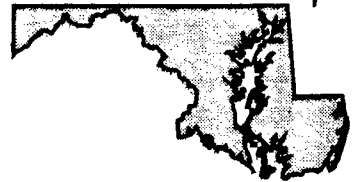
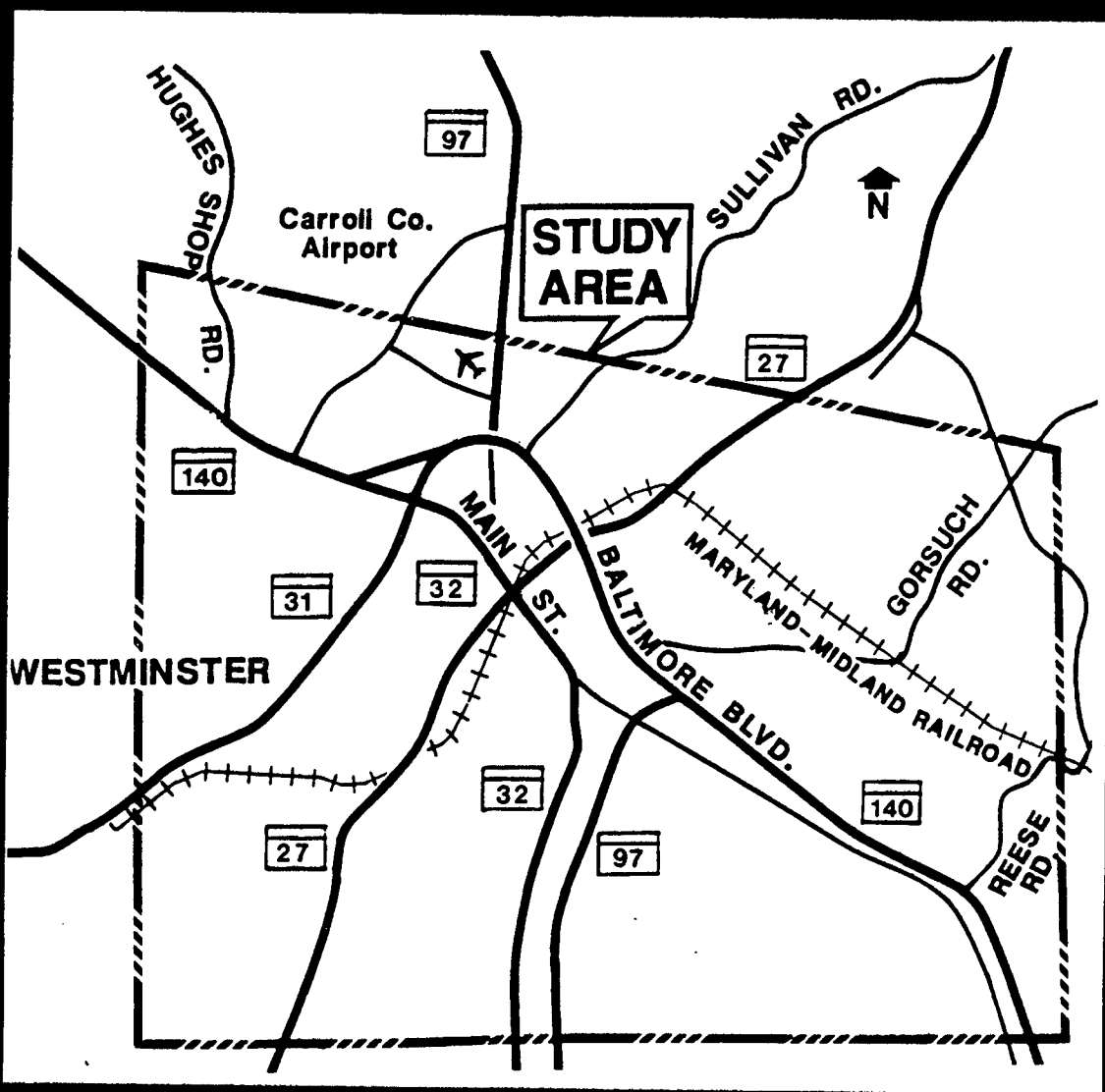


DRAFT ENVIRONMENTAL IMPACT STATEMENT



Section 4(f) Evaluation Maryland Route 140 (Bypass) Hughes Shop Road to Reese Road

CONTRACT NO: CL 713-101-770



prepared by

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION



**Maryland Department of Transportation
State Highway Administration**

2
O. James Lighthizer
Secretary
Hal Kassoff
Administrator

June 7, 1994

Contract No. CL 713-101-770
MD 140 (Bypass) from Hughes Shop Road
to Reese Road

Distribution List

**Draft Environmental Impact Statement/
4(f) Evaluation**

Transmitted for the your review and comment is the approved Draft Environmental Impact Statement - Section 4(f) Evaluation. The document has been prepared in accordance with the CEQ Regulations and 23 CFR 771.

You are requested to provide comments on or before August 8, 1994 to.

Mr. Louis H. Ege, Jr., Deputy Director
Office of Planning and Preliminary Engineering
State Highway Administration (Room 503)
707 North Calvert Street
Baltimore, Maryland 21202

All responses will be considered in developing the final document.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Neil J. Pedersen'.

Neil J. Pedersen, Director
Office of Planning and
Preliminary Engineering

Attachments

cc: Mr. Louis H. Ege, Jr.
Mr. Joseph Kresslein
Mr. C. Robert Olsen
Ms. Cynthia D. Simpson

My telephone number is _____

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

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

REPORT NUMBER: FHWA-MD-EIS-94-01-D
Federal Highway Administration
Region III

**MD 140 (WESTMINSTER BYPASS)
FROM HUGHES SHOP ROAD TO REESE ROAD
Carroll County, Maryland**

ADMINISTRATIVE ACTION

**DRAFT ENVIRONMENTAL IMPACT STATEMENT
SECTION 4(f) EVALUATION**

SUBMITTED PURSUANT TO: 42 U.S.C. 4332 (2) (c) and 49 U.S.C. 303 by the

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
MARYLAND DIVISION

AND

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Cooperating Agency: U.S. ARMY CORPS OF ENGINEERS

for this

David L. Lawton

FEDERAL HIGHWAY ADMINISTRATION
Division Administrator

6-7-94

DATE

Neil J. Pedersen/djk

MARYLAND STATE HIGHWAY ADMINISTRATION
Director, Office of Planning and
Preliminary Engineering

6/6/94

DATE

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

Mr. David Lawton
Planning, Research, and
Environment Engineer
Federal Highway Administration
The Rotunda - Suite 220
711 West 40th Street
Baltimore, MD 21211
Phone: (410) 962-4440
Hours: 7:30 a.m. - 4:00 p.m.

Mr. Louis H. Ege, Jr.,
Deputy Director
Office of Planning and Preliminary Engineering
State Highway Administration
707 North Calvert Street
Room 506
Baltimore Maryland 21202
Phone: (410) 333-1130
Hours: 8:00 a.m. - 4:30 p.m.

The proposed action would provide increased roadway capacity and safety along MD 140 in Westminster. Northern and southern bypass alternates as well as improvements to the existing road are being studied. Environmental impacts to historic sites, wetlands and residential areas are summarized in Table S-1.

Comments on this Draft Environmental Impact Statement are due July 25, 1994, and can be sent to the persons listed above.

SUMMARY

SUMMARY

1. **Administrative Action**

Federal Highway Administration

- (X) Draft Environmental Impact Statement
- () Final Environmental Impact Statement
- (X) Section 4(f)

2. **Information Contacts**

Mr. David Lawton
 Planning, Research, and
 Environment Engineer
 Federal Highway Administration
 The Rotunda-Suite 220
 711 West 40th Street
 Baltimore, Maryland 21211
 Phone: (410) 962-4440
 Hours: 7:30 a.m. - 4:00 p.m.

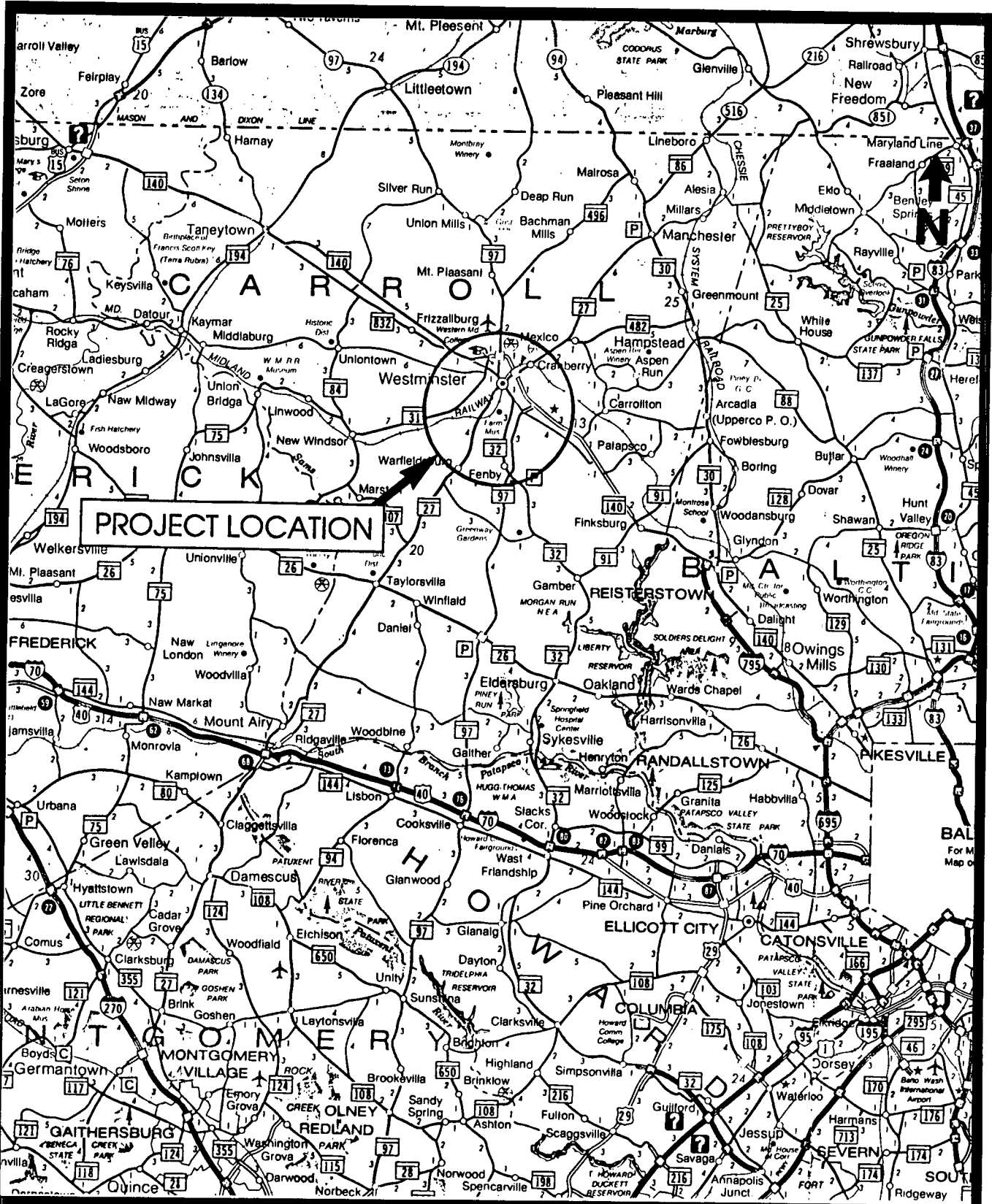
Mr. Louis Ege, Jr.
 Deputy Director
 Office of Planning and
 Preliminary Engineering
 State Highway Administration
 707 N. Calvert Street
 Baltimore, Maryland 21202
 Phone: (410) 333-1130
 Hours: 8:15 a.m. - 4:15 p.m.

3. **Description of Proposed Action**

The project consists of increasing roadway capacity and safety along MD 140 from Hughes Shop Road to Reese Road in Carroll County, Maryland (Figure S-1). The proposed action involves a four-lane controlled access northern or southern bypasses of Westminster and vicinity as well as minor capacity and safety improvements to the existing MD 140 (Figure S-2). The Northern bypass alternates are 12.9 to 16.1 kilometers (8 to 10 miles) in length, the southern bypass alternate 16.1 kilometers (10 miles) long and the existing road alternates are approximately 9.7 kilometers (6 miles) long.

4. **Alternatives Considered**

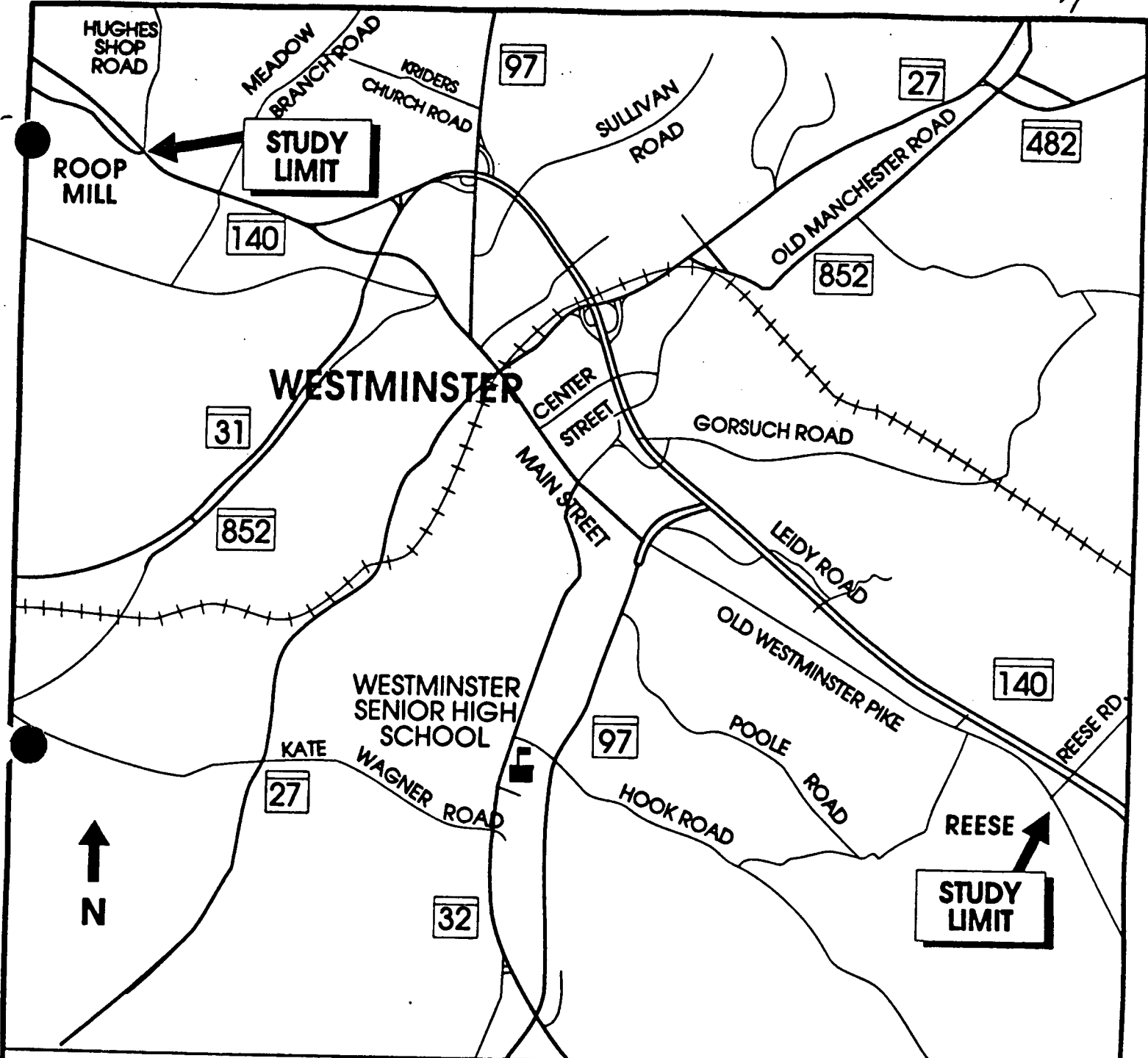
Eight alternatives have been developed to addresses the capacity and safety concerns in and around Westminster.



Westminster Bypass
Maryland Bypass
 2.54 cm = 9.7 km
 SCALE: 1" = 6 miles

PROJECT LOCATION MAP

FIGURE 1



MARYLAND
ROUTE 140

Westminster
Bypass

Study Area

Not to Scale

figure:2

Alternate 1, No-Build Alternate would provide no major improvement along this segment of MD 140. Minor improvements such as resurfacing would occur as part of normal highway maintenance and safety operations. This routine maintenance would not measurably improve the ability of MD 140 to handle the predicted increase in traffic volumes.

T.S.M. Alternate (Transportation Systems Management)

This alternate consists of various spot improvements to existing MD 140 from west of MD 32 to east of Old Baltimore Road. Improvements include adding auxiliary lanes, lengthening substandard left turn lanes, restriping and reconstructing shoulders. With these improvement there would be six (6) lanes in each direction from MD 97 (N) to Old Baltimore Road. These improvements are not expected to measurably increase capacity.

Alternate 2

These improvements extend from west of MD 32 to Reese Road and include the T.S.M. improvements plus additional and lengthened turn lanes as needed at intersections. The improvements would result in 3 lanes in each direction from MD 97 (N) to Sullivan Road, 4-lanes from Sullivan to Old Baltimore road and 3 lanes from Old Baltimore Road to Reese Road.

Alternate 3A

These improvements extend from west of MD 31 to east of Reese Road. They are similar to the improvements proposed under Alternate 2 with the following additions: All movements from side roads onto or across MD 140 are prohibited except for (left turns from MD 140); the MD 97 (N) and MD 27 roadways are widened and interchange ramps are relocated to improve geometrics; and a grade-separated interchange is provided at MD 97 (S) and there will be 3-lanes in each direction from MD 97 (N) to Old Baltimore Road.

Alternate 3B

This alternate is similar to Alternate 3A with the following exceptions: between MD 97 (N) and MD 97 (S) all movements across the MD 140 median are

prohibited (all crossroads are accessed by right-in/right-out or interchange); a few service roads are provided to facilitate movement from interchanges to cross roads; a fly-over ramp is provided from westbound MD 140 to MD 31 and the interchange at MD 27 is reconstructed.

Alternate 4 Modified

This alternate begins in the vicinity of Hughes Shop Road and ends 1219 meters (4000 feet) west of Reese Road. A partial interchange is proposed at MD 97 (N). The alignment follows the Alternate 6 alignment (Carroll County Master Plan Alignment) to the vicinity of the crossing of Old Manchester Road. Proceeding in a southerly direction, it crosses Tannery Road, and the Maryland Midland Railroad before connecting to MD 140.

This alternate includes a direct connection to MD 97 (S), approximately 213.4 meters (700 feet) south of Gorsuch Road.

Alternate 6

Alternate 6 is the Carroll County Master Plan Alignment. It begins with a directional interchange just as it passes under Hughes Shop Road and ends at Reese Road. Passing east of Carrollyn Manor, this alternate bridges Big Pipe Creek and Meadow Branch Road, then crosses Krider's Church Road. Just south of this crossing, Krider's Church Road will be cul-de-saced. From here the alternate runs due east with a partial cloverleaf for access to MD 97 (N). Proceeding east it bridges Sullivan Road and the West Branch of the Patapsco River. Proceeding east and passing under Lucabaugh Mill Road, it then bridges MD 27. A diamond interchange is proposed at MD 27. Turning southward, just past Gahle Road, it crosses Old Manchester Road north of Lynnhaven Drive and Brehm Road approximately .8 kilometer (1/2 mile) east of Tannery Road. The Master Plan Alignment was slightly modified in the vicinity of Cranberry Branch in order to avoid crossing the stream confluence point, as suggested by the environmental agencies. Heading southeast it bridges Gorsuch Road just north of the intersection with Tannery Road. From this point it connects with MD 140 by a directional interchange, at Reese Road.

Alternate 10A

Alternate 10A (southern alignment) begins at the northern terminus, near Hughes Shop Road, by a directional interchange with MD 140, bridges Uniontown Road, then turns east passing under Bell Road. Continuing east, it passes behind Westminster Elementary School, and through a portion of Wakefield Valley Golf Course. Turning southeast it bridges New Windsor Pike (MD 31) where access will be provided by a diamond interchange. Continuing southeast it bridges Little Pipe Creek, Maryland Midland Railway and Old Westminster Pike, then parallels a portion of Ridge Road (MD 27) before bridging it. A diamond interchange is proposed at Kate Wagner Road. Proceeding more northerly it passes north of Smallwood Acres Subdivision and under Hook Road then continuing north, it bridges Beaver Run and Arnold Road. From here it parallels a portion of Arnold Road until bridging Old Westminster Pike and then it terminates at MD 140 by a directional interchange.

5. Areas of Controversy/Unresolved Issues

Throughout the preparation of the Draft Environment Impact Statement/Section 4(f) Evaluation several meetings were held with environmental resource agencies, and local government officials to discuss their areas of concern. Issues regarding wetland impacts, stream crossings and interchange locations were addressed. The State Highway Administration will make every effort to address these concerns as the project advances through the planning process.

There are no unresolved issues associated with the MD 140 project.

6. Permits Required

Construction of this project would require review and approval for the following permits:

- U.S. Army Corps of Engineers - Section 404 Permit
- Maryland Department of the Environment - Approved Sediment Control Plan
- Maryland Department of the Environment - Approved Stormwater Management Plan
- Maryland Department of Natural Resources - Waterway Construction Permit
- Maryland Department of the Environment - Water Quality Certificate

7. Summary of Environmental Impacts

All of the proposed build alternatives require the acquisition of additional right-of-way. Residential relocations are required with Alternatives 4 Modified, 6 and 10A. Alternate 4 Modified requires 27 residential relocations, Alternate 6 requires 26 residential relocations and Alternate 10A requires 35 residential relocations. None of the existing roadway improvements, including the Transportation Systems Management (T.S.M.) Alternate, Alternates 2, 3A or 3B require residential relocations.

No minority communities are affected with any of the build alternatives. There are no business displacements required with either T.S.M. Alternate or Alternate 10A. Alternate 2 would require two business displacements, Alternate 3A would require 8 business displacements and Alternate 3B would require 13 business displacements. Alternate 4 Modified would require 3 business displacements, Alternate 6 would require 2 business displacements.

Alternate 3B (Existing Road Improvement) would impact 1.58 hectares (3.9 acres) of the Carroll County East Middle School which consists of a tennis court, soccer field, football field and athletic field in addition to impacting one temporary building which houses a class room.

Right-of-way would be acquired from eight National Register eligible historic sites, Chew Crawl Farm, Roop's Rural Historic District, Tannery Historic District, Goodwin-Robertson-Wagner Farm Complex, the Bonsack Farm Complex, Evelyn Thompson, and the Royer-Koontz Farmstead.

Alternates 2, 3A and 3B (existing road improvements) would require approximately .51 hectare (1.27 acres) from the Chew Crawl Farm. Proposed Alternate 6 (Northern Bypass Alternate) would require approximately .62 hectare (1.54 acres) from the same site, while Alternate 10A (Southern Bypass Alternate) would require approximately 2.64 hectares (6.53 acres) from this historic site.

Alternates 4 Modified and 6 would require approximately 15.15 hectares (37.43 acres) and Alternate 10A would require 36.13 acres (14.62 hectares) from the Roop Rural Historic District. Alternate 10A would also require approximately 4.51 hectares (11.15 acres) from the Goodwin-Robertson-Wagner Farm Complex.

Alternates 2, 3A would each require 2.11 hectares (5.21 acres) and the T.S.M. Alternate requires 1.34 hectares (3.30 acres) from the Bonsack Farm complex while Alternate 3B would require 2.66 hectares (6.58 acres) from the same site. The T.S.M. alternate, and Alternates 2, 3A and 3B would require .75 hectares (1.86 acres) from the Royer Koontz Farmstead. 0.46 hectares (1.20 acres) would be acquired from the Evelyn Thompson House with Alternates 2, 3A, 3B and 10A would require .58 hectares (1.43 acres).

Proposed Alternates 6 and 4 Modified would require approximately 3.16 hectares (7.80 acres) from the Fritz Farm site and Alternate 6 would require approximately .27 hectare (0.67 acres) from the Tannery Historic District. Alternate 6 requires .22 hectares (.55 acres) from the Evelyn Thompson historic site.

Two archeological sites, the Drechsler site (18 CR 224) located within the proposed right-of-way for Alternate 4 Modified, and the Elizabeth Lowery site (18 CR 226) located within the right-of-way of proposed Alternates 6 and 10A, were judged to be potentially significant for the information they contain and a phase II archeological survey has been recommended.

Coordination with the Maryland Historical Trust has been initiated, requesting their concurrence in our effect determinations.

Proposed Alternates T.S.M., 2, 3A, and 3B will require the crossing of the West Branch Patapsco River (tributary No.16). No additional widening of the existing bridge will be required.

Alternate 4 Modified would require crossing a total of six streams, Meadow Branch a tributary of Big Pipe Creek, two crossings of the West Branch of the Patapsco River mainstem, one crossing of tributaries No.19 and 22 of West Branch Patapsco River and Cranberry Branch. A total of 8.74 hectares (21.6 acres) of floodplain would be affected by Alternative 4 Modified.

Alternate 6 would require crossing a total of six streams, Meadow Branch, two crossings of West Branch Patapsco River mainstem, one crossing of tributaries No. 19 and 20 of the West Branch of the Patapsco River and Cranberry Branch. Alternate 6 would impact approximately 12.1 hectares (29.8 acres) of floodplain.

Alternate 10A would require crossing a total of eight streams, Meadow Branch, Cops Branch mainstem and tributary No.107, the Little Pipe Creek mainstem and tributary No.105, Little Morgan Run mainstem, Middle Run mainstem and Beaver Run mainstem. Alternate 10A would impact approximately 12.8 hectares (31.5 acres) of floodplain.

Meadow Branch, Little Pipe Creek, Tributaries to the Monocacy River and West Branch Patapsco River mainstem are classified by Maryland Department of the Environment as Class IV Trout Steams for which instream construction restrictions may be imposed from March 1, to May 31 inclusive. Beaver Run, a tributary to the west Branch of the Patapsco, is classified Class III waters, suitable for the growth and propagation of trout, may require instream construction restrictions from October 1, to April 30, inclusive.

Proposed Alternates 2 and 3A would not impact any wetlands, however, Alternate 3B would impact approximately .08 hectare (0.2 acre) of palustrine emergent wetlands. Proposed Alternative 4 Modified would impact approximately 2.8 hectares (7.0 acres) of wetlands consisting of palustrine emergent, palustrine scrub-shrub and palustrine forested wetlands. Alternate 6 would impact approximately 4.9 hectares (12.2 acres) of wetlands including palustrine scrub-Shrub, palustrine emergent, and palustrine forested wetlands. Alternate 10A would impact approximately 2.4 hectares (5.9 acres) of wetlands consisting of palustrine emergent, palustrine forested, and palustrine scrub-shrub wetlands. Sediment and erosion control measures and stormwater management practices approved by the Department of the Environment, would be strictly enforced during construction to minimize water quality impacts to these streams.

Alternate 3B, representative of the worst case impacts associated with existing roadway improvements, will impact approximately 17.0 hectares (42 acres) of prime farmland soils, Alternate 6 would require approximately 40.1 hectares (99.0 acres) of prime farmland soils, Alternate 4 Modified would require approximate 17.0 hectares (42 acres) of prime farmland soils and Alternate 10A would require approximately 34.4 hectares (85.0 acres) of prime farmland soils. Prime farmland soils along the existing roadway and along the bypass alternates are currently zoned for industrial, commercial and residential uses.

There are no federal or state listed threatened or endangered species in the study area.

Analysis of the effects of the No-Build alternate and the proposed build alternates on air quality indicates that none would result in violations of the one-hour or eight-hour State/National Ambient Air Quality Standards for carbon monoxide in the build year or the design year 2015.

A noise analysis was conducted within the study area for all of the Build Alternates. For the alternates proposing improvements to the existing roadway, (TSM, 2, 3A and 3B) noise levels predicted for Alternate 3A are representative of the worst case condition. For proposed Alternate 3A, the projected design year (2015) noise level at nine noise sensitive sites would approach or exceed the Federal Highway Administration's Noise Abatement Criteria (FHWA) of 67 dBA.

For build Alternate 4 Modified, the projected design year (2015) noise level at seven noise sensitive sites would approach or exceed the FHWA Noise Abatement Criteria of 67 dBA. At four of these sites the predicted noise levels exceeds the ambient noise level by ten dBA or more. For build Alternate 6, the projected design year (2015) noise level at eight noise sensitive sites would approach or exceed the FHWA Noise Abatement Criteria of 67 dBA. At five additional sites, the predicted noise levels exceeds the ambient noise levels by ten dBA or more. For build Alternate 10A, the projected design year (2015) noise level at six noise sensitive sites would approach or exceed the FHWA Noise Abatement Criteria of 67 DBA. At four sites, the predicted noise levels exceeds the ambient noise levels by ten DBA or more. Additional information regarding possible noise mitigation for these sites is available in the Draft Environmental Impact Statement/4(f) Evaluation.

Table S-1 compares the impacts associated with all alternates.

Table S-1								
Analysis Item	Alternate 1	Alternate TSM	Alternate 2	Alternate 3A	Alternate 3B	Alternate 4-Modified	Alternate 6	Alternate 10A
Socio-Economic								
Residential displacements	0	0	0	0	0	27	26	35
Business Relocations	0	0	1	8	13	3	2	0
Recreation area (School Recreation areas)	0	0	0	0	3.9	0	0	0
Cultural Resources								
NRE Historic Sites (R-O-W) acquisition	0	2	4	4	4	2	4	4
Archeological sites Affected	0	0	0	0	0	1	1	1
Natural Environmental								
Wetlands Affected (Hectares)	0	0	0	0	.2	7.0	12.2	5.9
Forested Areas affected (Hectares)	0	0	0	0	65	92.3	101.0	133.0
Threatened or Endangered Species	None	None	None	None	None	None	None	None
No. of Stream Crossings	0	0	0	0	1	6	6	8
Floodplains Affected (Hectares)	0	0	0	0	0	21.6	29.8	31.5
No. of NSA's exceeding NAC or substantial increase over ambient	5	N/A	N/A	9	N/A	5	6	4
Air Quality No. of receptors where CO concentration exceed S/NAAQS	None	None	None	None	None	None	None	None
Hazardous Waste (No. of potential sites impacted)	0	0	1	1	1	0	1	0
Cost (Millions)								
Engineering and Construction		\$7.70	\$29.00	\$40.20	\$47.60	\$199.00	\$233.00	\$216.00
Right-of-way		\$1.10	\$10.50	\$21.60	\$25.90	\$ 25.00	20.00	18.30
Total		\$8.80	\$39.50	\$61.80	\$73.50	\$224.00	\$224.00	\$234.30

The following Environmental Assessment Form is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. It's use is in keeping with the provisions of 1500.4(k) and 1506.2 and .6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State and Local procedures be integrated into a single process.

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

ENVIRONMENTAL ASSESSMENT FORM

17

		<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
A.	Land Use Considerations			
1.	Will the action be within the 100 year floodplain?	<u>X</u>	___	<u>III-33</u> <u>IV-33 & IV-33</u>
2.	Will the action require a permit for construction or alteration within the 50 year floodplain?	___	<u>X</u>	___
3.	Will the action require a permit for dredging, filling, draining or alteration of a wetland?	<u>X</u>	___	<u>III-37 thru III-59</u> <u>IV-37 thur IV-75</u>
4.	Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	___	<u>X</u>	___
5.	Will the action occur on slopes exceeding 15%?	___	<u>X</u>	___
6.	Will the action require a grading plan or a sediment control permit?	<u>X</u>	___	<u>IV-29</u>
7.	Will the action require a mining permit for deep or surface mining?	___	<u>X</u>	___
8.	Will the action require a permit for drilling a gas or oil well?	___	<u>X</u>	___
9.	Will the action require a permit for airport construction?	___	<u>X</u>	___
10.	Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	___	<u>X</u>	___

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
			18
11.	<u>X</u>	___	<u>III-5</u> <u>V-5</u>
12.	___	<u>X</u>	___
13.	___	<u>X</u>	<u>III-11 thru III-24</u> <u>IV-19 thru IV-28</u>
B.	<u>Water Use Considerations</u>		<u>S-4</u> <u>III-28 thru III-32</u> <u>IV-30 thru IV-32</u>
14.	<u>X</u>	___	
15.	<u>X</u>	___	<u>III-20 thru III-32</u> <u>IV-30, S-8</u>
16.	<u>X</u>	___	<u>IV-32</u>
17.	___	<u>X</u>	___
18.	___	___	___

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	___	<u>X</u>	___ 19
20. Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	___	<u>X</u>	___
21. Will the action result in any discharge into surface or sub-surface water?	<u>X</u>	___	III-28 thru III-33 <u>IV-30</u>
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	___	<u>X</u>	III-28 thru III-33 <u>IV-30 thru 32</u>
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	___	<u>X</u>	<u>IV-76 thru IV-95</u>
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	___	<u>X</u>	<u>IV--76 thur IV-95</u>
25. Will the action generate additional noise which differs in character or level from present conditions?	<u>X</u>	___	<u>IV-96 thru 115</u>
26. Will the action preclude future use of related air space?	___	<u>X</u>	___

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
27. Will the action generate any radiological, electrical, magnetic, or light influences?	—	<u>X</u>	—
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	—	<u>X</u>	<u>IV-75</u> <u>VIII-47</u>
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	—	<u>X</u>	—
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	—	<u>X</u>	—
E. Socio-Economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	<u>X</u>	—	<u>IV-4</u>
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?	<u>X</u>	—	<u>IV-1 thru IV-7</u>
33. Will the action alter land values?	—	<u>X</u>	—
34. Will the action affect traffic flow and volume?	<u>X</u>	—	<u>II-32 thru II-40</u>

20

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
35. Will the action affect the production, extra-action, harvest or potential use of a scarce or economically important resource?	___	<u>X</u>	___
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	___	<u>X</u>	___
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans-including zoning?	<u>X</u>	___	<u>I-2 III-10</u>
38. Will the action affect the employment opportunities for persons in the area?	___	<u>X</u>	___
39. Will the action affect the ability of the area to attract new sources of tax revenue?	___	<u>X</u>	___
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	___	<u>X</u>	___
41. Will the action affect the ability of the area to attract tourism?	___	<u>X</u>	___
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	___	<u>X</u>	___

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?	<u> </u>	<u> X </u>	<u> </u>
44. Will the action be of statewide significance?	<u> </u>	<u> X </u>	<u> </u>
45. Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action could result in a cumulative or synergistic impact on the public health, safety, welfare, or environment?	<u> </u>	<u> X </u>	<u> </u>
46. Will the action require additional power generation or transmission capacity?	<u> </u>	<u> X </u>	<u> </u>
47. This agency will develop a complete environmental effects report on the proposed action.	<u> X </u>	<u> </u>	<u> S-1 </u>

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I.

PURPOSE
AND NEED

I. PURPOSE AND NEED

A. Project Location and Description

MD 140 is an important east-west roadway running from US 15 near the Pennsylvania State line north of Emittsburg to Baltimore City (See Figure S-1). It connects points within Carroll County such as Emittsburg and Taneytown to Westminster, the seat of the County government. MD 140 is classified as an intermediate arterial in the State's primary system of roads and as other principal arterial in the Federal system. The study segment of MD 140 is located in the Westminster area in Carroll County. The project limits are Hughes Shop Road on the west end and Reese Road on the east end (See Figure S-2).

MD 140 is a principal commuter route between Baltimore and Westminster and also carries considerable interstate traffic between Pennsylvania and the Baltimore-Washington metropolitan area. MD 140 connects to I-795, near the Baltimore County line, providing direct access to the Baltimore Beltway and the metropolitan area and also to I-95.

Carroll County is one of the fastest growing counties in the Baltimore metropolitan area. Some of the major factors affecting the growth in the study area are the central location of Westminster, the County seat, with access from all the other small towns within the County, proximity of the area to the Baltimore-Washington corridor, industries looking for stable communities and an employee work force with a strong work ethic and the attractiveness of the area for living, working, and for recreation. Westminster is also a college town, serving as home to Western Maryland College and Carroll County Community College.

This project addresses the traffic capacity problems along MD 140 in the Westminster area and evaluates alternates for improvements along the existing roadway as well as the possibility of constructing a bypass either in the north or south of the City.

B. Project History

A need for a bypass for Westminster was identified in the mid-1960's when the State Highway Administration conducted studies of the area. Since that time, with the opening of the Northwest expressway and the Cranberry Mall, expansion of the Air Business Center and other developments, additional traffic demand has been placed on existing MD 140. Westminster is one of the eight planning areas in the County and as such it is a place where the County focusses growth and development.

Since 1962, the County has undertaken considerable efforts to plan and protect a corridor for a controlled access highway north of the existing road. This has been accomplished by restricting development within the planned highway corridor. A comprehensive traffic study was completed jointly by the State, County and the City in cooperation with the Federal Highway Administration in 1971 in order to identify the severe traffic problems in the City. Many of the capital improvements made to date are the results of this study.

The Westminster Bypass is included in the current Westminster and Environs Comprehensive Plan adopted by the City of Westminster and Carroll County and has been recognized by County officials as a high priority since being placed on the County Major Road Plan in 1962. The Comprehensive Plan was revised in 1985 and it reaffirmed the need and the location of the MD 140 bypass.

An origin-destination study was performed in 1986. This study showed that approximately 27% of the traffic from existing MD 140 would be diverted to a southern or northern bypass.

The Westminster Bypass first appeared in the Highway Needs Inventory in 1986. This project was included in the Maryland Department of Transportation's Consolidated Transportation program in 1987. Project planning studies for this project began in March, 1987. An Alternates Public meeting was held in May of 1988.

The Regional Planning Council conducted another traffic survey using a computer model in 1987-1988, which showed almost the same diversion as the previous survey. Coordination between the State Highway Administration and the County in 1989 resulted in an additional origin and destination study being done. The diversion rate potential from this study showed approximately 30 to 40% for a northern alignment and 20 to 30% for a southern alignment.

C. Purpose and Need

The purpose of the project is to provide relief to the traffic congestion and to increase safety along the study section of MD 140. This project involves the assessment of northern and southern bypass alternates of Westminster and improvements to the existing roadway.

MD 140 was originally built in 1952 as a bypass around Westminster (See Figure 2). However, due to the extensive industrial and commercial development which has direct access to the roadway, it has lost its function as a bypass. With no control of access it currently functions as a city street with heavy volumes of local traffic mixing with through traffic. The opening of the Northwest Expressway (I-795) in 1987, which ties directly into MD 140, greatly enhanced the accessibility of the study area and with the continued commercial, industrial and residential development, additional traffic pressure is placed on existing MD 140.

The two major corridors designated for business lie along MD 140 and Main Street. As the Westminster area continues to grow, consistent with the adopted plan, traffic using MD 140 is expected to increase. This will only add to current traffic congestion and increase accident potential. In response to this growth, improvements to the existing road are either planned, under construction, or have been completed.

Englar Business Park containing Wal-Mart shopping store and Lowes home improvement store, located at the intersection of MD 140 and Englar Road, is another traffic generator. Additional turn-lanes were added at this intersection

in summer, 1993. Seven additional lots, ranging from one to three acres, are also available for development in the business park. Englar Shopping Center, with K-Mart, Super Fresh food market and other businesses, is another development project at this intersection. Across from these shopping centers exist the Westminster Shopping Center and Carroll Plaza. This is one of the busiest intersections along this corridor and it has already reached capacity.

The largest area designated for industrial growth is located at the northern part of the study area along the MD 97 corridor. The Air Business Park exists in this area. Adjacent to the industrial development area is the Carroll County Airport, the expansion of which is currently in progress. Another area for industrial use lies along MD 31. Other small industrial areas have been developed and there is still room for more development. There are also several well established industries in the area. A small industrial area is located at the southwest corner of MD 97 and Old Westminster Pike. A long industrial corridor exists along MD 27 to Lucabaugh Mill Road.

Even with the improvements that have been recently completed, traffic congestion, particularly that associated with the continuing rapid commercial development along MD 140, is increasing.

One of the major commercial development projects includes Cranberry Mall, located at the intersection of MD 140 and Center Street. Additional lanes were added at this intersection to accommodate the increasing traffic volumes to and from the Mall. These lanes were added in conjunction with the Mall opening in 1987. Another commercial development at this intersection is Cranberry Square which includes the Giant food store and other retail shops and eating establishments. The third westbound lane between MD 97 north and MD 97 south was also added in 1987.

There has also been residential development in the Westminster area in recent years. Several new developments were built, some are under construction and others planned. There are low density suburban residential developments such as Washington Court, Autumn Ridge and Devlin Square and medium density residential development such as Eden Farms just to name a few. Also,

undeveloped land adjacent to several older existing developments is available for expansion. 123.5 hectares (305 acres) of urban residential area, which allows up to 15 units per acre, 684.8 hectares (1,692 acres) of suburban residential area, with 4 to 9 units per acre and 1,000.4 hectares (2,472 acres) of medium density residential area, with two units per acre, are designated for residential growth in Westminster and the surrounding areas. In addition, there are low density residential areas which allow one unit per acre, around the outskirts of the study area.

The following residential developments occurring in the Westminster area would increase traffic on MD 140:

- Eagle View Estates, located at Uniontown Road and Royer Road on the west side of Westminster is a subdivision containing 145 lots. The construction began in 1992 and is still under construction.
- Whispering Meadows, located at the intersection of Uniontown Road and Buck Cash Road, contains 110 lots.
- Furnace Hills is another subdivision with 300 mixed housing type units, located off MD 31 south of the City of Westminster. Construction of Section I was completed and Section II and condos are currently under construction.
- Parr's Ridge, located at the intersection of MD 31 and Uniontown Road, contains 150 condominium units, construction of which was recently completed.
- Diamond Hills, located at the intersection of Gist and Kate Wagner Roads, will contain 200 housing units.

D. The Existing Road

Existing MD 140 from Hughes Shop Road to MD 31, is a two-lane, 7.3 meters (24 foot) roadway with shoulders ranging from .9 to 1.8 hectares (3 feet

to 6 feet). From MD 31 to Reese Road, the project's eastern terminus, the existing road is a multi-lane divided highway with a 15.2 meters (50 foot) grass median. The eastbound roadway consists of two through lanes, a 3 meters (10 foot) outside shoulder and a 1.2 meters (4 foot) inside shoulder, whereas the westbound roadway includes a third through lane between MD 97 north and MD 97 south. Since there is no control of access along this road, there are numerous entrances and 36 intersections located on this portion of MD 140. Traffic entering and exiting from the commercial and residential entrances mix with the through traffic on MD 140. Six of the intersections, Sullivan Road, Englar Road, Center Street, Cranberry Road, Gorsuch Road and MD 97, are controlled by traffic signals. Improved coordination of the signals at the six intersections is being considered and expected to be implemented in 1994. Two other intersections with MD 31 and Reese Road have flashing signals. The signalization of Royer Road/Meadow Branch Road intersection is currently being considered.

The existing road is posted for 88.5 kilometers per hour (55 mph) west of MD 31 and east of Old Baltimore Boulevard within the study limits. The stretch of roadway in between is posted for 72.4 kilometers per hour (45 mph).

E. Traffic

The existing average daily traffic on certain sections of this road has already reached over 41,000 vehicles per day. This number is projected to increase to above 70,000 by the year 2015. From late 1991, Main Street has been undergoing reconstruction, while sections of the roadway were closed. This causes a slight increase (approximately 8,000-10,000 a day) in traffic volumes on MD 140 during this period. Main Street reconstruction is scheduled to be complete by this fall. (Intersection traffic counts were taken in 1991 prior to Main St. construction) Currently, all of the signalized intersections are experiencing capacity problems. Some have already reached capacity and others nearing capacity. The level-of-service is an expression describing the operating conditions of a section of highway accommodating various traffic volumes. It is a measure of the effect of factors such as speed, travel time, traffic interruptions, driving comfort, etc. and it ranges from "A" to "F".

The following is a brief description of the criteria for each of the levels-of-service traffic classifications:

- Level-of-service A - free traffic flow, low volumes, high speeds
- Level-of-service B - stable traffic flow, some speed restrictions
- Level-of-service C - stable flow, increasing traffic volumes
- Level-of-service D - approaching unstable flow, heavy traffic volumes, decreasing speeds
- Level-of-service E - unstable flow, with continuous backup on approaches to intersections with traffic delays
- Level-of-service F - forced flow

The existing level-of-service analysis at selected intersections is as follows:

Table I-1				
Location	Peak Hour Level of Service			
	1993		2015	
	AM	PM	AM	PM
MD 140/MD 97	D	D	F	F
MD 140/Gorsuch Road	E	D	F	F
MD 140/Center Street	E	E	F	F
MD 140/Englar Road	E	F	F	F
MD 140/Sullivan Road	C	C	F	F
MD 140/MD 31	A	B	E	C
MD 140/Meadow Br. Rd.	B	A	B	A

The above analysis indicates levels-of-service D and E for most of the signalized intersections.

With the increase in traffic volumes, conditions will worsen at these intersections.

A recent analysis of the most congested intersection, Englar Road at MD 140 indicated that this intersection is already operating beyond capacity at level-of-service "F" during evening rush hours. For traffic information regarding the alternates for detailed study, see Section II E. Transportation.

F. Accident Statistics

The most recent accident data for a three year period from 1990 to 1991 shows a total of 336 accidents. The accident experience, rates for the study area are per 100 million vehicle miles (100 mvm) and comparison to the statewide average rates for each severity level are shown in Table I-2 below:

Table I-2						
SEVERITY	1990	1991	1992	Total Rate	Study Rate	State Wide
Fatal Accidents	0	2	2	4	2.5	1.5
Injury Accidents	69	65	56	190	116.5	132.2
Prop. Damage	65	35	42	142	87.2	110.3
Total Accidents	134	102	100	336	206.3	243.9

Although, the total accident study rate fell slightly below the statewide average rates for similar types of roadways, there were four fatal accidents within the study section of MD 140, resulting in a rate of 2.5 accidents per 100 million vehicle miles of travel compared to the statewide rate of 1.5 (See Table I-3).

The accident frequencies and rates, by collision type, along with their statewide average rates are listed below:

Collision Type	Total Accidents	Study Rate	Statewide Av. Rate
Angle	53	32.5	45.1
Rear End	152	93.3*	75.5
Fixed Object	27	16.6	22.8
Opp. Direction	11	6.8	4.7
Sideswipe	34	20.9	22.7
Left-Turns	40	24.6	39.7
Pedestrians	5	3.1	6.5
Parked Vehicle	4	2.5	4.0
Other Collisions	10	6.1	23.1

* Significantly above the statewide average rate.

Rear end collisions occurred at a significantly higher rate than the statewide average rate. Generally, this is an indication of congestion on the road.

For the information on accident data and analysis on the alternates retained for detailed study, please see Section II, p. II-41.

II.

ALTERNATES

II. DESCRIPTION OF ALTERNATES

Carroll County had conducted studies and public meetings for a bypass around Westminster, prior to adding one northern alignment in the Master Plan in 1962. In 1987, when project planning studies started, several alternates for a bypass north and south of Westminster, including the Master Plan alignment, were developed in addition to alternates improving the existing road. These alternates along with the No-Build Alternate were presented at the May 26, 1988 Alternates Public Workshop.

A. Alternates Presented at the Alternates Public Meeting

The following alternates were presented at the Alternates Meeting and are shown on Figure II-1.

1. Alternate 1 - The No-Build Alternate

The No-Build Alternate would provide no major improvements to increase capacity or safety along the existing road. Minor improvements such as resurfacing and routine highway maintenance and safety operations would continue under this alternate. The routine maintenance would not provide any relief to the traffic congestion which is projected to worsen in future. With the increase in traffic volumes, the accidents would also continue to increase along the study section of MD 140.

2. Alternates Along the Existing Road

Alternates 2 and 3

Alternates 2 and 3 proposed to upgrade MD 140 from west of Hughes Shop Road to Reese Road. Under these alternates, the existing two-lane roadway west of MD 31 would be dualized to form a four-lane roadway with a 16.5 meters (54-foot) grass median. The four-lane roadway east of MD 31 would be widened to six lanes by adding one-lane in each direction within the existing median. A continuous right-turn lane would be provided adjacent to commercially developed parcels. In addition, safety and capacity improvements at intersections would be provided by adding or lengthening turn-lanes. This would require purchasing additional right-of-way at those

locations.

West of MD 31, Alternate 2 proposed a curbed roadway within the existing right-of-way. Alternate 3 proposed an open section requiring additional right-of-way on either side.

In addition to the improvements mentioned above, Alternate 3 included upgrading interchanges at MD 97 (Littlestown Pike) and MD 27 and widening the existing cross roads. New interchanges at MD 97 south (Old Washington Road) and at MD 31 and the construction of some new service roads were also under consideration with Alternate 3.

3. Bypass Alternates

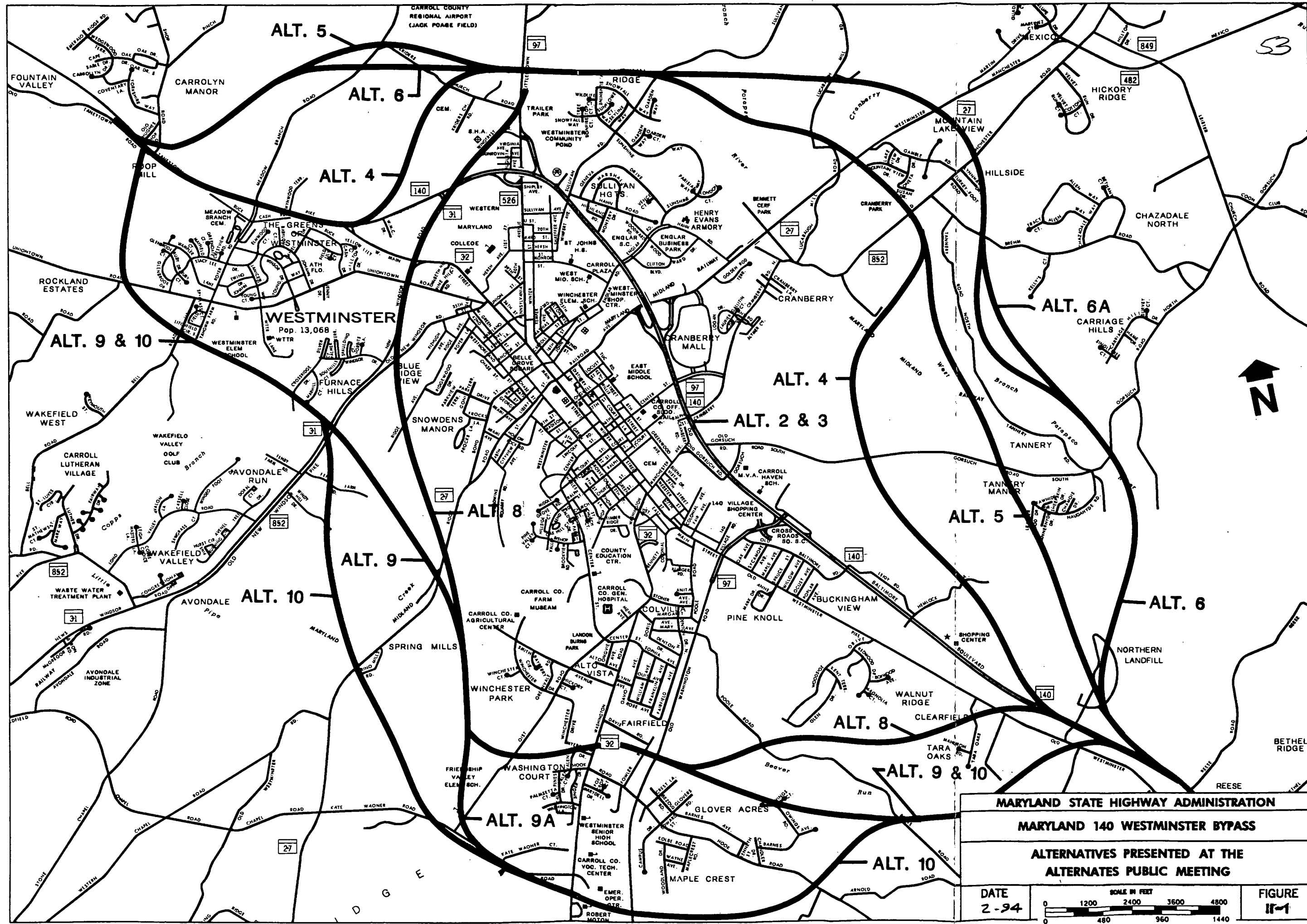
All bypass alternates were proposed as four-lane fully controlled access roadways. The typical section consisted of two 7.3 meters (24-foot) roadways, with a 16.5 meters (54-foot) grass median and 3.7 meters (12-foot) shoulder and safety grading.

a. Northern Bypass Alternates

These alternates proposed to construct a bypass on the north side of Westminster. With each alternate, interchanges would be constructed at MD 97 (north), MD 27 and Gorsuch Road. Interchanges at the western and the eastern tie-ins with existing MD 140 were also included.

1) Alternate 4

Alternate 4 proposed a bypass beginning from just east of West Main Street and meeting existing MD 140 approximately 1.6 kilometers (1 mile) west of Reese Road. Diverging from MD 140 at the western limit, it would run northerly crossing Kriders Church Road passing between Kriders Church Cemetery and the Carroll County Airport, it would continue in a westerly direction crossing MD 27 just north of Lucabaugh Mill Road. Continuing north of Cranberry Park, it crosses Old Manchester Road just



MARYLAND STATE HIGHWAY ADMINISTRATION		
MARYLAND 140 WESTMINSTER BYPASS		
ALTERNATIVES PRESENTED AT THE ALTERNATES PUBLIC MEETING		
DATE 2-94	SCALE IN FEET 0 1200 2400 3600 4800 0 480 960 1440 METRIC	FIGURE 11-1

south of Brehm Road. Turning south and crossing West Branch Patapsco River and Maryland Midland Railroad it would cross Gorsuch Road and merge with existing MD 140 west of Reese Road.

2) Alternate 5

Alternate 5 would begin at MD 140 just west of Hughes Shop Road and would end at Reese Road. It proposed an alignment east of Carrollyn Manor subdivision and north of Krider's Church Road. From the airport to Old Manchester Road it would follow the same alignment as Alternate 4. East of Old Manchester Road, Alternate 5 continued easterly running just south of Tannery Road. It would cross Gorsuch Road .4 kilometers (1/4 mile) west of Tannery Road.

3) Alternate 6

Alternate 6 is the Carroll County Master Plan alignment. It begins at MD 140 just west of Hughes Shop Road and ends at Reese Road. Passing east of Carrollyn Manor subdivision, this alignment crosses Meadow Branch Road and Krider's Church Road, just south of their intersection. Running east it crosses MD 27 approximately 1.6 kilometers (1 mile) north of Gahle Road. Turning southerly, it crosses Old Manchester Road, just south of Lynnhaven Drive and crosses Brehm Road approximately .8 kilometers (1/2 mile) east of Tannery Road. Heading southeast, it crosses over Gorsuch Road just north of Tannery Road and ties back to the existing MD 140 west of Reese Road.

4) Alternate 6A

Alternate 6A differs from Alternate 6 only between Brehm Road and Gorsuch Road. The alignment was shifted to the east in order to reduce environmental impacts to agricultural properties, floodplains and wetlands associated with the west

branch of the Patapsco River and to reduce the length of potential structures.

b. Southern Bypass Alternates

These alternates proposed to construct a four-lane bypass on the south side of Westminster. Interchanges were proposed at both termini and at MD 31, MD 27 and MD 97 south (Old Washington Road).

1) Alternate 8

Alternate 8, beginning at the intersection of MD 140 and MD 31, proposed to add a second roadway along MD 31 from MD 140 to about .4 kilometer (1/4 mile) south of Uniontown Road. At this point an interchange would be provided. West Main Street and Uniontown Road would be reconstructed to bridge over the new roadway, with a partial diamond interchange at West Main street. Old New Windsor Road would be cul-de-saced at the new roadway. Alternate 8 would continue southerly bridging MD 27 and the railroad. Curving to the east and crossing Gist Road, it would pass under MD 32 and over MD 97 just north of the high school. Gist Road would be cul-de-saced. Turning northeast, it would bridge over Poole Road, cross under Old Westminster Pike in the Clearfield area and then would meet MD 140 approximately 1.6 kilometer (1 mile) west of Reese Road.

2) Alternate 8A

Alternate 8A followed the same alignment as Alternate 8 with an extension from MD 140 north to MD 97 (Littlestown Pike). just south of the airport.

3) Alternate 9

Alternate 9 proposed an alignment beginning just west of Hughes Shop Road and running southerly crossing Uniontown

Road. Curving easterly, bridging Uniontown Road and passing under Bell Road, it would have passed behind Westminster Elementary School. Turning southeast it would bridge MD 31 and MD 27. It would bridge over Maryland Midland Railroad and follows Alternate 8 alignment to a point just east of MD 97. Alternate 9 would continue east crossing Poole Road and Old Westminster pike and joining existing MD 140 in the vicinity of Arnold Road.

4) Alternate 9A

This alignment is a combination of the western portion of Alternate 9 and the eastern portion of Alternate 10. A one mile long connection between the two alignment west of Gist Road would join these two segments.

5) Alternate 10

Alternate 10 was identical to Alternate 9 from Hughes Shop Road to MD 31. From here, it would run southerly, bridging the railroad and MD 27. Continuing south, it generally parallels MD 27 on the east until it reaches the vicinity of Kate Wagner Road. Turning east, it followed the same alignment as Kate Wagner Road to east of MD 97. Passing under Hook Road, it would meet Alternate 9 just south of Poole Road and follows the same alignment to the eastern terminus at MD 140.

B. Alternates Considered But Dropped (Figure II-2)

1. Northern Bypass Alternates

a. Alternate 4

Following the Alternates Public Meeting, Alternate 4 was eliminated from further consideration due to the following reasons:

- It would have required right-of-way from a historic site, the

Royer Koontz Farm.

- Alternate 4 proposed to tie-into MD 140 east of Royer Road intersection, which is projected to be a major congestion point. Royer Road accesses existing and future residential areas and a bypass of greater Westminster needs to tie-in west of this developed area.
- It would have caused more impacts to residential areas in the vicinity of Sullivan Road and Lucabaugh Mill Road. The alignment would have passed through subdivisions such as Autumn Ridge, Eve's Choice and Mountain Lake View.
- This alternate caused more disruption to farming activities than the Master Plan alignment.

b. Alternate 5

This alternate was dropped from further study for the following reasons:

- It would have affected the Tannery Survey District which is National Register eligible.
- It would have caused impacts to a new residential development.

