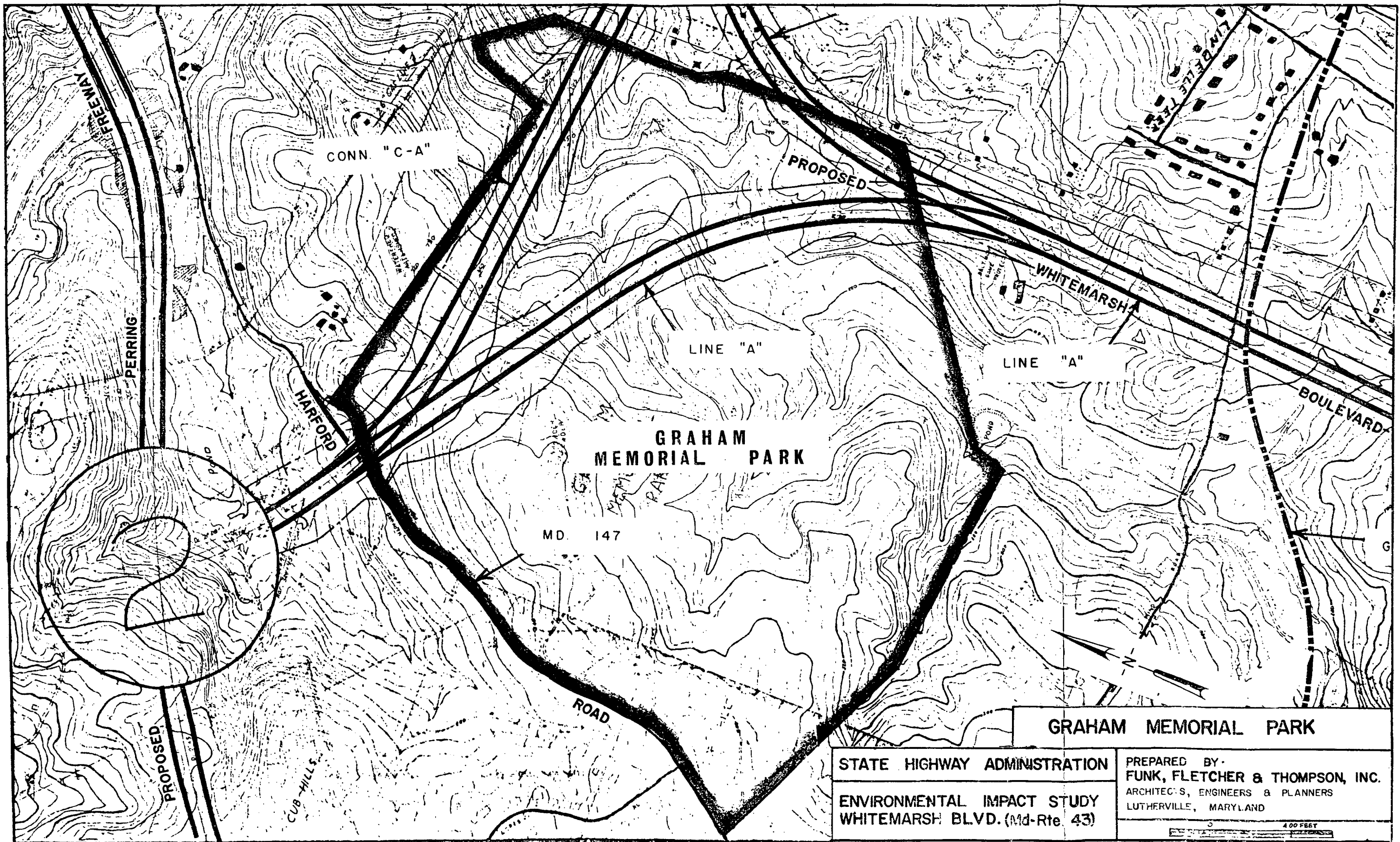
A. Graham Memorial Park

This park is owned and operated by Baltimore City's Department of Recreation and Parks. (See attached Exhibit 19.)

Graham Memorial Park comprises approximately 184 acres and is located in Baltimore County. It is about three miles north of Baltimore City and one-third of a mile south of Big Gunpowder Falls. It is located on the east side of Harford Road (Maryland Route 147) on which it has about three-fifths of a mile frontage.

Graham Memorial Park is basically used and intended for active recreational purposes. The park provides horseback riding, hiking, picnicking, archery, and camping which is normally limited to one or two nights. The facilities include a horse barn, stable, riding ring, riding and hiking trails, an archery range and club house, and a simulated archery hunting course in the woods, picnicking, toilet facilities, and parking lots for about 100 cars.

No accurate figures for patronage are available. Patronage for the most part is regional. The park is open to the public for about 360 days per year. Horses are owned and rented to the public by a private lessee.

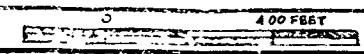


GRAHAM MEMORIAL PARK

STATE HIGHWAY ADMINISTRATION

PREPARED BY:
FUNK, FLETCHER & THOMPSON, INC.
 ARCHITECTS, ENGINEERS & PLANNERS
 LUTHERVILLE, MARYLAND

ENVIRONMENTAL IMPACT STUDY
 WHITEMARSH BLVD. (Md-Rte 43)



Estimated Annual Activities

Horseback riding.....	3,500
Archery.....	2,500
Picnicking.....	2,500
Hiking.....	2,500
Camping.....	500

There is a riding trail connecting Graham Memorial Park with nearby Gunpowder State Park which has no known facilities in the subject corridor.

Access to Graham Memorial Park is mostly by car via Harford Road (Maryland Route 147) because of the distance from extensive residential areas, but occasional pedestrian use is stated as occurring.

In December, 1954, Mr. Albert D. Graham deeded 116 acres to the City of Baltimore, to be used for park and recreation purposes. In the will of Mr. Graham, who died in May, 1957, another 68 acres, adjoining the south side of the previously given tract, were left to the City with the same stated purpose. Neither of these conveyances, totalling approximately 184 acres, specified any deed restriction or reversionary clause.

The terrain of the park varies from rolling to steep and is approximately 65% wooded. A predominantly open ridge occurs in the western section of the park, generally parallel to Harford Road, with the archery range extending to the north property line. Steep wooded stream valleys run eastward and northward to Big Gunpowder Falls. Types of uses are consistent with the park's location and natural character. It is much used by Boy Scout groups. It is the only horseback riding area owned by Baltimore City, and there is no other location that provides a simulated archery hunting course. There has been no use of Federal funds. Gift and municipal funds have been used for development.

B. Gunpowder State Park

This park (see attached Exhibit 20) is under the jurisdiction of the Department of Forests and Parks, State of Maryland.

Gunpowder State Park is located in Baltimore County and comprises approximately 11,600 acres of land with about 9,360 acres currently under State ownership. It basically consists of two river valleys, the Big Gunpowder Falls between U.S. Route 40 and Prettyboy Dam and the Little Gunpowder Falls between U.S. Route 40 and Jarrettsville Pike.

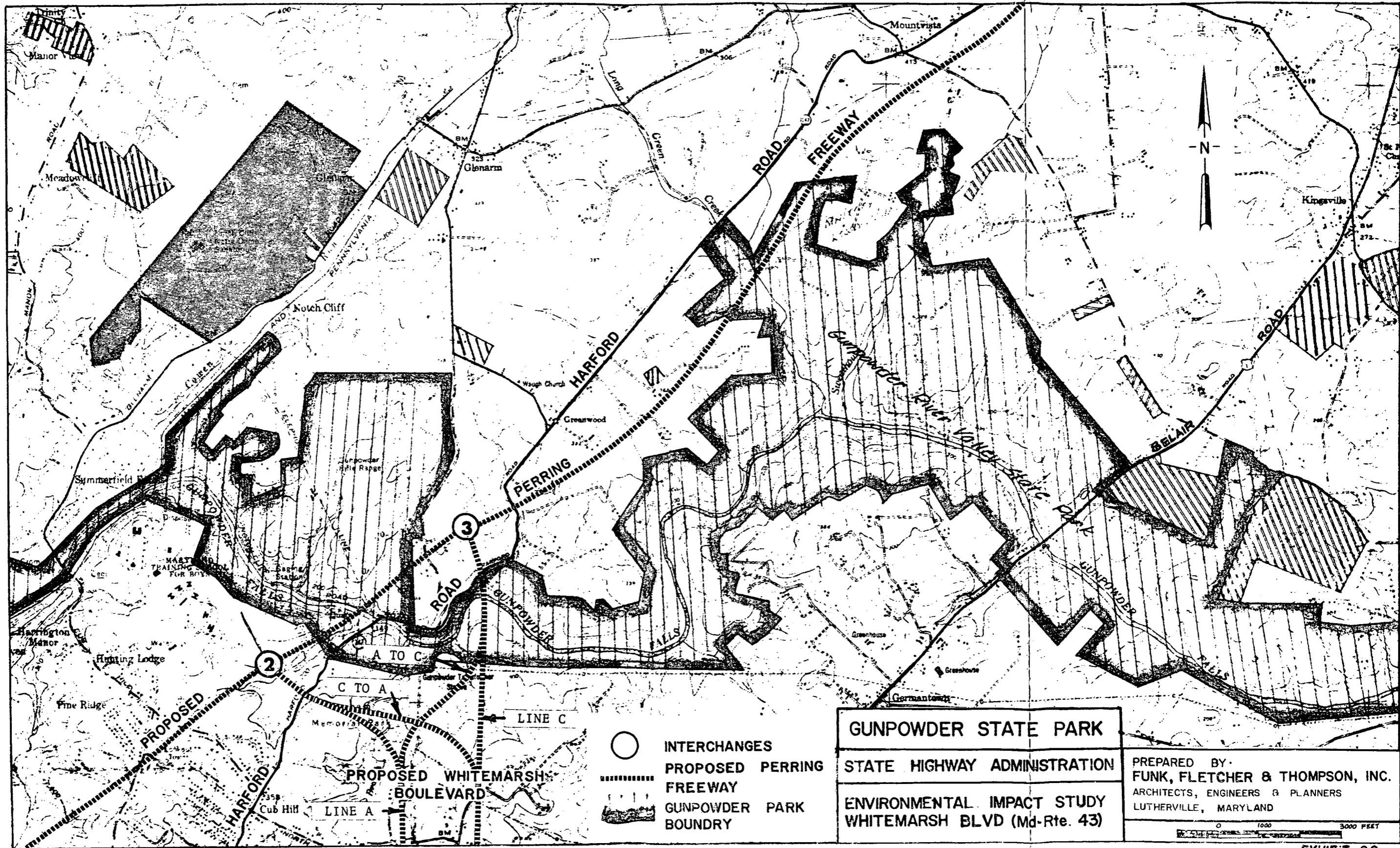
The branch affected by the White Marsh Boulevard is the Big Gunpowder Falls (approximately 4,200 acres with 10½ miles of river). The park is basically undeveloped at this time except for some facilities in the vicinity of U.S. 40. Approximately 71% of the total area proposed for the park is presently woodland.

The overriding characteristic of the topography in respect to slopes is a relatively deeply incised valley floor resulting from years of water action. The walls of the valley are steep.

The proposed land use assigned the types of recreational activities best suited to their natural form are summarized as follows:

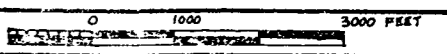
<u>Physiographic Form</u>	<u>Appropriate Outdoor Recreational Use</u>
Unforested Plateau	Multiple use, family and group picnicking with play fields.
Forested Plateau	Camping, family picnicking.
Valley Wall	Hiking, riding, nature study.
Valley Floor	Water-oriented activities, limited picnicking, hiking, riding.

The use in the affected area presently is uncontrolled due to lack of personnel. There are no specific recreational facilities; however, there is considerable horseback riding activity along the stream, primarily from Graham Memorial Park.



GUNPOWDER STATE PARK
 STATE HIGHWAY ADMINISTRATION
 ENVIRONMENTAL IMPACT STUDY
 WHITEMARSH BLVD (Md-Rte. 43)

PREPARED BY
FUNK, FLETCHER & THOMPSON, INC.
 ARCHITECTS, ENGINEERS & PLANNERS
 LUTHERVILLE, MARYLAND



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The Maryland Park Service has designated this section as a Natural Environment Area within a State Park. The rather steep valley walls prohibit extensive recreational development but contribute to the hiking and riding activities. The type of recreation that will take place in the immediate area of the highway will be low density, and no large permanent facilities are planned.

The affected area of the park serves as a natural corridor along the stream valley linking other nearby more heavily used areas. Access to the area will be controlled from the adjacent use areas.

This section of the park is completely State-owned and operated by State funds. There were no deed restrictions nor reversionary clauses on the properties in the area.

Gunpowder State Park is planned to provide open space and outdoor recreational activities for a rapidly urbanizing area. The Master Plan for Development is consistent with the "State Outdoor Recreation Open Space Plan," prepared by the Department of State Planning. It is also consistent with regional plans proposed by the Baltimore Regional Planning Council.

Gunpowder State Park is primarily intended for regional uses although park campers from many states will utilize the trails.

4. ALTERNATIVES TO USE OF 4(f) TYPE LANDS

The Final Environmental Statement, Section D, describes in detail the alternate alignments considered by the State Highway Administration, and the resulting effects to the parks are as follows:

A. Graham Memorial Park

Alignments A, A-1, and B to Point #2 - This requires approximately 23.5 acres of park land to provide the proposed right-of-way. This alignment runs diagonally across the property, resulting in a severe severance of the park and infringement on activities.

Alignment A to Point #3 (Conn. "A - C") - This alignment requires approximately 4.2 acres of park land to provide the proposed right-of-way. The conflict is limited to the most southeastern corner of the property and does not appear to have a major effect on the operation of the park.

Alignments C and E to Interchange #2 (Conn. "C - A") - These alignments require approximately 18.0 acres of park land to provide the proposed right-of-way and traverse the northern property line. The bridle paths which lead north to the State Park would be crossed by this proposal.

It must be recognized that the above land requirement from the City Park does not include the residual land on the north side cut off or severed by the proposed highway construction. Taking this into consideration, the total land requirement from Graham Memorial Park would be substantially higher.

B. Gunpowder State Park

Alignments A and C to Point #3 - These alignments require approximately 16.0 acres of State-owned land to support the proposed right-of-way. As previously noted, this park is long (10½ miles) with the Loch Raven Reservoir as its western termini and U.S. Route 40 as its eastern termini. It is virtually impossible to avoid crossing this park.

The point of crossing is relatively narrow with the proposed park use planned for horse and foot trails.

Not to construct the highway would be another alternate. However, this proposal, although not an immediate need from U.S. Route 1 to the proposed Perring Freeway, is required as part of the future highway network. It is an important link between two freeways and the planning for it is essential at this time.

5. PLANNING TO MINIMIZE HARM

There have been no formal agreements with either park officials to compensate for or replace Section 4(f) lands. There have been informal meetings and correspondence with these agencies.

In discussions with the State Park officials, they have indicated that Line C or Line E does not have an apparent conflict with future major developed areas proposed for Gunpowder State Park. They have suggested that a high level bridge over the valley may offer the least unfavorable effect on the environment. Our preliminary studies and cost estimates (page D.6) reflect a high level structure (approximately 85 feet above Gunpowder Falls) to allow continuity of park activity.

Discussions with City Park officials revealed no compatible use between highway and park use. They are violently opposed to any route through Graham Park, and their opposition could be reflected from the attached correspondence. However, inasmuch as the City is concerned about the continuity of the bridle paths, it is possible to provide a bridge or oversize drainage structure along one of the deep ravines. Also, land lost as the result of highway construction may be replaced or compensated through acquisition of the land south of Graham Memorial Park. Furthermore, alignments traversing the park could conceivably be adjusted northward to reduce or eliminate damage to the park.

Other remedial measures to minimize the environmental impacts applicable to the parks have been discussed in Section "G" of the Final Environmental Impact Statement.

I. A. DISPOSITION OF COMMENTS FROM DRAFT ENVIRONMENTAL STATEMENT

The list denoting agencies to whom the Draft Environmental Impact Statement was petitioned for review and comment is shown in the Summary Sheet. The comments from the responding agencies, in summary form, along with the State Highway Administration's response are as follows:

Baltimore City Department of Recreation and Parks

(a) Stated that they will not give up any of their land to this highway construction.

Response - Route A-E-C is the recommended alignment which will not take any land from Graham Memorial Park.

(b) Stated that the statements in the report that there is minimal impact on Graham Memorial Park are false.

Response - Neither the Draft nor the Final Statement states that there is minimal impact on Graham Memorial Park. Rather, both statements state that the adverse impacts could be minimized through a number of remedial measures available.

Maryland Interagency Committee for the Public School Construction Program

(a) Stated that they noted no existing public schools would be significantly affected by the proposed project and advised that they had no objection to any of the proposed alignments.

(b) Advised that they encourage the use of landscaping or other buffers, particularly if alignment "C" is selected, along the right-of-way of White Marsh Boulevard in the vicinity of the Hines Elementary School site to reduce or eliminate pollutants.

Response - These are but part of the remedial measures presented in both the Draft and Final Environmental Impact Statements to reduce or eliminate

pollutants, namely, air and noise pollution. These measures will be incorporated in the engineering design and implemented during the construction of the project.

(c) Stated that if there are any other conflicts of which the agency was unaware, they would hope these conflicts would be addressed in the reply from the Baltimore County Board of Education to whom they noted a copy of the Draft Environmental Impact Statement was also sent.

Response - Since response has not yet been heard or received up to date from the Baltimore County Board of Education, it is assumed that they do not have an interest in this project and have no comments in accordance with their areas of jurisdiction.

Maryland Bureau of Air Quality Control

(a) Regarding the table of automotive emissions on page A.14.

Response - Emission factors have been replaced with new data obtained from the Bureau of Air Quality Control of the Department of Health and Mental Hygiene of Maryland. They were taken from the technical memorandum of that Bureau, "Method for Estimating Light Duty Vehicle Emission on a Sub-Regional Basis."

(b) Regarding the average speed of the vehicles.

Response - An average speed of 55 miles per hour has been used in the revised portions of the EIS pertaining to air pollution.

(c) Regarding comments on carbon monoxide conversion to carbon dioxide on page A.16.

Response - The difficulties of predicting pollution activity in the area of micro-meteorology, under which air pollution dispersion falls, have been noted in the revised portions of the EIS. Several comments, such as

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this one, have been deleted which were of a general nature and not specific to the question at hand.

(d) Regarding comments on hydrocarbon concentrations on page A.21.

Response - This section also has been revised to reflect the comments as suggested.

(e) Regarding the data on wind and the typographical errors on page A. 36.

Response - The section on meteorology has been revised extensively to reflect the more specific problems of the White Marsh area. Also wind roses for the area have been included. The typographical errors have been noted and corrected.

(f) Regarding the source of the data on meteorology and wind.

Response - The most applicable wind roses that could be found have been included to supplement a clarification of the text on meteorology. The wind roses were obtained from the weather station at Friendship Airport in Baltimore, the closest station with wind roses available. The Bureau of Air Quality Control for the State did not have what they considered to be accurate data on the meteorological activity of the area. In the absence of conducting a six-month to one-year study of the weather conditions in the area, it was assumed that the data from Friendship Airport and from published reports of the Department of Commerce would give a reasonable indication of the conditions that can be expected in the area of the White Marsh Boulevard.

(g) Regarding statements on air alerts.

Response - The text has been revised in response to comments received on the statements on air pollution alerts. It is acknowledged that air alerts are a regional action and that the activities on this one road are not likely to cause such an alert.

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(h) Regarding the methods used to analyze the air pollution impacts.

Response - In both the draft EIS and the revised portions of the EIS relating to air pollution, equations 5.18 and 5.19, Table 3.2 and Problem 23 from the WORKBOOK OF ATMOSPHERIC DISPERSION ESTIMATES of the Environmental Protection Agency (Publication No. 26) were used to calculate the diffusion of pollutants. Unfortunately, as the Bureau has noted in communications regarding the matter of photochemical models, "there is no reasonable validated photochemical model available anywhere and there is certainly none for Baltimore." The line source equation used was used for hydrocarbons, carbon monoxide, and oxides of nitrogen for short-term impacts in the previous statement. The revised statement has only tested hydrocarbons, recognizing comments that the equation best applies to this pollutant and that hydrocarbon dispersion can best be used for qualitative comparisons.

(i) Regarding the wind speed used for the calculations.

Response - The wind speed used in the revised text is 1.5 m. sec.^{-1} instead of the speed of 4.13 m. hr.^{-1} . The lower figure was a mathematical error. It has been corrected to a wind speed suggested by the Bureau for use with this method.

(j) Regarding the validity of the equation with the given wind speed.

Response - As already noted, the wind speed was changed. It is agreed that at a wind speed of 4.13 m.hr.^{-1} , or approximately $.07 \text{ m. sec.}^{-1}$, that the Gaussian equation is not valid. The more appropriate wind speed used is more acceptable with this equation.

(k) Regarding the source of emission data.

Response - Emission factors were obtained from the Bureau of Air Quality Control and the State Motor Vehicle Administration.

(l) Regarding the ambient air of the area and the relation of the project area to the region.

Response - The portions of the EIS relating to air pollution have been revised to reflect the anticipated results of the worst air conditions. Unfortunately, data does not exist on the ambient air quality of this region to which the generated data could be compared. Thus, the data and the qualitative assessment have been presented and based upon the impact that can be expected from the highway by itself. It has been noted that that regional data is lacking. (See the subsequently prepared Air Quality Analysis Supplemental Statement in the Appendix for details.)

(m) Regarding the Table of Standards on page B.17.

Response - The error in labeling the table on page B17 has been corrected. Additionally, the text has been revised to properly compare these standards to the findings.

(n) Regarding the air pollution comments in Section G.

Response - The statements about air pollution alerts have been revised to respond to the comments received about the meaningfulness of this highway section to the region.

Maryland Department of Economic and Community Development

Stated that the proposed project is consistent with their plans or objectives and recommended approval of the project.

U.S. Department of Agriculture

Stated that the discussion of erosion and sediment control is adequate but that considerable care will be needed to implement this program since there is presently a serious erosion and sediment problem in the White Marsh Run watershed. Suggested that a discussion of techniques offsetting the changes in hydrologic conditions should be included in the Final Statement.

Response - This has been done as suggested and could be found under the subsection of "Erosion Control."

Department of Juvenile Services

Expressed their strong opposition to the proposal to dissect the Maryland Training School for Boys by this freeway. Stated that they would certainly hope that the freeway could become a reality without the use of any land of the Maryland Training School for Boys.

Response - Route A-E-C is the recommended alignment which in no way will affect the Maryland Training School for Boys.

Baltimore County Department of Planning

(a) Recommended the selection of Route "E" (A-E-C from Point #1 to Point #3) which is the alignment shown on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan and is the least damaging alignment with respect to the environment of the area.

Response - This is the alignment recommended by the State Highway Administration.

(b) Noted that the Baltimore County 1980 Guideplan indicates an arterial type road for that portion from U.S. Route 1 (Belair Road) to proposed Perring Parkway.

Pointed out that the 1992 ADT projection of 16,600, contained in the Draft Environmental Statement, supports an arterial type road. Advised that this arterial type connection will be needed to provide adequate access to newly developing lands in the area.

Response - The State Highway Administration agrees with the observation. Although the ultimate development of the subject White Marsh Boulevard is proposed to be a freeway, pending the traffic demand, the initial phase of construction for the portion from U.S. Route 1 to proposed Perring Freeway will be an arterial type road. Incidentally, said portion of White Marsh Boulevard is not scheduled for construction in the foreseeable future under the current Maryland Department of Transportation Consolidated Transportation Program.

(c) Stated that the topography of the project area should have been included in the report, as well as an analysis thereof.

Response - The sub-section of "Topography" in the Final Statement has been expanded to include information relative to the above suggestions. An additional exhibit entitled "Topography" (Exhibit 13) has also been prepared and included in this combined report.

(d) Raised question whether the land adjacent to the proposed project will increase in value due to its location since the boulevard is of limited access and will cause noise, air, and aesthetic degradation.

Response - Although the proposed project, approximately 5 miles in length, is of limited access, with interchanges planned at I-95 (John F. Kennedy Memorial Highway), at the County proposed Radecke Avenue, at U.S. Route 1, at the County proposed Proctor Lane, at the proposed Perring Freeway,

and off ramp only at the proposed Perry Hall Road, it is believed that access to and from White Marsh Boulevard will be readily available without undue inconvenience for the residents in the area. Noise and air quality will be undoubtedly degraded because this highway will be built where one does not presently exist. With the remedial measures available to minimize these adverse environmental effects (Section "G" of the Statement), it is believed that the noise and air pollution level will meet the acceptable standards. A large portion of the subject corridor is barren and many scattered areas have been extensively used for sand, gravel, and quarry operations for years. With landscape and aesthetic architectural treatment incorporated in the design of the project, any harmful aesthetic effect could be minimized. Considering all these factors and the planned development, especially the Major Sector in the area, it is felt that the land adjacent to the proposed project, on the whole, will tend to increase in value.

(e) Pointed out that the additional runoff to be generated by the road was not discussed as to the amount and its effect.

Response - There will be no significant additional runoff to be generated by the road since in the drainage design, any runoff will be channeled to the nearby stream as soon as significant amount of runoff is generated. The weighted runoff coefficient tends to be close to the existing. The pavement (rigid or flexible) has a higher runoff coefficient; the median, cut or fill slope, all of which will be seeded and top-soiled, on the other hand, has a lower runoff coefficient. The overall rate of runoff will thus be relatively the same. It is to be noted that the

new highway could be utilized as a levee to provide additional flood protection in the area.

(f) Noted that the location and description of cuts and fills and borrow pits was omitted.

Response - The information is included (See Exhibits 17 and 18) as suggested.

The location and description of cuts and fills could be readily identified from the proposed preliminary profiles. No enormous amount of borrow excavation or excessive cut is expected since the earthwork will be balanced to the extent obtainable. Borrow pits or dumping sites will be furnished by the contractor(s) but must first be approved by the State Highway Administration.

(g) Suggested that information relating to the degree of past serious flooding along White Marsh Run occurred in the summer of 1971 to be added.

Response - The information has been added as suggested and will be found under the sub-section, "Surface Waters," in the Statement.

(h) Noted that in a number of instances the Draft Statement attempts to justify the project on the basis of the probable economic growth it may generate but fails to address itself to the direct public (including social) cost of this growth and, in general, its effect on the quality of life of the people now residing in the area.

Response - The direct public cost and effect on the quality of life of the people now residing in the area has been discussed at length in Sections "B" and "C" of the Draft Statement but might not be presented in the way suggested. Accordingly, Section "B" has been rewritten to better describe these effects.

(i) Advised that during the final design and construction phase, attention should be given to protecting the White Marsh Run for a stream valley park and that road construction in the area of the Gunpowder State Park should be controlled to prevent excess damage to the stream valley area and its park potential.

Response - This has been done and discussed in detail in Section "G" of the Statement and in the Section 4(f) Determination. The portion of White Marsh Run area affected by the project is intended to be an open space. See page I.34 for more discussion on the proposed White Marsh Run Stream Valley Park.

Baltimore County Department of Public Works

Noted that on page A.5 of the Statement the first paragraph leads one to believe only one interchange at Belair Road (U.S. 1) will be allowed between I-95 and Perring Freeway. Suggested that the paragraph should be expanded to indicate interchanges at the following points: (1) Off ramp only at Perry Hall Road, (2) Full interchange at Radecke Avenue, (3) Full interchange at Proctor Lane. Stated that while it is realized these roads are not existing at this time, it is felt they will be fully operative at the time the ultimate construction of White Marsh Boulevard is undertaken.

Response - As suggested, full discussion of the economic, social, and environmental effects caused by the additions of the off ramp at Perry Hall Road and the full interchange at Radecke Avenue can be found elsewhere in the Statement. White Marsh Boulevard between U.S. Route 1 and the Perring Freeway will be a controlled access arterial highway; and where traffic warrants, access to the White Marsh Boulevard from major crossroads will be accomplished by interchanges and/or minimally spaced at-grade intersections. Although this section of White Marsh Boulevard is a

planned facility, it has not been programmed for engineering nor construction. Our immediate concern, at this time, is to establish the corridor for White Marsh Boulevard and a terminus and continuity of alignment for the section of White Marsh Boulevard between I-95 and U.S. Route 1. During the design phase for the remaining section between U.S. Route 1 and Perring Freeway, access to White Marsh Boulevard will be provided as traffic demand warrants and design criteria dictate. If, during the design phase for this section of White Marsh Boulevard, Baltimore County's Proctor Lane is in existence or the County has definite plans to construct same, and if design requirements for traffic warrant and spacing are met, then access to White Marsh will be considered, and a discussion of the economic, social, and environmental effects for providing said access will be included in the Design Study Report for this section.

Baltimore County Department of Recreation and Parks

Stated that they oppose very strongly any route that would cut through Graham Memorial Park. Stated that they do hope that all consideration will be given not to interfere with the environment as it crosses the Gunpowder and recommend that a long bridge expansion be developed. Advised that after reviewing the proposed corridors, it is their opinion that Route "C" is the most acceptable one and to be recommended.

Response - Route A-E-C is the recommended alignment which in no way will cut through Graham Memorial Park. All efforts and consideration will be given to minimize interference with the environment as it crosses the Gunpowder. A long bridge expansion (high level bridge) has been proposed in Section 5 of the Section 4(f) Determination. Other measures are discussed in detail in Section "G" of the Statement.

U.S. Department of Health, Education, and Welfare

Stated that they have no comments on this project in accordance with their areas of jurisdiction.

Harford County Department of Planning and Zoning

Noted that the project is outside of Harford County but would affect a regional park facility (Gunpowder State Park) and would affect development potential in the direction of the somewhat indefinite Perring Freeway. Requested further study of that portion of White Marsh Boulevard between Belair Road and the proposed Perring Freeway. Stated that the portion of White Marsh Boulevard between Belair Road and I-95 is one on which they have no further comments.

Response - The State Highway Administration agrees with the observation. As noted in both the Draft and Final Statement, the first phase will only comprise that section from I-95 to Belair Road, which is originally scheduled for design and construction before 1977 under the Maryland Department of Transportation Consolidated Transportation Program. However, in order to insure proper alignment, the subject project planning was extended westward to the proposed Perring Freeway. Of importance at this time is the establishment of an alignment for Phase I from I-95 to Belair Road. The detailed discussion of other alternate alignments studied west of Belair Road can be found in the response (I.35 - I.44) to the comments from the Regional Planning Council.

Harford County Department of Public Works

Stated that until the proposed Perring Freeway is constructed linking Baltimore and Harford Counties, the subject project will have no appreciable influence on Harford County.

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U.S. Department of the Interior

I. Environmental Impact Statement Comments

(a) Stated that the Summary Sheet contains several project impacts (benefits) which are not discussed or documented in the body of the text.

Suggested that these impacts should be either eliminated or substantiated.

Response - The Draft Statement is already very lengthy. It is impractical, if not impossible, to discuss every aspect in detail. Especially when some beneficial or adverse impacts are obvious, they are simply stated and no elaboration is felt to be necessary. Some elements, although they may bear little direct relationship to the project, are presented as per Federal Highway Administration PPM 20-8, paragraph 4c and later IM 20-4-72, paragraph 4b. The statement on page C.1, "It is recognized that highways for the most part do not favorably lend themselves to the overall appearances of the abutting environs" applies to the general case. However, in this particular project, especially between I-95 and U.S. Route 1, since the area is essentially barren territory as a result of extensive excavation of sand and gravel for many years, it is felt that highway construction with proper landscape and architectural treatment will be aesthetically beneficial.

(b) Noted that the impacts of changing design at a later date would be substantial, including additional construction and development and allocation of resources. Believed that the future plans for the highway should be clarified and expanded.

Response - All the discussion and evaluation of impacts from both the Draft and Final Statement are based on the ultimate development of White Marsh Boulevard.

(c) Stated that the description of air pollution, A. 5.(b), while interesting, appears to bear little direct relationship to the project or its impacts. Suggested that the final statement discuss the relationship, if any, or that the material be deleted.

Response - As suggested, the Air Pollution Section has been rewritten. In addition, an Air Quality Analysis Supplement is included in the Appendix.

(d) Noted that the proximity of proposed project alignments to White Marsh Run would appear to indicate possible impacts on surface waters, hydrologic considerations, and related vegetation and wildlife. Stated that the sections on surface waters, vegetation, and wildlife occupy a disproportionately small portion of the statement and appear to be lacking in detail and in-depth consideration.

Response - It is to be noted that White Marsh Run for a large portion is little more than a drainage ditch with little observed vegetation and wildlife, if any at all. The new highway construction could act as or be utilized as a levee to provide flood protection in the area. The sub-section of "Surface Waters" in the Final Statement has been expanded to include information as suggested. The area of the project which provides excellent wildlife habitat is in Gunpowder Falls area, not in White Marsh Run area. In the vicinity of Gunpowder State Park, the roadway profile will be elevated over the valley in order to reduce any unfavorable effect on the environment.

(e) Concerned with the sand, gravel, and clay resources which may be committed along many of the alternate routings.

Response - Referring to Section A.5.(a), "Land Use," and after re-checking with Harry T. Campbell Sons' Company who operated sand and gravel in the area, it is found that the quarries west of I-95 were essentially

mined-out and that all sand and gravel operations were terminated years ago. Paragraph 3 of Section "F" has been rewritten to reflect this latest information.

(f) Suggested that the Baltimore Gas and Electric Company's gas pipelines should be indicated on Exhibit 5 (now Exhibit 9) and the environmental statement should be amplified to explain how these gas pipelines will be affected by the project.

Response - As it has been pointed out that the 26" underground gas main is throughout the entire length of the Baltimore Gas and Electric Company right-of-way, thus, the location of the gas main is the same as the location of the transmission facilities (under the heading of utilities in Exhibit 9). At points of highway crossing, either pipe sleeve will be provided for protection of the gas main in case of low fill or the facility will have to be relocated in case of cut. Since no major conflict with the gas main is anticipated, it is felt no further detailed information has to be presented in the statement.

(g) Stated that the section dealing with the description of the project should be expanded to discuss location and impacts of the borrow and/or spoil areas needed for project purposes. Suggested that there is often the opportunity to design and develop highway fills and/or borrow areas to the benefit of fishery resources and fishing opportunities.

Response - The information is included (Exhibits 17 and 18) as suggested. The location and description of cuts and fills could be readily identified from the proposed preliminary profiles. No enormous amount of borrow excavation of excessive cut is expected since the earthwork of the project will be balanced to the maximum extent possible. Borrow pits

or dumping sites will be furnished by the contractor(s) but must first be approved by the State Highway Administration. In past constructions crossing recreational waters, the State Highway Administration and Maryland's Department of Fisheries and Wildlife have joined operations to improve the physical ecology of crossing areas. There is an excellent rapport between the two agencies. This is not surprising in view of the intense personal interest in outdoor recreation common to highway personnel, ranging from equipment operators to administrators. Many are avid and knowledgeable fishermen. The Little Gunpowder is an intensely fished stream, and fishing is maintained by a heavy stocking program. The fishing pressure will undoubtedly increase with improved access to the stream. The flattening and extending of rapids areas at crossings, necessary for the movement of machinery, provides a more favorable habitat for bottom fish food and minnows that support stocked and indigenous trout. If it were economically feasible, a totally engineered trout stream could be developed which would greatly surpass the "natural" Little Gunpowder system.

- (h) Suggested to include consideration of other alternatives of transportation, including mass transit.

Response - The transit line planned to be running from downtown Baltimore City to the proposed Sector Center, Northeast Sector of Baltimore County, is known as the Northeast Line of the Baltimore Regional Rapid Transit System. According to the information furnished by the Mass Transit Administration, the Northeast Line is one of several corridors that will be studied in some detail during the Phase II Transit Study now underway. The Phase II Study is scheduled to be an 18-month effort that will define the next legs of the transit system to be built as well

as detail the timing of design and construction. Following the initial highway improvement, should mass transit use render ultimate highway construction unnecessary, resource commitment could be curtailed at the appropriate stage without adverse impact to the transportation system. Buses and multi-passenger mass transit vehicles can take full advantage of the proposed highway improvement.

Detailed discussion of additional alternatives considered can be found in the response to the comments from the Regional Planning Council.

(i) Suggested the Do-Nothing Alternative section be revised.

Response - This section has been expanded to include the advantages from the Do-Nothing alternate.

(j) Stated that Section "C," Possible Adverse Environmental Impacts, fails to mention and define adverse impacts on water, fish and wildlife, outdoor recreation, and park values.

Response - Section "C" of the Final Statement has been expanded to include the information as suggested. Impact on park values will be found in the Section 4(f) Determination.

(k) Noted that the alternatives would involve substantial and significant loss of park land and natural values. Suggested that this finding should be reflected in the section on short-term/long-term productivity.

Response - Route A-E-C is the recommended alignment which crosses over Gunpowder State Park via a high level bridge in order to minimize its unfavorable environmental impact upon the park. Both the adverse and beneficial impacts have been presented and discussed. It is concluded that there will be some adverse effects in the short form, but in the long run the overall effects of the project are beneficial. The

State Highway Administration is of the opinion that no important aspect of our natural heritage would be lost and that there will be no significant loss of natural resources. The park land involved has been discussed in detail in Section 4(f) Determination.

(l) Stated that little evidence of coordination with other agencies was presented.

Response - The coordination process for this project was initiated as early as August 25, 1970. Evidence of coordination is documented under the Appendix.

(m) Suggested to prepare a new Draft Environmental Impact Statement.

Response - The State Highway Administration, with concurrence from the Federal Highway Administration, is of the opinion that a new Draft Environmental Statement is not necessary since all the comments from the U.S. Department of the Interior have been responded to in the Final Environmental Statement.

II. Section 4(f) Determination Comments

(a) Suggested to provide the information that no feasible and prudent alternatives exist to the use of park lands.

Response - This information is included as suggested and can be found under the Section, "The Highway Proposal," of the 4(f) Determination. Since Route "E" from Point #1 to Point #3 is the recommended alignment, Graham Memorial Park will in no way be affected.

(b) Advised to include information and impacts related to the proposed Perring Freeway.

Response - It has been noted that only the portion of White Marsh Boulevard from I-95 to U.S. Route 1 will be initially constructed. The portion west

of U.S. Route 1 is included at the request of the then U.S. Bureau of Public Roads in order to properly determine the short segment from I-95 to U.S. Route 1. It is expected that the proposed Perring Freeway will be first constructed before the portion of White Marsh Boulevard west of U.S. Route 1, to be tied to Perring Freeway. The location of the proposed Perring Freeway can be found on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan. Any further information and impacts related to the proposed Perring Freeway will be covered under its separate environmental impact statement study and 4(f) determination.

(c) Concerned with multiple use and joint development programs as per PPM 90-5.

Response - No multiple use of space is anticipated at this time other than the unrestricted Gunpowder State Park for recreational purposes below the proposed high level bridge at Gunpowder Falls crossing.

U.S. Environmental Protection Agency

I. Scope of Draft Environmental Impact Statement

(a) Concerned with the scope of transportation analysis.

Response - It is true that only the section east of U.S. Route 1 is programmed to be built by the State Highway Administration. However, in order to properly evaluate a short segment of this highway (I-95 to U.S. Route 1), a longer corridor must be reviewed to properly evaluate its ultimate environmental impacts. Both proposed Perring Freeway and possible Outer Beltway are still at the planning-study stage. The environmental impacts resulting from these projects will be the subjects of their respective environmental impact statements. If the

scope of analysis were too broad as suggested by the Environmental Protection Agency, then the impact on the area of the proposed Per-ring Freeway and the Outer Beltway should not be included since the locations of these proposed projects under study lie several miles away from U.S. Route 1.

The transit line planned to be running from downtown Baltimore City to the proposed Sector Center, Northeast Sector of Baltimore County, is known as the Northeast Line of the Baltimore Regional Rapid Transit System. According to the information furnished by the Mass Transit Administration, the Northeast Line is one of several corridors that will be studied in some detail during the Phase II Transit Study now underway. The Phase II Study is scheduled to be an 18-month effort that will define the next legs of the transit system to be built as well as detail the timing of design and construction. As suggested, two traffic volume maps and two interchange traffic diagram maps (Exhibits 5 through 8) are included herewith in the Statement.

(b) Concerned with the secondary impacts.

Response - As can be seen from the sub-section, "Purpose," discussion of the Statement, to aid development of the area is but one of the many functions the proposed improvement will perform. When a highway is built in a location where none exists, the air quality due to automobile emission is expected to be degraded. In the case of White Marsh Boulevard, the expected air quality has been determined to meet the Federal standards.

It has been previously pointed out that the construction for the portion of White Marsh Boulevard (Route 43) west of U.S. Route 1 is

not yet determined. Most likely the proposed Perring Freeway will be first built prior to the said section of White Marsh Boulevard. The recommended Route "E" (A-E-C from Point #1 to Point #3) is also the alignment shown on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan. For the portion from I-95 to U.S. Route 1, the proposed project is consistent with the General Development Plan of the Regional Planning Council.

(c) Concerned with the scope of alternatives.

Response - The detailed discussion of the "Southern Line" and connection to the Baltimore Beltway can be found in the response to the comments from the Regional Planning Council.

On pages B.3 - B.4 of the Statement, it merely points out the possibility that at the engineering-design stage, some refinement of this alignment (Line "A" from Point #1 to Point #2) could be made to reduce the amount of land taking from Graham Memorial Park.

The State Highway Administration is not of the opinion that the discussion of the Do-Nothing Alternative is as defective as suggested. Nevertheless, the discussion of doing nothing has been expanded.

II. Quantification of Environmental Impact

(a) Regarding air impact.

Response - All the sections related to air pollution have been completely rewritten to reflect the comments as suggested. Furthermore, an air quality analysis supplement is included in the Appendix.

(b) Regarding Noise Quality.

Response - The typographical omission in Table I of PPM 90-2 has been corrected. The State Highway Administration believes that the L_{10} Noise Level for St. Joseph's Church and School is 70 dBA. The standards in PPM 90-2 state that school and church land uses are in the 70 dBA design category unless there are special cases warranting quieter situations which have been so designated by local officials to justify the 60 dBA design category. At the planning-study stage, the measures available could only be stated in rather general terms. At the engineer-design stage, specific measures and more firm commitment to noise abatement would be determined.

(c) Regarding Water Quality.

Response - The sections related to water quality have been rewritten and expanded to include the information as suggested.

III. Errors and Omission in the Statement.

(a) Scale of Exhibit 2.

Response - The drafting error has been corrected.

(b) Expansion of Exhibit 4.

Response - The traffic volume map has been expanded and supplemented through the addition of Exhibits 5, 6, 7, and 8.

(c) Quantification of firehouse location.

Response - With improved accessibility through the construction of the proposed project, this facility should generally help fire fighting by cutting down response time in case of a fire. It is felt neither necessary nor practical to show the location of firehouses on the location map.

(d) Intersection with Joppa Road.

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Response - It is conceivable that Joppa Road may be bridged over the proposed highway. Detail study to explore this possibility will be made at the design phase of the project.

(e) Regarding the accident statistics.

Response - The model which the Bureau of Accident Statistics and Analysis, State Highway Administration, employed to make the projection did take into consideration all the pertinent criteria including the distance between intersections.

(f) Consistency with the General Development Plan adopted by the Regional Planning Council.

Response - The detailed discussion can be found in the response to the comments from the Regional Planning Council.

(g) Concerning new Draft Environmental Statement.

Response - The State Highway Administration, with concurrence from the Federal Highway Administration, is of the opinion that a new Draft Environmental Statement is not necessary since all the comments from the Environmental Protection Agency have been responded to herewith in the Final Environmental Statement.

Baltimore City Department of Planning

(a) Stated that White Marsh Boulevard is frankly admitted to be what might be called a "developmental highway" facility: one which is being put in place in order to stimulate the new development which will in turn generate the additional traffic which will justify its construction.

Response - The need for this project to precede land development can be seen from (1) land-use proposals together with projected growth have been

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formulated and adopted by Local and State Government, and (2) the proposed project for the portion from I-95 to U.S. Route 1 is part of the 1972 Consolidated Transportation Program whose elements and priorities were approved by the State Legislature. Furthermore, this area has one of the highest potentials for well-planned development because of the relative ease with which sewers and water can be provided. Both the Baltimore County 1980 Guideplan and the General Development Plan adopted by the Regional Planning Council on December 15, 1972, indicate a planned Sector Center near the project area to serve the Northeast Sector of Baltimore County. It is learned that the proposed Sector Center and its associated developments are currently at the planning stage. The construction of roadway and development in this area are well formulated, closely coordinated, and eventually integrated.

- (b) Believed that prior to any definitive action being taken with respect to the development of White Marsh Boulevard, there be conclusive evidence offered to support the contention that the accelerated sprawl and suburbanization of farm lands will not contribute to a further degradation of air quality levels.

Response - When a highway is built in a new location, it is expected that the air quality in the particular corridor will be somewhat degraded. The overall air quality of the Northeast Sector of Baltimore County, on the other hand, is expected to improve as a result of reduced congestion through better transportation system. The air quality sections in the Final Statement have been completely revised, and an air quality supplement has been added to the Appendix. Based on

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our study and analysis, the air quality level along the proposed White Marsh Boulevard will meet the standard set by the Federal Highway Administration. The study of any degradation of air quality levels resulting from accelerated sprawl and suburbanization of farm lands is beyond the responsibility of the State Highway Administration. The agency has no authority to initiate such a far-reaching study but will cooperate with any agency undertaking this task.

- (c) Stated that the current Regional Environmental Impact Study, being pursued by the firm of Alan M. Voorhees & Associates, offers an available technique by which the implication of the proposed project can be tested.

Response - This has been done as suggested and is reflected in our Air Quality Supplement in the Appendix.

- (d) Questioned the traffic assignments reported in the Statement.

Response - The 22,600 V.P.D. for 1990 referred to as being from the "most recent" Highway Needs Study is actually from the 1971-1990 Twenty-Year Highway Needs Study. The more recent 1973-1992 Twenty-Year Highway Needs Study showed 30,100 V.P.D. for 1992 and, more to the present, is the 1975-1994 Twenty-Year Highway Needs Study which shows 40,000 V.P.D. for 1994 for this project. This 40,000 V.P.D. figure is in line with the 41,200 V.P.D. projected in the Environmental Impact Statement.

- (e) Suggested to investigate the possibility of developing the project as a joint-use facility either within or adjacent to the high tension transmission line.

Response - The State Highway Administration, of course, agrees with this observation; and as a matter of fact, this has been done. Referring to the alignments studied in Exhibit 16, it will be obvious that all alignments are proposed adjacent to the high tension transmission line to the maximum extent possible.

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(f) Suggested that the proposed development of White Marsh Boulevard should not expand to freeway status until after 1990. Believed that this project should not advance further until the full consequences of its development are presented in an accurate and understandable fashion for review by the concerned citizens of the city and region and informed decision by their elected representatives.

Response - On page A.2 of the statement it states that the first phase would comprise that section from I-95 to U.S. Route 1 (2.4 miles ±) which is scheduled for construction in Fiscal Year 1977, according to the latest State Highway Improvement Program for Primary Projects for Fiscal Years 1975-1979.

The portion of White Marsh Boulevard from U.S. Route 1 to the proposed Perring Freeway is a planned facility. It has not been programmed for engineering nor construction. It is shown in the latest Twenty-Year Highway Needs Study 1975-1994 for non-critical projects. On page A.3 of the Statement it states that the functional classification of White Marsh Boulevard is a major arterial highway with full control of access. The design criteria for the section between I-95 and U.S. Route 1 will be an expressway or freeway by A.A.S.H.T.O. standards, with access only through interchanges now proposed at U.S. Route 1, the proposed Radecke Avenue and off ramp only at the proposed Perry Hall Road. The section between U.S. Route 1 and Perring Freeway will be a controlled access arterial highway where access to White Marsh Boulevard can be made by interchanges and/or minimally spaced at-grade intersections with major crossroads as traffic warrants and design criteria dictate.

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The materials in the Statement are presented in an accurate and understandable fashion to the maximum extent possible. The close liaison and coordination with Federal, State, and Local agencies, local elected representatives, and other interested parties could be reflected from the voluminous letters of correspondence and comments attached in the Appendix of the Statement.

Air Pollution

(a) Suggested the scale of impact and the relation of generalized findings to be tied to specific instances.

Response - The portions of the Statement that relate to air pollution have been extensively revised using new data and taking a more specific approach. The generalizations that were originally made regarding distance downwind and average wind speed have been corrected to use exact measurements downwind for each source and a wind speed of 1.5 m.sec.⁻¹ as a recommended wind factor for considering the worst weather conditions as they relate to air pollution. Furthermore, an Air Quality Analysis Supplement is included in the Appendix.

(b) Concerned with the impact upon the two parks.

Response - It has been recognized in the revised sections on air pollution that there is a potential problem at the sites of the two parks, Graham Memorial Park and Gunpowder State Park. However, it is also noted in the text that because the section of the highway proposed to go through these areas are not planned for use until 1996 and that at that time hydrocarbon emissions are anticipated to be zero, the impact on the parks is not expected to be excessive. However, the potential

impact should be considered, and has been, in relation to the sections of the highway planned for immediate use.

Erosion

(a) Stated that paving is not a positive alternative to returning barren land to a productive vegetative function.

Response - Neither Statement states that paving is a positive alternative to returning barren land to a productive vegetative function. Rather, the Statement suggests that the proposed highway construction should not hamper the existing condition regarding erosion. The paved portion of the project on the average at most is $\frac{100'}{300'}$ or 33% (See Exhibit 3); the other 67% will be seeded, topsoiled, and landscaped. As it has been pointed out many times, standard measures for erosion and sedimentation control will be immediately applied and implemented.

(b) Stated that items discussed in Section "G" are all those typically used to seemingly minimize the impact of a major highway. Although there is little dispute that the actions will be carried out, there is a great deal of disagreement as to the required scope of the measures. But the items to be performed which are called "permanent" are simply stop-gap methods to reduce obvious impact.

Response - Since this project is presently at the planning-study stage, all measures could only be stated in general terms. When the project advances to the engineering-design stage, the required scope of the measures will be discussed in detail and in specific terms. Many measures described are of permanent nature, e.g., seeding embankments and cuts to insure stability and trimming of borrow pits after use.

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(c) Pointed out that the sub-section, "Surface Waters," on page A.33 of the Draft Statement dismissed the possibility of major flooding similar to the one which occurred in August, 1971. Stated flooding in the coastal areas of these water courses has become commonplace and is only aggravated by the continued uncontrolled construction in the upper watersheds.

Response - The sub-section, "Surface Waters," has been expanded to include the information as suggested. It is to be noted that the proposed project could be utilized as a levee to provide additional flood protection in the area. Furthermore, with the recent advancement and requirement of storm water management in Baltimore County to control runoff rate, any downstream flooding as a result of construction in the upper watershed will be held at a minimum.

(d) Stated that if alternate "C" is used, this will necessitate two crossings of the Gunpowder Falls, a duplication of functions less than 4,000 feet downstream from the proposed Perring Freeway crossing. Pointed out that the statement, "Gunpowder Falls and White Marsh Run would remain unscathed," is simply untrue.

Response - It is true that two crossings over Gunpowder Falls, about 4,000 feet apart, are necessary. Based on our preliminary study, that is the only location which will allow for the proposed future White Marsh Boulevard-Perring Freeway interchange without any major infringement on Graham Memorial Park, Maryland Training School for Boys, residential development, and Baltimore Gas and Electric Company utility facilities. Furthermore, it is the better location for future extension if warranted. The statement, "Gunpowder Falls and White Marsh Run would remain unscathed," has been rewritten.

(e) Stated that conclusions drawn from the section on erosion are based on a logic

dedicated only to justifying construction of another highway and not that of judging and protecting the natural environment from adverse impact.

Response - The section on erosion is intended to present, as realistic as possible, the existing condition, the expected impact of the proposed project, and the measures available to minimize problems associated with erosion. The effects of a modern heavy duty expressway through open country upon the course of floods generated by torrential and massive rainfalls are quite different from those developed in cities. The ratio of paved surface to stabilized and controlled right-of-way in the case of White Marsh Boulevard is at most 1 to 2 and presents a totally different watershed system than those of the eminently floodable sections of Baltimore City and of the older roads in the county east of the city that have been involved in disasterous floods. The latter evolved from lighter duty requirements, and subsequent industrial and residential development both overloaded the roads and precluded the development of protective structures. During construction of White Marsh Boulevard, all contractors are required to conform to the "Standards and Specifications for Soil Erosion and Sediment Control in Urbanizing Areas" and "Sediment Control Regulation No. 8.05.03.01," approved and adopted by the Maryland Department of Natural Resources. In addition, the Maryland State Highway Administration has developed one of the finest divisions of erosion control and landscaping in the country and their activity is apparent in all new roadways in the State.

Noise Levels

(a) Called attention to the fact that truck noise at 200 feet can be 70-80 dBA

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and that noise levels would be excessive, particularly in Graham Memorial and Gunpowder State Parks.

Response - While it is true that truck noise levels at 200 feet can reach 70-80 dBA, the standards set forth in PPM 90-2 are in terms of the L_{10} levels, that is, the level that is exceeded 10 per cent of the time. This does not preclude the instantaneous noise level from exceeding the levels set forth in PPM 90-2.

(b) Stated that depression of highway and planting of shrubs were not as helpful as indicated in the Draft Statement.

Response - The State Highway Administration shares the concerns expressed over the Graham Memorial and Gunpowder State Parks. The placement of the roadway in these parks and the remedial measures proposed are planned with Land Category B usage clearly in mind. The topography of these parks is such that depression (or elevation) of the roadway occurs naturally so that one is assured that it will be properly placed. Recent studies by the U.S. Department of Agriculture indicate that 10 dBA reduction per 100 feet of shrubs is the most likely expectation. The consultant to the State Highway Administration has extensive data on the effects of shrubs and depression of roadways which show that the benefits are larger than generally understood. The skepticism stated by Baltimore City Planning is reflective of the earlier data which has proved to be too conservative.

Section 4(f)

(a) Stated that some proposed alignments will create serious impact on Graham Memorial Park and the Jennifer Branch, running north into Gunpowder Falls.

Response - Since Route A-E-C is the recommended alignment, the problems raised will not apply.

- (b) Stated that all alignments will generate noise levels well above that recommended in Category A for park lands.

Response - Route A-E-C is the recommended alignment and will be bridged over, about 80 feet above, the Gunpowder Falls. After rechecking with our consultant, noise levels will meet the standards specified in PPM 90-2, i.e., 70 dBA for Category B land use unless there are special areas within the park lands warranting quieter situations which have been so designated by local officials.

- (c) Suggested that the Statement not be accepted for reasons of distorted facts and misapplied information.

Response - The State Highway Administration trusts that adequate answers have been provided for the questions raised. It is felt that most of the criticisms are tremendously exaggerated. There might be some information omitted or misplaced, but under no circumstances were any distorted facts intended.

U.S. Department of Transportation

- (a) Called attention that the discussion of alternatives does not appear to provide sufficient support to make a determination of "no feasible and prudent alternative" to the use of lands from Graham Memorial Park.

Response - Route A-E-C is the recommended alignment which will in no way affect Graham Memorial Park.

- (b) Pointed out that special design measures appear necessary at the State Park crossing. Suggested to have continuing coordination with the State Department of Natural Resources.

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Response - A high level bridge will be proposed, and all special design measures will be employed during the engineering design and construction phases of the project in order to minimize any adverse impact on the State Park. The State Highway Administration has been and will be in close coordination with the State Department of Natural Resources and the Maryland Park Service in the design and construction of this project.

(c) Concerned about the Falls area of Gunpowder Falls as a scenic attraction.

Response - Perhaps the nomenclature "Falls" used for Gunpowder Falls is somewhat misleading. There is no waterfall. Gunpowder Stream or Run might be a more appropriate name for Gunpowder Falls.

(d) Suggested that Line "C" should be shifted approximately 1,000 feet westward to traverse a significantly narrower portion of the State Park and thus reduce the land taking.

Response - It is true that land taking from the State Park could be reduced at Gunpowder Falls crossing by shifting Line C approximately 1,000 feet westward. However, this will result in serious infringement on the existing Baltimore Gas and Electric Company Windy Edge Switch Station Power Transmission Lines and will require relocation of many transmission towers. In addition, due to the proximity of the State Park from the proposed Perring Freeway-White Marsh Boulevard interchange, additional State Park land will have to be taken at the interchange location. Furthermore, as a result of this alignment shifting, several homes along Magledt Road and Ferguson Road would have to be taken. It means displacement of several more families. In view of these problems, shifting Line C is not recommended.

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(e) Suggested that the impact of the proposed project on White Marsh Run should be closely evaluated.

Response - Exhibit 10 (Proposed Future Land Use Map) has been updated. The part of White Marsh Run area affected by the project is intended to be an open space. The portion of White Marsh Run in question is little more than a drainage ditch. According to our engineering study, only a few hundred feet of White Marsh Run will have to be relocated.

The White Marsh Run Stream Valley Park, proposed by the Baltimore County Planning Board in December, 1974, consists of 214 acres of land (see the exhibit following this page). It is a planned local park with the proposed White Marsh Blvd. clearly in mind. The perimeter of the proposed park is at least 300' away from the recommended alignment E (A-E-C). No detrimental effects are foreseen and no Section 4(f) Determination appears necessary.

(f) Pointed out that no formal agreements regarding park takings or specific measures to minimize harm have been reached.

Response - The scope of study in the Statement could only indicate and suggest the general measures available. During the design phase of the project, specific measures to minimize harm and formal agreements will be reached with appropriate authorities concerned.

(g) Observed that Gunpowder State Park should be recognized as Category A land use.

Response - According to the standards in PPM 90-2, the land use for Gunpowder State Park is Category B (70 dBA) unless there are special areas within the park warranting quieter situations which have been so designated by local officials.

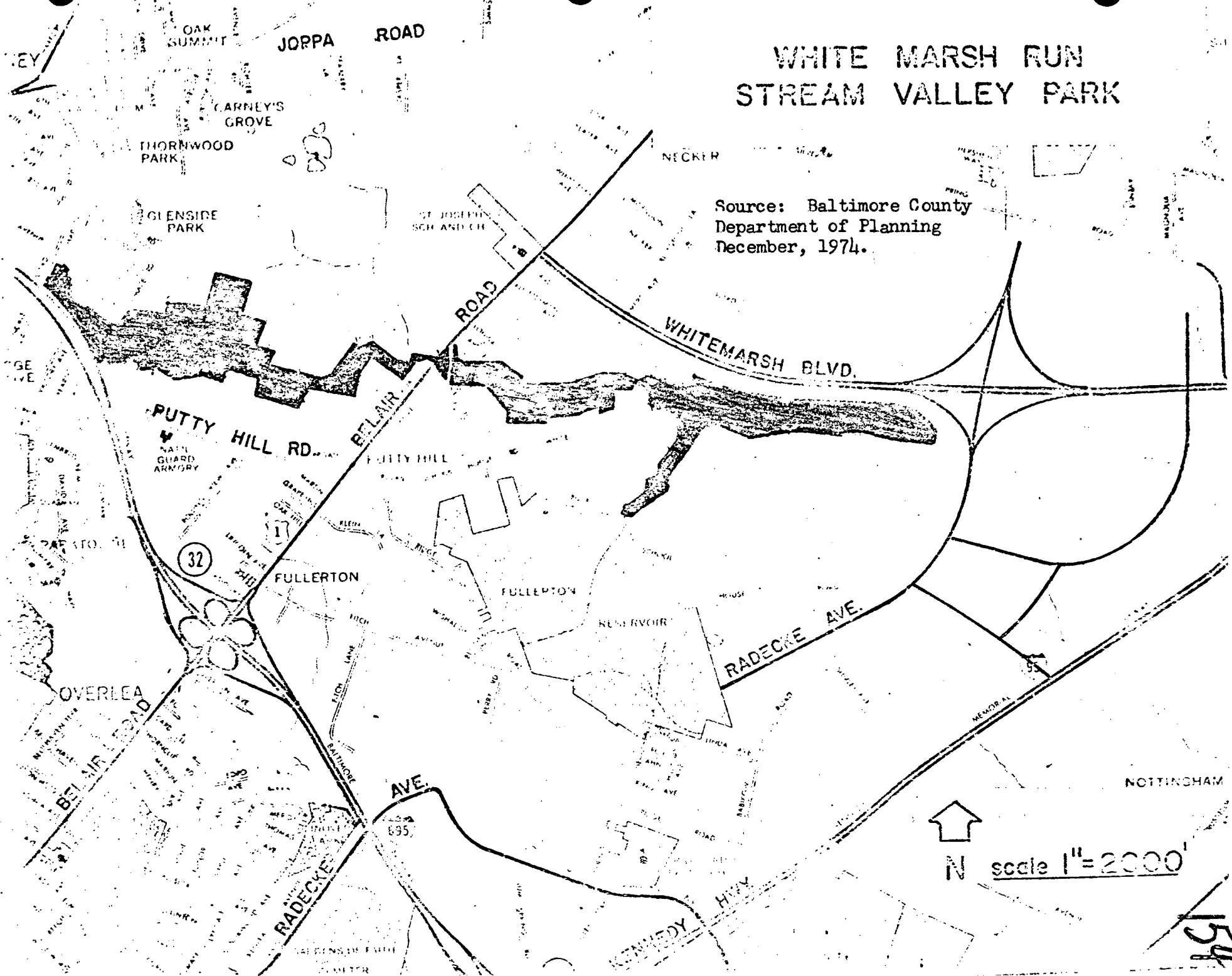
(h) Believed that a figure of 5 dB reduction per 100 feet of shrubs was misleading.

Response - Actually, 5 dB reduction for 100 feet is quite conservative. Recent studies by the Department of Agriculture indicate that 10 dB reduction per 100 feet of shrubs is the most likely expectation.

WHITE MARSH RUN STREAM VALLEY PARK

Source: Baltimore County
Department of Planning
December, 1974.

-I.35-



N scale 1" = 2000'

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Regional Planning Council

I. Intergovernmental Coordination

(1) Concerning RPC's previous review of this project on November 20, 1970.

Response - The State Highway Administration concurs with the comments from RPC that the first phase proposal (White Marsh Boulevard East of Belair Road) is consistent with the suggested General Development Plan and grant approval is recommended.

For the portion of the proposed White Marsh Boulevard west of Belair Road, RPC suggested four (4) possible alternatives for the road.

Alternate #1 is the alignment "E" recommended by the State Highway Administration; its purpose and implication have been discussed at length in the Statement. It should be emphasized that only two sections of White Marsh Boulevard are included in the Fiscal 1975-1979 budget, namely

- 1. Maryland 43 White Marsh Boulevard
Four-lane divided highway from U.S. Route 1 to I-95
- 2. Maryland 43 White Marsh Boulevard
Four-lane divided highway from U.S. Route 40 to Maryland 150
(Eastern Avenue)

The section of White Marsh Boulevard from U.S. Route 1 westward to the proposed Perring Freeway was included in the Draft Environmental Statement at the request of the U.S. Bureau of Public Roads. No funds are programmed for construction of White Marsh Boulevard west of U.S. Route 1.

Accordingly, the suggestion of the Regional Planning Council that no construction be performed west of U.S. Route 1 conforms to the construction program of the State Highway Administration.

Alternate #2 is the extension of Alternate #1 (Alignment "E") beyond the proposed Perring Freeway north of Loch Raven Reservoir to York Road. This possibility has been discussed on pages A.2-A.3 of the Statement. No existing forecast of future travel demand supports the need for this extension within the 20-year limit of the Highway Needs Study. The Bureau of Highway Planning of the State Highway Administration has looked at the potential extension of White Marsh Boulevard beyond the Perring Freeway toward the York Road Corridor; but no alignment has been established and no need within the next 20 years would justify elaborate investigations. The area northwest from the Perring Freeway is in fact shown as "Rural-Future Development Area" on the Baltimore County 1980 Guideplan and further defined as an area where urban development will be discouraged until after 1980. The State Highway Administration has no reason to construct an extension of White Marsh Boulevard into this area until this situation changes to warrant it.

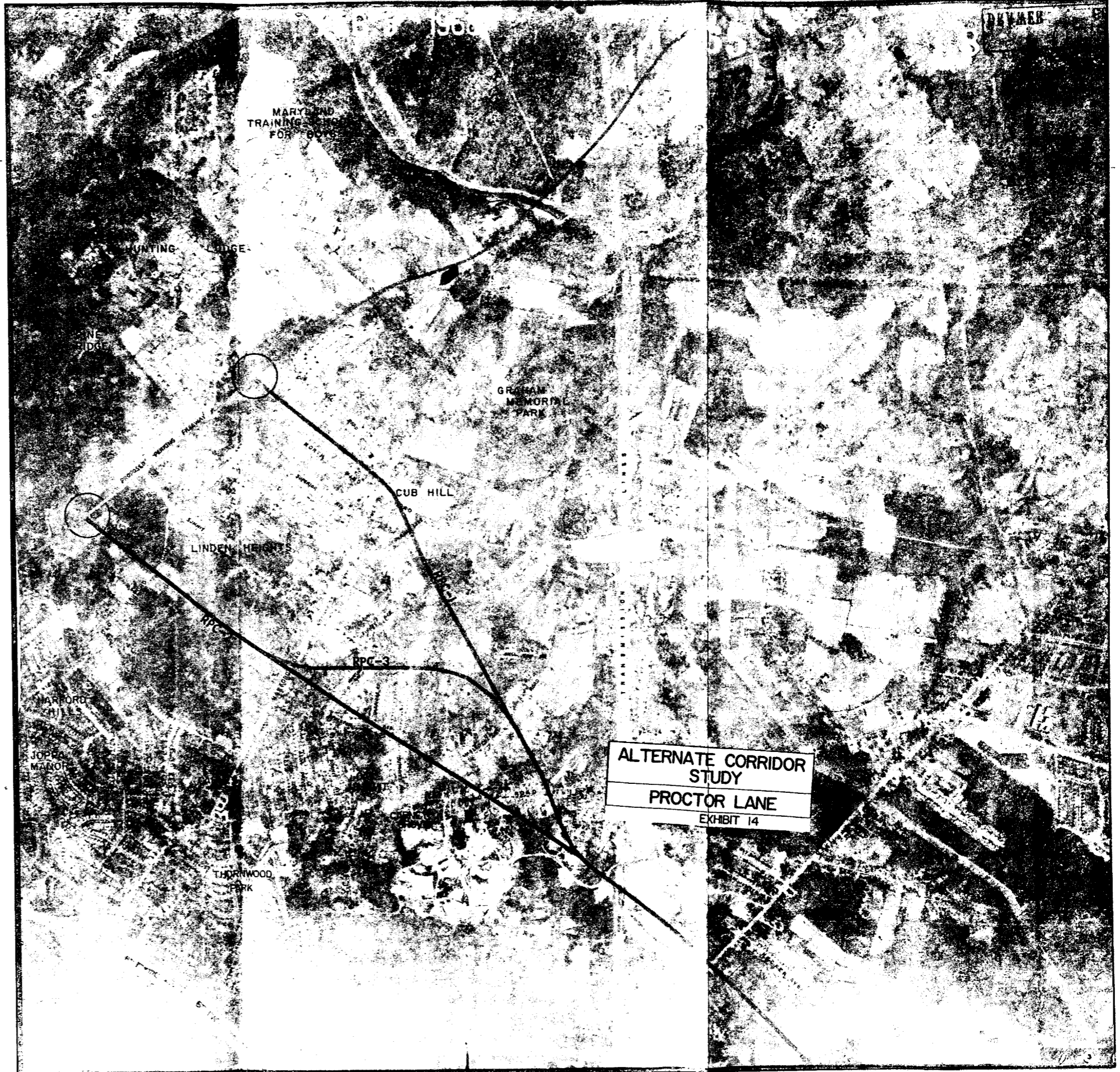
Alternate #3 is to terminate White Marsh Boulevard at Walther Boulevard. On April 1, 1964, Wilbur Smith and Associates submitted the Baltimore Metropolitan Area Transportation Study (BMATS) to the Maryland State Roads Commission. In this study the proposed White Marsh Boulevard in northeast Baltimore County started at Eastern Avenue and ran westerly to the Baltimore Beltway.

After examining this location at the time, the Bureau of Public Roads indicated that extremely difficult traffic problems would be created at the proposed White Marsh Boulevard interchange with the six-lane Baltimore Beltway.

When the 1980 Guideplan was presented by the Baltimore County Office of Planning and Zoning, it indicated that White Marsh Boulevard veers northward west of Belair Road (U.S. Route 1). Naturally, this eliminated interchange traffic overloading at the Baltimore Beltway. Unfortunately, the location of White Marsh Boulevard west of Belair Road, as adopted by the Regional Planning Council in September, 1972, continues to emphasize the BMATS principle of a White Marsh-Beltway connection.

Recognizing the inferiority of a White Marsh Boulevard interchange with the Beltway, the State Highway Administration gave it no further consideration. As a result, the corridors studied emphasize a northward flow of traffic, thereby relieving the Beltway of this added traffic burden. It should be pointed out that the Beltway is a six-lane freeway with an 80,000 average daily traffic design capacity. Its geometrics do not allow the number of lanes or capacity to be increased.

Alternate #4 is to extend White Marsh Boulevard to Perring Freeway via the Proctor Lane Corridor. As early as in the summer of 1970, long before the public hearing held on April 7, 1971, the State Highway Administration investigated a number of alternative corridor locations; one of them was along the Proctor Lane corridor as suggested by the Regional Planning Council.



ALTERNATE CORRIDOR
STUDY
PROCTOR LANE
EXHIBIT 14

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Referring to the exhibit following this page, three alignments were studied. For the purpose of easy reference, they are designated as RPC-1, RPC-2, and RPC-3, respectively.

The alignment "RPC-1" intersects U.S. Route 1 approximately 700 feet south of Necker Avenue and then proceeds in a southwesterly direction, crosses under the overhead transmission line and intersects Jasper Lane, Joppa Road, Magledt Road, Hilltop Drive, Perine Lane, and North Wind Road. From North Wind Road, the alignment generally parallels the North Wind Road to the north and intersects Perring Freeway approximately 200 feet south of Cub Hill Road. An interchange is proposed at this point. Due to the proximity of Cub Hill Road and North Wind Road, relocation of both roads would be necessary. This alignment would require taking approximately 25 residential dwellings and one recreational facility (Carney Rod and Gun Club). Furthermore, one school proposed near Proctor Lane would be affected.

The alignment "RPC-2" is similar to "RPC-1" up to Jasper Lane. From that point, this alignment continues in a southwesterly direction and intersects Joppa Road, Magledt Road, Summit Avenue, Oakdale Avenue, Oak Summit Avenue, and Harford Road. The alignment then proceeds in the same direction and parallels Alverta Avenue to the south and intersects proposed Perring Freeway approximately 1,200 feet south of Summit Avenue. This alignment, due to its proximity, imposes severe infringement on the Joppa View Junior High School and the Pine Grove Elementary School sites near the proposed Perring Freeway. Furthermore, due to the recent extensive development of the Doncaster

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Village complex which consists of apartments, townhouses, and single homes in the area near the proposed Perring Freeway, at least fifty families would have to be displaced.

The alignment "RPC-3" is similar to "RPC-2" up to Magledt Road. From that point on, the alignment proceeds in a southerly direction and crosses Summit Avenue, Homeland Avenue, and Harford Road. Beyond Harford Road, the alignment will be the same as "RPC-2." This alignment requires the taking of approximately 35 dwellings. In addition, Joppa View Junior High School and Pine Grove Elementary School sites would be severely affected.

From the above alignment studies, it was found that there is no way to traverse well-developed areas such as Oak Summit and Linden Heights without taking many residential dwellings. The termini of these alignments at proposed Perring Freeway are in the proximity of either street, school, or newly built residential complex. This would involve additional relocation of homes, roads, and the schools would be seriously affected.

Furthermore, in reaching a later terminus at Dulaney Valley Road, it would damage already existing recreational facilities, namely, the Pine Ridge Golf Course.

As a result of these severe and irreparable damages, the alternates which extend White Marsh Boulevard to Perring Freeway via the Proctor Lane Corridor were dropped from further consideration.

- (2) Regarding the inclusion of RPC's comments dated November 20, 1970.

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Response - This has been done as suggested and can be found in the Appendix.

(3) Integration of the project with the achievement of regional goals and plans for development.

Response - In order to facilitate the coordination of State, Regional, and Local Planning and Development, the coordination process was initiated on August 25, 1970, through the State Clearinghouse. As can be seen from the voluminous correspondence shown in the Appendix, close liaison and cooperation have been maintained throughout the project development especially between the Baltimore County and the State Highway Administration to integrate County road projects with the proposed White Marsh Boulevard. The recommended Route "E" is also the alignment shown on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan.

II. Consistency with the General Development Plan

1. Environmental considerations

(a) Additional alignments without the involvement of park land.

Response - As discussed in the response to comment I (1) above, the State Highway Administration investigated a number of alternate corridor locations. It is true that the taking of any park land can be avoided if White Marsh Boulevard were extended to Perring Freeway via the Proctor Lane Corridor. However, due to the severe damages to the communities and schools, it is the considered opinion of the State Highway Administration that this alternate corridor location has to be ruled out. The proposed corridor cannot be considered north of Perry Hall because it would create a maximum adverse effect upon the school and residential

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developments of Perry Hall. Since Route "E" is the recommended alignment, Graham Memorial Park will not be involved in any way. Gunpowder State Park, on the other hand, is narrow and very long with the Loch Raven Reservoir as its western terminus and U.S. Route 40 as its eastern terminus. It is virtually impossible to avoid crossing this park. With the special design feature and remedial measures available, it is expected that any adverse impacts could be brought to an acceptable minimum.

- (b) Environmental effects from the extension of Perring Freeway north of the Gunpowder.

Response - It has been noted that only the section of White Marsh Boulevard east of U.S. Route 1 is programmed for construction. At the request of the then U.S. Bureau of Public Roads, in order to properly evaluate a short segment of this highway, a longer corridor (I-95 to Perring Freeway) must be reviewed to properly evaluate its ultimate environmental impacts. No funds are available. No time schedule is determined for construction of White Marsh Boulevard west of U.S. Route 1, but probably upon or after the completion of the Perring Freeway, a time schedule will be established. Any environmental effects from the extension of Perring Freeway north of the Gunpowder will be the subject of the Perring Freeway project and are outside the scope of the subject project.

- (c) Extension of White Marsh Boulevard beyond Perring Freeway

Response - It is merely pointed out as a possibility and flexibility of the alignment if and when the extension beyond Perring Freeway becomes desirable and justified. This possible extension is definitely beyond the scope of the 20-year highway needs study.

SUMMARY OF MAJOR FACTORS CONSIDERED

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		ALIGNMENTS (Referring to the Exhibit 16)									
		From Interchange 1 to Interchange 2					From Interchange 1 to Interchange 3				
		A	A-1	B	C	E	A	A-1	B	C	E
1	Established and Planned Area Development	B	D	F	F	B	B	D	F	F	A
2	Future Extension of Whitemarsh Boulevard	F	F	F	F	F	A	A	A	A	A
3	Whitemarsh Blvd.-U.S. Rte. 1 Interchange Location	B	F	D	F	B	B	F	D	F	B
4	Whitemarsh Blvd.-Perring Freeway Interchange Location	F	F	F	F	F	A	A	A	A	A
5	Existing and Planned Area Road System	B	F	B	D	B	B	F	B	D	A
6	Utility Facilities	D	D	D	C	C	D	D	D	C	C
7	Air Pollution	D	D	D	C	C	D	D	D	C	C
8	Noise Level	C	D	F	F	D	C	D	F	F	C
9	St. Joseph's School and Church	D	C	C	C	D	D	C	C	C	D
10	Proposed Hines Elementary School Site	C	C	C	D	D	C	C	C	D	D
11	Maryland Training School for Boys	F	F	F	F	F	C	C	C	C	C
12	Gunpowder Falls	C	C	C	C	C	D	D	D	D	D
13	Whitemarsh Run	C	D	C	C	C	C	D	C	C	C
14	Graham Memorial City Park	F	F	F	F	F	D	D	D	C	C
15	Gunpowder State Park	C	C	C	C	C	D	D	D	D	D
16	Baltimore Game & Fish Protective Association	F	F	F	C	C	F	F	F	C	C
17	Number of Families Displaced	25	27	178	314	23	25	27	178	314	23
18	Number of Businesses Displaced	8	6	5	0	1	8	6	5	0	1
19	Construction Cost (in Thousands of Dollars)	16,500	17,080	16,250	17,800	17,330	21,290	21,900	21,050	21,160	20,710
20	Right-of-Way Cost (in Thousands of Dollars)	4,010	4,480	3,880	3,210	3,805	4,023	4,490	3,895	3,015	3,615
21	Total Cost (in Thousands of Dollars)	20,510	21,560	20,130	21,010	21,135	25,313	26,390	24,945	24,175	24,325
22	Length (in Miles)	5.1	5.4	4.9	4.8	5.1	5.6	5.9	5.4	5.0	5.4

EFFECTS: A = Highly Desirable
B = Favorable

C = Little or No Effect
D = Unfavorable

F = Highly Undesirable

2. Traffic considerations

(a) Concerned with the traffic volumes

Response - If the State Highway Administration's Traffic Studies Section were permitted access to the "traffic simulation studies" referred to by the Regional Planning Council, these discrepancies would occur less frequently. However, since we do not have access to these studies, our figures are the best data available at this time.

(b) Regarding the limit of the project

Response - The answer has been provided under RPC's comment II(1)b.

(c) Concerned with the modifications resulting from the Proctor Lane Corridor consideration.

Response - The merits, consequences, and implications of the Proctor Lane Corridor (RPC's Alternate #4) has been discussed in detail under RPC's comment I(1).

(d) Regarding the proposed Outer Beltway

Response - This is a project currently still under study. No definite decision has yet been reached. We agree that it may not be a complete circumferential route beyond the present I-695. Perhaps the nomenclature "Beltway" in this case is somewhat misleading.

III. The Environmental Impact Statement Document

(1) Suggested that the document presents no non-technical summary statement comparing all alternatives and is far too long and technical.

Response - A non-technical summary comparing all alternatives presented in the form of a chart (Exhibit 22) is included as suggested following this page. While some agencies pointed out the statement does not cover

enough materials and needs many in-depth discussions, others suggested the statement is far too long and technical. The presentation of the Final Statement is attempted to be a balance between these two extreme points of view.

- (2) Stated that the statement is unresponsive to the impacts on land use and development, to the overall function within the total transportation system, and to the impacts of the "Do-Nothing" alternative.

Response - These topics have been discussed at length in the statement. Impacts on land use and development can be found on pages B.1 - B.14. The project's overall function within the total transportation system is shown on pages A.2 - A.4. The impacts of the "Do-Nothing" alternative can be found on pages D.8 - D.9.

- (3) Pointed out that the air quality analysis ignored the regional aspects of the air pollution problem.

Response - The sections concerning air quality analysis have been completely rewritten and include the information as suggested. Furthermore, an Air Quality Analysis Supplement is included in the Appendix.

- (4) Stated that there is no analysis of existing noise conditions.

Response - This analysis is found on page A.20 of the statement.

- (5) Stated that there is no analysis of existing flooding problems.

Response - This information has been added as suggested and will be found under the sub-section, "Surface Waters," in the statement.

- (6) Recommended the draft statement be rewritten and resubmitted.

Response - Recognizing there are certain shortcomings in the draft statement, the State Highway Administration, with concurrence from the Federal

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Highway Administration, is of the opinion that a new draft statement is not necessary since all the comments from the Regional Planning Council have been responded to herewith in the final statement.

Maryland Department of Natural Resources

(a) Concerned with the possible damage done to White Marsh Run.

Response - The portion of White Marsh Run several hundred feet from the proposed White Marsh Boulevard is little more than an open drainage channel. It was learned from Harry T. Campbell Sons' Company, who had sand and gravel operations in this area, that a portion (4,000'+) of White Marsh Run, about 2,000 feet east and west from I-95, has been stabilized through rechanneling, rehabilitating, and reshaping the existing channel bed. After further study, it is found that only approximately 500 feet of White Marsh Run has to be rechannelized as a result of the highway construction. During the design and construction phase of the project, all measures will be taken to minimize erosion and sedimentation into White Marsh Run. Efforts of the Department of Water Resources will be coordinated in order to provide a stable stream with an adequate floodway. Accordingly, there is little, if any, conflict with or anticipated ecological harm to the Run. Furthermore, the proposed highway construction could be utilized as a levee to provide additional flood protection in the area.

(b) Raised further concern for State open space/recreational areas that may be directly or indirectly affected by this highway development to the north.

Response - Graham Memorial Park will in no way be affected since Route A-E-C is the recommended alignment. Gunpowder State Park is very long (approximately

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10½ miles) with Loch Raven Reservoir as its western terminus and U.S. Route 40 as its eastern terminus, runs the length of the Gunpowder Falls and is virtually impossible to avoid. Every effort will be made to minimize the impact on the park. A high level bridge will be used and the alignment will cross the park approximately at right angle. During the design stage, the Gunpowder State Park officials will be closely coordinated and consulted for the purpose of being mutually assured that when completed the construction will meet with their full approval. In connection with the possible extension northwestward from the proposed Perring Freeway, no existing forecast of future travel demand supports the need for this extension within the 20-year limit of the Highway Needs Study. Although the Bureau of Highway Planning of the State Highway Administration has looked at the potential extension of White Marsh Boulevard beyond the proposed Perring Freeway toward the York Road Corridor, no alignment has been established; and no need within the next 20 years would justify elaborate investigations. This area is in fact shown as "Rural-Future Development Area" on Baltimore County's 1980 Guideplan and further defined as an "area where urban development will be discouraged until after 1980." The State Highway Administration has no reason to construct an extension of White Marsh Boulevard into this area until this situation changes to warrant it.

- (c) Stated that one endangered species, the Bog Turtle (Clemmys muhlenbergi), might inhabit the project area. Suggested that the final statement should address this concern.

Response - The sub-section, "Wildlife," in the final statement has been expanded to include this information as suggested. The State Highway

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Administration shall cooperate closely with the Wildlife Administration of the Department of Natural Resources in studies of distribution of Clemmys mühlenbergi through the areas where an acceptable habitat may be modified.

State Clearinghouse, Department of State Planning

Relayed comments received from other State agencies (Interagency Committee for the Public School Construction Program, Department of Economic and Community Development, Bureau of Air Quality Control, Department of Natural Resources, Department of Juvenile Services, and Regional Planning Council).

B. DISPOSITION OF COMMENTS FROM DRAFT AIR QUALITY ANALYSIS SUPPLEMENTAL STATEMENT

Maryland Bureau of Air Quality Control

Stated that the air supplemental statement makes no mention at all of photochemical oxidant.

Response - The required additional information, as suggested, has been included following page 58 of the Air Quality Supplemental Statement attached in the Appendix.

U.S. Environmental Protection Agency

Stated that they have no objections to the methodology utilized nor do they see serious air quality impacts related to the proposed project at this time.

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J. CONCLUSION

Pursuant to Sections 109 and 128 of Title 23, United States Code, the Federal Highway Administration issued Instructional Memorandum 20-4-72, effective September 29, 1972, requiring states to provide documentation that the need for fast, safe, and efficient transportation has been considered together with highway costs, traffic benefits, public services, national defense, and a range of economic, social, and environmental effects for each alternate. The draft environmental statement, the location study report, the draft air quality supplemental statement, and the final environmental statement herewith are considered to provide complete documentation of all areas of concern specified in IM 20-4-72.

Existing residential and undeveloped lands are to be acquired and converted to highway purposes. Motorists in this area will be given the opportunity to use a faster, safe, more efficient route with access controls. The displacement of residents, the localized deterioration in air quality, and increases in ambient noise levels are notable adverse environmental effects. Relocation assistance services and payments will be provided in accordance with established procedures. The adoption of erosion and sediment control measures and careful attention to detail drainage design assure minimum effects to water resources. It is determined that some land taken from one of the two parks will be unavoidable regardless which route is to be selected.

The results of detailed studies and analysis of the ten (10) routes lead to the selection of Alignment A-E-C (E from Point #1 to Point #3). After overall evaluation and careful consideration regarding economic, social, and environmental aspects, Alignment E (A-E-C) is found to be the best route, among the

alternatives studied and is the recommended alignment. All possible planning to minimize harm has been and will continue to be exercised. All available measures will be taken in order to reduce any adverse effects created by the proposed project to the minimum extent obtainable.

Although the complete corridor from I-95 (John F. Kennedy Highway) to the proposed Perring Freeway has been presented, of importance at this time is the establishment of an alignment, Phase I, from I-95 to U.S. Route 1 (Belair Road).

APPENDIX

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August 25, 1970

Mr. Vladimir A. Wahbe
Secretary of State Planning
Department of State Planning
301 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Wahbe:

In conformance with the Project Notification and Review System established by the Federal Bureau of Budget Circular A-95 to facilitate the coordination of State, Regional, and Local Planning and Development; and the Regional Planning Council staff request for early review in the development of projects; the State Roads Commission is notifying the State Clearinghouse of its intentions to apply for Federal assistance in planning and developing Whitemarsh Boulevard from Kennedy Highway (I-95) to the proposed Perring Parkway. The first phase of the project will be constructed from Kennedy Highway (I-95) to Belair Road, a distance of approximately 3.75 miles.

A four-lane divided highway is proposed with collector-distributor roads separating through traffic at Perry Hall Boulevard and Radecke Avenue. While intersecting Joppa Road and Gunview Road at grade, grade separated interchanges are proposed at Perring Parkway, Belair Road, Radecke Avenue, and Perry Hall Boulevard. The first phase project construction costs are expected to exceed \$8,750,000. The traffic is expected to exceed 22,500 ADT by 1988.

The State Clearinghouse is requested to notify State agencies of this project and determine their interest. If there are any issues to be resolved, a clearinghouse conference may be arranged to explore the project in more detail in order to identify possible conflicts, as well as mutual interests.

Upon completion of the Project Notification and Review, it is requested that the formal comments of the interested state agencies be submitted to the State Roads Commission.

Mr. Vladimir A. Wahbe

Page 2

August 25, 1970

You may contact Mr. Thomas Keane of the Bureau of Transportation Planning for further assistance, and it is hoped that these review procedures will strengthen the project.

Very truly yours,

David H. Fisher
Chairman-Director

DEW:ef

173

METROPOLITAN TRANSIT AUTHORITY

179

September 16, 1970

Mr. Edward T. Podulaty, Chief
State Clearinghouse
Department of State Planning
101 West Preston Street
Baltimore, Maryland 21201

STATE ROADS
COMMISSION
LOCATION AND SURVEY

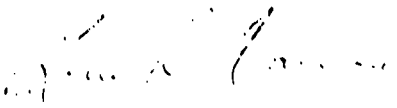
1970 OCT 16 AM 10 03

Dear Mr. Podulaty:

Subject: State Clearinghouse Review
Planning and Developing
Whitemarsh Boulevard

There is no apparent conflict between the current plan
of the Metropolitan Transit Authority and the plan as defined in
Mr. Fisher, Chairman Director of the State Roads Commission,
August 25, 1970 letter to Mr. Wahbe, and the attached plan dated
March, 1969.

Sincerely,


Louis R. Rainone
Director of Planning

JRR/mte



175

MARYLAND
DEPARTMENT OF STATE PLANNING

TELEPHONE: 301-263-3010

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201

310 OCT 22 AM 10 48

State Clearinghouse Conference
Whitemarsh Boulevard
October 2, 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY

The State Clearinghouse Conference to discuss the Whitemarsh Boulevard project was held on October 2, 1970 in Room 1103 of the State Office Building in Baltimore at 10:00 A.M. The following persons attended:

Vladimir Wahbe	Secretary of State Planning
Edward Podufaly	Chief, State Clearinghouse
Charles Pixton	Department of State Planning
Richard Noll	Department of State Planning
Thomas Keane	State Roads Commission
John Lentz	State Roads Commission
Howard Kolscher	State Roads Commission
George Frangos	State Roads Commission
Gene Camponeschi	State Roads Commission
Gene Cheers	Department of Forests and Parks
Edgar Hollis	Fish and Wildlife Administration
Robert Hilson	Department of Juvenile Services
Robert Harrington	Maryland Training School for Boys
Herbert Belknap	Department of General Services
Robert Galvin	Department of General Services
John Trenner	Baltimore County Department of Public Works
Jacob Kaminsky	Regional Planning Council

The Conference was called to order at 10:00 A.M. by the Secretary of State Planning, Mr. Vladimir Wahbe. After a brief statement as to the Planning Department's responsibilities and requirements under the Bureau of the Budget Circular A-95, Mr. Wahbe commended the State Roads Commission for being among the few agencies that comply with the Circular in providing sufficient early notification so as to make these conferences very productive. Mr. Wahbe then introduced Thomas Keane of the State Roads Commission for a brief summary of the status of Whitemarsh Boulevard and associated issues.