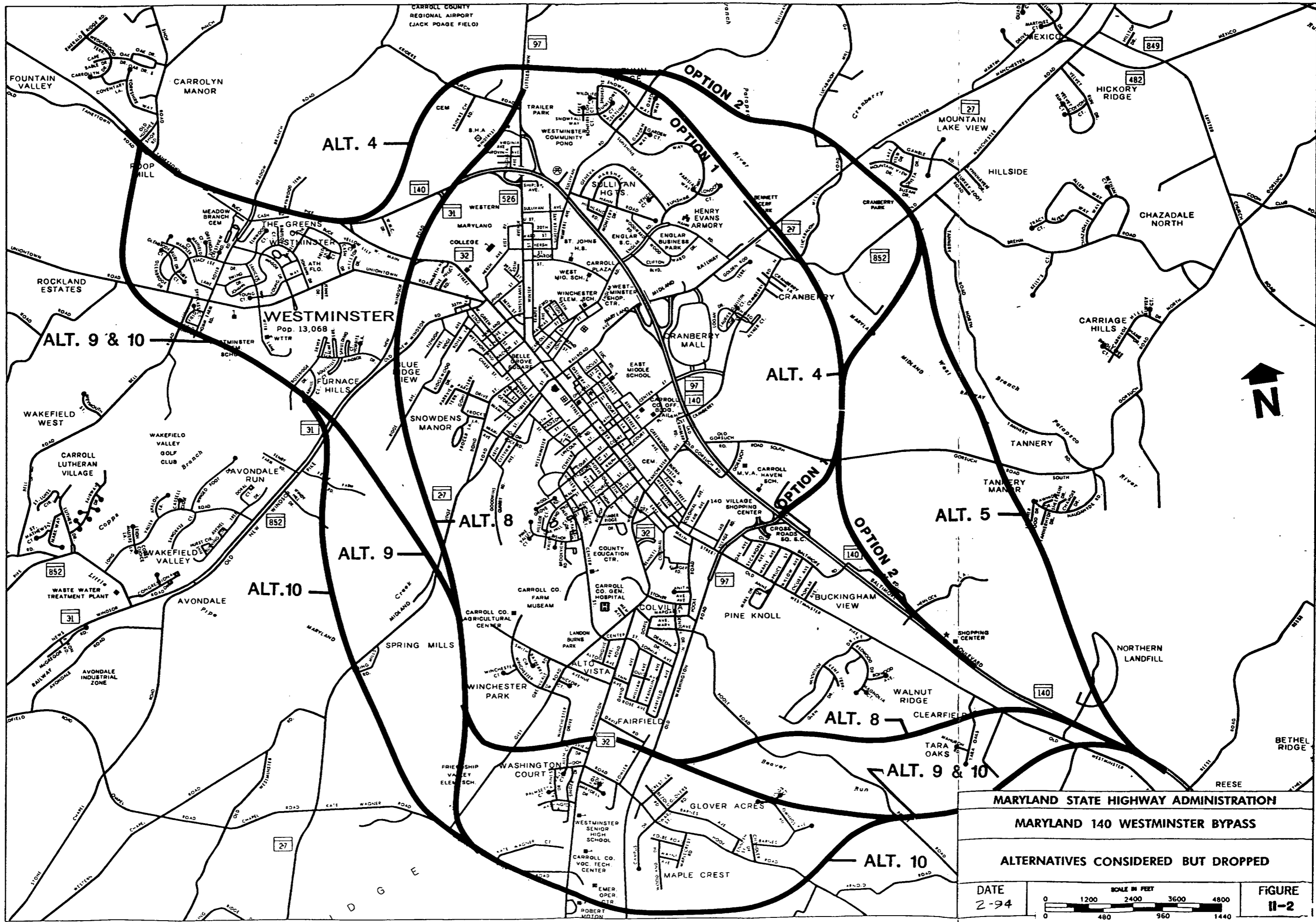
2. Southern Bypass Alternates

a. Alternate 8

Following the Alternates Public Meeting, this alternate was dropped from studies due to the following reasons:

- It would have caused impacts to several established residential communities and would have displaced 52 families.

b. Alternate 8A



MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINSTER BYPASS

ALTERNATIVES CONSIDERED BUT DROPPED

DATE	SCALE IN FEET	FIGURE
2-94	0 1200 2400 3600 4800	
	0 480 960 1440	
	METRIC	

In addition to the reasons mentioned under Alternate 8, the northern extension to MD 97 north, would have passed through the State Highway maintenance facility, and provided little improvement to traffic flow.

c. Alternate 9

Alternate 9 was eliminated from consideration due to the severe impacts it would have caused to several residential neighborhoods. It would have caused 40 relocations including 4 businesses.

d. Alternate 10

Alternate 10 was dropped from detailed studies for the following reasons:

- Alternate 10 alignment utilizes a portion of the existing Kate Wagner Road alignment, which does not meet the standards for a freeway. Designing this as a freeway would eliminate local access along the existing road.
- It would have impacted the County Emergency Center
- Alternate 10 would have caused disruption to residential communities, requiring the relocation of 22 families.
- Its alignment running along the Middle Run floodplain was found undesirable.

e. Alternate 4 Modified connections

A series of options for Alternate 4 Modified, as suggested by the environmental agencies were considered. These included three tie-ins with Alternate 6 on the north side and three tie-ins with existing MD 140 in the south. The options eliminated from further consideration are described in the following section:

1. Southern Tie-ins (Figure II-2, II-3)

a) Option 1

This connection proposed to terminate the bypass at the intersection of MD 97 south and existing MD 140 and proceed in a northeasterly direction passing through a junk yard and a farm.

This option was dropped from consideration since terminating the bypass at this location would not fully address the need for a bypass. An at-grade intersection at this location would not be able to handle the future traffic. Constructing a full interchange would cause severe impacts to many businesses in this area. This would require acquiring approximately 15 to 20 commercial buildings including the Crossroad Shopping Center, which houses approximately 12 to 14 businesses.

b) Option 2

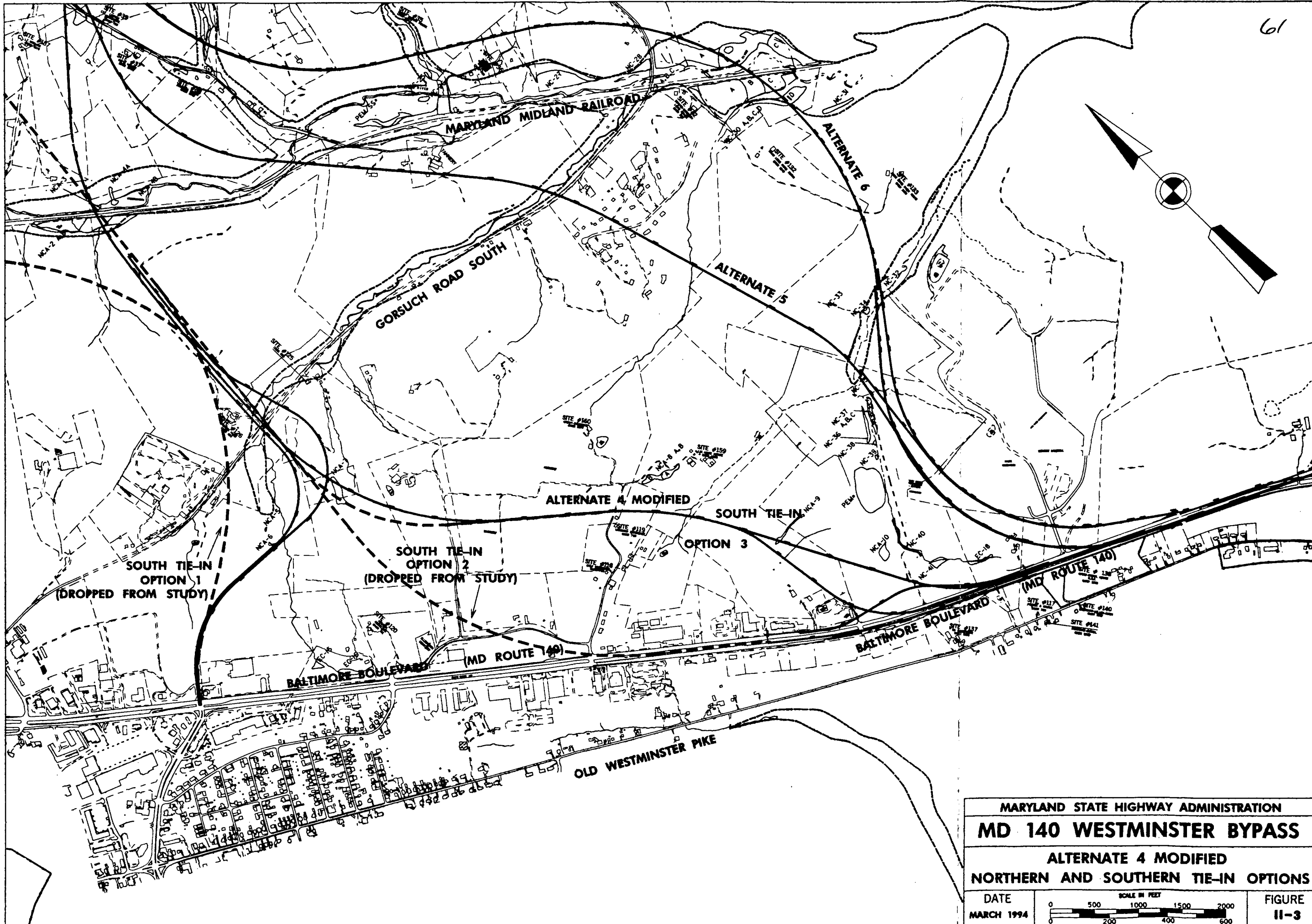
It proposed beginning the bypass approximately 3.2 kilometers (two miles) west of Reese Road.

Option 2 would required the acquisition of several buildings mostly businesses along the side of existing MD 140. It would displace approximately 13 commercial buildings and the State Police Barracks. The commercial displacement included the 3M Company, the Police Barracks, the Commercial park, the Pontiac Dealership etc. Based on the severe impacts on businesses by this option, it was dropped from further studies.

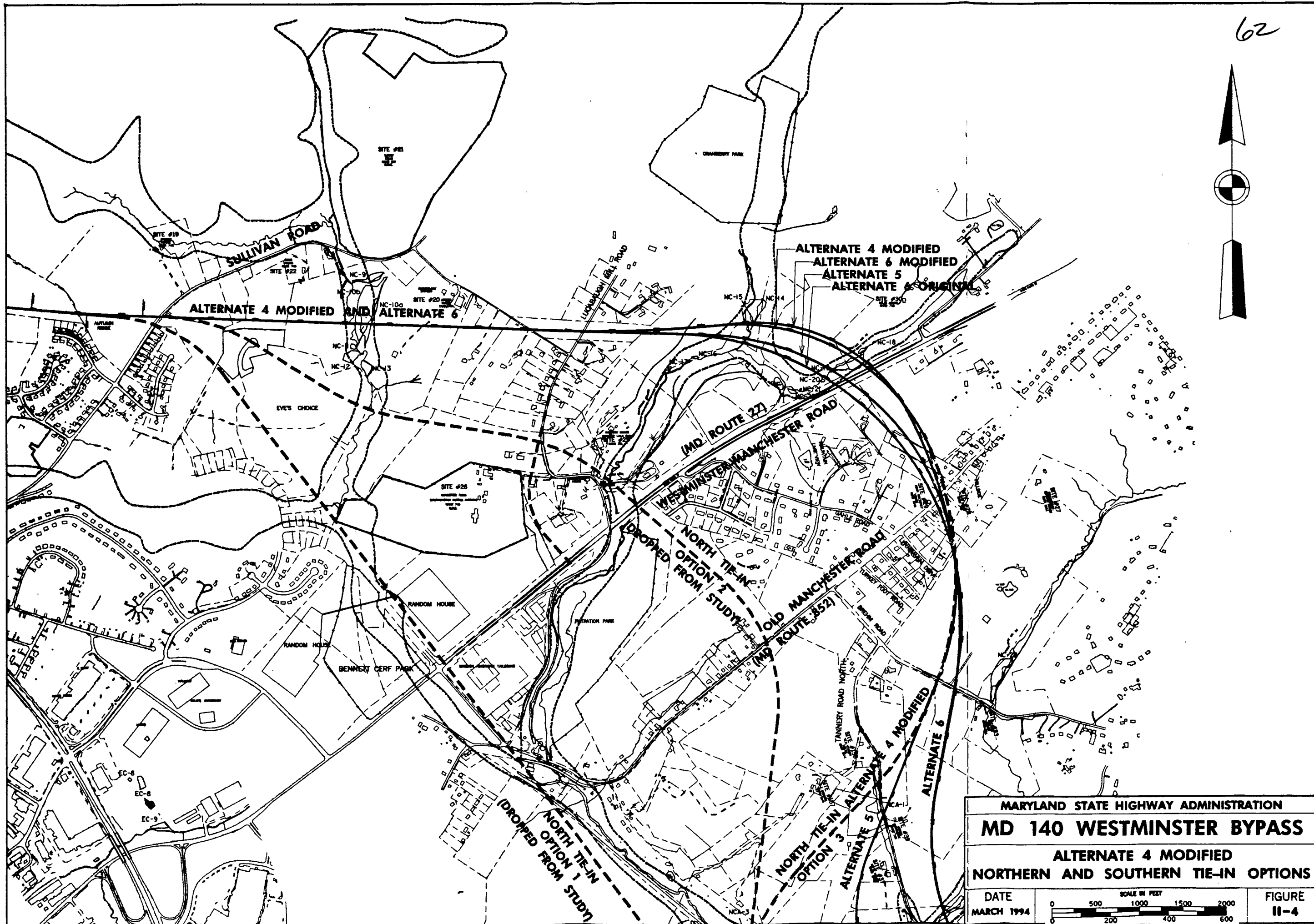
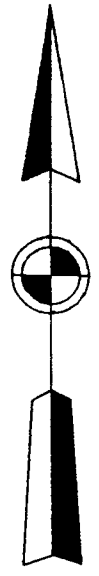
c) Option 3

This option was retained for further study as part of the current Alternate 4 Modified.

2. Northern Tie-ins (Figure II-2, II-4)



MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
ALTERNATE 4 MODIFIED	
NORTHERN AND SOUTHERN TIE-IN OPTIONS	
DATE MARCH 1994	<p>SCALE IN FEET: 0, 500, 1000, 1500, 2000 METRIC: 0, 200, 400, 600</p>
	FIGURE 11-3



MARYLAND STATE HIGHWAY ADMINISTRATION
MD 140 WESTMINSTER BYPASS
 ALTERNATE 4 MODIFIED
 NORTHERN AND SOUTHERN TIE-IN OPTIONS

DATE: MARCH 1994

SCALE IN FEET: 0 500 1000 1500 2000
 METRIC: 0 200 400 600

FIGURE 11-4

a) Option 1

This option passing through some agricultural land and curving west would have crossed the Maryland Midland railroad and the West Branch Patapsco River. Crossing Cranberry Branch and running parallel to the West Branch Patapsco River, it would have passed through Bennett Cerf park and the Schaeffer Farm, which is eligible for National Register of Historic Places. Passing through a newly developed residential area, it would merge with the Master Plan alignment.

This option was dropped from further consideration for the following reasons:

- Undesirable crossing of the West Branch Patapsco River. (The alignment would run adjacent to and almost parallel to the stream for approximately .2 kilometer (a mile) crossing the stream at two points at an acute angle).
- Right-of-way acquisition from the National Register eligible historic site, the Schaeffer Farm.
- Required taking major businesses such as Random House and English American Tailoring. Three other businesses would also needed to be taken under this option.
- Impacts to Bennett Cerf Park.
- Impacts to residential communities in the vicinity of Sullivan Road. It would result in the relocation of approximately 11 homes and acquisition of 18 subdivision lots which are currently under construction.

b) Option 2

This option proposed an alignment along the original Alternate 4 alignment, after crossing Gorsuch Road continuing in

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a northerly direction crossing Old Manchester Road. Curving westerly it would have passed west of Cranberry Park and crossed Cranberry Branch, Gahle Road and Lucabaugh Mill Road and would have passed through residential areas. After crossing the West Branch Patapsco river it would have merged with the Alternate 6 alignment just west of Sullivan Road.

This alternate was eliminated from further consideration due to its disruption of major residential areas.

C. Alternates Currently Under Consideration (Figure II-5)

In addition to the No-Build Alternate, seven build alternates, four along the existing road and three on relocation, are currently under consideration.

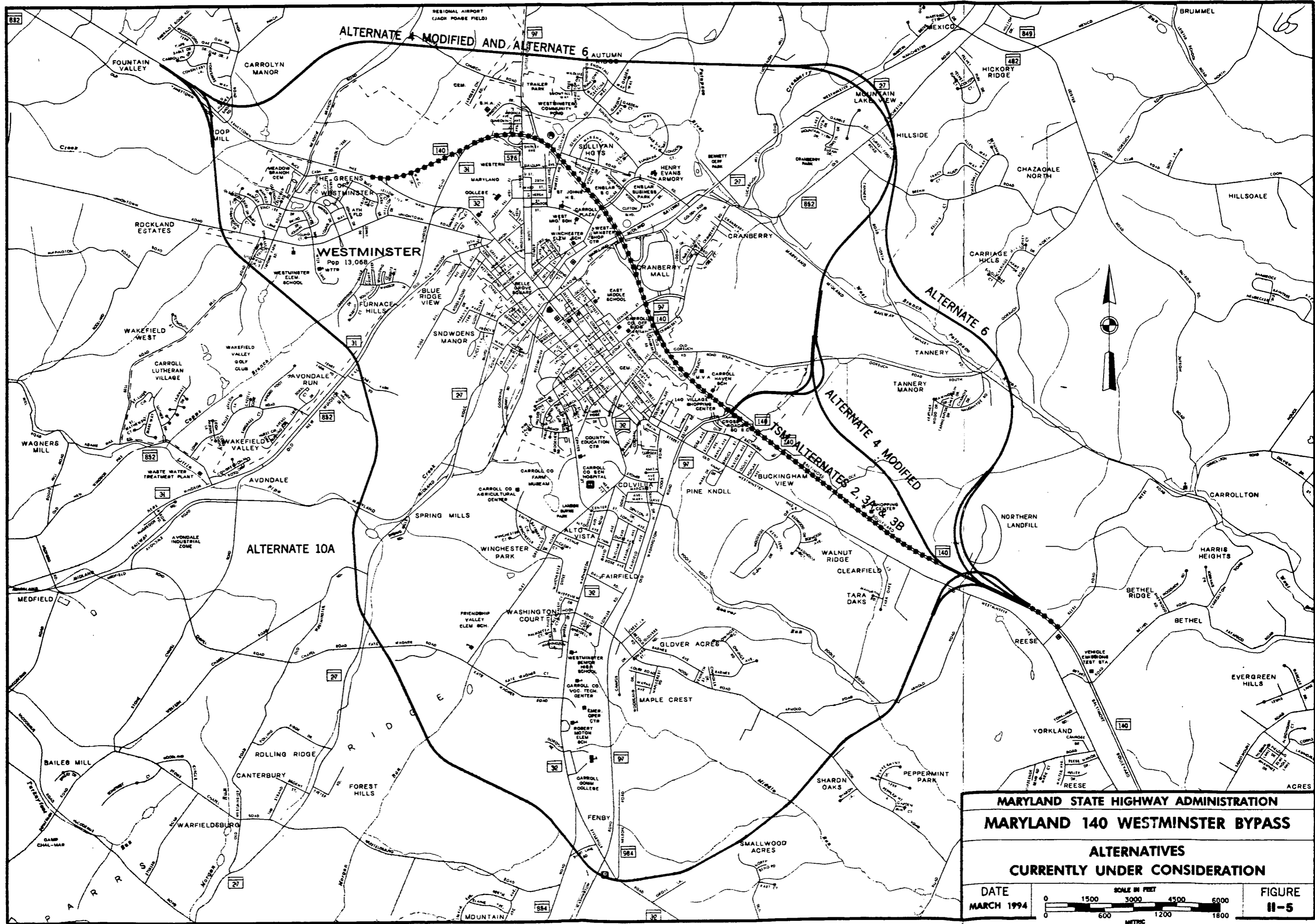
1. Alternate 1 - The No-Build Alternate

This alternate proposes no major construction. Only routine highway maintenance and minor improvements such as resurfacing and safety operations would continue under this alternate. Most of the signalized intersections within the study segment are nearing capacity. With the no-build alternate, all of these intersections would experience serious congestion in the future. With the increase in traffic volumes, accidents are also projected to increase along the existing road. The No-Build Alternate would not offer any relief to congestion or safety problems.

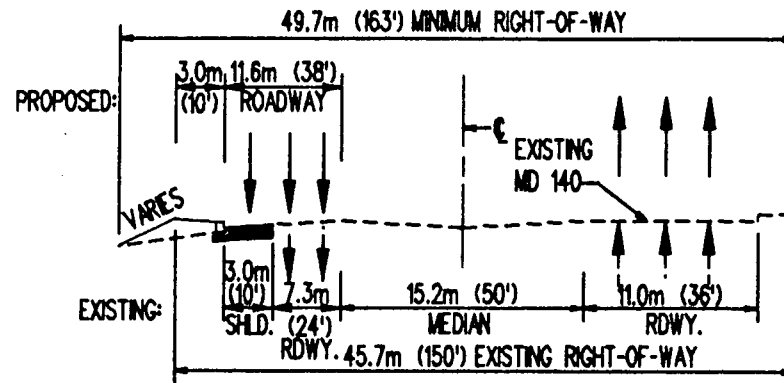
2. Alternates Along the Existing Road

a. Transportation System Management (T.S.M.) Alternate (Vol. II, Figure II-6 thru II-10, Vol. I, Figure II-11)

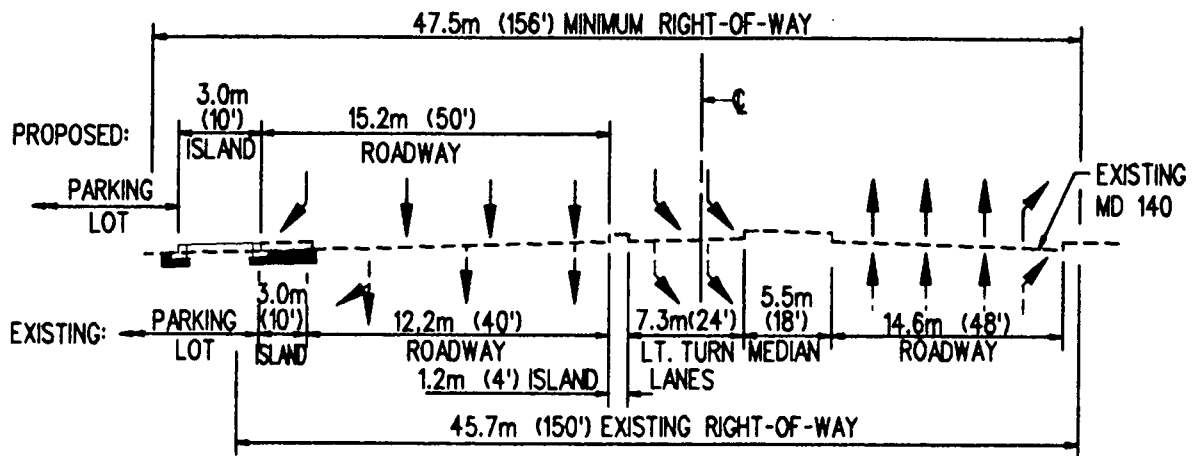
Due to the nature of the proposed improvements and the existing roadway configuration, the typical section varies almost continuously throughout the project length under the existing alignment alternates. The sections shown on Figures II-11, II-20, II-29, II-37, II-44, are intended to illustrate the general scope of improvements under each alternate for three representative areas, downtown Westminster away from intersections,



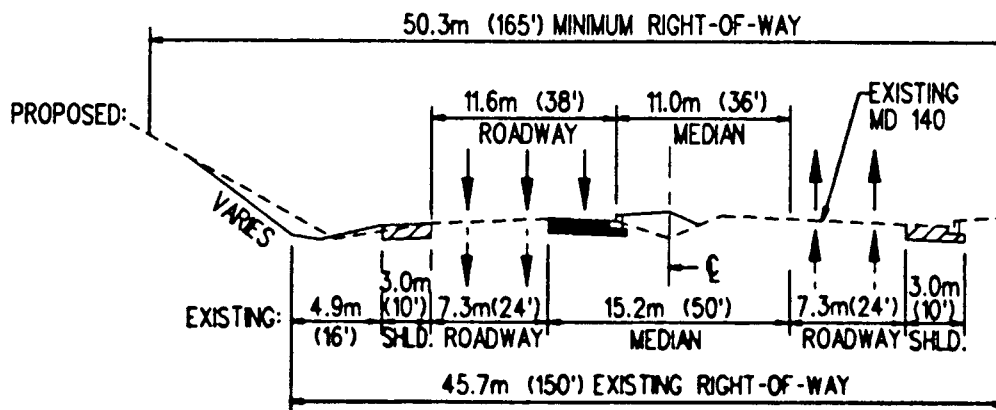
MARYLAND STATE HIGHWAY ADMINISTRATION	
MARYLAND 140 WESTMINSTER BYPASS	
ALTERNATIVES	
CURRENTLY UNDER CONSIDERATION	
DATE MARCH 1994	SCALE IN FEET 0 1500 3000 4500 6000 0 600 1200 1800 METRIC
FIGURE II-5	



BETWEEN WIMERT AVENUE/SULLIVAN ROAD AND ENGLAR ROAD



WEST OF CENTER STREET



EAST OF OLD BALTIMORE ROAD

- LEGEND:
- PROPOSED ROADWAY PAVEMENT
 - PROPOSED SHOULDER PAVEMENT
 - PROPOSED GROUND LINE
 - EXISTING GROUND OR PAVEMENT

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

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TYPICAL SECTIONS T.S.M. ALTERNATE		
DATE MAY 1994	NOT TO SCALE	FIGURE 11-11

downtown Westminster near intersections. and a reduced section just east of the downtown area.

This alternate consists of various spot improvements to existing MD 140 from approximately 304.8 meters (1000 feet) west of MD 32 to approximately 457.2 meters (1500 feet) east of Old Baltimore Road. These improvements include adding an eastbound through lane from east of MD 97 (N) to MD 27 and from east of Cranberry Road to east of Old Baltimore Road, providing additional left and right-turn lanes where traffic volumes indicate a need for them, lengthening substandard left-turn lanes, re-striping certain approaches to achieve a higher level-of-service, and optionally reconstructing shoulders which are currently in poor condition. The resulting roadway would have three through lanes in each direction from MD 97 (N) to east of MD 97 (S).

Hughes Shop Road to MD 97 (N)

Improvements would begin at a point approximately 304.8 meters (1,000 feet) west of MD 32 and consist of the following:

- auxiliary right-turn lane on eastbound MD 140 to MD 32.
- improved shoulder along the eastbound roadway in the following areas:
 - MD 32 to MD 31 (except at Quality Inn where there is currently a shoulder in good condition)
 - Between ramps to and from MD 97 (N).
 - Auxiliary lane for left-turns from approximately 91.4 meters (300 feet) west of MD 32 to 91.4 meters (300 feet) east of MD 31. The lane and an outside shoulder would be constructed on the north side of the existing roadway with the new lane used for westbound traffic and the existing westbound lane converted to a turn lane.
- improved shoulder along the westbound roadway between a point 91.4 meters (300 feet) east of MD 31 and the MD 140 bridge over MD 97

(N).

- enlarged island at the MD 140/MD 31 intersection to formalize the prohibition of left-turns from MD 31 to westbound MD 140 that was recently implemented.

MD 97 (N) to Sullivan Road/Wimert Avenue

On the eastbound roadway, the outside shoulder would be improved for a distance of approximately 61.0 meters (200 feet) east of the existing MD 140 bridge over MD 97 (N), at which point a third through lane would be introduced by upgrading the existing outside shoulder. In addition, the eastbound roadway would be widened on the outside approaching Wimert Avenue to provide an auxiliary right-turn lane (the existing right-turn lane would be converted to a through lane).

Wimert Avenue would be widened on the east side to lengthen the auxiliary left and right-turn lanes. Sullivan Road would be widened on the west side to provide an additional lane for left-turning traffic.

Sullivan Road/Wimert Avenue to Englar Road

On the eastbound roadway, the existing 3.0 meters (10-foot) wide outside shoulder would be widened and improved to provide a third through lane, and an auxiliary right-turn lane would be provided at Englar Road.

On the westbound roadway, which currently has three through lanes, improvements would consist of lengthening the auxiliary left-turn lane to Wimert Avenue and providing an auxiliary right-turn lane to Sullivan Road.

Englar Road to MD 27

Improvements on the eastbound roadway would consist of reconstructing the inside and outside shoulders to provide a third through lane, utilizing the existing 11.3 meters (37-foot) wide MD 140 bridge over MD 27. (Note: The existing bridge carrying westbound MD 140 over MD 27 is also 11.3 meters (37-feet) wide and carries three lanes.)

The T.S.M. Alternate proposes no improvements on the westbound roadway in this area. The existing roadway has three through lanes and an auxiliary left-turn lane at Englar Road. An auxiliary right-turn lane at Englar Road is to be constructed by others in the near future.

MD 27 to Center Street

Improvements on the eastbound roadway would consist of reconstructing the existing outside shoulder and converting the shoulder to an auxiliary right-turn lane at Center Street.

The northbound Center Street approach to MD 140 is proposed to be widened by the City of Westminster. As part of the T.S.M. Alternate, a lane would be added on the west side of Center Street, resulting in a five-lane section. This will permit restriping of the roadway to provide two-lanes southbound and on the northbound approach one left-turn lane, one-lane through or left, and one right-turn lane.

No improvements are proposed on the westbound roadway, which currently has three through lanes and an auxiliary weave lane between Center Street and the ramp to MD 27.

Center Street to Gorsuch Road

On the eastbound roadway, there are currently three through lanes from Center Street to east of Cranberry Road, where the outside third lane is dropped. Under the T.S.M. Alternate, the third through lane would be extended to Gorsuch Road by widening on the inside, and the outside shoulder would be reconstructed. The auxiliary left and right-turn lanes to Gorsuch Road would be lengthened.

The existing westbound roadway in this area has three through lanes, and the only proposed improvements are lengthening of the auxiliary left-turn lane to Ralph Street and slight widening on the inside near Gorsuch Road to accommodate a lane shift east of Gorsuch Road.

Gorsuch Road to MD 97 (S)

Proposed improvements on the eastbound roadway consist of adding a third through lane on the inside, lengthening the auxiliary left-turn lane at MD 97 (S), and reconstructing the outside shoulder from approximately 30.5 meters to 182.9 meters (100 feet to 600 feet) east of Gorsuch Road.

On MD 97, the raised median island would be removed to permit restriping to provide an additional lane on the northbound approach. Slight widening would be provided on the west side of MD 97 (S). The raised median island on the Weis Market entrance opposite MD 97 (S) would also be removed to permit restriping to provide an additional lane on the southbound approach.

The westbound roadway in this area currently has three through lanes, with the outside lane also serving as a right-turn lane. As part of the T.S.M. Alternate, the roadway would be widened in the median from approximately 152.4 meters (500 feet) west of MD 97 (S) to Gorsuch Road, permitting a shift of the through lanes to the median and use of the existing outside lane as a shoulder/auxiliary right-turn lane. In addition, the auxiliary left-turn lane at Gorsuch Road would be lengthened.

MD 97 (S) to Old Baltimore Road

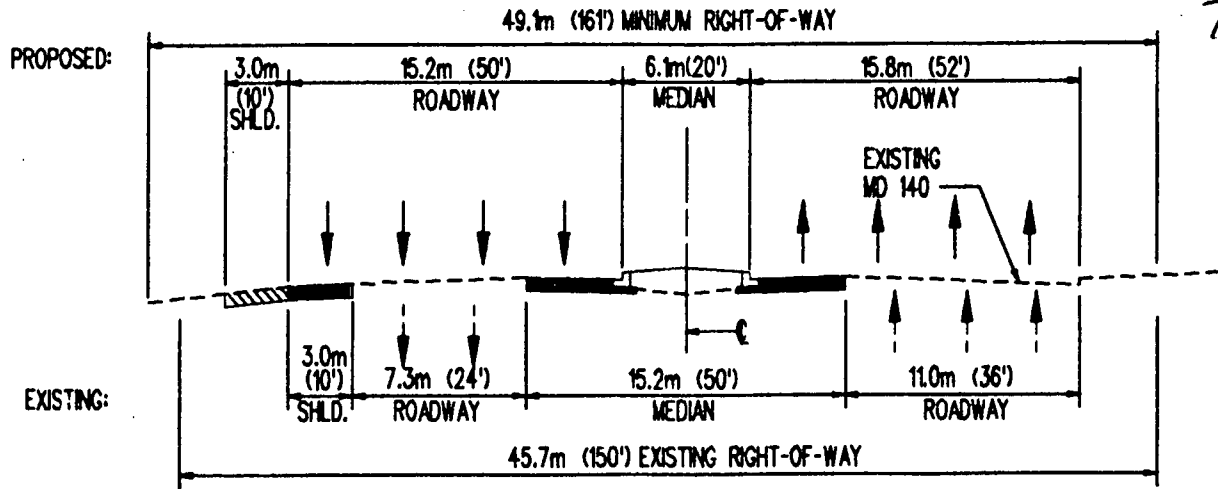
Proposed improvements on the eastbound roadway consist of widening in the median to provide a third through lane, lengthening of the auxiliary left-turn lane at Old Baltimore Road, and reconstruction of the outside shoulder in the vicinity of the Crossroad Square entrance.

On the westbound roadway, improvements would consist of lengthening the double auxiliary left-turn lanes at MD 97 (S) and reconstructing the outside shoulder from Old Baltimore Road to a point approximately 355.3 meters (1100 feet) west thereof.

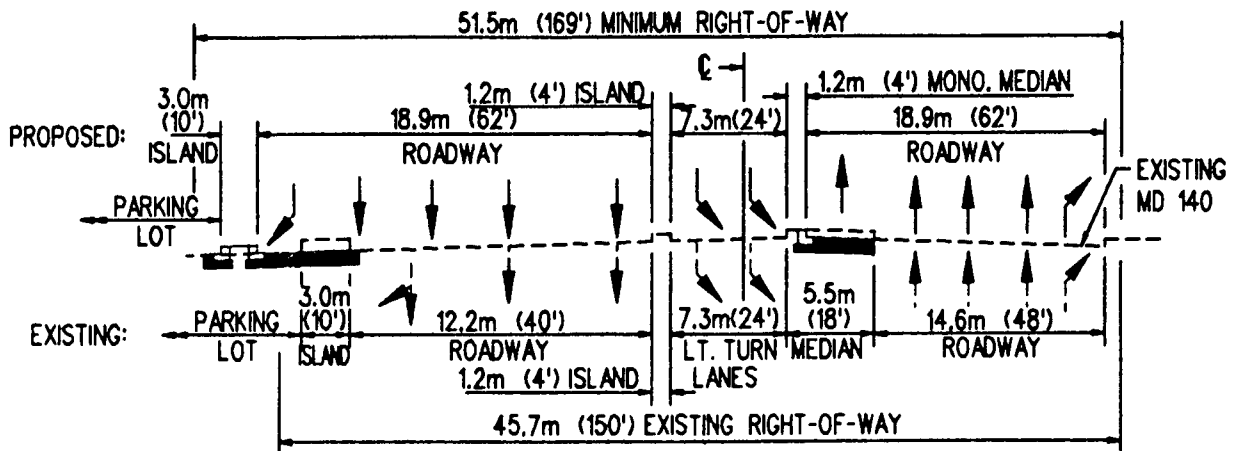
East of Old Baltimore Road

On the eastbound roadway, a third through lane would be provided by widening the median, with the lane ending approximately 457.2 meters (1500 feet) east of Old Baltimore Road. In addition, the outside shoulder would be

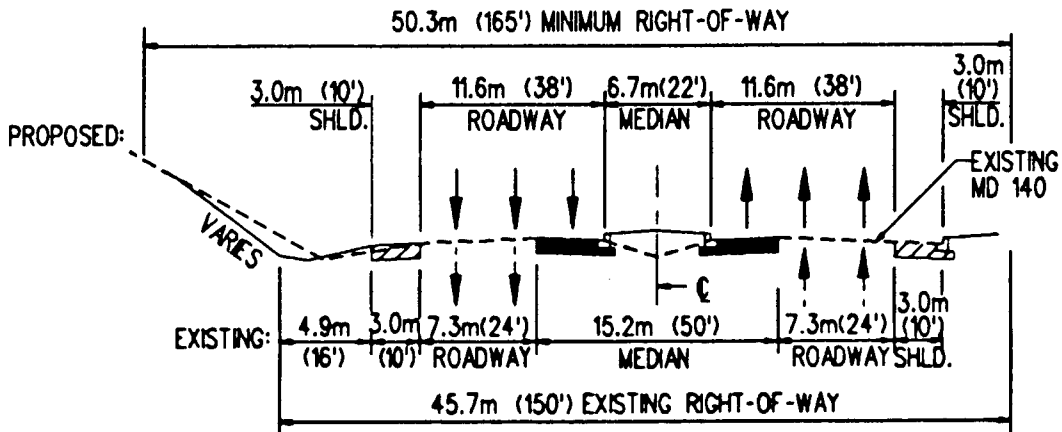
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BETWEEN WIMERT AVENUE/SULLIVAN ROAD AND ENGLAR ROAD



WEST OF CENTER STREET



EAST OF OLD BALTIMORE ROAD

- LEGEND:**
- PROPOSED ROADWAY PAVEMENT
 - PROPOSED SHOULDER PAVEMENT
 - PROPOSED GROUND LINE
 - EXISTING GROUND OR PAVEMENT

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

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TYPICAL SECTIONS ALTERNATE 2		
DATE MAY 1984	NOT TO SCALE	FIGURE I-20

three-lane undivided MD 140 roadway at a point approximately 426.7 meters (1400 feet) east of MD 32

- widening on the outside of the eastbound roadway to provide a weave lane between MD 31 and the ramp to MD 97 (N)
- widening of the westbound roadway in the median in the vicinity of MD 97 (N) to permit use of the existing outside lane as an acceleration lane for the ramp from MD 97 (N)
- closure of Augusta Drive and three private driveways west thereof
- reconstruction and widening of the MD 140 bridges over MD 97 (N)
- reconstruction of the outside shoulder on the eastbound roadway between the ramps to and from MD 97 (N)
- widening of MD 97 (N) from approximately 426.7 meters (1400 feet) south to 457.2 meters (1500 feet) north of MD 140 to provide left-turn lanes to the ramps to MD 140, with the majority of the widening on the west side of the existing road

MD 97 (N) to Sullivan Road/Wimert Avenue

On the eastbound roadway, a third through lane would be introduced on the outside by extending the acceleration lane from the on-ramp from MD 97 (N). Widening for the third lane would transition to the median approaching Wimert Avenue. The outside shoulder would be reconstructed from the bridge over MD 97 (N) to a point 182.9 meters (600') ± west of Wimert Avenue. The auxiliary left and right-turn lanes to Sullivan Road would be extended

Improvements on the westbound roadway would consist of widening in the median to accommodate a through lane, thus permitting use of the existing outside lane by turning traffic.

As under the T.S.M. Alternate, Wimert Avenue would be widened on

the east side to lengthen the auxiliary left and right-turn lanes. Sullivan Road would be widened on the east and west sides to accommodate one-lane northbound and two left-turn, one through and one right-turn lane southbound.

Sullivan Road/Wimert Avenue to Englar Road

On the eastbound roadway, four through lanes would be provided by adding one-lane in the median and reconstructing and widening the existing outside shoulder for use as a through lane. The auxiliary right-turn and double left-turn lanes to Englar Road would be lengthened.

On the westbound roadway, a fourth through lane would be added in the median. The outside through lane would become a right-turn only lane at Sullivan Road, with three-lanes carried through the intersection. The auxiliary left-turn lane to Wimert Avenue would be lengthened.

The raised median island on Englar Road north of MD 140 would be removed and the other islands modified to accommodate three-lanes northbound and a five-lane southbound approach (two left-turn, two through and one right turn).

South of MD 140, Englar Road would be widened on the west side so as to permit restriping the roadway for two-lanes southbound and a four lane northbound approach (two left-turn, one through and one right).

Englar Road to MD 27

The eastbound roadway would be widened on both the median and outside (including the bridge over MD 27) to provide four through lanes, and the deceleration lane to MD 27 would be lengthened.

On the westbound roadway, a fourth through lane would be added in the median, the bridge over MD 140 would be widened on both sides, and the acceleration lane from MD 27 would be lengthened. An auxiliary right-turn lane to Englar Road would be provided.

MD 27 would be widened, primarily on the west side, from approximately 182.9 meters (600 feet) south to 182.9 meters (600 feet) north of MD 140, to provide an auxiliary left-turn lane from southbound MD 27 to the ramp to eastbound MD 140.

MD 27 to Center Street

Improvements on the eastbound roadway would consist of lengthening the auxiliary left-turn lane to Center Street and widening on the outside to provide four through lanes and an auxiliary weave lane between the ramp from MD 27 and Center Street.

On the westbound roadway, a fourth through lane would be provided by widening in the median.

On Center Street north of MD 140, the raised median island would be removed and another island modified to accommodate two-lanes northbound and a five-lane southbound approach (two left-turn, two through and one right-turn). There would be some widening on the east side of the road.

Center Street south of MD 140 would be widened on both sides to accommodate two-lanes southbound and a five lane northbound approach (two left-turn, two through and one right-turn).

Center Street to Gorsuch Road

Proposed improvements on the eastbound roadway include widening on the outside from Center Street to a point approximately 152.4 meters (500 feet) east thereof and from a point approximately 61.0 meters (200 feet) east of Cranberry Road to Gorsuch Road. In order to accommodate the fourth through lane, the roadway would also be widened in the median from a point approximately 91.4 meters (300 feet) east of Center Street to Gorsuch Road. The auxiliary left-turn lanes to Cranberry Road and Gorsuch Road, and the auxiliary right-turn lane to Gorsuch Road would be lengthened.

On the westbound roadway, a fourth through lane would be added in the median, and the auxiliary left-turn lanes to Cranberry Road and

Center Street would be lengthened.

Gorsuch Road north of MD 140 would be widened on the west side to accommodate two-lanes northbound and a three-lane southbound approach (one left-turn, one through and one right-turn). South of MD 140, Gorsuch Road would be realigned to better accommodate trucks turning right from eastbound MD 140.

Gorsuch Road to MD 97 (S)

On the eastbound roadway, four through lanes would be provided by widening in the median, and on the outside from Gorsuch Road to a point approximately 182.9 meters (600 feet) east thereof. The auxiliary left-turn lane at MD 97 (S) would be lengthened, and an auxiliary right-turn lane would be added on the outside from the westernmost 140 Village entrance to MD 97 (S).

Proposed improvements on the westbound roadway include provision of a fourth through lane in the median, lengthening the auxiliary left-turn lane to Gorsuch Road, and removing the existing left-turn lane and opening to the 140 Village, located approximately 182.9 meters (600 feet) west of MD 97 (S).

On MD 97 (S) and the Weis Market entrance, the proposed improvements are the same as proposed under the T.S.M. Alternate (i.e., removal of the existing raised median island and slight widening on the west side of MD 97 (S)).

MD 97 (S) to Old Baltimore Road

Proposed improvements on the eastbound roadway consist of widening in the median to provide an additional through lane, lengthening the auxiliary left-turn lane at Old Baltimore Road, and widening on the outside from MD 97 (S) to the Crossroad Square entrance to provide a weave lane.

On the westbound roadway, widening would occur both on the outside and in the median in order to provide three through lanes at Old

Baltimore Road, transitioning to four through lanes at a point approximately 426.7 meters (1400 feet) east of MD 97 (S). The auxiliary left-turn lanes to Crossroad Square and MD 97 (S) would be lengthened.

East of Old Baltimore Road

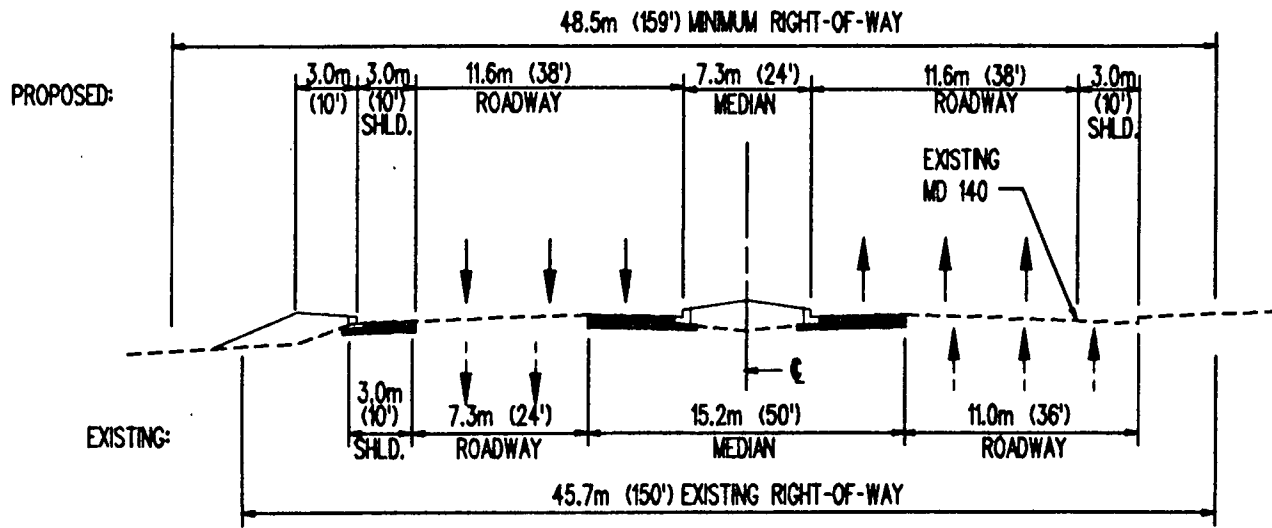
On the eastbound roadway, a third through lane would be provided in the median from Old Baltimore Road to a point approximately 457.2 meters (1500 feet) west of the landfill, where the third lane would be dropped. Auxiliary left-turn lanes at median openings between Old Baltimore Road and Reese Road would be lengthened. Except where currently in good condition, the outside shoulder would be reconstructed from Old Baltimore Road to a point approximately 91.4 meters (300 feet) west of Reese Road.

On the westbound roadway, an auxiliary right-turn lane would be provided at Old Baltimore Road, and the existing auxiliary left-turn lane at that location would be lengthened. A third through lane would be provided in the median from Old Baltimore Road to point approximately 1524.0 meters (5000 feet) east thereof. Auxiliary left-turn lanes at median openings between Old Baltimore Road and Reese Road would be lengthened. Except where currently in good condition, the outside shoulder would be reconstructed from Old Baltimore Road to a point approximately 91.4 meters (300 feet) west of Reese Road. At Reese Road, auxiliary deceleration and acceleration lanes would be provided.

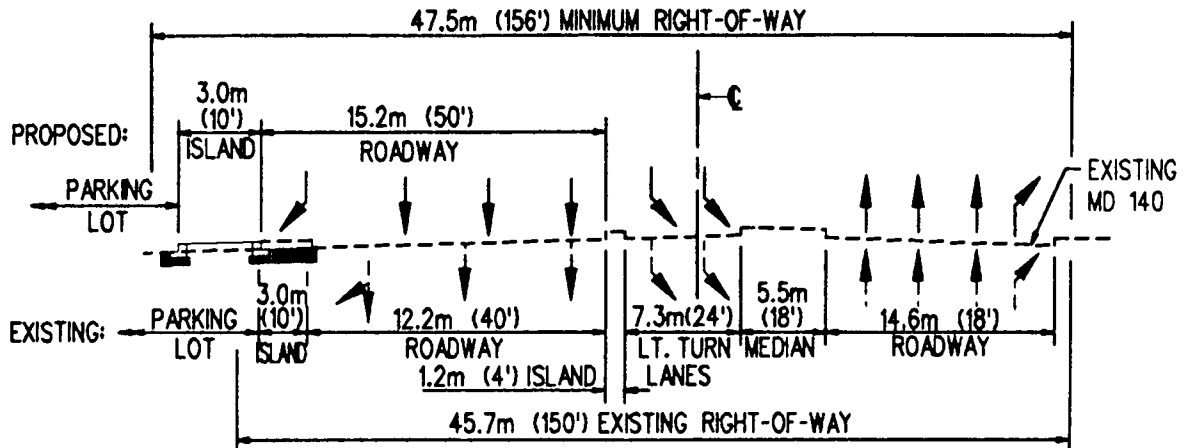
Reese Road would be widened on the west side both north and south of MD 140 to provide auxiliary right-turn lanes.

c. Alternate 3A Existing Road (Vol. II, Figure II-21 thru II-28, Vol. I, Figure II-29)

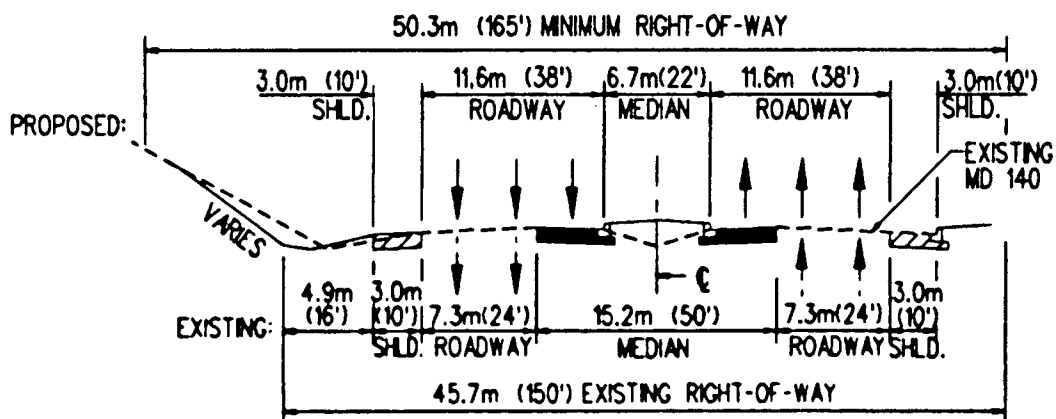
The major difference between Alternate 3A and Alternate 2 is that Alternate 3A proposes the prohibition, between MD 97 (N) and MD 97 (S), of left-turn and through movements from all intersecting roads onto or across MD 140. Right-turns from the intersecting roads onto MD 140 and left and right-turns from MD 140 onto the intersecting roads would still be permitted.



BETWEEN WIMERT AVENUE/SULLIVAN ROAD AND ENGLAR ROAD



WEST OF CENTER STREET



EAST OF OLD BALTIMORE ROAD

- LEGEND:**
- PROPOSED ROADWAY PAVEMENT
 - PROPOSED SHOULDER PAVEMENT
 - PROPOSED GROUND LINE
 - EXISTING GROUND OR PAVEMENT

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

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TYPICAL SECTIONS ALTERNATE 3A		
DATE MAY 1984	NOT TO SCALE	FIGURE I-29

The prohibition of movements from the intersecting roads will result in more traffic using parallel routes and accessing MD 140 at the interchanges. Therefore, Alternate 3A includes improvements to MD 97 (N) and MD 27 beyond those proposed under Alternate 2. In addition, the at-grade intersection of MD 140 and MD 97 (S) would be converted to an interchange and MD 97 (S) would be extended northward to Gorsuch Road.

Whereas Alternate 2 has four through lanes in each direction on MD 140 between Sullivan Road/Wimert Avenue and MD 97 (S), the prohibition of left-turn and through movements from the side roads allows achievement of an acceptable level of service with only three through lanes in each direction in this area for Alternate 3A.

Hughes Shop Road to MD 97 (N)

West of MD 97 (N), the improvements proposed under Alternate 3A are identical to those proposed under Alternate 2.

Along MD 97 (N), south of the ramps to and from westbound MD 140 (i.e., 274.3 meters (900') ± north of MD 140), Alternate 3A is identical to Alternate 2. North of those ramps, MD 97 (N) would be widened on both sides to provide a four-lane divided highway with a 4.88 meters (16-foot) wide raised median, providing left-turn lanes on southbound MD 97 (N) to westbound MD 140 and on northbound MD 97 (N) to Krider's Church Road. The widened roadway would taper back to the existing two-lane roadway at a point approximately 243.8 meters (800 feet) north of Krider's Church Road. On the ramp from westbound MD 140, traffic destined to MD 97 (N) north of Krider's Church Road would continue to use the right-turn ramp; however, traffic destined to Krider's Church Road would be directed to use the widened ramp at the T-intersection with MD 97 (N), thus avoiding a short weave across northbound MD 97 (N).

MD 97 (N) to Sullivan Road/Wimert Avenue

The improvements proposed along MD 140 between MD 97 (N) and Sullivan Road/Wimert Avenue are the same as proposed under Alternate 2.

A raised island would be provided in the median of MD 140 at Sullivan Road/Wimert Avenue to preclude through movements and also on Sullivan Road and Wimert Avenue at MD 140 to preclude left-turns onto MD 140. The radius of the inlets would be increased in the northwest, northeast and southeast quadrants.

Sullivan Road/Wimert Avenue to Englar Road

On the eastbound roadway a third through lane would be added in the median. The auxiliary double left-turn lanes to Englar Road would be lengthened. An acceleration lane would be provided for the right-turning traffic from northbound Wimert Avenue and the outside shoulder would be reconstructed from approximately 152.4 meters (500 feet) east of Wimert Avenue to 152.4 meters (500 feet) west of Englar Road.

On the westbound roadway, a third through lane would be added in the median and the existing outside lane would be restriped as a shoulder. The auxiliary left-turn lane to Wimert Avenue would be lengthened. An option under this alternate is to close the existing entrance (right-in only) to the K-Mart Shopping Center on the westbound roadway located approximately 191.4 meters (300 feet) west of Englar Road.

A raised island would be provided in the median of MD 140 at Englar Road to preclude through movements.

On Englar Road north of MD 140, raised islands would be provided to channelize the double right-turn lanes from southbound Englar Road to westbound MD 140, the double left-turns from eastbound MD 140 to northbound Englar Road, and the single right-turn from westbound MD 140 to northbound Englar Road.

On Englar Road south of MD 140, an island would be provided to preclude through movements.

Englar Road to MD 27

Proposed improvements on the eastbound roadway include a third

through lane in the median and reconstruction of the outside shoulder except where it is currently in good condition. The third lane would be dropped at the ramp to MD 27, with a third lane added at the ramp from MD 27. This on-ramp would be widened to two-lanes for most of its length, and narrowed to one-lane at the junction with eastbound MD 140.

On the westbound roadway, widening would be provided in the median to permit a shift of the through lanes and use of the existing outside lane as a shoulder. The third through lane would be dropped at the ramp to MD 27, with a third lane added at the ramp from MD 27.

The MD 140 bridge over MD 27 would be reconstructed to accommodate not only the widened MD 140 roadways, but also widened MD 27.

With the prohibition of left-turns and through movements from Sullivan Road/Wimert Avenue, Englar Road and Center Street, a substantial amount of traffic would divert to the MD 27/MD 140 interchange. This would require the dualization of MD 27, with improvements extending from approximately 396.3 meters (1300 feet) south to 396.3 meters (1300 feet) north of MD 140. Southbound MD 27 would have two through lanes with an auxiliary left-turn lane at the ramp to westbound MD 140 and double left-turn lanes at the ramp to eastbound MD 140. Northbound MD 27 would have three through lanes. Nearly all the widening of MD 27 would occur east of the existing roadway, in order to avoid the floodplain located to the west.

MD 27 to Center Street

On the eastbound roadway, proposed improvements consist of reconstructing the outside shoulder and providing an auxiliary right-turn lane to Center Street.

At Center Street, raised islands would be provided in the median and on the Center Street southbound approach to preclude left-turning and through movements from Center Street.

Center Street to Gorsuch Road

On the eastbound roadway, an outside shoulder would be added by widening to the outside between Center Street and Cranberry Road. Between Cranberry Road and Gorsuch Road, a third through lane would be provided in the median and the existing outside shoulder would be reconstructed, except just west of Old Gorsuch Road, where the outside shoulder would be reconstructed to serve as an auxiliary right-turn lane to Gorsuch Road. A new connection, to serve only eastbound MD 140 right-turn to Gorsuch Road, is proposed approximately 122.0 meters (400 feet) west of the existing MD 140/ Gorsuch Road intersection. The auxiliary left-turn lane to Gorsuch Road would be lengthened.

On the westbound roadway, a third through lane would be provided by widening in the median from Gorsuch Road to a point approximately 365.8 meters (1200 feet) west thereof, with the existing outside lane converted to a shoulder. The auxiliary left-turn to Center Street would be lengthened.

At Cranberry Road, raised islands would be provided in the median and on the approaches to preclude left-turns and through movements from these approaches. Cranberry Road would be widened slightly to accommodate the proposed channelization.

Northbound Gorsuch Road approaching MD 140 would be widened to the east to provide a larger radius for turning traffic. The right-turn movement from eastbound MD 140 to southbound Gorsuch Road would be handled at the proposed connection located approximately 121.9 meters (400 feet) west of the existing intersection. Raised islands would be provided in the median and on Gorsuch Road north of MD 140 to preclude left-turns and through movements from Gorsuch Road. Gorsuch Road would be widened just north of MD 140 to accommodate the proposed channelization.

Gorsuch Road to MD 97 (S)

Proposed improvements on the eastbound roadway consist of addition of a third through lane in the median and reconstruction of the outside shoulder from approximately 30.5 meters to 182.8 meters (100 feet to 600

feet) east of Gorsuch Road.

On the westbound roadway, a third through lane would be provided in the median and the auxiliary left-turn lane to Gorsuch Road would be lengthened.

The existing MD 140/MD 97 (S) intersection would be replaced with an interchange. MD 97 (S) would be reconstructed, on or close to its existing horizontal alignment, to pass beneath MD 140, and extended to the north to intersect Gorsuch Road. Ramps would be provided in the southwest and northwest quadrants of the interchange to handle movements between MD 140 and MD 97 (S). Although northbound MD 97 (S) traffic would be able to access eastbound MD 140 by turning left onto the loop ramp in the southwest quadrant, an optional ramp is shown in the southeast quadrant to provide a more direct connection.

A service road would be constructed between Gorsuch Road and MD 97 (S), approximately 182.8 meters (600 feet) north of MD 140. The service road would provide a means of access between the MD 140/MD 97 (S) interchange and the area to the west of MD 97 (S) and north of MD 140. In addition, businesses located on the north side of MD 140 between Gorsuch Road and MD 97 (S) could, if they so desire, construct entrances between their parking lots and the service road to improve circulation for their customers and employees.

The entrance from MD 97 (S) to the Crossroad Square Shopping Center would be reconstructed. Due to the lowering of MD 97 (S), this entrance would be on an approximately 5% upgrade (into the Shopping Center).

A new entrance would be provided from the northern extension of MD 97 (S) to the Weis Market, located in the northeast quadrant of the interchange.

MD 97 (S) to Old Baltimore Road

On the eastbound roadway, proposed improvements consist of providing a third through lane in the median, providing an outside shoulder between

MD 97 (S) and the Crossroad Square entrance, and lengthening the auxiliary left-turn lane at Old Baltimore Road.

Proposed improvements on the westbound roadway consist of providing a third through lane in the median and eliminating the left-turn slot from westbound MD 140 to the Crossroad Square Shopping Center East of Old Baltimore Road.