Mr. Keane then introduced Messrs. Lentz and Kolscher of the SRC to give a historical perspective to the planning developments of the extension of Whitemarsh Boulevard as well as its present status. After discussing the impact of the Whitemarsh Development Proposal on the potential traffic generation, the meeting was turned over to Gene Camponeschi to review the alternative alignments as they affect various State facilities. The review was concluded by John Trenner of Baltimore County with discussion of County Road Programs as well as their viewpoint on Whitemarsh Boulevard since they have been cooperating with the State Roads Commission on this project.

Gene has copy - X.4 -

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Secretary Wahbe then referred to other State agencies for their reactions to this review. Mr. Hollis, of the Fish and Wildlife Administration, had no formal comments to make at this time. He preferred instead to submit formal written comments. Mr. Cheers of the Department of Forests and Parks presented his agency's proposals for the Gunpowder State Park and expressed concern over the ecology of the stream valley as well as the integrity of the entire park concept. He preferred alignment "C" with a high level bridge over the stream and contingencies for developmental pressures at the Perring Parkway Interchange. Mr. Podufaly requested written comments to this effect and he was assured by Mr. Cheers that comments would be submitted through the Department of Natural Resources.

Messrs. Hilson and Harrington of Juvenile Services objected to both Line "A" of the Whitemarsh Boulevard Extension and the proposed alignment of Perring Parkway. Line "A" would eliminate the Maryland Training School for Boys and Perring Parkway, as presently indicated, would pose a serious security problem. Secretary Wahbe concurred that alignment "A" be eliminated for consideration by the SRC and that the Perring Parkway project be reconsidered.

Mr. Kaminsky of the Regional Planning Council was introduced by Secretary Wahbe with the reminder that the RPC avoid duplication of the State Review and remember that, by action of the Governor, the Department of State Planning will be final arbitrator on all comments. When Mr. Kaminsky commented on the lack of data west of Perring Parkway for Whitemarsh Boulevard, Mr. Podufaly reminded all present that the SRC was in no position to supply such information in light of the Twenty Years Need Study.

Secretary Wahbe clarified this point further by reminding the meeting that the Whitemarsh Development Proposal is a major change in the context of the RPC's General Development Plan and must be submitted to the RPC for consideration. Mr. Kaminsky reiterated that the RPC can't comment on the highway proposals until some knowledge of Whitemarsh Boulevard west of Perring Parkway becomes available. Secretary Wahbe suggested that the RPC submit suggestions for the SRC's consideration.

STATE DEPARTMENT OF FORESTS AND PARKS
DIVISION OF LAND SURVEY

NOV 19 1968

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October 7, 1970

Mr. Robert N. Young
Executive Director
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

Dear Mr. Young:

On August 25, 1970, the State Roads Commission notified the Regional Clearinghouse of its intentions to apply for Federal assistance for the immediate design and construction of Whitmarsh Boulevard from Kennedy Highway (I-95) to Belair Road. To insure proper alignment, the boulevard planning was extended westward to the proposed Perring Parkway.

The thirty days, which was granted by BOB Circular A-95 for the Regional Clearinghouse to inform the appropriate local governments of the project notification and to arrange to confer with the State highway department has elapsed.

Your September 9, 1970 letter signed by Mr. Whittle regarding Whitmarsh Boulevard stated, "Specifically, we need to know the status of the planning for Whitmarsh Boulevard northwest of its proposed intersection with Belair Road. This would include any plans or thoughts for future extension west of Perring Parkway. Upon receipt of the above requested information, the review of the proposal will commence."

On October 2, 1970, Mr. Vladimir Wahbe, Secretary of State Planning held a State Clearinghouse Conference on Whitmarsh Boulevard. The State Roads Commission made a presentation of the planning and development of the boulevard and reviewed the alternative alignments. Baltimore County's representative, John Trenner, discussed the integration of county road projects with Whitmarsh Boulevard and emphasized the close coordination and cooperation with the State Roads Commission.

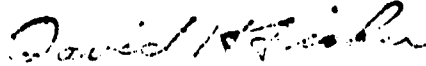
Mr. Kaminsky, representing the Regional Planning Council, commented on the lack of data west of Perring Parkway and stated that the RPC can't comment on the highway proposal until some knowledge of Whitmarsh Boulevard west of Perring Parkway becomes available. Secretary Wahbe clarified this point by reminding those present that the Whitmarsh Development Proposal is a major change in the context of the RPC's General Development Plan and must be submitted to the Council for consideration. Secretary Wahbe invited the RPC to submit suggestions on alignments west of Perring Parkway for State Roads Commission consideration.

October 7, 1970

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I must emphasize the need for the immediate and orderly processing of the Whitemarsh Boulevard project, and I trust that sufficient information was presented at the State Clearinghouse Conference for you to proceed.

Sincerely yours,



David H. Fisher
Chairman-Director

DNF:hsc

cc: Mr. Vladimir Wahbe
Mr. Frederick L. Dewberry, Jr.
Mr. Walter E. Woodford, Jr.



17A

COMMISSION MEMBERS

DAVID H. FISHER
 CHAIRMAN OF COMMISSION
 AND DIRECTOR OF HIGHWAYS

S. WALTER BOOLEY, JR.
 HARLEY P. BRINSFIELD
 WALTER BUCHER
 LESLIE H. EVANS
 ARTHUR D. PRICE, JR.
 FRANK THORP
 JAMES L. WILSON

STATE OF MARYLAND
STATE ROADS COMMISSION
 300 WEST PRESTON STREET
 BALTIMORE, MD. 21201

(MAILING ADDRESS-P. O. BOX 717, BALTIMORE, MD. 21202)

WALTER E. WOODFORD, JR.
 CHIEF ENGINEER

DEPUTY CHIEF ENGINEERS

PLANNING & SAFETY
 HUGH G. DOWNS
 ENGINEERING DEVELOPMENT
 LESLIE E. MCCARTY
 OPERATIONS

October 14, 1970

Re: B 818-10-474
 Whitmarsh Blvd. (Md. Rte. 43)
 From Proposed Perring Freeway
 to I-95

This office is presently preparing location studies for the Whitmarsh Boulevard within the corridor shown on the attached vicinity map. The area of study is between I-95 on the east and the proposed Perring Freeway in the vicinity of the Gunpowder Falls on the west.

At this time, while our plans regarding the alignment are of a flexible nature, we are soliciting your comments regarding the alternate alignments shown. With your cooperation and by similar communication to other agencies, it is hoped that a collective viewpoint concerning the social, economic and environmental aspects of the proposed project can be established. Upon review, these comments will be most helpful in the selection of an alignment that best meets the requirements of the general public.

It is anticipated that this project will have Federal Funding assistance, thereby requiring the presentation of these alternate alignments at a Public Hearing. At this open discussion, your position will be welcomed and indeed of paramount importance in determining a final disposition of this facility.

In order to conduct this hearing during the month of January, 1971, we are requesting that you respond to this office by November 27, 1970. If we do not hear from you by this time, it will be assumed that your agency has no direct concern and no comments will be forthcoming.

Please be advised that the Department of State Planning has requested that copies of resulting correspondence from interested

October 14, 1970

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agencies to this office also be forwarded to them in care of Mr. Vladimir A. Wahbe, Secretary of State Planning, Maryland Department of State Planning, 301 West Preston Street, Baltimore, Maryland 21201.

Thank you for your cooperation and should you feel a more detailed explanation of this matter would be beneficial, we will be most happy to discuss it with you further.

Very truly yours,

Roland M. Thompson, E.P.C.

Roland M. Thompson, Chief
Bureau of Location & Surveys

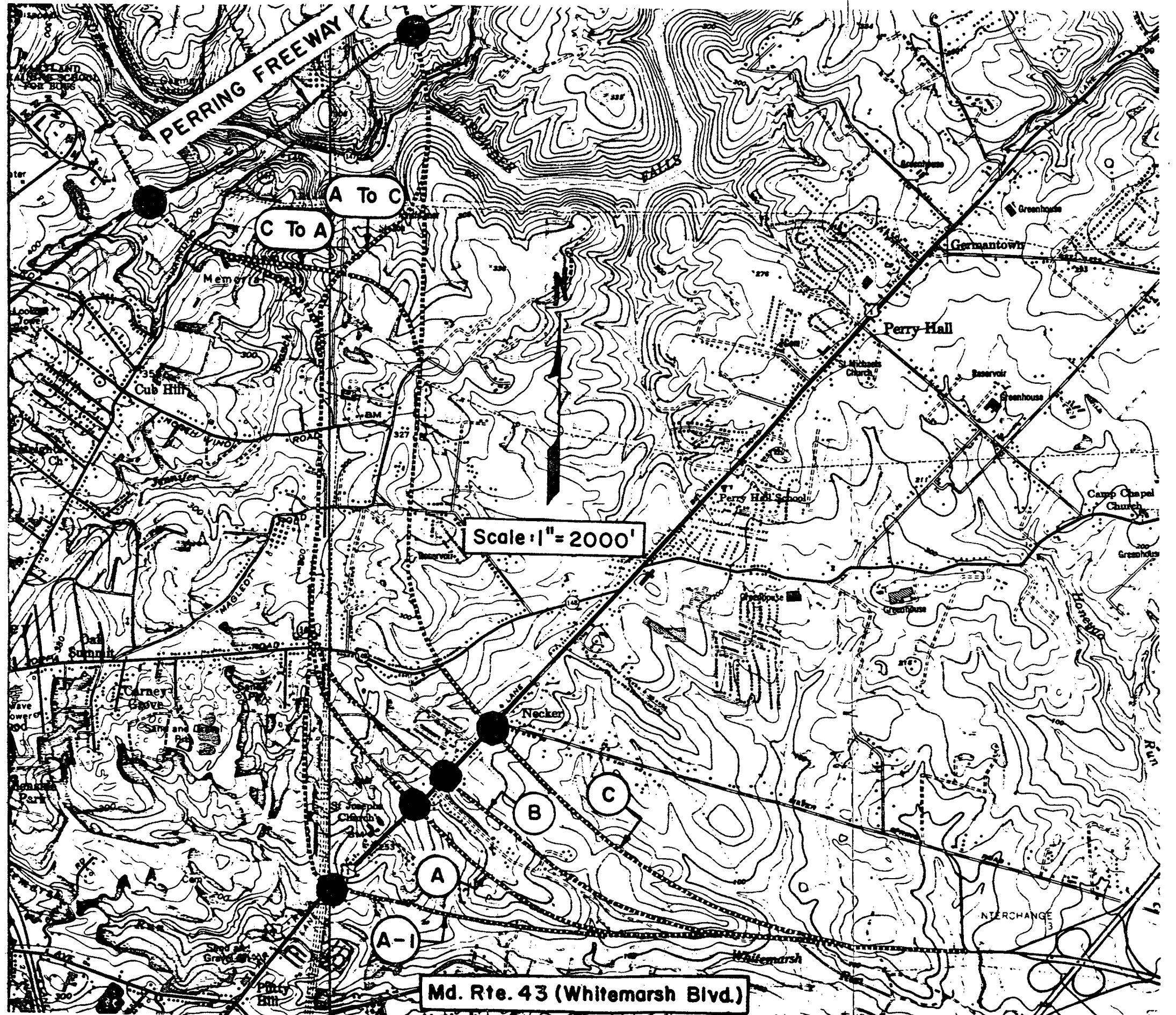
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Attachment

cc: Mr. Vladimir Wahbe
Mr. Walter E. Woodford, Jr.
Mr. Hugh G. Downs
Mr. E. Donald Reilly
Mr. Albert L. Grubb
Mr. Harry Pistel
Mr. Thomas Keane

DISTRIBUTION:

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Mr. Dale Anderson
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Mr. Donald P. Hutchinson
Mr. Lester V. Jones
Mr. James Kardash
Mr. Joseph J. Schirano
Mr. Louis E. Einschütz
Mr. William T. Evans
Mr. William Rush
Baltimore County Council - Attn. Mr. Harry Bartenfelder
Mr. Richard Ackroyd
Mr. Vincent Hearing
Mr. Lemuel A. Garrison
Mr. Edward R. Keil
Mr. Albert B. Kaltenbach
Mr. George E. Gavrelis
Mr. Hubert I. Snyder
Mr. Eugene J. Clifford
Mr. Frederick L. Dewberry
Mr. William S. Sartorius
Mr. Harold Manakee
Mr. Orlando Ridout
Mr. Douglas Tawney
Baltimore County Fire Headquarters
Baltimore County Police Headquarters



183
DEPARTMENT OF JUVENILE SERVICES

2610 MILFORD MILL ROAD
BALTIMORE, MARYLAND 21207
ROBERT C. HILSON, DIRECTOR

BALTIMORE, MARYLAND 21207

301 522-1000

October 16, 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY

NOV 19 AM 10 02

Mr. Edward T. Podufaly
Chief, State Clearinghouse
Department of State Planning
State Office Building
501 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Podufaly:

Thank you for the Minutes of the State Clearinghouse
Conference of October 2, 1970.

As you know, our primary concern relates to the proposed
rightways entering upon the land of the Maryland Training
School for boys. I concur with the conclusions reached
in the Minutes in this regard, and I reiterate that it
would be extremely unwise to have either rightway going
through the property of the State Training School.

Your concern and interest are greatly appreciated.

Very truly yours,

Robert C. Hilson
ROBERT C. HILSON
Director

RCH:ju
cc: Robert J. Harrington
L. B. Biggs

BALTIMORE COUNTY OFFICE OF PLANNING AND ZONING

October 19, 1970

RECEIVED
OCT 23 1970

E. E. CAVHELIS

in Building
31
Md. 21204
11

RD D. HARDESTY
g Commissioner
y Office Building
. Chesapeake Ave.
7th, Md. 21204
351

Mr. Edward T. Podufaly, Chief
State Clearing House
Maryland Department of
State Planning
301 W. Preston Street
Baltimore, Md. 21201

STATE ROADS
COMMISSION
LOCATION AND SURVEY

OCT 13 11 20 AM '70

Dear Mr. Podufaly:

Here are some comments on the proposed alignment of Whitmarsh Boulevard from the Kennedy Highway to the proposed extension of Perring Parkway.

This office has recommended, on its Guideplan and its proposed Northeast Sector Master Plan, a route for proposed Whitmarsh Boulevard which uses alternate line "A" except in the vicinity of Maryland State Training School where it crosses to line "C" and continues across the Gunpowder Falls to Perring Parkway. This office has requested the State Roads Commission to study another "A-1" which would cross Belair Road several hundred feet south of line "A" and could better serve another major center, also proposed on the 1980 Guideplan. The Guideplan and Northeast Sector Plan also proposed the development of a major sector center in the Southwest quadrant of the Kennedy Highway and Whitmarsh Boulevard.

Any potential extension of Whitmarsh Boulevard northeast of Perring Parkway would be outside the recommended Guideplan 1980 Urban-Rural Demarcation Line and could be a major factor in establishing the ultimate development pattern for the portion of Baltimore County. Because studies needed to provide answers to the complex problems of providing sewer and water service, transportation system and other services are not complete or have not been started, the County Planning staff has not yet developed a plan for rural Baltimore County which covers any period beyond 1980. The Guideplan, therefore, does not make any recommendations concerning the extension of Whitmarsh Boulevard beyond Perring Parkway.

It is anticipated that the office will undertake studies to determine a longer range master plan for rural Baltimore in the early 1970's. At that time, we will amend the Guideplan.

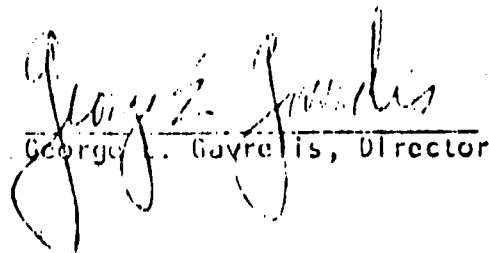
Mr. Edward L. Poutaly, Chief - 2 - October 19, 1970

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Whitemarsh Boulevard to the south is anticipated to be a major means of access from the existing and future residential areas of Ferry Hall to the employment corridor at Eastern Avenue and Martin Boulevard. While this segment is not currently programmed, we feel it is a most important link in the region's highway network and should be programmed early.

Please call if I can be of further assistance in processing this project.

Sincerely yours,


George L. Gavrelis, Director

NEG:GEG:rw

cc: Norman Ray

BOARD

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TOILETS AND PARKS
LOAN

Levent H

DOUGLAS S. TAWNEY
DIRECTOR

LINDA A. BENNETT
EXECUTIVE SECRETARY
828-4648

186

1970 OCT 27 PM 9 50

DEPARTMENT OF RECREATION AND PARKS

DRUID HILL PARK

BALTIMORE, MARYLAND 21217

STATE ROADS
COMMISSION
LOCATION AND SURVEY
October 20, 1970

OCT 26 1970

TRAINING
PLANNING
JUN

Subject: B 818-10-474
Whitemarsh Blvd. (Md. Rte. 43)
From Proposed Perring Freeway to I-95

Department of State Planning
State Roads Commission
c/o Mr. Vladimir Wahbe
300 W. Preston Street
Baltimore, Maryland 21201

Gentlemen:

This will acknowledge your letter of October 14, 1970 on the above subject.

I note that various segments of the proposed routes drive the road directly through Graham Memorial Park which is a public park owned by the City of Baltimore. This park contains unique facilities such as a riding academy and an archery range which are open to the use of the public.

The Department of Recreation and Parks will completely oppose any route which takes this road through Graham Park. I do not completely understand the drawing as it is presented without explanation. I should like someone to call on me and completely explain what the dotted lines mean. As I see the plan without a verbal presentation, route "C" is the one which this department would favor.

I do not understand why road designers have to make their roads immediately head for park property. There may be some reasoning behind this in the urban areas because of the desire to avoid housing demolition, but in relatively open country as in this case, the road can be easily kept away from park property.

I will await hearing from your office relative to a further detailed explanation of the proposed road, but you can record our complete opposition at this time to any route which affect Graham Memorial Park.

Very truly yours,

Douglas S. Tawney
Douglas S. Tawney
Director

DST/mrh

cc: Mr. C. A. Young, Jr.
Mr. W. R. Schmidt
Mr. Frank Jones

OCT 26 1970
TRANSPORTATION
PLANNING

1970 OCT 27 PM 2 50

STATE ROADS
COMMISSION
LOCATION AND SURVEY

2

Mr. Campanoschi

1970 OCT 30 AM 11:36

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206 Federal Building
31 Hopkins Place
Baltimore, Maryland 21201

RECEIVED

OCT 28 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY
October 27, 1970

ADMINISTRATIVE
DIVISION

Whitemarsh Blvd. B-818-10-474
Public Hearings

Mr. David H. Fisher
Chairman-Director
Maryland State Roads Commission
Baltimore, Maryland 21201

Dear Mr. Fisher:

Your letter of October 14, 1970 requested comments on a proposed public hearing. A small scale map was attached showing Whitemarsh Blvd. extended to Perring Parkway in the vicinity of the Gunpowder.

While we have some knowledge of the future planning of Whitemarsh Blvd. beyond Perring Parkway from conversations with your Bureau of Location, it is scant.

It is our opinion that a public hearing conducted only on that segment shown on the map presented us would confuse the public. It does not appear to offer any significant traffic service. We believe that in order to justify this proposed highway to the Public it will be necessary to show its ultimate extension to major traffic generators as an outer beltway, which it is our impression it ultimately will be.

Sincerely yours,

Richard Ackroyd
Richard Ackroyd
Division Engineer

cc: Mr. D. H. Fisher
Mr. W. E. Woodford, Jr.
Mr. H. G. Downs
Mr. T. Hicks
MR. FRIESE

Prepare reply for response to last paragraph

wcw
10/28/70

10/30/70 Mr. R. M. Thompson For your action
Develop General Alignment of Extension
Quarterly on a County map and discuss with me.

H. G. Downs

BUREAU OF LOCATION AND SURVEY
STATE ROADS COMMISSION

*Important
Requires reply*



189

JARVIS SPENCER FINNEY
STATE SENATOR
3RD LEGISLATIVE DISTRICT
BALTIMORE COUNTY
FINANCE COMMITTEE

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21404

OFFICE:
FIDELITY AND NATIONAL BANK BLDG
BALTIMORE, MARYLAND 21202
HOME ADDRESS:
111 VILSON, MARYLAND 21153

October 23, 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY

Gene has copy

Mr. Roland M. Thompson, Chief
Bureau of Location & Surveys
State Roads Commission
300 W. Preston Street
Baltimore, Maryland 21201

Dear Mr. Thompson:

Thank you very much for your letter of October 14 concerning the location of the White-marsh Boulevard. You may be assured that I am vitally interested in this area.

Of course, I am certain you are insuring this particular project will not disturb the priorities and construction dates of the projects to be accomplished elsewhere in Baltimore County, but I would appreciate your confirming this fact to me at your convenience. In particular, Mr. Walter Woodford will confirm that the State Roads Commission has given definite commitments of priority to the Northwest Expressway, reconstruction of York Road, and some additional work on Reisterstown Road, among others. In addition, the Interstate funding is already committed to improvements on the York Expressway.

In the event that you consider me overly apprehensive, I can only say that my concern derives solely from bitter experience. I look forward to hearing from you or Mr. Woodford in due course. You will note a copy is also being sent to Mr. Wahbe.

Sincerely,

Jarvis Spencer Finney
Jarvis Spencer Finney

JSP:ppk
cc: Mr. Vladimir Wahbe

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J. M. LADD, TAWES
SECRETARY

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

14/16 M.S. B. G. D. L. L. L.
DEPUTY SECRETARY

October 28, 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY

1970 NOV 18 AM 10 02

Mr. Edward T. Podufaly
Chief, State Clearinghouse
Maryland Department of State Planning
301 West Preston Street
Baltimore, Maryland 21201

Re: State Clearinghouse Review
Planning and Developing Whitomarch
Boulevard

Dear Mr. Podufaly:

The Department of Natural Resources has reviewed the State Roads Commission's proposed planning and construction of Whitomarch Boulevard from Kennedy Highway (I-95) to the proposed Perring Parkway. In light of the information submitted to the State Clearinghouse, and as a result of the Clearinghouse conference held on October 2, 1970, our comments are as follows:

1. Line A and Line C as plotted on the Overlea County Plan (4C) do not indicate an apparent conflict with future major developed areas proposed for Gunpowder State Park. However, if Whitomarch Boulevard is extended beyond the intersection with Perring Parkway, conflict with developed areas may be encountered.
2. A high level bridge over the valley on Line C may offer the least intrusion to the environment.
3. It is suggested that special design considerations are given to the highway, structures, and interchange as they relate to Gunpowder River State Park.
4. The major concern of the Department of Natural Resources is with the impact created by the highways and interchange on the natural character of the Gunpowder Falls. The environmental effects may alter the basic natural amenities of the valley, which are a prerequisite for recreational use.
5. The project passes through a large tract of property owned by the Harry T. Campbell Sand and Gravel Company and/or an associated land management company. The area has been greatly disturbed by the mining operation, and the Campbell Company is currently endeavoring to restore Whitomarch Run. The final

Mr. Edward T. Podufaly
Re: Whitmarsh Boulevard

- 2 -

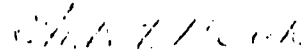
October 28, 1970

191

Location of Whitmarsh Boulevard should be coordinated with efforts of the Department of Water Resources and the Harry T. Campbell Company to provide a stable stream with an adequate floodway.

The Department of Natural Resources agencies wish to be kept informed of the State Roads Commission's decisions regarding this project, and stands ready to assist the State Roads Commission in any way possible.

Sincerely yours,



Herbert M. Sachs
Assistant Secretary

HMS:bsf

cc: Edgar H. Hollis
Joseph Knapp
William A. Parr

192

BOARD OF EDUCATION OF BALTIMORE COUNTY

TOWSON, MARYLAND 21204

November 6, 1970

Mr. Roland M. Thompson, Chief
Bureau of Location & Surveys
State Roads Commission
300 West Preston Street
Baltimore, Maryland 21201

STATE ROADS
COMMISSION
LOCATION AND SURVEY

1970 NOV 10 AM 9 42


Dear Mr. Thompson:

B 818-10-474
White Marsh Blvd. (Md. Rte. 43)
From Proposed Perring Freeway
to I-95

With reference to your correspondence dated October 14, 1970 relating to the proposed location and alignment of Whitemarsh Boulevard (Rte. 43), please be advised that our Planning Office would object to Scheme "C" due to its proximity to the "Hines Road Elementary" site.

We do not have any other comments relating to the alternate routes and their alignment.

Sincerely yours,


Edwin L. Rinehart, Supervisor
Site Development

ELR:HB

cc: Mr. J. R. Wheeler
Mr. H. W. Kreuzburg, Jr.
Mr. V. A. Wahbe

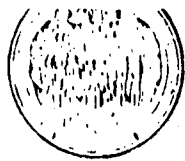
Mr. Campanoschi has copy

T. GAYARD WILLIAMS, JR., PRESIDENT
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MRS. ROBERT L. BERNEY

EUGENE D. HESS
H. RUSSELL KNUST
ALVIN LORECK
JOSHUA R. WHEELER, SUPERINTENDENT

H. EMSLIE PARKS
RICHARD W. TRACEY, V.M.D.
MRS. RICHARD K. WUERFEL

193



STATE OF MARYLAND
STATE ROADS COMMISSION
300 WEST PRESTON STREET
BALTIMORE, MD. 21201

(MAILING ADDRESS P.O. BOX 717, BALTIMORE, MD. 21202)

November 9, 1970

WALTER E. WOODFORD, JR.
CHIEF ENGINEER
DEPUTY CHIEF ENGINEERS
PLANNING & SAFETY
HUGH G. DOWNS
ENGINEERING DEVELOPMENT
LESLIE E. MCCALL
OPERATIONS

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HARRY P. BRINSFIELD
WALTER BUCKNER
LESLIE M. EVANS
ARTHUR D. PRICE, JR.
F. THORP
WILLIAM L. WILSON

Re: Contract #B 818-10-474
Whitemarsh Blvd. (Md. Rte. 43)
Perring Freeway to I-95

Honorable Jervis S. Finney
District 13-C
Valley Road
Stevenson, Maryland 21153

Dear Mr. Finney:

Thank you for your letter of October 28, 1970, in which you expressed an interest in this project and also its effect upon existing priorities, such as the Northwest Expressway, and the reconstruction of York Road, among others.

As now scheduled, this improvement would not disturb the priorities of the projects for which you expressed concern. The preliminary engineering for the Whitemarsh Boulevard, from U. S. Route 1 to I-95, is slated for Fiscal 1975 in our Current 1971-1975 Construction Program and the construction funds would be scheduled thereafter.

The advanced studies being made at this time are necessary in order to establish an alignment within the corridor from the Perring Freeway to I-95 by the public hearing process as required by Federal Highway Administration Policy & Procedure Memorandum #20-8. This process can be lengthy and it is important that the alignment be established in order that proposed development in the area can be apprised of our requirements and plan accordingly.

I trust that this gives you a further understanding of the status of this project as related to the current Construction Program.

Very truly yours,

Roland M. Thompson, Chief
Bureau of Location & Surveys

RMT:ETC:cz
cc: Mr. Walter E. Woodford
Mr. Hugh G. Downs
Mr. Vladimir Wahbe



194

MARYLAND
DEPARTMENT OF STATE PLANNING

TELEPHONE 301-303-3010

VLADIMIR A. WAHDE
SECRETARY OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201

RECEIVED

November 13, 1970

Mr. David H. Fisher
Chairman-Director
State Roads Commission
300 West Preston Street
Baltimore, Maryland 21201

NOV 18 AM 10 02
STATE ROADS
COMMISSION
LOCATION AND SURVEY

Dear Mr. Fisher:

SUBJECT: PROJECT NOTIFICATION AND REVIEW

Applicant: State Roads Commission

Project: First Phase, Whitmarsh Boulevard

State Clearinghouse Control Number: 149

State Clearinghouse Contact: Edward T. Podufaly (383-3010, ext. 8035)

The State Clearinghouse has reviewed the Summary Notification for the above project. As a result of our review thus far, we cannot comment conclusively on the first phase of the Whitmarsh Boulevard Project until we know better the purpose of the entire project. Specifically, is it intended that this project be a local highway serving local needs? Or, if it is intended to be a State expressway, how does it fit into the State highway system and what and where does it connect? To add to the uncertainty of the purpose of Whitmarsh Boulevard, we understand that the Regional Planning Council staff is considering other alternatives to the west of Belair Road.

We also note that in the letter from Mr. Roland M. Thompson of State Roads Commission to Senator Jervis S. Finney, that preliminary engineering for Whitmarsh Boulevard is slated for Fiscal Year 1975 and that advanced studies are being made at this time in order to establish an alignment within the corridor by the public hearing process.

In our opinion it would seem prudent that no engineering or construction be started on any segment of Whitmarsh Boulevard until a study of the complete corridor has been completed and public hearings have been held.

cc attach - Roland Thompson ✓

Mr. David H. Fisher
Page Two

November 13, 1970

195

For your consideration in future planning of this project, we are enclosing comments we have received from the Department of Natural Resources, Baltimore County Office of Planning and Zoning, Department of Juvenile Services and the Metropolitan Transit Authority.

Sincerely,

Vladimir Wahbe
Vladimir Wahbe

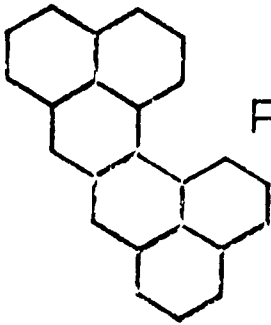
Enclosures

cc: Robert N. Young
George E. Burnett, Jr.
Gerard Devlin
Herbert M. Sachs
George E. Gavreolis
Robert C. Hilson
Louis R. Rainone
Thomas Keane
Charles Pixton

STATE PLANS
COMMISSION
LOCATION AND SURVEY

NOV 18 AM 10 02

196



Regional Planning Council

701 St. Paul Street
Baltimore, Maryland 21202

REC-115

1-24-68

11/20/70

Review and Comment Transmittal Memorandum
Metropolitan Clearinghouse

The Regional Planning Council has reviewed your referral.

Attached is a memorandum which presents the Metropolitan Clearinghouse comments and includes a certification of Council action.

Robert N. Young
Executive Director

*c.c. [unclear]
[unclear]
[unclear]*

✓ Applicant - 4 copies
Referral Coordinator - 1 copy
State Clearinghouse - 1 copy

STATE RECORDS
COMMISSION
LOCATION AND SURVEY

NOV 25 AM 11 54

Gene has copy

197

REVIEW AND REFERRAL STAFF MEMORANDUM

PROJECT IDENTIFICATION

Jurisdiction: Baltimore County
Project Name: Whitemarsh Boulevard
Applicant: Maryland State Roads Commission
Cost: \$8.75 million total cost - (first phase)
Grant Program: Federal Aid Highway Program (20.205)

STATE ROADS
COMMISSION
LOCATION AND SURVEY
1970 NOV 25 AM 11 54

PROJECT DESCRIPTION

Whitemarsh Boulevard from I-95 to Perring Parkway
First phase - I-95 to Belair Rd.
Later phase(s) - Belair Rd. to Perring Parkway

STAFF COMMENTS

Whitemarsh Boulevard East of Belair Road (First Phase)

The first phase proposal of the State Roads Commission closely resembles the alignment shown in the adopted Suggested General Development Plan. In formulating the GDP, the major function of this highway was considered to be the provision of access to and from the major town center proposed near the intersection of Whitemarsh Boulevard and Belair Road as well as to provide for the major east-west traffic movements to and from industries in the Middle River area. Since plan adoption, further studies have indicated the desirability of locating this large regional center eastward closer to the Kennedy Expressway (I-95), but still adjacent to Whitemarsh Boulevard. A much smaller center is planned at the former site. This change would not significantly change the intended function of Whitemarsh Boulevard other than to necessitate a change in the design of access provisions. Major consideration should be given in this project to provide adequate service to the regional town center. The collector-distributor interchange proposed by the State Roads Commission would probably be satisfactory in this respect.

Another consideration should be Whitemarsh Run. All alignments shown are quite close to this stream, which is shown on the Suggested General Development Plan as primary open space. The character of Whitemarsh Run between I-95 and Belair Road ranges from a natural wooded stream in its upper reaches, to an open drainage channel through the sand and gravel operations in its lower portions. Present plans of the sand and gravel operations are to rechannel and vegetatively stabilize Whitemarsh Run in its lower section.

The design for Whitemarsh Boulevard should (1) respect and preserve as much of the natural stream valley character in upper Whitemarsh as possible and (2) consider the reclamation and reuse plans for the lower Whitemarsh area. In addition, measures should be taken to minimize sedimentation into Whitemarsh Run during construction.

THE FIRST PHASE PROPOSAL IS CONSISTANT WITH THE SUGGESTED GENERAL DEVELOPMENT PLAN AND GRANT APPROVAL IS RECOMMENDED.

Whitemarsh Boulevard West of Belair Road (Later Phase(b))

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The Suggested General Development Plan proposed a termination of Whitemarsh Boulevard slightly west of Belair Road at the proposed Walther Boulevard. Consideration was given at the time the plan was formulated to tying the highway directly into the Baltimore Beltway in order to provide needed beltway relief but this was not included in the plan because of interchange spacing policies.

A major difficulty with the second stage proposal submitted by the State Roads Commission is that the purpose of the project is unclear. In lieu of stated objectives, it appears that there are four possible alternatives for the road. Each of these alternatives serves a different purpose and has specific implications which should be considered.

1. Extend Whitemarsh as proposed only to the Extension of Perring Parkway

This alternative coincides with the SRC proposal. Because of the radial orientation given to this circumferential highway, this alignment provides very little essential traffic service. Population and employment areas near the Beltway in the Towson-Loch Raven-Hampton areas are very poorly served by this proposal. Relief of the Beltway with this alternative would be minimal. The northern portion of this proposal would probably place undesirable development pressure on the area near Gunpowder Falls resulting in an encroachment on its recreational and ecological qualities. This alternative logically leads to Alternative 2, i.e., an extension to York Road.

2. Extend Whitemarsh As Proposed Beyond Perring Parkway North of Loch Raven Reservoir to York Road

This proposal would connect Eastern Baltimore County with the Greater Baltimore Industrial Area. Past studies have indicated that this type of facility would attract a relatively small amount of traffic due to its remoteness to population and employment and that mostly very long trips would be served. Again, the Towson-Loch Raven-Hampton areas are very poorly served. The major implication of this proposal would be the premature development pressures placed on the area north and northeast of Loch Raven Reservoir due to the increased accessibility provided by the highway. This would be incompatible with plans for providing other public facilities in this area. These facilities have been deliberately given a low priority due to other needs of the county. An important consideration is timing. Possibly this proposal would be ideal if it were to be built at the time that the decision were made to open up to development the areas north and northeast of Loch Raven. At that time, other public facilities would also be programmed.

3. Terminate Whitemarsh at Walther Boulevard

This proposal is shown in the Suggested General Development Plan. Beltway relief west of Belair Road and service to the Towson-Loch Raven-Hampton areas is minimal and can only be accomplished by using Belair Road and Walther Boulevards as feeder streets.

4. Extend Whitemarsh to Perring Parkway via the Proctor Lane Corridor

Instead of swinging Whitemarsh northward toward the Gunpowder, this alternative would provide truly circumferential service tying into Perring Parkway, a major new freeway. A later terminus could possibly be Providence Road or Dulaney

Valley Road. This alternative would provide significant beltway relief, connecting the Towson-Loch Raven-Hampton to the new northeast town center and industries in the Middle River Area.

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BECAUSE OF THE IMPORTANCE OF THIS FACILITY TO ORDERLY GROWTH OF THE REGION, FURTHER STUDIES SHOULD BE MADE, AND THE REGIONAL PLANNING COUNCIL SHOULD BE KEPT ADVISED AND BE GIVEN AN OPPORTUNITY TO AGAIN REVIEW THE LATER PHASES BEFORE PLANS ARE FORMALIZED.

I HEREBY CERTIFY that at its 84th meeting, held on November 20, 1970, the Regional Planning Council concurred in this Review and Referral Staff Memorandum and incorporated it into the minutes of that meeting.

Original Signed By

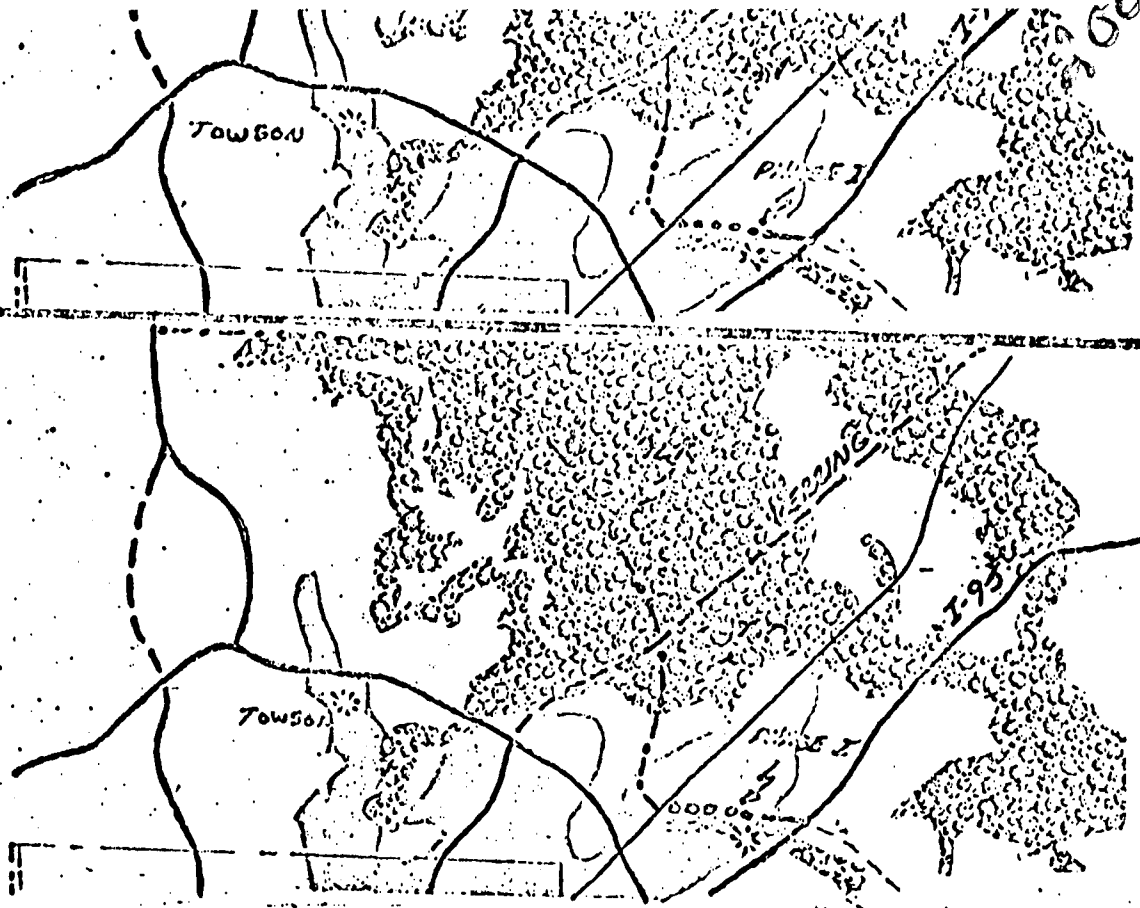
Robert N. Young

11/20/70

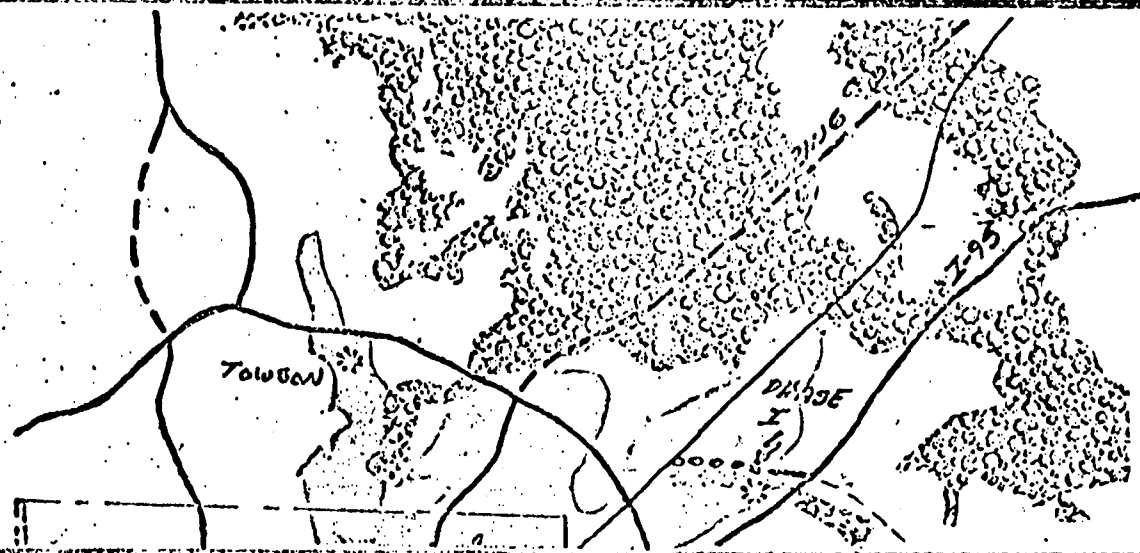
Date

Robert N. Young
Executive Director

ALT. 2



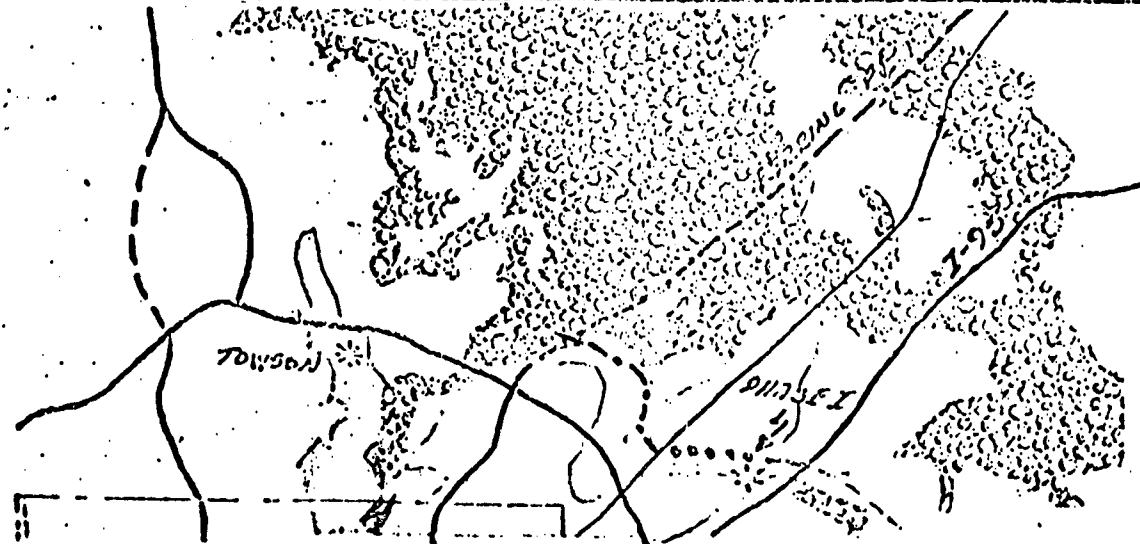
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LEGEND

- MEDIUM DENSITY
- 10.
- SPACE





BALTIMORE COUNTY, MARYLAND
TOWSON, MARYLAND 21284

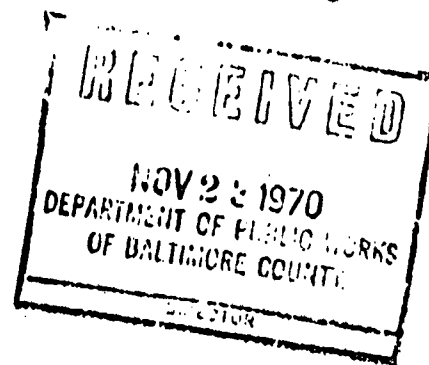
201

November 20, 1970

FREDERICK L. DEWBERRY
COUNTY DEVELOPMENT COORDINATOR
VA 2-3000

STATE ROADS
COMMISSION
LOCATION AND SURVEY

Mr. Robert N. Young, Executive Director
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202



Re: R & R File No. 70-759
SRC - Whitmarsh Blvd.

Dear Mr. Young:

We have reviewed the staff comments on the above referral.

Baltimore County concurs that the grant request for the First Phase Proposal should be approved. While the RPC staff comments do not recommend specifically any of the four alternatives shown on the State Roads Commission proposal, Baltimore County recommends for the record Alternate "A" to Belair Road, with consideration being given to a tie to Alternate "C" in the Second Phase as shown in red on the attached plat. This alignment is more direct than the Second Phase "A" to "C" tie shown by SRC, and eliminates the crossing and re-crossing of power lines that "A" encounters on the SRC plan, Second Phase.

Based on the preference of the Second Phase "A" to "C" alignment we propose, Alternates 3 and 4 in the RPC staff comments on later phases would thus be eliminated.

Alternate 4 appears to have some serious construction and environmental problems in the vicinity of Gunpowder Falls as well as in the area of the Maryland Training School for Boys. In reaching a terminus at Dulaney Valley Road it would damage already existing recreational facilities, namely the Pine Ridge Golf course.

While we agree that much more study is necessary on all proposals beyond the First Phase now being approved, we do not agree with the staff comments on page 3 of the resolution:

"The Second Phase proposal is inconsistent with the adopted suggested General Development Plan. Further study should be given to alternatives, with particular emphasis on the feasibility of Alternative Number Four."

Mr. Robert N. Young

- 2 -

November 20, 1970

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Therefore, we suggest the elimination of the above paragraph from the resolution, and further suggest that the last sentence on page 3 be amended to read:

"Because of the importance of this facility to orderly growth of the region, further studies should be made, and the Regional Planning Council should be kept advised and be given an opportunity to again review the later phases before plans are formalized.

Yours very truly,

Frederick L. Dewberry
FREDERICK L. DEWBERRY
Referral Coordinator
Baltimore County

FLD mow

cc Mr. Dale Anderson
Mr. Harry Bartenfelder
Mr. Lewis M. Hess, Jr.
Mr. A. B. Kaltenbach
Mr. G. E. Gavrelis
Mr. E. J. Clifford

Baltimore County
Department of Public Works

COUNTY OFFICE BUILDING
TOWSON, MARYLAND 21204

ALBERT B. KALTENBACH, P. E.
DIRECTOR OF PUBLIC WORKS

November 25, 1970

1970 DEC 3 PM 3 25

J. FRED OFFUTT, P. E.
DEPUTY DIRECTOR

STATE ROADS COMMISSION
LOCATION AND SURVEY
HORNTON M. MOURING, P. E.
DEPUTY DIRECTOR

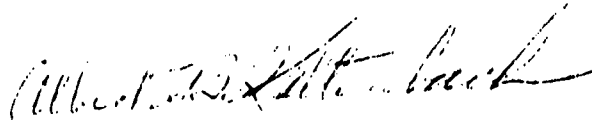
Mr. Roland M. Thompson, Chief
Bureau of Location & Surveys
State of Maryland
State Roads Commission
300 West Preston Street
Baltimore, Maryland 21201

Reference: B 818-10-474
Whitemarsh Blvd. (Md. Rte. 43)
From Proposed Perring Freeway to I-95

Dear Mr. Thompson:

In accordance with your letter of October 14, 1970, we are offering the attached correspondence dated November 20, 1970 directed to Mr. Robert N. Young, Executive Director, Regional Planning Council, by Frederick L. Dewberry, as it pertains to Whitemarsh Boulevard. This letter should prove self-explanatory as to the preferred route for Whitemarsh Boulevard in Baltimore County.

Very truly yours,



ALBERT B. KALTENBACH, P. E.
Director of Public Works

END:JJT:llw

Enclosure

Gene has copy
- X.32 -

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE - 4321 Hartwick Road, Room 522
College Park, Maryland 20740

204

November 25, 1970

1970 NOV 27 AM 9 41

Roland M. Thompson, Chief
Bureau of Location & Surveys
State Roads Commission
P. O. Box 717
Baltimore, Maryland 21203

STATE ROADS
COMMISSION
LOCATION AND SURVEY

Re: B 818-10-474

Dear Mr. Thompson:

This is in response to your inquiry of October 14, 1970, to Edward R. Keil, former State Conservationist for SCS in Maryland, regarding the proposed location of the Whitemarsh Boulevard in the vicinity of Gunpowder Falls, Baltimore County.

Our review of this proposal indicates no conflicts with proposed resource developments in which we have interest. However, we find that Route A would cross fewer streams and cut through an area which has rather good vegetative cover (with the exception of the borrow pits) and should offer the lesser sediment control problems. In order of magnitude of sediment control problems, Route B would be next lowest, with Route C causing the most problems.

We appreciate the opportunity to review these proposals and trust that our comments will be helpful.

Sincerely yours,


C. Douglas Hole
State Conservationist

Mr. Campanerchi has copy





205

COMMISSION MEMBERS

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CHAIRMAN OF COMMISSION
AND DIRECTOR OF HIGHWAYS
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STATE OF MARYLAND
STATE ROADS COMMISSION
300 WEST PRESTON STREET
BALTIMORE, MD. 21201

(MAILING ADDRESS P. O. BOX 717, BALTIMORE, MD. 21202)

December 7, 1970

WALTER E. WOODFORD, JR.
CHIEF ENGINEER
DEPUTY CHIEF ENGINEERS
PLANNING & SAFETY
HUGH G. DOWNS
ENGINEERING DEVELOPMENT
LESLIE E. MCCALL
OPERATIONS

Re: B 818-10-474
Whitemarsh Blvd.
(Md. Rte. 43)
Perring Freeway to I-95

Mr. Vladimir A. Wahbe
Secretary of State Planning
State Planning Department
State Office Building
301 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Wahbe:

This is in response to your letter of November 13, 1970, in which you state you cannot comment conclusively on the first phase of the Whitemarsh Boulevard project until you know better the purpose of the entire project.

In an effort to clarify the points you raise, I would like to comment as follows:

1. Project Purpose

The purpose of the project is (a) to provide a fundamental link in the total system of highways serving the area between U.S. 1 and U.S. 40 north of I-695. (b) to provide access to proposed new land developments in the area (c) to serve as a distributor of traffic between the new land developments in the area and the major radial highways with adequate design capacity, (d) to utilize the only local-to-freeway interchange access to I-95 in Baltimore County.

2. Functional Classification

This facility is classified as a major arterial which includes both characteristics of local land service and high "through-traffic" capacity. It is proposed as an AASHO expressway type facility (similar to Perring Parkway between the city line and the Beltway) which incorporates signalized grade intersections at approximately half mile intervals; interchange

Mr. Vladimir A. Wahbe

-2-

December 7, 1970 206

where traffic volumes warrant; and no direct access to abutting properties.

It is proposed as part of the State Highway System by virtue of these design characteristics and function in addition to its lateral connection to other State facilities, such as U.S. 1, I-95, and U.S. 40. It is a next logical step in the modified "grid" system which is occurring in the north-east corridor.

3. Termini

Its connections to I-95 and U.S. 40 are already constructed. The Whitemarsh Boulevard is currently proposed in our 1971-1990 Twenty Year Highway Needs Study to connect with the Perring Freeway on the north and proposed Maryland Route 100 (Outer Belt) on the south. That portion from Perring Freeway to I-95 is Primary-Critical and from U.S. 40 to Maryland Route 100 is Primary-Non Critical.

It is evident that concern has risen in the Clearinghouse processes, both State and Regional, over our studies or proposals for the extension of this facility beyond the limits applied for, specifically to the northwest. No existing forecast of future travel demand supports the need for this extension within the 20 year limit of the Highway Needs Study.

The Bureau of Highway Planning of the State Roads Commission has looked at the potential extension of Whitemarsh beyond the Perring Freeway toward the York Road Corridor, but no alignment has been established, and no need within the next 20 years would justify elaborate investigations. The "wedge" between Perring Freeway and U.S. 40 from the Beltway outward is presently mostly undeveloped. It has one of the highest potentials for development because of the relative ease with which sewers, water, and highways can be provided. In contrast, the "wedge" between Perring and York Road is heavily developed out to Loch Raven Reservoir. The reservoir makes an extremely difficult obstacle beyond which to provide these same utilities and development is expected to occur probably last of all in this area of Baltimore County. This area is in fact shown as "Rural-Future Development Area" - on the County's Guideplan and further defined as an "area where urban development will be discouraged until after 1980." The State Roads Commission has no reason to construct an extension of Whitemarsh into this area until this situation changes to warrant it.

Consequently, it is the position of the State Roads Commission that we are proposing a functional facility within a complete corridor

for the Whitemarsh Boulevard from I-95 in a northwesterly direction to the Perring Freeway. Although we propose to conduct a public hearing for this complete corridor, of importance at this time is the establishment of an alignment, Phase I, from I-95 to Belair Road. We will continue to cooperate with all interested agencies and provide them an opportunity to review the later phases of this project prior to plans being formalized.

I trust this statement of our position further explains the purpose of this project and I look forward to your favorable response.

Very truly yours,

David H. Fisher
Chairman-Director

DHF:cz



MARYLAND
DEPARTMENT OF STATE PLANNING

TELEPHONE 301-583-8010

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201

December 9, 1970

RECEIVED

DEC 10 1970

Mr. David H. Fisher
Chairman-Director
State Roads Commission
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Fisher:

SUBJECT: PROJECT NOTIFICATION AND REVIEW

Applicants: State Roads Commission

Project: Whitmarsh Boulevard

State Clearinghouse Control Number: #149

State Clearinghouse Contact: Edward T. Podufaly (383-2474)

We appreciate the clarification concerning the Whitmarsh Boulevard which we received in your letter of December 7, 1970. In view of this added information, we agree that you should proceed with Phase I, from I-95 to Colair Road.

By our letter of November 13, 1970, we forwarded to you the comments from the Department of Natural Resources, Baltimore Office of Planning and Zoning, Department of Juvenile Services and the Metropolitan Transit Authority. Since you will conduct public hearings for the complete corridor for Whitmarsh from I-95 in a northwesterly direction to the Farring Freeway, we would appreciate receiving your proposed corridor alignment, in order that this Department and the agencies mentioned have the opportunity to review it to determine whether their comments have been satisfied.

Sincerely,

Vladimir Wahbe
Vladimir Wahbe

V:ETP:es
Enc.

- cc: George E. Burnett, Jr.
- Gerard Devlin
- Robert N. Young
- Herbert M. Sachs
- George S. Gavrolio
- Robert C. Wilson
- Louis R. Rainone
- Thomas Keane
- Charles Pirton

STATE ROADS
COMMISSION
LOCATION AND SURVEY

970 DEC 11 AM 11 47

Mr. Campaneschi has copy
- X.37 -

208

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NAZZARENO F. VELLEGGIA



DEPARTMENT OF RECREATION AND PARKS
DRUID HILL PARK
BALTIMORE, MARYLAND 21217

209
DOUGLAS S. TAWNEY
DIRECTOR

LINDA A. BENNETT
EXECUTIVE SECRETARY
828-4643

December 11, 1970

STATE ROADS
COMMISSION
LOCATION AND SURVEY

1970 DEC 14 AM 10 08

Mr. Roland M. Thompson, Chief
Bureau of Locations & Surveys
State Roads Commission
301 W. Preston Street
Baltimore, Maryland 21201

Dear Mr. Thompson:

This is to advise you that I have had a detailed presentation on the proposed routes for the northeastern expressway which could have an impact upon Graham Memorial Park, a recreation facility owned and operated by the Department of Recreation and Parks of the City of Baltimore.

Our Department favors alignment "C" which would in no way encroach upon Graham Park, and also would permit the bridle paths to be used continuously from our park on to Baltimore County Recreation and Parks Department property through to the State Department of Forests and Parks Gunpowder Falls State Park. No other route is acceptable to this Department.

Very truly yours,

Douglas S. Tawney
Douglas S. Tawney
Director

DST:swb

cc: Mr. H. I. Snyder
Mr. S. Ellis
Mr. C. A. Young, Jr.

Mr. Camponeschi has copy
- X.38 -



210

COMMISSION MEMBERS

DAVID H. FISHER
CHAIRMAN OF COMMISSION
AND DIRECTOR OF HIGHWAYS
S. WALTER BOGLEY, JR.
HARLEY P. BRINSFIELD
W/ R. BUCHER
L/ H. EVANS
ARTHUR B. PRICE, JR.
FRANK THORP
WILLIAM L. WILSON

STATE OF MARYLAND
STATE ROADS COMMISSION
300 WEST PRESTON STREET
BALTIMORE, MD. 21201

(MAILING ADDRESS-P.O. BOX 717, BALTIMORE, MD. 21203)

WALTER E. WOODFORD, JR.
CHIEF ENGINEER
DEPUTY CHIEF ENGINEERS
PLANNING & SAFETY
HUGH G. DOWNS
ENGINEERING DEVELOPMENT
LESLIE E. MCCALL
OPERATIONS

December 17, 1970

Re: B 818-10-474
Whitemarsh Blvd.
Perring Freeway to I-95
Corridor Public Hearing

Mr. Richard Ackroyd
Division Engineer
Federal Highway Administration
206 Federal Building
31 Hopkins Plaza
Baltimore, Maryland 21201

Dear Mr. Ackroyd:

Reference is made to your letter of October 27, 1970, in which you indicated scant knowledge of the future planning of the Whitemarsh Boulevard west of the Perring Parkway.

In order that you will have a better understanding of the function of this proposed improvement, I would like to comment as follows:

1. Project Purpose

The purpose of the project is (a) to provide a fundamental link in the total system of highways serving the area between U.S. 1 and U.S. 40 north of I-695. (b) to provide access to proposed new land developments in the area (c) to serve as a distributor of traffic between the new land developments in the area and the major radial highways with adequate design capacity, (d) to utilize the only local-to-freeway interchange access to I-95 in Baltimore County.

2. Functional Classification

This facility is classified as a major arterial which includes both characteristics of local land service and high "through-traffic" capacity. It is proposed as an AASHO expressway type facility (similar to Perring Parkway between the city line and the Beltway) which incorporates signalized grade intersections at

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2. Functional Classification (Cont'd.)

approximately half mile intervals; interchange where traffic volumes warrant; and no direct access to abutting properties.

It is proposed as part of the State Highway System by virtue of these design characteristics and function in addition to its lateral connection to other State facilities, such as U.S. 1, I-95, and U.S. 40. It is a next logical step in the modified "grid" system which is occurring in the north-east corridor.

3. Termini

Its connection to I-95 and U.S. 40 are already constructed. The Whitmarsh Boulevard is currently proposed in our 1971-1990 Twenty Year Highway Needs Study to connect with the Perring Freeway on the north and proposed Maryland Route 100 (Outer Belt) on the south. That portion from Perring Freeway to I-95 is Primary-Critical and from U.S. 40 to Maryland Route 100 is Primary-Non Critical.

It is evident that concern has risen in the Clearinghouse processes, both State and Regional, over our studies or proposals for the extension of this facility beyond the limits applied for, specifically to the northwest. No existing forecast of future travel demand supports the need for this extension within the 20 year limit of the Highway Needs Study.

The Bureau of Highway Planning of the State Roads Commission has looked at the potential extension of Whitmarsh Boulevard beyond the Perring Freeway toward the York Road Corridor, but no alignment has been established, and no need within the next 20 years would justify elaborate investigations. The "wedge" between Perring Freeway and U.S. 40 from the Beltway outward is presently mostly undeveloped. It has one of the highest potentials for development because of the relative ease with which sewers, water, and highways can be provided. In contrast, the "wedge" between Perring and York Road is heavily developed out to Loch Raven Reservoir. The reservoir makes an extremely difficult obstacle beyond which to provide these same utilities and development is expected to occur probably last of all in this area of Baltimore County. This area is in fact shown as "Rural-Future Development Area" - on the County's Guideplan and further defined as an "area where urban development will be discouraged until after 1980." The State Roads Commission has no reason to construct an extension of Whitmarsh into this area until this situation changes to warrant it.

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Mr. Richard Ackroyd

-3-

December 17, 1970

Consequently, it is the position of the State Roads Commission that we are proposing a functional facility within a complete corridor for the Whitemarsh Boulevard from I-95 in a northwesterly direction to the Perring Freeway. Although we propose to conduct a public hearing for this complete corridor, of importance at this time is the establishment of an alignment, Phase 1, from I-95 to Belair Road. We will continue to cooperate with all interested agencies and provide them an opportunity to review the later phases of this project prior to plans being formalized.

Very truly yours,

(Signed)

David H. Fisher
Chairman-Director

DHF:cz

bcc: Mr. Walter E. Woodford, Jr.
Mr. Hugh G. Downs
Mr. Thomas Hicks
Mr. N. B. Friese
Mr. R. M. Thompson



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MARYLAND
DEPARTMENT OF STATE PLANNING

TELEPHONE: 301-383-3010

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201

March 11, 1971

Mr. Northam B. Friese, Chief
Bureau of Program Scheduling and
Control
State Road Commission
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Friese:

Thank you for the Notice of Public Hearing on the
Whitamargh Boulevard Corridor which you recently forwarded to
this office. During a State Clearinghouse review of this
project, a number of comments were received on this proposal.
It is our understanding that these comments are to become part
of the public record of the hearing and will be available at
the hearing for public perusal. We strongly believe that
such procedures will enhance public acceptance of such proposals
and indicate the wide range of deliberations which go into the
plan making process.

Sincerely,

Vladimir Wahbe
Vladimir Wahbe

cc: Mr. Edward Podufaly

Edward Podufaly
3/11/71



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CHAIRMAN OF COMMISSION
AND DIRECTOR OF HIGHWAY
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FRANK THORP
WILLIAM L. WILSON

STATE OF MARYLAND
STATE ROADS COMMISSION
300 WEST PRESTON STREET
BALTIMORE, MD. 21201

(MAILING ADDRESS-P.O. BOX 717, BALTIMORE, MD. 21201)

WALTER E. WOODFORD, JR.
CHIEF ENGINEER
DEPUTY CHIEF ENGINEERS

PLANNING & SAFETY
HUGH G. DOWNS
ENGINEERING DEVELOPMENT
LESLIE E. MCCALL
OPERATIONS

April 26, 1971

Re: Contract #B818-10-474
Whitemarsh Blvd.
From Prop. Perring Frwy. to I-95

Mr. Douglas S. Tawney, Director
Dept. of Recreation & Parks
Druid Hill Park
Baltimore, Maryland 21217

Dear Mr. Tawney:

The Corridor Public Hearing for the subject project was held on April 7, 1971 and this bureau is now in the process of preparing a Draft Environmental Impact statement.

A 4(f) determination is to be included in this impact statement because two of our alternate alignment considerations traverse through public parks; these being the Graham Memorial Park and the Gunpowder River Valley State Park.

In order to properly present the 4(f) determination, some basic information of the park under your jurisdiction is required. It would be appreciated if you could supply this office with the following data:

- (1) Type of Recreation
- (2) Size
- (3) Use
- (4) Significance

Your cooperation in this matter is appreciated.

Very truly yours,

Roland M. Thompson, Chief
Bureau of Location & Surveys

RMT:ETC:cz
cc: Mr. Vladimir A. Wahbe

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STATE OF MARYLAND
STATE ROADS COMMISSION
300 WEST PRESTON STREET
BALTIMORE, MD. 21201

(MAILING ADDRESS-P.O. BOX 717, BALTIMORE, MD. 21203)

WALTER E. WOODFORD, JR.
CHIEF ENGINEER
DEPUTY CHIEF ENGINEERS

PLANNING & SAFETY
HUGH G. DOWNS
ENGINEERING DEVELOPMENT
LESLIE E. MCCARL
OPERATIONS

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AND DIRECTOR OF HIGHWAYS
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HARLEY P. BRINSFIELD
WALTER BUCHER
ESLIE H. EVANS
ARTHUR S. PRICE, JR.
FRANK THORP
WILLIAM L. WILSON

April 26, 1971

Re: Contract #B818-10-474
Whitemarsh Blvd.
From Prop. Perring Frwy. to I-95

Mr. Herbert Sachs
Assistant Secretary for Administration
Department of Natural Resources
State Office Building
Annapolis, Maryland 21404

Dear Mr. Sachs:

The Corridor Public Hearing for the subject project was held on April 7, 1971 and this bureau is now in the process of preparing a Draft Environmental Impact Statement.

A 4(f) determination is to be included in this impact statement because two of our alternate alignment considerations traverse through public parks; these being the Graham Memorial Park and the Gunpowder River Valley State Park.

In order to properly present the 4(f) determination, some basic information of the park under your jurisdiction is required. It would be appreciated if you could supply this office with the following data:

- (1) Type of Recreation
- (2) Size
- (3) Use
- (4) Significance

Your cooperation in this matter is appreciated.

Very truly yours,

Roland M. Thompson, Chief
Bureau of Location & Surveys

RMT:ETC:cz
cc: Mr. Vladimir A. Wahbe



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J. MILLARD TAWES
SECRETARY

JAMES B. COULTER
DEPUTY SECRETARY

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

May 3, 1971

STATE ROADS
COMMISSION
LOCATION AND SURVEY

1971 MAY 6 AM 9 3

Mr. Roland M. Thompson, Chief
Bureau of Location and Surveys
State Roads Commission
P. O. Box 717
Baltimore, Maryland 21203

Re: Contract #B818-10-474
Whitemarsh Blvd. From
Prop. Perring Frwy. to I-95

Dear Mr. Thompson:

This will acknowledge receipt of your letter of April 26 requesting information regarding the subject project.

I am referring your letter to Mr. William A. Parr, Deputy Director of the Department of Forests and Parks, with the request that he correspond directly with you regarding this matter.

Sincerely yours,

Herbert M. Sachs
Assistant Secretary

HMS:bsf

cc: Mr. William A. Parr

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DOUGLAS S. TAWNEY
DIRECTOR

LINDA A. BENNETT
EXECUTIVE SECRETARY
523-4643

DEPARTMENT OF RECREATION AND PARKS

DRUID HILL PARK

BALTIMORE, MARYLAND 21217

STATE ROADS
COMMISSION
LOCATION AND SURVEY

April 28, 1971

Re: Contract #B818-10-474
Whitemarsh Blvd.
From Prop. Perring Frwy. to I-95

Mr. Roland M. Thompson, Chief
Bureau of Location and Surveys
State Roads Commission
300 W. Preston Street
Baltimore, Maryland 21201

Dear Mr. Thompson:

This will acknowledge your letter of April 26, 1971 on the above subject.

If you want information relative to Graham Park, I suggest that you make an appointment to come in and talk with me about the matter.

You can also put in your 4 (f) determination that the Department of Recreation and Parks violently opposes any route through Graham Park and will not give up any land for the purpose of road construction. I thought that I had made this plain at previous meetings. There will be no compromise and when we meet with the Bureau of Outdoor Recreation officials and the Department of Housing and Urban Development officials, we will make them fully aware that we oppose this route of the road.

I strongly suggest that the two routes that affect Graham Park be dropped so that we can avoid this confrontation.

Very truly yours,

Douglas S. Tawney
Douglas S. Tawney
Director

DST/mrh

cc: Mr. Vladimir A. Wahbe



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COMMISSION MEMBERS
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STATE OF MARYLAND
STATE ROADS COMMISSION
 300 WEST PRESTON STREET
 BALTIMORE, MD. 21201

(MAILING ADDRESS-P.O. BOX 717, BALTIMORE, MD. 21203)

WALTER E. WOODFORD, JR.
 CHIEF ENGINEER
 DEPUTY CHIEF ENGINEERS
 PLANNING & SAFETY
 HUGH G. DOWNS
 ENGINEERING DEVELOPMENT
 LESLIE E. MCCARTY
 OPERATIONS

May 3, 1971

Re: Contract #B 818-10-474
 Whitmarsh Blvd.
 From Prop. Perring Frwy. to I-95

Mr. Douglas S. Tawney, Director
 Department of Recreation & Parks
 Druid Hill Park
 Baltimore, Maryland 21217

Dear Mr. Tawney:

This is in reply to your letter of April 28, 1971, in response to my letter of April 26, 1971.

This office appreciates your concern over the use of any part of Graham Park for highway purposes and has so stated your objection at the Public Hearing held on April 7, 1971 at Perry Hall, Baltimore County.

This office also appreciates the concern you must have at this point requesting information that appears to be repetitious to you and also to us.

Since our earlier meeting with you, another requirement has been added to all the existing requirements to obtain Federal assistance in the construction of a highway.

As of February 1, 1971, Draft Environmental Statements and Final Environmental Statements must be submitted to all agencies, both Federal and State who are involved with Environmental Programs. The agencies receiving statements from us will be HUD and the Bureau of Outdoor Recreation officials.

As a matter of information, between 30 and 40 agencies are sent these statements by this office requesting their comments in writing.

The 4(f) Determination Statement is to be attached to the Environmental Statement.

The enormity of the work involved in the coordination process,

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Mr. Douglas S. Tawney

- 2 -

May 3, 1971

the hearing, the Location & Design Study Reports, and now the writing of the Draft & Environmental Statements, precludes the individual office contact which you have requested. If it is possible for you to forward the requested information by return mail, it would be greatly appreciated.

In making the Location Studies for a highway project, we must consider all alternates, and in the development of the Location Study Report, the Draft Environmental Statement, and the returning comments will be an integral part of the final alignment decision.

I trust this letter will help to explain to you our present dilemma involving highway projects and that you will be patient with this office and forward the April 26, 1971 requested information.

Very truly yours,



Roland M. Thompson, Chief
Bureau of Location & Surveys

RMT:cz

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BOARD

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DOUGLAS S. TAWNEY
DIRECTOR

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523-4643

M. M. RICHMOND FARRINGHAM
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DEPARTMENT OF RECREATION AND PARKS

DRUID HILL PARK
BALTIMORE, MARYLAND 21217

STATE ROADS
COMMISSION
LOCATION AND SURVEY

May 5, 1971

Re: Contract #B818-10-474
Whitemarsh Blvd.
From Prop. Perring Frwy. to I-95

Mr. Roland M. Thompson, Chief
Bureau of Location and Surveys
State Roads Commission
300 W. Preston Street
Baltimore, Maryland 21201

Dear Mr. Thompson:

This will acknowledge your letter of May 3, 1971 relative to the above contract and its possible affect on Graham Park.

My position is clear in my previous statement to you in my letter of April 28, 1971. In view of our complete opposition to any route affecting Graham Park I see no reason why we should cooperate in the preparation of a 4-F proposal which will obviously be prepared to sell the Federal Government on the idea that the road will not be harmful to the park.

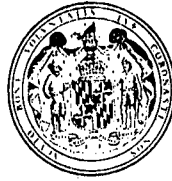
Again I state that our department is completely opposed to any route which would affect this park property.

Very truly yours,

Douglas S. Tawney
Douglas S. Tawney
Director

DST/mrh

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WILLIAM A. PARR
DIRECTOR

MARYLAND PARK SERVICE
STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

October 26, 1972

Funk, Fletcher, Chen and
Associates, Inc.
Suite 205 Heaver Plaza
Lutherville, Maryland 21093

Attn: Mr. Dill

Dear Mr. Dill:

Following are my comments on the environmental impact of the proposed Whitemarsh Freeway through Gunpowder State Park in accordance with items 1 - 14, Section 3, Transmittal 202.

1. I assume you have detailed measurements of the exact location of the highway. However, from our standpoint the location is through one of the narrower sections of the park.
2. The type of recreation that will take place in the immediate area of the highway will be low density. No large permanent facilities are planned for this area.
3. Presently, there are no specific recreational facilities located in this area.
4. Facilities planned for the area are bridle trails and foot paths.
5. The use in the area presently is uncontrolled due to lack of personnel. However, there is considerable horseback riding along the stream.
6. Primarily, the use would be regional, although park campers from many states will utilize the trails.
7. The relationship of this section to other nearby areas of the park is that of a natural corridor along the stream valley linking heavier use areas.

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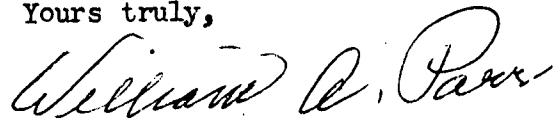
Funk, Fletcher, Chen and
Associates, Inc.

October 26, 1972

- 8. Access to the area will be controlled from the adjacent use areas.
- 9. This area of the park is completely state owned.
- 10. There were no deed restrictions or reversionary clauses on the properties in the area.
- 11. The Maryland Park Service has designated this section as a Natural Environment Area within a State Park.
- 12. The rather steep valley walls prohibit extensive recreational development but contribute to the walking and riding facilities planned for the area.
- 13. Gunpowder State Park is planned to provide open space and outdoor recreational activities in a rapidly urbanizing area. The Master Plan for Development is consistent with the "State Outdoor Recreation Open Space Plan", prepared by the Department of State Planning. It is also consistent with Regional Plans proposed by the Baltimore Regional Planning Council.
- 14. State funds only are involved in this project.

After reviewing the project, I feel the location of the highway in this area will not have an adverse effect on the park providing the bridge has sufficient elevation to permit the planned trails along the stream.

Yours truly,



William A. Parr
DIRECTOR

WAP:DLH:rmp



Maryland Department of Transportation

State Highway Administration

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Harry R. Hughes
Secretary

James J. O'Donnell
Acting Administrator

April 13, 1973

Contract No. B-818-11-471
Maryland Route 43
(Whitemarsh Boulevard)
from I-95 to Proposed
Perring Freeway

Transmitted for your review is copy of this Administration's "Draft Environmental Impact Statement" on the above referenced project. The Statement has been prepared in accordance with the Federal Highway Administration's Policy and Procedure Memorandum 90-1 dated September 7, 1972, concerning implementation of Section 102(2)(C) of the National Environmental Policy Act of 1969. Paragraph 6c and d of this directive requires this information be furnished to appropriate Clearinghouse and concerned agencies (Circular BOB A-95).

Those interested in the project are requested to review the enclosed statement and submit pertinent comments on or before May 28, 1973 to Mr. Philip R. Miller, Chief, Bureau of Special Services, State Highway Administration, 300 West Preston Street, Baltimore, Maryland 21201. All responses will be considered in preparing the facility's ultimate design and in developing the "Final Environmental Impact Statement."

At the Corridor Hearing, held on April 7, 1971 and an informational meeting held on March 24, 1971, public organizations and individuals in attendance were informed of the pertinent project data. In addition, other interested agencies and parties have been contacted and apprised of the project development in order to establish the necessary planning and design coordination.

Very truly yours,

Walter E. Woodford, Jr.
Chief Engineer

WEW,Jr:gvd
Attachments:
Draft Statement



MARVIN MANDEL
GOVERNOR

MARYLAND
DEPARTMENT OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201
TELEPHONE: 301-383-2451

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING
NORMAN HEDDEN
DEPUTY SECRETARY

224

Date: April 13, 1973

Mr. Phillip R. Miller, Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

RECEIVED

APR 16 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT RECEIPT

Applicant: State Highway Administration

Project: Md. Rt 43 (Whitemarsh Blvd) from I-95 to Proposed
Perring Freeway

State Clearinghouse Control Number: 73-4-199

State Clearinghouse Contact: Allen Miles (383-2471)

Dear Mr. Miller:

The Environmental Impact Statement for the above project was received by
the State Clearinghouse on April 13, 1973.

Please note that this statement has been assigned a State Clearinghouse (SCH)
Control Number. In future correspondence on this project, please include
applicant's name and project title, and always refer to the SCH Control
Number. Your cooperation is appreciated.

The Intergovernmental Review on this project has now been initiated at the
State level and every effort is being made to ensure prompt action. You
may expect to receive notification of completion of the initial review by
the State Clearinghouse by May 21, 1973.

Sincerely,

Warren D. Hodges
Chief, State Clearinghouse

BOARD

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ANN F. SCHEPER



DOUGLAS S. TAWNEY
DIRECTOR

LINDA A. BENNETT
EXECUTIVE SECRETARY

DEPARTMENT OF RECREATION AND PARKS
DRUID HILL PARK
BALTIMORE, MARYLAND 21217

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RECEIVED

APR 16 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

April 13, 1973

Mr. Philip R. Miller
Chief
Bureau of Special Services,
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Contract No. B-818-11-471
Maryland Route 43
(Whitemarsh Boulevard)
from I-95 to Proposed
Perring Freeway

Dear Mr. Miller:

After receipt of our other correspondence, I cannot understand why you persist in designing Maryland Route 43 through Graham Memorial Park.

Our Department will not give up any of its land to this highway construction.

I suggest that you design accordingly. Statements in your report that there is minimal impact on Graham Park are false.

Very truly yours,

Douglas S. Tawney
Douglas S. Tawney
Director

DST/clc



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

reply refer to:
ER-73/533

RECEIVED

APR 17 1973

Dear Mr. Woodford:

This is in regard to your letter of April 13, 1973, requesting the Department of the Interior's review and comments on a draft environmental/Section 4(f) statement for extension of Maryland Route 43, Baltimore, Baltimore County, Maryland.

This is to inform you that the Department will have comments on the draft environmental/Section 4(f) statement but will be unable to reply by the date you requested as the Section 4(f) aspects will necessitate extensive review on our part. Our comments should be available about early June.

Sincerely yours,

Bruce Blanchard
Bruce Blanchard, Director
Environmental Project Review

Mr. Walter E. Woodford, Jr.
Chief Engineer
State Highway Administration
Maryland Department of Transportation
P.O. Box 717
300 West Preston Street
Baltimore, Maryland 21203

cc Mr. G. L. ...
Mr. ...
Mr. ...
Mr. ...

sent 4/19/73
g



MARVIN MANDEL
GOVERNOR

STATE OF MARYLAND
PUBLIC SCHOOL CONSTRUCTION PROGRAM
SUITE 600, INTERNATIONAL TOWER BUILDING
6510 ELKRIDGE LANDING ROAD
LINTHICUM, MARYLAND 21090

ALFORD R. CAREY, JR.
EXECUTIVE DIRECTOR
DR. JAMES SENSENBAUGH
CHAIRMAN

INTERAGENCY COMMITTEE FOR STATE PUBLIC SCHOOL CONSTRUCTION

April 23, 1973

Mr. Philip Miller, Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

RECEIVED

APR 25 1973
PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

RE: Contract No. B-818-11-471
Whitemarsh Blvd. from I-95
to Proposed Perring Freeway
Draft Environmental Impact
Statement

Dear Mr. Miller:

During a staff review of the Draft Environment Impact Statement on the subject contract we noted that there are no existing public schools that would be significantly impacted by any of the alternative alignments that have been presented. Consequently, we have no objection to any of the proposed alignments.

We would, however, encourage the use of landscaping or other buffer, particularly if alignment C is selected, along the right-of-way of Whitemarsh Boulevard in the vicinity of the Hines Elementary School site to reduce or eliminate pollutants. Finally, if there are any other conflicts of which we are unaware, I would hope they would be addressed in the reply from the Baltimore County Board of Education to whom we note a copy of this report was also sent.

Sincerely,

Alford R. Carey, Jr.
Executive Director

ARC/NF/jc



DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Neil Solomon, M.D., Ph.D., Secretary

ENVIRONMENTAL HEALTH ADMINISTRATION

610 N. HOWARD STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383-2779

May 3, 1973

Mr. Philip R. Miller, Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201



Dear Mr. Miller:

RE: Contract No. B-818-11-471 - Maryland Rte. 43 Whitmarsh Blvd. from I-95 to Proposed Perring Freeway

The Bureau of Air Quality Control appreciates this opportunity to comment on the Environmental Impact Statement (EIS) for Whitmarsh Blvd. from I-95 to the proposed Perring Freeway. Even a cursory review of this document indicates that the portions dealing with air pollution need to be drastically revised. It is clear that the authors showed very little real understanding of the material they used. The entire commentary dealing with air pollution is poor but we will attempt to point out some of the more obvious errors.

The table of automotive emissions on page A.14 is obsolete and inaccurate. The gasoline engine data was originally compiled for automobiles with no emission controls. An average speed of 25 miles per hour was also assumed. If this table is to be included, these qualifications should be added. Aside from the data being obsolete, there is an error in the carbon monoxide level for automobiles. The number should be 2300 pounds per 1000 gallons of fuel--not 29.10.

On page A.16, it is stated that carbon monoxide converts to carbon dioxide under normal atmospheric conditions. This is true but the reaction rate is extremely slow. The half-life of carbon monoxide in the atmosphere is on the order of several months and may be even longer.

On page A.21, the relationship between early morning hydrocarbon concentrations and afternoon maximum photochemical oxidant concentrations is described as a functional relationship. This is hardly the case. The Air Quality Criteria for Hydrocarbons document contains a curve which represents the maximum photochemical oxidant concentrations which were observed corresponding to morning hydrocarbon concentrations at a number of continuous monitoring stations. That is, the extent of the relationship.

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It was also mentioned that a hydrocarbon concentration of 100 ug/m^3 is the level which has been observed to adversely affect human health. It is then stated that hydrocarbon levels at Whitemarsh Boulevard will fall below this limit, implying that, therefore, there will be no oxidant problem associated with this road. Unfortunately, it is not quite that simple. Photochemical oxidant is a regional problem. It is difficult to associate hydrocarbon emissions from any one source with oxidant readings at a particular station. This is because of the time and space differential involved. Hydrocarbons released at a site are dispersed by the wind and may be carried several miles before the photochemical process is even initiated by the sun's ultraviolet radiation. It is for this reason that hydrocarbon emissions and oxidant concentrations are usually considered solely on a regional basis.

Wind data is discussed under Meteorology on page A.36. It is not clear just what the numbers are supposed to mean and there are some obvious typing errors, such as "west-northeast winds". The whole section could be clarified by simply including a wind rose as one of the figures.

Another problem in this section is that it is stated that meteorological conditions for the Whitemarsh area were obtained from Friendship Airport. The Bureau would be interested in knowing how the airport weather station obtained this information.

Finally, the criteria for potential air pollution alerts are in error. The EIS states that precipitation must last for two consecutive days. Actually, this criterium should read that observed precipitation must be less than or equal to 0.01 inches or the PE relative humidity (surface to 500 mb) must be less than or equal to 80%. If there were precipitation for two days, it is most likely that any alert would be cancelled.

Section B of the EIS, Probable Impact on the Environment, needs the most revision. It is assumed that the concentrations were calculated using the line source equation from the Workbook of Atmospheric Dispersion Estimates since this is the only applicable equation in that reference. Although this equation may be used for carbon monoxide estimates, it cannot be used for hydrocarbons or oxides of nitrogen. Both of these latter pollutants undergo secondary reactions as they are dispersed. A photochemical model is needed to accurately estimate their concentrations.

Examination of the carbon monoxide concentrations which were obtained indicate that they are too high considering the traffic volumes and distance from the road. At least one reason is that a wind speed of 4.13 meters/hour was used for the calculations. Although it is described as the average wind speed for the area, it represents an essentially calm condition with no wind at all. The Gaussian equation is invalid for extremely low wind speeds and will predict unrealistically high concentrations in those cases. This problem is precisely the reason why the Bureau does not use the Gaussian line source equation to predict air quality during stagnation periods. Wind speeds are normally too low and the direction too variable to give valid results.

May 3, 1973

Another source of error in the concentration estimates may be the emission factors which were used. Unfortunately, since the description of input data does not include the source of these factors, it is difficult to evaluate them.

This equation can be used with more normal wind speeds, such as 4 miles/hour. However, concentrations of carbon monoxide calculated using these wind speeds cannot be compared to the Federal standards for these pollutants. The standards refer to the worst 1 hour and 8 hour averages and these have been observed to occur during periods of low wind speeds. The standards also apply to ambient air quality and not just to the concentrations due to one particular source. The contributions of all sources in the area must be considered before a determination can be made of whether or not the standards are being exceeded. All of this means that the table of pollutant concentrations on page B16 is meaningless.

The table of standards on page B.17 also needs correction. First of all, they do not represent emission rates. These levels are ambient air concentrations averaged over an appropriate time period which are not to be exceeded with more than a given frequency. Thus, it is vital to the proper interpretation of these standards that the relevant averaging periods and frequencies be listed. This has not been done. There has also been a misunderstanding of the Federal standards for carbon monoxide. The primary and secondary standards are the same. The 10 mg/m³ is the 8 hour average concentration not to be exceeded more than once a year and the 40 mg/m³ is the 1 hour average.

Also, on page B.17, there is an attempt to compare a 1 hour concentration of hydrocarbons to a 3 hour standard and a 1 hour nitrogen oxide concentration to an annual standard. Again, this cannot be done and emphasizes the need for a better understanding of just what the Federal standards represent.

Moving into Section F, which enumerates the irreversible and irretrievable commitments of resources, there is another complaint. The EIS states that if the highway outlives its usefulness, the occupied land can be retrieved for other uses. Until such time as the State Highway Administration can demonstrate that a six lane, high capacity highway ever has or ever will be replaced by other land uses, the Bureau will consider this claim as to be without basis in fact.

Finally, the Air Pollution paragraph in Section G needs modification. There seems to be a misunderstanding as to what is involved in an air pollution alert. When an alert is called it is for an entire region and not just a small isolated area. It is meaningless to speculate on what could be done with one highway segment during a stagnation. Should emergency levels ever be reached (which is quite unlikely) control measures would have to be instituted throughout the region.

These comments should serve to highlight the areas of the EIS where improvement is needed. This is, by no means, a complete list of the corrections required. Although the EIS contained a lengthy air pollution section, the large scale impact of this and other proposed facilities was not considered.

Mr. Philip R. Miller

- 4 -

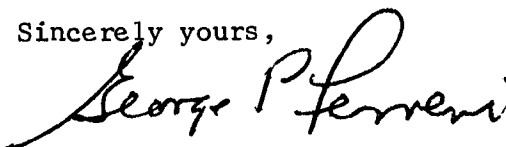
May 3, 1973

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The Whitemarsh Boulevard, together with the Outer Beltway and Perring Freeway will stimulate and accelerate the development of northeast Baltimore County. The effect on air quality is certainly a proper subject for the EIS. This is particularly true in view of the Section 136(b) of the Federal-Aid Highway Act which requires new highway facilities to be consistent with air quality implementation plan. Although Maryland's plan does not provide for any specific transportation control measures yet, it did identify a need for a 52% reduction in auto usage by 1977.

I hope these comments have proved helpful. Please contact this agency for any additional information.

Sincerely yours,



George P. Ferreri, Acting Director
Bureau of Air Quality Control

GPF:AMD:bac

Date:

May 11, 1973 232

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

DEPT. OF STATE PLANNING
RECEIVED
MAY 17 1973

SUBJECT: PROJECT SUMMARY NOTIFICATION REVIEW

Applicant: State Highway Administration

Project: Md. Rt 43 Whitemarsh Blvd from I-95 to Proposed Perring Freeway

State Clearinghouse Control Number: 73-4-199

CHECK ONE

- 1. This agency does not have an interest in the above project. _____
- 2. The above project is consistent with this agency's plans or objectives and we recommend approval of the project. _____ ✓
- 3. This agency has further interest in and/or questions concerning the above project and wishes to confer with the applicant. _____
Our interest or questions are shown on enclosed attachment.
- 4. This agency does not believe a conference is necessary, but wishes to make favorable or qualifying comments shown on enclosed attachment. _____

Signature Richard M. Sparks

Title _____

Agency DECD



Maryland Department of Transportation

State Highway Administration

Harry R. Hughes
Secretary
Bernard M. Evans
Administrator

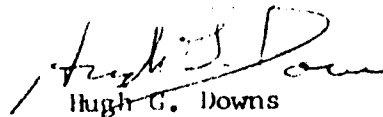
May 18, 1973

Contract B-818-11-471
Maryland Route 43
(Whitemarsh Boulevard)
from I-95 to Proposed
Perring Freeway

It has come to the attention of the Maryland State Highway Administration that Section G - "Steps Taken to Minimize Unavoidable Adverse Environmental Effects" and Section H - "Section 4(f) Determination" may have been omitted from the Draft Environmental Impact Statement circulated for review on April 13, 1973.

In order to facilitate a comprehensive review of the Draft Environmental Impact Statement, the Maryland State Highway Administration is sending herewith a "Supplemental Draft Environmental Impact Statement" containing Section G and Section H and extending the review period until June 22, 1973.