East of Old Baltimore Road, Alternate 3A is identical to Alternate 2.

d. Alternate 3B Existing Road (Vol. II, Figure II-22 and Figure II-30 thru Figure II-36, Vol. I, Figure II-37)

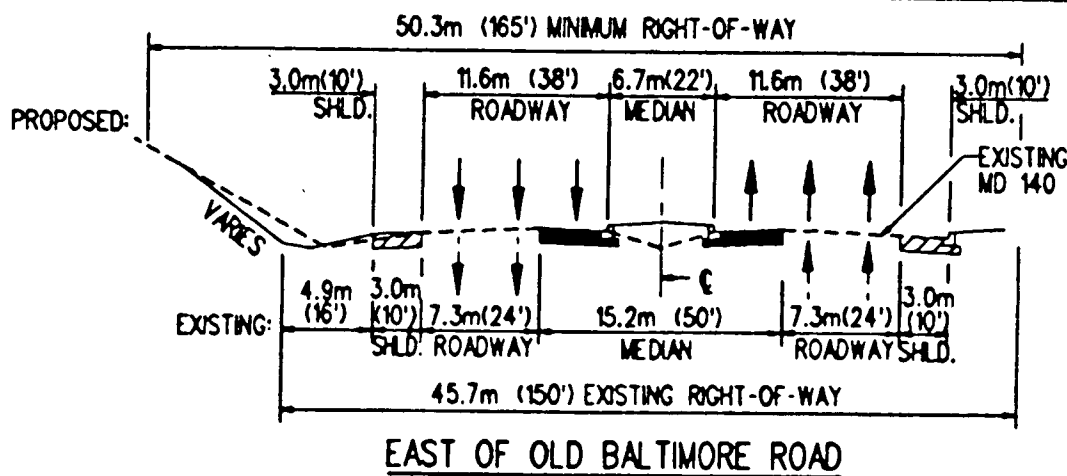
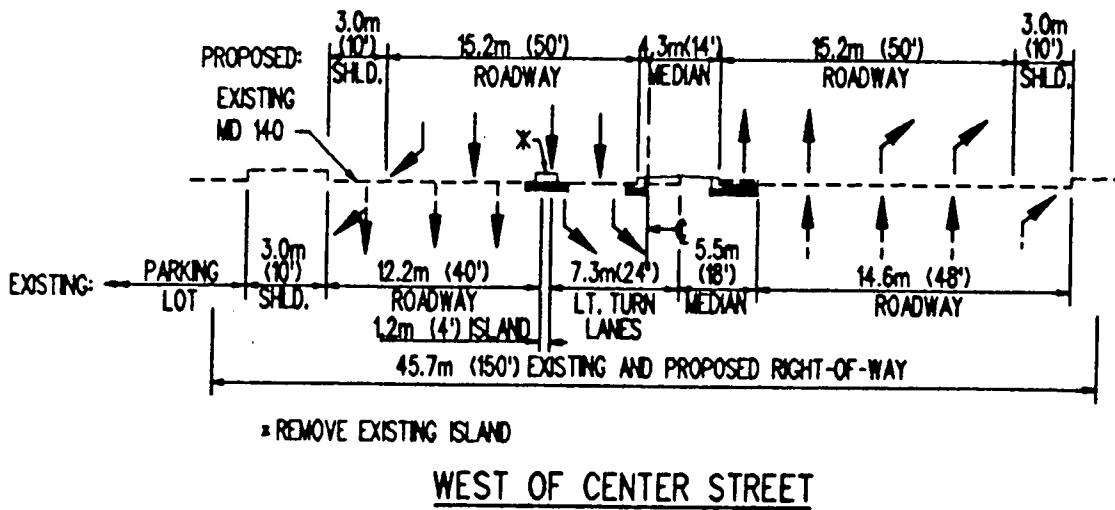
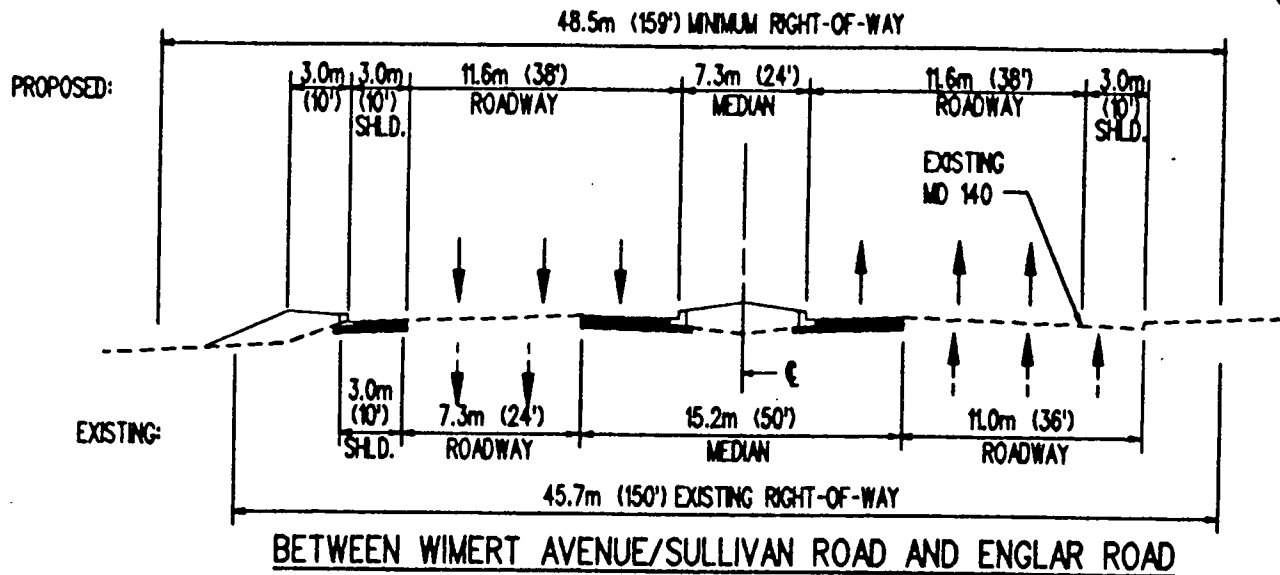
The major differences between Alternates 3B and 3A are as follows:

- Alternate 3B includes a flyover ramp from westbound MD 140 to southbound MD 31 in lieu of a left-turn lane.
- Alternate 3B includes the prohibition of all left-turns from MD 140 to the intersecting roads at the at-grade intersections between MD 97 (N) and MD 97 (S). (NOTE: Alternate 3A's prohibition of all left-turn and through movements from intersecting roads onto or across MD 140 between MD 97 (N) and MD 97 (S) is also included in Alternate 3B.)
- For the proposed MD 140/MD 97 (S) interchange, MD 97 (S) is relocated slightly to the west under Alternate 3B rather than following its existing horizontal alignment as proposed under Alternate 3A.
- The improvements to MD 27 proposed under Alternate 3B are more substantial than those proposed under Alternate 3A. due to the larger amount of traffic diverted to MD 27

Hughes Shop Road to MD 97 (N)

West of MD 97 (N), the improvements proposed under Alternate 3B are identical to those proposed under Alternate 3A (and Alternate 2) except that Alternate 3B includes a flyover ramp from westbound MD 140 to southbound

84



- LEGEND:**
- PROPOSED ROADWAY PAVEMENT
 - PROPOSED SHOULDER PAVEMENT
 - PROPOSED GROUND LINE
 - EXISTING GROUND OR PAVEMENT

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MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TYPICAL SECTIONS ALTERNATE 3B		
DATE MAY 1994	NOT TO SCALE	FIGURE 8-37

MD 31, replacing the left-turn lane included in Alternate 3A. The ramp would exit MD 140 just west of existing Dunrovin Avenue, pass over MD 140 approximately 30.5 meters (100 feet) west of MD 31, and tie-in to existing MD 31 approximately 365.8 meters (1200 feet) south of MD 140. The right-turn movement from eastbound MD 140 to southbound MD 31 would be prohibited, and accommodated at the MD 140/MD 32 intersection.

Along MD 97 (N), Alternate 3B is identical to Alternate 3A.

MD 97 (N) to Sullivan Road/Wimert Avenue

The improvements proposed along MD 140 between MD 97 (N) and Sullivan Road/Wimert Avenue are the same as proposed under Alternate 3A (and Alternate 2), except that there would be no auxiliary left-turn lane on eastbound MD 140 to Sullivan Road.

Raised islands would be provided on Sullivan Road and Wimert Avenue and the median would be extended across the intersection to prohibit left-turns from MD 140 and through and left-turns from Sullivan Road and Wimert Avenue. The radius of the fillet in the southeast quadrant would be increased.

Sullivan Road/Wimert Avenue to Englar Road

The improvements proposed along MD 140 between Sullivan Road/Wimert Avenue and Englar Road are identical to those proposed under Alternate 3A except that there would be no auxiliary left-turn lanes.

On Englar Road north of MD 140, a large island would be constructed to channelize traffic, and the radius of the fillet in the northeast quadrant would be increased. Double right-turn lanes would be provided from southbound Englar Road to westbound MD 140.

A raised island would be provided on Englar Road south of MD 140.

The MD 140 median would be extended across Englar Road.

Englar Road to MD 27

Except that Alternate 3B proposes the elimination of the auxiliary left-turn lane from westbound MD 140 to Englar Road, the improvements proposed along MD 140 between Englar Road and MD 27 under Alternate 3B are identical to those proposed under Alternate 3A.

Since Alternate 3B proposes the prohibition of all movements across MD 140 between MD 97 (N) and MD 27, as well as all left-turning movements, a substantial amount of traffic would divert to the MD 140/MD 27 interchange. In order to accommodate this additional traffic, two major improvements beyond those proposed by Alternate 3A are included in Alternate 3B in this area. First, the ramps at the interchange would be improved and generally widened, and second, a new road would be provided between John Street and MD 27 south of MD 140.

The loop ramp in the southeast quadrant of the interchange would be reconstructed, increasing its radius from 38.1 meters to 70.1 meters (125' to 230'). The outer ramp in the southeast quadrant would also be reconstructed, with three-lanes at MD 27 narrowing to two-lanes at its junction with eastbound MD 140, which would be signalized. A portion of the loop ramp in the northeast quadrant would be reconstructed, increasing its radius from 45.7 meters to 53.3 meters (150' to 175'). The outer ramp in the northeast quadrant would be widened to two-lanes. Improvements proposed along MD 27 are similar to those proposed under Alternate 3A, except that some additional lanes are proposed on MD 27 in an attempt to accommodate the greater traffic volumes.

The proposed road between John Street and MD 27 would transition from two-lanes at John Street to four-lanes at MD 27. It would cross the Maryland Midland Railway at-grade.

MD 27 to Center Street

On eastbound MD 140, the existing auxiliary double left-turn lanes to Center Street, as well as the raised island between them and the eastbound through lanes, would be removed and a portion of that area used to

accommodate the third through lane, with the existing outside lane converted to an auxiliary right-turn lane.

On the westbound roadway, a lane would be provided in the median, and the existing outside lane would be converted to a shoulder. Between Center Street and the exit to MD 27 there would be four-lanes, with two exiting to MD 27 and two continuing through on westbound MD 140.

Raised islands would be provided on Center Street both north and south of MD 140 and the MD 140 median would be extended across Center Street.

Similar to what was discussed previously for the area west of MD 27, Alternate 3B would prohibit all movement across MD 140 between MD 27 and MD 97 (S), as well as all left-turning movements. Therefore, much of the traffic generated east of MD 27 would utilize MD 27. An optional connection south of MD 140 between MD 27 and Center Street is proposed as part of Alternate 3B to accommodate some of this traffic. It would be a two-lane road and pass through the Westminster East Middle School athletic fields and the Carroll County Government Services facilities.

Center Street to Gorsuch Road

On the eastbound roadway, proposed improvements are the same as proposed under Alternate 3A, except that the auxiliary left-turn lanes to Cranberry Road and Gorsuch Road would be eliminated and the MD 140 median extended across these intersections.

On the westbound roadway, a third through lane would be provided in the median from Gorsuch Road to a point approximately 182.8 meters (600 feet) east of Cranberry Road. The auxiliary left-turn lane to Ralph Street would be removed.

Cranberry Road north of MD 140 would be widened slightly and a raised island provided.

On Gorsuch Road north of MD 140, a raised island would be provided and the radius of the fillet in the northeast quadrant would be increased. The

radius of the fillet in the southeast quadrant would also be increased.

Gorsuch Road to MD 97 (S)

Proposed improvements to MD 140 between Gorsuch Road and MD 97 (S) are the same as proposed under Alternate 3A, with the exception that there would be no auxiliary left-turn lane from westbound MD 140 at Gorsuch Road.

Whereas MD 97 (S) is proposed to pass beneath MD 140 on its existing horizontal alignment under Alternate 3A, MD 97 (S) would pass beneath MD 140 approximately 91.4 meters (300 feet) west of its existing crossing under Alternate 3B.

As with Alternate 3A, a roadway would be provided in the southwest quadrant to connect MD 97 (S) and eastbound MD 140, and an optional ramp may be provided in the southeast quadrant to provide a direct connection from northbound MD 97 (S) to eastbound MD 140.

Ramps would be provided in the northeast quadrant to connect MD 27 and westbound MD 140.

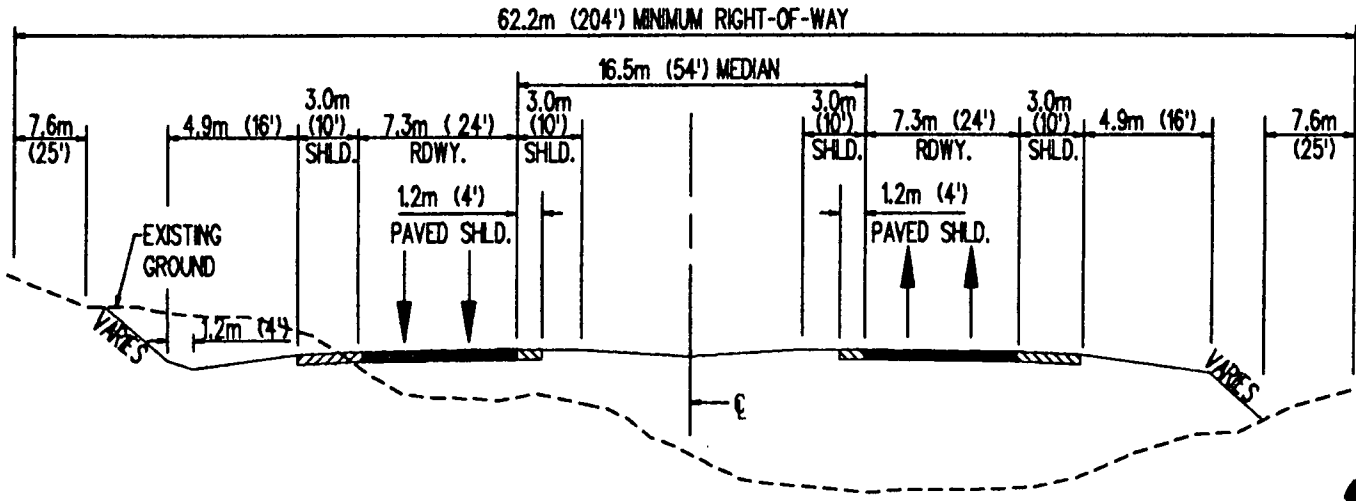
Similar to the construction proposed under Alternate 3A, MD 97 (S) would be reconstructed from MD 140 to a point approximately 304.8 meters (1,000 feet) south thereof, and extended northward to intersect Gorsuch Road. The connecting roadway north of MD 140 between Gorsuch Road and MD 97 (S) proposed under Alternate 3A is also included in Alternate 3B.

East of MD 97 (S)

East of MD 97 (S), Alternate 3B is identical to Alternate 3A

3. Bypass Alternates

- a. **Alternate 4 Modified (Vol. II, Figure II-38 thru Figure II-43, Vol. I, Figure 11-44)**



- LEGEND:
- PROPOSED ROADWAY PAVEMENT
 - PROPOSED SHOULDER PAVEMENT
 - PROPOSED GROUND LINE
 - EXISTING GROUND OR PAVEMENT

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

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TYPICAL SECTION		
ALTERNATES 4-MODIFIED, 6 AND 10A		
DATE MAY 1994	NOT TO SCALE	FIGURE I-44

Alternate 4 Modified consists of a northern bypass beginning from Hughes Shop Road and ending west of Reese Road. This alternate would follow the same alignment as the Master Plan alignment to the vicinity of MD 27. Directional interchanges would be constructed at both termini. Passing east of Carrollyn Manor subdivision, it bridges Big Pipe Creek and Meadow Branch Road. Krider's Church Road would be closed at both ends at the bypass. The recently relocated access to MD 97 from Meadow Branch Road will also be closed just north of the bypass.

Alternate 4 Modified runs east crossing MD 97 North (Littlestown Pike) just south of the Carroll County Airport. A partial clover-leaf interchange is proposed at MD 97. Running east, it bridges Sullivan Road and the West Branch Patapsco River. Proceeding east and passing under Lucabaugh Mill Road, it bridges MD 27. A partial clover-leaf interchange is proposed at this location, allowing better service to the Manchester and Hampstead area. (Initially a diamond interchange was proposed at this location. Following a field review with the environmental agencies, this interchange was redesigned as a partial clover-leaf type at their suggestion, in order to minimize wetland impacts).

East of Old Manchester Road, it would run in a southerly direction crossing Brehm Road, Tannery Road, West Branch Patapsco River and Gorsuch Road. In conjunction with this alternate, MD 97 (Old Washington Road) would be extended northeasterly to meet, the proposed bypass approximately 304.8 meters (1000 feet) south of Gorsuch Road. A directional interchange would be provided at this location, with a ramp from MD 97 to the westbound roadway and a ramp from the eastbound roadway to MD 97 south. Alternate 4 Modified would merge with existing MD 140 about 1.6 kilometer (one mile) west of Reese Road.

b. Alternate 6 (Vol. II, Figure II-45 thru II-50, Vol. I, Figure 44)

Alternate 6 closely follows the County's Master Plan alignment for a bypass on the north side. As described above, it follows the same alignment as Alternate 4 Modified to a point east of MD 27. The alignment at the crossing of Cranberry Branch has been modified to eliminate crossing the

stream confluence point, by shifting the alignment slightly to the north. Turning south, just past Gahle Road, it crosses Old Manchester Road north of Lynnhaven Drive approximately .8 kilometers (1/2 mile) east of Tannery Road. Running southeast along the east side of Tannery Road and West Branch Patapsco River, it bridges Gorsuch Road, where a diamond interchange would be provided. Crossing the West Branch Patapsco River and Maryland Midland Railroad, it runs in a southerly direction. Turning east, Alternate 6 would join the existing road alignment.

c. Alternate 10A (Vol. II-51 thru 57, Vol. I, Figure 44)

Alternate 10 A proposes a bypass on the south side. Beginning at the northern terminus just west of Hughes Shop Road with a directional interchange from existing MD 140, it proceeds in a southerly direction. Bridging Union Town Road, it turns east passing under Bell Road. Continuing east, it passes behind Westminster Elementary School, and through the northern portion of Wakefield Valley Golf Course. Turning southeast, it bridges New Windsor Pike (MD 31), where a diamond interchange is proposed. Continuing south, it bridges Maryland Midland Railroad, Little Pipe Creek and Old Westminster Road. Then it crosses over Ridge Road (MD 27) and Kate Wagner Road with an interchange at Kate Wagner Road to serve both roads. Proceeding southeast, it would cross Morgan Run, Washington Road and Short Lane Road. The alignment then curves to the east and bridges Old Washington Road (MD 97) and Sykesville Road (MD 32). An interchange would be constructed to provide access to both roads. Curving north, it passes north of Smallwood Acres subdivision, under Hook Road, and continuing east, bridges Beaver Run and Arnold Road. From here, running northerly, it parallels Arnold Road on the west side and bridges Old Westminster Pike. Turning east, it merges with existing MD 140 just west of Reese Road.

D. Congestion Management Strategies

Analysis of travel demand reduction and operational strategies was undertaken for this project.

Travel Demand Management Measures

Increased carpooling was assessed. Carroll County has a County "Commuter Ride-Sharing Coordinator" position funded through the Mass Transit Administration. This position is responsible for a marketing/educational outreach program and tries to promote alternatives to single occupant vehicle travel. However, even encouragements such as advertising through the County Chamber of Commerce have not reduced substantially the number of single occupant vehicles.

Traffic Operational Improvements

Operational improvements were studied under the Transportation System Management alternate. This alternate consists of various spot improvements to existing MD 140 such as additional turn lanes, re-stripping approaches to intersections, lengthening substandard left-turn lanes and reconstruction deteriorated shoulders. Only short-term traffic needs would be addressed by this alternate as most of the signalized intersections would reach capacity before the year 2015.

Public Transit Operational and Capital Improvements

Several park and ride lots located throughout Carroll County are generally 50% capacity. One 101 space lot located south of Westminster at MD 32 and MD 97 was surveyed in the Spring. Approximately 24 spaces were used.

Carroll County wants to maintain its rural - agricultural land use base and discourage sprawl. It supports development in the vicinity of existing towns along the MD 140 and MD 30 corridors. The population in general is not large enough to support transit. There is a limited County wide semi-private transport system for the elderly and disadvantaged. Westminster is the hub for this system which is funded through state and federal grants. Users are transported to senior centers, hospitals, shopping centers, etc.

During the late 1980's, Rohr-Baugh's Bus service provided quasi-public transit service from Carroll County to Owings Mills/Baltimore. The service was not profitable and was ended.

**E. Transportation
Traffic Operations**

The existing MD 140 built in the mid 1950's as a bypass to Westminster, is currently serving as a local street. Traffic is routed to this highway from many radial routes surrounding Westminster which is the county seat. MD 31, MD 97 North, Sullivan Road, Englar Road, MD 27, Center Street, Cranberry Road, Gorsuch Road, MD 97 South, Manchester Avenue all feed into MD 140 within the study area.

Significant commercial and residential development has occurred along the MD 140 corridor and the adjacent areas in recent years. These new developments contribute to the increasing traffic congestion along MD 140. The average daily traffic is projected to almost double along certain sections of the roadway.

Since the studies for a bypass around Westminster began in 1987, several origin-destination studies, along with a computer modelling effort by the Regional Planning Council, the Baltimore Metropolitan Council, have been conducted. These studies show an expected diversion rate for a northern bypass alignment to be in the range of 30% to 40% while a southern bypass alignment could be expected to divert 20 to 30%. The majority of these diversions would be through trips. With most of the locally originating traffic using existing MD 140 and the connecting local road system. All of the proposed bypass alignments would be limited access highways. This would allow through trips to travel unimpeded while retaining the ability of existing MD 140 and the local city and county street system to serve locally oriented travel.

The assumptions used in this study entail a thorough review of existing traffic volumes and current land use projections (population, households and employment) supplied by the Regional Planning Council. These projections show even with continued growth on the surrounding roads, that the majority of the traffic originates in the local area and will continue to do so into the unforeseeable future.

The traffic volumes created by new developments in addition to the existing growth in the background traffic volume are causing failing level-of-service at many intersections within the study portion of MD 140.

Table II-1 Average Daily Traffic Along MD 140				
Location	<u>1987</u>	<u>2015</u>		
		No-Build	With Northern Bypass	With Southern Bypass
West of MD 27	36,100	60,700	43,200	49,800
East of MD 27	41,600	70,400	53,700	54,000
East of MD 97 (S)	29,400	62,000	46,400	52,700

The existing and projected levels of service are shown in Table II-2.

Level of service (LOS) is an expression describing the operating conditions of a section of a roadway accommodating various traffic volumes. It is the measure of the effect of factors such as speed, travel time, driving comfort, traffic interruptions etc. and it ranges from "A" to "F". The criteria for each level can be described as follows:

Level-of-service A - free traffic flow, low volumes, high speeds

Level-of-service B - stable traffic flow, some speed restrictions

Level-of-service C - stable flow, increasing traffic volumes

Level-of-service D - approaching unstable flow, heavy traffic volumes, decreasing speeds

Level-of-service E - unstable flow, with continuous backup on approaches to intersections with traffic delays

Level-of-service F - forced flow

**Table II-2
WESTMINSTER BYPASS
LEVEL OF SERVICE SUMMARY
EXISTING ALIGNMENT ALTERNATES**

2/17/94

INTERSECTION	1993 LOS		2015 LOS									
	AM	PM	NO-BUILD ALTERNATE		T.S.M. ALT.		ALT. 2		ALT. 3A		ALT. 3B	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
MD 140/HUGHES SHOP RD.			A	A	*NO CONSTR.		*NO CONSTR.		*NO CONSTR.		*NO CONSTR.	
MD 140/ROYER RD./MEADOW BRANCH RD.	B	A	D	C	*NO CONSTR.		*NO CONSTR.		*NO CONSTR.		*NO CONSTR.	
MD 140/MD 32			F	D	C	D	C	D	C	D	C	D
MD 140/MD 31	A	B	E	C	E	C	A	A	A	A	A	A
MD 140/MD 97 (N)/MD 526												
MD 526/RAMPS SOUTH OF MD 140			F	E	*NO CONSTR.		A	B	A	B	A	B
MD 97 (N)/RAMPS NORTH OF MD 140			F	A	*NO CONSTR.		A	A	A	A	A	C
RAMP FROM MD 97 (N) TO EB MD 140			E	D	E	D	E	D	E	D	E	D
RAMP FROM WB MD 140 TO MD 97 (N)			C	D	C	D	C	D	C	D	C	E
MD 140/SULLIVAN RD.	C	C	F	F	E	E	D	E	C	C	D	C
MD 140/ENGLAR RD.	E	F	F	F	D	F	B	E	B	D	C	D
MD 140/MD 27												
MD 27/RAMPS SOUTH OF MD 140			D	F	*NO CONSTR.		A	B	C	F	B	F
MD 27/RAMPS NORTH OF MD 140			B	E	*NO CONSTR.		*NO CONSTR.		B	E	A	E
RAMP FROM EB MD 140 TO MD 27			D	D	D	D	D	D	D	D	D	E
RAMP FROM MD 27 TO EB MD 140			C	C	C	C	C	C	E	F	C	C
RAMP FROM WB MD 140 TO MD 27			C	C	C	C	C	C	C	C	C	C

95

Table II-2
WESTMINSTER BYPASS
LEVEL OF SERVICE SUMMARY
EXISTING ALIGNMENT ALTERNATES

2/17/94

INTERSECTION	1993 LOS		2015 LOS									
	AM	PM	NO-BUILD ALTERNATE		T.S.M. ALT.		ALT. 2		ALT. 3A		ALT. 3B	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
RAMP FROM MD 27 TO WB MD 140			D	D	D	D	D	D	D	D	D	D
MD 140/CENTER ST.	E	E	F	F	E	F	C	E	D	D	F	F
MD 140/GORSUCH RD.	E	D	F	F	D	F	B	D	C	D	-	D
MD 140/MD 97 (S)	D	D	F	F	C	F	A	E	N/A		N/A	
MD 97 (S)/RAMPS SOUTH OF MD 140			N/A		N/A		N/A		A	D	A	D
MD 97 (S)/RAMPS NORTH OF MD 140			N/A		N/A		N/A		A	D	A	C
WB MD 140/RAMP FROM MD 97 (S)			N/A		N/A		N/A		A	D	A	E
RAMP FROM MD 97 (S) TO WB MD 140			N/A		N/A		N/A		D	D	D	D
MD 140/REESE RD.			D	C	*NO CONSTR.		D	C	D	C	D	C

* LOS will be same as No Build

96

A level-of-service (LOS) analysis for the existing road with a Northern Bypass was also completed. The results shown in Table II-2A indicates that improvements to the existing road would be required even with a bypass.

Table II-2A Level-of-Service Summary Existing Alignment with a Bypass				
INTERSECTION	2015 NO-BUILD LOS		2015 NO-BUILD LOS W/BYPASS BUILT	
	AM	PM	AM	PM
Hughes Shop Road	A	A	A	A
Royer Road	D	C	A	B
MD 32	F	D	D	B
MD 31	E	C	C	B
Ramps @ MD 526	F	E	F	C
Ramps @ MD 97 (N)	F	A	D	B
Sullivan Road	F	F	E	E
Englar Road	F	F	E	F
Ramps @ MD 27 South of MD 140	D	F	C	E
Ramps @ MD 27 North of MD 140	B	E	A	B
Center Street	F	F	D	E/F
Gorsuch Road	F	F	D	E
MD 97	F	F	D	E
Reese Road	D	C	D	C

In reviewing anticipated traffic operations along MD 140, it is important to consider factors beyond simply the computed 2015 level of service at individual intersections and ramps. Among these factors are the following:

**1. No-Build Alternate
TSM Alternate
Alternate 2**

There are six signalized intersections in the two-mile long stretch from Sullivan Road to MD 97 (S), resulting in an average spacing of .64 kilometers (0.4 mile). In addition, there are approximately 14 entrances on the westbound roadway and 31 on the eastbound roadway in this 3.2 kilometers (two-mile) stretch of MD 140. At the five signalized intersections in this area for which the 2015 traffic projections are available (all but Cranberry Road), the following conclusions can be reached:

- Under the No-Build Alternate, all five intersections would operate at Level of Service (LOS) F during both the morning and the evening peak hours, the evening rush hour being worse.
- Under the TSM Alternate, computed morning peak hour levels of service range from C to E. During the evening peak hour, they range from E to F.
- Under Alternate 2, computed morning peak hour levels of service range from A to D. the computed evening peak hour levels of service shows D at one intersections and E at the other four intersections.

Due to relatively close spacing of signalized intersections and the frictions resulting from the numerous entrances, the actual levels of congestion experienced by motorists on MD 140 would probably be worse than indicated by the computed level of service at various intersections.

**2. Alternate 3A
Alternate 3B**

Except for the semi-directional ramp from westbound MD 140 to

southbound MD 31 proposed under Alternate 3B, the improvements proposed and resulting levels of service along MD 140 west of Sullivan Road and east of MD 97 (S) are essentially the same for Alternate 2, Alternate 3A and Alternate 3B. Differences in projected traffic operations are attributable to the prohibition, under Alternates 3A and 3B, of certain movements at the signalized intersections between Sullivan Road and MD 97 (S). These differences can be summarized in three categories: operations along MD 140; operations at MD 97 (N), MD 27 and MD 97 (S) interchanges; and operations on the remaining Westminster Road network.

- **Operations along MD 140**

There would be six signalized intersections along westbound MD 140 under Alternate 3A (Ramp from 97 (S), Gorsuch Road, Cranberry Road, Center Street, Englar Road and Sullivan Road) and four along eastbound MD 140 (Sullivan Road, Englar Road, Center Street and Cranberry Road). Levels of service on MD 140 at these intersections are projected to range from A to D during peak hours.

There would be four signalized intersections only along westbound MD 140 under Alternate 3B (Ramp from MD 97 (S), Gorsuch Road, Englar Road and Sullivan Road) and four along eastbound MD 140 (Sullivan Road, Englar Road, the ramp from MD 27 and Center Street). With the exception of the intersection of westbound MD 140 and the ramp from MD 97 (S), which would operate at LOS A during the morning peak and LOS E/F during the evening peak, all the signalized intersections along MD 140 would operate at LOS C-D.

When analyzed as uninterrupted flow, mainline MD 140 would operate at LOS C under Alternates 3A and 3B.

- **Operations at MD 97 (N), MD 27 and MD 97 (S)**

MD 97 (N) Interchange

MD 97 (N) would be widened through the interchange to handle

as many as five lanes under both Alternates 3A and 3B. The two intersections on MD 97 (N) would operate at LOS C or better.

Under Alternate 3B, the ramp from MD 97 (N), the ramp from MD 97 (N) to eastbound MD 140 would operate at LOS E during the evening rush hour.

MD 27

Due to its role as the principal north/south route through the center of Westminster and the extensive commercial development in the general vicinity of MD 140 from Sullivan Road to east of Cranberry Road, MD 27 would be impacted severely by the closing of all other crossings of MD 140 in the 3.86 kilometers (2.4 mile) section between MD 97 (N) and MD 97 (S).

Under Alternate 3A, MD 27 would be widened to handle as many as seven lanes. The intersection south of MD 140 would operate at LOS F, while the intersection north of MD 140 would operate at LOS E. The ramp from MD 27 to eastbound MD 140 would operate at LOS E in the morning and F in the evening.

Under Alternate 3B, MD 27 would be widened to handle as many as nine lanes. The intersection south of MD 140 would operate at LOS F in the evening while the intersection north of MD 140 would operate at E. The ramp from eastbound MD 140 to MD 27 would operate at LOS E in the evening. Three lanes narrowing to two would be required on the ramp from MD 27 to eastbound MD 140.

MD 97 (S)

MD 97 (S) would be widened to handle as many as six lanes. Although the computed LOS at the intersection is D or better, traffic operations would be somewhat complicated by the commercial entrances on the ramp between eastbound MD 140 and 97 (S). The entrance to Crossroad Square from MD 97 (S) would be on a 5% grade, which could reduce the capacity of this approach, thereby

reducing the level of service at the intersection.

- Operations on the remaining Westminster Road Network

The prohibition of turning and crossing movements along MD 140 would force motorists to utilize the remaining road network between the interchange at MD 97 (N), MD 27 and MD 97 (S) and their origin or destination. This diversion of traffic would be most severe under alternate 3B.

Although some new connecting roads are proposed under Alternate 3A and 3B (Gorsuch Road - MD 97 (S) connection, MD 27 - John Street connection, optional MD 27 - Center Street connection), a substantial amount of traffic would utilize streets such as Monroe Street, Hahn Road, Cranberry Road and Main Street. Many of these roads are narrow and could not be widened without substantial impact to adjacent development. Level of service on these roads, especially at intersections, would be adversely affected by this diverted traffic. In addition, there would be an increase in vehicle-miles travelled, much of it at lower speeds than would occur on MD 140, that would impact air quality.

3. Accident Data

Traffic projections indicate that the vehicular volumes will double by the design year 2015. MD 140 from Hughes Shop Road to Reese Road experienced an accident rate of 206 acc./100 mvm during the study period. This rate falls below the statewide average rate for similarly constructed highways, the resulting accident cost is \$2.7 million/mvm. Rear end collisions occurred at a significantly higher rate than statewide average. Under the No-Build Alternate, current conditions will worsen. If no improvements are made to this roadway, the number of accidents will rise and periods of congestion will expand as the traffic volumes increase. TSM Alternate proposes intersection improvements by adding or lengthening turn lanes and adding a third lane from 97 North to 97 South. This alternate would provide only a short-term solution to the increasing traffic congestion. Most of the intersections will reach capacity before the design year under this

alternate.

Alternate 2 consists of extending the dualization to west of MD 31 to make it a four-lane divided section with a 16.5 meters (54 foot) grass median. The section from Reese Road to MD 31 would be widened to three through lanes in each direction, with a continuous right-turn lane near commercially developed areas. With the implementation of this alternate, an accident rate of approximately 224 accidents/100 mvm. and would result in an estimated social savings of approximately \$0.1 million/mvm, when compared to the existing conditions.

Alternate 3A, in addition to the improvements under Alternate 2, this alternate proposes to eliminate some signals and left-turn movements, the construction of a new interchange at MD 97 South and the extension of MD 97 to connect to Gorsuch Road. With the implementation of this alternate, an accident rate of approximately 244/100 mvm is expected. The accident cost resulting from this alternate is \$2.6 million/100 mvm, and would result in an estimated cost savings of approximately \$0.1 million/mvm, when compared to the existing conditions.

Alternate 3B proposes partial control of access by eliminating all cross-over movements across the median. It proposes three through lanes in each direction and a continuous right-turn lane near commercially developed parcels along MD 140. It would also reconstruct the interchange at MD 27, construct a new interchange at MD 97 South and at MD 31 and the construction of some service roads. With the implementation of this alternate an accident rate of approximately 203 accidents/100 mvm would be expected. The accident cost resulting from this alternate would approximately be 2.3 million/100 mvm. compared to the existing conditions.

In reality, Alternates 2, 3A and 3B would operate much better than previously indicated in that the existing accident rate is currently lower than the statewide average accident rate for similar type of facilities. Statewide average accident rates are composed of the compilation of rates from all state maintained highways throughout the state having similar geometrical configuration, number of lanes and urban or rural designation. The accident rates for each highway in any particular category used to develop the statewide average rate often varies a great deal, therefore a wide spectrum in

the accident rates used to compile the state wide average accident rates generally exist. It is reasonable to assume that highways recently built or upgraded to today's design standards are experiencing the lower accident rates comprising the bottom end of the spectrum and those highways built some time ago and not meeting today's design standards are experiencing higher accident rates of those making up the average. It is anticipated that Alternates 2, 3A and 3B will at the very least be equal to the existing accident rate if not substantially lower than what is currently being experienced.

Alternates 4 Modified, 6, and 10A proposes to construct a four-lane divided bypass with full control of access. With the construction of any of these bypass alternates, the expected accident rate would be 59 accidents/100 mvm. The accident cost resulting from these alternates would be approximately 0.7 million/100 mvm and would result in an estimated saving of approximately \$2.0 million/100 mvm when compared to the existing conditions.

The alternates showing the greatest potential to reduce accidents and create safer travel route would be Alternates 4 Modified, 6 and 10A.

III.

**AFFECTED
ENVIRONMENT**

III. AFFECTED ENVIRONMENT

A. Social Environment

1. Population

The study area for the project is central Carroll County, Maryland including the City of Westminster. Carroll County's population has been steadily increasing since World War II, although the percentage of population change slowed somewhat during the last decade. To illustrate, the population increased 17.5% between 1950 and 1960, 30.7% between 1960 and 1970, 39.6% between 1970 and 1980, and 28.1% between 1980 and 1990 (See Table III-1). According to the 1990 Census, Carroll County's population was 123,372, an increase of over 27,000 since 1980. Carroll County's rate of population growth is one of the highest in the State.

The County's growth in population has been sustained by a healthy economy. Much of this growth stems from the radial distribution of suburbanization outward from Baltimore City and the growth of Westminster as a focal point for economic development, population and employment in the area. Semi-rural living, reasonable housing prices, and reasonable commutes to jobs in and around Baltimore and Washington, have made Carroll County an attractive place to live, with growth being concentrated in the MD 140, MD 30 and MD 26 corridors. Suburban areas have developed around Westminster, which is a hub of over one-half dozen roads which converge on the town. The construction of I-795, which greatly reduced traveling times to Baltimore and Washington has also contributed to the County's growth particularly in and around Westminster.

The Maryland Office of Planning reports that additional growth is expected in the County through 2020, albeit at lower decennial growth rates of less than 10%. Between now and 2020, the population is expected to grow by approximately 55%, the third highest 30 year projection for all the Maryland counties.

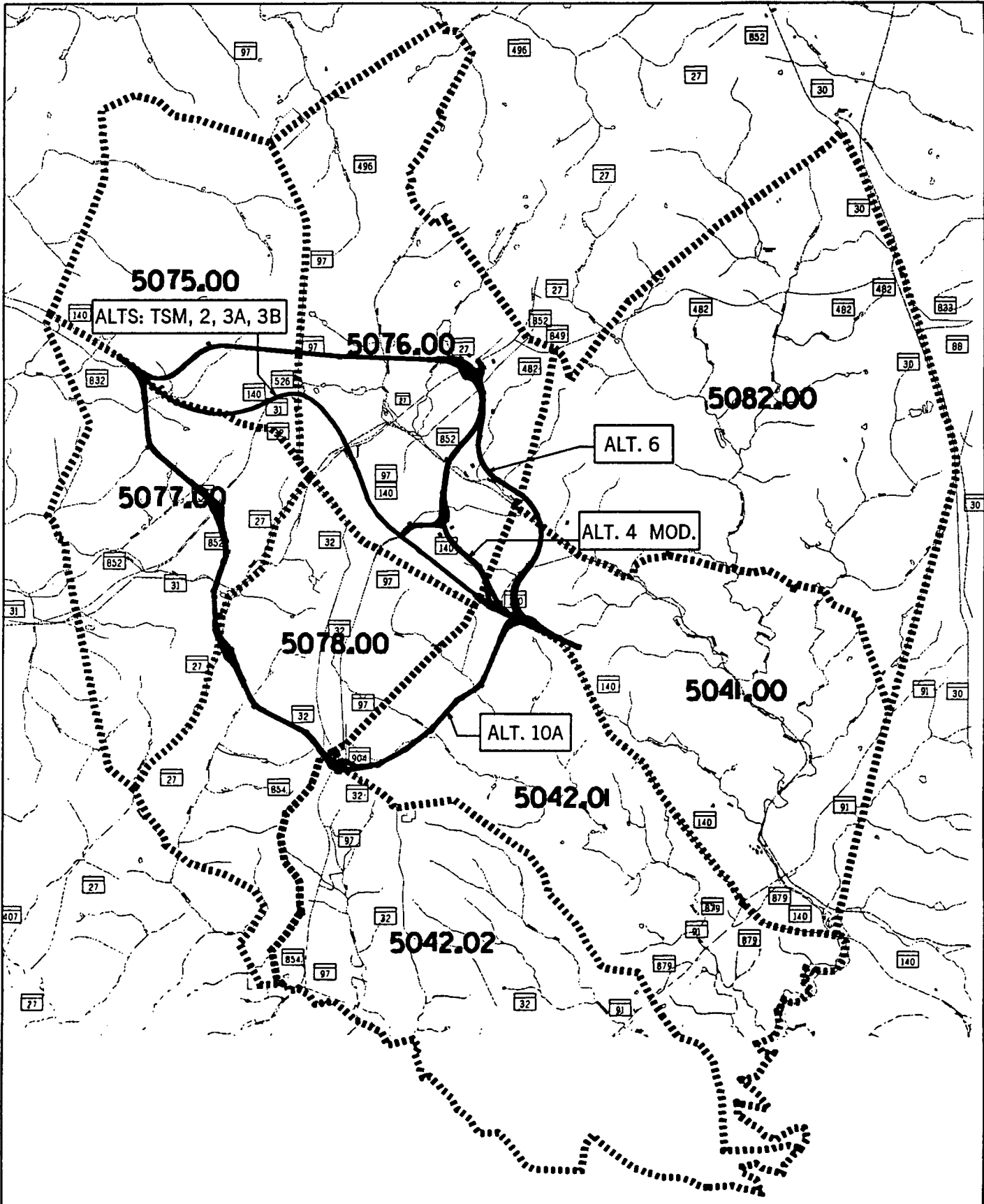
Westminster's growth of 22% during the 1970's was much less than that of the County. However, as the County's growth rate slowed during the 1980's, Westminster's population increased by over 48%, as the number of residents grew from 8,808 to 13,068. In addition, the number of housing units in Westminster increased from 3,516 to 5,469 or nearly 56% during the last decade. This rate of change is also expected to slow, as the city reaches the limits of its developmental capacities.

Census tracts were used for purposes of evaluating population statistics for the project's study area, which lies within the boundaries of Census Tracts 5041, 5042.01, 5042.02, 5075, 5076, 5077, 5078, and 5082 (see Figure III-1). For purposes of evaluating population changes over a 20 year period between 1970 and 1990, Census Tracts 5042.01 and 5042.02 must be combined together as the area comprising these two census tracts (Census Tract 5042) was divided following the 1980 census. Also, Census Tracts 5075, 5076, 5077, and 5078 were renumbered as such after the 1980 Census, being formerly known as Census Tracts 5071, 5072, 5073, and 5074, respectively.

Table III-1 Population Changes in the Study Area			
Local	1970	1980	1990
Maryland	3,921,802	4,215,709	4,781,468
Carroll Co	69,006	96,356	123,372
Westminster	7,207	8,808	13,068
5075	16,304*	19,116*	3,248(26,618)*
5076	-	-	7,009
5077	-	-	8,003
5078	-	-	8,328
5041	2,184	3,750	4,626
5042 01	4,348 +	7,546 +	4,564(9,366 +)
5042 02	-	-	4,802
5082	3,114	4,400	5,281
CT Total	25,950	34,812	45,891

*Combined w/ct 5076, 5077, 5078

+ Combined w/ct 5043.02



MARYLAND STATE HIGHWAY ADMINISTRATION		
MARYLAND 140 WESTMINSTER BYPASS		
CENSUS TRACTS		
DATE 2-94	NOT TO SCALE	FIGURE III-1

The population in these census tracts increased from 25,950 to 34,812, or over 34%, between 1970 to 122,292, or nearly 50%, in the same time period. This rate of population growth is nearly similar to the countywide population increase. Between 1980 and 1990, the population in the area defined by the same census tracts increased by almost 32%, from 34,812 to 45,891, a rate of growth similar to that of the county as a whole. Approximately 37% of the County population resides in the study area census tracts. The number of housing units increased by over 38% during the last decade, as the number of units increased to 16,999. This number of housing units comprises approximately 39% of the total housing units in the County (43,553).

An analysis of 1990 census data revealed that 97.2% of the people within the study area census tracts were white, 2.2% were black, 0.2% was American Indian/Aleutian, 0.3% were Asian/Pacific Islander, and 0.1% were classified as other. The largest numbers and percentage of minorities are located in Census Tract 5078 (405 and 4.9%, respectively), although no concentrations of minorities have been identified in the project area.

Averaged for the five study area census tracts, the elderly (defined as those age 60 and older) comprise approximately 15% of the total population. The largest proportion and numbers of those age 60 and older reside in Census Tract 5078 (24% and 1932, respectively).

2. Community Facilities & Services (Figure III-2A & 2B)

a. Schools

A variety of community facilities and services, located in or near the study area are shown on Figure 11. Schools in the study area and vicinity include:

- William Winchester Elementary
- Robert Morton Elementary
- Westminster Elementary
- Carroll County Education Center
- Westminster East Middle
- Westminster West Middle
- Westminster High
- Friendship Valley Elementary
- Carroll Christian
- Center For Progressive Learning
- St. John's Elementary
- Carroll County Career and Technology Center
- Western Maryland College
- Carroll Community College

Montessori School

b. Churches

Churches located in and around the study area include:

First United Presbyterian
Ascension Episcopal
Westminster United Methodist
St. John's Lutheran
Grace Lutheran
St. Benjamin's Lutheran
Firm Foundation Rock
First Assembly of God
Westminster Baptist
Westminster Bible
Westminster Church of the Brethren
Meadow Branch Church of the Brethren
Four Square Gospel
First Church of Christ, Scientist
Westminster Church of Christ
Westminster First Church of God
Church of the Open Door
Clearfield Bible
The Downtown Chapel
Jehovah's Witnesses
Carroll Community
St. John's Catholic
Seventh Day Adventist
St. Paul's United Church of Christ
Deer Park United Methodist
Community Baptist
Church of God
The Church of Jesus Christ of Latter Day Saints
American Presbyterian
Benjamin Krider's United Church of Christ
Church of the Nazarene
Union Memorial Baptist
Union Street United Methodist

c. Parks and Recreation Areas

Parks and recreation areas, many of which are located within the town limits of Westminster, include:

- Westminster Community Pond
- Bennett Cerf Memorial Park
- Landon C. Burns Park
- Cranberry Park
- Carroll County Farm Museum
- Close Farm
- Eden Farms
- Griffie Garden Plots
- Westminster City Playground
- Belle Grove Square
- Longwell Municipal Center
- Sullivan Avenue Tot Lot
- Westminster Municipal-Jaycee Park
- Cranberry Park
- King Park
- Carroll Park
- West End Senior Citizen Center
- Uniontown Road Athletic Field
- Deer Park

Cemeteries in and around the study area include Potters Field at Landon Burns Park, Westminster, St. John's, Meadow Branch, Krider's and Deer Park United Methodist.

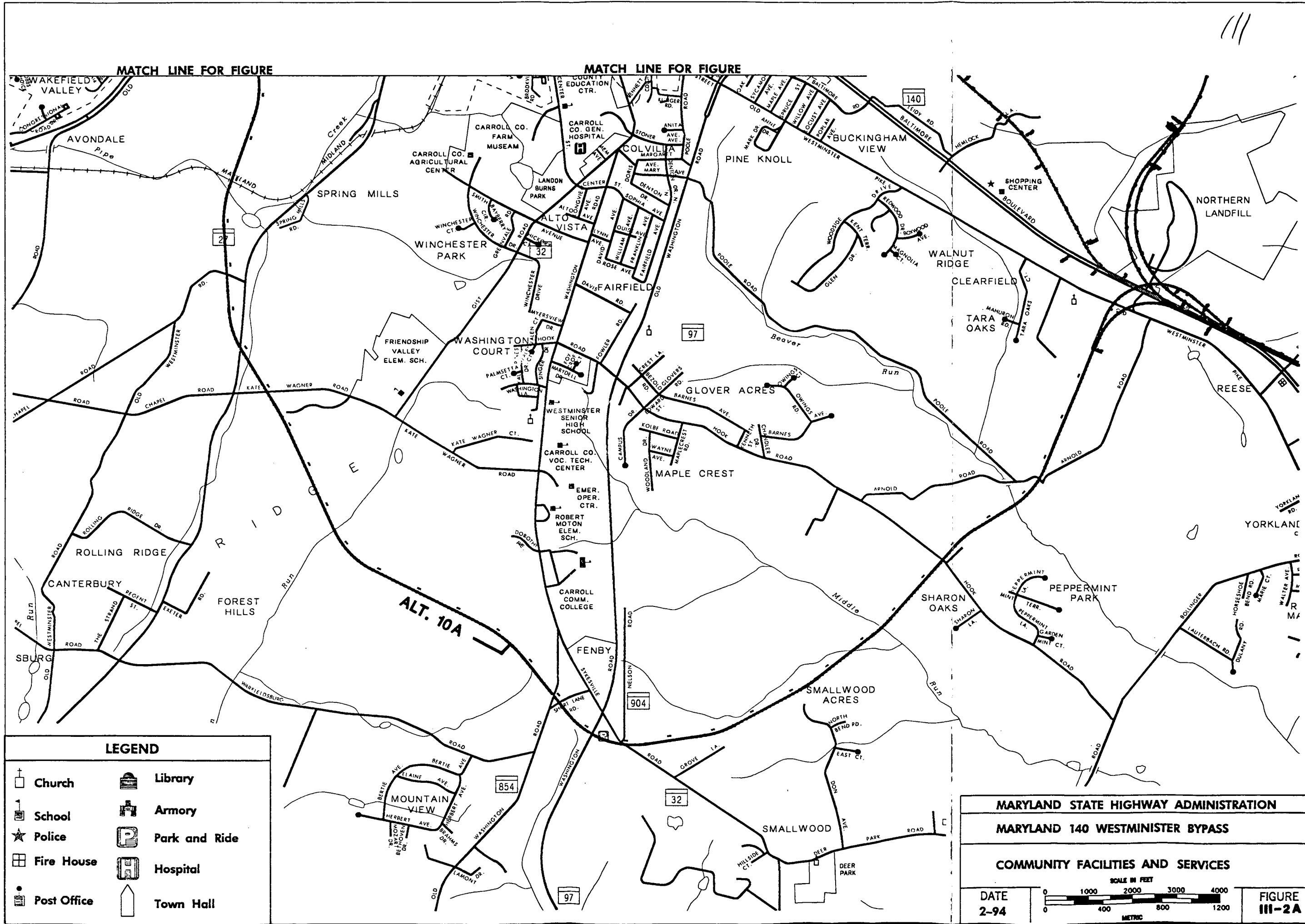
d. Emergency Services

Fire protection and ambulance service are provided by the Westminster Volunteer Fire Department, based in the downtown portion of Westminster and the Reese Volunteer Fire Company No. 9, located in Reese on the eastern end of the study area. Carroll County's Fire Training Center and Emergency Operation Center is located in the southern portion of the study area.

Police protection is provided by the Maryland State Police (Barracks 'G') near Westminster and the Carroll County Sheriff's Department, stationed in the city. The Westminster Police Department is also stationed in Westminster.

e. Other

A variety of governmental services are located in and around



MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE

LEGEND

- | | | | |
|--|-------------|--|---------------|
| | Church | | Library |
| | School | | Armory |
| | Police | | Park and Ride |
| | Fire House | | Hospital |
| | Post Office | | Town Hall |

MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINSTER BYPASS

COMMUNITY FACILITIES AND SERVICES

DATE
2-94

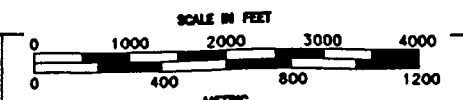


FIGURE
III-2A

LEGEND

	Church		Library
	School		Armory
	Police		Park and Ride
	Fire House		Hospital
	Post Office		Town Hall

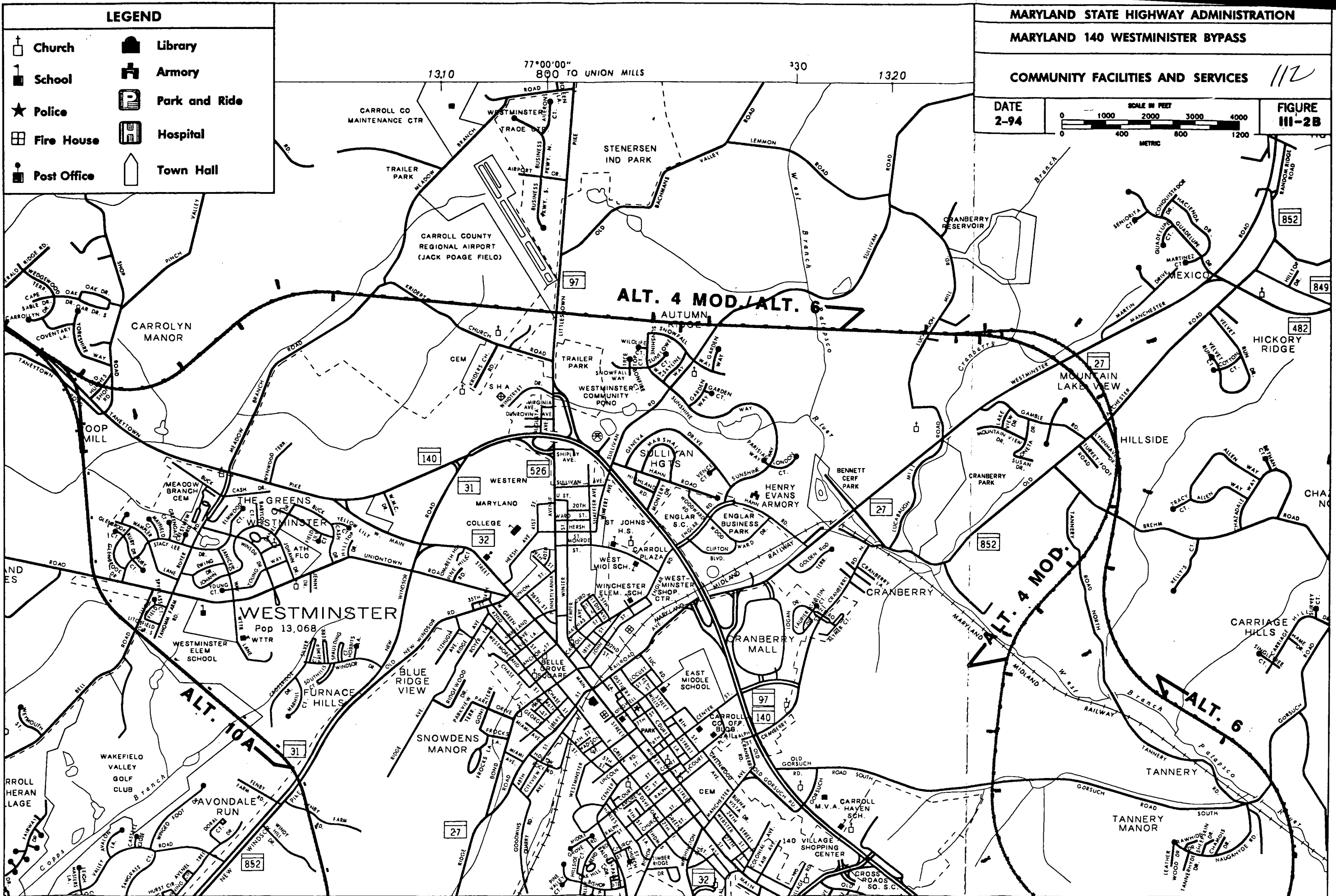
MARYLAND STATE HIGHWAY ADMINISTRATION
MARYLAND 140 WESTMINSTER BYPASS

COMMUNITY FACILITIES AND SERVICES 112

DATE 2-94

SCALE IN FEET: 0 1000 2000 3000 4000
 METRIC: 0 400 800 1200

FIGURE III-2B



MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE

Westminster. The US Postal Service operates the Westminster branch in the city. The headquarters branch of the Carroll County Public Library is located in the city, while bookmobiles and extension services are provided for special populations. The Carroll County Courthouse, Westminster City Hall, County Office Building, Carroll County Jail and Circuit Court for Carroll County are all located near the center of Westminster. Nearly all county services, and all city services, are located in and provided from a Westminster location. A US Army Reserve Center and the Maryland National Guard's General Henry Evans Armory are also situated in Westminster. The County Maintenance Center and the County's Northern Landfill are located on the outskirts of the city. A dedicated park and ride lot is located near the intersection of MD 32 and MD 97. The Carroll County Agricultural Center is also located nearby.

Health care services are provided by the Carroll County General Hospital, Westminster Nursing and Convalescent Center and Carroll Lutheran Village.

The Carroll County Airport is located north of Westminster.

Westminster supplies public water service and operates a public sewerage system to serve the town and its surrounding area. A water storage reservoir is located east of the town near Cranberry Mall. Parts of the outer reaches of the study area are outside the public service area and use individual wells and septic systems. Additional expansion of the public water and sewer system are planned to accommodate development planned for the Westminster area. No service is planned for lower density development areas.

3. Economic Setting

Since World War II, Carroll County has moved from a rural, agricultural setting toward being more urban and suburban in character with a greater emphasis on business, light industrial and manufacturing uses. In recent years, commercial and light industrial activities have gained in economic importance, with manufacturing accounting for nearly one-quarter of total employment. A large portion of the County's growth in recent years is a direct result of growth in the commercial and industrial components of the economy.

This marked shift toward urban-suburbanization has been especially evident in Westminster and its vicinity, as residential growth has expanded in former agricultural areas, concomitant with a greater emphasis on commercial and manufacturing uses. Westminster's location at the center of the County and its designation as the County seat, makes it the County's

economic hub. The city serves as the primary marketplace and employment center for the region as it is the largest retail center in Carroll County. The closest marketplace centers are in Frederick, Reisterstown and Hanover, 15-25 miles distant.

The study area economy and employment base is centered on Westminster and is primarily commercial, service oriented and light industrial in character. Commercial areas, such as shopping centers, malls, strip development, etc. are heavily concentrated along the MD 140 and Main Street through Westminster. These two corridors have been designated by the County for business use and include a downtown retail district and over a half-dozen major shopping complexes, including the Cranberry Mall. The Main Street corridor primarily serves the needs of the local population, while the MD 140 corridor is oriented to serve both local and through traffic. The Westminster Comprehensive Plan calls for continued efforts in preserving and protecting the viability of the downtown commercial district.

Light industrial and manufacturing uses are situated along the MD 140, MD 27 and MD 31 corridors in and around Westminster, and includes Random House Publishing, Goodyear, 3M, Hahn Road Industrial Park, Carroll County Air Business Park, etc. As part of its plan to attract industry, the County adopted a 20 year Airport Master Plan (in 1986) for development around the airport. Many city, county and state government facilities and services are located in Westminster, primarily in the Court and Main streets office complexes, and the local governmental sector significantly contributes to employment in the study area. Other major employers and generators of economic activity include the Carroll County General Hospital, Western Maryland College, and the Carroll County Board of Education. These institutions, plus Random House Publishing and Carroll County Government, are in the top ten of the largest employers in the County.

An analysis of 1990 Census data indicates that the majority of the labor force in the eight study area census tracts were employed in retail and wholesale trade, health services, educational services, other professional and related areas, and construction. This corresponds with the dominant economic activities in the Westminster area. On going growth of residential development in the study area will continue to generate demand for these employment activities. According to the 1990 Census, the 1989 median household income averaged for the eight study area census tracts was \$44,562. This was slightly higher than the countywide median figure of \$42,378. Among the eight census tracts, the median household incomes ranged from \$31,743 to \$47,379.

Furthermore, nearly 52% of the working study area population in the eight census tracts worked in Carroll County (particularly in and around Westminster), over 46% worked outside the County in neighboring

Baltimore, Montgomery and Frederick counties, and 2% worked outside the State in Washington DC or Pennsylvania.

The 1990 Census also indicated that nearly 80% of the labor force living in the study area census tracts commuted to work driving alone, 13% carpooled, 3% walked, 1% used a bus or subway, 3% worked at home, and 1% utilized other means such as taxis, motorcycles, bicycles, etc.

The former Western Maryland (East Subdivision) Railroad line, once part of the Western Maryland Railroad (now Chessie System) mainline between Emory Grove MD and Highfield PA, crosses MD 140 at MD 27 and passes through the study area east of Westminster and north of MD 140, generally following the West Branch of the Patapsco River. The segment from Emory Grove in Baltimore County to Westminster is without service due to frequent washouts and was purchased by the State Railroad Administration (now Mass Transit Administration-MTA) in 1983. The MTA and Carroll County wish to preserve this line for future rail operations and service. As such, it was designated as an Area of Critical State Concern by the Maryland Office of Planning in 1981 for the protection and enhancement of service in this corridor. The County is opposed to the abandonment of this rail link and wishes to preserve the option of future rail service resumption.

4. Land Use

a. Existing (see Figure III-3A & III-B)

Land use in the study area is predominantly residential (of varying densities), commercial, industrial and wooded. The density of development is, of course, higher towards the center of Westminster. A majority of land in and around Westminster is already developed; development radiates out from the town in all directions as the landscape changes from urban to rural.

High density, urban residential development is principally located within older developed sections of Westminster, particularly near the downtown core, and consists of townhouse development and apartments. These uses are also located adjacent to the city's jurisdictional limits and are extensions of the town's urban residential areas. These areas are served by public water and sewer.

Less intensive, suburban residential uses are the most common land use classification in the Westminster area. These land uses generally surround the urbanized portions of the city, extend along major roadways which radiate from Westminster, and transcend its corporate limits. The largest areas of this density development are in the northwest portion of the town from Western Maryland College south and west along MD 31 and Uniontown Road; the MD 27, 32 and 97 corridors south from the center of town; the Cranberry and Gorsuch roads corridors north from the downtown area; and north from the College along Hahn and Sullivan roads. These areas are or will be served by public water and sewer.