Very truly yours,


Hugh G. Downs
Chief Engineer

HGD/jlg
Attachment
Supplemental Draft
Statement

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

4321 Hartwick Rd., Rm. 522, College Park, Maryland 20740

May 21, 1973

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RECEIVED

MAY 23 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

Mr. Philip R. Miller, Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Miller:

This is in response to your letters of April 13, 1973 to this office and Dr. T. C. Byerly, U.S.D.A., Washington, D. C. regarding the "Draft Environmental Impact Statement" for Maryland Route 43 from I-95 to Proposed Perring Freeway in Baltimore County, Maryland.

Our primary interest in this project is erosion and sediment control both during and after construction. Your discussion of this in your statement is adequate but considerable care will be needed to implement this program since there is presently a serious erosion and sediment problem in the Whitmarsh Run Watershed. Consideration should also be given to techniques off-setting the changes in hydrologic conditions which contribute to increased rates and volumes of storm runoff. A discussion of these techniques should be included in the "Final Environmental Impact Statement."

We appreciate the opportunity to review this draft statement and trust that our comments are helpful. If we can assist you any further, please let us know.

Sincerely,

Theodore N. Munkittrick

GRAHAM T. MUNKITTRICK
State Conservationist

cc: Kenneth E. Grant, Administrator
Dr. T. C. Byerly
Council on Environmental Quality (10 copies)

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State of Maryland

DEPARTMENT OF JUVENILE SERVICES

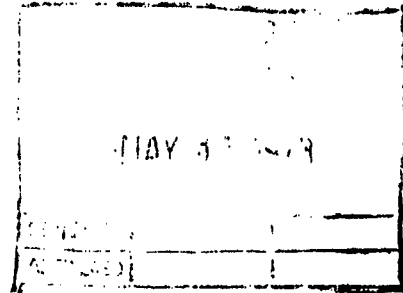
6314 WINDSOR MILL ROAD
ROBERT C. HILSON, DIRECTOR

BALTIMORE, MARYLAND 21207

301-265-6400

May 30, 1973

Mr. Warren D. Hodges
Chief of State Clearing House
Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201



Re: State Clearing House Control
No. 73-4-199

Dear Mr. Hodges:

This is in response to your letter of May 25, 1973, pertaining to the Environmental Impact Statement in regards to the proposed Perring Freeway.

Again, we express our strong opposition to the proposal to dissect the Maryland Training School for Boys by this Freeway. Our concerns have been previously expressed to your Department in conferences and correspondence which I believe are in your files. Our objections remain the same and for the reasons as given previously.

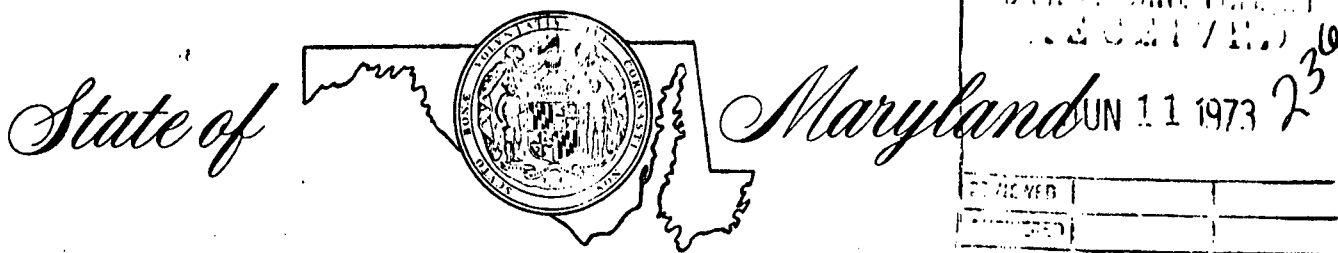
We would certainly hope that the Freeway could become a reality without the use of any land of the Maryland Training School for Boys, and we solicit your cooperation towards that end.

Thank you for your assistance in this matter.

Very truly yours,

ROBERT C. HILSON
Director

RCH:ju



DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Neil Solomon, M.D., Ph.D., Secretary

ENVIRONMENTAL HEALTH ADMINISTRATION

610 N. HOWARD STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383-2779

May 31, 1973

MEMO TO: Mr. Warren D. Hodges, Chief
State Clearinghouse

FROM: George P. Ferreri, Acting Director
Bureau of Air Quality Control

SUBJECT: EIS - Maryland Route 43 from I-95 to Proposed Perring Freeway;
Control No. 73-4-199

We have already commented, at length, concerning the EIS for Whitmarsh Blvd. This addendum, although it has only a small section regarding air quality, also deserves some discussion.

The bulk of the air quality portion deals with air pollution alerts and what might possibly be done once more data is available. It is obvious that the whole question of air pollution alerts and their relationship to highways needs some clarification. First of all, an alert is not localized in any particular area or near a particular road. It is generally caused by adverse meteorological conditions and thus is regional, in scope. The current monitoring system in the Baltimore area consists of 12 continuous stations plus numerous secondary stations. This system is quite adequate to indicate the existence of elevated air pollutant levels during air stagnations. It is not necessary to monitor the air near every major highway.

Since the problem, if and when it occurs, is regional, the corrective measures which are to be taken are also regional. It is inconceivable that measures affecting a small portion of a particular highway would be beneficial to the region as a whole.

The discussion on pages G. 11 and G. 12 of the addendum should either be eliminated or modified to incorporate these points.

GPF:AMD:mba

WILLIAM D. FROMM
DIRECTOR

S. ERIC DINENNA
ZONING COMMISSIONER



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June 1, 1973

RECEIVED

JUN 5 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

Mr. Philip R. Miller, Chief
Bureau of Special Services
State Highway Administration
300 W. Preston Street
P. O. Box 717
Baltimore, Md. 21203

Contract No. B-818-11-471
Maryland Route 43
(Whitemarsh Boulevard)
from I-95 to Proposed Perring
Freeway

Dear Mr. Miller:

The Maryland Department of Transportation's Route "E" (A-E-C from Point 1 to Point 3) is the alignment shown on the adopted Baltimore County 1980 Guideplan and on the proposed Baltimore County Northeast Area Sector Master Plan. It should be noted, however, that the Guideplan indicates an arterial type road for that portion from U. S. Route 1 (Belair Road) to proposed Perring Parkway. Further, the 1992 ADT projection of 16,600, contained in this report, supports an arterial type road. This arterial type connection will be needed to provide adequate access to newly developing lands in the area.

Environmentally, Route "E" is recommended, since, based on the information in the report, it is the least damaging alignment with respect to the environment of the area. However, the report contained a number of shortcomings and/or exclusions which, had they been included, would have provided a better analysis of alternatives. These shortcomings and/or exclusions are listed below.

1. The topography of the area should have been included in the report, as well as an analysis thereof.
2. It is questionable whether the land adjacent to the proposed Boulevard will increase in value due to its location, since the boulevard is of limited access and will cause noise, air and aesthetic degradation.
3. The additional runoff to be generated by the road was not discussed as to the amount and its effect.

BALTIMORE COUNTY OFFICE OF PLANNING AND ZONING
SUITE 301 JEFFERSON BUILDING 105 WEST CHESAPEAKE AVENUE TOWSON, MARYLAND 21204
AREA CODE 301 PLANNING 494-3211 ZONING 494-3351

June 1, 1973

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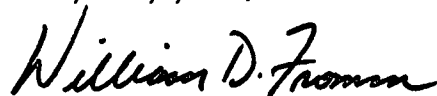
4. The location and description of cuts and fills and borrow pits was omitted.
5. Remarks relating to the degree of past flooding along Whitemarsh Run overlook the serious flooding that occurred in this stream valley in the summer of 1971.

A strong criticism of the report is that, in a number of instances, it attempts to justify the project on the basis of the probable economic growth it may generate. The report fails to address itself to the direct public (including social) cost of this growth and, in general, its effect on the quality of life of the people now residing in the area.

Considering the alternative alignments presented, the one which affords the most protection for parks and streams is Route "E". Its development will not affect Graham Memorial Park or the Baltimore County Game and Fish Protection Association. During the final design and construction phase, however, attention and consideration should be given to protecting the Whitemarsh Run for a stream valley park. The Whitemarsh Run, for a number of years, has been identified for a stream valley park by the Department of Recreation and Parks and the Office of Planning. Additionally, road construction in the area of the Gunpowder State Park should be controlled to prevent excess damage to the stream valley area and its park potential.

If you have any questions concerning these comments, please refer them to Mr. Norman E. Gerber of this office (494-3480).

Very truly yours,



William D. Fromm
Director of Planning

cc: Mr. F. L. Dewberry
Mr. Norm Gerber



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19101

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RECEIVED

June 5, 1973

OFFICE OF THE
REGIONAL DIRECTOR

JUN 8 1973

CHIEF ENGINEER

RECEIVED

JUN 11 1973

MAILING ADDRESS:
P.O. BOX 13716
PHILADELPHIA,
PENNSYLVANIA, 19101

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

Mr. Hugh G. Downs
Chief Engineer
Maryland Dept. of Transportation
P.O. Box 717
Baltimore, Maryland 21203

RE: Sections G and H of EIS
Md. Route 43 (Whitemarsh
Blvd.) from I-95 to Proposed
Perring Freeway

Dear Mr. Downs:

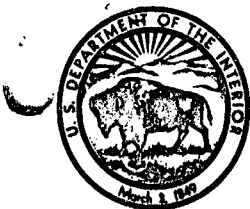
We have reviewed the above Draft Environmental Impact
Statement for the subject project in accordance with our
areas of jurisdiction and have no comments.

Very truly yours,

John E. McKenna

John E. McKenna
Regional Environmental
Officer

c.c. ET Camponeschi
P.R. Miller ✓



United States Department of the Interior

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OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

RECEIVED

ER 73/533

JUN 14 1973

JUN 14 1973

Mr. Downs

CHIEF ENGINEER

Dear Mr. Woodford:

This responds to your request for Department of the Interior comments on the draft environmental/4(f) statement for extension of Baltimore Route 43, Baltimore County, Maryland (ER 73/533).

General Comments:

The draft statement does not provide sufficient, detailed information to determine if alternative locations exist which would eliminate the need to utilize park land for project purposes. Also, information is not provided on the proposed highway to the west, Perring Parkway. That information is required in order to determine the larger impacts of the project within the context of area-wide transportation plans.

Mitigation measures also are not provided in sufficient detail to determine if all possible planning to minimize harm has been incorporated into the project. Similarly, no multiple use and joint development programs appear to have been considered in project planning. Coordination on these matters with concerned localities seems to have been either generally lacking or too informal.

The statement contains numerous reflections of project benefits which are unsubstantiated and undocumented. Other materials are included which appear to bear little relationship to the project, its environment or its impacts. These above materials leave the impression that the document was written partially for project justification purposes. Little evidence of coordination with other area plans is presented.

Section 4(f) Comments:

All suggested alternate highway locations would traverse existing public parklands. In this case, Section 4(f) requires a determination that no feasible and prudent alternatives exist to the use of such lands. The subject draft statement does not provide information to make such a determination.

6/19/73 Mr. R. M. Thompson - For your action.

RM

HGD

STATE HWY ADM

15 JUN 73 11 19

- X.69 -

The study corridor appears to be so narrow, approximately 2,000 feet wide in places, as to preclude consideration of feasible and prudent alternatives, particularly to the southwest of alignment A. In this largely open area, we believe that the corridor must be expanded and other locations examined to determine if Graham Memorial Park and Gunpowder Falls State Park can be avoided by the proposed action.

The significant values of Graham Park are noted in the General Development Plan for the Baltimore Region prepared by the Regional Planning Council, September 1972. The plan designates the park as an activity area and open space corridor. We also note that the Plan indicates that an alternate highway route south of Graham Park should be considered in the proposed action.

We note that the action described in the environmental statement is a proposed highway to a proposed highway, Perring Parkway. Little information is provided on that Parkway, although it is obvious that it would have substantial impacts, including the necessity for a separate 4(f) determination regarding Gunpowder Falls State Park. In this regard, we believe that any determination on the immediate action can not be made in isolation without information on the Perring Parkway and the larger transportation plans for the region. This information must be included in the final statement along with additional locational alternatives.

In summary, the proposed project may involve several 4(f) determinations. A 4(f) determination on the proposed action cannot be made because of insufficient information on the possibility of feasible and prudent alternatives. Further, such a determination should not be made until the relationship of the project to the Perring Parkway is clarified.

Until these matters are resolved, Section 4(f)'s second requirement - planning to minimize harm - will not be addressed by us other than to note that mitigation measures appear to be insufficient in scope and detail. Multiple use and joint development programs are totally lacking and the purposes of PPM 90-5 appear to have been ignored largely. We hope this is not indicative of the unresponsiveness of the project sponsor to environmental considerations, park values, community considerations, and multi-disciplinary planning.

Environmental Statement Comments:

The summary sheet contains several project impacts (benefits) which are not discussed or documented in the body of the text. These impacts should be either eliminated or substantiated. Several appear to be little more than speculative project benefits. For example, the statement that the construction of approximately 5.5 miles of Maryland State Route 43 would assist our national defense is of questionable validity since it is unsubstantiated. The claim that the highway will be aesthetically "especially beneficial" is contradicted on page C-2 by a statement that "it is recognized that highways for the most part do not favorably lend themselves to the overall appearances of the abutting environs." These and similar items in the summary should be clarified.

The statement notes that the proposed action will later be developed "to be an ultimate freeway" although it will be initially constructed with suitable grade intersections. It appears that the impacts of changing design at a later date would be substantial, including additional construction and development and allocation of resources. We believe that the future plans for the highway should be clarified and expanded.

The description of air pollution, A5(B), while interesting, appears to bear little direct relationship to the project or its impacts. We suggest that the final statement discuss the relationship, if any, or that the material be deleted.

The proximity of proposed project alignments to Whitemarsh Run would appear to indicate possible impacts on surface waters, hydrologic considerations, and related vegetation and wildlife. In this regard, the sections on surface waters, vegetation and wildlife occupy a disproportionately small portion of the statement and appear to be lacking in detail and in-depth consideration. Further detailed consideration of these matters should be included in the final statement. We note that the area of the project provides excellent wildlife habitat and the statement should mention and describe these values.

Exhibit 8 of the environmental statement, "Geological Elements Map," (following page A.31), shows the 10 alternate routings passing through an area covered by fine sediments of marine origin, the Potomac Group. Exhibit 13, "Proposed Alignment Map," (in back cover) shows in detail that these proposed routings come close to or go through a number of quarries. Thus, it is possible that sand and gravel and clay resources may be committed along many of the alternate routings. On page F.1,

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"Irreversible and Irretrievable Commitments of Resources," in the environmental statement, it states, "Considering that these quarries are idle and surrounded by residential development, the ultimate effect on mineral rights is not considered significant." This should be amended to include an estimate of the sand and gravel and any clay resources along the routing selected that would be lost to this project, and the economic impact this would have on the mineral industries concerned. Since this is a residential area, the sand and gravel resources are a necessary commodity for its future expansion.

Page B.2 of the environmental statement mentions that, "The Baltimore Gas and Electric Company right-of-way contains a 26-inch underground gas main throughout the entire length." Pages B.3 and B.4, referring to alternate routing "A" says, "Personnel of the Baltimore Gas and Electric Company have stated that this would in no way interfere with their transmission line or their underground gas storage area between the power line and Gunpowder Falls." In Exhibit 5, "Existing Land Use Map", (following page A.8) shows the utilities right-of-ways but it is not possible to determine the location of the gas pipelines. The other nine alternate routings cross these utility right-of-ways. The pipelines should be indicated on Exhibit 5 and the environmental statement should be amplified to explain how these gas pipelines will be affected by the project.

The section dealing with the description of the project should be expanded to discuss location and impacts of the borrow and/or spoil areas needed for project purposes. There is often the opportunity to design and develop highway fills and/or borrow areas to the benefit of fishery resources and fishing opportunities. We recommend that this opportunity be explored in coordination with the Maryland Fisheries and Wildlife Administrations and that the final statement reflect results of such coordination.

The lack of locational alternatives was previously noted. In addition, we believe that non-automotive alternatives also must be examined as a means of achieving the primary project purpose which is essentially to move people. In our large urban areas, the need for a balanced transportation system is becoming more obvious. With this in mind, we believe that proposals to develop transportation systems, including the present action, should include considerations of all alternatives including mass transit. The relationship, if any, of the project to existing mass transit plans also should be discussed.

The Do Nothing alternative is presented as a diatribe against "popular ecological thinking." It bears little relationship to the

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reality of this alternative or its impacts. We suggest that the final statement contain a thorough discussion of No Action and the impacts thereof without these unrelated materials.

Section C, Possible Adverse Environmental Impacts, fails to mention and define adverse impacts on water, fish and wildlife, outdoor recreation, and park values. Habitat will be lost, park values harmed and natural values impacted. These deserve detailed consideration both in the section on impacts and in Section C.

The section on short term - long term productivity states that no important aspect of our natural heritage would be lost and that there will be no significant loss of natural resources. We disagree with these conclusions. The alternatives would involve substantial and significant loss of parkland and natural values. This finding should be reflected in the final statement.

The remaining portion of Section E is largely reiteration of project benefits rather than a discussion of the subject heading. Appropriate revisions would appear to be warranted in order that the section reflect the cumulative and long term effects of the project versus short term gains.

As previously noted, we are not commenting upon the measures taken to minimize harm because determinations have not been made relative to Section 4(f). Those determinations must occur prior to the second requirement of mitigation measures.

Summary Comments

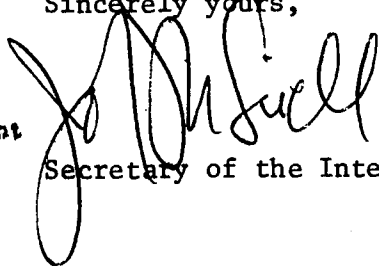
Because of this Department's Section 4(f) involvement relative to the traversing of parklands, we have a continuing interest in the subject project. We wish to stress that this response only comments on the inadequacy of the statement in addressing certain facets of the Section 4(f) encroachments. Hence, we believe it would be prudent for you to circulate a redraft of the combined statement.

In view of the foregoing, we urge that there be further consultation and close coordination among our respective Departments, the Federal Highway Administration, and the other governing units which administer lands effected by the alternatives. The Regional Director, Northeast Region, Bureau of Outdoor Recreation, Philadelphia, Pennsylvania, (Telephone: (215) 597-7989) will be responsible for field coordination

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of this Department's interests. We would be willing to review and comment on any draft material you may prepare. Under any circumstances, the final position on the Section 4(f) involvements, if any, will be made by this office when we are requested to review the final combined environmental/Section 4(f) statement.

Sincerely yours,



~~Deputy~~ Assistant

Secretary of the Interior

Mr. Walter E. Woodford, Jr.
Chief Engineer
Maryland Department of Transportation
P. O. Box 717
300 West Preston Street
Baltimore, Maryland 21203



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

246

June 15, 1973

Mr. Phillip R. Miller
Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

RECEIVED
JUN 18 1973
PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

Re: Maryland Route 43, From I-95 to Proposed Perring Freeway
Baltimore County, Maryland

Dear Mr. Miller:

We have reviewed the draft environmental impact statement (DEIS) for the above project and find ourselves unable to comment favorably on any aspect of the project or on the DEIS itself. In accordance with Section 309 of the Clean Air Act, we are publishing a summary of this DEIS review in the Federal Register indicating that we find the DEIS totally inadequate. This Category 3 determination means that EPA has found that the DEIS does not adequately assess the environmental impact of the proposed project and inadequately analyzes reasonably available alternatives. As presented below, we are requesting more information and analysis concerning the potential environmental hazards. We further request that substantial revision be made to the impact statement and that a new draft be circulated.

I. Scope of Draft Environmental Impact Statement

A. Scope of Transportation Analysis. The transportation analysis should be expanded to quantify the role of this project in the General Development Plan of the Regional Planning Council. In its present form, the proposed Route 43 is split into two very distinct parts. The section east of U.S. 1 is programmed to be built by the State Highway Administration while the other section (west of U.S. 1 to the proposed Perring Freeway) is not programmed to be built. The discussion of the transportation analysis in the DEIS is too narrow, because it excludes the cumulative impact on the area of the

Perring Freeway and the Outer Beltway; it is also too broad since the part of the project west of U.S. 1 has not yet reached the step of environmental approval.

Furthermore, the DEIS has totally ignored mass transportation, even though the Maryland Department of Transportation has planned an extension of the rapid-rail system through the project area (adjacent to U.S. 1).

We therefore recommend that a map be developed on the scale of Exhibit No. 2 to quantify the traffic volumes on the major roads and on the MTA system for the period two years after completion of the proposed facility and for the design year. We also recommend that since only the part of Route 43 east of Route 1 is programmed, that only this part is ready to go through the environmental decision-making process.

B. Discussion of Secondary Impacts. The DEIS attempts to justify the project (A.2 to A.4) by its ability to aid development of the area. In light of the recent Supreme Court action which interpreted the Clean Air Act as forbidding air quality degradation, development alone can no longer justify such degradation.

This is especially important since Route 43 provides a justification for building the Perring Freeway and this would intensify development pressure in the proposed low density land north of Gunpowder Run.

We recommend that the DEIS be rewritten to discuss the secondary impacts of the proposed facility and the consistency of these secondary impacts with the General Development Plan of the Regional Planning Council. In this context, the "Purpose" discussion of Part "A" should be entirely rewritten.

C. Scope of Alternatives. The discussion of alternatives must be entirely rewritten because the present discussion is merely one of alignments that do nothing to minimize environmental impact or the taking of park land. We recommend that as a minimum, the discussion be expanded to include:

- 1). The "Southern Line" that was proposed by the Regional Planning Council,
- 2). The "1-A-E-BG&E-2" alignment, mentioned on pages B.3-B.4, but not included in the 4f section.

- 3). The expansion of the Baltimore Beltway to accommodate the traffic rather than creating a new pollution corridor two miles north of the Beltway.
- 4). A realistic discussion of the do-nothing alternative which would provide the quantification necessary to act as a benchmark for comparison of other alternatives. The present discussion on pages D.8 and D.9 is so general as to be useless; it is, in fact, one of the poorest discussions of "no action" that we have reviewed in the Middle Atlantic Region.

II. Quantification of Environmental Impact

A. Air Impact. The air quality analysis, apparently done by a consultant, is characterized by gross errors, improper choice of parameters, and by pages of information that are unrelated to the air pollution impact of highways. Listed below are some of the major recommendations we have made. We suggest a meeting among the interested agencies to make the final choice of parameters.

1. The consultant (page B15) indicates that he used a wind speed of 4.13 meters per hour. It is more likely that the average wind speed is 4.13 meters per second; that is, the consultant was in error by a factor of 3,600.
2. Since the air pollution measurements are to be done for the worst possible conditions, the choice of average wind speed and average stability is totally inappropriate.
3. The downwind distance used should be the distance to the nearest receptor.
4. The air pollution should also be calculated for two years after completion. At intersections, the air pollution of cross roads must be included.
5. Up-dated emission factors should be used and referenced.
6. The 8 and 24-hour numbers should be computed using Turner's Workbook.
7. The undirected discussion on non-highway pollution (see especially 6.10, 6.11, B.35, B.36, and the inclusion of sulfur dioxide in Table 6) add to the bulk of the DEIS without adding to its substance.

8. Since the Maryland Department of Transportation and FHWA are currently involved in a major study of the regional air pollution impact of transportation systems, the DEIS should be rewritten to reflect the work being done for that study.

B. Noise Quality. We have enclosed an accurate copy of Table 1 of PPM 90-2. The sentence that was left out of the copy on A.26 of the DEIS indicates that the proper "Design Noise Level - L₁₀" for the St. Josephs Cemetary and for serene parks is 60 dBA and not the 70 dBA level that was used in the noise analysis.

In addition, the State Highway Administration should make a more firm commitment to noise abatement. The present discussion appears to be merely a discussion of technical feasibility.

C. Water Quality. On page A.34, the following statement is made: "Major water problems may be encountered during construction in floodplains of streams". The nature of the problem is not defined, the possibilities of ameliorating the flooding problems are not addressed, and those encountering the problems are not identified.

The water quality standards for the State of Maryland declare that waters affected by this project are classified as Recreational Trout Waters and Natural Trout Waters. Therefore, all measures must be taken that are necessary to prevent the turbidity of the affected waters from exceeding those levels that normally prevail during base flow conditions. Preventative measures to preclude sedimentation of these waters must be effected both during and after construction.

In addition, appropriate measures must be taken to protect the natural habitat of all aquatic biota in the waters affected by this project. The area beneath and adjoining water crossings shall be restored to its natural habitat, insofar as possible, to enhance the natural beauty of the area and to ensure that all aquatic biota are able to fully utilize this environment. The specific measures taken should be detailed and explained in the impact statement.

III. Errors and Omission in DEIS

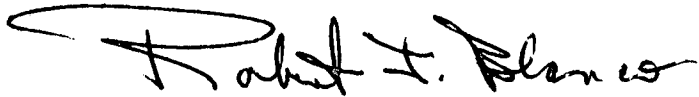
- 1). Exhibit No. 2 doubles the correct scale of miles, thus indicating a study area twice as large as exists.

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- 2). Exhibit No. 4 should be expanded as described in I.B. of this letter.
- 3). Page V indicates generally that this facility will help fire-fighting. This should be quantified and the location of firehouses shown on the location map.
- 4). The design speed of 60 mph seems to be inconsistent with at-grade interactions with Joppa Road.
- 5). We question whether the accident statistics given on A-6 are applicable in this case, where intersections are 4,000 feet apart and not grade separated.
- 6). The Regional Planning Council stated on June 8, 1973 (No. 73-110) that "As proposed, the construction project is inconsistent with the General Development Plan adopted by the Regional Planning Council on December 15, 1972," This appears to refute the DEIS statement on A2.

Thank you for the opportunity to comment on this proposal. We would like to be kept apprised of the status of this project and, in particular, of your decision to circulate a new draft statement.

Sincerely yours,



Robert J. Blanco, P.E.
Chief

Environmental Impact Branch

Enclosure

cc: Mr. W. Comella, FHWA
Dr. J. Costantino, U.S. DOT
Mr. R. Ackroyd, FHWA
Mr. J. Canny, U.S. DOT
Mr. W. Ockert, RPC
Mr. W. Bonta, Md. BAQ

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TABLE 1

DESIGN NOISE LEVEL/LAND USE RELATIONSHIPS

Land Use Category	Design Noise Level - L ₁₀	<u>Description of Land Use Category</u>
A	60 dBA (Exterior)	Tracts of lands 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. <u>Such areas could include amphitheatres, 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.</u>
B	70 dBA (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
C	75 dBA (Exterior)	Developed lands, properties or activities not included in categories A and B above.
D	--	For requirements on undeveloped lands see paragraphs 5.a.(5) and (6) of PPM 90-2.
E*	55 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

* See paragraph 1.c. of this attachment for method of application.

Appendix A (cont'd)
Attachment 2

-177-

- 08 X -

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JUN 26 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

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206 Federal Building
31 Hopkins Plaza
Baltimore, Maryland 21201

June 19, 1973

Draft Environmental Statement

BB18-11-471

RECEIVED

JUN 22 1973

ASST. CHIEF ENGR
DESIGN

Mr. Darnard M. Evans
State Highway Administrator
State Highway Administration
300 W. Preston Street
Baltimore, Maryland 21201

Dear Mr. Evans:

We have received a copy of the comments addressed to Mr. Phillip Miller by EPA on the subject DES.

We are not convinced that the DES is as defective as EPA writes that it is, but be that as it may, we do not subscribe to EPA's opinion that a new DES be circulated. We request that you address each comment of EPA in the final environmental statement and include that information which they say is missing, incorrect, or inadequate.

Sincerely yours,

Sgd. R. Ackroyd

Richard Ackroyd
Division Engineer

cc: Mr. Downs (3)

Mr. Thompson ✓ Follow the FHWA's request. HGD 6/22/73

6/25/73 Mr. P. R. Miller: For your action.

Mr. R. M. Thompson

Memorandum

DATE: JUN 21 1973

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MARYLAND FHWA-MD-EIS-73-03-D
SUBJECT: Draft Environmental/Section 4(f) Statement^{th reply}
Route 43 (Whitemarsh Boulevard) from I-95^{refer to:}
to Proposed Perring Freeway, Baltimore County

FROM : Assistant Secretary for Environment,
Safety, and Consumer Affairs

TO : Richard Ackroyd
Division Engineer
Baltimore, Maryland

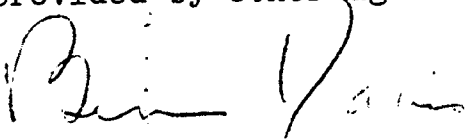
F 166-1(6)

We have reviewed the draft environmental impact/section 4(f) statement for this project and offer the following comments:

1. The discussion of the proposed use of lands from Graham Park, and, in particular, the discussion of alternatives, reflects strong opposition by the Baltimore City Recreation and Parks Department to the routing of this project through the Park. The discussion of alternatives does not appear to provide sufficient support for this Department to make a determination of "no feasible and prudent alternative" to the use of lands from Graham Park, especially in light of the local opposition.
2. The area of Gunpowder State Park proposed for crossing is designated as a natural environment area, but park officials are in agreement that the highway crossing could be compatible with the park environment. Special design measures appear necessary, however, to assure such compatibility and to minimize harm to the park. These design features, together with evidence of continuing coordination with the State Department of Natural Resources, should be fully reflected in the final environmental impact statement.
3. Gunpowder Falls is mentioned briefly in the draft statement. The relation of the Falls, apparently a scenic attraction, to the location of Whitemarsh Boulevard and the impact of the highway on the Falls area should be discussed in the final statement.
4. It is not clear why Line C crosses Gunpowder State Park as proposed when a crossing approximately 1000 + feet west would traverse a significantly narrower portion of park, and thereby significantly reduce the land taking.

- 5. In their letter of October 28, 1970, the Department of Natural Resources pointed out that the Campbell Sand and Gravel Company had undertaken restoration of Whitemarsh Run, apparently damaged by mine operations. In addition, we note that the land use plan map (exhibit 6) designates the Whitemarsh Run area as park and open space. Since the proposed location of Whitemarsh Boulevard may interfere with the restoration and inhibit the possibility of future park development, this impact should be closely evaluated, including consideration of alternatives to avoid the Whitemarsh Run area and the possible need for a section 4(f) determination.
- 6. The draft environmental impact/4(f) statement indicates that no formal agreements regarding park takings or measures to minimize harm have been reached, but that there have been informal discussions and other communications. The final environmental impact/4(f) statement should reflect these discussions and should specify proposed measures to minimize harm, including land replacement, bridge design, continuation of trails and hiking paths, and landscaping.
- 7. Under the evaluation of noise impacts, the Gunpowder Park area should be recognized as Category A land use under PPM 90-2. Additionally, the discussion of measures to minimize harm, in the section 4(f) determination, should indicate steps to be taken to achieve the Category A noise standard.

We appreciate the opportunity to review this draft statement and look forward to receiving the final environmental impact statement including comments provided by other agencies.


 Benjamin O. Davis, Jr.

cc:
 Regional Federal Highway Administrator

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REGIONAL PLANNING COUNCIL
701 St. Paul Street
Baltimore, Maryland 21202

JUN 29 1973

R & R File No. 73-110
B & P Committee June 8, 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES
REVIEW AND REFERRAL MEMORANDUM

PROJECT IDENTIFICATION

Jurisdiction: Baltimore County

Project Name: Construction of Md. Rt. 43 (Whitemarsh Boulevard) from I-95 to proposed Perring Freeway

Applicant: Maryland Department of Transportation - State Highway Administration
Notification/Application received May 6, 1973

Cost: \$13,742,000 Total: \$6,871,000 Federal; \$6,871,000 State
Grant Program: 20.205 Highway Planning and Construction

DESCRIPTION

This project provides for the acquisition of right of way and construction of Md. Rt. 43 (Whitemarsh Boulevard) from an existing interchange at I-95 to an interchange at proposed Perring Freeway. The working area is approximately 5.4 miles in length.

It is proposed to acquire a minimum right of way width of 250 feet and construct a dual highway between the above termini. The typical section provides for initial construction consisting of two 24-foot roadways with 10-foot shoulders on the outside and 5-foot shoulders on the inside, separated by a 50-foot median. In addition to the existing interchange at I-95 and the one at proposed Perring Freeway, another is proposed at U.S. Rt. 1. Traffic projections (ADT) for the year 1996 indicate 41,200 on the section between I-95 (John F. Kennedy Memorial Highway) and U.S. Rt. 1, and 16,600 between U.S. Rt. 1 and Perring Freeway. The cost of the proposed improvement is expected to exceed \$13,742,000.

COMMENTS

As proposed, the construction project is inconsistent with the General Development Plan adopted by the Regional Planning Council on December 15, 1972. The Regional Planning Council review of the project and the accompanying Environmental Impact Statement has raised a number of serious questions about the project (see Regional Planning Council comments on R & R File No. 73-077).

The Regional Planning Council finds major substantive problems in the Environmental Impact Statement which pertain to construction aspects of the project; namely, the potentially damaging environmental effects of constructing this highway, premature development of the highway west of Belair Road, lack of connections with the arterial highway system, and failure to meet any real traffic needs. All of these concerns reflect inconsistency with the General Development Plan.

In addition, submittal of this construction project at this time is premature in that proper time has not been allowed for consideration of this project. Also, the Regional Planning Council finds itself in the incongruous position of being asked to review a highway construction project for which no definite route alignment has been set.

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IT IS RECOMMENDED THAT CONSTRUCTION WEST OF BELAIR ROAD BE REJECTED; IT IS FURTHER RECOMMENDED THAT THE ENTIRE PROJECT BE DEFERRED PENDING THE RE-SUBMISSION TO THE REGIONAL PLANNING COUNCIL OF AN ADEQUATE ENVIRONMENTAL IMPACT STATEMENT.

I HEREBY CERTIFY that at its 116th meeting, held June 22, 1973, the Regional Planning Council concurred in this Review and Referral Memorandum and incorporated it into the minutes of that meeting.

June 22, 1973

Date

- cc: Mr. Robert J. Hajzyk
- Mr. Jerry L. White
- Mr. Roland M. Thompson
- Mr. Eugene T. Camponeschi
- Mr. Philip R. Miller ✓
- Mr. Anthony W. Brajevich

Original Signed By

Robert N. Young

Robert N. Young
Executive Director

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REGIONAL PLANNING COUNCIL
701 St. Paul Street
Baltimore, Maryland 21202

JUN 29 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

R & R File No. 73-077
B & P Committee June 22, 1973

REVIEW AND REFERRAL MEMORANDUM

PROJECT IDENTIFICATION

Jurisdiction: Baltimore County

Project Name: Environmental Impact Statement for Md. Rt. 43 (Whitemarsh Boulevard) from I-95 to Proposed Perring Freeway

Applicant: Maryland Department of Transportation - State Highway Administration
Notification/Application received April 13, 1973

DESCRIPTION

This draft statement evaluates the environmental impacts of a project providing for the extension of Md. Rt. 43 from the existing interchange at I-95 (John F. Kennedy Memorial Highway) westerly for approximately 5.4 miles to the interchange with the proposed Perring Freeway. This project lies entirely within Baltimore County.

Two basic alignments were considered with a total of ten combinations resulting from these basic lines. Some of these alternatives involve different crossings of U.S. Rt. 1. A Do-Nothing alternative was also considered.

COMMENTS

I. Intergovernmental Coordination

1. The Environmental Impact Statement does not attempt to address the major points brought out in the Regional Planning Council's previous review on November 20, 1970 of the Planning and Development for this project. At that time the Regional Planning Council examined four possible alternatives for Whitemarsh Boulevard west of Belair Road and pointed out the general implications of each. These points were ignored in the Environmental Impact Statement.
2. The Environmental Impact Statement does not include a copy of the Regional Planning Council comments referred to above.
3. The project is discussed in isolation with no attempt made to integrate it with the achievement of regional goals and plans for development.

II. Consistency with the General Development Plan

All alternatives considered west of Belair Road are inconsistent with the General Development Plan adopted by the Regional Planning Council on December 15, 1972.

1. Environmental considerations

- a. The 1972 General Development Plan suggests an alignment for the portion of Whitemarsh Boulevard west of Belair Road which would avoid taking park land. This alignment skirts the southern end of Graham Memorial Park and thereby avoids the environmentally-sensitive open space of Graham Memorial Park and Gunpowder State Park entirely. The Environmental Impact Statement completely ignores this alternative. It is therefore incorrect to conclude that there is no feasible and prudent alternative to the use of public park land, pursuant to obligations under Section 4(F) of the Department of Transportation Act.

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- b. The Environmental Impact Statement assumes the extension of Perring Freeway north of the Gunpowder, but ignores the resulting environmental effects of this extension. This is largely a question of timing; this extension is presently a very low priority. Its premature construction would be inconsistent with the General Development Plan because it would create pressures for development which could not be served. The area north of the Gunpowder is not programmed to receive sewerage services for at least a 20-year period.

In addition, the preferred alignment for Whitemarsh Boulevard in the Environmental Impact Statement would result in two different crossings of the Gunpowder, one by Whitemarsh Boulevard and the second by Perring Freeway.

- c. The alternative alignments presented in this Environmental Impact Statement are based in part on the likelihood of later extending Whitemarsh Boulevard beyond Perring Freeway. This extension of Whitemarsh Boulevard has been previously considered and strongly rejected in formulating the General Development Plan. It is in conflict with the General Development Plan because it would result in excessive development pressures on land designated as a permanent conservation area by the General Development Plan.

2. Traffic considerations

- a. As proposed, Whitemarsh Boulevard west of Belair Road is inconsistent with the regional transportation element of the General Development Plan. It meets no pressing traffic need because of its radial nature. The alternative alignments in the Environmental Impact Statement are directed toward meeting the north-to-east movements, while traffic simulation studies indicate the south-to-east movements will be fifteen times greater. The omission of ramps to accommodate this movement is questioned.
- b. The presentation in the Environmental Impact Statement is incomplete because the project as proposed calls for Whitemarsh Boulevard to terminate at the proposed Perring Freeway, which has not been programmed for construction.
- c. Access provisions should be changed so as to incorporate an interchange between Whitemarsh Boulevard and the Proctor Lane extension in order to provide arterial continuity as shown in the General Development Plan.
- d. As part of the development of both the 1967 and 1972 General Development Plans, the proposal for an Outer Beltway was subjected to extensive review and evaluation. Both rejected the concept of a complete circumferential route beyond the present I-695. Therefore, all references to an Outer Beltway are inconsistent with the General Development Plan and should be deleted.

III. The Environmental Impact Statement Document

1. The Environmental Impact Statement presents no summary statement comparing all alternatives. The document is far too long and technical. The Regional Planning Council urges that the inclusion of a concise non-technical summary would greatly improve such Environmental Impact Statements by providing information in a form more responsive to the needs of decision-making and citizen participation. A concern for facilitating just these processes lies behind much of the legislation which created the requirement for Environmental Impact Statements.
2. The Environmental Impact Statement is not responsive to the project's overall impacts on land use and development. It is similarly

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- unresponsive to the project's overall function within the total transportation system, and to the impacts of the "No-Build" alternative. Therefore, it is impossible to evaluate the overall impact of the project.
3. The air quality analysis ignored the regional aspects of this problem. In this regard the results of the Regional Environmental Impact Study should be considered.
 4. There is no analysis of existing background air quality or noise conditions and the added impact of this project on this quality or these conditions.
 5. There is no analysis of existing flooding problems -- which are severe in the Whitemarsh Run - U.S. 40 area -- and the aggravation of these problems as a result of added runoff from this project.

IT IS RECOMMENDED THAT THE ENVIRONMENTAL IMPACT STATEMENT BE REJECTED AND BE REWRITTEN TO INCLUDE CONSIDERATION OF THE ABOVE COMMENTS, AND RE-SUBMITTED TO THE REGIONAL PLANNING COUNCIL.

ccs Mr. Robert J. Hajzyk
Mr. Jerry L. White
Mr. Roland M. Thompson
Mr. Eugene T. Camponeschi
Mr. Philip R. Miller ✓
Mr. Anthony W. Brajevich

Date: May 21, 1973

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From: Mr. Kenneth Green,
Director of Planning
Department of Planning and
Zoning
45 South Main Street
Bel Air, Maryland 21014

REGIONAL PLANNING
COUNCIL
JUN 11 1973
BALTIMORE, MARYLAND

SUBJECT: REFERRAL COORDINATOR REVIEW SUMMARY

Applicant: Maryland Department of Transportation

Project Construction, Md. Rt. 43 (Whitemarsh Blvd) from I-95 to Proposed Perring
R & R File No.: 73-110 Freeway

Comments Should Be Returned By: June 5, 1973

This project has been forwarded to the following local departments or agencies
(Check appropriate blanks and attach comments from the reviewing agencies):

Planning Public Works
 Environmental Protection Human Relations
 Others (specify) _____

JURISDICTION'S COMMENTS

Check One

- This jurisdiction has no comments on this particular project.
 This project is consistent with or contributes to the fulfillment of local
comprehensive plans, goals or objectives.
 This project raises problems concerning incompatibility with local plans, or
intergovernmental, environmental or civil rights issues and a meeting with
the applicant is requested (attach Comments).
 This project is generally consistent with local plans, but qualifying
comments are necessary (attach comments).

RETURN TO:
Coordinator, Metropolitan Clearinghouse
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

Signature Kenneth Green
Title Director of Planning
Agency Planning & Zoning Department
Date June 3, 1973

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"The project is outside of Harford County, but would affect a regional park facility (Gunpowder St. Park) and would affect development potential in the direction of the somewhat indefinite Perring Freeway. In view of these concerns, we would request further study of that portion of the proposed Md. Rt. 43 between Belair Rd. and Harford Rd. - proposed Perring Freeway. That portion of the project east of Belair Road is one we have no further comment on."

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Date: May 21, 1973

To: Mr. Kenneth Green
Director of Planning
Department of Planning and Zoning
45 South Main Street
Bel Air, Maryland 21014

REGIONAL PLANNING
COUNCIL
JUN 11 1973
BALTIMORE, MARYLAND

SUBJECT: PROJECT NOTIFICATION REVIEW

Applicant: Maryland Department of Transportation

Project: Construction, Md. Rt. 43 (Whitemarsh Blvd.) from I-95 to proposed Perring Freeway

R & R File No.: 73-110

Comments Should Be Returned By: June 5, 1973

Check One

This agency has no comments on this particular project.

This project is consistent with or contributes to the fulfillment of local comprehensive plans, goals or objectives.

This project raises issues concerning incompatibility with local plans or intergovernmental problems and a meeting with the applicant is requested (Specify below).

This project is generally consistent with local plans, but qualifying comments are necessary (Specify below).

Comments Until the Proposed Perring Freeway is
constructed linking Balto & Harford Counties,
subject project will have no appreciable
influence on Harford County.

RETURN TO LOCAL REFERRAL COORDINATOR
NAMED ABOVE

Signature M. J. Smith
Title Chief Engineer - Highways
Agency Harford County
Department of Public Works.

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Date: May 21, 1973

From: Mr. Larry Reich, Director
Department of Planning
222 E. Saratoga Street
Baltimore, Maryland 21202

SUBJECT: REFERRAL COORDINATOR REVIEW SUMMARY

Applicant: Maryland Department of Transportation

Project: Construction, Md. Rt. 43 (Whitemarsh Blvd) from I-95 to proposed Perring Freeway

R & R File No.: 73-110

Comments Should Be Returned By: June 5, 1973

This project has been forwarded to the following local departments or agencies
(Check appropriate blanks and attach comments from the reviewing agencies):

Planning Public Works
 Environmental Protection Human Relations
 Others (specify) DEPARTMENT OF TRANSIT AND TRAFFIC

JURISDICTION'S COMMENTS

Check One

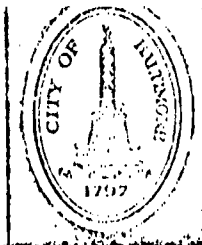
This jurisdiction has no comments on this particular project.
 This project is consistent with or contributes to the fulfillment of local comprehensive plans, goals or objectives.
 This project raises problems concerning incompatibility with local plans, or intergovernmental, environmental or civil rights issues and a meeting with the applicant is requested (attach Comments).
 This project is generally consistent with local plans, but qualifying comments are necessary (attach comments).

RETURN TO:
Coordinator, Metropolitan Clearinghouse
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

Signature *Larry Reich*
Title LARRY REICH
DIRECTOR
Agency DEPARTMENT OF PLANNING
Date JUNE 21, 1973

CITY OF BALTIMORE

WILLIAM DONALD SCHAEFER, Mayor



PLANNING COMMISSION
DEPARTMENT OF PLANNING

LARRY REICH, Director

8th Floor, 222 East Saratoga Street, Baltimore, Maryland 21202

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June 8, 1973

Mr. William Ockert
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

REVIEW OF DRAFT ENVIRONMENTAL IMPACT AND 4-F STATEMENT: WHITEMARSH FREEWAY

The staff of the Department of Planning has reviewed the draft statement prepared by Funk, Fletcher, Chen and Associates for the Maryland State Highway Administration dealing with the prospective impacts of various alignments for the proposed Whitemarsh Freeway from I-95 to the proposed Perring Freeway. The staff reaction to this document was so uniformly negative that we must urge that the S.H.A. be informed that this draft is not acceptable for consideration and that additional study and analysis be undertaken before a completely revised draft is submitted for serious consideration.

Specific comments regarding the damage which would be created by the proposed facility with respect to erosion, noise impact and air pollution are summarized in the attached memorandum from David Carroll dated 1 June 1973. The specific factors relating to the 4-F statement are also dealt with in this document. It would appear that numerous issues are raised in this memorandum which would, in themselves, require significant revision in the draft statement.

There is, however, a further question -- not addressed by the statement -- which we believe should receive specific and detailed attention in the later revision. This relates directly to the fact that the Whitemarsh Freeway is frankly admitted to be what might be called a "developmental highway" facility: one which is being put in place in order to stimulate the new development which will in turn generate the additional traffic which will justify its construction. As you well know, the City of Baltimore and the State of Maryland have been engaged in a series of critical exercises with the Environmental Protection Agency over the issue of automotive-generated air pollution. The City, for its part, is now pursuing (at enormous cost) a study to determine the region-wide air quality impact of developing the so-called "3-A" expressway system within its borders; the purpose of this study is to either validate or disprove the EPA's assumption that the construction of the highways will generate additional travel which will result in a degradation of air quality levels. The State Department of Health and Mental Hygiene has been working for almost a year, with the assistance of a sub-committee of the TTAC, to develop an implementation plan to reduce automotive pollution so as to allow the Baltimore area (Air Quality Region III) to comply with the standards of the Clean Air Act. It is our strong belief that, prior to any definitive action being

Mr. William Ockert

Page 2

June 8, 1973

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taken with respect to the development of the Whitmarsh Freeway, there be conclusive evidence offered to support the contention that the accelerated sprawl and suburbanization of farm lands will not contribute to a further degradation of air quality levels.

The current Regional Environmental Impact Study, being pursued by the firm of Alan M. Voorhees, Associates offers an available technique by which the implications of such development can be tested. We offer the suggestion that, after the completion of the current contract, an analogous study, using identical techniques, be undertaken to study the probable effects of the development of both the Whitmarsh and the Perring Freeways. Only with the results of such a study can one intelligently evaluate the propriety of the proposed construction.

There are several other issues which should be addressed. The first revolves about the ambiguity of the northern terminus of the proposed highway, ambiguous because the location of the connection with the Perring Freeway must assume a location of the Perring, since no location studies for this facility appear to have been done. The "looseness" of this point requires more than a little explanation. There is also some reason to question the traffic assignments reported in the Statement; the draft statement reports a projection of 41,000 vehicles per day in 1992, while the most recent Highway Needs Study developed by the S.H.A. projects a 1990 volume of 22,600 v.p.d. This variation of almost 100% needs investigation and explanation; perhaps the assignment programs now being run as a part of the Regional Environmental Impact Study can provide a better estimate of what future traffic volumes would be if the highway were actually to be built.

If a major Highway facility is to be constructed in this corridor, we would be interested in reviewing the possibilities of developing this facility as a joint-use facility either within or adjacent to the high-tension transmission line. It would appear that such a routing would offer the potential for a significant minimization of the visual impact of such a facility upon this beautiful area.

The proposed development of the Whitmarsh Freeway (shown in the S.G.D.P. as an arterial not proposed for expansion to freeway status until after 1990) appears to be the first step in a sequence of events leading through the development of huge areas in northeastern Baltimore County and southwestern Harford County, to the creation of an irresistible demand for the development of the Perring Freeway extension, to the imposition of vastly increased

Mr. William Ockert
Page 3
June 8, 1973

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traffic volumes within the City of Baltimore, substantially increased loads on the regions sewage treatment capacity and overloads of the regions ability to deal with storm water runoff. We strongly believe that this project should not advance further until the full consequences of its development are presented in an accurate and understandable fashion for review by the concerned citizens of the city and region and informed decision by their elected representatives.

LARRY REICH
DIRECTOR

nlt

* Attachments

AIR POLLUTION

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The assumption that air quality can be measured with gross estimations does little to document the impact of pollution generated by vehicular traffic. Even utilizing the information supplied by the draft statement, the conclusions drawn are questionable.

The scale of impact should be clearly defined. Perhaps generalized conditions can be drawn from the information, but this is then applied to specific locations, i.e. a school site or park to form misleading conclusions. The range of elevation in the area varies from valley floors of approximately 150' to plateaus of over 300'. There are numerous opportunities for the entrapment of polluted air especially with the low velocity of 8.3 mph which would allow for little mix.

The statement that the park areas "should not be endangered from the amounts of gases estimated from the proposed Whitemarsh Freeway" has not been substantiated and is doubtful. Gases from the highway will be directed into Graham Memorial or Gunpowder Park during all or part of ten months of the year as indicated by the charts. During the months of April, May, June, July, wind will funnel pollutants directly down the natural corridor of the Gunpowder. Graham Park will receive pollutants in November, December, January, March, and one period indentified as 1/12. The direct impact of such pollutants is still under study, but preliminary findings indicate that this kind of exposure usually has a distinctly negative impact.

EROSION

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The statements attempting to place constructive values on paving now vegetatively barren areas is ludicrous. Paving is not a positive alternative to returning barren land to a productive vegetative function. If wind and water erosion are now problems, then it should be dealt with by the Department of Agriculture or Forestry. Standards for erosion and sedimentation control should be immediately applied. Paving only removes land from the possibility of water retention and groundwater recharge. It should also be noted that one of the purposes that this land was striped for, sand and gravel, was to produce materials for highway projects.

Items discussed in Section G are all those typically used to seemingly minimize the impact of a major highway. Although there is little dispute that the actions will be carried out there is a great deal of disagreement as to the required scope of the measures. But the items to be performed which are called "permanent" are simply stop-gap methods to reduce obvious impact.

Section 6 d, page A.33, Surface Waters, dismisses the possibility of major flooding as occurring only during the period of high spring runoff. The flood of August, 1971, scathed all of the valleys concerned and flooded low lying areas in the costal plain areas of the watershed. Numerous persons lost their lives during this flooding and uncontrolled runoff continues to increase with expanding development. Flooding in the coastal areas of these water courses has become common place and is only aggravated by the continued uncontrolled construction in the upper watersheds. In fact, even moderate amounts of rain over a short period are resulting in excessive runoff which damages stream banks and creates sedimentation beyond that of the normal capacity.

The amount of increased runoff by the highway alone, will begin a process of scouring an already damaged stream. This does not take in account the runoff which will be generated by development associated with highways of this type. If alternate "C" is used, this will necessitate two crossings of the Gunpowder Falls, a duplication of functions less than 4,000 downstream from the proposed Perring Freeway crossing. The amount of roadway oil, salt, residue, and rubber particles which will be fed into the stream on a permanent basis, can only downgrade the existing water quality. Statements that, "Gunpowder Falls and Whitmarsh Run would remain unscathed", are simply untrue and the Department of Transportation should be requested to provide factual information to substantiate them.

Conclusions drawn from the section on erosion are based on a logic, dedicated only to justifying construction of another highway and not that of judging and protecting the natural environment from adverse impact.

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NOISE LEVELS

Section C, Noise Environment, leaves large gaps in the study of noise operation and effect. There are also numerous figures and assumptions which should be questioned.

The levels put forth as standards on A. 29 are questionable as to accuracy and certainly to validity when used as basic criteria for measurement. The figures taken from field surveys apparently were selective and did not include any major truck traffic. The greatest noise level at 100 feet was 70 dba, yet the level of an average truck at 200 feet runs at approximately 70 dba and diesels at above 80 dba. There is little discussion of the probable noise generation of the highway and the reports leads one to believe that all areas are in category B. Both Gunpowder State Park and Graham Memorial Park lie in Category A and the roadway will not, using present criteria, be able to meet those standards. It is ironic that the Maryland Park Service has designated this portion of Gunpowder State Park a natural environment area, yet finds no adverse effects of the impact of the highway, especially regarding the probable noise level.

Discussions of methods to correct high noise levels are misleading in that they seem to suggest that problems can be easily alleviated by planting shrubs or depressing the highway. Areas of beneficial roadway depression will likely be a function necessitated by topography rather than control of noise levels, as this is an expensive alternative when the grade is not at the advantage for construction. Highway planting is rarely as helpful as usually implied. Massive planting of mature plant material would produce a minimal reduction in decibel level. It is doubtful that any proposal would include 100 to 200' of mature, evergreen planting to minimally reduce noise impact on the adjacent land uses.

COMMENT ON SECTION 4 (f)

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Three basic alignments directly impact Graham Memorial Park. Both alignments A, A-1 and B, and C and E would place such a burden on the park as to render its present uses to a minimum. Connections to the Gunpowder State Park system would be virtually cut off and would deny free access between the two facilities. The routing of both alternatives passes through several small drainage basins exposing the maximum amount of erosion and water pollution to the Gunpowder Falls. Runoff will greatly increase, necessitating expensive measures by the city to stabilize the small drainage ways which lead into the Gunpowder. The Jennifer Branch, running north into Gunpowder Falls, would possibly require major work as a result of both the highway and associated development.

All alignments will generate noise levels well above that recommended in Category A for parklands. The nature of these areas, a place to provide alternatives to the pressures of urbanization, would receive one of the most negative products of that development.

Thousands of feet of now usable parklands would be subjected to massive cut and fill, construction impact, erosion, sedimentation in the watercourses, noise, water, and air pollution. There has been little reasonable investigation throughout the environmental impact study to the degree or consequences of the construction and utilization of this highway, either directly on the parklands or indirectly on other portions of the watershed. Much of the criteria and basic information has been utilized only when it would prove to the advantage of a particular proposal and not applied objectively to gain full knowledge of the impact. It is suggested that the study not be accepted as a comprehensive appraisal of the impact of the proposed Whitemarsh Boulevard (Md. Route 43) for reasons of distorted facts and misapplied information.

271

Date: JUN 13, 1973
REGIONAL PLANNING COUNCIL
JUN 8 1973
BALTIMORE, MARYLAND

From: Mr. Frederick L. Dewberry, Jr.
County Development Coordinator
County Office Building
Towson, Maryland 21204

SUBJECT: REFERRAL COORDINATOR REVIEW SUMMARY

Applicant: Maryland Department of Transportation, State Highway Administration
Project: Md. Rt. 43 (Whitemarch Blvd) from I-95 to Proposed Perring Freeway
R & R File No.: 73=077
Comments Should Be Returned By: April 28, 1973

This project has been forwarded to the following local departments or agencies (Check appropriate blanks and attach comments from the reviewing agencies):

Planning Public Works
 Environmental Protection Human Relations
 Others (specify) Recreation & Parks

JURISDICTION'S COMMENTS

Check One

- This jurisdiction has no comments on this particular project.
- This project is consistent with or contributes to the fulfillment of local comprehensive plans, goals or objectives.
- This project raises problems concerning incompatibility with local plans, or intergovernmental, environmental or civil rights issues and a meeting with the applicant is requested (attach Comments).
- This project is generally consistent with local plans, but qualifying comments are necessary (attach comments).

RETURN TO:
Coordinator, Metropolitan Clearinghouse
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

Signature Frederick L. Dewberry
Title Regional Coordinator
Agency Baltimore County
Date 6/5/73

cc: Mr. A. B. Kallinbach
Mr. W. D. Fromm
Mr. H. S. Coulter, Jr.
Hon. Harry Bartelmeier
Mr. R. S. Hess, Jr.

BALTIMORE COUNTY, MARYLAND

272

INTER-OFFICE CORRESPONDENCE

TO Frederick L. Dewberry, Jr. _____

Date May 21, 1973 _____

FROM Albert B. Kaltenbach, P.E. _____

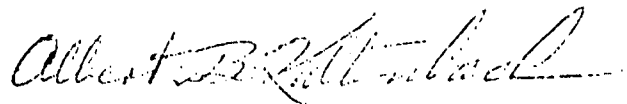
SUBJECT Whitmarsh Boulevard _____
Draft Environmental Statement

A review of the Draft Environmental Statement as requested in your letter of May 1, 1973 has produced the following comment.

On page A.5 of the statement the first paragraph leads one to believe only one interchange will be allowed between I-95 and Perring Freeway alternately - that at Blair Road. This is in error and the paragraph should be expanded to state interchanges at the following points.

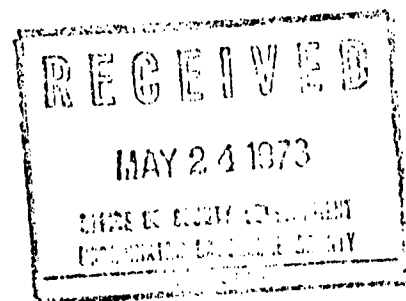
- (1) off ramp only at Perry Hall Boulevard
- (2) full interchange at Radecke Avenue
- (3) full interchange at Proctor Lane

While it is realized these roads are not existing at this time, it is felt they will be fully operative at the time the ultimate construction of Whitmarsh Boulevard is undertaken.



ALBERT B. KALTENBACH, P.E.
Director of Public Works

END:JJT:eml



BALTIMORE COUNTY, MARYLAND

INTER-OFFICE CORRESPONDENCE

273

Mr. Frederick L. Dewberry, Jr.,
TO Dey, Coord., Public Works
Mr. H. G. Coulter, Jr.
FROM Dept. of Recreation and Parks

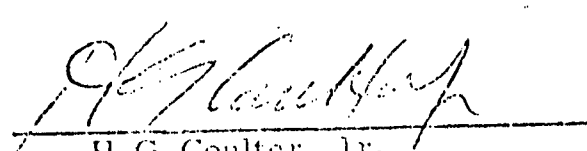
Date May 11, 1973

SUBJECT Environmental Statement
White Marsh Boulevard

We have reviewed the proposed location studies for the White Marsh Boulevard and have solicited views and comments from the Recreation and Park Councils in the northeast area.

After reviewing the proposed corridors, it is our opinion that Route "C" was the most acceptable one. We oppose very strongly any route that would cut through Graham Memorial Park. We do hope that all consideration will be given not to interfere with the environment as it crosses the Gunpowder and recommend that a long bridge expansion be developed.

Again, our department recommends Route "C" for the corridor for the White Marsh Boulevard.



H. G. Coulter, Jr.
Assistant Director in
Charge of Facilities

HGC:am

RECEIVED
MAY 14 1973
OFFICE OF CAPITAL DEVELOPMENT
BALTIMORE COUNTY, MARYLAND



274

JAMES B. COULTER
SECRETARY

JOSEPH H. MANNING
DEPUTY SECRETARY

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

June 29, 1973

COMMENTS OF THE DEPARTMENT OF NATURAL RESOURCES ON PROJECT 73-4-199
Md. Rt. 43 (Whitemarsh Boulevard) from I-95
to Proposed Perring Freeway

The Department of Natural Resources will have a continuing interest in the development of Whitemarsh Boulevard which is now proposed from I-95 to a projected Perring Freeway. The Department recognizes problems and conflicts with alignments suggested in the Draft Environmental Statement.

The proposed alignment map, Exhibit-13, shows about one mile of the proposed Whitemarsh Boulevard within a few hundred feet of Whitemarsh Run. Whitemarsh Run has become unstable from past operations in the extraction of sand and gravel, and the Department is now attempting to rectify this instability. Highway development impact on the flood plain of Whitemarsh Run should be avoided. The statement carried on page D.1, "There is no conflict with or anticipated ecological harm to the Run", will need to be revised. The linear distance between the Run and the proposed boulevard as shown on the proposed alignment map is too short to prevent damage to Whitemarsh Run by the boulevard construction.

Further concern is for State open space/recreational areas that may be directly or indirectly affected by this highway development to the north. Alternate Route "C" would transect Gunpowder Falls State Park. Alignment "A" would transect the contiguous Graham Memorial Park.

The general area proposed for this highway development is within the expected territorial range of the Bog Turtle (Clemmys muhlenbergi), a reptile that is on Maryland's list of endangered species. The Draft Environmental Statement does not address this concern and the Wildlife Administration of the Department of Natural Resources is beginning a survey within the area of proposed alignments to determine whether this species does, in fact, occur in the specific areas proposed for highway alignment and how habitat can be preserved with highway development. The Department of Natural Resources would like to be involved in future deliberations regarding this project.

275



MARYLAND
DEPARTMENT OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201
TELEPHONE: 301-383-2451

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING
EDWIN L. POWELL, JR.
DEPUTY SECRETARY

MARVIN MANDEL
GOVERNOR

July 3, 1973

RECEIVED

JUL 9 1973

PHILIP R. MILLER
CHIEF BUREAU OF
SPECIAL SERVICES

Mr. Phillip R. Miller, Chief
Bureau of Special Services
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: State Highway Administration

Project: Md. Rt. 43 (Whitemarsh Boulevard) from I-95 to the
Proposed Perring Freeway

State Clearinghouse Control Number: 73-4-199

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

Dear Mr. Miller:

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

Interagency Committee for the Public School Construction Program: had no objections to the proposed alignments, but noted that the Hines Elementary School would receive pollutants from alternative C. The Committee recommended that a suitable buffer be developed to eliminate such pollutants if alternate C is selected.

Department of Economic and Community Development: approved the statement.

Bureau of Air Quality Control: determined that the statement's consideration of air pollution is poor and in need of drastic revision. The Bureau made extensive and detailed comments on aspects of the statement concerning air quality.

Department of Natural Resources: expressed continuing interest in the project and advised of the need to avoid highway development impact on Whitemarsh Run. It was noted that the distance of the proposed highway to Whitemarsh Run is too short to prevent damage to the Run and that the statement to the contrary should be revised. The Department also evidenced concern for the impact of certain proposed alignments on Gunpowder Falls State Park, Graham Memorial Park, and the endangered wildlife species, the Bog Turtle (*Clemmys muhlenbergi*).

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Department of Juvenile Services: reiterated their previous opposition to any alignment of this proposed highway that has an adverse impact on the Maryland Training School for Boys.

Our staff advised that the Regional Planning Council has recommended that this environmental impact statement be rejected. The Council found the statement to be inconsistent with the General Development Plan for the region and in the consideration of alternatives and the overall impacts on land use and development.

As a result of this review, the project is apparently inconsistent with regional plans and programs at this time.

We hope that these comments will be of use to you and look forward to continued cooperation with your Administration.

Sincerely,


Vladimir Wahbe

Enc.

cc: Alford Carey
Leonard Elenowitz
George Ferreri
Anthony Abar
Robert Hilson
Robert Young

State of  Maryland

277

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
ENVIRONMENTAL HEALTH ADMINISTRATION

201 WEST PRESTON STREET
BALTIMORE 21201
PHONE • 301 383 2770

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

DONALD H. NOREN
DIRECTOR

Address Replied to P.O. Box 13387
Baltimore, Maryland 21203

July 11, 1975

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

Dear Mr. Carponeschi:

Re: Md. Rte. 43 (White Marsh Blvd) from I-95 to Proposed Perring Freeway.

The Bureau of Air Quality and Noise Control (BAQNC) has received the copy of the Air Quality Analysis for White Marsh Boulevard which you transmitted with your letter of June 17, 1975. We have reviewed the report and have the following comments.

Almost the entire analysis was devoted to calculations of carbon monoxide concentrations. It is true that it is easier to model carbon monoxide because it is relatively inert. Hydrocarbons, nitrogen oxides and photochemical oxidants are reactive and require special modelling techniques. The consultant on this project performed an emissions burden analysis for hydrocarbons and nitrogen oxides in lieu of diffusion modelling. This is usually acceptable. The calculation of hydrocarbon emissions can be used as an indication of the effect on photochemical oxidant concentrations.

This analysis, however, makes no mention at all of photochemical oxidant. Ambient air quality standards for this pollutant are currently being exceeded in the Baltimore region and yet the report does not note this fact. An air quality analysis for a major highway project in the Baltimore area should include this information and its omission is a serious oversight. Even a qualitative discussion of the problem is preferable to ignoring it.

In addition, the transportation control plan which was promulgated in Baltimore by the EPA should also be described and its impact on emissions assessed. The calculations in the analysis are based on the data in the Baltimore Regional Environmental

JANATA
KOLLEP
SCHULDER
GIL
THE

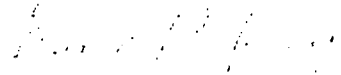
Mr. Eugene T. Casponeschi
July 11, 1975
Page 2

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Impact Statement which did not consider the effect of the control plan.

Thank you for this opportunity to offer our comments. I hope they will prove useful.

Sincerely yours,



George P. Ferrari, Director
Bureau of Air Quality and
Noise Control

GFF:AMD:se:

cc: John Collins, Environmental Protection Agency
Bill Phillips, Baltimore County Health Department

ALBANY REGION
FRODOBILITATING

075 01 11 PM 12 05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

August 12, 1975

ADDITIONAL COPY
PROJECT TRAINING

2
075 JUN 29 PM 1 35

279

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

Re: Maryland Route 210; Old Fort Road to Charles County Line Road
Maryland Route 43 (White Marsh Boulevard); I-95 to Proposed
Perring Freeway

Dear Mr. Hajzyk:

We appreciate the opportunity to review the Supplementary Air Analysis documents for the above referenced projects. We have no objections to the methodology utilized nor do we see serious air quality impacts related to either project at this time.

Nonetheless we will review both projects for all environmental impacts (including those on air quality) for which EPA has review responsibility when the final Environmental Impact Statements are circulated. We would appreciate receipt of a copy of the final statement for each project at such time as they are filed with the Council on Environmental Quality

Sincerely yours,

Nicholas M. Ruha
Chief
EIS and Wetlands Review Section

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0.0 Summary

This report evaluates present and future air quality in the area of the proposed construction of Maryland Rt. 43, White Marsh Blvd. The pollutants evaluated are nitrogen dioxide (NO₂), hydrocarbons (HC), and most importantly, carbon monoxide (CO). Section 1 of the analysis is concerned with the present air quality in the White Marsh area, section 2 projects ambient CO levels for 1979 and 1999 under the assumption that Rt. 43 is not constructed. Section 3 provides a detailed line source modeling of CO levels due to the proposed construction for the several alternative alignments of Rt. 43, while section 4 estimates the pollution load for carbon monoxide, hydrocarbons and nitrogen oxides, under the "build" and "no build" options. The results of each section are briefly summarized below.

0.1 Ambient Air Present

Data from existing air monitoring stations are used to estimate the present air quality in the White Marsh area. Carbon monoxide and nitrogen dioxide levels are found to be well within the Maryland and federal standards (Sections 1.1 and 1.2). The 6-9 a.m. non-methane hydrocarbon levels are presently exceeding state and national standards. (Section 1.3). Maximum 1hr. avg. CO levels are given in table 1 on the following page.

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0.2 Ambient CO Levels - Future

The Air Quality Section of the Baltimore Regional Environmental Impact Statement (BREIS) was used as the basis for a roll-back projection of future CO levels in the White Marsh area, in the absence of the construction of Rt. 43. (Section 2).

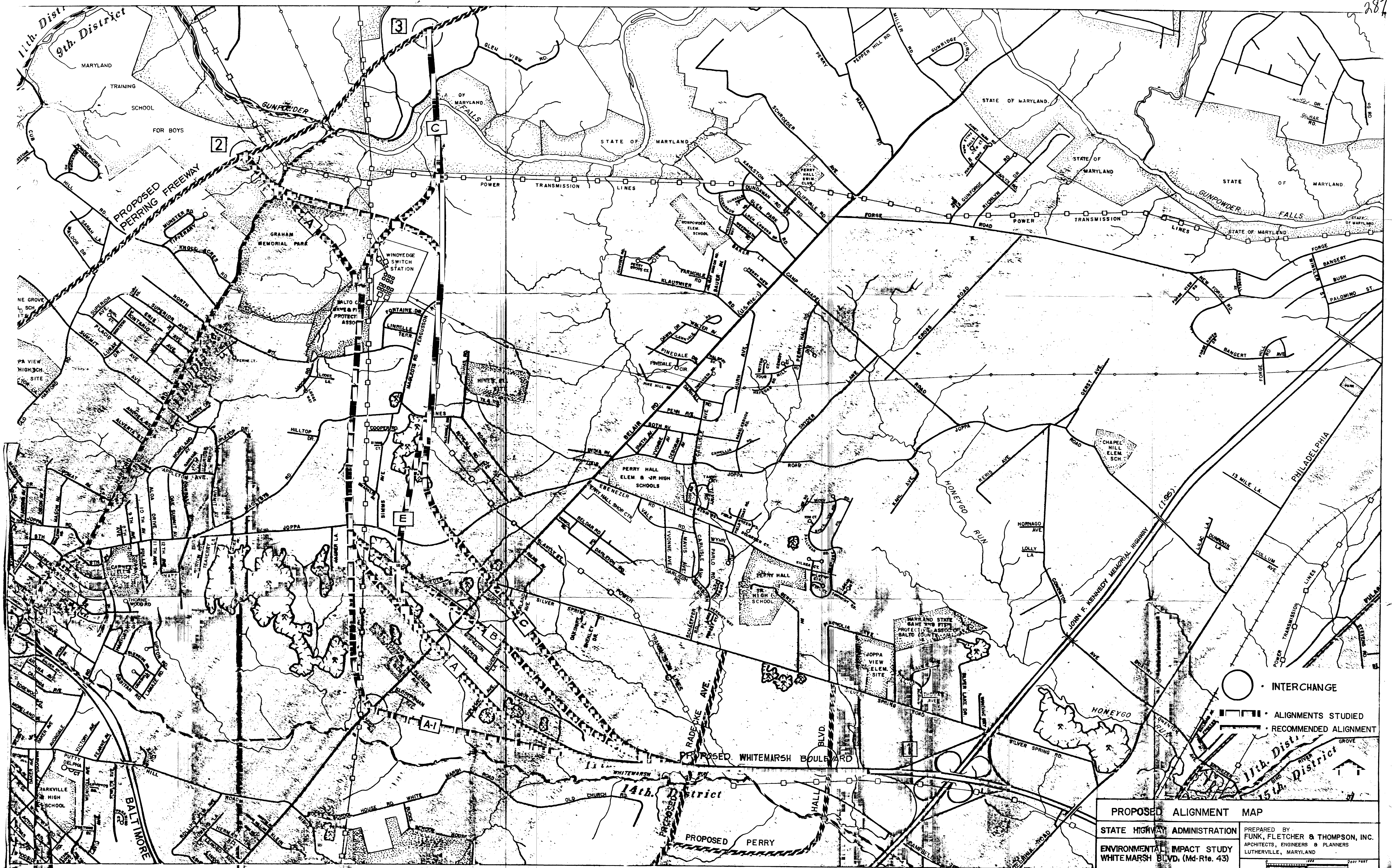
The maximum 1hr-average CO level is projected to be 7ppm in 1979 and 5ppm in 1999. The maximum 8hr-average CO level is projected to be 5ppm in 1979 and 3ppm in 1999. These levels may be compared to federal and Maryland state standards for a maximum 1hr CO level of 35ppm and maximum 8hr CO level of 9ppm to be exceeded no more than once a year.

Table 1: Ambient CO levels in the White Marsh Area. (ppm)

	Present*	1979**	1999**
1 Hr. Maximum	12	7	5
8 Hr. Maximum	8	5	3

*Estimated on the basis of Maryland Bureau of Air Quality published measurements from Goucher monitoring station⁽⁴⁾

**Projected by rollback calculation using the CO emissions inventory from the BREIS.⁽⁵⁾



PROPOSED ALIGNMENT MAP
 STATE HIGHWAY ADMINISTRATION
 ENVIRONMENTAL IMPACT STUDY
 WHITEMARSH BLVD. (Md-Rte. 43)

PREPARED BY
 FUNK, FLETCHER & THOMPSON, INC.
 ARCHITECTS, ENGINEERS & PLANNERS
 LUTHERVILLE, MARYLAND

0.3 CO Levels due to White Marsh Blvd.-Rt. 43

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Levels were evaluated using the Environmental Protection Agency (EPA) computerized line source model. Maximum 1hr. average levels due to Rt. 43 were calculated for class F stability and a wind velocity of 1 m/sec. The maximum facility related 1hr. edge of right-of-way level for the most unfavorable wind direction and for the heaviest traveled section of Rt. 43 is found to be 2.3ppm in 1979 and 0.9ppm in 1999. Maximum at-grade levels were evaluated at successive distances from the edge of right-of-way until these levels became insignificant relative to the ambient levels. Figures 1 and 2 compare these results to the ambient and standard levels for 1979 and 1999 respectively. The results shown in Figs. 1 and 2 are for the heaviest traveled sections of Rt. 43 and therefore represent the maximum levels to be expected from the proposed project. The angular study showed that a wind direction of 20° relative to Rt. 43 gave the highest concentrations at the edge of the 300' minimum right-of-way. At distances greater than 1600 ft. from the highway, a 90° wind angle produces the greater levels.

The facility related levels at twelve receptors due to the five Rt. 43 alternative alignments were also calculated. The three most probable wind directions for class F stability were used in the calculations. These wind directions are west, north by north east and south east.

This study found alternative AE and C to be somewhat more favorable than alternatives A, A1 or B. (See figure 5, section 3 for identification of alternatives and receptor locations.) If AE or C is constructed the maximum 1hr. CO levels due to Rt. 43 will be between 0 and .16ppm in 1979

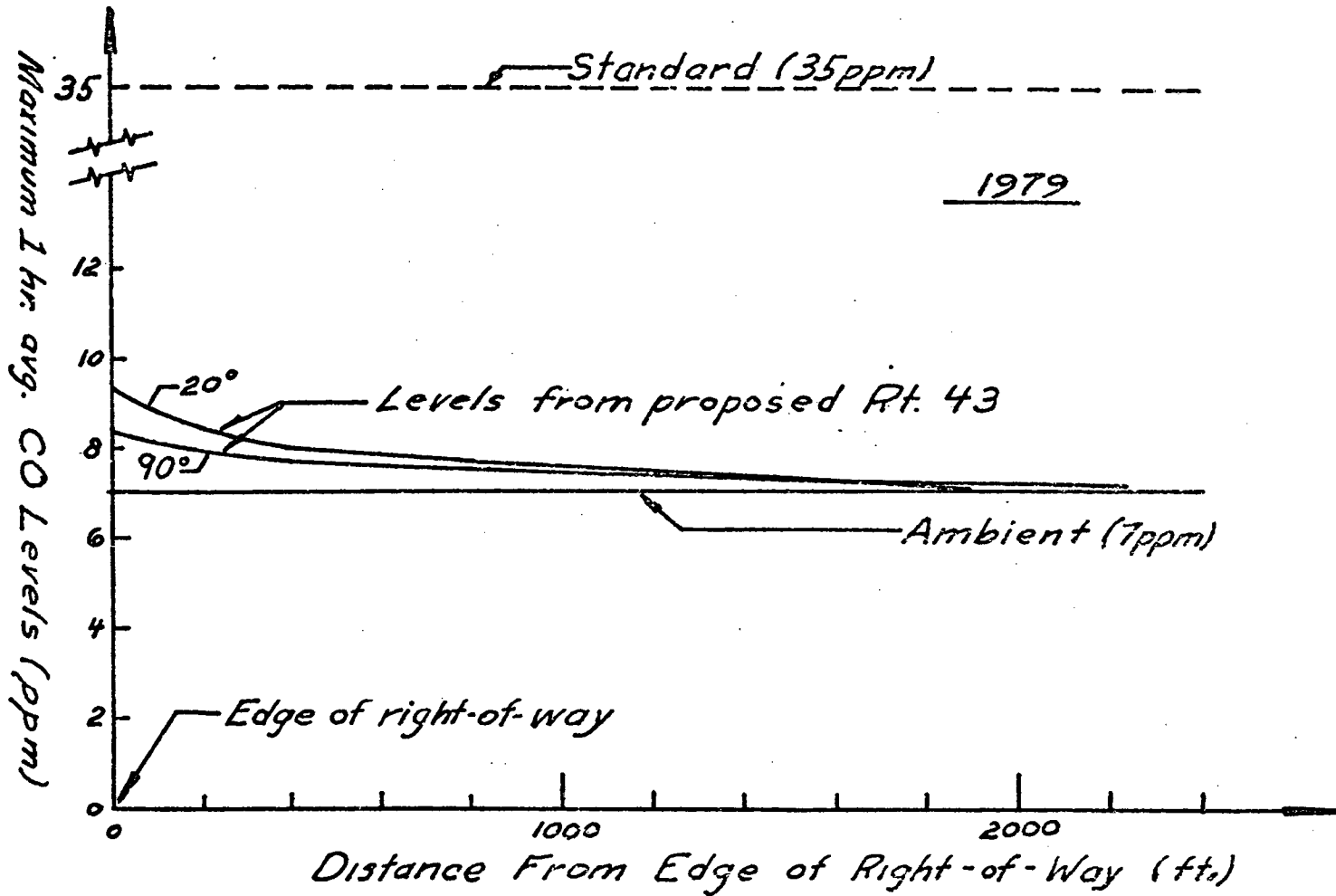


Figure 1. Maximum 1 Hr. Avg. CO Levels for 1979. Rt. 43 levels for class F stability, wind velocity of 1m/sec. at 20° and 90° relative to Rt. 43.

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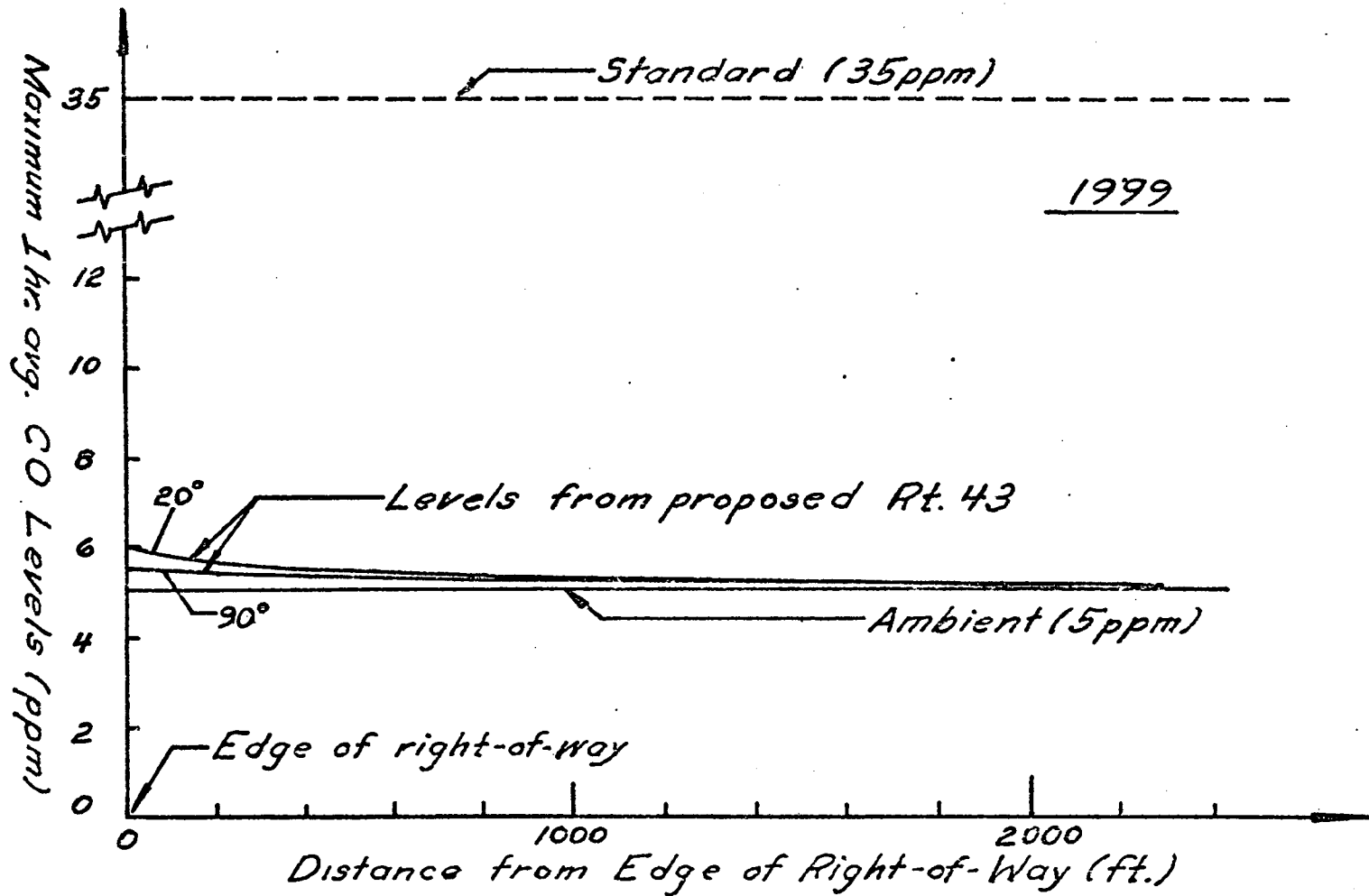


Figure 2: Maximum 1 Hr. Avg. CO Levels for 1999. Rt. 43 levels for class F stability, wind velocity of 1 m/sec. at relative angles of 20° and 90° to Rt. 43.

200

and between 0 and .07ppm in 1999 for the seven most sensitive receptors. [These receptors are numbered 1 through 7 on Fig. 5 and are the location of existing or planned school sites, a park, and a game and fish protectorate]. If alternatives A, A1 or B which terminate at location 2 at the Proposed Perring Freeway (See Fig. 5) is constructed, the levels at these same receptors will lie between 0 and .19ppm in 1979 and between 0 and .08ppm in 1999. If alternatives A, A1 or B which terminate at location 3 on the proposed Perring Freeway is constructed, the levels will be the same as above except for receptor 3 for a NNE wind, where levels will reach .9ppm in 1979 and .35ppm in 1999.

An angular study in wind direction at the most sensitive receptor, St. Josephs school found maximum 1hr. levels at that receptor due to Rt. 43, to be .5ppm or less in 1979 depending upon which alternative alignment is chosen [This level would be .2ppm or less in 1999]. CO levels at this receptor are also shown to be dominated by Rt. 1 and a 3 to 5% reduction in levels at receptor 1 due to Rt. 1 would be realized if Rt. 43 is constructed, due to reduction or traffic in Rt. 1.

Maximum 1hr levels along the edge of right-of-way at the intersection of Rt. 1 and Rt. 43 are also evaluated in section 3. The maximum 1hr levels are 2.7ppm or less in 1979 and .9ppm or less in 1999.

0.4 Maximum total 1hr and 8hr CO levels

The above results when added to the ambient levels projected from section 2.0 find that maximum 1hr levels at the most sensitive receptor, St. Josephs school are found to be 7.5ppm or less in 1979 and 5.2ppm or less in 1999.

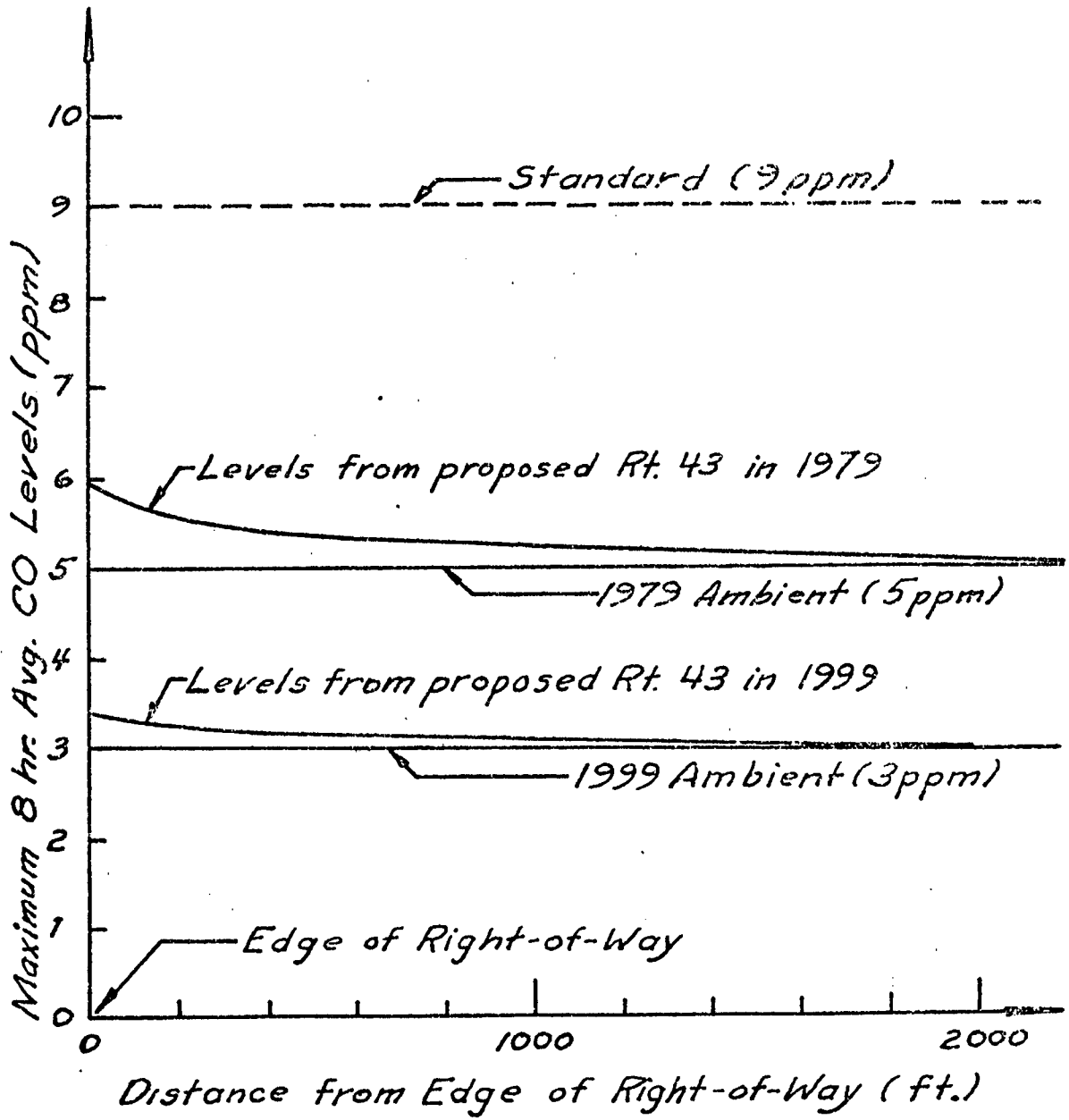


Figure 3: Maximum 8Hr. Avg. CO Levels for 1979 & 1999.

Maximum (total) one hour levels at the seven most sensitive receptors, for west, north-by-northeast, or south winds will be 7.2ppm or less in 1979 and 5.1ppm or less in 1999, except for receptor 3. At this receptor, levels would be 7.9ppm in 1979 and 5.4ppm in 1999 for a north-by-northeast wind, if any of the alternatives A, A1, or B which terminate at location 3 on the proposed Perring Freeway are constructed.

Maximum total edge of right-of-way levels for Rt. 43 are projected to be 9.3ppm in 1979 and 5.9ppm in 1999, if constructed.

The levels are to be compared to federal and Maryland state standards of maximum 1hr average CO levels of 35ppm, to be exceeded no more than once a year.

Maximum 8hr edge of right-of-way levels due to Rt. 43 are found to be .9ppm in 1979 and .4ppm in 1999. The maximum total 8hr. levels at the edge of right-of-way of Rt. 43 are projected to be 5.9ppm in 1979 and 3.4ppm in 1999. The 8hr modeling was carried out on an hour-by-hour basis for class D stability and a wind velocity of 2 m/sec. for hours between noon and 5 p.m. and for class F stability and a wind velocity of 1 m/sec. for hours between 5p.m. and midnight. The wind direction was 20°, which is the angle that gave the highest 1hr. edge of right-of-way levels. The diurnal hourly traffic is given in table 9 of section 3 of this report.