Medium and low density residential development are more common as the distance from the city's core increases. These areas are situated along the outer edges of the city and the study area and buffer agricultural/rural areas from more intensely developed portions of the study area. Medium density uses are situated in the MD 97 and 32 corridors south from the city and in the MD 27 corridor north of MD 140, while the lower densities predominate along Old Westminster Pike east of the city, north of the city and east of the airport, and along MD 27 and Uniontown Road out from higher density uses. Parts of these areas are served by public water and sewage, but lower density areas are predominantly unserved by these utilities.

Commercial development is concentrated in the downtown core along Main and Green streets (between Maryland Avenue and Washington Road) and along MD 140 from east of MD 97 South to MD 97 North. Small businesses and services predominate in the downtown area, while shopping centers, the Cranberry Mall, and strip development are focused along MD 140, particularly at major intersections. Several other pockets of neighborhood type commercial uses are scattered throughout the study area, particularly at intersecting roads.

Industrial development is also focused in several areas along MD 140 east of MD 97 South, along MD 97 North in the vicinity of the County airport (County Air Business Center as well as considerable private lands), along MD 27 north of the Cranberry Mall, along MD 31 in the southwestern part of the study area, and along MD 27 just south of the downtown core. The largest area of industrial development in the Westminster area is located in the MD 97 corridor near the airport, where public water and sewer have been extended.

Undeveloped areas are located across the study area. Agricultural lands are located along the outer edges of the study area, outside those areas in which development has occurred. Wooded areas, old fields,

EXISTING LAND USE

DATE
2-94

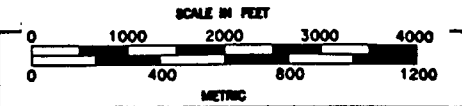
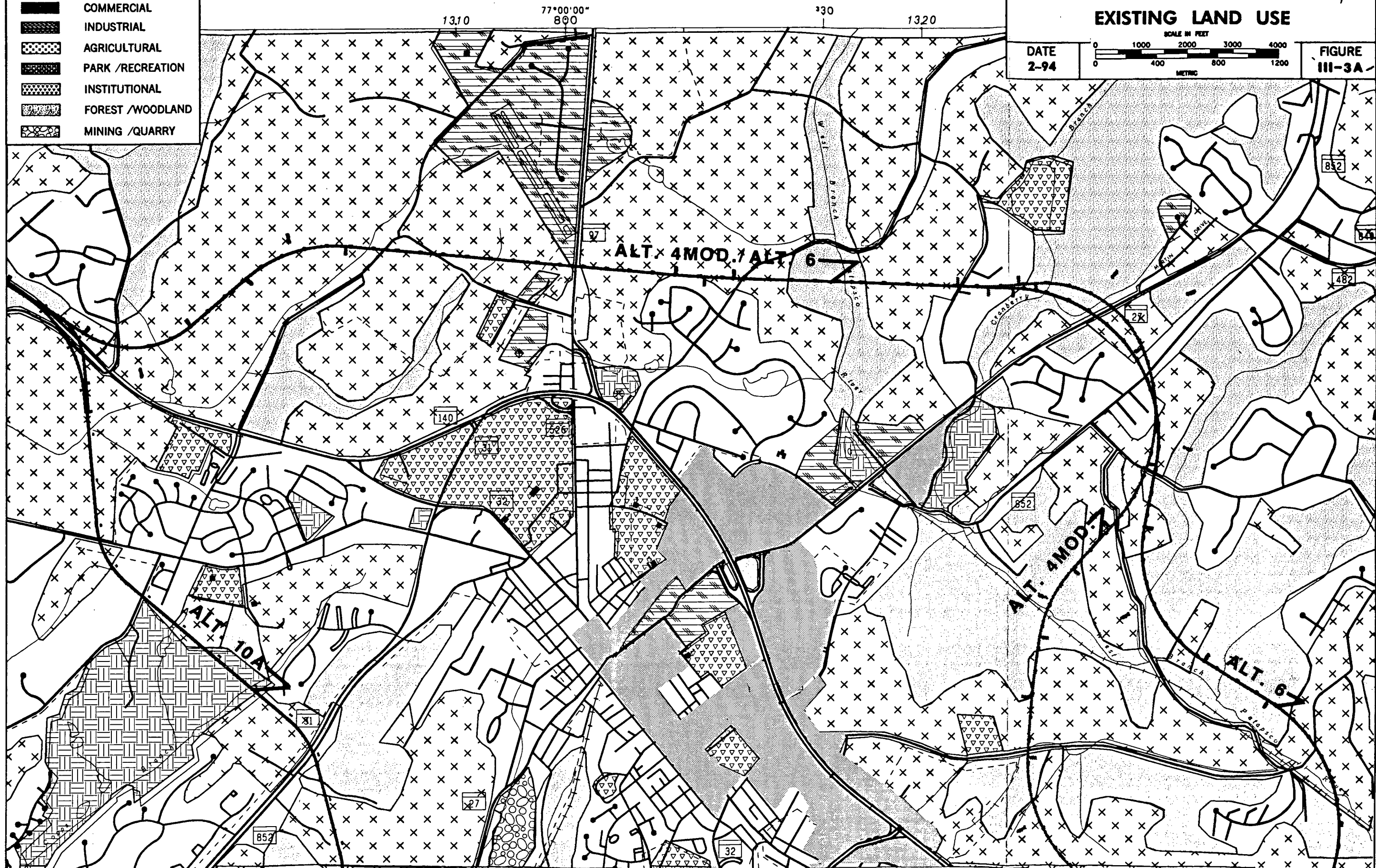


FIGURE
III-3A

LEGEND

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL
- PARK /RECREATION
- INSTITUTIONAL
- FOREST /WOODLAND
- MINING /QUARRY

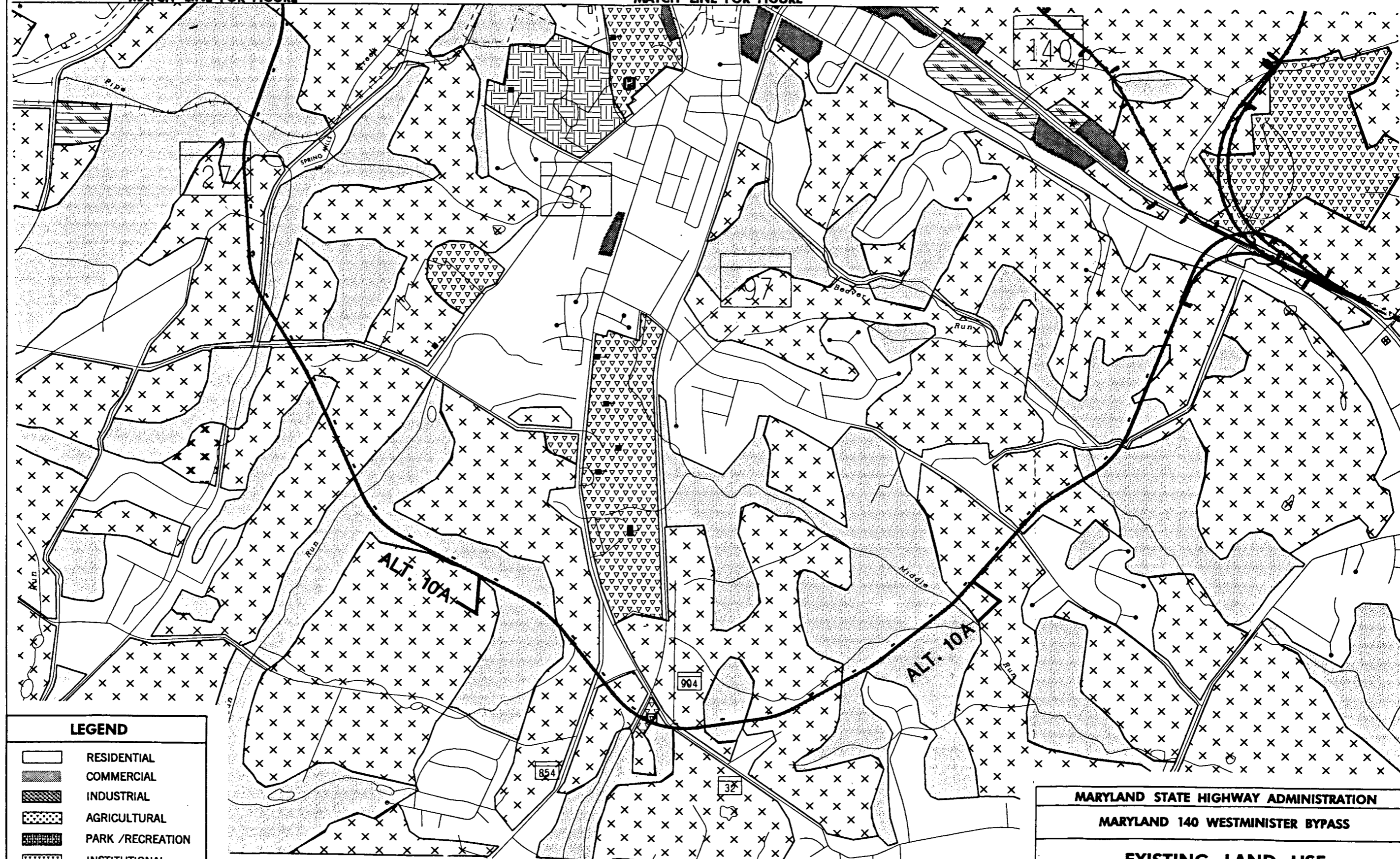


MATCH LINE FOR FIGURE









MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE



LEGEND

-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  AGRICULTURAL
-  PARK /RECREATION
-  INSTITUTIONAL
-  FOREST /WOODLAND
-  MINING /QUARRY

MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINSTER BYPASS

EXISTING LAND USE

DATE
2-94

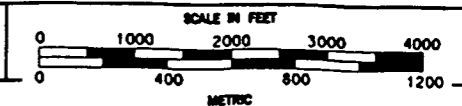


FIGURE
III-3B

etc. are situated in stream valleys and in areas of steep slopes and are scattered throughout the study area, but are like agricultural areas, more likely located along the outer edges of the study area. Parks and recreation areas are also scattered throughout the study area.

Institutional properties are focused in the vicinity of Western Maryland College, the school complex on MD 97 south of Westminster, the Carroll County General Hospital, and the Carroll County Agricultural Center.

b. Future (see Figure III-4A & III-4B)

Future land use in the study area is based on the Comprehensive Plan for Westminster and Environs (1984). No substantial changes in land use within the study area are anticipated. Vacant parcels within or adjacent to developed areas will be filled in with uses consistent with surrounding uses.

In the Comprehensive Plan, Westminster and vicinity are identified as the major population and employment center in the County. Planned growth for the area is designed to support economic diversification and intensification of economic activity.

The Comprehensive Plan directs development into areas like Westminster, where services and facilities are available and restricts growth in rural areas to preserve the agricultural component of the County's economy. While much of development in the Westminster area has already occurred on prime agricultural lands, several parcels have been identified for continued use for agriculture. These agricultural areas fall beyond the limits of planned development and water/sewer service and are adjacent to other agricultural lands. The lands designated for continued agricultural use in the Comprehensive Plan are productive agricultural lands and in some cases, their owners have placed their lands in the Maryland Agricultural Land Preservation Program, which indicates a commitment to long-term agricultural use.

Residential and commercial growth are expected to continue in planned growth and sewer/water service areas, although at slower growth rates than in the past, as the amount of developable land in and around Westminster diminishes. Industrial growth is also anticipated to occur in areas designated for such use in the MD 97 corridor in the vicinity of the County airport and along MD 140 east of MD 97 South. These areas lie within planned growth and sewer/water service areas as designated in the Comprehensive Plan.

B. Cultural Resources

An historic sites reconnaissance of the project area resulted in the identification of the following 29 sites which are listed on, or eligible for the National Register of Historic Places. The following is a listing of these sites with a brief description. These sites are also shown on the alternates maps in Volume II and on a 1000 scale map in the rear of this document.

1. Historic Sites

- a. **Kriders Lutheran Church (St. Benjamin's Church--CARR 172)--** Began as a Union Church for the area's Lutheran and Reformed Congregations in 1763. The congregations split during the 1880's, and the present brick church has a cornerstone dated 1890. The building displays Gothic style features such as the bell tower and steeple on the gable-front principal facade, pointed arch windows, and brick buttresses at the corners and along the sides. The church is significant not only as a good example of a Gothic Revival ecclesiastical structure, and for it's role in the development of Lutheranism in Westminster, but also for it's cemetery, which is one of the oldest ones in Carroll County.

- b. **Elmer Fritz Farm Complex (CARR 398)--**The Fritz Farm, although in very poor condition, is significant as a largely intact Carroll County farm complex originating in the mid-nineteenth century which was supplemented with new buildings and generally remodeled in the much favored Victorian style, probably in the late nineteenth or early twentieth century. What may have been the original log dwelling was converted to an ell when the main block, with its Victorian style ornamentation, was constructed in the late nineteenth century. The core of the original complex is composed of the original log house, the remains of a springhouse, bankbarn and a probable kitchen located south of the house. Most of the remaining buildings were constructed in the twentieth century. The complex retains a full complement of domestic and agricultural outbuildings, including a frame bank barn, tile silo, frame stable, wagon shed, chicken house and hog pen. An historical archeological component (18CR207) has been identified on the site. It may have been the residence of a John Formwalt, known for having operated a tavern on an adjacent property. As such, it would seem to meet the requirements of criterion C, in that it embodies the distinctive characteristics of a type, period or method of construction, and possibly criterion D, in that it is may be likely to yield information important in prehistory and history in the course of detailed archeological examination.

- c. **Windy Hills (CARR 107)--** Windy Hills is an excellent and well-preserved example of the representative brick farmhouse of the third

FUTURE LAND USE

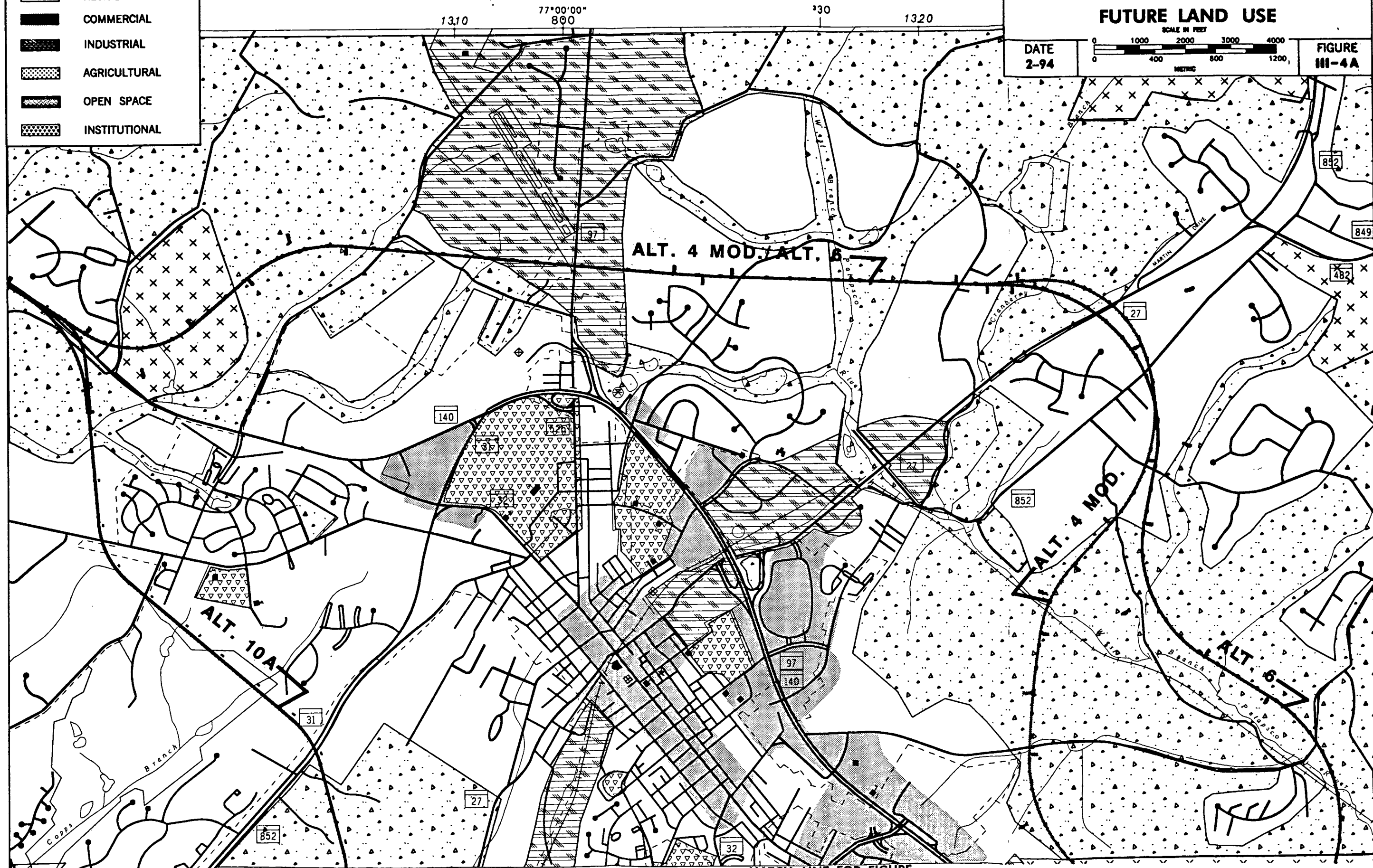
DATE
2-94



FIGURE
III-4A

LEGEND

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL
- OPEN SPACE
- INSTITUTIONAL

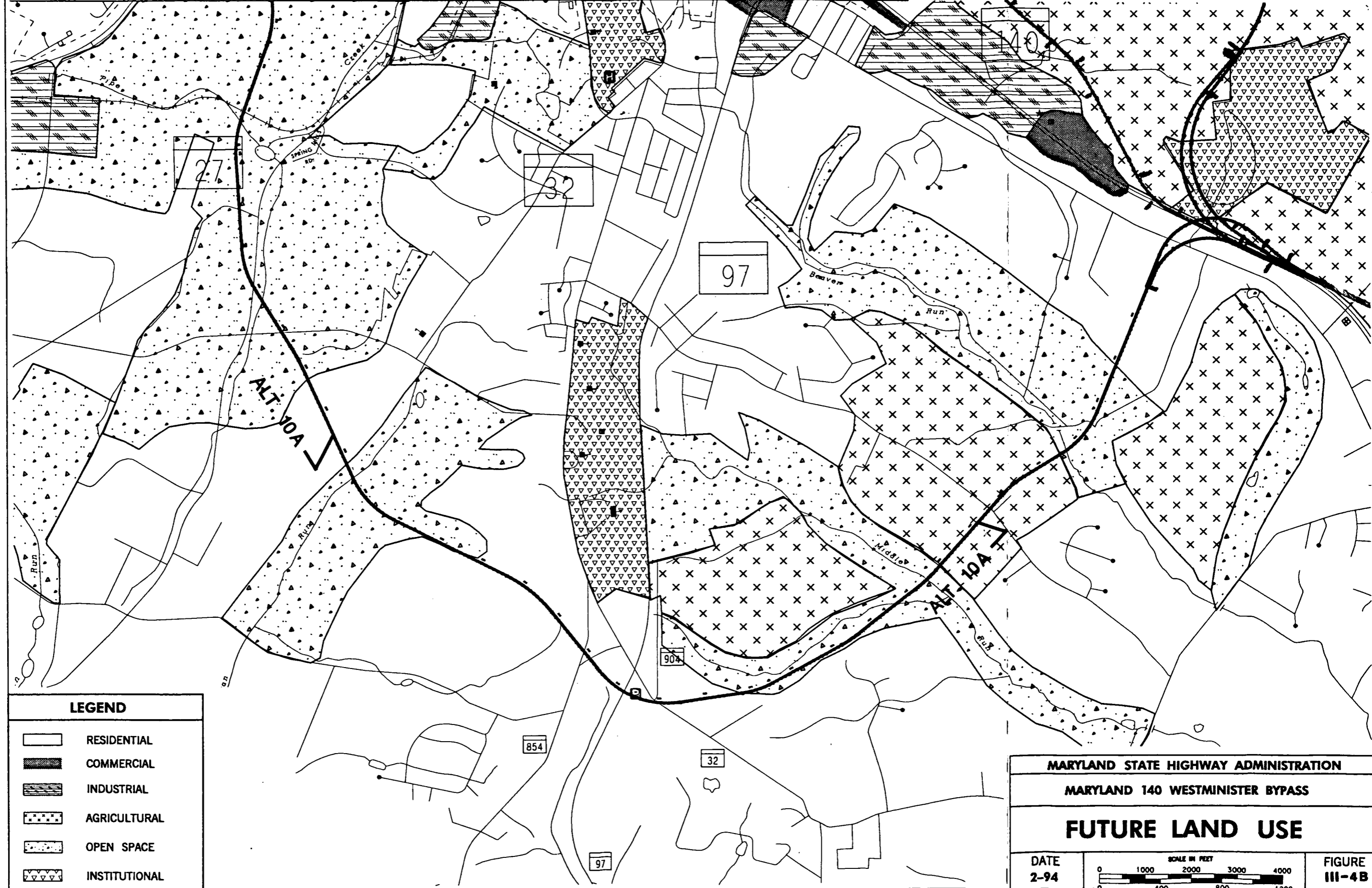


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LEGEND

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL
- OPEN SPACE
- INSTITUTIONAL

MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINISTER BYPASS

FUTURE LAND USE

DATE 2-94	<p style="text-align: center; margin: 0;">SCALE IN FEET</p> <p style="text-align: center; margin: 0;">0 1000 2000 3000 4000</p> <p style="text-align: center; margin: 0;">0 400 800 1200</p> <p style="text-align: center; margin: 0; font-size: small;">METERS</p>	FIGURE III-4B
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quarter of the nineteenth century, probably built for C. H. Cole in the 1870's. The dwelling, a five bay wide block, is built into a slope on the northeast and on a stone foundation. There are a number of probable twentieth century agricultural outbuildings on the property, including a bankbarn, corncrib, and a horse barn. The sole extant domestic outbuilding is the stone springhouse, probably dating to the period of time in which the house was constructed, and located west of the house near a large pond created by Carroll County government for the horse farm operation. This property is eligible for listing in the National Register because of its connection with the horse racing industry in Maryland. Evidently the racing of horses occurred fairly early in the development of Carroll County, for Thomas Scharf, in his History of Western Maryland references what would appear to be very regular horse racing as early as 1817.

- d. **Schaeffer-Wine-Hull Farm (CARR 743)**--This is significant as an excellent complex of nineteenth century agricultural buildings, including a two part stone dwelling, stone shed, brick smokehouse, corncrib, pig sty, frame washhouse, 1904 frame barn and a stone springhouse. A new structure has been constructed south of the complex of period outbuildings to house the Westminster Rescue Mission. Despite the modern intrusion, the setting of the farm complex is intact and retains excellent integrity of setting, materials and workmanship. This very complete farm complex, with its wide range of extant outbuildings, is closely associated with the agrarian history of Carroll County.
- e. **Miles Long House (CARR 1372)**--This site is significant primarily for the early nineteenth century bankbarn, with sawn siding disguising the chestnut log framing, possibly built for one of the earliest member of the Long family to reside in the Carrollton Valley of Carroll County, Peter or Conrad Long.

As most extant Carroll County bankbarns date to the period 1860 to 1910, the possible late eighteenth or early nineteenth century construction date for this barn makes it highly significant. Because it was originally constructed for the shelter of animals and not for the storage of silage or feed, this small barn, which originated as an even smaller structure, was built on level ground. Later in the nineteenth century it was doubled in size, and converted to a bankbarn in order to conform to changing standards and practices of animal husbandry which required hay to be stored in the barn with the animals rather than in the field barracks. The forebay may have been created at this time, for it appears that the interior hewn members were supplemented with extensions to extend the upper floor to the south. Retaining excellent integrity, it is highly significant as a rare example of an early barn which evolved over time according to changing farming practices.

Predating the other buildings currently extant on the site by many years, it probably dates to the second period of occupation for Long family on the original farmstead.

- f. **Distillery Master's House (CARR 1372)**---This dwelling was constructed in 1901 for the distillery master of the Miginnis Distillery complex, which was located downhill and to the east of the dwelling, and which was destroyed during Prohibition. Although the dwelling retains good integrity as regards its exterior appearance, despite its current somewhat dilapidated condition, it is devoid of outbuildings. The dwelling is a typical early twentieth frame ell-shaped house. This site is significant as the sole remnant of the Mcginnis Distillery and as such for its association with the industrial development of the Tannery area, made possible because of its ample access to a ready source of water power (the Patapsco River), as well as its proximity to a good transportation source after the Baltimore, Carroll and Frederick Railroad began building the line that later became the Western Maryland Railroad in 1852.
- g. **John Rinehart House (CARR 389)**--Retaining excellent integrity, this site is composed of an early nineteenth century dwelling, with its original basement kitchen, plus a very large bankbarn and a period stone springhouse. Utilized as a family farm for a number of generations of the Rinehart family, it is significant for its association with the rich agricultural history of Carroll County, as well as being significant architecturally for the early age of the dwelling and its retention of many original features.
- h. **John Schweigart Barn (CARR 388) and 69--John Schweigart House (CARR 371)**--These two buildings, although recently divided off from one another but nonetheless in very close proximity, are the major components of the late eighteenth century farmstead established by John Schweigart, the first of six generations of the family to live on the farm from 1797 to 1926. A log house located behind the Federal style brick house may be the original dwelling on the site. Built in 1813, the large bankbarn is highly significant as a particularly good example of the German influence in barn design, retaining the hourglass shaped ventilator windows in the brick ends among other significant features. This property is highly significant for its association with the agrarian history of Carroll County.
- i. **Spring Mill House (CARR 110)**--The dwelling and associated domestic outbuildings is part of a small village that once contained a grist mill, saw mill, tavern, blacksmith shop and a railroad depot. The mill was located on the Little Pipe Creek and although has been demolished, the

substantial brick mill house, dating to 1765, is still standing. This house may have been used as a tavern at one time.

Although just a remnant of the original home farm, is highly significant for its association with the important local industry of milling. As recounted in the Westminster Carrolltonian of December 24, 1841, the property, a 400 acre farm of limestone land in the Pipe Creek Valley near the head waters of Little Pipe Creek, was "improved by a large brick merchant mill at the confluence of three branches forming Little Pipe Creek. Also a saw mill, two-story dwelling, part brick and part stone, brick Switzer barn, corn, wagon and hog houses, granary and large spring house, a number of barracks. Several quarries of limestone and a lime kiln." Thomas Wells, and his father James before him, were the owners prior to the 1841 sale to Joseph Orendorff.

The dwelling and associated domestic outbuildings is part of a small village that once contained a grist mill, saw mill, tavern, blacksmith shop and a railroad depot. The mill was located on the Little Pipe Creek and although has been demolished, the substantial brick mill house, dating to 1765, is still standing. This house may have been used as a tavern at one time.

Although just a remnant of the original home farm, is highly significant for its association with the important local industry of milling.

- j. **Spring Mill School (CARR 519)**--The Spring Mill School, though greatly deteriorated, is an important remnant of the once thriving mill community. It meets the criteria for inclusion in the National Register in the area of education for its place in the development of small milling communities.
- k. **Goodwin-Robertson-Wagner Farm (CARR 669)**--The Goodwin-Robertson-Wagner Farm complex is highly significant for the high degree of integrity not only in the buildings individually, but in the completeness and integrity of the agricultural complex as a whole. It exemplifies the strong and long lived agrarian orientation of Carroll County. This farm is located in the southeast corner of the intersection of Kate Wagner and Ridge Roads, southwest of Westminster. The property is likely a remnant of the extensive lands Thomas Wells owned in the late eighteenth and early nineteenth century, among them a grist and saw milling operation in the village of Spring Mills approximately two miles north of this farm. It is thought that the land on which this farm was constructed around the middle of the nineteenth century was purchased by Thomas Stevenson, Wells' nephew, who sold

the 154 acre property to Thomas and Daniel Goodwin on December 22, 1841. Daniel may have constructed a building on the site by 1862, which was identified 15 years later as being owned by Jeremiah Robertson. It may have passed from Goodwin to a James Smith, who later sold it to his son-in-law, Jeremiah Robertson in 1857 to supplement the 9 and 1/2 acre "house farm" he sold to his daughter Ann Robertson for 532.00 in 1845 (JS 5/82). It passed from the Wells family in 1841, and subsequently owned by the Goodwins, Smith and Robinsons before the composite 101 acre parcel containing the existing cluster of farm buildings was sold to John Wagner for \$36.01 per acre, for a total of \$3844.92 in 1881. It is likely that John Wagner constructed the bulk of the existing domestic outbuildings during his fifteen year tenure on the farm.

- i. **Royer-Koontz Farmstead (CARR 702)**--This well maintained complex of farm buildings is significant as an excellent example of a mid-nineteenth century farmstead. The house is a two story log structure on a stone foundation with a two-room rectangular plan. It is sited into a slope so that the east (now rear) facade has a full-story basement. The basement door has a covered passageway to the washhouse. Attached to the washhouse is the smokehouse. The original orientation of the dwelling to the east has been altered so that one now enters the structure through a small addition constructed onto the rear of the ell. The structure has been clad with vinyl siding and has new vinyl fenestration. The dwelling is further complemented by an additional domestic outbuilding--a springhouse located north of the washhouse. The site also includes a drive through corncrib, along with numerous agricultural outbuildings.

The property evidently originated with the J. Royer, but was acquired by the Koontz family by 1877, with 140 acres retained by Howard Koontz in 1916. It is still in the Koontz family, but it is not known whether it passed outside of the family at one time.

The site is significant as a family farm that retains considerable integrity despite changes to the dwelling. It evokes a strong association with the strong agrarian tradition of Carroll County.

- m. **Bonsack Farm Complex (CARR 701)**--It is an excellent example of stone construction in the county, associated with the Bonsack family before they sold the property in 1917. This mid-century farmhouse appears to have been built in the late 1860's or early 1870's by D. D. Bonsack, who was listed as one of the original trustees of the Dunker Church (German Baptists or Brethren) which was located on Bond Street fronting Belle Park in Westminster. Thus the family has a close association with the development of religion in the county. Although.

almost all of the original outbuildings are no longer extant, the dwelling and the washhouse retain excellent integrity. These buildings have been supplemented by a frame garage and a number of modern agricultural outbuildings.

- n. **D. Bonsack House (CARR 708)**--This late nineteenth century dwelling, one of the few remaining in the immediate vicinity of Main Street extended because of intense suburban development, is significant as a Victorian style dwelling which retains a great deal of integrity. This asymmetrically designed multi part dwelling has a semi-octagonal, two story projecting bay beneath an ornamental gable. The gable end features a molded cornice patterned shingles and a two part, Queen Anne stained glass window with a dentel cornice window frame. This westernmost portion of the facade is highlighted by ornamental ironwork. A one-story, two-bay porch with turned posts and jigsawn balusters in the porch rail completes the main facade. This extraordinarily well preserved Victorian frame dwelling meets the requirements of the National Register in embodying the distinctive characteristics of the Queen Anne cottage in Carroll County.
- o. **Chew-Crowl House (CARR 1355)**--This is an excellent example of a late nineteenth century farm complex, built by Milton Chew, the store owner and postmaster of Reese, which was known as Carrollton at the time. It is not only significant as a well preserved farmstead associated with a prominent member of the village, but also for the highly ornamented architectural styling of the dwelling, with elaborate southwest corner.

The focus of the complex is a well presevered frame farmhouse, highly ornamented with angle quoins, brackets, shingled gable ends, an octagonal bay on the southwest corner, jigsawn porch forth brackets, railings and unusually patterned cornices. A well preserved two-story, board and batten combination washhouse/butchery, as identified by the owner, is located northeast of the house. The only other period building is the 1895 bank barn with loafing area enclosed by a short stone wall located west of the house. The remaining buildings were built recently.

- p. **Leister House (CARR-744)**--This large imposing structure, two-and-one-half stories high, may have replaced an earlier structure or been expanded and updated with Victorian trim in t:he late nineteenth century. This very substantial and well detailed farmhouse appears to retain much integrity and has a commanding presence in the area. As such it would qualify under Criterion C of the National Register for architecture.

- q. **Kriders Church Complex (CARR 146, CARR 172)**-- Krider's Church began as a Union Church for the areas Lutheran and Reformed Congregations in 1763, built on ground donated by Benjamin Krider. With the destruction of the first house of worship in 1890 the congregations split and each build a church at opposites ends of the common ground. The birch church (CARR 146) is significant as an accomplished interpretation of the County Gothic idiom. The frame church built by the Lutheran congregation is an excellent example of the Queen Anne style applied to an ecclestistical structure. The architectural and historical significance of this church complex is enhanced by the presence of one of the earliest cemeteries in Carroll County.
- r. **Sexton's House (CARR 674)**--This simple, two story frame dwelling, constructed in 1909 is not individually significant, but rather has importance for its association with Kriders Brick Lutheran (Reformed) Church (CARR 146). It was built to replace the original late eighteenth century dwelling that pre-dated it on the site. The Sexton's House does not have an individual boundary, but rather is included in the large rectangular site adjacent to and west of Kriders Church Road which encompasses the Kriders Frame Lutheran Church (CARR 174).
- s. **Young House (CARR 404)**--This well preserved, large, two-story, ell-shaped brick farmhouse, built by the third quarter of the nineteenth century for J. Young on his 158 acre farm and retained by the family well into the twentieth century, is an excellent example of the regional farmhouse style and illustrates the relative affluence of its builder. A large frame bank barn, with louvered opening, may still be extant on the site. The boundary would be coterminous with tax parcel #551.
- t. **Swissdale Farm (CARR-262)**--is a very small remnant of a very large farm complex owned by Urvan Bixler in the early twentieth century. It consists of a late nineteenth century, well maintained brick farmhouse, a smokehouse and a free standing beehive oven. Period ovens are rare in Carroll County.

- u. **Tannery Historic District**--This district is composed of the six extant Tannery Workers Houses and the archeological remains of the tannery buildings, in addition to a large bungalow dwelling which may comprise a part of the original combination office (store, post office and railroad station). It also incorporates a portion of the Western Maryland Railroad and the West Branch of the Patapsco River.

This district is eligible for the National Register as a remnant of an industrial village associated with the tannery industry. In sharp contrast to the very small scale and labor intensive family tanneries which were the norm for Carroll County, this tannery was a major employer, developed as a company town, which is very unusual for the area, and highly mechanized.

The first (or possible second) tannery was established by Werner and Scholler by 1877 at the highly advantageous confluence of the Western Maryland Railroad and the Patapsco River. A.P. Baer continued the operation as the Carroll Oak and Tannery Company. By the 1910's the town had a Methodist Church, the Thomas Chapel. A one-room schoolhouse, a general store and numerous houses, none of which are extant. The six frame workers houses which overlook the site from a hill to the north are the only structures which remain.

- v. **Jacob Coppersmith House (CARR-1365)**--This substantial house, topped with a heavy hipped roof which is broken by prominent cross-gables on all sides and a three story polygonal tower with a bellcast roof on one corner, gains even greater presence by virtue of its prominent location at the intersection of two major roads. It was owned by a prominent local tradesperson and appears to represent a conscious effort to present a high style urban appearance by being expanded and modified throughout the first half of the twentieth century.

- w. **The Roop Rural Historic District** is centered around a number of properties which belonged to the Roop family in the 19th century and also includes properties not linked to the Roop family. This area just outside Westminster remains largely rural and reflects the historic agricultural character of the County. Throughout the 19th century Carroll County was an extremely productive agricultural area and its economy and lifeways remained largely agricultural well into the 20th century. This area still conveys a strong sense of the agricultural landscape that characterized the County until recently. A number of the properties included in the district are associated with the Roop family, a prominent and prosperous farm family in this area in the 19th century. Among these properties are the following contributing resources:

Meadow Brook Farm (CARR 391)-- Meadow Brook Farm is significant as an example of two significant periods in Carroll County agricultural history. The original farmstead, built in 1805, was constructed during a period of intense immigration by Pennsylvania Germans and the house, outbuildings and farm plan reflect the ethnic heritage of the German settlers in Carroll County. The later evolution of the house throughout the nineteenth century is illustrative of the changes that would be undertaken by a typical prosperous Carroll County farmer. Of particular significance is the victorian remodeling of the farmhouse that represents the late nineteenth century heritage of this agricultural community and the influence of national themes in domestic architecture.

The farm is also significant for its association with one particular owner, Samuel Roop, who played an important role in Carroll County history. In that he served as an officer in a number of civic and business organizations, his role in the County was atypical of the average farmer. Roop was a descendent of the original owner, John Roop, and the farm is still owned by members of the family.

David Roop House (CARR 390)--The house retains excellent integrity and is in very good condition, although the setting has been degraded by the construction of a number of modern buildings; namely, a new frame dwelling behind the 1862 brick house, plus concrete block sheds, garage, and barn. A ruinous frame barn is located in the far reaches of the property to the south, and some of the frame outbuildings are also in poor condition. Despite the loss of integrity in the setting, the nineteenth century house, exhibiting the regional farmhouse paradigm but an unusual arrangement of double tiers of drying porches on both sides of the ell wing, is significant as the residence of David Roop, a descendent of the Roop family who settled in the area in the early nineteenth century, and started a long lived milling business on the property adjacent to this Roop House. This property is highly significant for its association with the industrial development of the county, and for the fact that it has remained in the same family since its construction.

Roop's Mill Complex (CARR 101)--This property, with numerous standing structures, is highly significant as a remarkably intact grist milling site with architecturally noteworthy buildings which is owned by the descendants of the original settler, John Roop, who moved to the county in 1795. It is also significant in its place in the evolution of the milling industry, as the mill was built to a patented design which incorporated some significant innovations, and the owner was the first to utilize electricity in the county. The boundary also includes archeological site 18CR206, mostly composed of historical artifacts

relating to the occupation of the site.

Gill's Range (CARR 377)--This agricultural complex, composed of a well maintained house, domestic outbuilding and bank barn, built for his daughter by David Roop in 1861, is significant for its association with the Roop family, important for their place in the industrial history of Carroll County. In addition, the house is highly significant architecturally as an interesting variation on the regional farmhouse type, with the roof flaring out to shelter the double tiered front porch.

Joseph Thomas House (CARR 657)--The Joseph Thomas House is a modest early twentieth century dwelling with a shingled gable end entrance. It was a component of a very small complex of buildings located at MD 140 and Hughes Shop Road which comprised a service area for vehicular traffic in the early twentieth century. The automobile garage and all of the related structures apart from the Joseph Thomas and Elizabeth Lowry houses have been destroyed.

Elizabeth Lowry House (CARR 656)--The house is a contributing resource in the Roop Rural Historic District. Through it no longer conveys much of the sense of the mid-nineteenth century structure which would have been associated with Elizabeth Lowry, there are potentially significant archeological resources on the property.

The Elizabeth Lowry House is significant as a structure which evolved throughout the last half of the nineteenth century. The original log portion, associated with an African-American woman, Elizabeth Lowry, in the mid-nineteenth century, was substantially enlarged with an addition to the eastside which has stylistic affinities with the Queen Anne style. In the twentieth century the structure was utilized for a short period as a meeting place for the Church of the Brethren.

The Tenant House at Meadow Brook Farm (CARR 811)--is a modest, two story frame structure which has undergone considerable modifications since it was constructed in the early twentieth century.

The Reese Farmstead (CARR 394)--is a modest mid-to late nineteenth century housestead probably built by David Reese. The dwelling has undergone considerable internal and exterior modifications, and most of the outbuildings were constructed a number of decades after the dwelling was completed.

The Meadow Branch Church of the Brethren (CARR 392)--was constructed in 1914 to replace an earlier stone structure built in 1847 on land donated by Peter Royer and John Roop. A large addition was constructed on the west wall of the original structure in the late 1960's.

The significance of the site as an early place of worship for the Roops settlement is enhanced by the presence of a large, old cemetery.

The Joseph Stoner House (CARR 1371)--is an undistinguished, late nineteenth century which has been extensively modified. With no period outbuildings, and a modern dwelling constructed south of the original farmstead, the property does not convey a strong association with the past. Nonetheless, it is a component of the Roops Rural Historic District.

- x. **Evelyn Thompson House (CARR-1351)**--The farmstead is representative of the longevity and prosperity of agriculture in Carroll County, where farming remained a viable way of life well into the 20th century. The farm retains a frame bank barn and domestic outbuildings from the 19th century as well as a substantial brick bungalow and tile dairy barn dating to the early 20th century. The two later buildings reflect the continued prosperity of the farm. The bungalow style is not common in the area and is more likely to be found in urban or suburban settings than on a farm. This house is particularly well executed and the design is closely integrated with its site. The farm is located well off MD 140 and retains integrity of setting.

The following sites which are of Maryland Inventory quality only and not thought to be eligible for the National Register include:

TSM and Alternates 2, 3A and 3B

- 1. Stoner Residence (CARR 711)
- 2. Housen Residence (CARR 791)
- 3. Marshall Residence (CARR 792)
- 4. Myers House (CARR 808)
- 5. Eichorn House (CARR 709)
- 6. D. D. Bonsack House (CARR 707)
- 7. The Rickell Residence (CARR 706)
- 8. Jacob Stoner House (CARR 1371)
- 9. D. Bonsack House (CARR 708)

Common alignment for Alternate 4 Modified and Alternate 6

- 1. Tenant House--Staub Residence (CARR 811)
- 2. Starner Farm (CARR 395)
- 3. Cyrus Schweigart Farm (CARR 397)
- 4. Towney Farm (CARR 755)
- 5. Stoner House (CARR 746)
- 6. Esig House (CARR 745)
- 7. Adam Miles House (CARR 738)

8. Schweigart-Shriver House (CARR 1344)
9. Noah Hotzfelt House (CARR 1343)
10. Shaffer House (CARR 794)
11. Sharp Tenant House (CARR 1347)
12. Green Residence (CARR 710)
13. Noah Long House (1346)
14. Lowe School (CARR 1348)
15. Isaac Long House (1349)
16. Jesse Long House (1350)
17. August E. Witte House (1342)
18. Hagan Residence (P. A. Bowman House (CARR 1345)
19. Leister Residence (CARR 793)
20. Thompson House (CARR 695)
21. Leister House (CARR 694)
22. T. Mathias House (CARR 1373)
23. J.D. Wymert House (CARR 1374)
24. J. W. Hook House and Barn (CARR 1375)
25. Crout-Tompkins House and Barn (CARR 1376)
26. J. Lockhard House (CARR 790)
27. Cole Residence (CARR 789)

Alternate 10A

32. Log Dwelling (CARR 809)
33. Brick Colonial Revival House (CARR 814)
34. Brick Farmhouse (CARR 815)
35. Stevenson-Hoff Farm (CARR 666)
36. Carr House (CARR 670)
37. Mitten Residence (CARR 672)
38. Close House (CARR 673)
39. J. Logue House (CARR 1352)
40. Himmell-Crowl Log House (CARR 788)
41. Kastner-Keck House (CARR 1353)
42. Ed Drechsler House (CARR 1354)
43. Rinehart-Zohner-Geceli House (CARR 1356)
44. Rinehart-Miller-Bush House (CARR 1357)
45. Rinehart-Miller-Gecell House (CARR 1358)
46. Goodwin-Myers Farm (CARR 1359)
47. Buckingham-Owings Farm (CARR 1360)
48. Logue-Nelson Farm (CARR 1361)
49. Lewis Dittman House (CARR 1362)
50. Coppersmith-Shipley House (CARR 1363)
51. W. B. Nelson Farm (CARR 1364)
52. George Dittman House (CARR 1366)
53. Arnold-Corsuch House (CARR 1367)
54. I. Winchester House (CARR 1368)

- 55. Lyman Arnold House (CARR 1369)
- 56. George R. Logue House (CARR 1370)
- 57. Maus Residence (CARR 709)
- 58. Ellsworth Cemetery (CARR 767)
- 59. Joseph Stoner House (CARR 1371)

2. Archeological Sites

Phase I archeology was conducted for Alternates 2, 3A, 3B, 4 Modified, 6, 10A and the TSM Alternate.

Twenty-six archeological sites as shown on Table III-2. The Ellsworth Cemetery (CARR 767), the Krider's Church Cemetery (CARR 172) and an isolated prehistoric projectile point find (Roop Mill Point) were identified or reinvestigated during the survey. Additional, Phase I investigations will be necessary in areas where access was denied and may be necessary at locations of standing historic structures which were identified after completion of the fieldwork.

The Maryland Historical Trust has agreed that Phase II evaluations are warranted for twelve sites to determine their eligibility for the National Register. Only two sites are actually impacted by the alternates and require phase II evaluation. These sites are identified by an asterisk on Table III-2.

Sites 18 CR 204, 18 CR 208, 18 CR 209, 18 CR 211, 18 CR 213, 18 CR 214, 18 CR 217, 18 CR 218, 18 CR 219 and 18 CR 227 do not meet the criteria for eligibility in the National Register of Historic Places. These sites do not have the potential to yield important information and do not retain sufficient integrity.

**TABLE III-2
ARCHEOLOGICAL SITES**

SITE NUMBER	NAME
18 CR 191*	Middle Run Dwelling
18 CR 202	Norman Site, Mill Race
18 CR 203*	Russel - 1 Site, log dwelling
18 CR 204	Tarkington - residence
18 CR 205*	Meadowbrook Farm
18 CR 206*	Roop Mill Site
18 CR 207*	Fritz Site
18 CR 208	Dulaney - farm
18 CR 209	Green Site
18 CR 210*	O'Farrell - 1 Site
18 CR 211	O'Farrell - 2 Site
18 CR 212*	Nelson - 1 Site
18 CR 213	Nelson - 2 Site
18 CR 214	Nelson - 3 Site
18 CR 215	Nelson - 4 Site
18 CR 216*	Nelson - 5 Site
18 CR 217	Barnes - 1 Site
18 CR 218	Barnes - 2 Site
18 CR 219	Barnes - 3 Site
18 CR 220	Puglisi Site, scatter
18 CR 221*	Tannery Row
18 CR 222*	Tannery Row
18 CR 224*	Drechsler Site
18 CR 225	Lockhard Site, scatter
18 CR 226*	Elizabeth Lowery Site
18 CR 227	Schoolhouse Site

C. Natural Environment

1. Topography

The study area is located within the Piedmont Physiographic Province, characterized by a broad undulating surface with low knobs and ridges and numerous deep and narrow stream valleys. The terrain is flat to rolling in agricultural areas to very steep (up to approximately 35%) in areas cut by channels in Parrs Ridge. According to U.S.G.S. topographic maps, the study area ranges from approximately 580 to 975 feet above sea level.

2. Geology

The Parrs Ridge forms a divide of the Piedmont Physiographic Province into an eastern and western geologic division.

The eastern division of the province is underlain by a complex series of metamorphosed rocks, including gneiss, slates, phyllites, schists, marble, serpentine, granite, and gabbroic rocks. The portion of the study area found in the eastern division is underlain by the Wissahickon Formation, the only formation common to both the eastern and western divisions. The Wissahickon formation consists of muscovite-chlorite-albite schist, muscovite-chloride schist, chloritoid schist, and quartzite. This formation is typically intensely folded and cleaved. The western division of the province is underlain in the vicinity of the study area by a series of metamorphic rocks similar to but less strongly metamorphosed than those of the eastern division. The western division within the study area is underlain by Sams Creek Metabasalt, Ijamsville Formation, and Wakefield Marble. Sams Creek Metabasalt is a grayish-green, massive to schistose, amygdaloidal metabasalt. The Ijamsville Formation is a blue, green, or purple phyllite and phyllitic slate, with interbedded metasiltstone and metagrawacke. Flattened pumiceous blebs occur locally. Wakefield Marble consists of white, fine-grained marble; subordinate white, green, and pink variegated marble; and blue marble.

3. Soils

Three soil associations exist within the study area. The Glenelg-Chester-Manor association, at the eastern edge of the study area, may be described as well-drained, chiefly rolling and hilly, deep meacaceous soils. The chief limitations that affect use include steep slopes and erosion hazard. The Glenelg-Manor-Mt. Airy association, in the central and eastern portions of the study area may be described as well-drained and somewhat excessively drained, mainly hilly deep to moderately deep soils. The chief limitations that affect use include steep slopes, erosion hazard, and depth to bedrock in places. The Mt. Airy-Glenelg association, in the western part of the study area, may be described as somewhat excessively drained, rolling to very steep, moderately deep to deep channery soils. Limiting factors include steep slopes and erosion hazard.

Seventeen soil series belonging to these associations are found along the four alternates for the Westminster Bypass (See Table III-3).

SYMBOL- SERIES NAME	MAPPING UNIT	HYDRIC CHARACTERISTICS
Ba - Baile silt loam	Poorly drained soils that occur in upland depressions, around the heads of drains, and on foot slopes adjacent to minor drainageways	Listed as a hydric soil
Ce - Chester silt loam	Deep, well-drained, nearly level to sloping soils on uplands, soils mainly on or near the crests of slopes	None
Ch - Codorus silt loam	deep, nearly level and gently sloping soils that occur on the floodplains of streams	Contains hydric inclusions of Hathoro soils
Cn - Comus silt loam	Deep, nearly level and gently sloping soils on floodplains of streams or at the foot of slopes	None
Co - Conestoga silt loam	Deep, well-drained, nearly level to moderately steep soils that occur on uplands	None
El - Elioak silt loam	Deep, nearly level to strongly sloping, and well drained soils on crests and upper side slopes	None

**TABLE III-3
STUDY AREA SOILS
WESTMINSTER BYPASS**

SYMBOL- SERIES NAME	MAPPING UNIT	HYDRIC CHARACTERISTICS
Es - Elsinboro silt loam	Deep, well-drained, level to sloping soils that occur on benches, terraces, and low bluffs above the floodplains of major streams	None
Gc - Glenelg channery loam	Well-drained, nearly level to moderately steep soils on uplands	None
Gl - Glenelg loam	Well-drained, nearly level to moderately steep soils that occur on uplands	None
Gv - Glenville silt loam	Nearly level and gently sloping, moderately well drained soils that have a fragipan, these soils lie in upland depressions as well as around the heads and along the upper courses of drainageways	Contains hydric inclusions of Baile soils
Ht - Hatboro silt loam	Deep, poorly drained, nearly level and gently sloping soils on floodplains	Listed as a hydric soil
Ln - Linganore channery silt loam	Moderately deep, gently sloping to steep, somewhat excessively drained soils that occupy uplands	None
Md - Made land	Consists of areas that have been disturbed or modified by grading and filling	
Mg - Manor gravelly loam	Deep, nearly level to very steep, somewhat excessively drained soils on uplands	None
Ml - Manor loam	Deep, nearly level to very steep, somewhat excessively drained soils on uplands	None
Mn - Manor very stony loam	Deep, nearly level to very steep, somewhat excessively drained soils on uplands	None
Mt - Mt. Airy channery loam	Nearly level to steep, moderately deep, somewhat excessively drained soils	None

Prime and Unique Farmland Soils

Several of the soils in the project area are listed as prime farmland, See Table III-4.

Areas containing prime farmland soils are listed in Table 4 and shown on Figure III-5A & 5B. These areas include approximately 1.17 hectares (2.9 acres) along the existing MD 140 corridor, 15.3 hectares (37.9 acres) along the Alternate 6, 19.0 hectares (47.0 acres) along the Alternate 4 modified, and 22.7 hectares (56.2 acres) along the alternate 10A. Coordination with the Department of Agriculture, Soil Conservation Service in accordance with the Farmland Protection Policy Act. See the Appendix.

4. Water Resources

a. Surface Water

Several perennial streams and their tributaries flow within the project study area. These streams include: Meadow Branch of Big Pipe Creek and Little Pipe Creek, Cops Branch of Little Pipe Creek, within the Monocacy/Potomac Watershed and Little Morgan Run, Middle Run, Beaver Run, West Branch of the Patapsco River, and the Cranberry Branch of the Patapsco River, within the Patapsco Watershed. The Parris Ridge forms the divide between streams flowing into the Patapsco River Watershed and those flowing into the Monocacy River Watershed. The majority of streams in these watersheds are first and second order, representing headwaters for the Patapsco and Monocacy Rivers.

Maryland Department of the Environment has classified all surface waters of the state into the following four categories according to desired use

Class I - Water contact recreation, for fish, other aquatic life, and wildlife

Class II - Shellfish harvesting

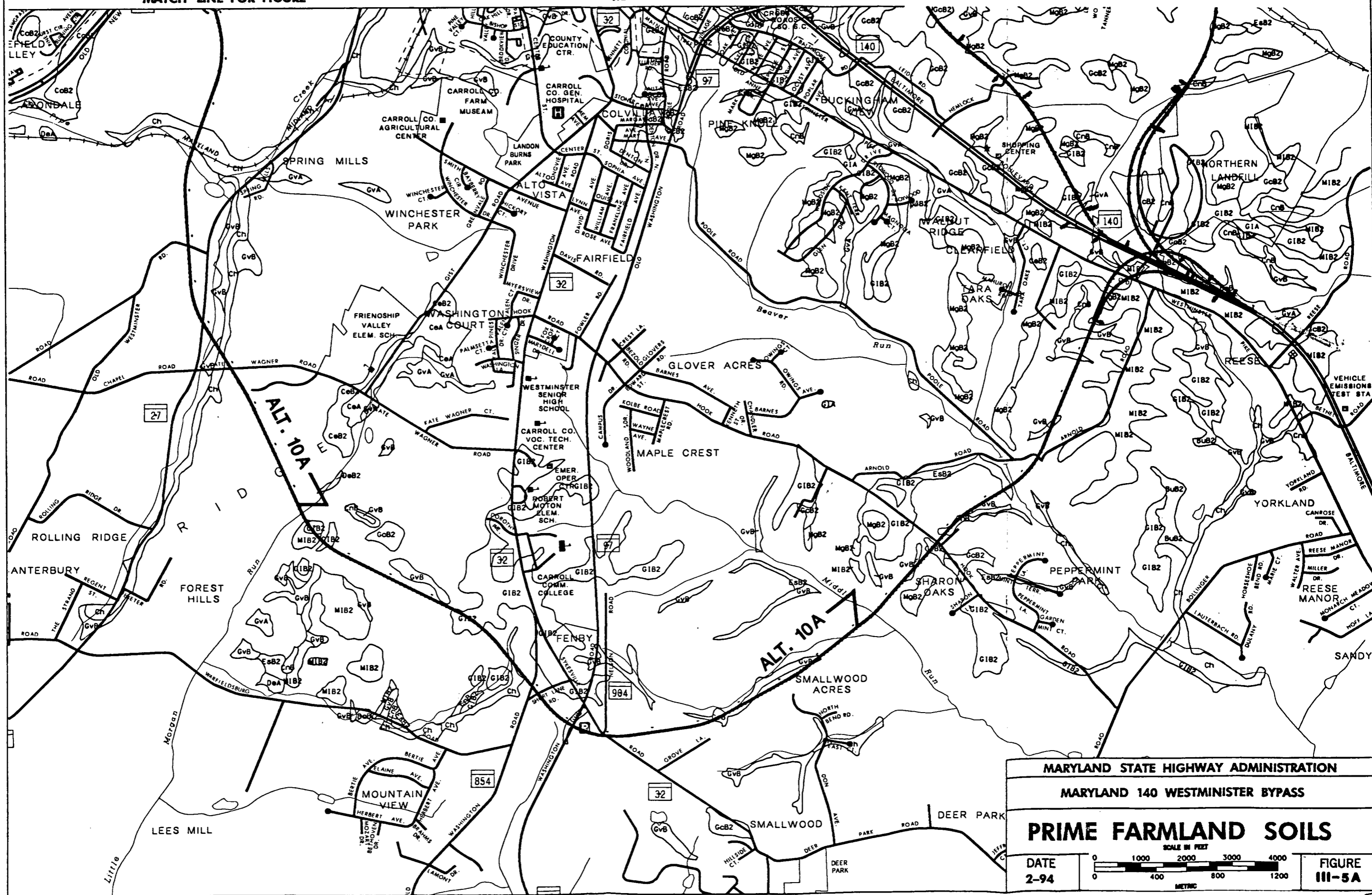
Class III- Natural trout waters

Class IV - Recreational trout waters

TABLE III-4 PRIME FARMLAND SOILS WESTMINSTER BYPASS	
Map Symbol	Mapping Unit
BuB2	Bucks silt loam, 0 to 8 percent slopes, moderately eroded
CeA	Chester silt loam, 0 to 3 percent slopes
CeB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded
Ch	Codorus silt loam
Cm	Comus silt loam
CnA	Comus silt loam, local alluvium, 0 to 3 percent slopes
CnB	Comus silt loam, local alluvium, 0 to 8 percent slopes
CoB2	Conestoga silt loam, 3 to 8 percent slopes, moderately eroded
DeA	Delanco silt loam, 0 to 3 percent slopes
DeB2	Delanco silt loam, 3 to 8 percent slopes, moderately eroded
EIB2	Elioak silt loam, 3 to 8 percent slopes, moderately eroded
EsB2	Elsinboro silt loam, 3 to 8 percent slopes, moderately eroded
GcB2	Glenelg channery loam, 3 to 8 percent slopes, moderately eroded
GIA	Glenelg loam, 0 to 3 percent slopes
GIB2	Glenelg loam, 3 to 8 percent slopes
GvA	Glenville silt loam, 0 to 3 percent slopes
GvB	Glenville silt loam, 3 to 8 percent slopes
HaB2	Hagerstown silt loam, 3 to 8 percent slopes, moderately eroded
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded
MIB2	Manor loam, 0 to 8 percent slopes, moderately eroded

MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE



MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINSTER BYPASS

PRIME FARMLAND SOILS

DATE
2-94

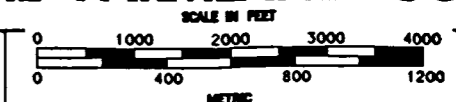


FIGURE
III-5A

PRIME FARMLAND SOILS

DATE
2-94

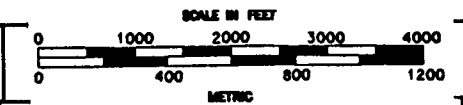
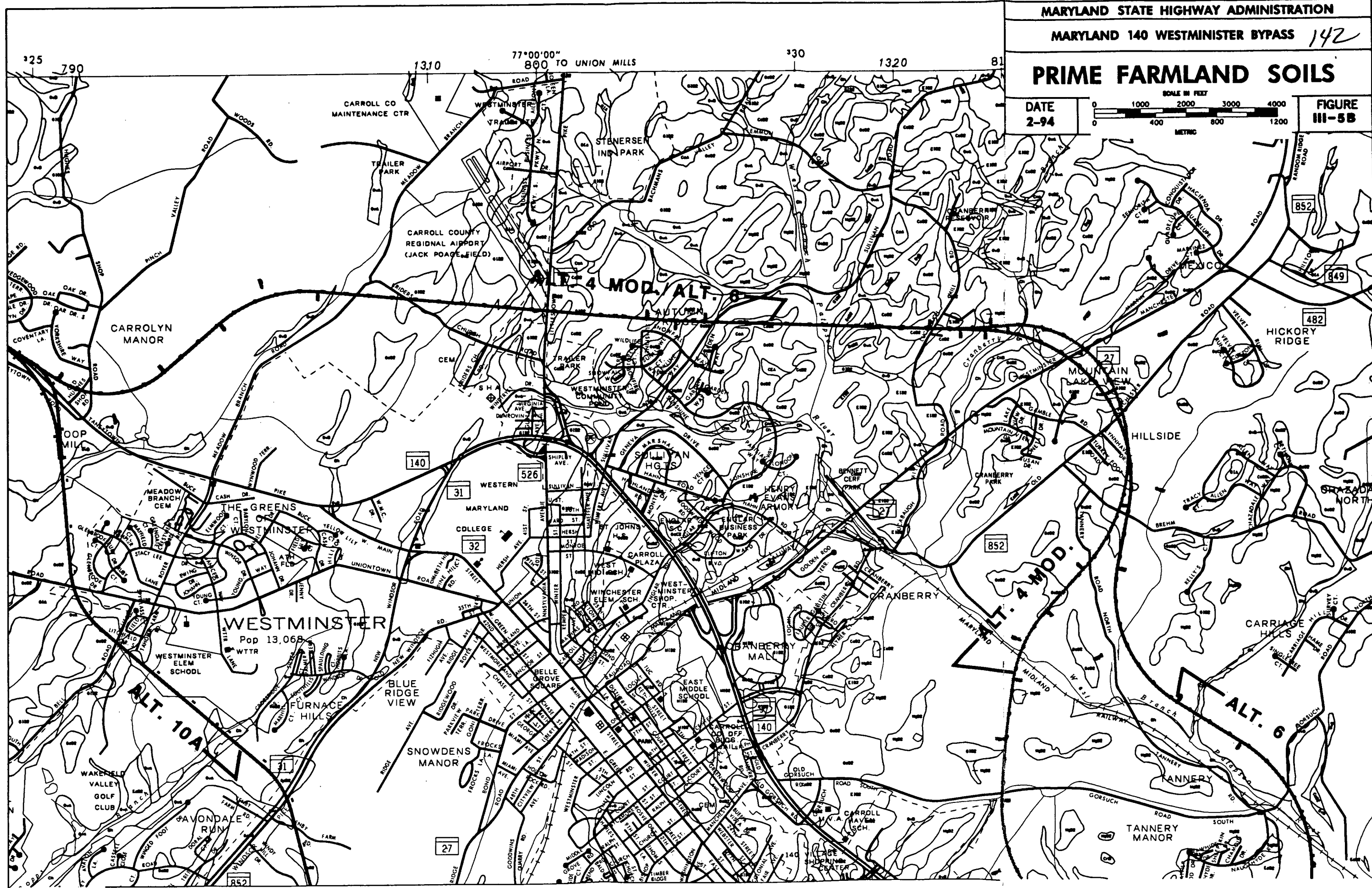


FIGURE
III-5B



MATCH LINE FOR FIGURE

MATCH LINE FOR FIGURE

All waters of the state are Class I, with additional protection provided by higher classifications. Class III trout waters are considered suitable for the growth and propagation of trout, and Class IV waters are capable of holding and supporting adult trout populations.