Maximum at-grade 8hr levels were also evaluated at successive distances from the edge of right-of-way. The result of this modeling and comparison to ambient and standard levels is summarized in Figure 3.

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0.5 CO, HC and NO_x Emissions

Emissions are calculated for Rt. 43 and the major roads in the White Marsh area. Under the "build" alternative loads due to Rt. 43 are as follows: CO emissions would be 1.7 tons/day in 1979 and 0.5 tons/day in 1999; NO_x emissions would be 0.2 tons/day in 1979 and 0.08 tons/day in 1999; daily 6-9 a.m. hydrocarbon emissions would be 0.029 tons in 1979 and 0.009 tons in 1999.

1.0 Ambient Air Present

Proposed White Marsh Blvd. is in a suburban, non-industrialized location to the N.E. of Baltimore City. There are no existing permanent air pollution monitoring stations in the immediate vicinity of the proposed project. However, there are air monitoring stations in the Baltimore area which may be used to estimate the ambient levels expected at White Marsh. The pollutants for which ambient levels are needed are carbon monoxide (CO), nitrogen dioxide (NO₂) and 6-9 a.m. non-methane hydrocarbons (HC).

The monitoring sites used for establishing the ambient air pollution levels are discussed below. The use of each station has been reviewed and approved by the Maryland Bureau of Air Quality Control, and was discussed with a representative of the U.S. Environmental Protection Agency.^{1,2,3} All of the data presented in this report was obtained from the Maryland Bureau of Air Quality Control. Most of the basic raw data for 1973 has been reduced and analyzed in this work. The 1972 data in this report are used in the reduced form as published in the Maryland Bureau of Air Quality report for 1972,⁽⁴⁾ The 1973 and first quarter 1974 data are also available in published form from the Maryland Bureau of Air Quality Control.⁽⁴⁾

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1.1 Carbon Monoxide - Ambient Levels Present

The White Marsh CO levels are estimated from measurements made at the Goucher College monitoring station. The Goucher Station is located in a heavily treed, suburban setting on the northern edge of the city of Baltimore. The monitoring site is sufficiently removed from the I695, (Baltimore Beltway) and other thoroughfares so that the ambient levels measured there would not be affected by traffic on these roads. The measurements made at Goucher are representative of non-industrial Baltimore area suburban levels, and should well approximate the levels to be found at White Marsh. The accumulative frequency distribution of hourly CO readings for 1973 is presented in table 2.

It is observed that there were no violations of the national or Maryland state CO standard during the 1973 year measured at the Goucher Station. (See Table 3). This means that there was no 1hr. average peak CO level in excess of 35ppm or 8hr. average CO level in excess of 9ppm in 1973. The arithmetic mean level in 1972 was 3ppm and in 1973 was 1ppm.

1.2 Oxides of Nitrogen - Ambient Levels Present

To estimate the existing ambient NO₂ levels in the White Marsh area, the average of measurements made at Cockeysville and Middle River stations were used. These two stations are in suburban locations and should give good estimates of NO₂ levels in the White Marsh area. The cumulative frequency distribution derived from these measurements is presented in table 4. The annual arithmetic mean for the White Marsh

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Table 2: Cumulative Frequency Distribution for 1 Hour Average CO Levels*

Season	No. obs.	10	30	50	70	90	95	99	99.9	Arith. Mean	Std. Dev.
Winter	1612	0.0	0.0	0.2	0.7	2.5	3.6	6.6	10.4	1.2	1.5
Spring	1540	0.0	0.0	0.0	0.1	1.0	1.5	2.9	5.6	0.5	0.8
Summer	749	0.0	0.0	0.0	0.1	1.3	2.2	4.3	6.2	0.6	1.0
Fall	1647	0.0	0.0	0.0	0.5	2.2	3.4	6.4	9.4	0.9	1.5
Year	5548	0.0	0.0	0.1	0.4	1.8	2.8	5.2	8.2	0.8	1.2

Table 3: Estimated Maximum 1 Hour and 8 Hour Average CO Levels for 1973.

Season	Arith. Mean* of 1 hour readings	1 hour** Avg. Max	8 hour** Avg. Max	#1 hour Avg. readings greater than 35	#8 hour Avg. readings greater than 9
Winter	1.2	12	8	0	0
Spring	.5	6	3	0	0
Summer	.6	6	4	0	0
Fall	.9	10	7	0	0
Year	.8	12	8	0	0

*Data from 1973 1 hour readings at Goucher College Station
 **Rounded to nearest whole number

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Table 4: Estimated Ambient NO₂ Levels for White Marsh Area (ppm)*

No. obs.	Cumulative Frequency Distribution %								Max	Annual Arith Mean	Std. Dev.
	10	30	50	70	90	95	99	99.9			
Year	.004	.007	.016	.021	.033	.038	.054	.054	.054	.016	.013

*Based on the average of the readings at the Cockeysville and Middle River Maryland Monitoring stations for the year 1973.

Table 5: Estimated Ambient Non-Methane Hydrocarbon Levels for the White Marsh Area (ppm)*

Period	No. obs.	Arith. Mean	Max. 1 Hr. Avg.	Max. 6-9 am Avg.	No. of Days with 6-9 am Avg. Greater than 0.24
Fourth Quarter (1973)	325	1.6	3.9	3.3	5
First Quarter (1974)	767	.6	4.3	1.8	29

*Based on 1hr. readings at Goucher College Station.

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area is estimated from this data to be .016ppm. This is to be compared to the national and Maryland state standards which requires the annual arithmetic mean to be below .05ppm.

1.3 Hydrocarbons: - Ambient Levels Present

The federal and state standards for hydrocarbons are written in terms of the 6-9 a.m. non-methane hydrocarbon levels. Non-methane hydrocarbon levels have only recently been monitored at outer urban stations. Data are available from Goucher station for the last quarter of 1973 and the first quarter of 1974. These data are used to estimate non-methane levels in the White Marsh area. Total and non-methane hydrocarbon levels tend to be higher during the first and fourth quarters, so that the data in table 5 are meaningful in estimating the higher ambient levels to be expected in the White Marsh area. The present 6-9 a.m. average levels are frequently exceeding the federal and state standard of 0.24ppm.

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2.0 Ambient CO Levels - Future

Future CO levels have been projected on the basis of data presented in the Baltimore Regional Environmental Impact Study, hereafter referred to as the BREIS. Volume 3 of the BREIS contains an extensive evaluation of the air quality in the Baltimore area for the years 1970 through 1975. (5) In the report projections on Baltimore air quality are made for "build" and "no build" alternatives for the Baltimore 3-A system, a series of interconnecting highways in the city of Baltimore. The CO emissions inventory presented in Figure II-1, p II-4 of the BREIS is used as the basis of a rollback calculation to project future CO in 1979 and 1999 in the White Marsh area. These data, along with supplemental data on mobile emissions from Fig. VI-1, p VI-13 were used to develop the curves shown in Figure 4 of this report. Extrapolation of the BREIS data to the year 1999 was made by assuming a 3%/year growth in automotive emission and 2%/year growth in area source emission past 1995. The maximum 1hr and 8hr average CO levels were estimated at 12ppm and 8ppm respectively in section 1.1 of this report for 1973. The future year maximum CO levels are calculated by assuming these levels are directly proportional to the projected change in CO emissions shown in figure 4. The result of this calculation yields projected ambient maximum 1hr. average CO levels of 7ppm in 1979 and 5ppm in 1999 and projected maximum 8hr average levels of 5ppm in 1979 and 3ppm in 1999. [These results have been summarized in Table 1. on p2.]

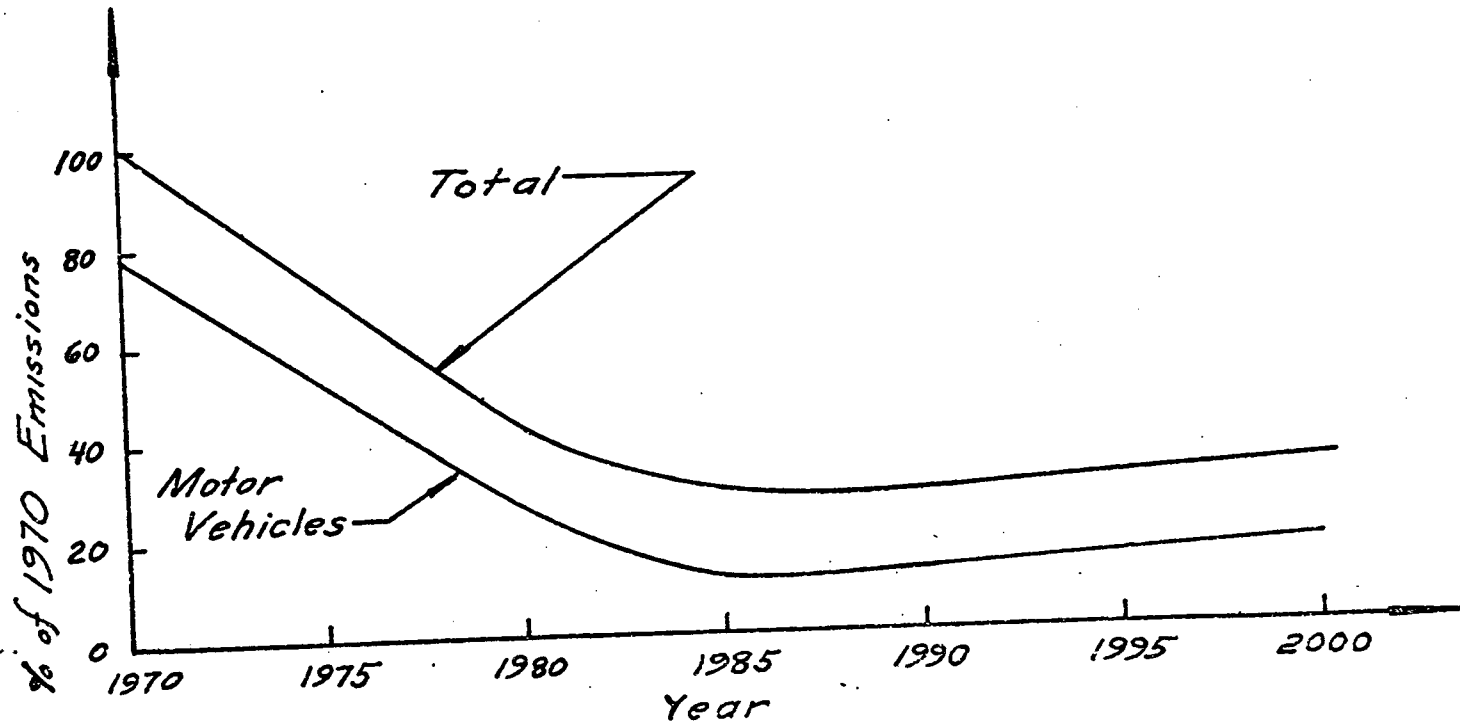


Figure 4: Projected CO Emissions as a Percent of Emissions in 1970.

Developed from the emissions inventory and other data contained in Vol. 3 of the BREIS. (see text)

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3.0 Projection of CO Levels for the White Marsh Blvd. Highway

3.1 Modeling Technique

The E.P.A. line source model was used to project the CO emissions in the Whitemarsh area. This model is computerized, carries the name "HIWAY" and is available directly from NTIS on magnetic tape. In brief, the model computes CO concentrations in the vicinity of a roadway assuming a gaussian plume dispersion from a highway line source.

The model calculates the downwind concentration at up to twenty-five receptors on the basis of the following input data:

- i) Number and width of vehicle lanes.
- ii) Meteorological conditions: Entered as an index from 1 to 6 based on the following table:

Stability Class	Computer Index
Extremely unstable	A 1
Unstable	B 2
Slightly unstable	C 3
Neutral	D 4
Slightly stable	E 5
Stable	F 6
- iii) Direction and velocity of wind.
- iv) Emission rate in grams/(second-meter) per lane of travel.
- v) Height and location of receptor(s) relative to the highway section.

Figure 5 on the following page shows the location of the various receptors and the alternative highway sections considered. The highway alternatives were further broken down into a series of line elements for purposes of modeling. The twelve receptors are located by the encircled

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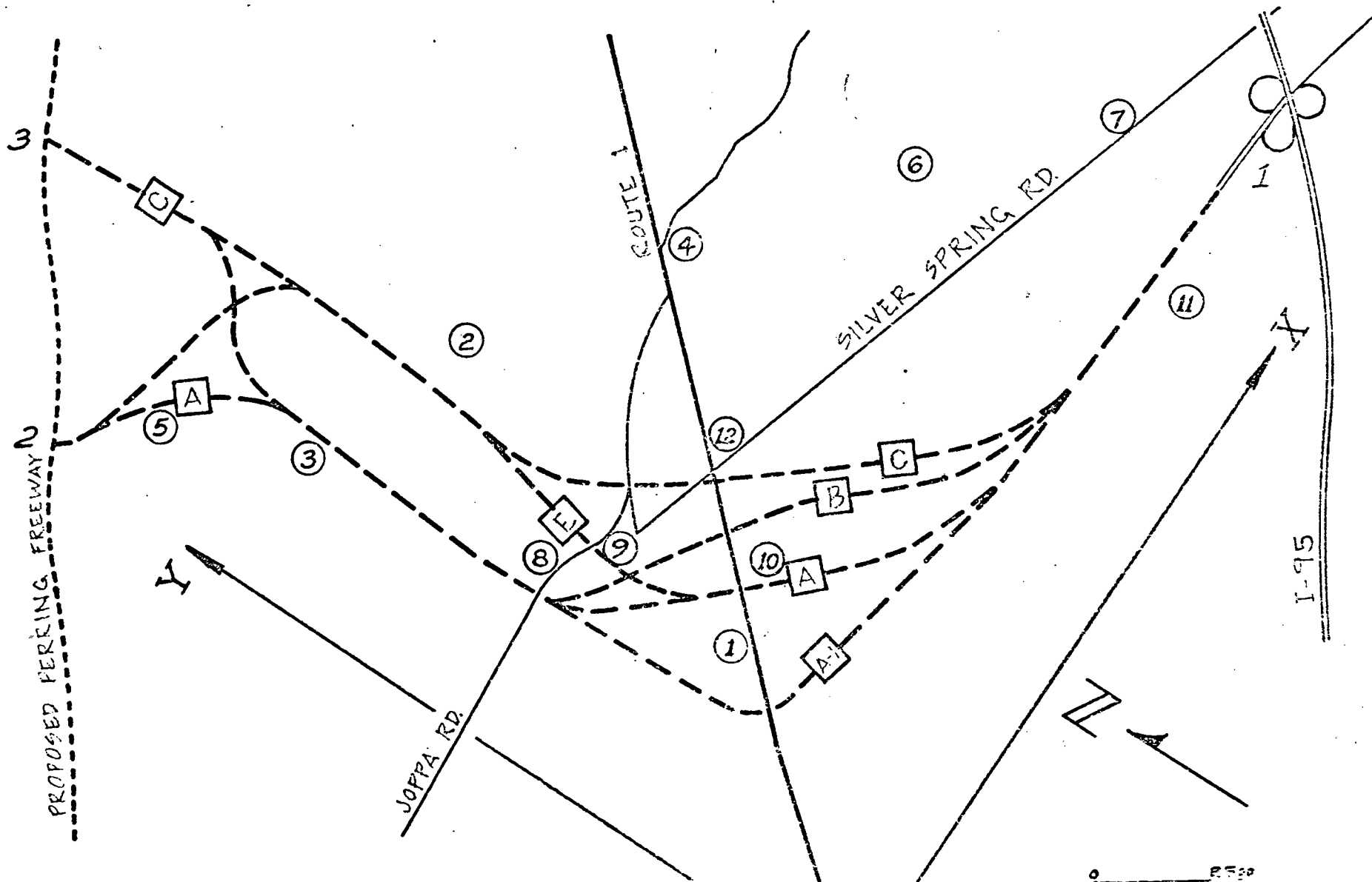


FIG. 5 - ALTERNATIVE ROUTES FOR WHITE MARSH
BLVD AND RECEPTOR LOCATIONS

O - Denotes Receptor

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Table 6: Receptor Location, Altitude and Index

Receptor Index	Receptor Name	X Coord (ft)	Y Coord (ft)	Elevation (ft)
R ₁	St Joseph's School	3,800	4,700	253
R ₂	Hines Elementary School Site	5,750	11,900	270
R ₃	Baltimore Game & Fish Protectorate	2,550	13,200	280
R ₄	Perry Hall Elementary & Jr H.S.	9,400	9,600	240
R ₅	Graham Memorial Park	1,050	15,900	340
R ₆	Perry Hall Senior H.S.	12,000	6,950	130
R ₇	Joppa View Elementary School Site	15,500	4,300	120
R ₈	Joppa Rd & Simms Ave (house)	3,400	8,300	320
R ₉	Joppa Rd 850' E of Rt 1 (house)	4,050	7,750	300
R ₁₀	Necker Ave, 300' E of Rt 1 (house)	5,250	5,500	220
R ₁₁	Proposed Shopping Center	13,500	1,550	95
R ₁₂	Rt 1, 250' N of Silver Spring Rd (house)	6,400	7,050	220

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numbers and are listed in Table 6 with their x and y coordinates relative to the chosen (0,0) reference point at Rt. 1 and Lenord Avenue.

Using the appropriate input data discussed in sections 3.2 and 3.3, the concentration of CO at each receptor was calculated for the several alternatives.

When more than one road or section contributes to the pollution of a given receptor, a linear superposition of the contributions from each is assumed. A linear superposition of pollution from crossing or intersecting roads is also assumed.

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3.2 Meteorological Conditions

The stability wind rose data for the hours of noon to 9 p.m. for 1973 were obtained from the Maryland Bureau of Air Quality Control and are given in appendix 1. This data is summarized in table 7. It is apparent that class D stability dominates the area with relatively strong westerly winds. The worst conditions for pollution build-up come under class F stability which shows a frequency of occurrence of about 9%. The wind rose for class F is presented in Fig. 6

It is on the basis of this data that the Maryland Bureau of Air Quality recommended the maximum one hour CO levels be modeled under class F stability and wind velocity of 1m/sec. The line source modeling was carried out for the following conditions for all receptors:

Case	Stability Class	Wind Vel.	Wind Dir.
Typical	D	5.4 m/sec.	270° (W)
Worst	F	1.0 m/sec.	270° (W)
Worst	F	1.0 m/sec.	25° (NNE)
Worst	F	1.0 m/sec.	140° (SE)

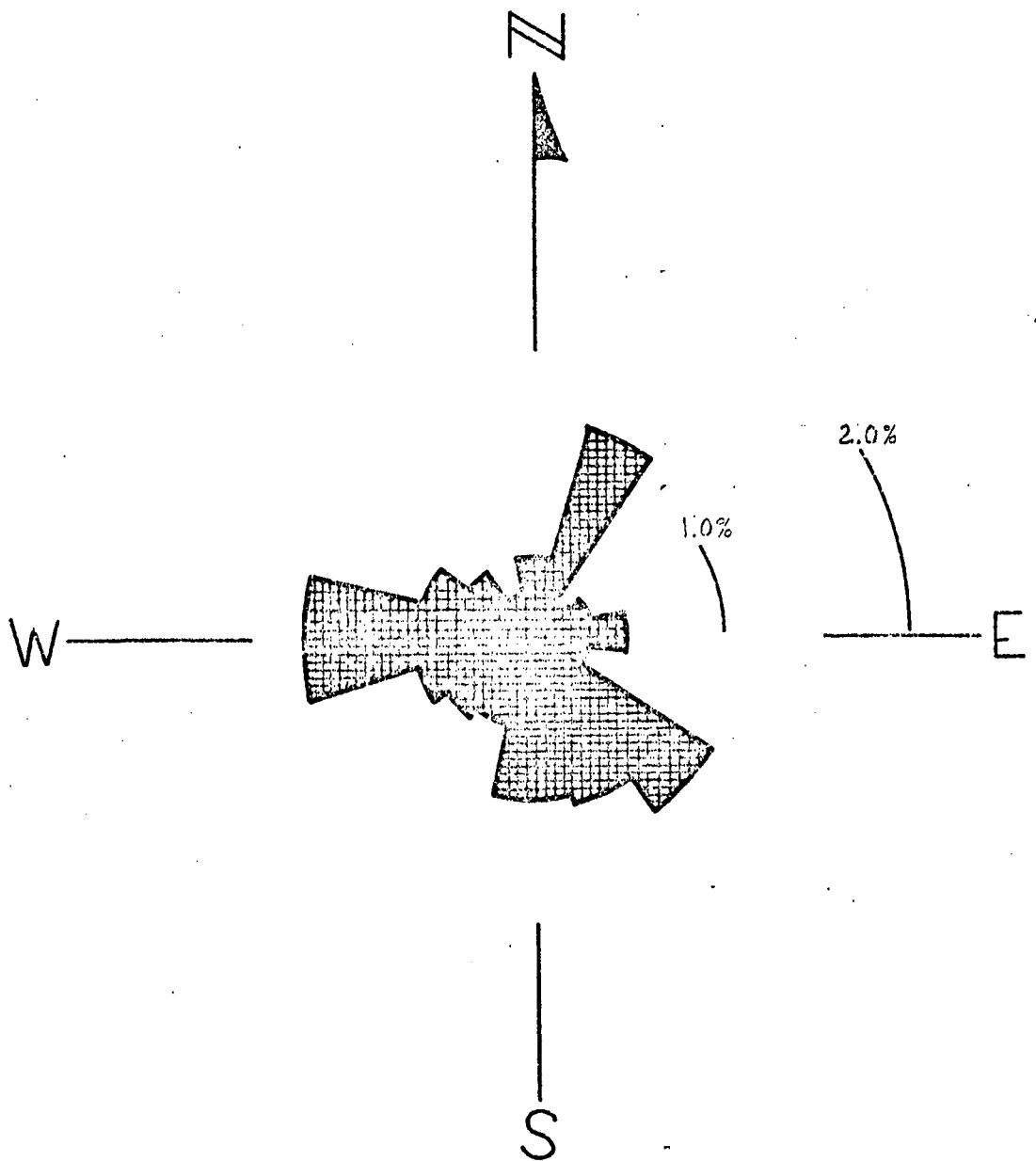
For the case of the most sensitive receptor, class F stability and a wind velocity of 1 m/sec. was again assumed, however, many wind directions were analyzed to determine the worst conditions as discussed in section 3.41.

For the maximum 8 hour modeling, D stability with a wind velocity of 2 m/sec. for the hours of noon to 5p.m., and F stability at 1 m/sec. for the hours of 5p.m. to midnight was assumed (See Section 3.5).

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Table 7 : Frequency of Occurrence of Stability Class
for Hours Noon to 9 p.m.

Stability Class	% Occurrence	Avg. Wind Velocity (knts)
A	.7	4.3
B	5.9	6.2
C	16.2	8.7
D	57.0	11.1
E	11.2	5.4
F	8.9	4.3



$\bar{V} = 4.3$ KNTS.

FIG. 6 ~ WIND ROSE FOR CLASS F STABILITY

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3.3 Traffic and Emission Data

3.31 Traffic Volume

Fig. 7 is a map of the major roads which would be affected by the White Marsh project. The volume of traffic on each of the roads has been projected by the Maryland State Highway Administration, Bureau of Urban and Regional Liaison, Traffic Planning Section. Table 8 lists the volumes on the various sections for the build and no-build alternatives for 1979 and 1999.

Table 9 gives the diurnal traffic curve for an average day of the year. The design and peak hourly volume is taken as 11% of average daily traffic (ADT) on the basis of this curve. The percent of trucks is projected as 8% of ADT and 4% of the design hourly volume. The Maryland Highway Administration does not have information as to the relative number of gasoline and diesel powered trucks. For the calculations in this report, the truck emissions are assumed to be due to diesel powered vehicles.

3.32 Emission Factors

In modeling the effects of the Whitemarsh project, it is appropriate to use "running" rather than "round trip" vehicular emission factors. The Maryland Bureau of Air Quality Control developed such factors, which are presented in the technical memo "Method for Estimating Light Duty Vehicle Emission on a Sub-Regional Basis".⁷

The running emissions for LDV were calculated from the equation:

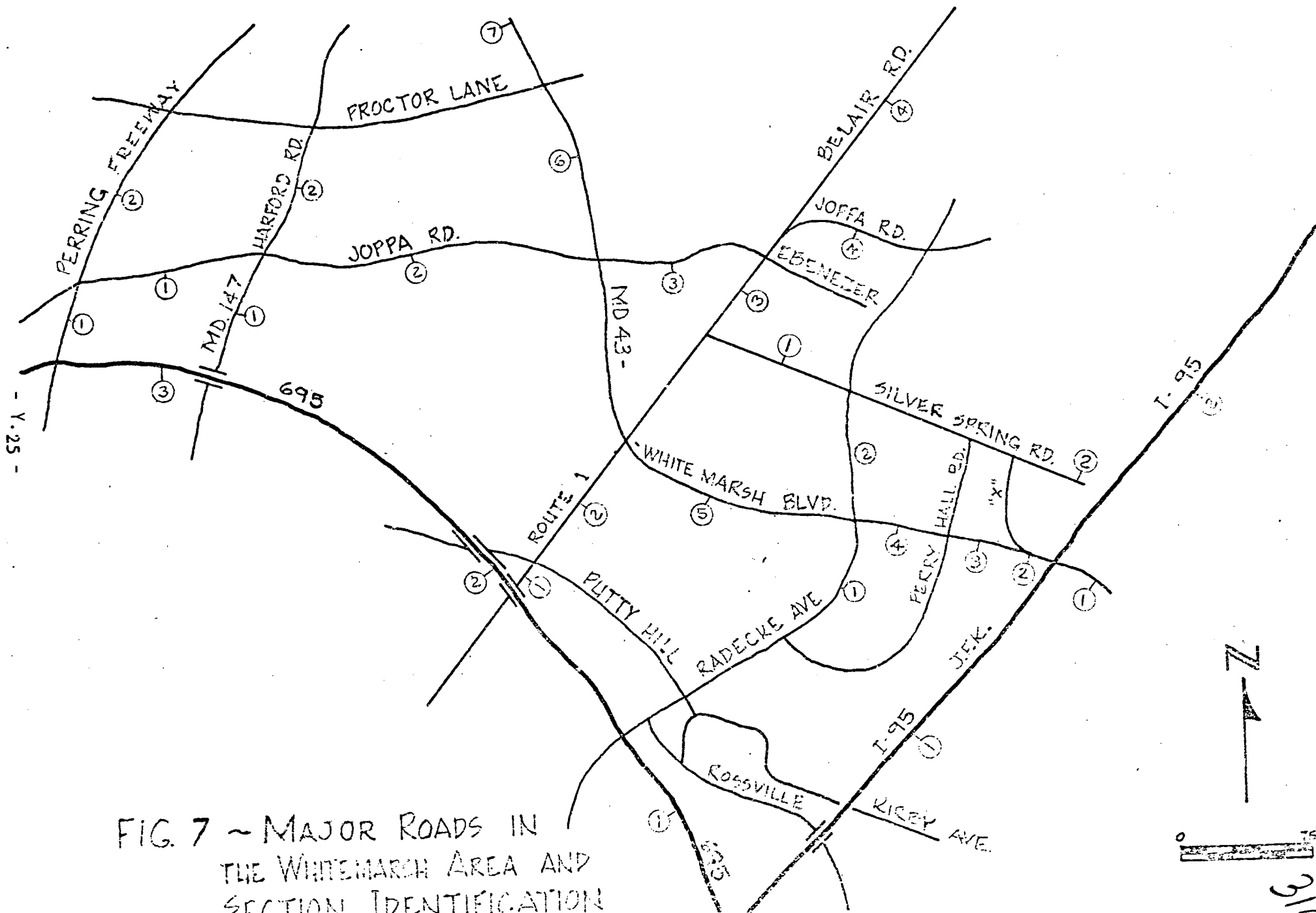


FIG. 7 ~ MAJOR ROADS IN
 THE WHITEMARSH AREA AND
 SECTION IDENTIFICATION

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Table 8: Traffic volume on Whitemarsh area roads by section for base year, 1979 and 1999.

Road Section(s)*	Approx. length (ft)	Base Yr (1972-1973)	Volume (ADT)				
			1979		1999		
			No Build	Build	No Build	Build	
I-695	(1)	7,200	66,400	90,700	88,000	171,900	160,000
	(2)	14,000	70,000	89,000	87,000	152,500	144,000
	(3)	6,000	72,000	91,850	90,000	158,000	150,000
I-95	(1)	14,400	50,300	63,600	63,600	108,100	108,100
	(2)	13,000	42,000	53,330	53,300	91,000	91,000
U.S. Rt 1 (Belair Rd)	(1)	5,000	27,900	31,800	31,200	44,600	42,000
	(2)	4,500	25,500	29,300	28,500	42,000	40,000
	(3)	6,000	24,400	27,300	26,800	37,100	35,000
	(4)	10,000	34,000	37,500	35,800	49,000	42,000
MD. 147 Harford Rd	(1)	6,000	20,200	23,800	10,900	36,000	17,000
	(2)	11,000	10,000	11,800	10,900	18,000	17,000
Perring Freeway	(1)	4,000	19,200	22,800	24,200	35,000	41,000
	(2)	14,000			11,200		23,000
Joppa Rd	(1)	5,600	12,900	16,400	15,700	28,000	23,000
	(2)	9,000	16,200	18,000	17,000	24,200	21,000
	(3)	4,500	15,500	17,400	13,700	23,850	19,500
	(4)	6,000	4,000	4,700	4,400	7,000	6,500
Silver Spring Rd	(1)	4,800	2,300	4,100	4,400	10,000	12,000
	(2)	6,000	1,200	1,800	1,800	3,850	3,850
MD. 43 (White Marsh Blvd)	(1)	1,800	11,800	15,100	20,700	26,000	33,000
	(2)	1,200			26,100		43,000
	(3)	1,800			24,600		40,000
	(4)	1,800			19,700		32,000
	(5)	7,200			15,000		25,000
	(6)	9,600			12,000		19,200
	(7)	6,400			10,900		18,000
Putty Hill	(1)	15,000	3,500	4,500	4,400	7,800	7,600
Radecke Ave	(1)	12,000			13,800		30,000
	(2)	9,500			12,700		28,000
Perry Hall Road	(1)	3,100			6,500		15,000
	(2)	6,000			12,400		27,000
Road "X"	(1)	3,000			1,500		3,000

*See Fig. 1

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Table 9 Diurnal Traffic Curve for Average
Day of Year

Hour	%
12 - 1 a.m.	1.81
1 - 2 a.m.	1.16
2 - 3 a.m.	.93
3 - 4 a.m.	.60
4 - 5 a.m.	.56
5 - 6 a.m.	1.25
6 - 7 a.m.	4.31
7 - 8 a.m.	7.37
8 - 9 a.m.	5.85
9 - 10 a.m.	4.34
10 - 11 a.m.	4.20
11 - 12 noon	4.44
12 - 1 p.m.	4.72
1 - 2 p.m.	4.89
2 - 3 p.m.	5.39
3 - 4 p.m.	6.51
4 - 5 p.m.	10.64
5 - 6 p.m.	7.83
6 - 7 p.m.	5.63
7 - 8 p.m.	4.74
8 - 9 p.m.	3.84
9 - 10 p.m.	3.65
10 - 11 p.m.	2.88
11 - 12 midnight	2.46
	<u>100.00</u>

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Table 10: Running emission factors. From Table IX, interim standard extended 1 yr., per Emergency Energy Act, velocity correction factors from Table XI. BAQC-TM 73-107A.

Model Year	CO Emission (gm/mi)		
	20 mph	35 mph	55 mph
1967 & earlier	71.1	48.4	39.1
68 thru 71	22.4	17.2	14.1
72 thru 74	12.3	9.5	7.8
75 & 76	6.2	6.2	6.2
77 & later	.9	.9	.9

Table 11: Running Carbon Monoxide Deterioration Factors For Gasoline Engine Light Duty Vehicles⁽¹⁾

Model Year	Years in Service ⁽²⁾									
	0	1	2	3	4	5	6	7	8	9 & older
1967 & earlier	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1968	1.00	1.24	1.35	1.41	1.47	1.53	1.58	1.63	1.67	1.72
1969	1.00	1.42	1.53	1.59	1.63	1.68	1.71	1.75	1.79	1.82
1970-74	1.00	1.18	1.32	1.38	1.40	1.44	1.47	1.50	1.51	1.56
1975-76 ⁽³⁾	1.00	1.04	1.30	1.36	1.43	1.44	1.49	1.56	1.63	1.69
1977 & later ⁽³⁾	1.00	1.16	1.34	1.50	1.62	1.75	1.88	2.00	2.10	2.22

(1) Based on State of California surveillance data, compiled by EPA in AP-42, 2nd Edition, Supplement 2, Table 3.1.2-5

(2) Calendar year +1 minus model year

(3) Extension of 1975 interim standard

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Table 12: Travel Distribution by Model Year
for State of Maryland

Calendar year + 1 Minus Model year	Travel Distribution %
0	1.5
1	16.9
2	14.9
3	12.4
4	9.8
5	9.7
6	8.8
7	7.2
8	5.7
9	4.8
10	3.7
11	2.3
12 & greater	2.4

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$$E_R(x) = \sum_{y=0}^{12} M_y [E(x)D_y(x)S(v,x) + B(x)], \quad \text{where} \quad (1)$$

- $E_R(x)$ = running emission factor for a given calendar year (x),
- M_y = is the travel distribution by age of the vehicle,
- y = age of vehicle = calendar year + 1 - model year of vehicle,
- $E(x)$ = exhaust emission factor as a function of model year x,
- $D_y(x)$ = deterioration factor as a function of model year and age of vehicle
- $S(v,x)$ = velocity correction factor, a function of velocity and model year, and
- $B(x)$ = blowby, a function of model year.

The running CO emission factors from table IX of BAQC-TM 73-107A, modified according to the velocity connection factors from table XI of the same reference are presented in table 10 of this report. Additional modifications in the extension of the 1975 interim standard through 1976 are also included in this table.⁽⁸⁾ The deterioration factors used are taken from table 3.1.2.5 AP-42 supplement 2,⁽⁹⁾ also modified for the extension of the 1975 interim standard through 1976 and are presented in table 11 of this report. The travel distribution used was taken from table IV of BAQC-TM 73-107A presented in table 12' of this report. Results from computer calculations based on equation 1 and the above data are presented as tables 13, 14, and 15 of this report.

The emission factors for trucks were assumed to be due to diesel powered vehicles. The average emission factors for such vehicles are given in table 3.1.5-1 of AP-42, and were used in estimating truck emissions in this report. Table 16 gives the line source emissions rates used in the modeling, as generated from the data presented in this section. The line source rate for a given road section was of course based on the travel

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Table 13: Running CO Emission Rates, 20MPH

CO EMISSIONS FOR LDV (gm/mi) RUNNING EMISSION FACTORS, VELOCITY CORRECTION FACTORS VEHICLE TRAVEL DISTRIBUTION FROM MARYLAND BAQC-TM 73-107A MODIFIED INTEREM STANDARDS PER EMERGENCY ENERGY ACT

DETERIORATION FACTORS FROM AP-42, SUPP. 2 TABLE 3.1.2.5

Year	gm/mi	% Base Year
1972	43.5	100
1975	27.0	62
1979	11.1	26
1980	8.72	20
1985	2.40	5.5
1990	1.48	3.4
1995	1.48	3.4
1999	1.48	3.4

Table 14: Running CO Emission Rates, 35MPH

CO EMISSIONS FOR LDV (gm/mi) RUNNING EMISSION FACTORS, VELOCITY CONNECTION FACTORS FROM MARYLAND BAQC-TM 73-107A, MODIFIED INTEREM STANDARDS PER EMERGENCY ENERGY ACT, DETERIORATION FACTORS FROM AP-42, SUPP. 2 TABLE 3.1.2.5

Year	gm/mi	% Base Year
1972	32.1	100
1975	22.6	70
1979	10.0	31
1980	8.02	25
1985	2.40	7.5
1990	1.48	4.6
1995	1.48	4.6
1999	1.48	4.6

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Table 15: Running CO Emission Rates 55MPH

CO EMISSIONS FOR LDV (gm/mi) RUNNING EMISSION FACTORS, VELOCITY FACTORS AND VEHICLE TRAVEL DISTRIBUTION FROM MARYLAND BAQC-TM 73-107A, MODIFIED INTEREM STANDARDS PER EMERGENCY ENERGY ACT, DETERIORATION FACTORS FROM EP-42, SUPP. 2, TABLE 3.1.2.5.

Year	gm/mi	% Base Year
1972	25.75	100
1975	17.50	68
1979	7.84	30
1980	6.39	25
1985	2.24	8.7
1990	1.48	5.7
1995	1.48	5.7
1999	1.48	5.7

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Table 16: Line Source CO Emission Rates: Based on 1000 vehicles 1 hr., 4% HDV, 96% LDV

Velocity (mph)	Emissions in grams/(meter-sec.)	
	1979	1999
20	2.2×10^{-3}	$.45 \times 10^{-3}$
35	1.9×10^{-3}	$.45 \times 10^{-3}$
55	1.6×10^{-3}	$.45 \times 10^{-3}$

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volume, average velocity of travel, for that section. For example, velocities on the White Marsh Blvd itself were assumed to be 55mph, while for Rt. 1, a lower velocity of 35mph was used.

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3.4 Projected CO Levels - General

Tables 17, 18 and 19 present the projected CO levels at all receptors for W, NNE and SE winds of 1m/sec., class F stability. It is apparent from the wind rose data for class F stability, that these wind directions dominate during the periods of stable atmospheric conditions when pollution levels become high.

The ten possible Whitemarsh alternatives have been grouped into five as its termination at Perring Freeway at location 2 or location 3 makes little difference in the pollution projected for pollution levels at most receptor locations. In those cases where differences do exist, the two values are given in the table, the upper value for termination at location 2 and the lower value for termination at location 3 on the proposed Perring Freeway.

It is appropriate to look most closely at the projected pollution levels at the most sensitive receptors. These are numbered #1 through #7, and are at existing or planned school sites, a park, and a game and fish protectorate.

On the basis of the data in tables 17, 18 and 19 the most favorable alternative(s) for these seven receptors will be evaluated below:

Receptor 1) St Joseph's School & Church

For SE or W wind only, all alternatives except A₁ are equally good and non-polluting. For the NNE wind A₁ and B are best. Overall alternative B is most favorable for this receptor for these wind directions. Maximum levels at this receptor will be .16ppm in 1979 and .06ppm in 1999 regardless of alternative for above wind directions. (A detailed evaluation of receptor 1 is given in section 3.41.)

Table 17: CO levels at all receptors for all alternatives, west wind, class F stability, wind velocity 1m/sec., concentrations in ppm, traffic volume 11% ADT.

Receptor	1979					1999				
	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)
	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)
1		.114					.047			
2	.058	.058	.021	.058	.021	.024	.024	.009	.024	.009
3										
4	.048	.048	.050	.048	.049	.020	.020	.020	.020	.020
5										
6	.019	.016	.009	.016	.037	.008	.007	.004	.006	.015
7	.097	.030	.098	.071	.076	.040	.012	.040	.029	.031
8	.290	.286		.290		.120	.120		.120	
9	.189	.167	.562	.339		.077	.068	.230	.140	
10	.002	.044	.002				.018			
11										
12	.069	.059	.023	.035		.028	.024	.009	.015	

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Table 18: CO levels at all receptors, for all alternatives, NNE wind, class F stability, wind velocity 1m/sec., concentrations in ppm, traffic volume 11% ADT.

Receptor	1979					1999				
	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)
	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)
1	.155		.155	.075	.120	.064		.064	.030	.049
2										
3	.095- .865	.095- .865	.107- .087	.096- .865	.107- .087	.039- .350	.039- .350	.044- .036	.039- .350	.044- .036
4										
5	.061- .000	.061- .000	.131- .000	.061- .000	.131- .000	.025- .000	.025- .000	.054- .000	.025- .000	.054- .000
6										
7										
8			.315		.315			.130		.130
9			.003		.195			.001		.080
10				.168	.039				.069	.016
11	.528	.528	.528	.527	.527	.220	.220	.220	.220	.220
12										

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Table 19: CO Levels at all receptors for all alternatives, SE wind, class F stability, wind velocity 1m/s, traffic volume 11% ADT, concentrations in ppm.

Receptor	1979					1999				
	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)	A(1-2)	A ₁ (1-2)	AE(1-2)	B(1-2)	C(1-2)
	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)	& A(1-3)	& A ₁ (1-3)	& AE(1-3)	& B(1-3)	& C(1-3)
1		.005					.002			
2	.035	.035	.035	.035	.035	.014	.014	.014	.014	.014
3	.056	.056	.138	.056	.138	.023	.023	.057	.023	.057
4	.009	.009	.009	.009	.009	.004	.003	.004	.004	.004
5	.184	.184	.130	.184	.130	.076	.076	.053	.076	.053
6										
7								.100	.150	
8	.007	.004	.242	.371		.003	.002	.002	.068	
9	.004	.004	.004	.167		.002	.001	.002		
10	.252	.089	.252			.103	.036	.103		
11										
12	.037	.037	.037	.038	.195	.015	.015	.015	.016	.080

hcg

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Receptor 2) Hines Elementary School Site

For W wind AE and C create the lowest levels.
For NNE wind, all alternatives are equally non-polluting.
For SE wind, all alternatives are equally polluting.
Overall, alternatives AE and C are most favorable for this receptor.

Receptor 3) Baltimore Game and Fish Protectorate

For W wind all alternatives are equally non-polluting.
For NNE wind, all alternatives terminating at location 2 are superior to those terminated at location 3. All(1-2) designations are about equally low.
For SE wind, A, A1 and B are best. Overall alternatives A(1-2), A1(1-2) and B(1-2) would be most favorable for this receptor.

Receptor 4) Perry Hall Elementary & Jr. High School

The levels at this receptor will be low regardless of wind direction or alternative chosen, with maximum levels of .05ppm for westwinds. All alternatives equal in their effect on this receptor.

Receptor 5) Graham Memorial Park

For W wind, all are equally non-polluting.
For NNE wind, all (1-3) alternatives are equally non-polluting.
For SE wind, AE & C produce the least pollution.
Overall, AE and C would be most favorable for this receptor.

Receptor 6) Perry Hall Senior H.S.

For W wind, AE is best, all are low.
For NNE and SE wind, all are equally non-polluting.
Overall, alternative AE would be most favorable for this receptor.

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Receptor 7) Joppa View Elementary School Site

For W wind, A₁ is best.
For NNE wind, all are non-polluting.
Overall, A₁ is the more favorable alternative for this receptor.

Summary: Overall favorability is found 3 times for alternative AE, twice for C, and once each for A₁, B and A(1-2), A₁(1-2) and B(1-2).

Review of Tables 17, 18 and 19 will also reveal that the average level per receptor for any wind direction is generally lower for all seven receptors for alternatives AE & C.

If AE or C is chosen, then maximum 1 hr. levels due to Rt. 43 will be between 0 and .16ppm for the seven most sensitive receptors in 1979 and between 0 and .07ppm in 1999 for W, NNE, and SE winds under Class F stability, wind velocity of 1m/sec.

If alternative A(1-2), A₁(1-2) or B(1-2) is chosen, these levels will lie between 0 and .19 in 1979 and between 0 and .08ppm in 1999 under the same conditions as shown above. If A(1-3), A₁(1-3) or B(1-3) is chosen, the maximum levels due to White Marsh would reach .19ppm in 1979 and .35ppm in 1999 at receptor 3, for a NNE wind, but for the other receptors be the same as for A(1-3), A₁(1-3), or B(1-3).

These levels are to be compared to the projected CO levels in the White Marsh area of 1-1.25ppm in 1979 and 1999. The maximum 1 hr. CO levels are projected in section 2, to be 7ppm in 1979 and 5ppm in 1999, in the absence of White Marsh Blvd. (Rt. 43).

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Total maximum 1 hr. CO levels at the sensitive receptors are therefore projected to be 7.2ppm in 1979 and 5.1ppm in 1999 for W, NNE and SE wind directions, if, AE, C, A(1-2), A1(1-2) or B(1-2) is constructed. The maximum 1 hr. CO level at all receptors except 3 will be as above, and for receptor 3 will be 7.9ppm in 1979 and 5.4ppm in 1999 for NNE winds.

3.41 Maximum CO Levels - Most Sensitive Receptor

A study of the pollution levels at St. Josephs School (and Church), i.e receptor 1 as a function of wind angle was undertaken. In this way, the most unfavorable wind direction(s) could be determined. The input data for the E.P.A. line source model have been discussed in sections 3.1 thru 3.3. Class F stability and a wind velocity of 1m/sec. were assumed. The results of this study are given in table 28.

Wind directions in the north-to-east quadrant are those which would produce most of the pollution at receptor 1. due to Rt. 43 alternatives. Depending upon alternative, the maximum 1 hr. levels projected at receptor 1 would be between .19ppm and .47ppm in 1979. Although not shown in table 20, the maximum levels under the same conditions in 1999 would range between .06ppm and .14ppm.

Table 20: CO Levels at St. Josephs School (receptor 1) in ppm as a function of wind direction;
wind velocity 1m/sec. Class F stability (1979).

HY-SECTIONS	0°	20°	39°	61°	83°	105°	127°	149°	171°	193°	215°	229°	270°	315°
A1	.046					.109	.028	.002			.080	.154	.114	.220
A	.262	.163	.141		.002	.136								
AE	.472	.163	.142		.002	.136								
B	.133	.075	.073	.063	.088	.269								
C	.047	.125	.112	.038	.050	.193								
Rt. 1 (No Build)			.016	1.769	.783	.428	.340	.360	.513	1.009	2.628			
Rt. 1 (Build)			.015	1.710	.757	.413	.328	.348	.495	.790	2.539			

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Receptor 1 is very near Rt. 1, and it was of interest to compare levels at this receptor due to Rt-43 relative to those due to Rt-1. It should be pointed out that the ambient levels projected in section 2 are used to estimate total future background and peak levels in the White Marsh area in the absence of construction of Rt-43, and as such includes the no-build loads due to Rt-1. However, that analysis averages over areas, and obscures detail. By modeling Rt-1 one gains insight into that portion of the ambient analysis attributable to that line source. The results of an angular study of the contribution of Rt. 1 on receptor 1 maximum 1 hr levels is also given in table 20. These contributions are seen to be greatest when the wind direction is crossing at a slight angle to Rt-1 towards receptor 1. i.e., for the directions of 61° and 215° [Rt-1 is oriented parallel to the 39° direction.] For the "no-build" alternative these pollution levels are 1.77ppm for ENE wind and 2.63ppm for SW wind in 1979. These levels are seen to be between 3 and 4% less if White Marsh Blvd. is built, due to the reduction in traffic volume on Rt. 1.

The result of the angular study of the line source modeling of the alternatives A through C is to be compared to the projected maximum 1 hr. CO levels in the absence of construction. These were found in section 2 to be 7ppm in 1979 and 5ppm in 1999. Then the maximum 1 hr. levels at receptor 1 are projected to be between 7.2ppm and 7.5ppm in 1979 and be between 5.1 and 5.14ppm in 1999, depending on which alternative is chosen. These levels are to be compared to federal and Maryland state standards of 1 hr. maximum CO levels of 35ppm.

Table 21: CO levels at all receptors for all alternatives, west wind, class D stability, wind velocity 5.4m/sec., traffic volume 11% ADT, concentrations in ppm.

Receptor	1979					1999				
	A	A ₁	AE	B	C	A	A ₁	AE	B	C
1		.008					.005			
2	.004	.003	.003	.003	.003	.003	.002	.002	.002	.002
3										
4	.002	.002	.002	.002	.002	.001	.001	.001	.001	.001
5										
6	.002	.001	.003	.002	.001	.001	.001	.002	.001	.001
7	.004	.003	.004	.004	.002	.003	.002	.002	.001	.001
8	.015	.012		.036		.010	.007		.022	
9	.009	.006	.050	.011		.006	.004	.030	.007	
10	.016	.005	.014			.010	.003	.008		
11										
12	.005	.002	.007	.005		.003	.001	.004	.003	

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3.42 CO Levels - Typical Meteorological Conditions

The dominant meteorological conditions in the White Marsh area are characterized by class D atmospheric stability and westerly winds of around 5.4m/sec. (see section 3.2). The projected CO levels due to White Marsh Blvd. are presented in table 21 for 1979 and 1999. These levels should be compared to the ambient levels which are projected to be between 1 and 1.25ppm both in 1979 and 1999. (see section 2.1).

It is observed from table 21, that the levels at the most sensitive receptors (#1 thru #7) are roughly the same for alternatives A, AE, B and C and range between zero and .004ppm in 1979 and zero and .003ppm in 1999. Alternative A₁ is somewhat worse for receptor 1, as would be expected for a westerly wind.

3.43 CO Levels at Edge of Right-of-Way

CO levels for "worst case" meteorological conditions at the edge of right-of-way are given in table 22. Calculations were performed using the input data from sections 3.1-3.3. Four wind directions, from right angles to the road, to parallel to the road section were used. The road section was 5000 ft. in length and the traffic volumes for the different sections are those given in table 8.

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Table 22: CO levels at edge of White Marsh right-of-way, (minimum width 300'). Class F stability, wind velocity 1m/sec., design hour traffic volume, concentrations in ppm.

Wind Angle Relative to Road Section	1979			1999		
	Road Section(s)*			Road Section(s)*		
	1 thru 4	5	6 & 7	1 thru 4	5	6 & 7
90° (↔ 11)	1.3	.8	.6	.5	.3	.3
55° (↘ 11)	1.5	.9	.7	.6	.4	.3
20° (↙ 11)	2.3	1.4	1.1	.9	.6	.5
0° (↓ 11)	1.2	.7	.6	.5	.4	.2

*Sections identified on fig. 7, p.35

Table 23: CO Levels At-Grade as a Function of Distance from Edge of Right-of-Way. Wind angles of 90°, 55°, 20° and 0° relative to Rt. 43, sections 1-4. Class F stability and wind velocity of 1 m/sec. concentrations in ppm for 1979.

Distance from Edge of Right- of-Way (ft.)	A N G L E			
	90°	55°	20°	0°
~0	1.3	1.5	2.3	1.2
210	.9	1.0	1.3	.06
410	.7	.7	1.0	.001
810	.5	.5	.7	
1210	.4	.4	.6	
1600	.3	.3	.3	
1900	.3	.3	.05	
4000	.2	.2		

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The maximum 1hr. levels occur for winds running at 20° to the highway. Added to the maximum 1hr. ambient levels of 7ppm in 1979 and 5ppm in 1999, the maximum 1hr. edge of right-of-way levels are projected to be 9.3ppm in 1979 and 5.9ppm in 1999.

Additionally, concentrations at-grade for the above same four wind directions as a function of distance from the edge of right-of-way were calculated for the maximum 1hr traffic on sections 1 through 4. These calculations are for F stability and a wind velocity of 1 m/sec. and give the upper limit worst case levels to be expected from this project. The results for 1979 are given in table 23 and presented graphically in Fig. 1 in section 0.3. Results for 1999 for sections 1 through 4 would be 40% of the levels shown in table 23. The results for 1999 are presented graphically in Fig. 2 of Section 0.3.

3.44 CO Levels at Edge of Right-of-Way for Typical Intersection

The intersection of Rt. 1 and White Marsh was chosen for this study. The turning movements for peak DHV traffic flow are shown for this intersection in figure 8 for 1979 and 1999. The exact configuration for this (or other) White Marsh intersections has not yet been determined, so that it is impossible to model the intersection in detail. One or the other of the two roads will be elevated to allow 16' clearance. The effect of elevations is always to reduce the ground level concentrations away from the highway. Similarly, if the highway is a cut section, the levels in the cut itself are increased. However, in the case of cut

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PEAK 1-HOUR TRAFFIC VOLUME
AT ROUTE 1 & WHITE MARSH BLVD

1979
1999

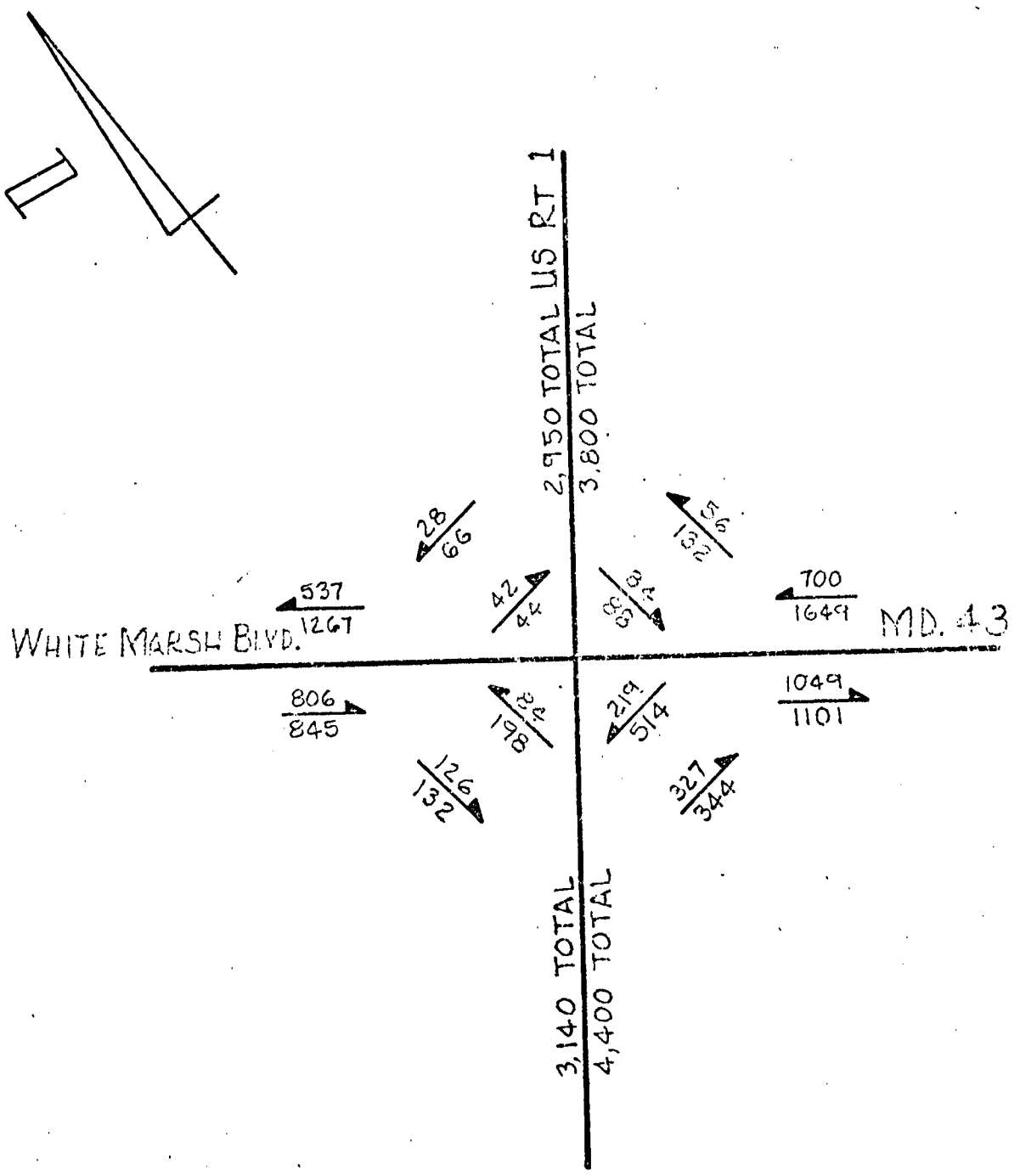


FIG. 8 ~ TURNING MOVEMENTS AT WHITE MARSH BLVD & ROUTE 1

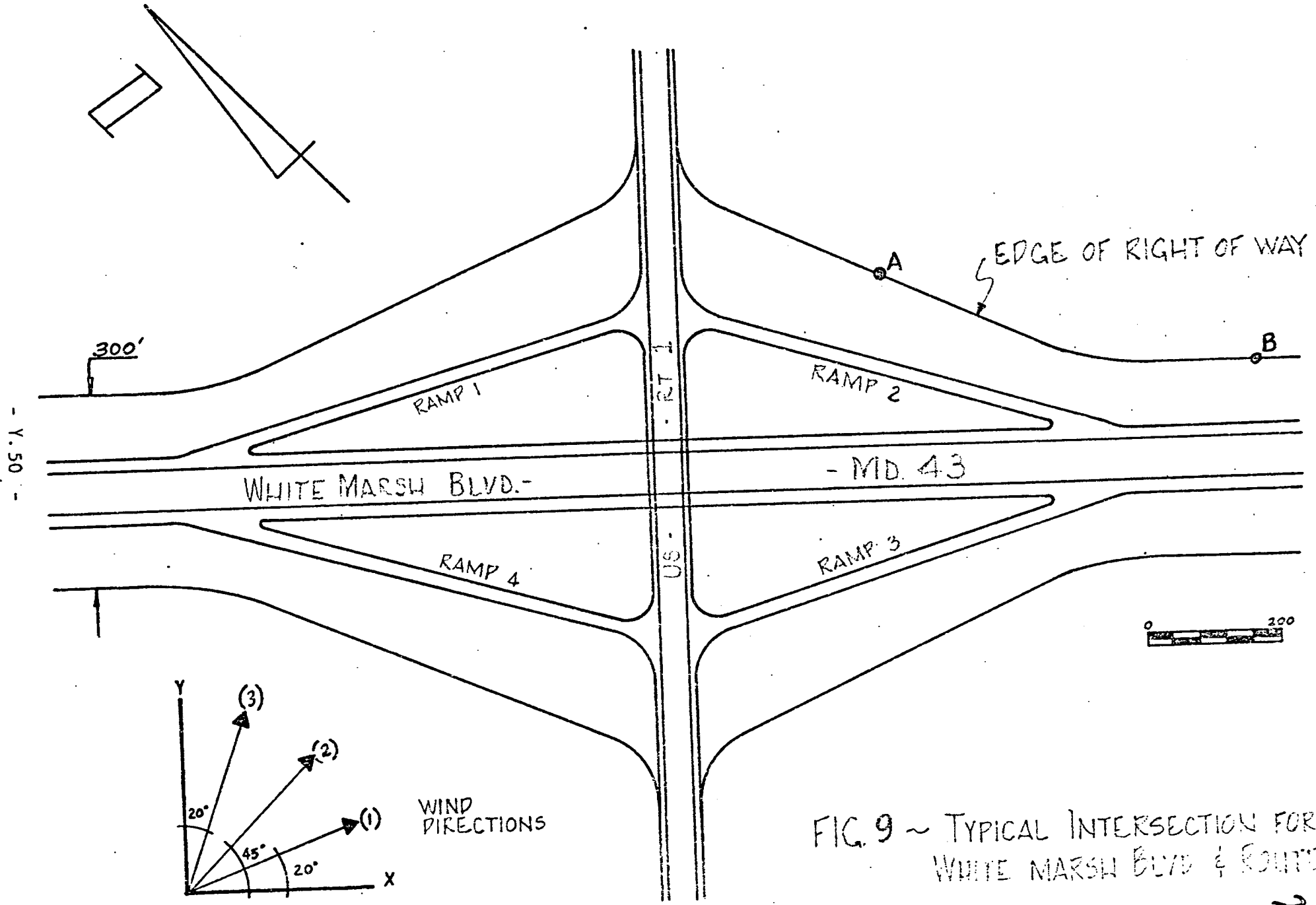


FIG. 9 ~ TYPICAL INTERSECTION FOR WHITE MARSH BLVD & ROUTE 1

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Table 24: CO concentrations on edge of right-of-way for typical intersection of White Marsh and Rt. 1. Class F stability, wind velocity of 1m/sec. Wind directions and locations A and B shown on figure 7 [concentrations in ppm].

Road Sections	1979						1999					
	Receptor A Wind Directions			Receptor B Wind Directions			Receptor A Wind Directions			Receptor B Wind Directions		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
White Marsh	.88	.67	.58	1.4	.95	.79	.37	.28	.24	.57	.39	.33
Ramp 1	.001	0	0	0	0	0	0	0	0	0	0	0
Ramp 2	.244	.19	.18	.22	0	0	.12	.093	.085	.11	0	0
Ramp 3	0	0	.18	.033	.26	0	0	0	.038	.007	.054	0
Ramp 4	.05	.055	0	.056	0	0	.011	.012	0	.012	0	0
Rt. 1	1.2	1.35	1.72	.72	.8	.9	.4	.44	.57	.24	.26	.3
Totals	2.37	2.27	2.66	2.43	2.01	1.69	.901	.825	.933	.939		.63

File

sections the levels at a elevated edge of right-of-way are often less than in the cases where the right-of-way is level with the highway. For these reasons, a typical intersection as shown in figure 9 was assumed, and concentrations calculated at points A and B for three different wind directions. The altitudes of all the highways, ramps and the receptors A and B were assumed the same. Thus the projected concentrations given in table 24 are expected to be overestimates.

The results indicate that for the unfavorable meteorological conditions of class F stability and 1m/sec. wind velocity, the maximum 1hr. edge of right-of-way concentrations will be around 2.7ppm in 1979 and .9ppm in 1999.

It is further noted that for this modeling, the traffic velocity was assumed to be 55mph on White Marsh, 35mph on Rt. 1 and 20mph on the ramps. The contributions from the ramps relative to the highways are seen to be very small, and this is a consequence of low peak DHV traffic volumes shown in figure 6.

It should be noted, that at phase 1 of the White Marsh project, White Marsh Blvd. will meet U.S. 1, at-grade with a two leg temporary connection. At phase 2, when White Marsh Blvd. is extended to the proposed Perring Freeway, a full interchange will be constructed.

3.5 Maximum 8 Hour Average Concentrations

Eight hour average CO levels can be modeled with the E.P.A. line source program by including appropriate changes in traffic volume and meteorological conditions which occur during the daily cycle. The worst conditions occur when traffic volumes are relatively high and the

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atmosphere becomes stable. These conditions are most likely to occur in early evening. High traffic volumes are seen to occur, however, in late afternoon.

The hour-by-hour modeling between noon and midnight was performed for the worst case found in the edge of right-of-way modeling, i.e., for a wind at 20° relative to Rt. 43, on the heaviest travelled sections. The prevalent afternoon stability with a wind velocity of 2 m/sec. was used between noon and 5 p.m. and F stability with a wind velocity of 1 m/sec., used between 5 p.m. and midnight. The results of this modeling are shown in table 24.

The maximum 8 hours are seen to occur between 4 p.m. and midnight. From this data, the maximum 8hr. average is determined to be .9ppm in 1979 and .4ppm in 1999. The maximum ambient 8hr. levels of 5ppm and 3ppm in 1979 and 1999 were projected in section 2.1. The sum of the ambient and the edge of right-of-way calculation give totals of 5.9ppm in 1979 and 3.4ppm in 1999. This is to be compared to national and Maryland state standards for the 8hr. average maximum of 9ppm to be exceeded no more than once a year.

Similar modeling was carved out for at-grade maximum 8hr. average levels as a function of distance from the edge of right-of-way for the singular wind angle of 20° relative to sections 1 through 4. The results of these calculations are shown in table 26 and shown in figure 3 in section 0.3.

Table 25: Hour-by-hour modeling for maximum eight hour levels
For edge of right-of-way, wind angle 20°, for sections
1 through 4. (traffic velocity 55mph)

Hour	Traffic (%ADT)	Stability Class & Wind Velocity	CO Concentration (ppm)	
			1979	1999
12noon-1pm	4.72	D @ 2m/sec.	.3	.1
1pm-2pm	4.89	D @ 2m/sec.	.3	.1
2pm-3pm	5.39	D @ 2m/sec.	.3	.1
3pm-4pm	6.51	D @ 2m/sec.	.4	.2
4pm-5pm	10.64	D @ 2m/sec.	.7	.3
5pm-6pm	7.83	F @ 1m/sec.	1.7	.7
6pm-7pm	5.63	F @ 1m/sec.	1.2	.5
7pm-8pm	4.74	F @ 1m/sec.	1.0	.4
8pm-9pm	3.84	F @ 1m/sec.	.8	.3
9pm-10pm	3.65	F @ 1m/sec.	.8	.3
10pm-11pm	2.88	F @ 1m/sec.	.6	.2
11pm-12midnite	2.46	F @ 1m/sec.	.5	.2

Table 26: Maximum eight hour Average At-Grade CO levels as a Function
of Distance from the edge of right-of-way. Wing angle 20°
relative to Rt. 43 sections 1 through 4, hour-by-hour model-
ing as in table 25.

Distance from Edge of Right of-Way (ft)	8hr Average (ppm)	
	1979	1999
~0	.9	.4
210	.5	.2
410	.4	.2
810	.3	.1
1400	.2	.08
1600	.1	.06
1900	.02	.01

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4.0 Effect of Whitemarsh Project on the Hydrocarbon, NO₂ and CO
Emission Loads

As pointed out in previous sections, it is not possible to model the localized effects of a highway on the HC, NO₂ or CO levels. The effects of a highway must be considered in terms of the increase (or decrease) in regional load of the pollutants to be expected as a result of the highway construction.

It is possible to define a quantity which will be called the traffic load. This quantity is the traffic volume for a road section multiplied by the length of the road section. The volumes for the major roads in the White Marsh area are given in table 8 of section 3. Also given in table 8 is the length of the various sections carrying the volumes. The traffic load for the White Marsh area can be calculated by multiplying the various lengths by their associated volumes and summing to obtain the total traffic load for the area. The result of this calculation is given in table 27.

Table 27: Traffic Load for White Marsh Area [car miles/day]

<u>Base Yr</u>	<u>1979</u>		<u>1999</u>	
	No Build	Build	No Build	Build
8.7 x 10 ⁵	10.8 x 10 ⁵	12.4 x 10 ⁵	17.8 x 10 ⁵	22.2 x 10 ⁵

The general growth to be expected for such a time period is evidenced. However, balancing this growth is the implementation of pollution control programs, both automotive and area. As a result of these programs, pollution levels will generally decrease.

Table 28: Hydrocarbon and NO_x emissions for major roads in the White Marsh Area

	Hydrocarbon Emissions (6-9am - Tons)*					Oxides of Nitrogen (Tons-Daily)				
	Base-Yr 72/73	1979		1999		Base-Yr 72/73	1979		1999	
		No Build	Build	No Build	Build		No Build	Build	No Build	Build
I-695	.430	.158	.151	.055	.052	2.00	1.12	1.10	.47	.45
I-95	.290	.108	.106	.034	.034	1.35	.74	.74	.29	.29
Belair Rd (Rt 1)	.168	.055	.053	.014	.013	.79	.38	.37	.12	.13
Harford Rd (Md 147)	.050	.017	.012	.005	.004	.24	.12	.08	.04	.03
Perring Freeway	.017	.006	.016	.002	.006	.08	.04	.11	.01	.05
Joppa Rd	.070	.024	.021	.007	.006	.34	.16	.15	.06	.05
White Marsh (Md 43)	.003	.002	.029	.001	.009	.01	.02	.20	.01	.08
Silver Spring	.007	.002	.002	.001	.001	.02	.02	.02	.01	.01
Putty Hill	.010	.004	.004	.001	.001	.06	.03	.03	.01	.01
Radecke Ave			.019		.008			.13		.07
Perry Hall Blvd			.007		.003			.04		.02
Rd "X"			.003		.001			.02		.01
Total	1.045	.374	.423	.120	.138	4.89	2.63	2.99	1.02	1.20

*Based on 17.5% ADT (6-9a.m.), See Table (9)

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Table 29: CO Emissions for Major Roads in the White Marsh Area.
(Tons Daily)

Road Section	Base Yr. 72/73	1979		1999	
		No Build	Build	No Build	Build
I-695	22.8	9.63	9.45	2.78	2.70
I-95	15.4	6.36	6.36	1.74	1.74
Belair Rd (Rt. L)	9.0	3.26	3.18	.72	.78
Harford Rd (Md. 147)	2.7	1.03	.69	.24	.18
Perring Freeway	.9	.34	.95	.06	.30
Joppa Rd.	3.9	1.38	1.29	.36	.30
White Marsh (Md. 43)	.1	.17	1.72	.06	.48
Silver Spring	.2	.17	.17	.06	.06
Patty Hill	.7	.27	.27	.06	.06
Radecke Ave.			1.02		.42
Perry Hall Blvd.			.34		.12
Rd. "X"			.17		.06
Totals	55.7	22.6	25.7	6.08	7.20

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Tables 28 and 29 give the HC, NO_x and CO daily loads for the major roads in the White Marsh area for the build-no build alternatives. The basis for calculating the loads are the running emission and deterioration factors from AP-42 supplement 2 and the Maryland model year travel distribution.

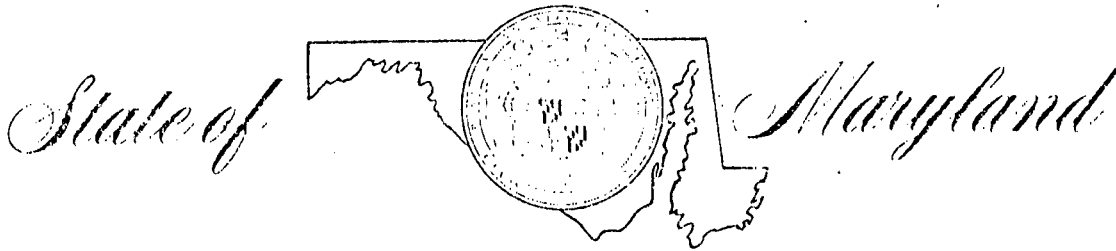
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4.1 Photochemical Oxident

Photochemical oxident levels frequently exceed the federal and state standard levels in the Baltimore area. For example, the maximum 1hr. average level in 1972 was .205ppm which may be compared to the standard level of 0.08ppm. The Calvert and 22nd. street continuous monitoring station registered 31 days in which the maximum 1hr. average level exceeded the standard in 1972.

The formation of PO_x is by the action of sunlight with non-methane hydrocarbons and oxides of nitrogen. The photochemical reactions occur over several hours, so that it is the early morning (6-9am) hydrocarbon emissions which take part in the reactions that produce build-up of PO_x in the afternoon. The need for strong sunlight in these reactions limits the build-up of high PO_x levels to the summer months. Air pollution episodes involving PO_x require the simultaneous presence of strong sunlight, hydrocarbons, oxides of nitrogen, light winds and limited verticle mixing.

The major control strategy for PO_x is to control 6-9am non-methane hydrocarbon emissions. It is expected that the PO_x levels will gradually be reduced, primarily through the reduction of automotive HC emissions due to the federal motor vehicle control program. The BREIS finds that implementation of control strategies issued as of September 1973 would result in reduction of PO_x levels to .09ppm in 1980 and to .08ppm in 1995. [See page VI-49 reference 5].



DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Neil Solomon, M.D., Ph.D., Secretary

ENVIRONMENTAL HEALTH ADMINISTRATION

201 W. Preston St. • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383- 3245

April 8, 1975

Dr. Richard B. Kay
Department of Physics
American University
Washington, D. C. 20016

Dear Dr. Kay:

RE: Whitmarsh Boulevard Air Quality Analysis

In your letter of March 27, 1975 to Ms. Ann Marie DeBiase, you requested approval from this agency for using data from existing monitoring stations to estimate present ambient air quality levels at the site of the proposed project. There are no monitoring stations in the immediate vicinity of the project but there are stations in that general area which could be used in lieu of on-site monitoring.

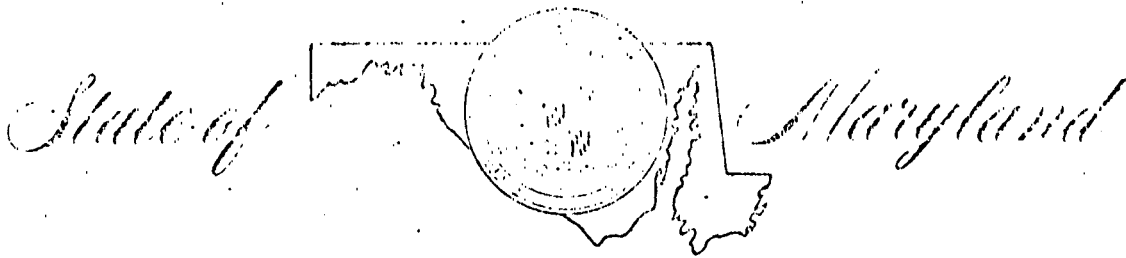
One of these stations is at Goucher College where carbon monoxide is monitored continuously. This data could be used to estimate background carbon monoxide levels at the project. Nitrogen dioxide, measured by the arsenite addition method, is available from the Cockeysville and Middle River stations which are located a few miles beyond each terminus of the project. Photochemical oxidants are monitored continuously at two downtown sites and at three Baltimore County stations. In your letter you mentioned using the data from the Calvert & 22nd Streets station in your analysis. It would probably be more appropriate to use the data from the Goucher or Essex stations in Baltimore County. Although oxidant is considered a regional pollutant, it is not unusual to observe higher maxima in the suburban areas than in the downtown portion of a region.

I hope these comments will prove helpful to you in preparing the air quality analysis.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "WKBonta".

William K. Bonta, Chief
Division of Program Planning & Evaluation
Bureau of Air Quality & Noise Control



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DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Neil Solomon, M.D., Ph.D., Secretary

ENVIRONMENTAL HEALTH ADMINISTRATION

610 N. HOWARD STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 333- 3148

July 17, 1974

Mr. John Collins
Environmental Protection Agency
Region III
Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear John,

Representatives from the Bureau of Air Quality Control, FHWA and the State Highway Administration met on July 5, 1974 in order to review with Dr. Richard Kay his proposed scope of work for the air quality studies on the White Marsh Expressway. During the meeting I questioned the use of E stability as the stability class in the calculation of roadside carbon monoxide concentrations.

Upon return to my office I reviewed the results of a special run of the STAR program which was made for us by the National Climatic Center. This run comprised only the hours of noon to 8 p.m., but it included all six stability categories (A-F). Data used was that from BWI Airport. The results showed that conditions of F stability with wind speeds less than 3 meters per second occur with an annual frequency of 1.7% for the given hours. Since the hours used in this run comprised the period of greatest instability (the afternoon hours) one can infer that conditions of F stability with winds of 3 meters per second are at least as frequent during the portion of the day not included in this run.

After making these observations I telephoned to inform you of these findings and to suggest that the White Marsh Expressway air quality study use F stability instead of E to determine maximum roadside concentrations of carbon monoxide. This letter is a confirmation of that phone conversation.

In view of the available data, it seems reasonable that, in the future, evaluations of maximum roadside concentrations of carbon monoxide should be made using F stability--at least in those cases where the road under study is located outside of the urban area.

Very truly yours,

Felipe Lebron, Head
Modelling Section
Bureau of Air Quality Control

FL:bac

cc: Mr. Jim Schrouds, FHWA
Mr. Lou Ege, SHA

- Y.60 -

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6.0: Appendix: Stability Wind Rose Data for Hours Noon to 9 p.m.

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64

12-20

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000241	0.000244	0.000000	0.000000	0.000000	0.000000	0.000484
NNE	0.000102	0.000244	0.000000	0.000000	0.000000	0.000000	0.000346
NE	0.000196	0.000426	0.000000	0.000000	0.000000	0.000000	0.000622
ENE	0.000341	0.000304	0.000000	0.000000	0.000000	0.000000	0.000645
E	0.000135	0.000587	0.000000	0.000000	0.000000	0.000000	0.000622
ESE	0.000000	0.000361	0.000000	0.000000	0.000000	0.000000	0.000361
SE	0.000050	0.000365	0.000000	0.000000	0.000000	0.000000	0.000415
SSE	0.000077	0.000361	0.000000	0.000000	0.000000	0.000000	0.000438
S	0.000076	0.000548	0.000000	0.000000	0.000000	0.000000	0.000624
SSW	0.000050	0.000365	0.000000	0.000000	0.000000	0.000000	0.000415
SW	0.000051	0.000426	0.000000	0.000000	0.000000	0.000000	0.000477
WSW	0.000029	0.000131	0.000000	0.000000	0.000000	0.000000	0.000160
W	0.000058	0.000426	0.000000	0.000000	0.000000	0.000000	0.000484
WNW	0.000050	0.000365	0.000000	0.000000	0.000000	0.000000	0.000415
NW	0.000114	0.000365	0.000000	0.000000	0.000000	0.000000	0.000479
NNW	0.000041	0.000304	0.000000	0.000000	0.000000	0.000000	0.000345
TOTAL	0.001400	0.005723	0.000000	0.000000	0.000000	0.000000	0.007123

RELATIVE FREQUENCY OF OCCURRENCE OF A STABILITY = 0.007124

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH A STABILITY = 0.000892

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD

60-64

12-20

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000356	0.001340	0.001035	0.000000	0.000000	0.000000	0.002731
NNE	0.000149	0.000731	0.000609	0.000000	0.000000	0.000000	0.001489
NE	0.000421	0.001400	0.001096	0.000000	0.000000	0.000000	0.002917
ENE	0.000095	0.001400	0.001522	0.000000	0.000000	0.000000	0.003218
E	0.000526	0.002740	0.002192	0.000000	0.000000	0.000000	0.005458
ESE	0.000227	0.001218	0.001705	0.000000	0.000000	0.000000	0.003149
SE	0.000295	0.001400	0.001400	0.000000	0.000000	0.000000	0.003096
SSE	0.000231	0.001340	0.001218	0.000000	0.000000	0.000000	0.002786
S	0.000444	0.002253	0.001461	0.000000	0.000000	0.000000	0.004162
SSW	0.000413	0.001157	0.001400	0.000000	0.000000	0.000000	0.002970
SW	0.000411	0.001387	0.002009	0.000000	0.000000	0.000000	0.004207
WSW	0.000052	0.002009	0.002131	0.000000	0.000000	0.000000	0.004392
W	0.000097	0.001827	0.002618	0.000000	0.000000	0.000000	0.004942
WNW	0.000314	0.002009	0.002131	0.000000	0.000000	0.000000	0.004455
NW	0.000391	0.002435	0.002192	0.000000	0.000000	0.000000	0.005018
NNW	0.000295	0.001400	0.002192	0.000000	0.000000	0.000000	0.003888
TOTAL	0.005419	0.026546	0.026212	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF B STABILITY = 0.058877

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH B STABILITY = 0.000974

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ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64 12-20

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000206	0.001400	0.003897	0.000792	0.000000	0.000000	0.006294
NNE	0.000134	0.000731	0.002740	0.000504	0.000000	0.000000	0.003909
NE	0.000273	0.001765	0.002557	0.000304	0.000000	0.000000	0.004900
ENE	0.000272	0.001705	0.005323	0.000792	0.000000	0.000000	0.007091
E	0.000230	0.003044	0.008037	0.000792	0.000000	0.000000	0.012102
ESE	0.000392	0.002070	0.004810	0.000304	0.000000	0.000000	0.007774
SE	0.000232	0.002192	0.006454	0.001096	0.000000	0.000000	0.009218
SSE	0.000024	0.001544	0.006515	0.001035	0.000000	0.000000	0.008670
S	0.000085	0.001583	0.005662	0.001279	0.000061	0.000000	0.010803
SSW	0.000147	0.001644	0.006393	0.002496	0.000122	0.000000	0.010076
SW	0.000262	0.001400	0.007245	0.001887	0.000061	0.000000	0.015739
WSW	0.000274	0.001827	0.010169	0.003105	0.000304	0.000061	0.017563
W	0.000084	0.001827	0.010351	0.004506	0.000731	0.000061	0.015492
WNW	0.000027	0.001827	0.008402	0.004445	0.000792	0.000000	0.013184
NW	0.000085	0.001583	0.008585	0.003249	0.000122	0.000061	0.008567
NNW	0.000082	0.001400	0.006028	0.001096	0.000061	0.000000	0.008567
TOTAL	0.002131	0.027642	0.102167	0.027582	0.002253	0.000183	

RELATIVE FREQUENCY OF OCCURRENCE OF C STABILITY = 0.161958

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH C STABILITY = 0.000426

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64 12-20

SPEED (KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000974	0.003044	0.007976	0.006332	0.000163	0.000000	0.019513
NNE	0.000593	0.002740	0.007185	0.004384	0.000909	0.000000	0.015615
NE	0.000966	0.005297	0.009498	0.007306	0.000970	0.000183	0.023820
ENE	0.000901	0.005845	0.012462	0.009064	0.000852	0.000000	0.029944
E	0.001100	0.010107	0.015526	0.008402	0.000244	0.000000	0.035459
ESE	0.000863	0.004262	0.008585	0.002496	0.000961	0.000000	0.016257
SE	0.000926	0.007672	0.020275	0.010646	0.000731	0.000000	0.039550
SSE	0.000517	0.005541	0.016013	0.012604	0.000792	0.000061	0.035825
S	0.000989	0.005662	0.015252	0.008768	0.000670	0.000061	0.032002
SSW	0.000620	0.003531	0.011264	0.010938	0.001766	0.000122	0.028141
SW	0.000514	0.003897	0.010533	0.012847	0.001644	0.000304	0.029740
WSW	0.000532	0.003166	0.007915	0.012725	0.001948	0.000304	0.026591
W	0.000515	0.004445	0.012056	0.030443	0.000959	0.001766	0.058884
WNW	0.000576	0.002862	0.012604	0.031536	0.029024	0.006515	0.099517
NW	0.000912	0.004019	0.012116	0.031052	0.005845	0.001340	0.055233
NNW	0.000329	0.003044	0.008098	0.012604	0.001157	0.000000	0.025231
TOTAL	0.012116	0.025134	0.158078	0.232647	0.051754	0.010655	

RELATIVE FREQUENCY OF OCCURRENCE OF D STABILITY = 0.570385

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH D STABILITY = 0.005358

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64

12-20

SPEED (KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.001705	0.002070	0.000000	0.000000	0.000000	0.003775
NNE	0.000000	0.001461	0.001096	0.000000	0.000000	0.000000	0.002557
NE	0.000000	0.001766	0.000952	0.000000	0.000000	0.000000	0.002718
ENE	0.000000	0.001766	0.000913	0.000000	0.000000	0.000000	0.002679
E	0.000000	0.003958	0.001461	0.000000	0.000000	0.000000	0.005419
ESE	0.000000	0.003775	0.000913	0.000000	0.000000	0.000000	0.004688
SE	0.000000	0.007063	0.004627	0.000000	0.000000	0.000000	0.011690
SSE	0.000000	0.005297	0.006271	0.000000	0.000000	0.000000	0.011568
S	0.000000	0.005967	0.003714	0.000000	0.000000	0.000000	0.009681
SSW	0.000000	0.002557	0.002983	0.000000	0.000000	0.000000	0.005541
SW	0.000000	0.002192	0.004201	0.000000	0.000000	0.000000	0.006393
WSW	0.000000	0.002983	0.003775	0.000000	0.000000	0.000000	0.006758
W	0.000000	0.004566	0.008524	0.000000	0.000000	0.000000	0.013091
WNW	0.000000	0.002557	0.009437	0.000000	0.000000	0.000000	0.011995
NW	0.000000	0.001461	0.007063	0.000000	0.000000	0.000000	0.008524
NNW	0.000000	0.001157	0.004262	0.000000	0.000000	0.000000	0.005419
TOTAL	0.000000	0.050231	0.062165	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF E STABILITY = 0.112397

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH E STABILITY = 0.000000

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64 12-20

DIRECTION	SPEED(KTS)						TOTAL
	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	
N	0.000252	0.002923	0.000000	0.000000	0.000000	0.000000	0.003784
NNE	0.000279	0.000731	0.000000	0.000000	0.000000	0.000000	0.001109
NE	0.000757	0.001461	0.000000	0.000000	0.000000	0.000000	0.002218
ENE	0.000562	0.001948	0.000000	0.000000	0.000000	0.000000	0.002510
E	0.001153	0.003410	0.000000	0.000000	0.000000	0.000000	0.004763
ESE	0.000585	0.002740	0.000000	0.000000	0.000000	0.000000	0.003328
SE	0.002294	0.009255	0.000000	0.000000	0.000000	0.000000	0.011549
SSE	0.001607	0.007654	0.000000	0.000000	0.000000	0.000000	0.009264
S	0.001637	0.007367	0.000000	0.000000	0.000000	0.000000	0.009004
SSW	0.000584	0.004079	0.000000	0.000000	0.000000	0.000000	0.004763
SW	0.001397	0.004019	0.000000	0.000000	0.000000	0.000000	0.005416
WSW	0.000780	0.005419	0.000000	0.000000	0.000000	0.000000	0.006199
W	0.002020	0.009985	0.000000	0.000000	0.000000	0.000000	0.012006
WNW	0.001054	0.005662	0.000000	0.000000	0.000000	0.000000	0.006721
NW	0.000762	0.003349	0.000000	0.000000	0.000000	0.000000	0.004111
NNW	0.000519	0.001705	0.000000	0.000000	0.000000	0.000000	0.002218
TOTAL	0.017353	0.071907	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF F STABILITY = 0.089260

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH F STABILITY = 0.005967

ANNUAL

RELATIVE FREQUENCY DISTRIBUTION

STATION #93721 BALTIMORE, MD 60-64 12-20

DIRECTION	SPEED(KTS)						TOTAL
	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	
N	0.002614	0.010355	0.014978	0.007124	0.000183	0.000000	0.035559
NNE	0.001458	0.006537	0.011629	0.004688	0.000039	0.000000	0.025031
NE	0.002493	0.012116	0.014004	0.007611	0.000070	0.000183	0.037081
ENE	0.002156	0.012969	0.012240	0.010655	0.000852	0.000000	0.045872
E	0.003441	0.013746	0.027216	0.009194	0.000244	0.000000	0.062840
ESE	0.001893	0.014126	0.016013	0.007801	0.000961	0.000000	0.034893
SE	0.003515	0.027247	0.032757	0.011142	0.000731	0.000000	0.076092
SSE	0.002770	0.021730	0.030017	0.013639	0.000792	0.000061	0.069014
S	0.003163	0.023360	0.026790	0.010046	0.000731	0.000061	0.064176
SSW	0.001918	0.013334	0.022041	0.013334	0.001807	0.000122	0.052637
SW	0.002225	0.013021	0.023789	0.014735	0.001705	0.000304	0.056879
WSW	0.001720	0.016135	0.023989	0.015630	0.002253	0.000265	0.060498
W	0.003217	0.023070	0.033548	0.034549	0.010250	0.001827	0.106907
WNW	0.002012	0.015283	0.032574	0.026381	0.025816	0.006515	0.138581
NW	0.002232	0.013212	0.029956	0.024401	0.005967	0.001400	0.087168
NNW	0.001263	0.019011	0.020560	0.013699	0.001218	0.000000	0.045771
TOTAL	0.038419	0.237184	0.372323	0.260229	0.054006	0.010838	

TOTAL RELATIVE FREQUENCY OF OBSERVATIONS = 1.000001

TOTAL RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE = 0.012578

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7.0 Bibliography

- (1) See attached letter from Mr. William K. Bonta, Chief, Division of Program Planning and Evaluation, Bureau of Air Quality Control, State of Maryland. (p. 72)
- (2) Private Communication with Ms. Ann Marie DeBiase, Sanitarian, Bureau of Air Quality Control, State of Maryland.
- (3) Private Communication with Mr. John Collins, Transportation Coordinator, Environmental Impact Branch, U.S. Environmental Protection Agency.
- (4) "Maryland State Yearly Air Quality Report, 1972" and "Maryland State Yearly Air Quality Report, 1973", Division of Air Monitoring, Bureau of Air Quality Control Data Report, BAQC-DR-73-8, and BAQC-DR-74-6.
- (5) Baltimore Regional Environmental Impact Study: Technical Memorandum No. 3, Air Quality Analysis prepared for The Interstate Division for Baltimore City by Alan M. Voorhees and Associates, Inc., March, 1974.
- (6) See attached letter from Mr. Felipe Lebron, Head Modelling Section, Bureau of Air Quality Control, State of Maryland, (p. 73).
- (7) "Method for Estimating Light Duty Vehicle Emission on a Sub-Regional Basis", Maryland Bureau of Air Quality Control Technical Memo, BAQC-TM-73-107A.
- (8) Public Law 93-319, "Energy Supply and Environmental Coordination Act of 1974"; 88 Stat. 246, referred to as the "Emergency Energy Act" in this report.
- (9) "Compilation of Emission Factors, 2nd Edition" and supplements 1 & 2. Public Health Service Publication 999-AP-42.