The Meadow Branch Big Pipe Creek, Little Pipe Creek, tributaries to the Monocacy River and West Branch Patapsco River mainstem are classified by Maryland Department of the Environment as Class IV streams. Beaver Run, a tributary to the west Branch of the Patapsco, is categorized as Class III waters.

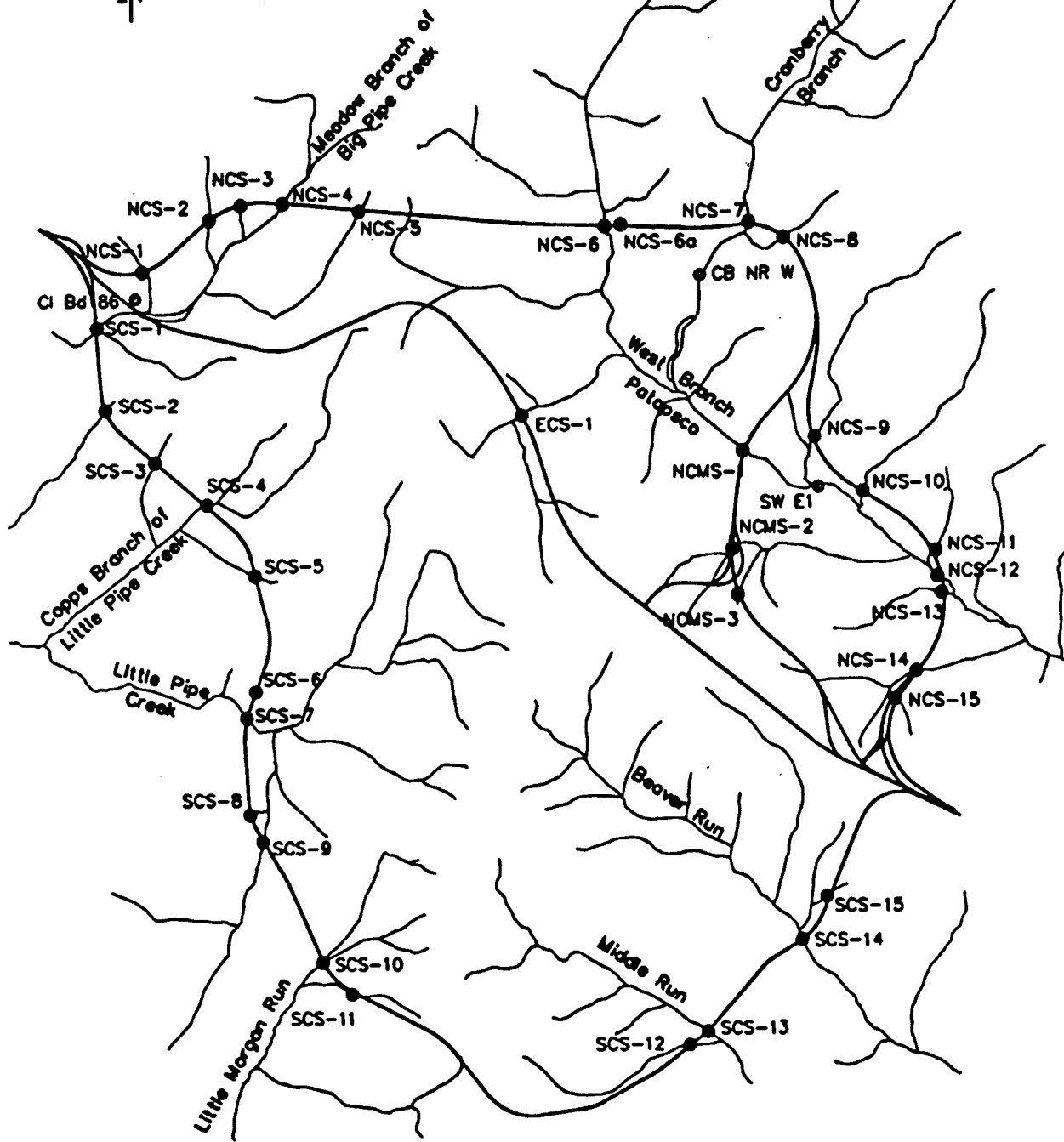
The headwaters of the streams and rivers surrounding Westminster are dominated by agriculture and forested land use with scattered low density residential housing. Flows in the streams vary from dry intermittent streams to a flow of approximately 3000 gpm in the West Branch of the Patapsco River. The streams with flows of less than 150 gpm are high gradient streams with small watersheds and beds consisting of lengthy riffle areas with few pools. The Meadow Branch Big Pipe Creek, Copps Branch of Little Pipe Creek, Little Pipe Creek, Little Morgan Run, Middle Run, Beaver Run, and the West Branch of the Patapsco River are streams with short riffle areas between long pools, often flowing through pasture land.

The quality of water in Maryland is regulated by COMAR 26.08.02.03-3, Water Quality Criteria Specific to Designated Uses. The code cites 6 parameters for Class I and seven parameters for Classes III and IV to be used to establish water quality. These parameters include both chemical and bacteriological elements considered in water quality. The parameters are 1) fecal coliform density; 2) dissolved oxygen (DO); 3) water temperature; 4) pH; 5) turbidity; 6) toxic materials; and 7) total residual chlorine. Table III-5 lists these standards for Classes I, III, and IV waters.

**TABLE III-5
SPECIFIC WATER QUALITY CRITERIA
WESTMINSTER BYPASS**

Criteria	Class I-P	Class III-P	Class IV and IV-P
Fecal coliform	log mean of $\frac{<200}{100 \text{ ml}}$, based on a minimum of 5 samples over any 30 day period OR <10% of total # of samples taken during any 30-day period may exceed $\frac{400}{100 \text{ ml}}$	Same as Class I	Same as Class I
DO	>5.0 mg/l	>5.0 mg/l. with a minimum daily average of 6.0 mg/l	Same as Class I
Temperature	< 32°C OR < ambient temperature of receiving water, whichever is greater	<20°C OR < ambient temperature of receiving water, whichever is greater	<23.9°C OR < ambient temperature of receiving water, whichever is greater
pH	>6.5 and < 8.5	Same as Class I	Same as Class I
Turbidity	<150 NTU or <50 NTU as a monthly average	Same as Class I	Same as Class I
Total Residue Chlorine	Not Applicable	No chlorine or chlorine-containing compounds in the treatment of wastewater discharging to use III or III-P waters	
Toxic Materials	All toxic substance criteria for protection of freshwater organisms apply and to protect public water supplies and the wholesomeness of fish for human consumption	Same as Class IP	All toxic substance criteria to protect freshwater aquatic organisms and the wholesomeness of fish for human consumption apply. P-designation also protects public water supplies.

Historic water quality data for the affected area was obtained from STORET and is presented in Table III-6 in the Appendix. At the 34 stream crossings, existing conditions of water quality parameters were documented. Table III-7 in the Appendix, presents water temperature, flow, average stream width and depths that were measured at each sampling location (Figure 6). Dissolved oxygen, specific conductivity, and pH were measured in the field using portable meters see Table III-8 in the Appendix. Water samples were collected at selected larger streams for 5-day Biochemical Oxygen Demand (BOD), nitrite-nitrogen, phosphate, total suspended solids, turbidity, total solids and priority



Legend:

- Sampling Locations (Field Effort)
- Sampling Locations (Stored Data)

MD 140
 Hug Shop to Reese Road

Surface Water Sampling
 Locations

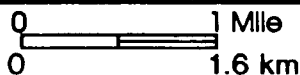


FIGURE III-6

pollutant metals. Results of this analysis are included in Table III-9 in the Appendix. No priority metals were detected at any of the streams.

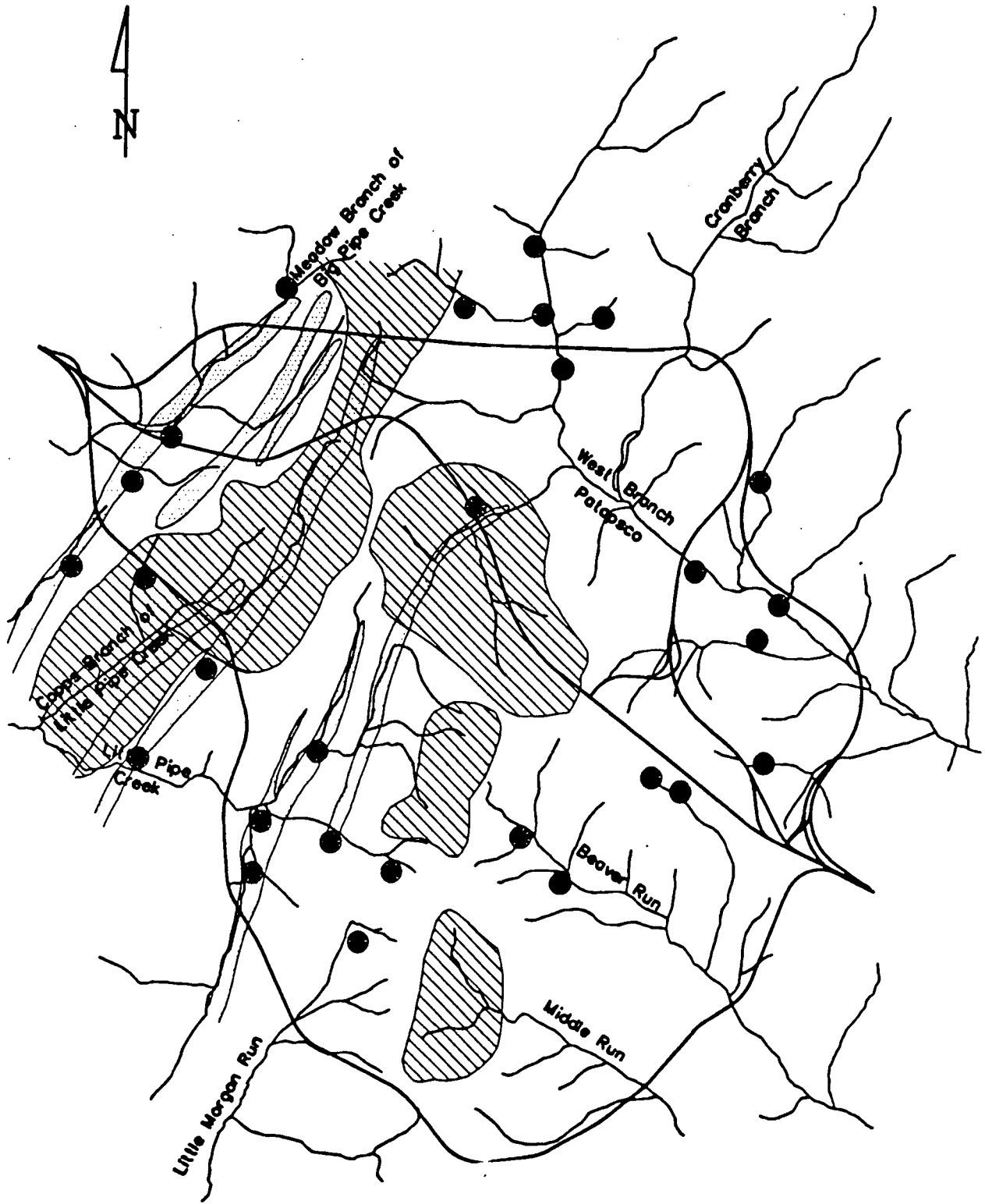
Analysis of field and laboratory measured water quality parameters shows existing impacts from agricultural runoff as observed by elevated fecal and total coliform counts and the presence of measurable quantities of nitrite. Elevated nitrate levels existed at the nine stations sampled for laboratory measured parameters. The lowest dissolved oxygen and highest water temperature occurred at sampling location NCS-4, which is located in the middle of an open pasture (See Table III-7 & III-8 in Appendix). The pH and dissolved oxygen of all sampling locations was within the ranges specified for Class I-P, Class III-P, Class IV, and Class IV-P streams.

b. Groundwater

Groundwater of the study area is generally replenished by precipitation, and discharges to streams within the recharge area. The local annual precipitation of 109 cm (43 inches), recharges the groundwater reservoirs which consist of weathered rock and the fractures and joints of the unweathered rock. Groundwater generally moves smoothly except in limestone near surface cavernous openings, and adjacent to high volume production wells. The complex geology of the study area causes the recharge rates to vary. Ridges underlain by phyllite have low recharge rates while the lower-lying carbonate areas have high recharge rates.

The Marburg Formation generally has good groundwater development potential where sufficient permeability and saturated thickness exist. These areas are located southeast of Westminster where the formation has depths greater than 30.5 m (100 feet). In the 1980s a test well completed this schist yielded over 400 gpm (0.03 m³/sec). The phyllite which underlies the ridges of the study area has generally been found not to produce sufficient groundwater to qualify as a public water supply source.

The carbonate rock lenses in the Wakefield Marble which trend from the northeast to the southwest have excellent groundwater resources, however these lenses primarily exist in the westernmost half of the study area (See Figure III-7). Yields of between 100 and 700 gpm (0.006 and 0.04 m³/sec.) are available



Legend:

- Optimum Potential Municipal Well Site
- ▨ Wetland Protection Area
- Carbonate Rock Area

MD 140
Hugh Shop to Reese Road

Groundwater Features



FIGURE III-7

depending on recharge. The eastern most lens is unusable because of contamination from gasoline suppliers, an abandoned landfill, and a sewage treatment plant. The northern extension of this lens is also overlain by the existing corridor of MD Route 140. The adjacent carbonate lens to the west, underlies a portion of the proposed Southern Corridor. This aquifer has some of the best potential well sites in the study area, however, it is down gradient from the Kate Wanger Dump to the south and from the eastern most contaminated lens.

The groundwater quality of the study area is characterized by the chemical dissolution of the underlying limestone and marble. The dissolved mineral matter, mostly calcium and magnesium carbonates, are the major constituents of the indigenous rocks. Sinkholes have been observed to develop during well installation in limestone and carbonate rocks. The potential for surficial contamination to migrate to the underlying groundwater is of utmost concern because of the rapid travel of contamination, and the shallow depth of the groundwater.

c. Floodplains

The 100-year floodplains have been delineated using the Federal Emergency Management Agency Flood Insurance Rate Map (F.I.R.M.) and in accordance with the requirements of Executive Order 11988. The Westminster Bypass (MD Route 140) project area lies within the West Branch Patapsco and the Monocacy River Watersheds. The Alternates 6, 4 Modified, and Alternate 10A are traversed by the West Branch Patapsco River and its tributaries. The mainstem of the West Branch Patapsco River crosses alternate 6 at two locations. At the furthestmost downstream crossing of alternate 6, the drainage area is approximately 5264 hectares, 20.3 square miles (13,008 acres).

Tributaries to the Monocacy River, Meadow Branch Big Pipe Creek, and Little Pipe Creek, traverse Alternate 2, 3A, 3B, Alternate 6 and Alternate 10A. Meadow Branch Big Pipe Creek and its Tributary No. 1 cross all three alignments, having a drainage area of 660 hectares, 2.8 square miles (1632 acres). Little Pipe Creek and its Tributary No. 10 traverse the Southern Corridor at two locations, having a drainage area of 1116 hectares, 1.8 square miles (2757 acres).

The 100-year floodplains were delineated on the project mapping using the flood elevations shown on the FEMA floodplain maps. Floodplains were delineated for the major stream crossings on the four project alignments. The plan views of the 100-year floodplains are shown on the Alternates Mapping.

5. Ecology

a. Terrestrial Habitat

There are five general vegetative habitats that exist within the MD Route 140 project study corridor. These habitats include 1) farmland/pasture, 2) man-dominated land, 3) deciduous forest, 4) scrub-shrub, and 5) old field. The vegetative habitats surveyed for the project included areas within the rights-of-way for the project study alternates. Areas for service roads and interchanges were also included in the inventory of vegetative habitat acreage.

Farmland/Pasture - The cultivated land habitat is maintained at a constant stage of succession by agricultural activities. This type of habitat accounted for 7.9 hectares (19.7 acres) in the Alternates 2, 3A and 3B, 88.9 hectares (219.6 acres) in the Alternate 6 Corridor, 93.3 hectares (230.6 acres) in the Alternate 4 Modified Corridor, and 96.3 hectares (238.0 acres) in the Alternate 10A Corridor. Common annual crops cultured in the area include corn, wheat, soybeans, vegetables, hay, barley, oats, and rye.

Within the cultivated fields there are many drainageways and hedgerows that support many species of wildlife.

Man-Dominated Land - The man-dominated habitat within the study corridors is kept at a constant state of succession by the activities of humans. This habitat type constitutes approximately 22.1 hectares (54.7 acres) for Alternate 6, 20.7 hectares (51.2 acres) Alternate 4 modified, and 26.7 hectares (90.6 acres) for Alternate 10A. The habitat is typified by mowed aprons, residential lawns, and parking lots associated with businesses in the study corridors.

Plants found within this area include grasses and broad-leaved herbaceous species such as clover, dandelion, and plantain. Exotic tree, shrub, and remanent native tree species are utilized in this habitat for aesthetic value.

The man-dominated habitat is generally found in the commercially and residentially developed areas. There are also pockets of man-dominated habitats associated with the farms and crossroads located within the study areas.

Deciduous Forest - The forested land habitat within the study area is comprised of broad-leaved deciduous tree species. This habitat type covers approximately 2.6 hectares (6.5 acres) along Alternates 2 and 3a/3b, 40.9 hectares (101.0 acres) along alternate 6, and 37.3 hectares (92.3 acres) along alternate 4 modified, and 53.8 hectares (133.0 acres) along alternate 10A, the southern alternate. Tree species that are typically found in the larger forest stands include black cherry, hickory, red maple, tulip poplar (*Lireodendron tulipifera*), oak, and black gum. The trees tended to be mature, with average heights of 12.2 - 15.2 meters (40-50 feet).

This habitat is generally found in association with the streams of the area (i.e., riparian corridors) and in places where land has not been developed for agriculture. Riparian corridors are important to many species of wildlife by providing cover and serving as travelways.

Scrub-shrub - The scrub-shrub habitat totals approximately .17 hectares (0.42 acres) in the Existing Corridor (Alternate 2, 3A, 3B), 30.2 acres (12.2 hectares) in the Alternate 6 Corridor, 9.2 hectares (22.8 acres) in the Alternate 4 Modified Corridor, and 6.3 hectares (15.7 acres) in the Alternate 10A Corridor. Vegetation within these areas consists of shrubs and small trees, which generally have a diameter at breast height of 12.7 cm (5 inches) or less and reach heights between 0.9 and 6.1 meters (3 and 20 feet). This habitat type is found near wetlands and in areas that are difficult to maintain. Areas in the latter stages of old field succession were also included in this habitat type.

Old Field - Old field includes former agricultural areas reverting to natural conditions. At least 2/3 of the field must include herbaceous vegetation (i.e., grass and grass-like vegetation) to be classified as old field. Herbaceous vegetation typically identified in these areas included common evening primrose, clover, curly dock, goldenrod, grasses, poison ivy, teasel, wild carrot, and yarrow. These areas are mowed once a year or less, or are subjected to periodic grazing. Approximately 0.05 hectares (0.12 acres) of old field were found in the Existing Corridor (Alternates 2, 3A and 3B), 15.9 hectares (39.5 acres) in the

Alternate 6 Corridor, 17.0 hectares (42.1 acres) in the Alternate 4 Modified Corridor, and 14.7 hectares (36.4 acres) in the Southern Corridor.

Habitats within the study corridors support a variety of wildlife. Wildlife utilize these habitats for feeding, cover, and travelways.

Some wildlife species that utilize all of the habitat types available, including man-dominated areas, are eastern cottontail, raccoon, and striped skunk. Other species expected to utilize the areas that are particularly rural and have a high degree of cover are red fox, gray fox, and white-tailed deer.

The old field and scrub-shrub types of habitat are expected to support populations of woodchuck, eastern cottontail, meadow vole, and the meadow jumping mouse. These species also occur, but at reduced densities, in areas that are primarily agricultural. Upland forested habitats are expected to support gray squirrel, white-footed mouse, and eastern chipmunk. In addition, the house mouse and Norway rat can be found in urban areas, relying on human activity for their existence and survival.

b. Aquatic Habitat

The many streams that flow through the project area provide an abundance of aquatic habitat. The existing aquatic habitat include stream bottoms that consist of fine sand and silts to medium sized cobbles, undercut stream banks and overhanging roots structure, variations in water depth and velocity, and deadfalls which provide excellent cover and habitat in the perennial streams within the project area. Water quality of the streams provides conditions for a wide range of aquatic life. Forested areas and shrubs provide ample shade for adequate cover from terrestrial species. Consistently lower water temperatures were observed in shaded stream areas. Nearly all of the streams provide habitat for amphibians and macroinvertebrates.

Macroinvertebrates and fishes were collected at all streams where sampling was viable Table III-10 in the Appendix. Rapid Bioassessment (Protocol 1) were performed at those streams that were selected for water chemistry analysis. Many of the sampling stations were in headwater streams that are naturally unproductive and will be characterized by low benthic abundance and taxa

richness. For these streams a determination of impairment was not made based upon the Rapid Bioassessment Protocol. Mayflies, Stoneflies, and/or Caddisflies taxa were found in abundance at sampling stations ECS-1, NCS-6, NCS-12, NCS-14, SCS-7, SCS-10, SCS-13 and SCS-14. The presence of these pollution-sensitive benthic macroinvertebrate taxa combined with the presence of pollution-sensitive fish species such as greenside darter and mottled sculpin indicate the streams are normal productive streams with little impairment. Sampling station SCS-1 on the Meadow Branch of Big Pipe Creek has impaired water quality as recognized by reduced macrobenthic species diversity. The impaired water quality is a direct result of runoff from open pasture and agricultural fields.

c. Wetlands

A total of one hundred eighteen (118) polustrine wetlands were identified, classified and delineated in the alternates study areas. A description of each wetland within each corridor is presented in Tables III-11 through III-14 which identifies the dermonent vegetation, size of wetlands, impact to wetlands and function and values. For identification, wetlands located along the existing roadway are identified as Existing Corridor (EC) Alternates 2, 3A and 3B. Wetlands identified along the Northern Corridor are identified as NC and represent Alternate 6, Northern Corridor Alternate (NCA) represents Alternate 4 Modified, and the Southern Corridor (SC) identifies Alternate 10A.

Eighteen (18) wetlands were found along existing MD 140. Thirty-nine (39) wetlands were found along Alternate 6 and Alternate 4 Modified had ten (10) wetland areas specific to that alternate, plus an additional twenty-three (23) (NC-1 through NC-23) common to both Alternate 6 and 4 Modified. Fifty-one (51) wetlands were found in the Southern Corridor.

WETLAND SUMMARY TABLE III-11
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	FUNCTIONS/VALUES
			COMMON NAME	
EC-1 Fig. II-38 II-45 II-51	Meadow Branch Creek behind David Roop house, south of MD Route 140	PEM1B	multiflora rose arrow-leaved tearthumb grasses jewelweed reed canary grass sofrush sedges	passive recreation; wildlife habitat; sediment trapping (s); groundwater dis-charge/recharge (Medium)
EC-2 Fig. II-38 II-45 II-51	Meadow Branch Creek east of David Roop House at the toe-of- slope for MD Route 140	PEM/SS1B	multiflora rose black willow jewelweed sedges grasses duckweed watercress reed canary grass	passive recreation; wildlife habitat; sediment trapping (s); groundwater dis-charge/recharge (Medium)
EC-3	Pasture along Meadow Branch Creek west of Meadow Brook Farm	PEM1B	grasses	sediment trapping (s) (Low)
EC-4 Fig. II-6 II-12, II-21, II-30	Bonsack Farm (denied access to property)	PEM1B	broad-leaved cattail grasses	not determined
I-C-5 Fig. II-6 II-12, II-21, II-30	North of MD Route 140 and MD Route 31 intersection	PEM1B	grasses sedges tearthumb reed canary grass	passive recreation; sedi- ment trapping (s) (Low)

**WETLAND SUMMARY TABLE III-11
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND**

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	FUNCTIONS/VALUES
			COMMON NAME	
EC-6 Fig. II-13 II-22 II-39 II-46	MD Route 97 near MD SHA main-tenance shop	PSS/EM1B	red maple black willow American elm multiflora rose silky dogwood jewelweed grasses	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-7 Fig. II-13 II-22 II-39 II-46	East of MD Route 97, near Westminster Community Pond	PSS/EM1B	black willow multiflora rose silky dogwood Japanese honeysuckle grasses sedges softrush jewelweed	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-8 Fig. II-8 II-15 II-24 II-32	West of MD Route 27 near West-minster self storage	PEM1B	black willow broad-leaved cattail softrush sedges wool grass	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization (Medium)
EC-9 Fig. II-8, II-9, II-15, II-24, II-25, II-32, II-33	East of MD Route 27 next to 84 Lumber	PEM1B	broad-leaved cattail reed canary grass jewelweed	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-10	East of MD Route 27 and west of Cranberry Mall parking lot	PEM1B	black willow broad-leaved cattail softrush grasses wool grass sedges	passive recreation, wildlife habitat, sediment trapping (s), flood desynchronization (Medium)

**WETLAND SUMMARY TABLE III-11
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND**

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	FUNCTIONS/VALUES
			COMMON NAME	
EC-11 II-8, II-24, II-32	East of MD Route 27 near Carroll County Times Bldg.	PEM1E	broad-leaved cattail jewelweed sensitive fern skunk cabbage reed canary grass	passive recreation; wildlife habitat; flood desynchronization; groundwater discharge/ recharge (Medium)
EC-12A Fig. II-8 II-15, II-24, II-32	East of Westminster High School athletic field	PF01E	black cherry Kentucky coffee tree red maple southern arrowwood spicebush ground ivy jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (I) (Medium)
EC-12B Fig. II-8 II-15, II-24, II-32	East of Westminster High School athletic field	PEM2E	Morrow's honeysuckle spicebush Japanese honeysuckle jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (I) (Medium)
EC-13A Fig. II-8 II-15, II-24, II-32	East of Center Street	PEM1B	clearweed grasses poison ivy skunk cabbage reed canary grass wild onion or garlic	active recreation; groundwater discharge/ recharge (Low)
EC-13B Fig. II-8 II-15, II-24 II-24, II-32	East of Center Street	PF01B	red maple Japanese honeysuckle southern arrowwood spicebush wild onion or garlic	active recreation; groundwater discharge/ recharge (Low)
EC-14 Fig. II-16 II-26 II-34	North of Old Gorsuch Road	PEM1E	black willow broad-leaved cattail grasses silver maple soft-stem bulrush	sediment trapping (S) (Low)

**WETLAND SUMMARY TABLE III-11
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	FUNCTIONS/VALUES
			COMMON NAME	
EC-15 Fig. II-27 II-35, II-42	North of MD Route 140 and east of Weis Market	PEM1B	sedges sofrush skunk cabbage grasses jewelweed	passive recreation; wildlife habitat; sediment trapping (s) (Low)
EC-16 Fig. II-27 II-35, II-42	North of MD Route 140 and west of Elsworth Cemetery	PEM1B	black willow grasses sedges sofrush	passive recreation; wildlife habitat; sediment trapping; groundwater discharge/recharge (Low)
EC-17	Northeast of MD Route 140 and west of Carroll County landfill	PSS/EM1B	multiflora rose spicebush Allegheny blackberry jewelweed sensitive fern sedges skunk cabbage sofrush	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-18 Fig. II-18 II-43, II-50, II-57	Northeast of MD Route 140 and west of Carroll County landfill	PSS/EM1B	multiflora rose Allegheny blackberry grasses sedges jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l) (Medium)

WETLAND SUMMARY TABLE III-12 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-1 Fig. II-38 II-45	West of Hughes Shop Road	PSS1B	rose spicebush skunk cabbage	wildlife habitat; groundwater discharge/ recharge (Low)
NC-2 Fig. II-38 II-45	South of Wetland NC-1	PEM2E	rose jewelweed sensitive fern	groundwater discharge/ recharge (Low)
NC-3 Fig. II-38	East of Wetland NC-1	PEM1C	arrow-leaved tearthumb grasses halberd-leaved tearthumb sofrush watercress	wildlife habitat; groundwater discharge/ recharge (Low)
NC-4 Fig. II-38 II-45	East of Wetland NC-3	PEM2E	jewelweed skunk cabbage	passive recreation; wildlife habitat; groundwater dis- charge/recharge (Low)
NC-5 Fig. II-38 II-45	South of Wetland NC-4	PSS/EM1B	spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; food chain support; groundwater discharge/recharge (High)
NC-6 Fig. II-39 II-46	West of Meadow Branch Road	PEM1C	grasses sedges sofrush	wildlife habitat; groundwater discharge/ recharge (Medium)
NC-7 Fig. II-45	Southwest of Wetland NC-6	PEM1E	grasses sofrush tearthumb	groundwater discharge recharge (Low)
NC-8 Fig. II-46	North of Kriders Church Road	PEM1B	grasses iris purple-leaved willow-herb sedges	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND**

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-9 Fig. II-40 II-43, II-47	South of Sullivan Road	PEM1B	black willow grasses jewelweed reed canary grass sedges	passive recreation; sediment trapping (s) (Low)
NC-10A Fig. I-40 II-47	South of Wetland NC-9	PFO1B	black willow red maple spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; groundwater discharge/recharge (High)
NC-10B Fig. II-40 II-47	South of Wetland NC-9	PEM1B	blue vervain grasses jewelweed reed canary grass sedges skunk cabbage softrush	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
NC-11 Fig. II-40 II-47	South of Wetland NC-10	PEM/FO1B	black willow green ash grasses jewelweed reed canary grass wild onion or garlic	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
NC-12 Fig II-40 II-47	South of Wetland NC-11	PFO/EM1B	black willow green ash red maple spicebush grasses jewelweed reed canary grass skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-13 Fig. II-40 II-47	East of Wetland NC-12	PFO1B	green ash spicebush grasses jewelweed reed canary grass violet wild onion or garlic	passive recreation; wildlife habitat; sediment trapping (s) (High)
NC-14 Fig. II-40 II-47	West of Mill Road	PFO1B	oak red maple box elder southern arrowwood spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
NC-15 Fig. II-40 II-47	South of Wetland NC-14	PSS1A	box elder rose spicebush skunk cabbage	passive recreation; wildlife habitat (Low)
NC-16 Fig. II-40 II-47	Southwest of Wetland NC-15	PSS1C	red maple spicebush skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Low)
NC-17 Fig. II-40 II-47	Southwest of Wetland NC-16	PEM1C	spicebush skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (Low)
NC-18 Fig. II-40 II-47	West of MD Route 27	PSS1C	red maple tulip poplar southern arrowwood spicebush skunk cabbage	passive recreation; wildlife habitat; food chain support; active recreation; groundwater discharge (High)

**WETLAND SUMMARY TABLE III-12
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-19 Fig. II-40 II-47	Southwest of Wetland NC-18	PEM/SS1B	green ash rose spicebush skunk cabbage	wildlife habitat; groundwater discharge (Low)
NC-20 Fig. II-40 II-47	Southwest of Wetland NC-19	PEM/SS1B	southern arrowwood skunk cabbage	wildlife habitat; groundwater discharge (Low)
NC-21 Fig. II-40 II-47	Southwest of Wetland NC-20	PSS1B	sugar maple spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; groundwater discharge (Low)
NC-22 Fig. II-40 II-47	Southwest of NC-21	PFO1E	red maple tulip poplar southern arrowwood spicebush skunk cabbage	wildlife habitat; active recreation; groundwater discharge (Medium)
NC-23 Fig. II-41 II-48	North of Brehm Road	PFO1E	American elm red maple tulip poplar spicebush garlic mustard jewelweed may apple skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge/recharge (High)
NC-24 Fig II-41 II-48	East of Tannery Road	PFO1B	red maple tulip poplar spicebush cinnamon fern jewelweed mustard skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge/recharge (High)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-25 Fig. II-48	North of Gorsuch Road	PEM2C	jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (High)
NC-26 Fig. II-48	Southwest of Wetland NC-25	PEM2/SS1C	buttonbush rose silky dogwood reed canary grass skunk cabbage	passive recreation; wildlife habitat (Low)
NC-27 Fig. II-49	Southwest of Wetland NC-25	PFO1B	green ash red maple spicebush grasses jewelweed reed canary grass sedges skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; groundwater discharge/recharge (High)
NC-28 Fig. II-49	Northwest of North Gorsuch Road	PEM1B	grasses reed canary grass softrush	passive recreation; wildlife habitat; sediment trapping (s); active recreation (Low)
NC-29A Fig. II-49	Southeast of North Gorsuch Road	PSS/EM1B	red maple multiflora rose silky dogwood goldenrod grasses jewelweed reed canary grass	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-29B Fig. II-49	Southeast of North Gorsuch Road	PSS/EM1B	black willow buttonbush elderberry silky dogwood goldenrod grasses jewelweed reed canary grass sedges sensitive fern skunk cabbage wool grass	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization; food chain support; groundwater discharge/recharge; long-term nutrient removal (High)
NC-29C Fig. II-49	Southeast of North Gorsuch Road	PSS/EM1B	red maple silky dogwood jewelweed reed canary grass tussock sedge skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization; food chain support; groundwater discharge/recharge; long-term nutrient removal (High)
NC-30A Fig. II-49	South of Wetland NC-29	PSS/EM1C	elderberry silky dogwood southern arrowwood blue vervain jewelweed reed canary grass sedges sensitive fern skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (High)
NC-30B Fig. II-49	South of Wetland NC-29	PSS/EM1C	elderberry silky dogwood sedges sensitive fern	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (High)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND**

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-30C Fig. II-49	South of Wetland NC-29	PSS1E	blackberry multiflora rose silky dogwood southern arrowwood goldenrod sedges sensitive fern	passive recreation; wildlife habitat; sediment (High) trapping (s); flood desynchronization
NC-30D Fig. II-49	South of Wetland NC-29	PSS1E	red maple silky dogwood southern arrowwood jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; dissipation of erosive forces; groundwater discharge/recharge (High)
NC-31 Fig. II-49	Southeast of Wetland NC-30	PEM/SS1C	red maple silky dogwood southern arrowwood reed canary grass tussock sedge	passive recreation; wildlife habitat; flood desynchronization (Medium)
NC-32 Fig. II-49	South of Gorsuch Road	PSS1B	southern arrowwood spicebush jewelweed skunk cabbage	wildlife habitat; groundwater discharge/ recharge (Low)
NC-33 Fig. II-49	Northwest of Wetland NC-32	PSS1B	spicebush skunk cabbage	wildlife habitat, ground- water discharge recharge (Low)
NC-34 Fig. II-49	Southwest of Wetland NC-32	PEM1F	broad-leaf meadow sweet Japanese honeysuckle grasses jewelweed skunk cabbage	wildlife habitat, sediment trapping (s), dissipation of erosive forces (Medium)

**WETLAND SUMMARY TABLE III-12
MD ROUTE 140: WESTMINSTER BYPASS
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS & VALUES
			COMMON NAME	
NC-35 Fig. II-49	Southwest of Wetland NC-34	PEM1A	spicebush grasses lobelia moneywort	wildlife habitat; active recreation (Low)
NC-36 Fig. II-49	Southwest of Wetland NC-35	PEM1B	grasses sedges softrush	groundwater discharge/recharge (Low)
NC-37A Fig. II-43 II-49	South of Wetland NC-35	PEM1B	southern arrowwood cinnamon fern grasses jewelweed sedges skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (Medium)
NC-37B Fig. II-43 II-49	South of Wetland NC-35	PSS1B	silky dogwood southern arrowwood grasses skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
NC-37C Fig. II-43 II-49	South of Wetland NC-35	PFO1B	red maple rose southern arrowwood jewelweed sphagnum moss skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
NC-38 Fig. II-43	South of Wetland NC-36	PEM1B	grasses jewelweed	wildlife habitat; groundwater discharge/recharge (Low)
NC-39 Fig. II-43 II-49	Southwest of Wetland NC-38	PEM1B	grasses sedges softrush	wildlife habitat (Low)

**WETLAND SUMMARY TABLE III-13
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS VALUES
			COMMON NAME	
NCA-1 Fig. II-41 II-48	West of Tannery Road North	PEM2B	rose big-leaved arrowhead jewelweed peppermint rice cut-grass sedges	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
NCA-2A Fig. II-41	Southwest of Wetland NCA-1	PEM1B	arrow-leaved tearthumb broad-leaved cattail grasses halberd-leaved tearthumb jewelweed	passive recreation; wildlife habitat; sediment trapping (s)(l); active recreation; nutrient retention removal (l) (High)
NCA-2B Fig. II-41	Southwest of Wetland NCA-1	PF01B	red maple southern arrowwood spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention/removal (l) (High)
NCA-3 Fig. II-41	North of Wetland NCA-2A, B	PF01B	red maple tulip poplar southern arrowwood spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention/removal (l) (High)
NCA-4 Fig. II-41	West of Wetland NCA-3	PF01B	red maple tulip poplar southern arrowwood spicebush halberd-leaved tearthumb skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); active recreation (High)
NCA-5 Fig II-36	South of Gorsuch Road North	PF01B	tulip poplar spicebush false nettle jewelweed sedges skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
NCA-6 Fig II-36	South of Wetland NCA-5	PSS1B	spicebush grasses jewelweed sedges	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge recharge (High)

WETLAND SUMMARY TABLE III-13 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONS VALUES
			COMMON NAME	
NCA-7 Fig. II-42	East of Wetland NCA- 6	PSS1B	southern arrowwood speckled alder spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention/removal (l) (High)
NCA-8A Fig. II-43	South of Hemlock Lane	PF01B	red maple rose jewelweed reed canary grass skunk cabbage poison ivy violet	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
NCA-8B Fig. II-43	South of Hemlock Lane	PSS1B	red maple blackberry rose jewelweed reed canary grass skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (High)
NCA-9 Fig. II-43	South of Wetland NCA- 8	PEM2B	bittersweet nightshade grasses green bulrush jewelweed lurid sedge straw-color sedge spike rush	passive recreation; wildlife habitat; sediment trapping (s); nutrient retention/removal (l) (Medium)
NCA-10 Fig. II-43 II-49	Southeast of Wetland NCA- 9	PEM2B	big-leaved arrowhead boneset grasses sedges spike rush	passive recreation; wildlife habitat; sediment trapping (s) (Low)

**WETLAND SUMMARY TABLE III-14
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-1 Fig. II-51	Southeast of Hughes Shop Road	PEM1B	arrow-leaved tearthumb broad-leaved cattail jewelweed reed canary grass sedges soft rush	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization; groundwater discharge/ recharge (High)
SC-2A Fig. II-51	South of Wetland SC-1	PEM1E	red maple jewelweed reed canary grass sedges	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
SC-2B Fig. II-51	South of Wetland SC-1	PFO1E	red maple green ash grasses jewelweed reed canary grass skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; groundwater discharge/ recharge (High)
SC-3 Fig. II-51	East of Wetland SC- 2A, B	PEM1B	broad-leaved cattail grasses jewelweed reed canary grass sedges skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-4 Fig. II-51	South of Wetland SC- 2A, B	PEM1B	grasses jewelweed reed canary grass sedges soft rush	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/ recharge; nutrient retention/removal (l) (Medium)
SC-5 Fig. II-52	Southeast of Uniontown Road	PEM2C	black willow broad-leaved cattail curly dock grasses rush stalk-grain sedge	sediment trapping (s)(l); flood desynchronization (Medium)
SC-6	Southeast of Wetland SC 5	PEM1C	reed canary grass	passive recreation, wildlife habitat, dissipation of erosive forces (Medium)
SC-7 Fig. II-52	Southeast of Windsor Road	PEM2B	jewelweed skunk cabbage	dissipation of erosive forces; groundwater discharge (Low)

WETLAND SUMMARY TABLE III-14 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-8 Fig. II-53	Southeast of Wetland SC-7	PEM1/SS1C	black willow green ash grasses jewelweed sedges	passive recreation; sediment trapping (s); flood desynchronization; dissipation of erosive forces (Low)
SC-9 Fig. II-53	Southwest of Wetland SC-8	PEM1C	green ash grasses	passive recreation; sediment trapping (s) (Low)
SC-10 Fig. II-53	Southwest of Wetland SC-9	PEM1B	jewelweed reed canary grass	sediment trapping (s); dissipation of erosive forces (Low)
SC-11 Fig. II-53	South of Wetland SC-10	PEM1B	blue vervain broad-leaved cattail reed canary grass skunk cabbage sweetflag	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
SC-12 Fig. II-53	West of Ridge Road	PEM2B	hemlock-parsley jewelweed reed canary grass skunk cabbage watercress	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
SC-13 Fig. II-53	West of Ridge Road and South of Westminster Road	PEM1B	grasses jewelweed	sediment trapping (s); groundwater discharge; nutrient retention/ removal (l) (Medium)
SC-14 Fig. II-53	South of Kate Wagner Road	PEM1B	grasses jewelweed sedges	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/ recharge (Low)
SC-15 Fig. II-54	Southwest of Wetland SC-14	PEM1B	grasses jewelweed tearthumb	sediment trapping (s); groundwater discharge recharge (Low)
SC-16A Fig. II-54	Southwest of Intersection of Kate Wagner and Gist Roads	PFO1B	red maple green ash southern arrowwood spicebush garlic mustard skunk cabbage	(High)

WETLAND SUMMARY TABLE III-14 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-16B Fig. II-54	Southwest of Intersection of Kate Wagner and Gist Roads	PFO1B	black willow red maple American hop-hornbeam rose grasses jewelweed skunk cabbage	(High)
SC-17 Fig. II-54	West of Wetland SC-16A, B	PEM1B	big-leaved arrowhead goldenrod grasses jewelweed softrush stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
SC-18 Fig. II-54	Southwest of Wetland SC-17	PF01E	American hop-hornbeam green ash red maple spicebush jack-in-the-pulpit may apple skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (High)
SC-19 Fig. II-54	Southeast of Wetland SC-18	PF01B	American beech red maple tulip poplar southern arrowwood spicebush blunt broom sedge grasses skunk cabbage stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-20 Fig. II-54	East of Wetland SC-19	PEM/SS1B	red maple spicebush blunt broom sedge deer-tongue witchgrass goldenrod grasses jewelweed lurid sedge softrush stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge/recharge (High)
SC-21 Fig. II-55	Northwest of Short Lane Road	PEM2B	big-leaved arrowhead fringed sedge softrush spike rush stalk-grain sedge	sediment trapping (s); flood desynchronization (Low)

**WETLAND SUMMARY TABLE III-14
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-22 Fig. II-55	Southeast of the Intersection of Washington and Sykesville Roads	PEM2B	arrow-leaved tearthumb fringed sedge pale jewelweed softrush winter cress	passive recreation; wildlife habitat; sediment trapping; flood desynchronization; groundwater discharge/recharge (Medium)
SC-23 Fig. II-55	Southeast of Wetland SC-22	PEM/SS1E	red maple elderberry southern arrowwood grasses jewelweed softrush swamp chestnut oak white oak	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; dissipation of erosive forces (Medium)
SC-24 Fig. II-55	Southeast of Wetland SC-23	PF01B	red maple southern arrowwood spicebush jewelweed skunk cabbage stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
SC-25 Fig. II-55	Southeast of Wetland SC-24	PSS1B	elderberry spicebush common greenbrier halberd-leaved tearthumb jewelweed skunk cabbage	passive recreation; wildlife habitat; dissipation of erosive forces; groundwater discharge (Medium)
SC-26 Fig. II-55	Southwest of Wetland SC-25	PSS1B	blackberry jewelweed skunk cabbage	passive recreation; wildlife habitat; flood desynchronization (Low)
SC-27 Fig. II-55	Southeast of Wetland SC-25	PFO1E	red maple tulip poplar spicebush southern arrowwood jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (High)
SC-28 Fig. II-55	Southwest of Wetland SC-27	PFO1B	red maple elderberry spicebush grasses jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)

**WETLAND SUMMARY TABLE III-14
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NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-29 Fig. II-55	Northeast of Wetland SC-27	PFO1E	black willow red maple southern arrowwood spicebush jewelweed	passive recreation; wildlife habitat; sediment trapping (s); grounwater discharge/recharge (High)
SC-30 Fig. II-55	East of Wetland SC-28	PFO1E	red maple southern arrowwood spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-31 Fig. II-55	East of Wetland SC-30	PSS1B	Allegheny blackberry elderberry southern arrowwood spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-32 Fig. II-55	Northeast of Wetland SC-31	PSS1E	Allegheny black berry southern arrowwood spicebush jewelweed skunk cabbage violet	passive recretation; wildlife habitat; sediment trapping (s) (High)
SC-33 Fig. II-55	Northeast of Wetland SC-32	PFO1E	red maple tulip poplar spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
SC-34 Fig. II-55	Northeast of Wetland SC-33	PFO1E	red maple tulip poplar southern arrowwood spicebush clearweed jack-in-the-pulpit jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); ground- water discharge/recharge (High)
SC-35 Fig. II-55	Northeast of Wetland SC-34	PFO1E	red maple tulip poplar southern arrowwood spicebush grasses jack-in-the-pulpit skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (High)

WETLAND SUMMARY TABLE III-14 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-36 Fig. II-55	Northeast of Wetland SC-35	PFO1E	red maple tulip poplar southern arrowwood spicebush jack-in-the-pulpit skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-37 Fig. II-55	East of Wetland SC-36	PEM1E	arrow-leaved tearthumb clearweed grasses jewelweed	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (Medium)
SC-38 Fig. II-56	East of Wetland SC-37	PFO1E	red maple skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-39 Fig. II-56	Deined Access Area Southwest of Hook Road	PEM1E	grasses	not determined (High)
SC-40 Fig. II-56	West of Wetland SC-39	PFO1E	black cherry red maple sycamore spicebush poison ivy jewelweed	passive recreation; wildlife habitat; sediment trapping (s)/ nutrient retention removal (l) (High)
SC-41A Fig. II-56	West of Wetland SC-40	PEM1E	arrow-leaved tearthumb grasses jewelweed lurid sedge moneypwort soltrush	passive recreation; wildlife habitat (Medium)
SC-41B Fig. II-56	West of Wetland SC-40	PFO1E	red maple elderberry spicebush jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention removal (l) (High)
SC-42A Fig. II-56	Southeast of Wetland SC-41	PEM1E	grasses jewelweed lurid sedge skunk cabbage softrush spike rush tussock sedge	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention/removal (l) (High)

WETLAND SUMMARY TABLE III-14 MD ROUTE 140: WESTMINSTER BYPASS CARROLL COUNTY, MARYLAND				
NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-42B Fig. II-56	Southeast of Wetland SC-41	PFO1E	black cherry red maple sycamore rose spicebush grasses jewelweed skunk cabbage	passive recreation; wildlife habitat (Medium)
SC-43 Fig. II-56	South of Wetland SC-42	PEM1E	arrow-leaved tearthumb fox sedge grasses jewelweed lurid sedge sofrush spike rush	passive recreation; wildlife habitat; groundwater discharge/recharge (Medium)
SC-44 Fig. II-56	Northeast of Hook Road	PEM1B	bur-reed fringed sedge grasses jewelweed lurid sedge sofrush stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s)(l) (Medium)
SC-45A Fig. II-56	South of Intersection of Poole and Arnold Roads	PEM1B	big-leaved arrowhead boneset fox sedge grasses jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
SC-45B Fig. II-56	South of Intersection of Poole and Arnold Roads	PSS1B	Allegheny black berry elderberry rose southern arrowwood grasses jewelweed skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
SC-46 Fig. II-56	Southeast of Wetland SC- 45A, B	PEM1B	black willow silky dogwood grasses jewelweed sensitive fern skunk cabbage tussock sedge	passive recreation; wildlife habitat; sediment trapping (s); nutrient retention/removal (l) (High)

**WETLAND SUMMARY TABLE III-14
MD ROUTE 140: WESTMINSTER BYPASS
CARROLL COUNTY, MARYLAND**

NO.	LOCATION	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION	POTENTIAL FUNCTIONAL VALUES
			COMMON NAME	
SC-47 Fig. II-56	East of Wetland SC-46	PEM1B	poison ivy boneset goldenrod grasses jewelweed sensitive fern softrush sweetflag	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-48 Fig. II-56	At the Intersection of Poole and Arnold Roads	PEM1E	grasses jewelweed sedges softrush stalk-grain sedge	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-49 Fig. II-56	Southeast of Wetland SC-48	PEM1E	multiflora rose fox sedge jewelweed sensitive fern softrush skunk cabbage tussock sedge	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-50A Fig. II-56	North of Wetland SC-49	PEM1B	grasses sensitive fern skunk cabbage tussock sedge	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (Medium)
SC-50B Fig. II-56	North of Wetland SC-49	PFO1B	red maple southern arrowwood spicebush grasses jewelweed sensitive fern skunk cabbage tussock sedge	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge/recharge (High)
SC-51 Fig. II-56	North of Wetland SC-50	PFO1B	green ash red maple southern arrowwood spicebush jewelweed sensitive fern skunk cabbage	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge recharge (High)

A total of one hundred eighteen (118) palustrine wetlands were identified, classified, and delineated in the alternate study areas. A description of each wetland within a corridor, tables are provided which presents the dominant vegetation and function and value. Eighteen (18) wetlands were found along existing MD 140. Thirty-nine (39) wetlands were found along Alternate 6 and Alternate 4 Modified had ten (10) wetlands areas specific to that Alternate, plus an additional twenty-three (23) wetland (NC-1 through NC-23) common to both the Alternates 6 and 4 Modified. Fifty-one (51) wetlands were found in the Southern Corridor (SC) Alternate 10A.

d. Threatened, Endangered or Rare Species

Coordination with the U.S. Fish and Wildlife Service and Maryland Department of Natural Resources' Fish, Heritage and Wildlife Administration shows that no Federally-listed or proposed endangered or threatened species, except for occasional transient individuals (e.g., bald eagle), are known to exist in the project area. However, according to MD DNR the bog turtle is a candidate species that may be present in wetlands within the project area. Candidate species are those species placed under review in the Federal Register to determine if they are suitable for listing. MD DNR states that there are no known bog turtle wetlands within any of the proposed routes, however, known populations do occur within the Patapsco and Monocacy River drainages to the north of the study areas (See Comments and Coordination Section). No bog turtles were observed in the project study corridor.

6. Hazardous Materials/Waste Sites

An Initial Site Assessment (ISA) was conducted for the project area. The purpose of the ISA was to identify obvious, actual and potential sources of hazardous materials within the study corridor. This ISA included a review of relevant state and federal agency records, a search of property titles, a background study of hydrology and geology, and a reconnaissance of the study area.

As a result of the ISA, two sites, the 3M plant and the Northern Landfill were researched for potential hazardous waste materials. During the reconnaissance of the 3M plant, no substantial evidence of mishandling of hazardous materials was observed. A regulatory review indicated that the 3M Plant is listed on the

Comprehensive Environmental Response Compensation and Liability, Act (CERCLIS) List and on the Resource Conservation and Recovery Information Systems-Treatment, Storage or Disposal of Hazard Waste List (RECRIS-TSD). Coordination with U.S. EPA Region III Superfund and The Maryland Department of the Environment (MDE) has been initiated to determine if environmental problems have been reported.

Based on a ISA reconnaissance of the Northern Landfill, no evidence of environmental concerns was found. It was noted that the landfill has been in operation since 1988 and is a municipal and commercial solid waste landfill. The landfill processes construction debris and household trash. Total Petroleum Hydrocarbon (TPH) contaminated soils are not accepted at the landfill. Also no visible environmental stress indicators such as stunted vegetation were observed. No underground or above ground storage tanks were observed at the site.

A regulatory review indicated that there is one RECRIS-TSD (the 3M plant) site and one Resource Conservation Recovery Information System Small Quantity RECRIS-SG site within a one-mile radius of the Northern Landfill. However, these two sites are unlikely to pose an environmental concern due to the higher topography of the landfill. Coordination with the Maryland Department of the Environment (MDE) has been initiated to obtain any information concerning potential operational violations of the landfill.

Based on the above assessment the proposed improvements would not affect any hazardous waste sites or facilities in the project study area.

D. Existing Air Quality

In accordance with the guidelines of the Maryland State Highway Administration, a technical air quality analysis was prepared for this project in order to analyze the effects of the alternatives considered on the ambient air quality of the region.

Carroll County lies within the Baltimore Metropolitan Intrastate Air Quality Control Region which is designated a nonattainment area for ozone and carbon monoxide (CO).

A detailed microscale air quality analysis has been performed to determine the carbon monoxide (CO) impact of the proposed project which is described in further detail in Section IV.

The selected sensitive receptors for this project are applicable for the both air and noise analysis and are located on the Alternates map in Volume II of this document.

E. Existing Noise Conditions

1. Noise Fundamentals

The Leq is a single number which represents the mean energy or sound intensity level over a specific time period. This is the statistical unit that will be used in analyzing noise impacts from this project.

Each receptor location was monitored for a 15-minute period using Metrosonics dB308 metrologger dosimeters. The Leq statistical indicator was used on this project for measuring Existing Noise Levels and Assessing Future Noise Levels. Leq is defined in FHWA 23 CFR, Part 772 as "the equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same period." Traffic classification counts were performed concurrently with the noise sampling. This traffic was used in STAMINA 2.0 for both sampling verification and for Future Noise Level model calibration.

2. Noise Sensitive Area Descriptions

Of the 57 initially identified noise sensitive receptors located in seven Noise Sensitive Areas (NSAs) were studied to determine potential project noise impacts. These sites are shown on alternate maps provided in Volume II and on the 1000 scale map provided in the back of this document. Four of these receptors were removed from consideration because they were not representative of a noise sensitive land use. These include receptors 21, 28, 30 and 49. A description of each noise sensitive receptor is shown in Table III-15.

Following the selection of these receptors, the project area was divided into community areas. These community areas, or NSAs "A through G", were developed to aid in identifying particular communities and specific areas of concern within the Westminster Bypass study area. These areas are also shown on the alternates maps provided in Section II. The following is a description of each NSA.

NSA A

A total of 7 receptors (1, 2, 18, 19, 31, 56 and 57) were analyzed in this area. This area extends from the intersection of Reese Road and MD Route 140 on the eastern edge of the study area and extends westward to the intersection of MD Route 27 and MD Route 140 next to the Cranberry Mall. These receptors are residences located along the commercial district that is on either side of MD Route 140.

NSA B

This NSA extends along existing MD Route 140 from MD Route 27 towards MD Route 31 next to Western Maryland College. A total of 7 receptors (3 to 9) were analyzed in this area. These receptors are primarily residences except for Receptor 5 which represents the Westminster Community Pond. The majority of these receptors are located near the intersection of MD Route 97 and MD Route 140.

NSA C

A total of 10 receptors (10 to 17, 49 and 50) were evaluated in this area which extends from MD Route 31 along existing MD Route 140 to just past Hughes Shop Road. All of these receptors are residences with the exception of Receptor 13, the Meadow Branch Church of the Brethren, and Receptor 14 which represents Roops Mill, a historic structure located next to MD Route 140. This area also includes a new housing development represented by Receptor 12.

NSA D

This NSA is represented by receptors in the communities of Tannery, Hillside and Mountain View Lake as well as individual residences along Gorsuch Road. A total of 14 receptors (32 to 40 and 51 to 55) were evaluated in this area. These receptors are primarily residential except for Receptor 54, the Westminster Gun and Rifle Club. Receptors 32 and 33 represent Tannery Manor, a new community.

NSA E

A total of 8 receptors, Receptors 41 to 48, were analyzed in this NSA. This area extends east from Meadow Branch Road to Lucabaugh Mill Road. In this area, farms are represented by Receptors 43, 47 and 48. Receptors 41, 44 and 45 represent residential developments in this area such as the Autumn Ridge development.

NSA F

This NSA extends from Kate Wagner Road north to Uniontown Road. A total of 7 receptors, Receptors 24 to 30, were evaluated in this area. Receptors 24, 25 and 26 represent widely-spaced individual residences while Receptor 29 represents residences in a development.

NSA G

A total of 4 receptors, Receptors 20 to 23, were analyzed in this NSA. This area extends south from Arnold Road to Washington Road. These receptors represent widely-spaced residences on the southeastern edge of the Westminster Bypass study area.

3. Ambient Noise Level Measurements

Twenty-four-hour noise monitoring was performed to determine existing worst-case noise hours. The 24-hour noise monitoring was conducted at Receptors 3 and 15. The highest hourly Leqs, or peak hour, occurred between the hours of 6 am to 8 am in the morning and 4 pm and 7 pm in the afternoon. Leqs in this time ranged from 72 to 73 dBA at Receptor 3 and 67 to 68 dBA for Receptor 15.

A total of 53 noise sensitive receptors were studied to determine existing and potential noise level impacts at the receptor sites (see Table III-15). Site selection of sensitive receptors was made on the basis of proximity to the roadway, type of adjacent land use and changes in traffic patterns on the existing facility. The existing noise levels are shown in Table III-16.

**TABLE III-15
NOISE RECEPTOR DESCRIPTION**

Receptor Site	NSA	Location/Description
1	A	444 Leidy Road/2-Story Wood Frame Residence
2	A	Gorsuch Road/1-Story Brick Residence
3	B	401 Monterey Drive/1-1/2-Story Brick Residence
4	B	Schaffer Avenue North/1-Story Wood Frame Residence
5	B	Baltimore Boulevard/Westminster Community Pond
6	B	628 Littlestown Pike/2-Story Brick Cape Cod Residence
7	B	122 Littlestown Pike/1-Story Wood Frame Residence
8	B	720 Littlestown Pike/2-Story Brick Residence
9	B	22 Pennsylvania Avenue/2-Story Brick Residence
10	C	320 Main Street/2-Story Wood Frame Residence
11	C	600 Taneytown Pike/2-Story Wood Frame Residence
12	C	Buck Cash Road/Undeveloped Residential Lot
13*	C	Old Westminster Road/Meadow Branch Church of the Brethren
14	C	Roops Mill Taneytown Pike/2-Story Brick Structure
15	C	Taneytown Pike/2-Story Wood Frame Residence
16	C	Taneytown Pike/2-Story Brick Residence
17	C	Taneytown Pike/2-Story Wood Frame Residence Abandoned
18	A	Baltimore Boulevard/1-Story Wood Frame Residence
19	A	1401 Old Westminster Pike/2-Story Wood Frame Residence
20	G	1039 Arnold Road/1-Story Brick and Wood Frame Residence
21	G	Corn Field
22	G	424 Grove Lane/2-Story Brick and Wood Frame Residence
23	G	1821 Old Washington Road/2-Story Wood Frame Residence
24	F	411 Kate Wagnew Road/1-Story Brick Resident
25	F	800 Ridge Road/2-Store Wood Frame Residence

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**TABLE III-15
NOISE RECEPTOR DESCRIPTION**

Receptor Site	NSA	Location/Description
26	F	Fenby Farm Road/1-Story Brick Residence
27	F	747 Fenby Farm Road/Residence No Longer Exists
28	F	Corn Field
29	F	208 Glenbrook Drive/1-1/2-Story Wood Frame Residence
30	F	Corn Field
31	A	1514 Old Westminster Pike/2-Story Brick Residence
32	D	1303 Naugahyde Drive/1-1/2-Story Wood Frame Residence
33	D	1475 Naugahyde Drive/2-Story Wood Frame Residence
34	D	111 North Gorsuch Road/2-Story Wood Frame Residence
35	D	1315 Tannery Road North/2-Story Wood Frame Residence
36	D	128 Tannery Road North/2-Story Log Cabin Residence
37	D	1201 Berhm Road/2-Story Wood Frame Residence
38	D	1123 Lynnhaven Drive/2-Story Wood Frame Residence
39	D	1140 Old Manchester Road/1-Story Stone Residence
40	D	658 Gahle Drive/1-1/2-Story Cape Cod Residence
41	E	809 Lucbaugh Mill Road/1-1/2-Story Brick and Wood Frame Residence
42	E	435 Sullivan Road/O'Farrell Residence and Auction House
43	E	452 Sullivan Road/Field with Pond Historic Property
44	E	221 Sullivan Road/1-1/2-Story Bruck and Wood Frame Residence
45	E	852 Snow Fallway/1-1/2-Story Brick Wood Frame Residence
46	E	311 Kriders Church Road/2-Story Brick Residence
47	E	Starmer Farm Meadow Branch Road/2-Story Wood Frame Residence
48	E	Reese Farm, Meadow Branch Road/2-Story Wood Frame Residence

**TABLE III-15
NOISE RECEPTOR DESCRIPTION**

Receptor Site	NSA	Location/Description
49	C	Corn Field
50	C	1101 Yorkshire Way/2-Story Brick Residence
51	D	320 Tannery Road North/3-Story Brick Residence
52	D	230 Tannery Road North/1-Story Wood Frame Residence
53	D	927 Gorsuch Road/2-Story Wood Frame Residence
54	D	Gorsuch Road/Westminster Gun and Rifle Club
55	D	Gorsuch Road/2-Story Wood Frame Residence
56	A	1201 Hemlock Lane/2-Story Wood Frame Residence
57	A	Baltimore Boulevard/2-Story Wood Frame Residence

**TABLE 16
EXISTING NOISE LEVELS**

Receptor	Location	Monitored Existing Noise Level Leq
1	444 Leidy Road	61
2	Gorsuch Road	61
3	401 Monterey Drive	69
4	Schaffer Avenue North	63
5	Baltimore Boulevard	61
6	628 Littlestown Pike	70
7	122 Littlestown Pike	71
8	720 Littlestown Pike	75
9	22 Pennsylvania Avenue	70
10	320 Main Street	65
11	600 Taneytown Pike	58
12	Buck Cash Road	60
13	Old Westminster Road	62
14	Taneytown Pike	76
15	Taneytown Pike	70
16	Taneytown Pike	74
17	Taneytown Pike	71
18	Baltimore Boulevard	61
19	1401 Old Westminster Pike	65
20	1039 Arnold Road	52
22	424 Grove Lane	53
23	1821 Old Washington Road	55
24	411 Kate Wagner Road	55
25	800 Ridge Road	55
26	Fenby Farm Road	53
27	747 Fenby Farm Road	72
29	208 Glenbrook Drive	59
31	1514 Old Westminster Pike	58
32	1303 Naugehyde Drive	48
33	1475 Naugehyde Drive	54

**TABLE 16
EXISTING NOISE LEVELS**

Receptor	Location	Monitored Existing Noise Level Leq
34	111 North Gorsuch Road	51
35	1315 Tannery Road North	51
36	128 Tannery Road north	51
37	1201 Berhm Road	59
38	1123 Lynnhaven Drive	49
39	1140 Old Manchester Road	53
40	658 Gable Drive	48
41	809 Lucabaugh Mill Road	52
42	435 Sullivan Road	52
43	452 Sullivan Road	60
44	221 Sullivan Road	71
45	852 Snowfall Way	59
46	311 Kriders Church Road	58
47	Meadow Branch Road	50
48	Meadow Branch Road	59
50	1101 Yorkshire Way	59
51	320 Tannery Road North	50
52	230 Tannery Road North	55
53	927 Gorsuch Road	66
54	Gorsuch Road	64
55	Gorsuch Road	48
56	1201 Hemlock Lane	50
57	Baltimore Boulevard	73

IV.

ENVIRONMENTAL CONSEQUENCES

IV. Environmental Consequences

A. Social, Economic and Land Use

1. Social

a. Residential Relocations

An analysis of the possible residential displacements that would occur as a result of the proposed build alternates has been made and is based on preliminary right-of-way and relocation studies. The preliminary right-of-way and relocation reports are available for review at the State Highway Administration's District 7 Office of Real Estate, 5111 Buckeystown Pike, Frederick, MD 21701.

A summary of the displacements required for each of the proposed alternatives is shown in Table IV-1. In addition, the required displacements for each alternative are depicted on the mapping in Section II - Alternatives Considered.

**TABLE IV-1
RESIDENTIAL DISPLACEMENTS BY ALTERNATE**

Alternative	No. of Relocations (Est. No. of Persons*)
1 (No-build)	0
T.S.M.	0
2	0
3A	0
3B	0
4 Modified	27 (108)
6	26 (104)
10A	35 (140)

* For purposes of this estimate, four was considered the size of a household or family.

Alternates 1 (No-build), 2, 3A, 3B and the T.S.M. Alternate would not result in any residential displacements. Alternate 3B would affect one mobile annex classroom at the Westminster East Middle School, as well as the tennis courts adjacent to the temporary buildings. The mobile annex can be moved to another location away from the roadway improvements.

Alternate 4 Modified would require the displacement of 27 residences, most of which are owner occupied dwellings. It is estimated that 108 people would be affected under this alternate. Many of the displacements are located in the Mountain Lake View development-the remainder are scattered along the rest of the alignment.

Alternate 6 would require the displacement of 26 residences, all of which are thought to be owner occupied and affecting approximately 104 people. Many of the displacements are located in the Mountain Lake View development-the remainder are scattered along the rest of the alignment.

Alternate 10A would displace 35 residences, all of which are thought to be owner occupied. An estimated 140 people would be affected under Alternate 10A. No one neighborhood or development is affected as the displacements are scattered throughout the alignment.

Families and individuals displaced by the proposed project would be relocated in accordance with the statutory provisions of the "Uniform Relocation Assistance and Land Acquisition Policies Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987." A summary of the State's relocation assistance program is located in the Appendix of this document.

The required relocations would be satisfactorily completed within an 18-24 month period and in a timely, orderly and humane manner. State and federal laws require that before commencing an action that would cause displacements, the State Highway Administration will scope the complexity of the displacement activity and resources available to carry out timely and orderly relocations. The acquisition and relocation process would begin at least 18 months prior to the time the properties are required for the project. The required relocations can be accomplished with minimal impact on the economic well being of those affected or the areas into which they would move.

A survey of the local real estate sales and rental market in the Westminster and Carroll County area (Central Maryland Multiple Listing Service For Carroll County) indicates that there is sufficient decent, safe and sanitary comparable replacement housing for the displaced families and individuals in the immediate vicinity or in nearby areas. If comparable replacement dwellings are not available within the usual monetary limits for owners and tenants, or if available replacement housing is beyond their financial means, additional amounts will be provided through housing as a last resort to assure that comparable replacement housing will be available for displaced persons. It is not anticipated, however, that housing as a last resort will be required on this project. Decent, safe and sanitary replacement housing can be provided to affected families and individuals, and is sufficient to meet the needs of those displaced at the time of construction.

Enough housing appears to be available in the area so that there will be no adverse impacts on the neighborhoods into which the affected families and individuals would move. No material changes in population density or distribution are required. In addition, no other federal, state or local projects are foreseen in the general project area that would affect the supply and availability of needed replacement housing.

In addition to the required displacements, each alternative results in strip right-of-way acquisition. The right-of-way acquisition figures also include the affected properties from which displacements are required. No right-of-way is required under the No-build and T.S.M. alternatives. Table IV-2 illustrates the right-of-way requirements for each of the proposed alternatives. Several of the affected properties also contain sheds, barns or garages which must either be moved or taken down.

No farms would be affected by the No-build Alternate or the T.S.M. Alternate. Alternates 2, 3A or 3B would also not affect existing farms as these alignments are located along existing MD 140. The three bypass alternatives do pass through agricultural areas and in some cases, the alignments will pass through active farms. Right-of-way acquisition is required from these farms, but the acquisitions from any one farm may not be large enough to render them as uneconomical operations or to sever properties creating uneconomical remnants. Access to the separated parcels could be provided across the bypass or via local intersecting roads. In many cases, agricultural properties will not remain in their current uses as the Comprehensive Plan shows that these properties are planned for future development, as infill and spread from adjacent development continues. To date approximately 18 properties have been acquired along the Master Plan bypass corridor for a total of approximately 36.6 hectares (90.5 acres).

TABLE IV-2 RIGHT-OF-WAY REQUIREMENTS BY ALTERNATE	
Alternate	Hectares/Acreage
1 (No-build)	0
T.S.M.	2.6/(6.35)
2	14.8/(36.50)
3A	29.1/(72.00)
3B	30.4/(75.00)
4 Modified	131.0/(323.50)
6	144.9/(358.00)
10A	188.0/(465.00)

b. Effect on Elderly, Minority or Handicapped People

Specific displacements of elderly, minority, or handicapped individuals have not been identified at this time for any of the proposed alternatives. However, according to the 1990 Census, approximately 3% and 15% of the population in the study area were minorities and elderly, respectively. Based on the low percentage, there is only a small probability that any of the displacements will be minorities (the largest proportion of minorities in any particular census tract is less than 5%).

With one elderly person (age 60 and older) for every six persons in the study area, there is a moderate probability that some of the displacements may be elderly individuals. Alternate 10A skirts the edge of Census Tract No. 5078, the one census tract having the highest proportion of elderly residents (almost 24%) - no other alternatives are close to this census tract.

No concentrations of elderly, handicapped, or minority individuals have been identified in the vicinity of the proposed build alternatives. A nursing home and retirement community are located in the rear of Alternate 10A, but would not be impacted.

Appropriate relocation advisory services will be offered to displaced elderly, minority, or handicapped persons, if required.

c. Title VI Statement

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

The project will be designed and constructed to comply with the accessibility requirements of the Americans with Disabilities Act of 1990 and related laws and regulations.

d. Disruption of Neighborhoods and Communities

Alternates 2, 3A and 3B and the T.S.M. Alternate are located along existing MD 140 where land use is generally commercial, industrial, or agricultural in nature. Residential development has

developed to both sides of MD 140 and is generally set back from the roadway. Therefore, these alternates would have no effect on community cohesion or integrity, as none would pass through existing communities. Continued use of MD 140 by through and local traffic, including trucks would have no bearing on integrity or cohesion. Likewise, the No-build Alternate would have no effect on community interaction or cohesiveness.

The bypass alternates (Alternates 4 Modified, 6 and 10A) would generally not disrupt a community's or neighborhood's integrity or cohesion, nor affect a community's social fabric or patterns of interaction. No portions of neighborhoods or communities would be isolated or physically cut off from the rest of its group. Numerous small neighborhoods or developments are scattered across the area in the vicinity of Westminster. In most cases the alignments of each of the three alternatives have been sited to avoid residential development or, where not possible, would only encroach upon a community's edges. In fact, Alternate 6 (the County's Comprehensive Plan alignment) has, in many cases, been protected from development.

The one exception is where the alignment of Alternates 4 Modified and 6 crosses the Mountain Lake View development on Old Manchester Road north of Gahle Road. Here parts of this development have spread out in linear fashion north from the main enclave south of Gahle Road. This linear spread precludes the avoidance of any houses in this development due to the perpendicular crossing of the alternatives; however, the alignment was sited to avoid the main cluster of development.

The two parts of the community-the larger portion of Mountain Lake View and the smaller component to the north-will not be totally isolated from each other as a bridge over Old Manchester Road will be provided with each of the two alternatives. This link should help minimize any disturbances to the development's integrity and cohesion.

e. **Access to Facilities and Services**

Capacity and traffic service improvements associated with the T.S.M. Alternate and Alternates 2, 3A and 3B should help traffic flow and reduce congestion on MD 140 and intersecting side streets, which in turn could change access to facilities and services.

The diversion of through traffic to a bypass (Alternates 4 Modified, 6 and 10A) would however, have a greater impact on relieving congestion and improving safety on MD 140, which in turn would improve accessibility and reduce travel times to facilities and services, many of which are centrally located in the heart of Westminster. Concurrently, a bypass route could also facilitate the movement of through travelers, commuters and emergency vehicles through the Westminster area improving these travel times as well.

It is anticipated that a bypass could improve response times for fire, police and emergency vehicles which are destined for points to the east and west of Westminster, and enable these vehicles to avoid the use of more heavily travelled MD 140, particularly if traffic is backed up or blocked by an accident. Also, lower traffic volumes on MD 140 as a result of a diversion improves response times through Westminster. In Section VIII-Comments and Coordination, the MD State Police and the County's Emergency Operations Center have provided comments regarding this project. The MD State Police responded that a bypass would not adversely affect their response times from the Westminster barrack. The Emergency Operations Center expressed concern for the effects of a bypass on local travel and whether intersecting roads would be cul-de-saced or otherwise be subject to changes in access.

Short of the congestion related access problems associated with some of the alternates, none of the proposed alternates would separate residents from any community facility or adversely impede access to such amenities. Either a bridge or, in selected cases, an interchange

would be provided at major crossings. These interchanges are also convenient to emergency services, which can be used to access the bypass for emergencies.

The existing alignment alternatives result in some modification of access onto and across MD 140 from intersecting roads (between MD 97N and MD 97S), but major intersecting roads are available to accommodate these circulation needs and minimize the effects of this change to unrestricted access. The minor disruptions would be offset by the benefits realized in increased capacity and traffic service. Local drivers would easily adjust to the new travel patterns.

Under the No-build condition, increasing volumes of traffic, both through and local, would contribute to an increasing frequency and duration of congestion, which in turn would have a negative bearing on the accessibility to facilities and services, including the response times of emergency vehicles.

2. Economic Impacts

a. Business Displacements and Relocations

An analysis of the possible business (commercial and industrial) displacements caused by the proposed build alternatives has been completed and is based on preliminary right-of-way and relocation studies. As stated previously, the preliminary right-of-way and relocation reports are available for review at the State Highway Administration's District 7 Office of the Office of Real Estate.

A summary of the business displacements required for each of the proposed alternatives is shown in Table IV-3. Proposed displacements are also shown on the alternates mapping in Section II.

TABLE IV-3 BUSINESS DISPLACEMENTS BY ALTERNATIVE		
Alternative	No. of Relocations	Approx. No. of Employees
1 (No-build)	0	0
T.S.M.	0	0
2	1	45
3A	8	105
3B	12	155
4 Modified	3(1 vacant)	25
6	2	15
10A	0	0

No business displacements would occur with Alternate 1 (No-build), the T.S.M. Alternate, and Alternate 10A. However, the T.S.M. Alternate removes some parking spaces from six businesses along existing MD 140 which could affect the businesses' operations unless alternative parking is provided. A reduction in parking spaces could affect customers' ability to access affected businesses.

Alternate 2 would require one and 6 would require two business displacements. Alternate 2 would affect the Amoco Service Station. Alternate 6 would affect the Windy Hills Farm Partnership, and in addition, a reduction in parking could affect an additional three businesses under Alternate 2.

Alternate 4 Modified requires the acquisition of three businesses. (Fishers Tire Service, Danner Farm and Nursery, and Windy Hills Farm Partnership) plus an additional business site which is currently vacant (Leidy's Rendering). One of these displacements is actually only the removal of an agricultural warehouse on the Windy Hills

Farms Partnership property. This building could be constructed elsewhere on the property.

Alternates 3A and 3B would result in the displacement of 8 and 12 businesses, respectively. Alternate 3A affects six businesses at the MD 97/MD 140 interchange (Enterprise Rent-A-Car, Nu Look Cleaners, Dr. Stuart Scherer, Subway, Westminster Nursery and Chevron Gas Station) and two warehouse businesses (Therma-Seal Insulation and National Feeds of Maryland) at the intersection of MD 27 and MD 140. Under Alternate 3B, 11 of the 12 affected businesses are at the MD 97/MD 140 interchange (same businesses as Alternate 3A, plus Union National Bank, Pizza Hut Carry Out, Myers 140 Photo and Fairfax Savings and Checking Bank), while one warehouse business (Therma-Seal Insulation) at the intersection at MD 140 and MD 27 would also be displaced. The displaced businesses under Alternate 3A are also many of the same affected under Alternate 3B.

As with the residential displacements, all the required commercial displacements will be accomplished in accordance with the requirements of the "Uniform Relocation Assistance and Land Acquisition Policies Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987." A summary of the State's relocation assistance program as it relates to businesses is provided in the Appendix.

Replacement sites are available in the Westminster area for many of the affected businesses. According to the Central Maryland Multiple Listing Service for Carroll County, there are over a dozen commercial sites, less than one-half dozen industrial sites, and less than 10 office sites available for sale or rent in the Westminster area into which the affected businesses may relocate. However, some of the affected businesses may have problems finding an adequate or suitable replacement site.

Under Alternate 4 Modified, the affected businesses may not have suitable replacement sites in the immediate area into which they could move due to zoning or available optimal site locations or sizes. Under Alternates 3A and 3B, the Westminster Nursery may not find a suitable replacement site adjacent to the MD 140 corridor due to the lack of appropriately sized sites. In addition, the two affected warehouse businesses (National Feeds of Maryland and Therma-Seal Insulation) may not be able to find sufficient replacement locations along the MD 27 and MD 140 corridors with an available railroad spur, which is required for delivery of materials. Replacement sites may not be available for the Amoco Gas Station and Westminster Motors, which are to be displaced under Alternate 2, even though there are at least one dozen commercial sites for sale or rent in the Westminster area. These problems relate to the lack of appropriately sized lots and the lack of prime locations for highway oriented businesses.

Approximately 18-24 months would be required to accomplish the required business relocations (closer to 18 months for the smaller businesses and up to 24 months for the larger operations). There are no anticipated federal, state or local projects which would adversely affect the supply and availability of replacement business sites.

b. Effect on the Regional and Local Business Community

The city of Westminster serves as a primary employment center in the region and continued economic growth is expected to occur in the industrial and commercial sectors, supported in part by increasing residential growth. The potential for Westminster and the surrounding area to expand its economic activity is dependent in part on an adequate transportation system. The County views a bypass of Westminster as a primary factor for supporting planned growth in the airport area north of town and for making existing MD 140 through the city more efficient in handling local business-related traffic. A bypass would allow for more efficient traffic circulation to meet future travel needs

for existing and planned economic activity, which is predicated on industrial and commercial expansion.

The existing inefficient transportation system would remain under the No-build and T.S.M. Alternates, where either no or limited improvements, respectively, are proposed. These alternatives would not provide the efficient or adequate transportation system needed to facilitate economic activity nor assist planned industrial and commercial expansion at the airport. Congestion and its inherent problems for access, which are associated with the No-build, are not conducive to encouraging growth in the area and could serve to dissuade potential industry or other employers from locating in the Westminster area. It could also encourage existing businesses to relocate to other areas where traffic congestion is less of a problem.

The No-build Alternate also serves as a constraint for businesses which are predominantly truck oriented. It does not provide an adequate facility for the timely delivery of service and goods by trucks within the project area and for trucks which pass through Westminster destined for points to the east and west, in Baltimore, Washington, Hanover, etc. These inadequacies also can lengthen the commuting times of employees passing through Westminster or destined for jobs in the town.

Alternates 2, 3A and 3B would provide capacity and transportation management improvements, but result in the lack of separation of local and through traffic which inhibits efficiency. These alternatives may provide some benefits in terms of improving truck delivery and employee commuting times by improving traffic capacity and service; but the lack of separation of local and through (truck) traffic prevents the achievement of better, safer and more timely access for carriers of goods and services, as well as commuters.

Also, Alternates 2, 3A and 3B prohibit traffic from making left turn and through movements from all intersecting roads onto or across

MD 140 between MD 97N and MD 97S. These prohibitions may interfere or make access somewhat more circuitous to and from some businesses for local residents; however, there are benefits gained in increased capacity and level of service on MD 140, and all major connecting roads will remain available for travelers to minimize the effect of these access changes onto or across MD 140. Alternates 3A and 3B include the construction of a service road between Gorsuch Road and MD 97S, north of MD 140, which would provide access between the MD 140/MD 97S interchange and areas to the west of MD 97S and north of MD 140. Businesses to the north of MD 140 could construct entrances to the service road to improve access to customers and employees.

Bypass Alternates 4 Modified, 6 and 10A best improve travel efficiency, by separating local and through traffic and improving access to local businesses; but Alternates 4 Modified and 6 are also best suited for accommodating or facilitating planned development to the north of Westminster, particularly in the burgeoning MD 97 corridor near the airport, where the County has designated that such growth should occur. As stated elsewhere, the County's Comprehensive Plan includes a northern bypass of Westminster, closely following Alternate 6, to effect this separation and help support planned development in this area. Permitting through travelers with no desire to do business in the city to avoid MD 140 and local streets can provide benefits in terms of decreased traffic congestion and increased safety.

The bypass alternatives (Alternates 4 Modified, 6 and 10A) will divert traffic off MD 140 through the city. It could be inferred that this reduction in traffic would negatively impact businesses along or near MD 140; however, many businesses along MD 140 are geared more to serving the needs of the local population and the region. A diversion of traffic may result in some short term losses, but this would be offset by increased local use resulting from increased accessibility and population growth. Some highway oriented businesses may also

have to change their products or emphasis to reduce the effects of a traffic diversion.

Experience with bypass routes lends little support to the belief that a reduction in traffic through a town will have a general adverse effect on business. Past studies have examined the effect of limited access bypasses on towns. According to the Federal Highway Administration in Social and Economic Effects of Highways (1976) and the Virginia Highway and Transportation Research Council in Incorporating Economic Coordinations in the Preparation of Environmental Impact Statements (1976), towns with smaller populations are generally expected to be more adversely affected by a bypass. Very small towns often lack an economic base and are more dependent on through traffic, unlike Westminster. Towns in which highway oriented businesses (service stations, restaurants, etc.) depend mainly on local demand will likely experience little change. Studies have also failed to reveal any direct and consistent relationship between business activity and traffic changes in bypassed areas. These studies show that it is more the norm that decreases in traffic as a result of a bypass does not result in a decrease in sales; in fact, there is more of a gain in sales resulting from increased accessibility and increased shopping convenience to the general community. Therefore, Westminster's role as a regional economic center for the supply of goods and services to the local populous should offset the effects of a diversion of traffic.

Controlled access along the bypass alignments will limit development along these routes which would inhibit potential competition from developing that could threaten businesses along MD 140. Also, advertisements or signage along the bypass can alert through travelers of what is available to them along MD 140 and other parts of the town.

Besides providing improved access to the County airport and industrial uses surrounding it. Alternates 4 Modified and 6 would also

benefit the state and county highway maintenance facilities in this area. These facilities would be able to more quickly access areas to the east and west of Westminster. Likewise, truck traffic carrying goods and services east and west of Westminster, as well as commuter traffic destined for jobs east and west of the town, would also see improvements in travel times under these alternates, as well as Alternate 10A.

c. Effects on Tax Base

Alternates 4 Modified and 6 will support existing economic development and proposed development, particularly in the MD 97 corridor at the County airport. This in turn will have a positive impact on the County's tax base. The County and Westminster support economic growth in the area, particularly in the MD 97 corridor near the airport. Other benefits are derived from possible economic expansion associated with the separation of local and through traffic-local businesses may be inclined to expand or locate along MD 140 if reduced congestion makes it possible to attract more local clientele.

Alternate 10 would not generate as much tax benefit, because even though a bypass is provided, it is not located in an area where industrial, commercial and residential development is planned. The other build alternatives, as well as the No-build Alternate, would generate even less benefit, since they do not provide a bypass that would be necessary to support additional economic development to the north of Westminster or reduce traffic through Westminster that hampers local access to businesses.

d. Land Use and Land Use Planning

Growth in the study area is consistent with the Comprehensive Plan for Westminster and Environs, 1985. The County and the city of Westminster support and encourage growth in appropriate parts of the study area (particularly in and north of Westminster) and recognize that

a bypass of MD 140 through Westminster is an integral element for the implementation of this plan. The Plan reaffirms the need for a northern bypass between Reese and Hughes Shop Road in support of these economic development efforts, as well as to carry through traffic around Westminster and to relieve traffic congestion on existing MD 140 through Westminster.

According to the Comprehensive Plan, the County has undertaken considerable efforts since 1962 to plan and protect a corridor to the north of Westminster which could otherwise be preempted by new development. The Plan indicates that by separating through traffic and providing an access controlled bypass, from local or business related traffic and providing an access controlled bypass, the capacity of the existing road to handle local traffic is increased. These improvements will help accommodate planned residential, commercial and industrial growth in the Westminster area that in turn is contingent on an efficient and safe transportation system. It is anticipated that the County's planning and zoning efforts will ensure that strip development with access onto the bypass will not occur; instead development recurring consistent with the Comprehensive Plan will have access to the Bypass only indirectly through connecting artererial roads at interchanges.

Therefore, only Alternates 4 Modified, 6 and 10A could be said to be consistent with the Comprehensive Plan, in that a bypass of MD 140 through Westminster is provided to allow the separation of through and local traffic. However, only Alternate 4 and 6 modified are truly consistent with the Comprehensive Plan, because these alternatives most closely resembles the County's designated bypass route or transportation improvements to the north of Westminster and follows the alignment shown in the Plan. The alternatives along MD 140 (T.S.M., Alternates 2, 3A and 3B do not address the problems associated with the mix of through and local traffic, even though capacity and traffic management improvements are the intended benefits.

The proposed improvements will help accommodate existing development and planned growth in the Westminster area. If development were to occur, however, it would be a result of planning decisions set forth by Carroll County and Westminster in the Comprehensive Plan. The City and the County can prohibit undesirable land uses through its zoning process. Industrial, commercial and residential growth, as a result of local government planning decisions, would also be subject to federal, state and local or county permits and environmental requirements. Specific environmental impacts will be addressed as part of the approval process for these projects.

e. Consistency with 1992 Growth Management

The Maryland Office of Planning (MOP) as documented in their letter (dated April 15, 1994) in the Comments and Coordination section found that improvements to the existing road best met the State's growth management policies. Of the northern alternates, the MOP indicated that Alternate 4 Modified had "the fewest negative growth management implications, primarily because its' connection with MD 97 (S) creates less potential for unplanned development in the area north and east of Gorsuch Road." Alternate 10A was found "not consistent with the County's Land Use Plan or the Visions of the Economic, Growth, Resource Protection and Planning Act of 1992."

f. Impacts on Pedestrians and Bicyclists

Pedestrians and bicyclists would not be negatively impacted by Alternates 4 Modified, 6 and 10A; rather, their mobility and access would be improved or enhanced. Pedestrians and bicyclists would receive the most benefit with Alternates 4 Modified, 6 and 10A due to the benefits associated with the separation of local and through traffic, especially trucks. Mainly, non-vehicular users would be able to access businesses on either side of MD 140 in a much easier and safer fashion, as potentially 30-40% of all traffic (included trucks) is diverted

to a bypass alignment. Wide shoulders along these three alternatives would also be able to accommodate non-vehicular users of these facilities.

These benefits are not present with Alternates 2, 3A and 3B, as well as the T.S.M. and No-build Alternates, which do nothing to enhance mobility. The continued mixture of increasing volumes of through and local traffic would create unfavorable conditions for non-vehicular traffic in the area.

B. Cultural Resources

1. Historic Sites

Numerous historic sites and districts identified and thought to be National Register eligible are located within the vicinity of the proposed build alternates. These are **Krider's Reformed Lutheran Church (CARR 146), Kriders Lutheran Church (St. Benjamin's Church--CARR 172), Sextons House (CARR 674), Leister House (CARR 744), Tannery Survey District (CARR 700), Swissdale Farm (CARR 262), Jacob Coppersmith House (CARR 1365), Evelyn Thompson House (CARR 1351), C. Elmer Fritz Farm Complex (CARR 398), Windy Hills (CARR 107), Miles Long House (CARR 1372), Distillery Master's House (CARR 1372), John Rinehart House (CARR 389), John Schweigart Barn (CARR 388) and 69--John Schweigart House (CARR 371), Spring Mill House (CARR 110), Spring Mill School (CARR 519), Goodwin-Robertson-Wagner Farm (CARR 669), Royer-Koontz Farmstead (CARR 702), Bonsack Farm Complex (CARR 701), D. Bonsack House (CARR 708), Chew-Crowl House (CARR 1355) and the Roop Rural Historic District which includes the Joseph Thomas House (CARR 657), the Stuab residence (CARR 811), the Elizabeth Lowry House (CARR 656), the Joseph Stoner House (CARR 1371), Gills range (CARR 377), Meadow Brook Farm (CARR 391), Church of the Brethren (CARR 392), Reese Farmstead (CARR 394), Roops Mill Complex (CARR 101), and the David Roop House (CARR 390).**

Eight of the sites identified as National Register eligible will be directly impacted by the proposed build alternates, these sites are **Bonsack Farm Complex** impacted by the T.S.M. Alternate, and Alternates 2, 3A and 3B, Royer-Koontz Farmstead impacted by the T.S.M. Alternate, and Alternates 2, 3A and 3B, **Chew Crowl Farm** impacted by Alternates 2, 3A, 3B, 6 and 10A, **Roop Rural Historic District** impacted by Alternates 4 Modified, 6 and 10A, **C. Elmer Fritz Farm** impacted by Alternates 4 Modified and 6, **Evelyn Thompson House** impacted by Alternates 2, 3A, and 3B, **Tannery Survey District** impacted by Alternate 6, **Goodwin Robertson Wagner Site** impacted by Alternate 10A.

A detailed discussion regarding right-of-way acquisitions from historic site properties is recorded in Section V. of this document, the Section 4(f) Evaluation.

Concurrence with the following effect determinations has been requested from the State Historic Preservation Officer. See our letter to the SHPO dated May 17, 1994.

Common Alignment of Alternates 4 Modified and 6

Roop Rural Historic District--These alternates (Fig. II-38 and Fig. II-45) will traverse the district which is north of MD 140 and require the displacement of the Joseph Thomas House and the Elizabeth Lowry House, which are contributing components of the district owned by SHA. The district would be adversely affected not only by the acquisition of 15.15 hectares (37.43 acres), but also because the rural environment would be altered by Alternates 4 Modified and Alternate 6.

Site # 14, the Fritz Farm Complex (CARR-398)--The common alignment of Alternates 4 Modified (Fig. II-39) and 6 (Fig. II-46) would traverse Fritz site diagonally from the intersection of Meadow Branch and Krider's Church Road on the east to the intersection of the new roadway with MD 97/Relocated Meadow Branch Road. Approximately 3.16 hectares (7.80 acres) of land

included within the historic site boundary would be required for right-of-way, and result in an adverse effect to the site.

Sites 11-13, Kriders Lutheran Churches--The alignments would be located below the grade of the churches and would be readily seen from the brick Kriders Lutheran Church (CARR 146) and partially seen from the frame Kriders Lutheran Church (CARR 172). However, the valley in which the alternates would be located is not a pristine rural setting, but the location of an airport and some industrial/commercial development, with additional development slated to occur. For most of the length of these alternates (and where they cross Kriders Church Road northwest of the frame church) they are not within the viewshed of either church. However, due to the change in grade, there is a point northeast of the brick church, in the area where the alternates would cross MD 97, where there is low area through which the alignments could be seen. Much of that view, however, would be hindered by the Albright Building located at 180 Kriders Church Road and by the buildings located along MD 97 between the existing intersection of Kriders Church Road with MD 97 and the Westminster Airport on the north. Nonetheless, the Kriders Lutheran Church historic site would be affected by these alternates, but not adversely.

At the closest point of the historic site boundary to the common alignments of Alternates 4 Modified (Fig. II-39) and 6 (Fig. II-46), it would be 57.91 meters (190 feet) from the right-of-way line and 97.54 meters (320 feet) to the edge of pavement. The closest building would be 167.64 meters (550 feet) from the right-of-way line and 204.22 meters (670 feet) from the edge of pavement.

20. Leister House (CARR-744)--Alternates 4 Modified (Fig. II-40) and 6 (Fig. II-47) would come within very close proximity to this property resulting in an adverse effect. At the closest point of the historic site boundary to the common alignments of Alternates 4 Modified and 6, it would be 30.5 meters (100 feet) from the right-of-way line and 57.9 meters (190 feet) to the edge of pavement. The closest the alternate would be to the principal historic

building would be 76.2 meters (250 feet) from the right-of-way line and 97.54 meters (320 feet) from the edge of pavement.

#21, Windy Hills, (CARR-107)--These alternates, 4 Modified (Fig. II-40) and 6 (Fig. II-47) are quite far from the nucleus of buildings within this site and is separated from them by the rolling contours of the land. As best as could be determined, the alternates would not be within the viewshed of the buildings. In an area of exploding subdivision development, there will be some alteration in the surroundings, and the site would be affected, but not adversely.

Alternate 6 east of the common alignment

Tannery Survey District--Alternate 6 (Fig. II-48 and II-49) would be located just uphill from the Tannery Survey District, and would remove the woods, and a small sliver of land, amounting to .20 hectares (.67 acres), from it, thus the district would be adversely affected. The closet building is approximately 15.24 meters (50 feet) from the edge of right-of-way and 24.38 meters (80 feet) from the edge of pavement.

155, the Distillery Masters House (CARR-1377)--This site is located uphill and well east of the point where Alternate 6 (fig. II-49) would cross the West Branch of the Patapsco River. Although the alignment could only barely be seen through the heavy woods located within the historic site boundary and could not be seen at all from the only historic building, nonetheless the site would be affected because the rural environment would be altered. This rural environment is increasingly threatened by the relentless development of the land for subdivision housing, which has started to occur at the perimeters of this currently rural valley. The site would be affected, but not adversely, given the imminent threat of change to the setting already posed by subdivision plans in the offing.

138, Chew-Crowl House (CARR-1355)--The ramp from eastbound Alternate 6 (Fig. II-50) would tie into MD 140 would require the acquisition of 61 hectare (1.54 acres) of right of way from the back of the

property along the interface of the historic site boundary with MD 140. Although this is on the side of the property opposite the historic buildings, which front Old Westminster Pike, the site would be adversely affected by this taking of land.

134, Evelyn Thompson property (CARR-1351)--Alternate 6 (Fig. II-50) requires .22 hectares (.55 acres) from the historic site boundary, resulting in an adverse effect to the site.

Alternate 4 Modified
East of the Common Alignment

138, Chew-Crowl House (CARR-1355)--Alternate 4 Modified (fig. II-43) will tie into existing eastbound MD 140 just west of the historic site boundary, whereas it will tie into westbound MD 140 further east at the eastern edge of the historic site boundary. Nonetheless, because these travel lanes would be removed from this interface of the historic site boundary with MD 140, which is along the rear portion of the site and well removed from the buildings which front Old Westminster Pike, there would be no effect.

134, Evelyn Thompson property (CARR-1351). Because Alternate 4 Modified (Fig. II-43) would tie into MD 140 west of the historic site boundary, and no construction would occur along the frontage of the site with MD 140, the Evelyn Thompson House would not be affected.

Alternate 10A

Roop Rural Historic District--Alternate 10A (fig. II-51) would traverse the entire width of the district south of MD 140 and bisect the historic property between Roop's Mill and Gill's Range. Part of the considerable acquisition of historic property would occur in the immediate vicinity of the Joseph Stoner House and the Elizabeth Lowry House. Old Taneytown Road would be cul-de-sacced. The district would be adversely affected not

only by the acquisition of 14.62 hectares (36.13 acres), but also because the rural environment would be altered by Alternate 10A.

66, Swissdale (CARR-262)--Swissdale (Fig. II-52) is located on a small plot of land surrounded by a split rail fence and heavy vegetation. It is separated from Alternate 10A by a field located between it and Firestone Road, the location of new subdivision housing. Although Alternate 10A would be constructed in an area characterized by frenzied building activity, it would introduce an element out of keeping with the strictly residential nature of the area, thus resulting in an adverse effect to the Swissdale historic site. At the closest point of the historic site boundary to Alternate 10A, it would be 121.9 meters (400 feet) from the right-of-way line and 167.6 meters (550 feet) to the edge of pavement. The closest historic structures would be 207.3 meters (680 feet) from the right-of-way line and 228.6 meters (750 feet) from the edge of pavement.

70, John Rinehart House (CARR-389)--This site located beyond maps coverage is removed from Alternate 10A, being separated from it by a considerable area of hedgerows, modern houses and rolling countryside, and there would be no effected.

#'s 68 & 69, John Schweigart House and Barn (Carr 371 and 388)--This site (fig. II-52) is separated from Alternate 10A by a few modern dwellings, a thick hedgerow, fields, and a change in elevation, making the site much lower than the alternate. Thus, the Schweigart site would not be affected.

87, Spring Mill House (CARR-110)--Located on Spring Mill Road, and separated from Alternate 10A by MD 27, numerous houses and farms and a changes in elevation which keeps the roadway well out of the viewshed of the historic dwelling, the Spring Mill House (fig. II-53) would not be affected.

88, Old Spring Mill School, (CARR-519). Located on Spring Mill Road, and separated from Alternate 10A by MD 27, numerous houses.

farms, an heating oil facility and changes in elevation which keep the roadway well out of the viewshed of the historic site , Spring Mill School (fig. II-53) would not be affected.

90, Goodwin-Robertson-Wagner Farm (CARR-669)--Although Alternate 10A would be located well above the grade of the cluster of historic buildings and would be largely hidden from view by rolling hills located between it and the historic site, the Goodwin-Robertson-Wagner Farm (fig. II-53) would nonetheless be adversely affected because 4.51 hectares (11.15 acres) would be required from within the historic site boundary. Thus Alternate 10A would have an adverse effect on the Goodwin-Robertson-Wagner Farm.

148, Jacob Coppersmith House (CARR-1365)--Alternate 10A would cut across the farmland immediately west of and largely below the grade of the Jacob Coppersmith House (fig. II-54), thus resulting in the introduction of an element into the immediate viewshed of the site which is out of keeping with the largely rural area just south of the intersection of MD 32 and the Old Washington Road where the site is located. For this reason, the site would be adversely affected by Alternate 10A.

138, Chew-Crowl House (CARR-1355)--Alternate 10A would tie into MD 140 immediately west of the nucleus of historic buildings (fig. II-57). Not only would the ramp to eastbound MD 140 require 2.5 hectares (6.23 acres) from the historic site boundary but the roadway would be located just west of the historic buildings and within their immediate viewshed. For these reasons, the Chew-Crowl House would be adversely affected.

134, Evelyn Thompson property (CARR-1351)--Alternate 10A would require .58 hectares (1.43 acres) from historic site boundary (Fig. II-57). and result in an adverse effect to the site.

Alternates 2 and 3A

55, D. Bonsack House (CARR-708), Alternates 2 (fig. II-12), and 3A (fig. II-21) would not require any land from the historic site, and any slight increase of pavement along, MD 140 to the rear of the property would be kept within existing right-of-way with a retaining wall. Because the historic building is below the grade of the road and quite removed from the thoroughfare, it would not be affected.

49, Royer-Koontz Farmstead (CARR 702)--Alternates 2 (fig. II-12), and 3A (fig. II-21) would require 7.53 hectares (1.86 acres) from the historic site boundary of the Royer-Koontz Farmstead, thus the site would be adversely affected.

129, the Bonsack Farm Complex (CARR 701)--Alternates 2 (fig. II-12), and 3A (fig. II-21) would require 2.11 hectares (5.21 acres) from the historic site boundary of the Bonsack Farm Complex. These alternates have an adverse effect on the Bonsack Farm.

138, Chew-Crowl House (CARR-1355)--Alternates 2, and 3A (fig. II-19) would require .51 hectare (1.27 acres) from the land included within the historic site boundary, thus the site would be adversely affected.

134, Evelyn Thompson property (CARR-1351)--Alternates 2, and 3A (fig. II-19) would require a small strip of frontage, amounting to 1.20 acres, for slight widening of the pavement at intersection and along the frontage of MD 140, plus a storm water management area. The site would be adversely affected by the acquisition of historic property.

Alternate 3B

55, D. Bonsack House (CARR-708)--Alternate 3B (fig. II-30) would not require any land from the historic site, and any slight increase of pavement along the rear of the property would be kept within existing right-of-way and a retaining wall. Because the historic site is well below the grade of

the road and quite removed from the thoroughfare, it would not be affected.

49, Royer-Koontz Farmstead (CARR 702)--Alternate 3B (fig. II-30) would require .75 hectare (1.86 acres) from the historic site boundary of the Royer-Koontz Farmstead, thus the site would be adversely affected.

129, the Bonsack Farm Complex (CARR 701)--Alternate 3B (fig. II-30) would require 2.66 hectares (6.58 acres) from the historic site boundary of the Bonsack Farm Complex. Therefore, it has an adverse effect on the site.

138, Chew-Crowl House (CARR-1355)--Alternate 3B (fig. II-19) would require .51 hectare (1.27 acres) from the land included within the historic site boundary, thus the site would be adversely affected.

134, Evelyn Thompson property (CARR-1351)--Alternate 3B (fig. II-19) would require a small strip of frontage, amounting to .49 hectare (1.20 acres), for slight widening of paving at intersection and along the frontage of MD 140, plus a storm water management area. This constitutes an adverse effect on the site.

T.S.M. Alternate

55, the D. Bonsack House (CARR-708)--The T.S.M. alternate would require a minor amount of additional paving, within existing right-of-way. The historic structure is located below the grade of the road and would not be affected (fig. II-6).

49, the Royer-Koontz Farmstead (CARR 702)--The T.S.M. alternate would require .75 hectare (1.86 acres) from this site, resulting in an adverse effect (fig. II-6).

129, the Bonsack Farm Complex (CARR 701)--The T.S.M. alternate would require 1.34 hectares (3.30 acres) from this site, resulting in an adverse effect (fig. II-6).

138, Chew-Crowl House (CARR-1355)--The T.S.M. alternate would not affect this site.

134, Evelyn Thompson property (CARR-1351). The T.S.M. alternate proposes no improvements in vicinity of this site, thus no affect to this site.

2. Archeological Sites

Phase II archeology to determine National Register eligibility will be required at two sites, 18 CR 224-Drechsler site and 18 CR 226 Elizabeth Lowry site.

The Drechsler site consists of the ruins and associated artifacts of a 19th century farmstead. It is located within the footprint of Alternate 4 Modified.

The Elizabeth Lowery site represents the archeological component of a standing struture (CARR 656) associated with a free black.

C. Natural Environmental Effects

1. Effects on Topography, Geology, and Soils

The effects on topography, geology, and soils resulting from improvements to the existing MD Route 140 corridor would be minimal and typical of those normally encountered during highway construction. Some cutting and filling would be required in uneven terrain to widen the road. The Existing Corridor, alternates 2, 3A, 3B and TSM improvements would cause the least effect to topography, geology and soils. The other three alternatives would require more substantial cutting and filling to produce the new road bed. Several streams in the study area would require bridge structures or culverts which may create alterations to the existing topography.

Of the corridors studied, alternate 10A, the Southern Corridor, would present the greatest potential effect on topography, geology, and soils, followed by alternate 6 and alternate 4 modified, both in the Northern Corridor. In accordance with the Farmland Protection Policy Act (FPPA) of 1981, this project was evaluated to determine potential impacts to prime farmland soils. According to the AD-1006 form completed by the Soil Conservation Service, Alternate 3B, worst case existing roadway improvement, would require 17 hectares (42 acres) of prime farmland and no statewide important farmland, Alternate 4 Modified would require 17 hectares (85 acres), Alternate 6 would require 40 hectares (99 acres) and 10A would require 34 hectares (85 acres) of prime farmland soils. No statewide important farmland was identified in the project area. All of the Alternates evaluated had fewer than 260 site assessment points; therefore, impacts on prime farmland by all alternates is not significant according to the FPPA. Areas along the alternates designated prime farmland soils are currently zoned for residential and commercial development.

Erosion and sediment control factors are considered during the design phase of the project. The design phase of the project will incorporate specific measures to reduce or mitigate adverse effects of erosion/sedimentation. Specific techniques for erosion/sedimentation control may include:

- a. Temporary sediment traps and/or basins

- b. Retaining streams in natural state
- c. Stone embedded baffles in concrete channels to act as energy dissipaters
- d. Berming of fills and installation of temporary slope drains
- e. Permanent slop pipes at no-cut, no-fill intersections
- f. Construciton of serrated cuts where soils permit
- g. Rip-rap ditches for velocity control
- h. Permanent seeding and mulching as soon as possible after grading, temporary seeding where grading will be exposed for an extended period.

2. Effects on Water Resources

a. Surface Water

Alternates 2, 3A and 3B, existing road Improvements, would have minimal impacts on surface water. Only one stream, West Branch Patapsco River (tributary no. 16), flows under the study area portion of existing MD Route 140. The existing bridge design has little impact on surface water quality and proposed improvements to the existing roadway would have similar results.

Alternates 6, 4-Modified and 10A would impact streams by construction of a new Westminster Bypass. Impacts would result from bridging, culverting, and/or relocation of streams. Stream bottom habitat would be lost due to construction. Changes in velocity would occur with the straightening of channels resulting in changes in erosion and sedimentation. Water quality may be affected by the introduction of a roadway in a generally secluded area near the stream disturbance.

Water quality impacts from the road are also related to the amount of impervious surface, and consequently the oils, grease, and road salt washing off from the roadway. Impervious surfaces may also raise runoff temperature which can degrade stream biota. The rise in stream temperature is especially a concern with regard to trout streams. The Meadow Branch Big Pipe Creek, Little Pipe Creek, tributaries to the Monocacy River and West Branch Patapsco River mainstem are classified by Maryland Department of the Environment as Class IV

Trout Stream for which instream construction restrictions may be imposed from March 1, to May 31, inclusive. Beaver Run, a tributary to the west Branch of the Patapsco, is classified Class III waters for which instream construction restrictions may be imposed from October 1, to April 30, inclusive. Class III trout waters are considered suitable for the growth and propagation of trout, and Class IV waters are capable of holding and supporting adult trout populations.

In general, the temperature and pollutant impacts will be greatest in the headwaters of a stream where the drainage area is small compared to the road surface area. This situation occurs in the western portion of the northern alignment along several small tributaries of Meadow Branch Big Pipe Creek. Each tributary draining to this section of roadway has a drainage area of less than one square mile.

Highway runoff may contain solids, heavy metals, nutrients, oil and grease, bacteria, and other pollutants. Highway pollutants, such as solids, heavy metals, and organics from fuel and motor oils are related to traffic volume. Other pollutants, such as herbicides and nutrients, are found in highway runoff mainly as a result of highway maintenance activities and adjacent land use contributions. All of these pollutants have the potential to be introduced to receiving streams during rain events.

The discharge of pollutants, and the temperature increase of runoff can be controlled through the use of stormwater management practices. Among the stormwater best management practices are:

- (1) On site infiltration
- (2) Flow attenuation by open swales and natural depressions
- (3) Stormwater retention structures
- (4) Stormwater detention structures

It has been proven that these measures can substantially filter out roadway pollutants as well as control the rate of runoff. Future runoff will not exceed present rates for existing land uses.

Revegetation will be applied promptly after grading and the minimum area required for construction will be disturbed in order to minimize erosion and sedimentation.

b. Groundwater

The primary source of recharge to the aquifer is from precipitation. All of the proposed roadway improvements would have minimal impacts to the recharge capacity of the aquifer. The additional impervious area of the roadway, when compared to the recharge occurring over the watershed area, would not substantially modify the existing recharge rates.

The yield of a well, however, can be impacted by the grading of the road. Well yield can be defined as the maximum pumping rate that can be supplied to a well without lowering the water below the pump intake. A road cut below the water table elevation would potentially divert the groundwater flowing to a well to surface drainage. The depth to the water table in the project area is 10.7 meters (35 feet) or greater. Road profiles for the Northern Corridor Alternates (4-Modified and Alternate 6) indicate that there are several road cuts which exceed 12.19 meters (40 feet) in depth. Records at Maryland Department of the Environment indicate that there are potentially 49 wells within the northern corridor in the vicinity of cut areas for the proposed improvements. The location of these wells should be field located before the road design is completed, and geotechnical studies performed to quantify the impact of the road on the water table.

The groundwater quality within the aquifer can be degraded by pollutants on the surface of the road. Pollutants can be channeled to the groundwater table through cracks in rock or by sinkholes formed by the dissolution of carbonate rocks (Wakefield Marble). Carbonate rock formations underlie the western portion of the Northern, Southern, and Existing alignments for distances of approximately 396, 335 and 488 meters (1,300, 1,100, and 1,600 feet), respectively. All though no sinkholes were observed during field visits, sinkhole development appears to be greatest in Alternate 10A and Alternate 3B and least in

Alternate 4 Modified and Alternate 6. Design of stormwater drainage systems must consider the presents of carbonate rock to decrease any potential for sink hold development along the selected alternate, and where necessary, specific construction techniques and construction materials will be used to avert any averse effects.

3. Effects on Floodplains

The 100-year floodplains were delineated for the major stream crossings from Federal Emergency Management Administration (FEMA) floodplain mapping. The number of streams along which the 100-year floodplain has been determined, the acreage within right-of-way, and the floodplain width are summarized for each alternate in Table IV-4.

TABLE IV-4 SUMMARY OF STREAM CROSSINGS WESTMINSTER BYPASS			
Alignment	FEMA Mapped Floodplain Crossings	Potential Effect to Floodplain Area hectares (acres)	Floodplain Width meters (feet)
Alternate 3B	1	0 [*]	0 [*]
Alternate 6 Modified	7	12.1 (29.8)	921 (3022)
Alternate 4 Modified	6	8.7 (21.6)	603 (1979)
Alternate 10A	8	12.7 (31.5)	970 (3184)

Present and Proposed right of ways are the same within the FEMA mapped floodplains.

As indicated in the table IV-4, Alternate 10A, the Southern Corridor Alternate had the most FEMA mapped floodplain crossings with eight. The alternate 10A had a total crossing width of 970 meters (3,184 feet), and a total impacted floodplain area of 12.7 hectares (31.5 acres).

Alternate 6, had 6 stream crossings for a total width of 921 meters (3,022 feet), and a total impacted floodplain area of 12.1 hectares (29.8 acres). The crossing over the West Branch Patapsco River 449 meters (1,473 feet), comprised approximately one half of the total crossing width.

Alternate 4 Modified, would reduce the total stream crossing width from 921 to 603 meters (3,022 to 1,979 feet), a reduction of 381 meters (1,043 feet) from Alternate 6. The impacted floodplain area is also reduced from 12.1 to 8.7 hectares (29.8 to 21.6 acres), or a decrease of 3.3 hectares (8.2 acres). The reduction is due to Alternate 4 Modified crossing the West Branch Patapsco River upstream of the Alternate 6 crossing, which would decrease the width of the crossing from 448.97 to 164.89 meters (1,473 to 541 feet).

The alignment with the fewest floodplain impacts is the existing alignment alternatives with one FEMA mapped floodplain crossing, which is within the present right of way. But will not require any additional floodplain encroachment for proposed improvements.

The areal extent and width of the floodplain crossings on the alignments are summarized in Tables IV-5 through IV-8.

TABLE IV-5 PROPOSED FLOODPLAIN CROSSINGS EXISTING CORRIDOR (ALT. 2, 3A, 3B & TSM) WESTMINSTER BYPASS		
Name of Stream	Impacted Floodplain Hectares (Acres)	Distance Meters (Feet)
West Branch Patapsco River		
Trib. No. 16	0'	0'

*Present and Proposed right of ways are the same within the FEMA mapped floodplains.

TABLE IV-6 PROPOSED FLOODPLAIN CROSSINGS NORTHERN CORRIDOR (ALT. 6) WESTMINSTER BYPASS		
Name of Stream	Impacted Floodplain Area Hectares (Acres)	Distance Meters (Feet)
Big Pipe Creek		
Meadow Branch	0.6 (1.4)	78 (256)
West Branch Patapsco River		

**TABLE IV-6
PROPOSED FLOODPLAIN CROSSINGS
NORTHERN CORRIDOR (ALT. 6)
WESTMINSTER BYPASS**

Name of Stream	Impacted Floodplain Area Hectares (Acres)	Distance Meters (Feet)
Mainstem (Crossing #1)	1.2 (3.1)	99 (325)
Cranberry Branch	1.2 (4.9)	146 (479)
Trib. No. 19	1.9 (1.7)	59 (193)
Trib. No. 20	1.8 (4.5)	90 (297)
Mainstem (Crossing #2)	5.7 (14.1)	449 (1473)

**TABLE IV-7
PROPOSED FLOODPLAIN CROSSINGS
NORTHERN CORRIDOR ALTERNATE (ALT. 4 MOD.)
WESTMINSTER BYPASS**

Name of Stream	Impacted Floodplain Area Hectares (Acres)	Distance Meters (Feet)
Big Pipe Creek		
Meadow Branch	0.6 (1.4)	78 (256)
West Branch Patapsco River		
Mainstem (Crossing #1)	1.2 (3.1)	99 (325)
Cranberry Branch	1.9 (4.9)	146 (479)
Trib. No. 19	0.7 (1.7)	59 (193)
Mainstem (Crossing #2)	3.1 (7.6)	165 (541)
Trib. No. 22	1.2 (3.1)	57 (186)

TABLE IV-8 PROPOSED FLOODPLAIN CROSSINGS SOUTHERN CORRIDOR (ALT. 10A) WESTMINSTER BYPASS		
Name of Stream	Impacted Floodplain Area Hectares (Acres)	Distance Meters (Feet)
Big Pipe Creek		
Meadow Branch	1.2 (3.1)	107 (353)
Copps Branch		
Trib. No. 107	0.8 (2.1)	78 (257)
Mainstem	1.4 (3.5)	125 (409)
Little Pipe Creek		
Mainstem	2.2 (5.4)	78 (257)
Trib No. 105	1.7 (4.3)	125 (409)
Little Morgan Run		
Mainstem	0.9 (2.4)	61 (202)
Middle Run		
Mainstem	1.7 (4.2)	181 (595)
Beaver Run		
Mainstem	2.7 (6.6)	135 (442)

The significance of each floodplain encroachment was evaluated with respect to the criteria in Executive Order 11988 Floodplain Management and with regard to the provisions in 23 CFR 650.111. According to the manual, longitudinal encroachments should be avoided. Within the project area, there are no longitudinal encroachments, and all project crossings are transverse.

Transverse crossings are considered to be significant if one of the following impacts are involved:

- A significant effect on the natural and beneficial floodplain values in the area.
- High probability of loss of human life
- Likely future damage that could be substantial in cost or extent
- Disruption of an emergency or evacuation route
- Notable adverse impact on "natural and beneficial floodplain values"

The use of standard hydraulic design techniques for all waterway openings would incorporate structures to limit upstream flood level increases and approximate existing downstream flow rates. All proposed culverts would be set one foot below the existing stream invert.

Use of the most advanced sediment and erosion control techniques and stormwater management controls available will ensure that none of the encroachments will result in risks or impacts to the beneficial floodplain values or provide direct or indirect support to further development within the floodplain. Preliminary analysis indicates that no significant floodplain impacts are expected to occur as a result of the proposed build alternates under consideration. A floodplain finding, if required, will be presented in the Final Environmental Impact Statement.

4. Effects on Wetland

Impacts associated with the construction of any of the Build Alternates under consideration would be to palustrine, non-tidal wetlands. Approximate wetland acreages including permanent and temporary impacts, resulting from the project alternates is given in Table IV-9. Alternate 3B, existing corridor alternate, is the worst case impact associated with existing roadway improvements and would affect approximately .08 hectare (0.2 acre) of wetlands. Alternate 6 would impact a total of 4.94 hectares (12.2 acres) of wetlands, including approximately .89 hectare (2.2 acres) of emergent wetlands, .97 hectare (2.4 acres) of scrub-shrub wetlands, .53 hectare (1.3 acres) of forested wetlands and 2.55 hectares (6.3 acres) of scrub-shrub/emergent wetlands (table IV-7). Alternate 4 Modified would impact a total of approximately 2.83 hectares (7.0 acre) of wetlands including 1.98 hectares (4.9 acres) of emergent wetlands, .24 hectare (0.6 acres) of scrub-shrub wetlands, .32 hectare (0.8 acres) of forested wetlands, and .28 hectares (0.7 acres) of scrub-shrub/emergent wetlands. Alternate 10A would impact a total of approximately 2.39 hectares (5.9 acres) of wetlands, including 1.7 hectares (4.2 acres) of emergent wetlands, .12 hectare (0.3 acres) of scrub-shrub wetland, and .57 hectare (1.4 acres) of forested wetlands.

Table IV-9				
Classification	Existing Corridor Alt. 3B hectares/acres	Northern Corridor Alt. 6 hectares/acres	Northern Corridor Alternate Alt. 4 Mod. hectares/acres	Southern Corridor Alt. 10A hectares/ acres
Emergent	0.081 (0.20)	.89 (2.2)	1.98 (4.9)	1.70 (4.2)
Scrub-shrub	0	.97 (2.4)	.24 (0.6)	.12 (0.3)
Forested	0	.53 (1.3)	.32 (0.8)	.57 (1.4)
Scrub-shrub/ emergent	0	2.55 (6.3)	.28 (0.7)	0
TOTAL	.08 (0.2)	4.94 (12.2)	2.83 (7.0)	2.39 (5.9)

Note: Wetland impacts of approximately 1.29 hectares (3.2 acres) (including .85 hectare (2.1 acres) emergent, .04 hectare (0.1 acres) scrub-shrub, .12 hectare (0.3 acre) forested, and 0.7 acres (.28 hectare) scrub-shrub/emergent) for the common portioof inc

One hundred eighteen wetland areas have been identified along the proposed alternate corridors. These areas are shown on the alternates maps located in alternates booklet provided and are described in tables IV-8 through IV-11.

**Table IV-10
WETLAND SUMMARY TABLE -EXISTING CORRIDOR (ALT. 3B)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
EC-1	49 20*	0.00	PEM1B	multiflora rose arrow-leaved tearthumb grasses jewelweed reed canary grass soft rush sedges	<i>Rosa multiflora</i> <i>Polygonum sagittatum</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Juncus effusus</i> <i>Carex spp.</i>	mapped as Codorus silt loam	inundation; saturation; water marks; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
EC-2	0.07 0.03*	0.00	PEM/SS1B	multiflora rose black willow jewelweed sedges grasses duckweed watercress reed canary grass	<i>Salix nigra</i> <i>Rosa multiflora</i> <i>Impatiens spp.</i> <i>Carex spp.</i> <i>Gramineae spp.</i> <i>Lemna spp.</i> <i>Nasturtium officinale</i> <i>Phalaris arundinacea</i>	mapped as Codorus silt loam	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
EC-3	19 0.77*	0.00	PEM1B	grasses	<i>Gramineae spp.</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; sediment deposits	sediment trapping (s) (Low)
EC-4	0.49 0.20*	0.00	PEM1B	broad-leaved cattail grasses	<i>Typha latifolia</i> <i>Gramineae spp.</i>	mapped as Glenville silt loam	not determined	not determined
EC-5	Note: EC-5 was removed; this area is not wetland according to COE (11/19/93).							
EC-6	0.42 0.17*	0.00	PSS EM1B	red maple black willow American elm multiflora rose silky dogwood jewelweed grasses	<i>Salix nigra</i> <i>Acer rubrum</i> <i>Ulmus americana</i> <i>Rosa multiflora</i> <i>Cornus amomum</i> <i>Impatiens spp.</i> <i>Gramineae spp.</i>	mapped as Baile silt loam	soil saturation; water marks and drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

**Table IV-10
WETLAND SUMMARY TABLE -EXISTING CORRIDOR (ALT. 3B)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
EC-7	0 18 0 07*	0 00	PSS/EM1B	black willow multiflora rose silky dogwood Japanese honeysuckle grasses sedges soft rush jewelweed	<i>Salix nigra</i> <i>Rosa multiflora</i> <i>Cornus amomum</i> <i>Lonicera japonica</i> <i>Gramineae spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i> <i>Impatiens spp.</i>	mapped as Glenville silt loam	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-8	0 21 0 08*	0 00	PEM1B	black willow broad-leaved cattail soft rush sedges wool grass	<i>Salix nigra</i> <i>Typha latifolia</i> <i>Juncus effusus</i> <i>Carex spp.</i> <i>Scirpus cyperinus</i>	N/A - stormwater management basin	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization
EC-9	0 21 0 08*	0 00	PEM1B	broad-leaved cattail reed canary grass jewelweed	<i>Typha latifolia</i> <i>Phalaris arundinacea</i> <i>Impatiens spp.</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
EC-10			Note: EC-10 was removed; stormwater basin not wetland according to COE (10/15/93).					
EC-11	0 96 0 39*	0 20* 0 08*	PEM1E	broad-leaved cattail jewelweed sensitive fern skunk cabbage reed canary grass	<i>Typha latifolia</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i> <i>Phalaris arundinacea</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; flood desynchronization; groundwater discharge (Medium)

**Table IV-10
WETLAND SUMMARY TABLE -EXISTING CORRIDOR (ALT. 3B)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND HA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
EC-12A	0.45 0.18*	0.00	PF01E	black cherry Kentucky coffee tree red maple southern arrowwood spicebush ground ivy jewelweed skunk cabbage	<i>Prunus serotina</i> <i>Gymnocladus dioicus</i> <i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Glechoma hederacea</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	drainage patterns	passive recreation; wildlife habitat; sediment trapping (I) (Medium)
EC-12B	0.71 0.29*	0.00	PEM2E	Morrow's honeysuckle spicebush Japanese honeysuckle jewelweed skunk cabbage	<i>Lonicera morrowii</i> <i>Lindera benzoin</i> <i>Lonicera japonica</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (I) (Medium)
EC-13A	0.48 0.19*	0.00	PEM1B	clearweed grasses poison ivy skunk cabbage reed canary grass wild onion or garlic	<i>Pilea pumila</i> <i>Gramineae spp.</i> <i>Toxicodendron radicans</i> <i>Symplocarpus foetidus</i> <i>Phalaris arundinacea</i> <i>Allium spp.</i>	mapped as Baile silt loam	drainage patterns	active recreation; groundwater discharge (Low)
EC-13B	1.2 0.48*	0.00	PF01B	red maple Japanese honeysuckle southern arrowwood spicebush wild onion or garlic	<i>Acer rubrum</i> <i>Lonicera japonica</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Allium spp.</i>	mapped as Baile silt loam	saturation; sediment deposits; drainage patterns	active recreation; groundwater discharge (Low)
EC-14	0.02 0.008*	0.00	PEM1E	black willow broad-leaved cattail grasses silver maple soft-stem bulrush	<i>Salix nigra</i> <i>Typha latifolia</i> <i>Gramineae spp.</i> <i>Acer saccharinum</i> <i>Scirpus validus</i>	mapped as Baile silt loam	inundation; saturation	sediment trapping (s) (Low)

**Table IV-10
WETLAND SUMMARY TABLE -EXISTING CORRIDOR (ALT. 3B)**

NO.**	TOTAL WETLAND ★HECTARES (ACREAGE)	WETLAND ★HA (ACRES) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
EC-15	0 13 0 05★	0 00	PE-M1B	sedges soft rush skunk cabbage grasses jewelweed	<i>Carex spp.</i> <i>Juncus effusus</i> <i>Symplocarpus foetidus</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s) (Low)
EC-16	0 47 0 19★	0 00	PE-M1B	black willow grasses sedges soft rush	<i>Salix nigra</i> <i>Gramineae spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping; groundwater discharge (Low)
EC-17	Note: EC-17 was renamed NC-41; wetland boundaries were not changed.							
EC-18	0 19 0 08★	0 00	PSS E-M1B	multiflora rose Allegheny blackberry grasses sedges jewelweed skunk cabbage	<i>Rosa multiflora</i> <i>Rubus allegheniensis</i> <i>Gramineae spp.</i> <i>Carex spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; satur-ation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l) (Medium)

Note: Nos. with ★ = hectares

Northern Corridor Wetlands

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND #HA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-1	0.29 0.12*	0.02* 0.01*	PSS1B	rose spicebush skunk cabbage	<i>Rosa spp.</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Mt. Airy channery loam	inundation; saturation; drainage patterns	wildlife habitat; groundwater discharge (Low)
NC-2	0.07 0.03*	0.00	PEM2E	rose jewelweed sensitive fern	<i>Rosa spp.</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i>	mapped as Linganore channery silt loam	inundation; saturation	groundwater discharge (Low)
NC-3	0.08 0.03*	0.00	PEM1C	arrow-leaved tearthumb grasses halberd-leaved tearthumb softrush watercress	<i>Polygonum sagittatum</i> <i>Gramineae spp.</i> <i>Polygonum arifolium</i> <i>Juncus effusus</i> <i>Nasturtium officinale</i>	mapped as Baile silt loam	inundation; saturation	wildlife habitat; groundwater discharge (Low)
NC-4	0.02 0.008*	0.00	PEM2E	jewelweed skunk cabbage	<i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Mt. Airy channery loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; (Low) groundwater discharge
NC-5	0.30 0.12*	0.19* 0.08*	PSS/EM1B	spicebush jewelweed skunk cabbage	<i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Mt. Airy channery loam	water marks; drainage patterns	passive recreation; wildlife habitat; food chain support; (High) groundwater discharge
NC-6	0.48 0.19*	0.00	PEM1C	grasses sedges softrush	<i>Gramineae spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; water marks; drainage patterns	wildlife habitat; groundwater discharge (Medium)
NC-7	0.07 0.03*	0.04* 0.02*	PEM1E	grasses softrush tearthumb	<i>Gramineae spp.</i> <i>Juncus effusus</i> <i>Polygonum spp.</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	groundwater discharge (Low)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-8	2.1 0.8*	0.62* 0.25*	PEM1B	grasses sweet flag purple-leaved willow- herb sedges	<i>Gramineae spp.</i> <i>Acorus calamus</i> <i>Epilobium coloratum</i> <i>Carex spp.</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; water marks; drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
NC-9	0.39 0.16*	0.00	PEM1B	black willow grasses jewelweed reed canary grass sedges	<i>Salix nigra</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation	passive recreation; sediment trapping (s) (Low)
NC-10A	0.21 0.08*	0.12* 0.05*	PFO1B	black willow red maple spicebush jewelweed skunk cabbage	<i>Salix nigra</i> <i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment (High) trapping (s); flood desynchronization; groundwater discharge
NC-10B	2.5 1.0*	1.41* 0.57*	PEM1B	blue vervain grasses jewelweed reed canary grass sedges skunk cabbage soft rush	<i>Verbena hastata</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i> <i>Juncus effusus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
NC-11	0.07 0.03*	0.00	PEM:FO1B	black willow green ash grasses jewelweed reed canary grass wild onion or garlic	<i>Salix nigra</i> <i>Fraxinus pennsylvanica</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Allium spp.</i>	mapped as Hatboro silt loam	inundation; saturation; water marks; drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AHA (ACRES) WITHIN ROW	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-12	0.40 0.16*	0.00	P10EM1B	black willow green ash red maple spicehush grasses jewelweed reed canary grass skunk cabbage	<i>Salix nigra</i> <i>Fraxinus pennsylvanica</i> <i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drift lines; sediment deposits; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
NC-13	0.28 0.11*	0.00	P101B	green ash spicebush grasses jewelweed reed canary grass violet wild onion or garlic	<i>Fraxinus pennsylvanica</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Viola spp.</i> <i>Allium spp.</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s) (High)
NC-14	0.24 0.10*	0.17* 0.07*	P101B	oak red maple box elder southern arrowwood spicebush jewelweed skunk cabbage	<i>Quercus spp.</i> <i>Acer rubrum</i> <i>Acer negundo</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
NC-15	0.03 0.01*	0.03 0.01*	PSS1A	box elder rose spicehush skunk cabbage	<i>Acer negundo</i> <i>Rosa spp.</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	drainage patterns	passive recreation; wildlife habitat (Low)
NC-16	0.03 0.01*	0.00	PSS1C	red maple spicehush skunk cabbage	<i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	saturation	passive recreation; wildlife habitat; sediment (Low) trapping (s); flood desynchronization

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND *HECTARES (ACREAGE)	WETLAND *HA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-17	0 03 0 01*	0 00	PEM1C	spicehush skunk cabbage	<i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	saturation	passive recreation; wildlife habitat; sediment trapping (s) (Low)
NC-18	0 05 0 02*	0 05 0 02*	PSS1C	red maple tulip poplar southern arrowwood spicebush skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	saturation; drainage patterns	passive recreation; wildlife habitat; food chain support; active recreation; (High) groundwater discharge
NC-19	0 59 0 24*	0 54* 0 22*	PEM/SS1B	green ash rose spicebush skunk cabbage	<i>Fraxinus pennsylvania</i> <i>Rosa spp.</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation; drainage patterns	wildlife habitat; groundwater discharge (Low)
NC-20	0 02 0 008*	0 00	PEM/SS1B	southern arrowwood skunk cabbage	<i>Viburnum dentatum</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	saturation	wildlife habitat; (Low) groundwater discharge
NC-21	0 009 0 004*	0 00	PSS1B	sugar maple spicehush jewelweed skunk cabbage	<i>Acer saccharum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; groundwater discharge (Low)
NC-22	0 07 0 03*	0 00	PEO1E	red maple tulip poplar southern arrowwood spicehush skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	saturation	wildlife habitat; active recreation; groundwater discharge (Medium)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-23	1.1 0.44*	0.00	PFO1E	American elm red maple tulip poplar spicebush garlic mustard jewelweed may apple skunk cabbage	<i>Ulmus americana</i> <i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Lindera benzoin</i> <i>Allaria officinalis</i> <i>Impatiens spp.</i> <i>Podophyllum peltatum</i> <i>Symplocarpus foetidus</i>	Baile silt loam, listed as a hydric soil	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge (High)
NC-24	2.9 1.2*	0.89* 0.36*	PFO1B	red maple tulip poplar spicebush cinnamon fern jewelweed mustard skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Lindera benzoin</i> <i>Osmunda cinnamomea</i> <i>Impatiens spp.</i> <i>Allaria spp.</i> <i>Symplocarpus foetidus</i>	Baile silt loam, listed as a hydric soil	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge (High)
NC-25	0.04 0.02*	0.00	PEM2C	jewelweed skunk cabbage	<i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	saturation	passive recreation; wildlife habitat; sediment (High) trapping (s); flood desyn-chronization
NC-26	0.13 0.05*	0.00	PEM2/SS1C	buttonhush rose silky dogwood reed canary grass skunk cabbage	<i>Cephalanthus occidentalis</i> <i>Rosa spp.</i> <i>Cornus amomum</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat (Low)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-27	1.3 0.53*	0.00	PFO1B	green ash red maple spicebush grasses jewelweed reed canary grass sedges skunk cabbage	<i>Fraxinus pennsylvanica</i> <i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; groundwater discharge (High)
NC-28	0.43 0.17*	0.00	PEM1B	grasses reed canary grass sofrush	<i>Gramineae spp.</i> <i>Phalaris arundinacea</i> <i>Juncus effusus</i>	mapped as Codorus silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); active recreation (Low)
NC-29A	3.7 1.5*	2.72* 1.10*	PSS/EM1B	red maple multiflora rose silky dogwood goldenrod grasses jewelweed reed canary grass	<i>Acer rubrum</i> <i>Rosa multiflora</i> <i>Cornus amomum</i> <i>Solidago spp.</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
NC-29B	2.8 1.1*	1.65* 0.67*	PSS/EM1B	black willow buttonbush elderberry silky dogwood goldenrod grasses jewelweed reed canary grass sedges sensitive fern skunk cabbage wool grass	<i>Salix nigra</i> <i>Cephalanthus occidentalis</i> <i>Sambucus canadensis</i> <i>Cornus amomum</i> <i>Solidago spp.</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i> <i>Scirpus cyperinus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization; food chain support; groundwater discharge; long-term nutrient removal (High)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AHA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-29C	1.7 0.69*	0.00	PSS1E1B	red maple silky dogwood jewelweed reed canary grass tussock sedge skunk cabbage	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex stricta</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; food chain support; groundwater discharge; long-term nutrient removal (High)
NC-30A	4.0 1.6*	0.11* 0.04*	PSS1E1C	elderberry silky dogwood southern arrowwood blue vervain jewelweed reed canary grass sedges sensitive fern skunk cabbage	<i>Sambucus canadensis</i> <i>Cornus amomum</i> <i>Viburnum dentatum</i> <i>Verbena hastata</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (High)
NC-30B	1.0 0.40*	0.01* 0.17*	PSS1E1C	elderberry silky dogwood sedges sensitive fern	<i>Sambucus canadensis</i> <i>Cornus amomum</i> <i>Carex spp.</i> <i>Onoclea sensibilis</i>	mapped as Hatboro silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment (High) trapping (s); flood desynchronization
NC-30C	1.2 0.48*	1.11* 0.45*	PSS1E	blackberry multiflora rose silky dogwood southern arrowwood goldenrod sedges sensitive fern	<i>Rubus spp.</i> <i>Rosa multiflora</i> <i>Cornus amomum</i> <i>Viburnum dentatum</i> <i>Solidago spp.</i> <i>Carex spp.</i> <i>Onoclea sensibilis</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (High)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-30D	1.2 0.48*	1.09* 0.44*	PSS1E	red maple silky dogwood southern arrowwood jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Viburnum dentatum</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; dissipation of erosive forces; groundwater discharge (High)
NC-31	0.34 0.14*	0.01* 0.004*	PEM/SS1C	red maple silky dogwood southern arrowwood reed canary grass tussock sedge	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Viburnum dentatum</i> <i>Phalaris arundinacea</i> <i>Carex stricta</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; flood desynchronization (Medium)
NC-32	0.02 0.008*	0.03 0.01*	PSS1B	southern arrowwood spicebush jewelweed skunk cabbage	<i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; inundation	wildlife habitat; groundwater discharge (Low)
NC-33	0.006 0.002*	0.00	PSS1B	spicebush skunk cabbage	<i>Lindera benzoin</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	saturation	wildlife habitat; (Low) ground-water discharge
NC-34	0.07 0.03*	0.00	PEM1E	broad-leaf meadow sweet Japanese honeysuckle grasses jewelweed skunk cabbage	<i>Spiraea latifolia</i> <i>Lonicera japonica</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; saturation; drainage patterns	wildlife habitat; sediment trapping (s); dissipation of erosive forces (Medium)
NC-35	0.005 0.002*	0.00	PEM1A	spicebush grasses lobelia moneywort	<i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Lobelia spp.</i> <i>Lysimachia nummularia</i>	mapped as Baile silt loam	inundation; saturation	wildlife habitat; active recreation (Low)

**Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)**

NO.**	TOTAL WETLAND HECTARES (ACREAGE)	WETLAND AIA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-36	0.24 0.10*	0.00	PEM1B	grasses sedges soft rush	<i>Gramineae spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i>	mapped as Glenville silt loam	inundation; saturation	groundwater discharge (Low)
NC-37A	0.11 0.04*	0.11 0.04*	PEM1B	southern arrowwood cinnamon fern grasses jewelweed sedges skunk cabbage	<i>Viburnum dentatum</i> <i>Osmunda cinnamomea</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
NC-37B	0.15 0.06*	0.15 0.06*	PSS1B	silky dogwood southern arrowwood grasses skunk cabbage	<i>Cornus amomum</i> <i>Viburnum dentatum</i> <i>Gramineae spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment (High) trapping (s); groundwater discharge
NC-37C	0.11 0.04*	0.11 0.04*	PEO1B	red maple rose southern arrowwood jewelweed sphagnum moss skunk cabbage	<i>Acer rubrum</i> <i>Rosa spp.</i> <i>Viburnum dentatum</i> <i>Impatiens spp.</i> <i>Sphagnum spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
NC-38	0.03 0.01*	0.00	PEM1B	grasses jewelweed	<i>Gramineae spp.</i> <i>Impatiens spp.</i>	mapped as Glenville silt loam	inundation; saturation	wildlife habitat; groundwater discharge (Low)
NC-39	0.03 0.01*	0.00	PEM1B	grasses sedges soft rush	<i>Gramineae spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i>	mapped as Glenville silt loam	inundation; saturation	wildlife habitat (Low)
NC-40	0.19 0.08*	0.00	PEM1B	arrow-leaved tearthumb spotted jewelweed soft rush willow herb	<i>Polygonum sagittatum</i> <i>Impatiens capensis</i> <i>Juncus effusus</i> <i>Epilobium spp.</i>	mapped as Baile silt loam	saturation	wildlife habitat; sediment trapping (Low)

Table IV-11
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR (ALT. 6)

NO.**	TOTAL WETLAND ★HECTARES (ACREAGE)	WETLAND ★HA (ACRES) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NC-41	0.29 0.12★	0.25★ 0.10★	PSS/EM1B	multiflora rose spicebush Allegheny blackberry jewelweed sensitive fern sedges skunk cabbage soft rush	<i>Rosa multiflora</i> <i>Lindera benzoin</i> <i>Rubus allegheniensis</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i> <i>Juncus effusus</i>	mapped as Baile silt loam	inundation; satur-ation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

Note: Nos. with ★ = hectares

Northern Corridor Alternate Wetlands

**Table IV-12
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR ALTERNATE (ALT. 4 MODIFIED)**

NO.**	TOTAL WETLAND HECTARES ACREAGE	WETLAND AIA (ACRE) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NCA-1	0.63 0.25*	0.64 0.26*	PEM2B	rose big-leaved arrowhead jewelweed peppermint rice cut-grass sedges	<i>Rosa spp.</i> <i>sagittaria latifolia</i> <i>Impatiens spp.</i> <i>Mentha piperita</i> <i>Leersia oryzoides</i> <i>Carex spp.</i>	Baile silt loam, listed as a hydric soil	inundation; saturation; and drainage patterns	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
NCA-2A	2.9 1.2*	2.05 0.83*	PEM1B	arrow-leaved tearthumb broad-leaved cattail grasses halberd-leaved tearthumb jewelweed	<i>Polygonum sagittatum</i> <i>Typha latifolia</i> <i>Gramineae spp.</i> <i>Polygonum arifolium</i> <i>Impatiens spp.</i>	mapped at Hatboro silt loam	inundation; saturation; and drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l); active recreation; nutrient retention removal (l) (High)
NCA-2B	0.34 0.14*	0.34 0.14*	PF01B	red maple southern arrowwood spicebush jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation; water marks; drift lines; sediment deposits; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient (High) retention/removal (l)
NCA-4B	Note: NCA-2B is located approximately 100' east of NCA-4A, beyond the study area limits							
NCA-5	0.02 0.008*	0.00	PF01B	tulip poplar spicebush false nettle jewelweed sedges skunk cabbage	<i>Liriodendron tulipifera</i> <i>Lindera benzoin</i> <i>Boehmeria cylindrica</i> <i>Impatiens spp.</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation; sediment deposits	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
NCA-6	0.04 0.02*	0.04 0.02*	PSS1B	spicebush grasses jewelweed sedges	<i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex spp.</i>	mapped as Glenville silt loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; (High) sediment trapping (s); groundwater discharge

**Table IV-12
WETLAND SUMMARY TABLE - NORTHERN CORRIDOR ALTERNATE (ALT. 4 MODIFIED)**

NO.**	TOTAL WETLAND HECTARES ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
NCA-7	0.54 0.22*	0.44 0.18*	PSS1B	southern arrowwood speckled alder spicebush jewelweed skunk cabbage	<i>Viburnum dentatum</i> <i>Alnus rugosa</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	saturation; sediment deposits; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient (High) retention/removal (l)
NCA-8A	0.28 0.11*	0.00	PF01B	red maple rose jewelweed reed canary grass skunk cabbage poison ivy violet	<i>Acer rubrum</i> <i>Rosa spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i> <i>Toxicodendron radicans</i> <i>Viola spp.</i>	Mt. Airy channery loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
NCA-8B	0.28 0.11*	0.00	PSS1B	red maple blackberry rose jewelweed reed canary grass skunk cabbage	<i>Acer rubrum</i> <i>Rubus spp.</i> <i>Rosa spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i>	Mt. Airy channery loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s) (High)
NCA-9	0.21 0.08*	0.13 0.05*	PEM2B	bittersweet nightshade grasses green bulrush jewelweed lurid sedge straw-color sedge spike rush	<i>Solanum dulcamara</i> <i>Gramineae spp.</i> <i>Scirpus atrovirens</i> <i>Impatiens spp.</i> <i>Carex lutida</i> <i>Cyperus strigosus</i> <i>Eleocharis spp.</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); nutrient retention/removal (l) (Medium)
NCA-10	0.31 0.12*	0.02 0.008*	PEM2B	big-leaved arrowhead boneset grasses sedges spike rush	<i>sagittaria latifolia</i> <i>Eupatorium perfoliatum</i> <i>Gramineae spp.</i> <i>Carex spp.</i> <i>Eleocharis spp.</i>	Baile silt loam, listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s) (Low)

Note: Nos with * hectares

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-1			PEM1B	arrow-leaved tearthumb broad-leaved cattail jewelweed reed canary grass sedges soft rush	<i>Polygonum sagittatum</i> <i>Typha latifolia</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Juncus effusus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l); flood desynchronization; groundwater discharge (High)
SC-2A	1.7 0.69*	2.14 0.87*	PEM1E	red maple jewelweed reed canary grass sedges	<i>Acer rubrum</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i>	mapped as Codorus silt loam	inundation; saturation; drift lines, sediment deposits	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
SC-2B	1.1 0.44*	0.00	PEM1E	red maple green ash grasses jewelweed reed canary grass skunk cabbage	<i>Acer rubrum</i> <i>Fraxinus pennsylvanica</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization; groundwater discharge (High)
SC-3	0.81 0.33*	0.70 0.28*	PEM1B	broad-leaved cattail grasses jewelweed reed canary grass sedges skunk cabbage	<i>Typha latifolia</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Symplocarpus foetidus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-4	2.6 1.0*	0.00	PEM1B	grasses jewelweed reed canary grass sedges soft rush	<i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Carex spp.</i> <i>Juncus effusus</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge; nutrient (Medium) retention/removal (l)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-5	0.15 0.06*	0.00	PEM2C	black willow broad-leaved cattail curly dock grasses rush stalk-grain sedge	<i>Salix nigra</i> <i>Typha latifolia</i> <i>Rumex crispus</i> <i>Gramineae spp.</i> <i>Juncus spp.</i> <i>Carex stipata</i>	mapped as Hatboro silt loam	inundation; saturation; drainage patterns	sediment trapping (s)(l); flood desynchronization (Medium)
SC-6	0.25 0.10*	0.00	PEM1C	reed canary grass	<i>Phalaris arundinacea</i>	mapped as Mt. Airy channery loam	saturation; drift lines	passive recreation; wildlife habitat; dissipation of erosive forces (Medium)
SC-7	0.03 0.01*	0.02 0.01*	PEM2B	jewelweed skunk cabbage	<i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Mt. Airy channery loam	saturation	dissipation of erosive forces; groundwater discharge (Low)
SC-8	0.08 0.03*	0.00	PEM1/SS1C	black willow green ash grasses jewelweed sedges	<i>Salix nigra</i> <i>Fraxinus pennsylvanica</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex spp.</i>	mapped as Mt. Airy channery loam	inundation; saturation; water marks; drift lines	passive recreation; sediment trapping (s); flood desynchronization; dissipation of erosive forces (Low)
SC-9	0.02 0.008*	0.02 0.008*	PEM1C	green ash grasses	<i>Fraxinus pennsylvanica</i> <i>Gramineae spp.</i>	mapped as Mt. Airy channery loam	saturation	passive recreation; sediment trapping (s)
SC-10	0.07 0.03*	0.07 0.03*	PEM1B	jewelweed reed canary grass	<i>Impatiens spp.</i> <i>Phalaris arundinacea</i>	mapped as Mt. Airy channery loam	inundation; saturation	sediment trapping (s); dissipation of erosive forces (Low)
SC-11	2.6 1.0*	0.46 0.19*	PEM1B	blue vervain broad-leaved cattail reed canary grass skunk cabbage sweetflag	<i>Verbena hastata</i> <i>Typha latifolia</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i> <i>Acornus calamus</i>	mapped as Codorus silt loam	inundation; saturation; water marks; drift lines; sediment deposits; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-12	0.32 0.13*	0.00	PI M2B	hemlock-parsley jewelweed reed canary grass skunk cabbage watercress	<i>Conioselinum chinense</i> <i>Impatiens spp.</i> <i>Phalaris arundinacea</i> <i>Symplocarpus foetidus</i> <i>Nasturtium officinale</i>	mapped as Codorus silt loam	inundation; saturation; drift lines; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); flood desynchronization (Medium)
SC-13	0.02 0.008*	0.02 0.008*	PI M1B	grasses jewelweed	<i>Gramineae spp.</i> <i>Impatiens spp.</i>	mapped as Glenville silt loam	inundation; saturation	sediment trapping (s); groundwater discharge; nutrient retention/ removal (l) (Medium)
SC-14	0.14 0.06*	0.00	PI M1B	grasses jewelweed sedges	<i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex spp.</i>	mapped as Mt. Airy channery loam	inundation; saturation	passive recreation; wildlife habitat; (Low) sediment trapping (s); groundwater discharge
SC-15	0.04 0.02*	0.00	PI M1B	grasses jewelweed tearthumb	<i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Polygonum spp.</i>	mapped as Mt. Airy channery loam	inundation; saturation	sediment trapping (s); groundwater discharge (Low)
SC-16A	4.0 1.6*	0.06 0.02*	PI O1B	red maple green ash southern arrowwood spicebush garlic mustard skunk cabbage	<i>Acer rubrum</i> <i>Fraxinus pennsylvanica</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Allaria officinalis</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
SC-16B	3.5 1.4*	0.00	PI O1B	black willow red maple American hop-hornbeam rose grasses jewelweed skunk cabbage	<i>Salix nigra</i> <i>Acer rubrum</i> <i>Carpinus caroliniana</i> <i>Rosa spp.</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AHA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-17	0.26 0.10*	0.26 0.10*	PEM1B	big-leaved arrowhead goldenrod grasses jewelweed soft rush stalk-grain sedge	<i>Sagittaria latifolia</i> <i>Solidago</i> spp. <i>Gramineae</i> spp. <i>Impatiens</i> spp. <i>Juncus effusus</i> <i>Carex stipata</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
SC-18	0.13 0.05*	0.00	PF01E	American hop-hornbeam green ash red maple spicehush jack-in-the-pulpit may apple skunk cabbage	<i>Carpinus caroliniana</i> <i>Fraxinus pennsylvanica</i> <i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Arisaema triphyllum</i> <i>Podophyllum peltatum</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam, listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment trapping (s) (High)
SC-19	1.3 0.53*	1.10 0.44*	PF01B	American beech red maple tulip poplar southern arrowwood spicebush blunt broom sedge grasses skunk cabbage stalk-grain sedge	<i>Fagus grandifolia</i> <i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Carex tribuloides</i> <i>Gramineae</i> spp. <i>Symplocarpus foetidus</i> <i>Carex stipata</i>	mapped as Hatboro silt loam	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
SC-20	1.3 0.53*	0.00	PEM/SS1B	red maple spicebush blunt broom sedge deer-tongue witchgrass goldenrod grasses jewelweed lurid sedge soft rush stalk-grain sedge	<i>Acer rubrum</i> <i>Lindera benzoin</i> <i>Carex tribuloides</i> <i>Panicum clandestinum</i> <i>Solidago</i> spp. <i>Gramineae</i> spp. <i>Impatiens</i> spp. <i>Carex lutida</i> <i>Juncus effusus</i> <i>Carex stipata</i>	Hatboro silt loam, listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment trapping (s); active recreation; groundwater discharge (High)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AHA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-21	0 11 0 04*	0 00	PEM2B	big-leaved arrowhead fringed sedge sofrush spike rush stalk-grain sedge	<i>sagittaria latifolia</i> <i>Carex crinita</i> <i>Juncus effusus</i> <i>Eleocharis spp.</i> <i>Carex stipata</i>	mapped as Glenville silt loam	inundation; saturation; drainage patterns	sediment trapping (s); flood desynchronization (Low)
SC-22	0 21 0 08*	0 00	PEM2B	arrow-leaved tearthumb fringed sedge pale jewelweed sofrush winter cress	<i>Polygonum sagittatum</i> <i>Carex crinita</i> <i>Impatiens pallida</i> <i>Juncus effusus</i> <i>Barbarea verna</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; (Medium) sediment trapping; flood desynchronization; groundwater discharge
SC-23	0 40 0 16*	0 00	PEM/SS1E	red maple elderberry southern arrowwood grasses jewelweed sofrush swamp chestnut oak white oak	<i>Acer rubrum</i> <i>Sambucus canadensis</i> <i>Viburnum dentatum</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Juncus effusus</i> <i>Quercus michauxii</i> <i>Quercus alba</i>	mapped as Baile silt loam	saturation	passive recreation; wildlife habitat; sediment trapping (s); flood desyn-chronization; dissipation of erosive forces (Medium)
SC-24	0 32 0 13*	0 00	PF01B	red maple southern arrowwood spicebush jewelweed skunk cabbage stalk-grain sedge	<i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i> <i>Carex stipata</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (Medium)
SC-25	0 27 0 11*	0 00	PSS1B	elderberry spicebush common greenbrier balberd-leaved tearthumb jewelweed skunk cabbage	<i>Sambucus canadensis</i> <i>Lindera benzoin</i> <i>Smilax rotundifolia</i> <i>Polygonum arifolium</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; dissipation of erosive forces; ground-water discharge (Medium)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-26	0.08 0.03*	0.00	PSS1B	blackberry jewelweed skunk cabbage	<i>Rubus spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; flood desynchron-ization (Low)
SC-27	0.09 0.04*	0.00	PF01E	red maple tulip poplar spicebush southern arrowwood jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Lindera benzoin</i> <i>Viburnum dentatum</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	oxidized root channels; water-stained leaves	passive recreation; wildlife habitat; sediment trapping (s) (High)
SC-28	0.38 0.15*	0.35 0.14*	PF01B	red maple elderberry spicebush grasses jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Sambucus canadensis</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Baile silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
SC-29	0.08 0.03*	0.00	PF01E	black willow red maple southern arrowwood spicebush jewelweed	<i>Salix nigra</i> <i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment (High) trapping (s); groundwater discharge
SC-30	0.37 0.15*	0.36 0.15*	PF01E	red maple southern arrowwood spicebush jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	oxidized root channels; water-stained leaves	passive recreation; wildlife habitat; sediment (High) trapping (s); groundwater discharge

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-31	0.08 0.03*	0.02 0.01*	PSS1B	Allegheny blackberry elderberry southern arrowwood spicebush jewelweed skunk cabbage	<i>Rubus allegheniensis</i> <i>Sambucus canadensis</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
SC-32	0.12 0.05*	0.00	PSS1E	Allegheny black berry southern arrowwood spicebush jewelweed skunk cabbage violet	<i>Rubus allegheniensis</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i> <i>Viola spp.</i>	mapped as Glenville silt loam	oxidized root channels; water-stained leaves	passive recreaion; wildlife habitat; sediment trapping (s) (High)
SC-33	0.17 0.07*	0.00	PF01E	red maple tulip poplar spicebush jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	saturation; sediment deposits	passive recreation; wildlife habitat; sediment trapping (s)(l) (High)
SC-34	0.30 0.12*	0.00	PF01E	red maple tulip poplar southern arrowwood spiccbush clearweed jack-in-the-pulpit jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Pilea pumila</i> <i>Arisaema triphyllum</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Glenville silt loam	sediment deposits	passive recreation; wildlife habitat; sediment trapping (s)(l); ground- water discharge (High)
SC-35	0.03 0.01*	0.00	PF01E	red maple tulip poplar southern arrowwood spicebush grasses jack-in-the-pulpit skunk cabbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Arisaema triphyllum</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam; listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment trapping (s) (High)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-36	0 06 0 02*	0 00	PEOIE	red maple tulip poplar southern arrowwood spicehush jack-in-the-pulpit skunk cahbage	<i>Acer rubrum</i> <i>Liriodendron tulipifera</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Arisaema triphyllum</i> <i>Symplocarpus foetidus</i>	Hatboro silt loam; listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
SC-37	0 007 0 003*	0 01 0 004*	PEMIE	arrow-leaved tearthumb clearweed grasses jewelweed	<i>Polygonum sagittatum</i> <i>Pilea pumila</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i>	Hatboro silt loam; listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment (Medium) trapping (s); groundwater discharge
SC-38	0 01 0 006*	0 01 0 004*	PEOIE	red maple skunk cahbage	<i>Acer rubrum</i> <i>Symplocarpus foetidus</i>	mapped as Haboro silt loam	saturation	passive recreation; wildlife habitat; sediment (High) trapping (s); groundwater discharge
SC-39A	0 55 0 22*	0 00	PEMIE	grasses	<i>Gramineae spp.</i>	mapped as Hatboro silt loam	not determined	not determined (High)
SC-39B	0 31 0 13*	0 00	PEMIE	grasses	<i>Gramineae spp.</i>	mapped as Hatboro silt loam	not determined	not determined (High)
SC-40	0 04 0 01*	0 04 0 02*	PEOIE	black cherry red maple sycamore spicehush poison ivy jewelweed	<i>Prunus serotina</i> <i>Acer rubrum</i> <i>Platanus occidentalis</i> <i>Lindera benzoin</i> <i>Toxicodendron radicans</i> <i>Impatiens spp.</i>	mapped as Hatboro silt loam	oxidized root channels; FAC neutral test	passive recreation; wildlife habitat; sediment trapping (s)/ nutrient retention removal (I) (High)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AHA (ACRE) WITHIN R.O.W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-41A	0.07 0.03*	0.07 0.03*	PEMIE	arrow-leaved tearthumb grasses jewelweed lurid sedge moneywort soft rush	<i>Polygonum sagittatum</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex lutida</i> <i>Lysimachia nummularia</i> <i>Juncus effusus</i>	mapped as Hatboro silt loam	saturation	passive recreation; wildlife habitat (Medium)
SC-41B	0.01 0.005*	0.01 0.004*	PFOIE	red maple elderberry spicebush jewelweed skunk cabbage	<i>Acer rubrum</i> <i>Sambucus canadensis</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	saturation; drift lines	passive recreation; wildlife habitat; sediment (High) trapping (s)(l); nutrient retention/removal (l)
SC-42A	0.73 0.30*	0.02 0.008*	PEMIE	grasses jewelweed lurid sedge skunk cabbage soft rush spike rush tussock sedge	<i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex lutida</i> <i>Symplocarpus foetidus</i> <i>Juncus effusus</i> <i>Eleocharis spp.</i> <i>Carex stricta</i>	Hatboro silt loam; listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s)(l); nutrient retention/removal (l) (High)
SC-42B	0.62 0.25*	0.02 0.008*	PFOIE	black cherry red maple sycamore rose spicebush grasses jewelweed skunk cabbage	<i>Prunus serotina</i> <i>Acer rubrum</i> <i>Platanus occidentalis</i> <i>Rosa spp.</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation; water marks; drift lines; sediment deposits; drainage patterns	passive recreation; wildlife habitat (Medium)

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-43	0 18 0 07*	0 00	PEM1E	arrow-leaved tearthumb fox sedge grasses jewelweed lurid sedge softrush spike rush	<i>Polygonum sagittatum</i> <i>Carex vulpinoidea</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex lutida</i> <i>Juncus effusus</i> <i>Eleocharis spp.</i>	mapped as Hatboro silt loam	oxidized root channels; FAC - neutral test	passive recreation; wildlife habitat; groundwater discharge (Medium)
SC-44	0 003 0 01*	0 03 0 01*	PEM1B	bur-reed fringed sedge grasses jewelweed lurid sedge softrush stalk-grain sedge	<i>Sparganium spp.</i> <i>Carex crinita</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex lutida</i> <i>Juncus effusus</i> <i>Carex stipata</i>	Hatboro silt loam; listed as a hydric soil	inundation; saturation; sediment deposits	passive recreation; wildlife habitat; sediment trapping (s)(l) (Medium)
SC-45A	0 03 0 01*	0 03 0 01*	PEM1B	big-leaved arrowhead boneset fox sedge grasses jewelweed skunk cabbage	<i>sagittaria latifolia</i> <i>Eupatorium perfoliatum</i> <i>Carex vulpinoidea</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation; sediment deposits	passive recreation; wildlife habitat; sediment trapping (s) (Medium)
SC-45B	0 28 0 11*	0 28 0 11*	PSS1B	Allegheny black berry elderberry rose southern arrowwood grasses jewelweed skunk cabbage	<i>Rubus allegheniensis</i> <i>Sambucus canadensis</i> <i>Rosa spp.</i> <i>Viburnum dentatum</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s) (Medium)

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**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND HECTARE ACREAGE	WETLAND AIA (ACRF) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-46	0.39 0.16*	0.00	PEM1B	black willow silky dogwood grasses jewelweed sensitive fern skunk cabbage tussock sedge	<i>Salix nigra</i> <i>Cornus amomum</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i> <i>Carex stricta</i>	Hatboro silt loam; listed as a hydric soil	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); nutrient retention/removal (I) (High)
SC-47	0.62 0.25*	0.00	PEM1B	poison ivy boneset goldenrod grasses jewelweed sensitive fern soft rush sweetflag	<i>Toxicodendron radicans</i> <i>Eupatorium perfoliatum</i> <i>Solidago spp.</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Juncus effusus</i> <i>Acornus calamus</i>	Hatboro silt loam; listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-48	0.23 0.09*	0.00	PEM1E	grasses jewelweed sedges soft rush stalk-grain sedge	<i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Carex spp.</i> <i>Juncus effusus</i> <i>Carex stipata</i>	mapped as Hatboro silt loam	drift lines	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-49	0.36 0.15*	0.36 0.14*	PEM1E	multiflora rose fox sedge jewelweed sensitive fern soft rush skunk cabbage tussock sedge	<i>Rosa multiflora</i> <i>Carex vulpinoidea</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Juncus effusus</i> <i>Symplocarpus foetidus</i> <i>Carex stricta</i>	Hatboro silt loam; listed as a hydric soil	saturation	passive recreation; wildlife habitat; sediment trapping (s) (Low)
SC-50A	0.48 0.19*	0.00	PEM1B	grasses sensitive fern skunk cabbage tussock sedge	<i>Gramineae spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i> <i>Carex stricta</i>	Hatboro silt loam; listed as a hydric soil	inundation; saturation; drainage patterns	passive recreation; wildlife habitat; sediment (Medium) trapping (s); groundwater discharge

**Table IV-13
WETLAND SUMMARY TABLE - SOUTHERN CORRIDOR ALTERNATE (ALT. 10A)**

NO.**	TOTAL WETLAND *HECTARE ACREAGE	WETLAND *HA (ACRE) WITHIN R-O-W	COWARDIN CLASSIFICATION SYSTEM	DOMINANT VEGETATION		SOIL SERIES	HYDROLOGY INDICATORS	FUNCTIONAL VALUES
				COMMON NAME	SCIENTIFIC NAME			
SC-50B	1.3 0.53*	0.11 0.04*	PFO1B	red maple southern arrowwood spicebush grasses jewelweed sensitive fern skunk cabbage tussock sedge	<i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Gramineae spp.</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i> <i>Carex stricta</i>	Hatboro silt loam; listed as a hydric soil	inundation; saturation; drift lines	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)
SC-51	0.29 0.12*	0.00	PFO1B	green ash red maple southern arrowwood spicebush jewelweed sensitive fern skunk cabbage	<i>Fraxinus pennsylvanica</i> <i>Acer rubrum</i> <i>Viburnum dentatum</i> <i>Lindera benzoin</i> <i>Impatiens spp.</i> <i>Onoclea sensibilis</i> <i>Symplocarpus foetidus</i>	mapped as Hatboro silt loam	inundation; saturation	passive recreation; wildlife habitat; sediment trapping (s); groundwater discharge (High)

Note: Nos. with * = hectares

Avoidance and minimization summary for wetlands impacted is as follows:

Alternate 3B-Existing Corridor (EC)-Mainline Improvements provides worst case impact for the Alternates on the existing roadway.

The TSM Altrmate, Alternate 2 and 3A would not impact any wetlands.

Wetland EC-11 As a result of the wetland field reviews with the Environmental Resource Agencies made up of the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Department of Natural Resources it was decided that it would be more advantageous to avoid the stream feeding this wetland than to avoid the wetland itself. A shift to the south to minimize this stream impact would increase impacts to wetland EC-11. The complete avoidance to this wetland would require eliminating any ramp modification at MD 27 and MD 140.

Alternate 6-Northern Corridor (NC)

Wetland NC-1 Avoidance of this wetland may be achieved by reducing the 7.62 meters (25 feet) of backing between the edge of roadway and the proposed right-of-way line.

Wetland NC-5 A shift to the north to avoid wetland NC-5 would impact wetland NC-4, NC-6 and cause additional impact to wooded areas. A southern shift in the alignment to avoid this wetland may be accomplished by increadingy the length of curve.

Wetland NC-8 Shifting the alignment to the north would not be feasible because the stream associated with the wetland extends beyond the project study area and a northern shift would impact the National Register Eligible Fritz Farm.

Wetland NC-10A & Wetland NC-10B

NC 10A & NC 10B- Due to the proximity of each wetland to one another, avoidance of both wetlands may be accomplished with a bridge approximately 1219.2 meters long (400 feet) at a cost of \$1,400,000.

As requested by COE in their December 14, 1993 letter, a southerly shift in the alignment at this location to minimize impacts to the wetter, palustrine, emergent portion of the wetland, was developed. This shift in the Master Plan alignment would reduce the wetland impacts by 0.3 hectare (0.85 acre). It would result in the relocation of approximately 5 or 6 additional homes near Lucabaugh Mill Road. At the same time, three residential relocations required under the original alignment would not be necessary under this option (Figure IV-1).

Wetland NC-14 & Wetland NC-15

NC 14 & NC 15 - Due to the proximity of each wetland to one another, avoidance of both wetlands may be accomplished with a bridge approximately 1524 meters long (500 feet) which would span the floodplain at a cost of \$5,600,000.

Wetland NC-18 & Wetland NC-19

NC 18 & NC 19- Avoidance of these wetlands may be accomplished with a bridge approximately 64 meters long (210 feet) at a cost of \$2.6 million.

Wetland NC-24 NC 24- To avoid impacts to this wetland, dual bridges approximately 112.77 meters long (370 feet) with a cost of approximately \$4.6 million would be required.

Wetland NC-29A & Wetland NC-29B

NC 29A & NC 29B- Avoidance of these wetlands has lead to an alignment shift to the west which resulted in a modification of original Alternate 6. A 100 58 meters long bridge over the West Branch and the Maryland Midland Road at a cost of 3 7 million is proposed at this location to avoid these wetlands. the bridge would have to be extended another 243 84 meters (80 feet). This additional cost would total approximately 10 million.

Wetland NC-30A, Wetland NC-30B, Wetland NC-30C, & Wetland NC-30D

NC 30A, B, C and D- The alignment shift which avoids NC 29A & B also avoids these wetlands.

In their December 14, 1993 letter COE stated that the crossing of these high quality wetlands NC-29 A, B, C, D and NC-30 A, B, C, D by Alternate 6 was not acceptable and that we make every effort to avoid impacts to these wetlands. A southerly shift in the alignment was considered. The two National Register Eligible historic sites, Tannery Historic District and the Distillery Master's House, situated on either side of these wetlands make it difficult to come up with a reasonable alternate other than Alternate 4 Modified. In fact, the major reason for developing Alternate 4 Modified was the concerns agencies expressed regarding the Alternate 6 crossing at this location.

Wetland NC-31, NC 31- Avoidance of this wetland may be achieved by reducing the 7.62 meters (25 feet) of backing between the edge of roadway and the proposed right-of-way line.

Wetland NC-32, NC 32- Avoidance to this wetland would require extending the bridge for a total length of 102.11 meters (335 feet) at a cost of \$4.2 million.

Wetland NC-37A, Wetland NC-37B & Wetland NC-37C

NC 37A, B, and C- Impacts to these wetland may be avoided with retaining walls and by varying the slopes.

Wetland NC-41

To avoid impacts to this wetland, the ramps must be shifted further east which would result in impacting wetland EC 18. A bridge at this location approximately 45.72 meters (140 feet) long costing 1.86 million would be required to avoid impacts to NC 41.

Alternate 4-Modified-Northern Corridor Alternate (NCA)

Wetland NCA-2A & Wetland NCA-2B

NCA 2A & 2B- Dual bridges approximately 173.74 meters in length (570 feet) at a cost of \$7.0 million are proposed at this location. The wetland system may be avoided by extending the proposed structures another 115.8 meters (380 feet) at an additional cost of 5.0 million.

A westerly shift in the alignment as suggested by the agencies was developed. This shift would completely avoid the wetlands, however, it would result in three additional relocations (Figure IV-2).

Wetland NCA-6

NCA 6- A southern shift of the alignment to avoid wetland NCA 6 would impact wetland NCA 7. A northern shift of the alignment to avoid this wetland increase impacts to floodplains by approximately .40 hectare.

Wetland NCA-7

NCA 7- A shift to the east of approximately 60.96 meters (200 feet) to avoid this wetland would require taking a farm.

Wetland NCA-9

NCA 9- An alignment shift to the east to avoid this wetland would impact NCA 10, 40 41 and EC 18 along with increasing the impact to archeological site 18 CR 224.

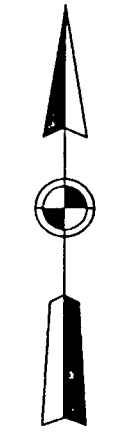
Wetland NCA-10

NCA 10- Avoidance of this wetland could be achieved with a retaining wall approximately 27.43 meters long (90 feet) and 6.09 meters high (20 feet) at a cost of \$ \$80,000.

Alternate 10A Southern Corridor(SC)

Wetland SC-1, SC-2 and Wetland SC-3

SC-1, SC 2A- Avoidance of this wetland may be possible by extending



SITE #21
WINDY HILLS
CARR 107
N.R.E.

SITE #15
TOWNEY FARMSTEAD
CARR 755

SITE #19
STONER HOUSE
CARR 746

ESSIG HOUSE
CARR 745
SITE #22

SITE #20
LESTER HOUSE
CARR 744

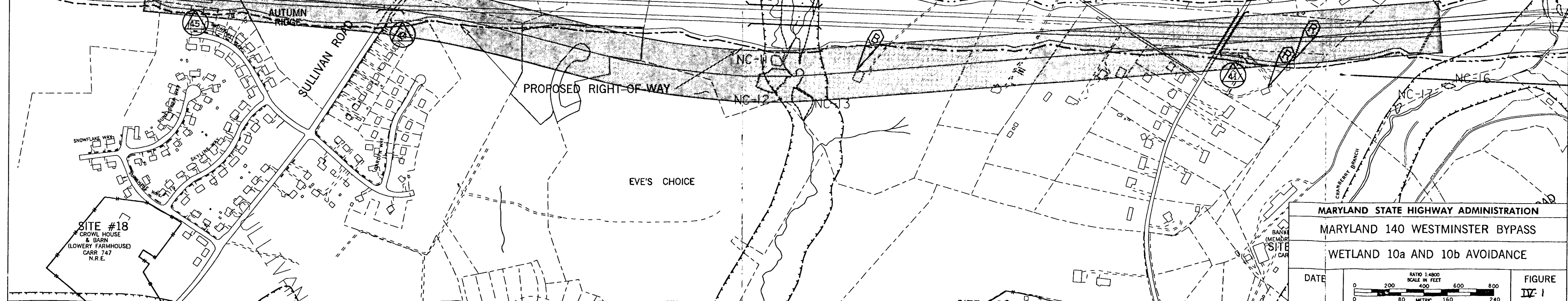
SITE #18
CROWL HOUSE & BARN
(LOWERY FARMHOUSE)
CARR 747
N.R.E.

ALTERNATE 4 MODIFIED AND ALTERNATE 6

PROPOSED RIGHT-OF-WAY

PROPOSED RIGHT-OF-WAY

EVE'S CHOICE



MARYLAND STATE HIGHWAY ADMINISTRATION	
MARYLAND 140 WESTMINSTER BYPASS	
WETLAND 10a AND 10b AVOIDANCE	
DATE	FIGURE IV-1
RATIO 1:4800 SCALE IN FEET 0 200 400 600 800 0 80 METRIC 160 240	

bridge approximately 92.96 meters (305 feet) at a total cost of \$3.8 million. A bridge approximately 173 meters (350 feet) in length costing approximately 4.3 million is proposed over Big Pipe Creek at this location. To avoid wetland impacts this bridge must be extended another 92.96 meters (305 feet) which would increase cost approximately 3.8 million.

SC 3- Avoidance of this wetland may be possible by extending the bridge approximately 92.96 meters (305 feet) at a total cost of \$3.8 million.

Wetland SC-9

SC 9- This wetland may be avoided with a retaining wall approximately 12.19 meters long (40 feet) and 1.82 meters (6 feet high) at a cost of \$8,100.

Wetland SC-10

SC 10- Avoidance of this wetland may be realized by shifting the alignment to the west or using a retaining wall approximately 76.2 meters long (250 feet) and 7.92 meters high (26 feet) at a cost of \$435,000.

Wetland SC-11

At this location, a bridge over Little Pike Creek and the Maryland Midland Railroad is proposed. The length and cost of this bridge is 137.16 meters (450 feet) and 5.6 million respectively. Extending the bridge another 45.72 meters (150 feet) would avoid wetland impacts and cost an additional 1.9 million.

SC 11- This wetland may be avoided with a bridge approximately 182.88 meters long (600 feet) and at a cost of \$7.5 million.

Wetland SC-13

SC 13- An alignment shift to the east would avoid this site, however this would impact wetland SC 8.

Wetland SC-16A & Wetland SC-17

SC 16A and SC 17- Avoidance of both wetlands is possible with a bridge 91.44 meters long (300 feet) at a cost of \$3.7 million.

Wetland SC-19

SC 19- Avoidance of this wetland may be accomplished with dual bridges, one 140.2 meters in length (460 feet) costing \$5.8 million and one 137.16 meters in length (450 feet) costing \$5.6 million.

Wetland SC-28, Wetland SC-30 & Wetland SC-31

SC 28, 30 and 31- These wetlands may be avoided with a retaining walls. The first wall would be 18.29 meters long (6 feet) and 4.27 meters (14 feet high) and cost approximately \$46,500. The second wall would be 24.38 meters long (80 feet) and 4.27 meters high (14 feet) and cost approximately \$62,500. The third wall would be 100 feet long (30.48 meters) and 13 feet high (3.96 meters) and cost approximately \$72,500.

Wetland SC-37 & Wetland SC-38

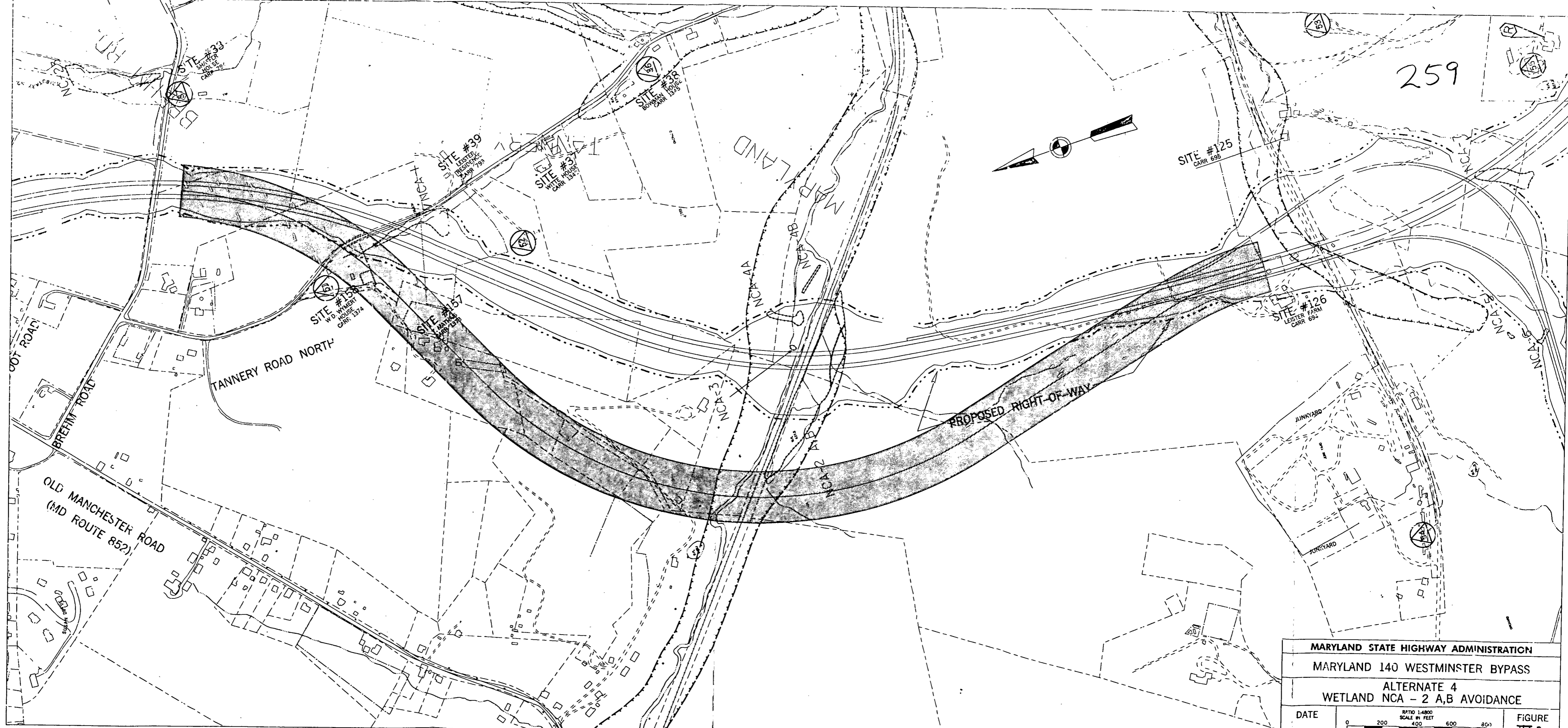
SC 37 and 38- A shift to the west to avoid these wetlands would impact wetland SC 39A. A shift to the east would impact wetlands SC 39B, 40, 41A & B, 42A & B and SC 43.

Wetland SC-40

SC 40- A shift to the northeast would cause impacts to SC 39A, the Lyman Arnold House Maryland Inventory Historic Site, increase floodplain impacts associated with Middle Run, impact the YMCA and cause residential impacts in the Smallwood Acres Subdivision.

Wetland SC-41A, Wetland SC-41B, Wetland SC-42A & Wetland SC-42B

SC 37, 40, 41A & B and SC 42A & B- An alignment shift to the southeast to avoid these wetlands would cause impacts to Sharon Oaks residential subdivision. Further, this shift would impact wetlands SC 46 and SC 47 and eliminate SC 45A & B if these areas are not bridged.



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MARYLAND STATE HIGHWAY ADMINISTRATION		
MARYLAND 140 WESTMINSTER BYPASS		
ALTERNATE 4		
WETLAND NCA - 2 A,B AVOIDANCE		
DATE	RATIO 1:400 SCALE IN FEET 0 200 400 600 800 0 80 METRIC 160 240	FIGURE IV.2

Wetland SC-44

SC 44- A southeast shift of the alignment to avoid this wetland would impact Sharon Oaks and Smallwood Acres Residential Subdivisions, impact the Arnold Gorsuch House, Maryland Inventory Historic Site, and impact wetlands SC 45A & B, SC 46 & 47 if this area is not bridged.

Wetland SC-45A, Wetland SC-45B & Wetland SC-49

A bridge approximately 114.82 meters (380 feet) costing 4.33 million is proposed at the Beaver Run Crossing. To avoid impacts to these wetlands the bridge must be extended 129.84 meters (426 feet) at an additional cost of 5.27 million.

Wetland SC-50B

SC 50B - An alignment shift to the east or possibly a retaining wall may eliminate these impacts.

5. Effects on Terrestrial and Aquatic Habitats

The primary impact to the terrestrial environment would be the conversion of farmland/pasture, forested, old field, and scrub-shrub habitat types to man-dominated habitat (transportation use). The total and individual effected habitat hextares (acreages) contained within the project area right-of-way were calculated (Table IV-14).

Table IV-14				
Terrestrial Habitat	Alternates 2, 3A, 3B and TSM	Alternate 6	Alternate 4 Modified	Alternate 10A
Farmland/Pasture	7.97 (19.7)	88.75 (219.6)	93.32 (230.6)	93.08 (230.0)
Man-dominated Land	0	22.14 (54.7)	20.72 (51.2)	36.67 (90.6)
Deciduous Forest	2.63 (6.5)	40.87 (101.0)	37.35 (92.3)	53.83 (133.0)
Scrub Shrub	1.7 (4.2)	12.22 (30.2)	9.23 (22.8)	6.35 (15.7)
Old Field	0.5 (1.2)	15.99 (39.5)	17.04 (42.1)	14.73 (36.4)
TOTAL	10.8 (26.7)	180.09 (445.0)	177.66 (439.0)	207.89 (513.7)

*Note: Man-dominated land has not been assessed for the Existing roadway alternatives due to the developed nature of Existing Route 140.

Aquatic organisms would be impacted by the proposed construction. With Alternate 3B, streams would be impacted over the short-term by soil erosion and sedimentation. More substantial effects are likely to occur using an alternate other than Alternate 3B.

Stream crossings have the potential to cause constriction of flow at each location. This constriction causes an increase of velocity in the vicinity of the restriction. Increases stream velocity promotes stream erosion which may create scour and unstable stream banks. Increase in sediment discharge from eroded areas and solids from highway runoff can be transported downstream to biologically sensitive areas and result in changes in macroinvertebrates composition. Conversely, removing surrounding pastureland along streams within the study area can result in a decrease of a sediment material transported into the stream.

Loss of stream riffle areas will remove important habitat for fish species such as darters, sculpins, and trout. As recognized during the fisheries survey, the primary habitat for the darters and sculpins are the riffle areas. These area also have a potential as spawning areas for trout.

6. Effects on Threatened or Endangered Species

Correspondence with the U.S. Fish and Wildlife Service, indicates there are no known population of federally listed threatened or endangered species along the study corridor to be impacted by any of the build alternates.

D. Air Quality Impacts

1. Analysis Objectives, Methodology and Results

The objective of the air quality analysis is to compare the carbon monoxide (CO) concentration estimated to result from traffic configurations and volumes of each alternative with the State and National Ambient Air Quality Standards (S/NAAQS). The NAAQS and SAAQS are identical for CO: 35 PPM (parts per million) for the maximum one-hour period and 9 PPM for the maximum consecutive eight-hour period.

A microscale CO pollution diffusion analysis was conducted using the third generation California Line Source Dispersion Model, CALINE 3QHC. This microscale analysis consisted of projections of one-hour and eight-hour CO concentrations at sensitive receptor sites under worst-case meteorological conditions for the No-Build (Alternate 1) and the build alternatives T.S.M. Alternate, 2, 3A, 3B, 4 Modified, 6, and Alternate 10A for the design year (2015) and the year 1995.

a. Analysis Inputs

A summary of analysis inputs is given below. More detailed information concerning these inputs is contained in the MD 140 Westminster Bypass Air Quality Analysis which is available for review at the Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Background CO Concentrations

In order to calculate the total concentration of CO which occurs at a particular receptor site during worst-case meteorological conditions, the background CO concentrations are considered in addition to the levels directly attributable to the facility under consideration

The background levels were taken from on-site monitoring

conducted by the Maryland Air Management Administration at their Essex Monitoring Site during the year 1992. The resulting background concentration are as follows:

Background CO, PPM

	<u>One-Hour</u>	<u>Eight-Hour</u>
1995	6.1	5.2
2015	6.1	5.2

Traffic Data, Emission Factors and Speeds

The appropriate traffic data were utilized as supplied by the Traffic Forecasting Section (October 1993) of this Administration.

The composite emission factors used in the analysis were derived from the Environmental Protection Agency (EPA) Compilation of Air Pollutant Emission Factors: Highway Mobile Sources and were calculated using the EPA MOBILE 5A computer program. An ambient air temperature of 20°F was assumed in calculating the emission factors for the one-hour and 35°F was used for the eight-hour analysis in order to approximate worst-case results for each analysis case.

Average vehicle operating speeds used in calculating emission factors were based on the capacity of each roadway link considered, the applicable speed limit and external influences on speed through the link from immediately adjacent links. Average operating speeds ranged from 40.23 km per hour to 88.51 km per hour (25 miles per hour to 55 miles per hour) depending upon the roadways and alternative under consideration.

Meteorological Data

Worst-case meteorological conditions of one meter/second for wind speed and atmospheric stability Class F were assumed for the one-hour

analysis and a combination of one meter/second and two meters/second for wind speed and atmospheric stability Classes D and F were used for the eight-hour calculations.

The wind directions utilized as part of the analysis were rotated to maximize CO concentrations at each receptor location. Wind directions varied for each receptor and were selected through a systematic scan of CO concentrations associated with different wind angles.

b. Receptor Site Descriptions

Site selection of sensitive receptors were made on the basis of proximity to the roadway, type of adjacent land use and changes in traffic patterns on the roadway network. Fifty-seven receptor sites were chosen for this analysis consisting of 41 residences, five historic sites, five right-of-way sites, three farms, one church, a community pond and a private club building (see Section III Table III-). The receptor site locations were verified during study area visits by the analysis team in August, 1993. The receptor sites are shown on alternate maps provided for this document.

c. Results of Microscale Analysis

The results of calculations of CO concentrations at each of the sensitive receptors for the No-Build and Build Alternates are shown on Tables IV-13 through IV-20. The values shown consist of predicted CO concentration attributable to traffic on various roadway links plus projected background levels. A comparison of the values in these tables with the S/NAAQS shows that no violations would occur for the No-Build or Build Alternatives in 1995 or 2015 for the one-hour or eight-hour concentrations of CO.

Projected CO concentrations vary between alternatives depending on receptor locations as a function of the roadway locations and traffic patterns associated with each alternate. The projected CO concentrations

also vary between 1995 and the design year 2015.

As shown in Tables IV-13 through IV-20, projected CO concentrations generally increase between 1995 and the design year 2015 while projected CO concentrations for individual alternatives do not vary substantially.

2. Construction Impacts

The construction phase of the proposed project has the potential of impacting the ambient air quality through such means as fugitive dust from grading operations and materials handling. This Administration has addressed this possibility by establishing Specifications for Construction and Materials procedures that are to be followed by contractors involved in state work.

The Maryland Air Management Administration was consulted to determine the adequacy of the specifications in terms of satisfying the requirements of the Regulations Governing the Control of Air Pollution in the State of Maryland. The Maryland Air Management Administration found the specifications are consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 10.18.06.03D) would be undertaken to minimize the impact on the air quality of the area.

3. Conformity with Regional Air Quality Planning

This project is located within the Metropolitan Baltimore Intrastate Air Quality Control Region. This project is in an air quality nonattainment area which has transportation control measures in the State Implementation Plan (SIP).

The project conforms with the SIP as it originates from the conforming transportation improvement program.

TABLE IV-15
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	EXISTING ALIGNMENT ALTERNATES			
			T.S.M.	2	3A	3B
1	Residence, Brown Road	7.8	7.9	7.9	8.0	8.0
2	Residence, Gorsuch Road	9.3	8.9	8.9	9.0	8.9
3	Residence, Monterey Drive	10.2	10.3	10.3	10.1	10.2
4	Residence, Schaffer Avenue	8.3	8.1	8.1	7.9	8.1
5	Westminster Community Pond	10.9	10.6	10.6	10.3	10.1
6	Residence, Pennsylvania Avenue	9.5	9.3	9.3	9.3	9.2
7	Residence, College View Boulevard	9.7	9.3	9.3	9.2	9.3
8	Residence, Littlestown Pike	9.2	9.0	9.0	8.9	8.9
9	Residence, Pennsylvania Avenue	8.5	8.4	8.4	8.4	8.4
10	Fichorn House (II), Main Street	7.7	7.7	7.7	7.7	7.7
11	Bonsack Farm (II), Taneytown Pike	6.9	6.8	6.8	6.8	6.8
12	MD 140 Right of Way	7.9	7.9	7.9	7.9	7.9
13	Meadow Branch Church	7.2	7.2	7.2	7.2	7.2
14	Roop's Mill (II), Taneytown Pike	7.4	7.4	7.4	7.4	7.4
15	Meadow Brook Farm (II), Taneytown Pike	6.6	6.6	6.6	6.6	6.6
16	David Roop House (II), Taneytown Pike	7.4	7.4	7.4	7.4	7.4
17	Elizabeth Lowery House, Old Hughes Shop Road	6.8	6.7	6.7	6.7	6.7

SNAAQS: 1 Hour = 35 ppm

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TABLE IV-15
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
16	David Roop House (II), Taneytown Pike	7.4	NA	NA	6.3
17	Elizabeth Lowery House, Old Hughes Shop Road	6.8	NA	NA	6.5
18	Residence, Westminster Pike	6.9	NA	NA	6.8
19	Residence, Old Westminster Pike	6.9	NA	NA	6.4
20	Residence, Arnold Road	6.1	NA	NA	6.3
21	Alternate 10A, Sta. 415 + 50, 285' Rt.	6.1	NA	NA	6.3
22	Residence, Grove Road	6.2	NA	NA	6.3
23	Residence, Washington Road (MD 854)	6.4	NA	NA	6.2
24	Residence, Kate Wagner Road	6.1	NA	NA	6.2
25	Residence, Ridge Road (MD 27)	6.3	NA	NA	6.1
26	Residence, Tenby Farm Road	6.1	NA	NA	6.2
27	Residence, Stone Chapel Road	6.4	NA	NA	6.1
28	Residence, Bell Road	6.1	NA	NA	6.1
29	Residence, Glenbrook Drive	6.1	NA	NA	6.1
30	Residence, Glenbrook Court	6.1	NA	NA	6.1
31	Residence, Old Westminster Pike	7.0	NA	6.7	NA
32	Alternate 6, Sta. 396 + 30, 450' Lt.	6.1	NA	6.2	NA
33	Alternate 6, Sta. 386 + 50, 660' Rt.	6.1	NA	6.2	NA

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TABLE IV-15
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
34	Residence, Gorsuch Road	6.3	NA	6.2	NA
35	Residence, Tannery Road	6.1	NA	6.1	NA
36	Residence, Tannery Road	6.1	NA	6.4	NA
37	Residence, Brehm Road	6.1	NA	6.2	NA
38	Residence, Lynnhaven Drive	6.1	NA	6.3	NA
39	Residence, Old Manchester Road	6.1	NA	6.4	NA
40	Residence, Gable Drive	6.3	NA	6.4	NA
41	Residence, Sullivan Road	6.1	NA	6.2	NA
42	Residence, Sullivan Road	6.3	NA	6.2	NA
43	Windy Hills, Sullivan Road (Opp. No. 42)	7.1	NA	6.6	NA
44	Residence, Sullivan Road	6.5	NA	6.4	NA
45	Residence, Snowfall Way	6.2	NA	6.4	NA
46	Residence, Kriders Church Road	6.1	NA	6.1	NA
47	Stonet Farm, Meadow Branch Road	6.1	NA	6.1	NA
48	Reese Farm, Meadow Branch Road	6.1	NA	6.1	NA
49	Meadowbrook Farm, MD 140 @ Hughes Shop Road	6.3	NA	6.1	NA
50	Residence, Yorkshire Way	6.3	NA	6.1	NA
51	Residence, Tannery Road	6.1	6.3	NA	NA

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TABLE IV-15
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
52	Residence, Tannery Road	6.1	6.4	NA	NA
53	Residence, Gorsuch Road	6.7	6.4	NA	NA
54	Westminster Rifle and Gun Club, Gorsuch Road	6.4	6.4	NA	NA
55	Residence, Leidy Road	6.1	6.2	NA	NA
56	Residence, Hemlock Lane	6.3	6.7	NA	NA
57	Residence, MD 140 @ Arnold Road	8.1	7.5	NA	NA

S/NAAQS: 1 HOUR = 35 ppm NA: NOT APPLICABLE

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TABLE IV-16
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 EIGHT-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO BUILD	EXISTING ALIGNMENT ALTERNATES			
			T.S.M.	2	3A	3B
1	Residence, Brown Road	5.8	5.8	5.8	5.8	5.8
2	Residence, Gorsuch Road	6.3	6.3	6.3	6.3	6.3
3	Residence, Monterey Drive	6.5	6.5	6.5	6.5	6.6
4	Residence, Schaffer Avenue	5.9	5.9	5.9	5.9	5.9
5	Westminster Community Pond	6.7	6.7	6.7	6.6	6.6
6	Residence, Pennsylvania Avenue	6.2	6.2	6.2	6.2	6.3
7	Residence, College View Boulevard	6.5	6.5	6.5	6.5	6.5
8	Residence, Littlestown Pike	6.0	6.0	6.0	5.9	5.9
9	Residence, Pennsylvania Avenue	6.3	6.3	6.3	6.3	6.3
10	Fichorn House (H), Mam Street	6.5	6.5	6.5	6.5	6.6
11	Bonsack Farm (H), Taneytown Pike	5.6	5.6	5.6	5.6	5.6
12	MD 140 Right of Way	6.4	6.4	6.4	6.4	6.4
13	Meadow Branch Church	5.9	5.9	5.9	5.9	5.9
14	Roop's Mill (H), Taneytown Pike	5.8	5.8	5.8	5.8	5.8
15	Meadow Brook Farm (H), Taneytown Pike	5.5	5.5	5.5	5.5	5.5
16	David Roop House (H), Taneytown Pike	5.7	5.7	5.7	5.7	5.7
17	Elizabeth Lowery House, Old Hughes Shop Road	5.5	5.5	5.5	5.5	5.5

S\NAAQS: 8 HOUR = 9 ppm

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TABLE IV-17
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 EIGHT-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
16	David Roop House (H), Taneytown Pike	5.7	NA	NA	5.4
17	Elizabeth Lowery House, Old Hughes Shop Road	5.5	NA	NA	5.6
18	Residence, Westminster Pike	6.0	NA	NA	5.5
19	Residence, Old Westminster Pike	5.9	NA	NA	5.4
20	Residence, Arnold Road	5.2	NA	NA	5.3
21	Alternate 10A, Sta. 415 + 50, 285' Rt.	5.2	NA	NA	5.3
22	Residence, Grove Road	5.2	NA	NA	5.3
23	Residence, Washington Road (MD 854)	5.3	NA	NA	5.3
24	Residence, Kate Wagner Road	5.2	NA	NA	5.3
25	Residence, Ridge Road (MD 27)	5.3	NA	NA	5.2
26	Residence, Lenby Farm Road	5.2	NA	NA	5.2
27	Residence, Stone Chapel Road	5.4	NA	NA	5.2
28	Residence, Bell Road	5.2	NA	NA	5.3
29	Residence, Glenbrook Drive	5.2	NA	NA	5.2
30	Residence, Glenbrook Court	5.2	NA	NA	5.2
31	Residence, Old Westminster Pike	6.0	NA	5.4	NA
32	Alternate 6, 396 + 30, 450' Lt	5.2	NA	5.3	NA

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TABLE IV-17
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 EIGHT-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
33	Alternate 6, 386 + 50, 660' Rt.	5.2	NA	5.2	NA
34	Residence, Gorsuch Road	5.3	NA	5.2	NA
35	Residence, Tannery Road	5.2	NA	5.2	NA
36	Residence, Tannery Road	5.2	NA	5.4	NA
37	Residence, Brehm Road	5.2	NA	5.3	NA
38	Residence, Lynnhaven Drive	5.2	NA	5.2	NA
39	Residence, Old Manchester Road	5.2	NA	5.2	NA
40	Residence, Gable Drive	5.3	NA	5.3	NA
41	Residence, Sullivan Road	5.2	NA	5.4	NA
42	Residence, Sullivan Road	5.2	NA	5.3	NA
43	Windy Hills, Sullivan Road (Opp. No. 42)	5.5	NA	5.3	NA
44	Residence, Sullivan Road	5.3	NA	5.4	NA
45	Residence, Snowfall Way	5.2	NA	5.4	NA
46	Residence, Kinder's Church Road	5.2	NA	5.2	NA
47	Stoner Farm, Meadow Branch Road	5.2	NA	5.2	NA
48	Reese Farm, Meadow Branch Road	5.2	NA	5.2	NA
49	Meadowbrook Farm, MD 140 @ Hughes Shop Road	5.3	NA	5.3	NA

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TABLE IV-17
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
1995 EIGHT-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
50	Residence, Yorkshire Way	5.3	NA	5.2	NA
51	Residence, Tannery Road	5.2	5.3	NA	NA
52	Residence, Tannery Road	5.2	5.3	NA	NA
53	Residence, Gorsuch Road	5.4	5.4	NA	NA
54	Westminster Rifle and Gun Club, Gorsuch Road	5.3	5.4	NA	NA
55	Residence, Leidy Road	5.2	5.3	NA	NA
56	Residence, Hemlock Lane	5.4	5.3	NA	NA
57	Residence, MD 140 @ Arnold Road	6.9	5.7	NA	NA

S/NAAQS: 8 HOUR = 9 ppm NA: NOT APPLICABLE

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TABLE IV-18
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 ONE-HOUR (PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	EXISTING ALIGNMENT ALTERNATES			
			T.S.M.	2	3A	3B
1	Residence, Brown Road	8.8	8.3	8.3	8.4	8.4
2	Residence, Gorsuch Road	11.6	9.8	9.8	9.7	9.6
3	Residence, Monterey Drive	12.8	11.5	11.5	11.2	11.4
4	Residence, Schaffer Avenue	9.7	8.7	8.7	8.5	8.5
5	Westminster Community Pond	13.8	11.6	11.6	11.2	10.7
6	Residence, Pennsylvania Avenue	10.8	9.7	9.7	9.6	9.5
7	Residence, College View Boulevard	11.7	9.8	9.8	9.6	9.7
8	Residence, Littlestown Pike	10.0	9.3	9.3	9.3	9.2
9	Residence, Pennsylvania Avenue	8.8	8.3	8.3	8.6	8.8
10	Fichorn House (II), Main Street	7.8	7.8	7.8	7.8	7.8
11	Bonsack Farm (II), Taneytown Pike	7.0	6.9	6.9	7.0	7.0
12	MD 140 Right-of-Way	8.0	8.0	8.0	8.0	8.0
13	Meadow Branch Church	7.4	7.3	7.3	7.3	7.3
14	Roop's Mill (II), Taneytown Pike	7.5	7.5	7.5	7.5	7.5
15	Meadow Brook Farm (II), Taneytown Pike	7.0	6.7	6.7	6.7	6.7
16	David Roop House (II), Taneytown Pike	7.6	7.5	7.5	7.5	7.5
17	Elizabeth Lowery House, Old Hughes Shop Road	6.8	6.8	6.8	6.8	6.8

SINAAQS: 1 HOUR = 35 ppm

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TABLE IV-19
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
16	David Roop House (H), Taneytown Pike	7.6	NA	NA	6.4
17	Elizabeth Lowery House, Old Hughes Shop Road	6.8	NA	NA	6.6
18	Residence, Westminster Pike	6.8	NA	NA	6.6
19	Residence, Old Westminster Pike	6.8	NA	NA	6.3
20	Residence, Arnold Road	6.1	NA	NA	6.3
21	Alternate 10A, Sta 415 + 50, 285' Rt.	6.1	NA	NA	6.3
22	Residence, Grove Road	6.2	NA	NA	6.3
23	Residence, Washington Road (MD 854)	6.3	NA	NA	6.4
24	Residence, Kate Wagner Road	6.1	NA	NA	6.2
25	Residence, Ridge Road (MD 27)	6.4	NA	NA	6.3
26	Residence, Fenby Farm Road	6.1	NA	NA	6.1
27	Residence, Stone Chapel Road	6.4	NA	NA	6.3
28	Residence, Bell Road	6.1	NA	NA	6.1
29	Residence, Glenbrook Drive	6.1	NA	NA	6.2
30	Residence, Glenbrook Court	6.1	NA	NA	6.1
31	Residence, Old Westminster Pike	6.9	NA	6.6	NA
32	Alternate 6, 396 + 30, 450' Lt	6.1	NA	6.2	NA

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TABLE IV-19
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 ONE-HOUR CONCENTRATIONS
(PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
33	Alternate 6, 386 + 50, 660' Rt	6.1	NA	6.1	NA
34	Residence, Gorsuch Road	6.3	NA	6.2	NA
35	Residence, Lannery Road	6.1	NA	6.1	NA
36	Residence, Lannery Road	6.1	NA	6.4	NA
37	Residence, Brehm Road	6.1	NA	6.2	NA
38	Residence, Lynnhaven Drive	6.1	NA	6.2	NA
39	Residence, Old Manchester Road	6.1	NA	6.2	NA
40	Residence, Gable Drive	6.3	NA	6.4	NA
41	Residence, Sullivan Road	6.1	NA	6.2	NA
42	Residence, Sullivan Road	6.3	NA	6.2	NA
43	Windy Hills, Sullivan Road (Opp. No. 42)	7.1	NA	6.7	NA
44	Residence, Sullivan Road	6.6	NA	6.4	NA
45	Residence, Snowfall Way	6.2	NA	6.3	NA
46	Residence, Kruders Church Road	6.1	NA	6.1	NA
47	Stoner Farm, Meadow Branch Road	6.1	NA	6.1	NA
48	Reese Farm, Meadow Branch Road	6.1	NA	6.1	NA
49	Meadowbrook Farm, MD 140 @ Hughes Shop Road	6.3	NA	6.1	NA

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**TABLE IV-19
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 ONE-HOUR CONCENTRATIONS
(PPM)**

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
50	Residence, Yorkshire Way	6.3	NA	6.1	NA
51	Residence, Tannery Road	6.1	6.3	NA	NA
52	Residence, Tannery Road	6.1	6.4	NA	NA
53	Residence, Gorsuch Road	6.6	6.3	NA	NA
54	Westminster Rifle and Gun Club, Gorsuch Road	6.4	6.3	NA	NA
55	Residence, Leidy Road	6.1	6.2	NA	NA
56	Residence, Hemlock Lane	6.3	6.5	NA	NA
57	Residence, MD 140 @ Arnold Road	7.9	7.4	NA	NA

S/NAAQS: 1 HOUR = 35 ppm

NA: NOT APPLICABLE

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TABLE IV-20
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 EIGHT-HOUR CONCENTRATIONS (PPM)

RECEPTOR	DESCRIPTION	NO-BUILD	EXISTING ALIGNMENT ALTERNATES			
			T.S.M.	2	3A	3B
1	Residence, Brown Road	5.9	5.9	5.9	5.9	5.9
2	Residence, Gorsuch Road	6.3	6.3	6.3	6.2	6.3
3	Residence, Monterey Drive	6.7	6.7	6.7	6.4	6.7
4	Residence, Schaffer Avenue	5.9	5.9	5.9	5.9	5.9
5	Westminster Community Pond	6.7	6.7	6.7	6.6	6.5
6	Residence, Pennsylvania Avenue	6.3	6.3	6.3	6.2	6.3
7	Residence, College View Boulevard	6.3	6.3	6.3	6.3	6.4
8	Residence, Littlestown Pike	5.9	5.9	5.9	6.0	6.0
9	Residence, Pennsylvania Avenue	6.1	6.1	6.1	6.2	6.2
10	Fichorn House (H), Main Street	6.4	6.4	6.4	6.4	6.4
11	Bonsack Farm (H), Taneytown Pike	5.6	5.6	5.6	5.6	5.6
12	MD 140 Right of Way	6.2	6.2	6.2	6.2	6.2
13	Meadow Branch Church	5.9	5.9	5.9	5.9	5.9
14	Roop's Mill (H), Taneytown Pike	5.7	5.7	5.7	5.7	5.7
15	Meadow Brook Farm (H), Taneytown Pike	5.4	5.4	5.4	5.4	5.4
16	David Roop House (H), Taneytown Pike	5.6	5.6	5.6	5.6	5.6
17	Elizabeth Lowery House, Old Hughes Shop Road	5.4	5.4	5.4	5.4	5.4

SNAAQS: 8 HOUR = 9 ppm

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TABLE IV-21
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 EIGHT-HOUR CONCENTRATIONS

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
16	David Roop House (H), Taneytown Pike	5.6	NA	NA	5.4
17	Elizabeth Lowery House, Old Hughes Shop Road	5.4	NA	NA	5.7
18	Residence, Westminster Pike	5.6	NA	NA	5.5
19	Residence, Old Westminster Pike	5.5	NA	NA	5.3
20	Residence, Arnold Road	5.2	NA	NA	5.3
21	Alternate 10A, Sta. 415 + 50, 285' Rt.	5.2	NA	NA	5.3
22	Residence, Grove Road	5.2	NA	NA	5.3
23	Residence, Washington Road (MD 854)	5.3	NA	NA	5.4
24	Residence, Kate Wagner Road	5.2	NA	NA	5.3
25	Residence, Ridge Road (MD 27)	5.3	NA	NA	5.2
26	Residence, Lenby Farm Road	5.2	NA	NA	5.2
27	Residence, Stone Chapel Road	5.4	NA	NA	5.3
28	Residence, Bell Road	5.2	NA	NA	5.3
29	Residence, Glenbrook Drive	5.2	NA	NA	5.2
30	Residence, Glenbrook Court	5.2	NA	NA	5.2
31	Residence, Old Westminster Pike	5.6	NA	5.4	NA
32	Alternate 6, 396 + 30, 450' Lt	5.2	NA	5.3	NA
33	Alternate 6, 386 + 50, 660' Rt	5.2	NA	5.2	NA

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TABLE IV-21
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 EIGHT-HOUR CONCENTRATIONS

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
34	Residence, Gorsuch Road	5.3	NA	5.2	NA
35	Residence, Tannery Road	5.2	NA	5.2	NA
36	Residence, Tannery Road	5.2	NA	5.4	NA
37	Residence, Brehm Road	5.2	NA	5.3	NA
38	Residence, Lynnhaven Drive	5.2	NA	5.3	NA
39	Residence, Old Manchester Road	5.2	NA	5.2	NA
40	Residence, Gable Drive	5.2	NA	5.2	NA
41	Residence, Sullivan Road	5.2	NA	5.3	NA
42	Residence, Sullivan Road	5.2	NA	5.3	NA
43	Windy Hills, Sullivan Road (Opp. No. 42)	5.5	NA	5.3	NA
44	Residence Sullivan Road	5.3	NA	5.4	NA
45	Residence, Snowfall Way	5.2	NA	5.4	NA
46	Residence, Kriders Church Road	5.2	NA	5.2	NA
47	Stoner Farm, Meadow Branch Road	5.2	NA	5.2	NA
48	Reese Farm, Meadow Branch Road	5.2	NA	5.2	NA
49	Meadowbrook Farm, MD 140 @ Hughes Shop Road	5.3	NA	5.3	NA
50	Residence, Yorkshire Way	5.3	NA	5.2	NA
51	Residence, Tannery Road	5.2	5.3	NA	NA

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**TABLE IV-21
TOTAL CARBON MONOXIDE CONCENTRATIONS
AT EACH RECEPTOR SITE
2015 EIGHT-HOUR CONCENTRATIONS**

RECEPTOR	DESCRIPTION	NO-BUILD	BYPASS ALTERNATES		
			ALT. 4 (MOD.)	ALT. 6	ALT. 10A
52	Residence, Tannery Road	5.2	5.3	NA	NA
53	Residence, Gorsuch Road	5.4	5.4	NA	NA
54	Westminster Rifle and Gun Club, Gorsuch Road	5.3	5.3	NA	NA
55	Residence, Letdy Road	5.2	5.3	NA	NA
56	Residence, Hemlock Lane	5.3	5.3	NA	NA
57	Residence, MD 140 @ Arnold Road	6.1	5.7	NA	NA

S/NAAQS: 8 HOUR = 9 ppm

NA: NOT APPLICABLE

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4. Agency Coordination

Copies of the technical Air Quality analysis will be circulated to the U.S. Environmental Protection Agency and the Maryland Air Management Administration for review and comment.

E. Noise Levels and Associated Impacts

1. Abatement Criteria and Land Use Relationships

This noise analysis was completed in accordance with the FHWA Noise Abatement Criteria and 23 CFR, Part 772. The factors that were considered in identifying noise impacts are:

- Identification of existing land use;
- Existing noise levels;
- Prediction of future design year noise levels; and
- Potential traffic increases.

The noise impacts of the project were based upon the relationship of the projected noise levels to the FHWA Noise Abatement Criteria and to the ambient noise levels. Noise impacts occur when the Federal Highway Administration noise abatement criteria (Table 1) are approached or exceeded or when the predicted traffic noise levels are substantive or exceed the existing or ambient noise levels. FHWA and SHA have defined approach as 66dBA. Maryland State Highway Administration uses a 10 dBA increase over ambient levels to define a substantive increase. Noise abatement measures or mitigation will be evaluated when a noise impact is identified.

The factors that were considered when determining whether mitigation is reasonable and feasible are:

- Whether a feasible method is available to reduce the noise;
- Whether the noise mitigation is cost-effective for those receptors that are impacted - approximately \$40,000 per impacted residence;
- Whether the mitigation is acceptable to the affected property owners.

An effective barrier should, in general, extend in both directions to four times the distance between receiver and roadway (source). In addition, an effective barrier should provide a 7-10 dBA reduction in the noise level as a preliminary design goal. However, any impacted noise receptor which will receive a 5 decibel reduction is considered when determining the cost-effectiveness of a barrier.

Cost-effectiveness is determined by dividing the total number of impacted sensitive sites in a specified noise sensitive area that will receive at least a 5 dBA reduction of noise levels, into the total cost of the noise mitigation. For the purpose of comparison, a total cost of \$16.50 per square foot is assumed to estimate total barrier cost. This cost figure is based upon current costs experienced by the Maryland State Highway Administration and includes the cost of panels, footing, drainage, landscaping, and overhead. The State Highway Administration has established approximately \$40,000 per residence protected as being the maximum cost for a barrier to be considered reasonable.

Consideration is based on the size of the impacted area (number of structures, spatial distribution of structures, etc.), the predominant activities carried on within the area, the visual impact of the control measure, practicality of construction, feasibility, and reasonableness.

2. Impact Analysis and Feasibility Noise Abatement

The following tables, identify Future Noise Levels for each proposed Alternate of the Westminster Bypass. The abbreviations in the following tables represent the following: **Dist.** represents the distance from the receptor to the noise source (traveled roadway), **FNL.** represents the 2015 future noise level, **Diff.(dBA)** represents the difference between the monitored existing noise level (ambient level) and the projected 2015 future noise level.

a. Alternative 3A and No-Build Future Noise Levels

**TABLE IV-22
FHWA NOISE ABATEMENT CRITERIA
HOURLY A-WEIGHTED SOUND LEVEL - DECIBELS (DBA)***

Activity Category	Leq(h)	L10(h)	Description of Activity Category
A	57 (Exterior)	60 (Exterior)	Lands on 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.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	-	-	Undeveloped lands.
C	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Either L10(h) or Leq(h) (but not both) may be used on a project.
Source: FHWA 23 Code of Federal Regulations, Part 772.

**TABLE IV-23
ALTERNATE 3A AND NO-BUILD FUTURE NOISE LEVELS FOR
RECEPTORS**

Rec	Land Use	Monitored Existing Noise Level	Future Noise Levels					
			No-build			Build		
			Dist. (ft)	FNL (dBA)	Diff. (dBA)	Dist. (ft)	FNL (dBA)	Diff. (dBA)
1	Residence	61	250	60	(1)	250	67	6
2	Residence	61	250	56	(5)	250	64	3
3	Residence	69	150	58	(11)	150	66	(3)
4	Residence	63	250	59	(4)	250	67	4
5	Recreational	61	200	56	(5)	200	65	4
6	Residence	70	100	66	(4)	100	66	(4)

**TABLE IV-23
ALTERNATE 3A AND NO-BUILD FUTURE NOISE LEVELS FOR
RECEPTORS**

Rec	Land Use	Monitored Existing Noise Level						
			No-build			Build		
			Dist. (ft)	FNL (dBA)	Diff. (dBA)	Dist. (ft)	FNL (dBA)	Diff. (dBA)
7	Residence	71	200	61	(10)	150	72	1
8	Residence	75	100	65	(10)	100	65	(10)
9	Residence	70	100	66	(4)	100	68	(2)
10	Residence	65	150	61	(4)	150	63	(2)
11	Residence	58	600	53	(5)	550	57	(1)
12	Residence	60	100	62	2	100	63	3
13	Church	62	150	58	(4)	150	60	(2)
14	Historic Property	76	100	66	(10)	100	68	(8)
15	Residence	70	350	58	(12)	300	62	(8)
16	Residence	74	100	66	(8)	150	68	(6)
17	Abandoned Residence	71	60	66	(5)	50	70	(1)

NOTE: A shaded block highlights a receptor that is equal to or greater than the FHWA Noise Abatement Criteria level of 67 dBA(L_{eq}) or exceeds ambient noise levels by 10dBA or more.

The monitored existing levels represent the noise level recorded during peak and off-peak noise hour field monitoring along existing MD 140. Traffic volumes along this roadway during the field monitoring ranged from 640 vph to 3512 vph; traffic speeds ranged from 56.32 to 88.51 kmph (35 to 55 mph).

- The No-Build noise levels represent the predicted noise level using Level of Service 'C' traffic volumes for existing MD 140 (718 vph, both directions) and a 35 mph speed limit.

- The Build noise levels represent the predicted noise levels using Level of Service 'C' traffic volumes for Alternate 3A and a 88.51 kmph (55 mph) speed limit.

b. Alternate 4 Modified and No-Build Future Noise Levels

**TABLE IV-24
ALTERNATE 4 MODIFIED AND NO-BUILD FUTURE NOISE
LEVELS FOR RECEPTORS**

Rec	Land Use	Monitored Existing Noise Level						
			No-build			Build		
			Dist. (ft)	FNL (dBA)	Diff. (dBA)	Dist. (ft)	FNL (dBA)	Diff. (dBA)
51	Residence	50	>1000	50	0	300	67	17
52	Residence	55	>1000	55	0	200	68	13
53	Residence	66	>1000	69	3	650	69	3
54	Gun and Rifle Club	64	>1000	69	5	950	69	5
55	Residence	48	>1000	48	0	300	66	18
56	Residence	50	>1000	50	0	350	66	16
57	Residence	73	100	73	0	150	73	0

NOTE: A shaded block highlights a receptor that approach or exceeds the FHWA Noise Abatement Criteria level of 67 dBA(Leq) or exceeds ambient levels by 10dBA or more.

The monitored existing noise levels represent the noise level recorded during peak and off-peak noise hour field monitoring. A majority of these sites are located far from roadway noise sources.

The No-Build noise levels for Receptors 51-52 and 55-56 represent their monitored existing noise levels because these receptors are located far from roadway noise sources. For Receptors 53 and 54, the No-Build levels represent the predicted noise levels associated with the Level of Service 'C' traffic volumes (718 vph, both directions) and a 56.32 kmph (35 mph) speed limit on Gorsuch Road. For Receptor 57, the existing monitored noise level associated with existing MD 140 was used.

The Build noise levels represent the predicted noise levels using level of Service 'C' traffic volumes for Alternate 4 Modified and a 88.51 kmph (55 mph) speed limit. For Receptors 53 and 54, the impacting noise source is Gorsuch Road traffic.

c. Alternate 6 and No-Build Future Noise Levels

**TABLE IV-25
ALTERNATE 6 AND NO-BUILD FUTURE NOISE
LEVELS FOR RECEPTORS**

Rec	Land Use	Monitored Existing Noise Level	Future Noise Levels					
			No-build			Build		
			Dist. (ft)	FNL (dBA)	Diff. (dBA)	Dist. (ft)	FNL (dBA)	Diff. (dBA)
31	Residence	58	300	58	0	300	66	8
32	Residence	48	>1000	48	0	400	62	14
33	Residence	51	>1000	54	0	600	57	6
34	Residence	51	>1000	51	0	700	60	9
35	Residence	51	>1000	51	0	300	65	14
36	Residence	51	>1000	51	0	350	61	10
37	Residence	59	>1000	59	0	350	61	2
38	Residence	49	>1000	49	0	250	67	18
39	Residence	53	>1000	53	0	500	70	17
40	Residence	48	>1000	48	0	800	63	15
41	Residence	52	>1000	52	0	200	70	18
42	Residence	52	>1000	52	0	200	65	13
43	Historic Property	60	<1000	60	0	700	66	6
44	Residence	71	<1000	71	0	200	71	0
45	Residence	59	>1000	59	0	150	71	12
46	Residence	58	>1000	58	0	400	64	6
47	Residence	50	>1000	50	0	750	59	9
48	Residence	59	>1000	59	0	750	59	0
50	Residence	59	700	59	0	250	67	8

NOTE: A shaded block highlights a receptor that approach or exceeds the FHWA noise abatement criteria level of 67 dBA(L_{eq}) or exceed ambient levels by 10dBA or more.

The monitored existing noise levels represent the noise level recorded during peak and off-peak noise hour field monitoring. A majority of these sites are located far from roadway noise sources.

The No-Build noise levels for these receptors represent their monitored existing noise levels because these receptors are located far from roadway noise sources with the exception of Receptors 43 and 44 which are located along lightly traveled Sullivan Road.

The Build noise levels represent the predicted noise levels using Level of Service 'C' traffic volumes for Alternate 6 and a 88.51 kmph (55 mph) speed limit.

d. Altenate 10A and No-Build Future Noise Levels

**TABLE IV-26
ALTERNATE 10A AND NO-BUILD FUTURE NOISE LEVELS FOR RECEPTORS**

Rec	Land Use	Monitored Existing Noise Level	No-build			Build		
			Dist. (ft)	FNL (dBA)	Diff. (dBA)	Dist. (ft)	FNL (dBA)	Diff. (dBA)
16	Residence	74	100	66	(5)	900	67	(7)
17	Abandoned Residence	71	60	66	(5)	350	71	0
18	Residence	61	250	61	0	250	65	4
19	Residence	65	600	65	0	150	66	1
20	Residence	52	> 1000		0	400	64	12
22	Residence	53	> 1000	53	0	250	67	14
23	Residence	55	> 1000	55	0	200	69	14
24	Residence	55	> 1000	55	0	300	64	9
25	Residence	55	> 1000	55	0	750	58	3
26	Residence	53	> 1000	53	0	300	66	13
27	Abandoned Residence	72	> 1000	72	0	700	63	(9)
29	Residence	59	> 1000	59	0	400	65	6

NOTE: A shaded block highlights a receptor that approach or exceeds the FHWA Noise Abatement Criteria level of 67 dBA(Leq) or exceeds ambient levels by 10dBA or more.

- The monitored existing noise levels represent the noise level recorded during peak and off-peak noise hour field monitoring. With the exception of Receptors 16-17 and 27 these sites are located far from roadway noise sources.
- The No-Build noise levels for Receptors 18-27 and 29 represent their monitored existing noise levels because these receptors are located far from roadway noise sources with the exception of Receptor 27 which is located along New Windsor Road. For Receptors 16-17, the No-Build levels represent the predicted noise levels associated with the Level of Service 'C' traffic volumes (718 vph, both directions) and a 56.32 kmph (35 mph) speed limit on existing MD 140.
- The Build noise levels represent the predicted noise levels using Level of Service 'C' traffic volumes for Alternate 10A and a 88.51 kmph (55 mph) speed limit.

The potential increase of noise levels from the construction of the proposed alternates was determined by comparing Existing Noise Levels for the various alternates to Future Noise Levels. Modelled noise levels were predicted using the STAMINA 2.0 noise prediction program. The STAMINA 2.0 is the computer version of the FHWA noise prediction model (FHWA-RD-77-108).

The FHWA model arrives at a predicted noise level through a series of adjustments to reference sound levels for various vehicle types. In the FHWA model, the reference level is the energy mean emission level for cars, medium trucks (two axle trucks) and heavy trucks (three axle or more). Adjustments are made to the reference energy mean emission level to account for vehicle speed, distance between the roadway and the receptor, and both the shielding and transmission path between the roadway and receptor.

The LOS 'C' traffic volumes and design-year traffic speeds shown in Table 5 were input into STAMINA 2.0 to reflect design-year noise levels for each alternate.

Tables through identifies Existing Noise Levels and Future Noise Levels for the study receptors for the Build and No-Build alternates.

Of the 53 total receptors studied, 34 were found to have Future Noise Levels that qualify for noise abatement consideration. Receptors 16 and 17 were impacted by Alternates 3A and 10A for a total of 36 receptors impacted. A noise barrier analysis was conducted using the STAMINA 2.0/OPTIMA Barrier Cost Reduction program, in the area of 31 of the 36 impacted receptors. Five impacted receptors were not analyzed for noise barriers for the following reasons:

Receptor taken by proposed alternate - Receptor 17 (Alternate 3A)

Receptor impact caused by local road - Receptors 53 and 54 (Alternate 4 Modified), Receptors 16 and 17 (Alternate 10A).

3. Noise Barrier Abatement Summary

Noise barriers were examined to protect the impacted receptor as well as all other appropriate land uses represented by the impacted receptors. Tables IV-27 through IV-33 summarize the noise barrier analysis for analyzed impacted receptors for NSA A, B, C, D, E, F and G. Results are shown for all noise barriers even if barrier systems proved to be ineffective.

NSA A

TABLE IV-27
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA A

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier*	Cost per Residence** (\$)
1	3A	1 Residence	1	4	0	650	14	16.50	150,150	150,150
19	10A	1 Residence	19	5	1	1000	12	16.50	198,000	198,000
31	6 Mod.	11 Residences	31	6	9	1950	16	16.50	514,800	46,800
56	4 Mod.	1 Residence	56	5	1	800	14	16.50	184,800	184,800
57	4 Mod.	1 Residence	57	7	1	400	20	16.50	132,000	132,000

* The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.

** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Five of the seven receptors in NSA A qualify for noise abatement consideration. Noise barriers were examined for Receptor 1, Receptor 19, Receptor 31, Receptor 56 and Receptor 57.

Receptor 1 represented a residence impacted by Alternate 3A. A noise barrier 4.27 meters in height and 198.12 meters in length (14 feet in height and 650 feet in length) provided the most cost-effective abatement. The insertion loss associated with this barrier is 4 dBA which is relatively low. This barrier's length was limited by the Brown Road and Leidy Road intersection with MD Route 140. A 4 dBA reduction would lower the Future Noise Level at Receptor 1 from 67 dBA to 63 dBA.

Receptor 19 represents 1 residence impacted by Alternate 10A. A noise barrier 3.7 meters (12 feet) high and 304.8 meters (1000 feet) in length provided a 5 dBA insertion loss, resulting in a mitigated Future Noise Level of 61 dBA.

Receptor 31 represents 11 residents impacted by Alternate 6 modified. A mitigated Future Noise Level of 50 dBA was provided by a noise barrier 4.8 meters (16 feet) high and 594.4 meters (1950 feet) in length.

Receptor 56 represents a residence impacted by Alternate 4 modified. A noise barrier 243.84 meters in length and 4.27 meters in height (800 feet in length and 14 feet in height) provided a 5 dBA insertion loss, resulting in a mitigated Future Noise Level of 61 dBA.

Receptor 57 represents a residence located along MD Route 140 near the Alternate 4 modified tie-in to existing MD Route 140. A noise barrier 6.1 meters in height and 121.92 meters in length (20 feet in height and 400 in length) would reduce the predicted Future Noise Level from 73 dBA to 66 dBA, a 7 dBA insertion loss.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

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NSA B

**TABLE IV-28
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA B**

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier* (\$)	Cost per Residence** (\$)
3	3A	8 Residences	3	9	8	1180	16	16.50	311,250	38,940
4	3A	2 Residences	4	9	2	800	20	16.50	264,000	132,000
6	3A	13 Residences	6	10	11	1080	13	16.50	231,660	17,820
7	3A	5 Residences	7	10	5	1100	12	16.50	217,800	43,560
9	3A	12 Residences	9	7	2	300	20	16.50	99,000	49,500

* The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.

** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5dB Reduction.

Five receptors, Receptors 3, 4, 6, 7 and 9, in NSA B qualify for noise abatement considerations.

Receptor 3 represents 8 residences impacted by Alternate 3A. A noise barrier 4.8 meters in height and 359.7 meters in length (16 feet in height and 1180 feet) in length would provide a 9 dBA insertion loss at Receptor 3, reducing the Future Noise Levels from 66 dBA to 57 dBA.

Receptor 4 represents two residences impacted by Alternate 3A. A noise barrier 6.1 meters in height and 243.84 meters in length (20 feet in height and 800 feet in length) would provide a 9 dBA insertion at Receptor 4, reducing the Future Noise Level at Receptor 4 from 67 dBA to 58 dBA.

Receptor 6 represents a total of 13 residences along either side of MD 97 just to the north of Alternate 3A. Two noise barriers were analyzed along MD 97, one on the west side protecting 5 residences and one on the east side protecting 8 residences. The western noise barrier is 2.4 meters in height and 138.7 meters in length (8 feet

in height and 455 feet) in length. The western noise barrier will provide an insertion loss of 7 dBA, resulting in a mitigate Future Noise Level of 59 dBA. The eastern noise barrier is 4.9 meters in height and 190.5 meters in length (16 feet in height and 625 feet) in length. The eastern noise barrier will provide an insertion loss of 10 dBA, resulting in a mitigated Future Noise Level of 56 dBA.

Receptor 7 represents five residences impacted by Alternate 3A. A noise barrier 3.66 meters in height and 335.28 meters in length (12 feet in height and 1100 feet in length) is expected to reduce the predicted Future Noise Level at this site by 10 dBA, resulting in a 62 dBA Future Noise Level at Receptor 7.

Receptor 9 represents two residences along MD Route 140 and 10 residences along MD 97. The impact would be to the residences along MD Route 140. A noise barrier 6.1 meters in height and 91.44 meters in length (20 feet in height and 300 feet in length) was examined for these two residences. This barrier would provide a 1 dBA insertion loss at Receptor 9, resulting in a mitigated Future Noise Level of 67 and a 7 dBA insertion loss at the other residence. The insertion loss at Receptor 9 is low due to the MD Route 97 intersection limiting the barrier's length.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

NSA C

TABLE IV-29
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA C

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier* (\$)	Cost per Residence** (\$)
14	3A	1 Residence 1 Historic Mill	14	10	2	400	12	16.50	79,200	39,600
16	3A	1 Residence	16	9	1	450	14	16.50	103,950	103,950
50	6	10 Residences	50	9	7	3400	20	16.50	1,122,000	160,286

- * The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.
- ** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Receptors 14, 16, and 50 qualify for noise abatement consideration in NSA C.

Receptor 14 represents 1 residence and 1 historic mill impacted by Alternate 3A. A noise barrier 3.66 meters in height and 121.92 meters in length (12 feet in height and 400 feet in length) is expected to provide a 10 dBA insertion loss, resulting in a mitigated Future Noise Level of 58 dBA.

Receptor 16 represents 1 residence impacted by Alternate 3A. The insertion loss associated with a noise barrier 4.27 meters in height and 137.16 meters in length (14 feet in height and 450 feet in length) is 9 dBA, reducing the predicted Future Noise Level from 68 dBA to 59 dBA.

Receptor 50 represents 10 residences impacted by Alternate 6. A noise barrier 6.1 meters in height and 1036.32 meters in length (20 feet in height and 3400 feet in length) provides a range of insertion losses from 3 to 9 dBA. It is expected that 7 residences would receive a 5 dBA or greater insertion loss, with Receptor 50 expected to experience a 5 dBA insertion loss and a mitigated Future Noise Level of 62 dBA.

Only the barrier protecting receptor 14 was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility.

NSA D

**TABLE IV-30
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA D**

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier* (\$)	Cost per Residence** (\$)
32	6	1 Residence	32	2	1	1200	20	16.50	396,000	396,000
35	6	5 Residences	35	7	5	1400	14	16.50	323,400	64,680
36	6	1 Residence	36	3	0	850	14	16.50	196,350	196,350
38	6	2 Residences	38	9	6	1150	14	16.50	265,650	44,275
39	6	3 Residences	39	6	4	1000	20	16.50	330,000	82,500
40	6	5 Residences	40	5	2	750	14	16.50	173,250	86,625
51	4 Mod.	1 Residence	51	5	1	850	14	16.50	196,350	196,350
52	4 Mod.	1 Residence	52	10	1	600	14	16.50	138,600	138,600
55	4 Mod.	1 Residence	55	4	1	950	20	16.50	313,500	313,500

* The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.

** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Nine receptors, Receptors 32, 35, 36, 38, 39, 40, 51, 52 and 55 qualify for noise abatement considerations in NSA D.

Receptor 32 represents 1 residence impacted by Alternate 6. A noise barrier 6.1 meters in height and 365.76 meters in length (20 feet in height and 1200 feet in length) is expected to provide a 2 dBA insertion loss. Site distance and elevation limited the effectiveness of this barrier which would reduce the predicted Future Noise Level to 60 dBA.

Receptor 35 represents 5 residences impacted by Alternate 6. A noise barrier 4.27 meters in height and 246.72 meters in length (14 feet in height and 1400 feet in length) provided a 7 dBA insertion loss at Receptor 35, resulting in a mitigated Future Noise Level of 58 dBA.

Receptor 36 represents 1 residence impacted by Alternate 6. A noise barrier 4.27 meters in height and 259.08 meters in length (14 feet in height and 850 feet in length) would provide only a 3 dBA insertion loss. Site distance and elevation limits the effectiveness of this barrier which would reduce the predicted Future Noise Level to 58 dBA.

Receptor 38 represents 2 residences impacted by Alternate 6. A noise barrier 4.27 meters in height and 350.52 meters in length (14 feet in height and 1150 feet in length) reduced the predicted Future Noise Level to 58 dBA, an insertion loss of 9 dBA, and provide a 5 dBA or greater insertion loss to 4 other residences.

Receptor 39 represents 3 residences impacted by Alternate 6. A noise barrier 6.1 meters in height and 304.8 meters in length (20 feet in height and 1000 feet in length) provided a 6 dBA insertion loss for the three residences. For Receptor 39, a 6 dBA insertion loss would result in a mitigated Future Noise Level of 64 dBA. One other residence would expected to receive an insertion loss of 5 dBA.

Receptor 40 represents 5 residences impacted by Alternate 6. A noise barrier 4.27 meters in height and 228.6 meters in length (14 feet in height and 750 in length) would provide 2 of the residences with a 5 dBA insertion loss including Receptor 40 with this insertion loss, Receptor 40 would be a Future Noise Level reduction to 58 dBA.

Receptor 51 represents 1 residence impacted by Alternate 4 modified. A noise barrier 4.27 meters in height and 182.88 meters in length (14 feet in height and 600 feet in length) is expected to provide a 5 dBA insertion loss at this receptor, resulting in a mitigated Future Noise Level of 62 dBA.

Receptor 52 represents 1 residence impacted by Alternate 4 modified. A noise barrier 4.27 meters in height and 182.88 meters in length (14 feet in height and 600 feet in length) would be expected to reduce the predicted Future Noise Level from 68 dBA to 58 dBA, a 10 dBA insertion loss.

Receptor 55 represents 1 residence impacted by Alternate 4 modified. A noise barrier 6.1 meters in height and 289.56 meters in length (20 feet in height and 950 feet in length) would provide a 4 dBA insertion loss at this site, resulting in a mitigated Future Noise Level of 62 dBA.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

NSA E

**TABLE IV-31
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA E**

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier*	Cost per Residence**
41	6	4 Residences	41	9	4	1250	20	16.50	412,500	103,125
42	6	2 Residences	42	7	1	800	20	16.50	264,000	132,000
43	6 Mod.	1 Residence	43	3	0	1265	14	16.50	292,215	292,215
44	6	1 Residence	44	4	0	400	20	16.50	132,000	132,000
45	6	5 Residences	45	10	6	950	20	16.50	313,500	52,250

* The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.

** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Receptors 41, 42, 43, 44 and 45 qualify for abatement consideration in NSA E.

Receptor 41 represents 4 residences impacted by Alternate 6. A noise barrier 6.1 meters in height and 381 meters in length (20 feet in height and 1250 feet in length) is expected to provide a 9 dBA insertion loss, resulting in a mitigated Future Noise Level of 61 dBA at Receptor 41.

Receptor 42 represents 2 residences impacted by Alternate 6. A noise barrier 20 feet in height and 800 in length is expected to provide Receptor 42 with a 4 dBA insertion loss and a mitigated Future Noise Level of 61 dBA and provide the other residences with a 7 dBA insertion loss.

Receptor 43 represents 1 residence impacted by Alternate 6 modified. A noise barrier 14 feet in height and 1265 feet in length is expected to provide a 3 dBA insertion loss, resulting in the mitigated Future Noise Level of 63 dBA at Receptor 43.

Receptor 44 represents 1 residence impacted by Alternate 6. A noise barrier 20 feet in height and 400 feet in length is expected to reduce the predicted Future Noise Level to 67 for Receptor 44, an insertion loss of 4 dBA. The presence of Sullivan Road limits the length and effectiveness of this barrier.

Receptor 45 represents 5 residences impacted by Alternate 6. A noise barrier 20 feet in height and 950 feet in length would provide a 10 dBA insertion loss at Receptor 45, resulting in a mitigated Future Noise Level of 61. In addition to the 5 residences represented by Receptor 45, one other residence is expected to receive a 5 dBA or greater insertion loss.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

NSA F

TABLE IV-32
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA F

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier (\$)	Cost per Residence** (\$)
26	10A	2 Residences	26	8	2	1150	20	16.50	379,500	189,750

- * The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.
- ** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Only 1 receptor, Receptor 26 qualifies for abatement consideration in NSA F.

Receptor 26 represents 2 residences impacted by Alternate 10A. A noise barrier 6.1 meters in height and 33.53 meters in length (20 feet in height and 110 feet in length) is expected to provide Receptor 26 with an 8 dBA insertion loss, resulting in a mitigated Future Noise Level of 58 dBA.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

NSA G

**TABLE IV-33
SUMMARY OF NOISE BARRIER ABATEMENT ANALYSIS
NSA G**

Impacted Receptors	Impactive Alternates	Number of Residences or Land Uses Impacted	Noise Barrier Number	Maximum Insertion Loss (dBA)	Number of Residences Receiving ≥ 5 dBA Insertion Loss	Approximate Barrier Length (Linear Ft.)	Average Barrier Height (Linear Ft.)	Cost per sq. ft. (\$)	Total Cost per Barrier * (\$)	Cost per Residence** (\$)
20	10A	1 Residence	20	3	0	950	14	16.50	219,450	219,450
22	10A	3 Residence	22	9	2	1100	20	16.50	363,000	181,500
23	10A	1 Residence	23	10	2	450	14	16.50	103,950	51,975

- * The Total Cost Per Barrier was derived by multiplying the Approximate Barrier Length by the Average Barrier Height by the Cost Per Square Foot.
- ** The Cost Per Residence was derived by dividing the Total Cost Per Barrier by the Number of Residences Receiving at Least 5 dB Reduction.

Three receptors, Receptors 20, 22, and 23 qualify for abatement consideration in NSA G.

Receptor 20 represents 1 residence impacted by Alternate 10A. A noise barrier 4.27 meters in height and 289.56 meters in length (14 feet in height and 950 feet in length) is expected to provide a 3 dBA insertion loss, resulting in a mitigated Future Noise Level of 61 dBA. Site distance and elevation limit the effectiveness of this barrier.

Receptor 22 represents 3 residences impacted by Alternate 10A. A noise barrier 6.1 meters in height and 335.28 meters in length (20 feet in height and 1100 feet in length) would reduce the predicted Future Noise Level at Receptor 22 to 58 dBA, an insertion loss of 9 dBA.

Receptor 23 represents 1 residence impacted by Alternate 10A. A noise barrier 4.27 meters in height and 137.16 meters in length (14 feet in height and 450 feet in length) is expected to provide a 10 dBA insertion loss for Receptor 23, resulting in a mitigated Future Noise Level of 59 dBA.

No barrier was found to be cost effective according to the guidelines established by the MD SHA for abatement feasibility. This requires that an impacted residence receive at least a 5 dBA insertion loss and that the barrier cost is equal to or less than \$40,000 per residence.

CONSTRUCTION IMPACTS

Temporary noise impacts will occur in the study area during construction. The majority of construction noise is generated by the associated equipment. These include:

- Vibratory Rollers
- Front Loaders
- Backhoes
- Tractors
- Scrapers and Graders
- Pavers
- Trucks

- Jackhammers
- Compressors

Receptors located near the construction zone (30.5 meters or 100 feet) may experience noise levels in the 78 dBA to 83 dBA range.

Several mitigation procedures can be followed to assist in minimizing the temporary impacts of construction noise. Adjustments to the equipment, the provision of temporary noise barriers, varying the construction activity areas to redistribute noise events, good communication with the public and monetary incentives are all alternatives to consider to lessen the temporary noise impacts. These mitigation measures will be examined during final design to minimize public impacts and annoyances during construction.

V.

SECTION 4(f) EVALUATION

The Chew-Crowl Farm Complex is an excellent example of a late nineteenth century farm complex. It is not only significant as a well preserved farmstead associated with a prominent member of the Village, but also for the highly ornamented architectural styling of the dwelling, with elaborate shingling, bracketing, and quoining, along with the Queen Anne stylistic affiliations of the highly unusual octagonal bay on the southwest corner (See Figure II-19, II-43, II-50 and II-57).

- b. **The Roop Rural Historic District** is centered around a number of properties associated with the Roop family in the 19th century but which also includes properties not linked to the Roop family. This area just outside Westminster remains largely rural and reflects the historic agricultural character of the County. Throughout the 19th century Carroll County was an extremely productive agricultural area and its economy and lifeways remained largely agricultural well into the 20th century. This area still conveys a strong sense of the agricultural landscape that characterized the County until recently. A number of the properties included in the district are associated with the Roop family, a prominent and prosperous farm family in this area in the 19th century. The property consists of 2243.5 hectares (601.7 acres). (See Figures II-38 and II-43)

- c. **Goodwin-Robertson-Wagner Farm Complex** is highly significant for the high degree of integrity not only in the buildings individually but in the completeness and integrity of the agricultural complex as a whole which has been used for agricultural purposes since the late 18th century. It exemplifies the strong and long lived agrarian orientation of Carroll County, thus it would appear to meet the requirements of criterion C, in that it embodies the distinctive characteristics of a type period or method of construction. The Goodwin-Robinson -Wagner farm Complex consist of approximately 12.2 hectares (30.2 acres) See Figure II-53.

- d. **Bonsack Farm Complex** is significant as an excellent example of stone construction in the county, associated with the Bonsack family before

V. SECTION 4 (F) EVALUATION

A. Introduction

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

B. Description of Proposed Action

For a complete description of the proposed action see Section II Alternates Retained for Detail Study.

C. Description of 4(f) Resource

1. Historic Sites

- a. **Chew-Crowl Farm Complex** located between MD 140 and Old Westminster Pike, just east of its intersection with Arnold Road, was built by Milton Chew in 1894. Milton Chew was the store owner and postmaster of Reese, which was known as Carrollton at the time. The farm buildings are clustered together on the north side of Old Westminster Pike on a remnant of the original farm. Most of the farmland was severed from the buildings with the construction of MD 140, with the acreage ultimately sold to Carroll County for the landfill. The historic boundary of the Chew-Crowl Farm Complex consists of approximately 4.2 hectares (10.56 acres).

south of the house. Most of the remaining buildings were constructed in the twentieth century. The complex retains a full complement of domestic and agricultural outbuildings, including a frame bank barn, tile silo, frame stable, wagon shed, chicken house and hog pen. This site consist of 16.1 hectares (39.9 acres). An historical archeological component (18CR207) has been identified on the site. It may have been the residence of a John Formwalt, known for having operated a tavern on an adjacent property. As such, it would seem to meet the requirements of criterion C, in that it embodies the distinctive characteristics of a type, period or method of construction, and possibly criterion D, in that it is may be likely to yield information important in prehistory and history in the course of detailed archeological examination (See Figures II-39 and II-46).

- g. Evelyn Thompson House (CARR-1351)**--The farmstead is representative of the longevity and prosperity of agriculture in Carroll County, where farming remained a viable way of life well into the 20th century. The farm retains a frame bank barn and domestic outbuildings from the 19th century as well as a substantial brick bungalow and tile dairy barn dating to the early 20th century. The two later buildings reflect the continued prosperity of the farm. The bungalow style is not common in the area and is more likely to be found in urban or suburban settings than on a farm. This house is particularly well executed and the design is closely integrated with its site. The farm consists of approximately 25.1 hectares (61.9 acres) is located well off MD 140 and retains integrity of setting (See Figures II-19, II-50 and II-57).
- h. Tannery Survey District**--This district is composed of the six extant Tannery Workers Houses and the archeological remains of the tannery buildings, in addition to a large bungalow dwelling which may comprise a part of the original combination office (store, post office and railroad station). It also incorporates a portion of the Western Maryland Railroad and the West Branch of the Patapsco River

they sold the property in 1917. Although almost all of the original outbuildings are no longer extant, the dwelling and the washhouse, both constructed in ca 1870, retain excellent integrity. These buildings have been supplemented by a frame garage and a number of modern agricultural outbuildings. Although much of the Bonsack Farm Complex has been sold off through the years, it has been continually been used for agriculture. The historic boundary of the Bonsack Farm complex consist of approximately 17.4 hectares (43.8 acres) See Figures II-6, II-12, II-21, II-30).

- e. **Royer-Koontz Farmstead (CARR 702)**--This well maintained complex of farm buildings is significant as an excellent example of a mid-nineteenth farmstead. The house is a two story log structure on a stone foundation with a two-room rectangular plan. It is sited on 7.8 hectares (19.2 acres) into a slope so that the east (now rear) facade has a full-story basement. The basement door has a covered passageway to the washhouse. Attached to the washhouse is the smokehouse. The original orientation of the dwelling to the east has been altered so that one now enters the structure through a small addition constructed onto the rear of the ell. The structure has been clad with vinyl siding and has new vinyl fenestration. The dwelling is further complemented by an additional domestic outbuilding--a springhouse located north of the washhouse. The site also includes a drive through corncrib, along with numerous agricultural outbuildings (See figures II-6, II-21 and II-30).
- f. **Elmer Fritz Farm Complex (CARR 398)**--The Fritz Farm, although in very poor condition, is significant as a largely intact Carroll County farm complex originating in the mid-nineteenth century which was supplemented with new buildings and generally remodeled in the much favored Victorian style, probably in the late nineteenth or early twentieth century. What may have been the original log dwelling was converted to an ell when the main block, with its Victorian style ornamentation, was constructed in the late nineteenth century. The core of the original complex is composed of the original log house, the remains of a springhouse, bankbarn and a probable kitchen located

This district is eligible for the National Register as a remnant of an industrial village associated with the tannery industry. In sharp contrast to the very small scale and labor intensive family tanneries which were the norm for Carroll County, this tannery was a major employer, developed as a company town, which is very unusual for the area, and highly mechanized. This site consists of approximately 14.3 hectares (35.3 acres) see Figure II-48 and II-49.

2. Carroll County East Middle School

The area of concern consists of four portable building used as classrooms, a tennis court, soccer fields, a football and athletic track. Per coordination with Carroll County Public Schools Superintendent, the tennis courts, soccer field, football field and athletic field are used for public recreation after school hours and play an important role in serving the recreational needs of the community (See Figures II-24 and II-32).

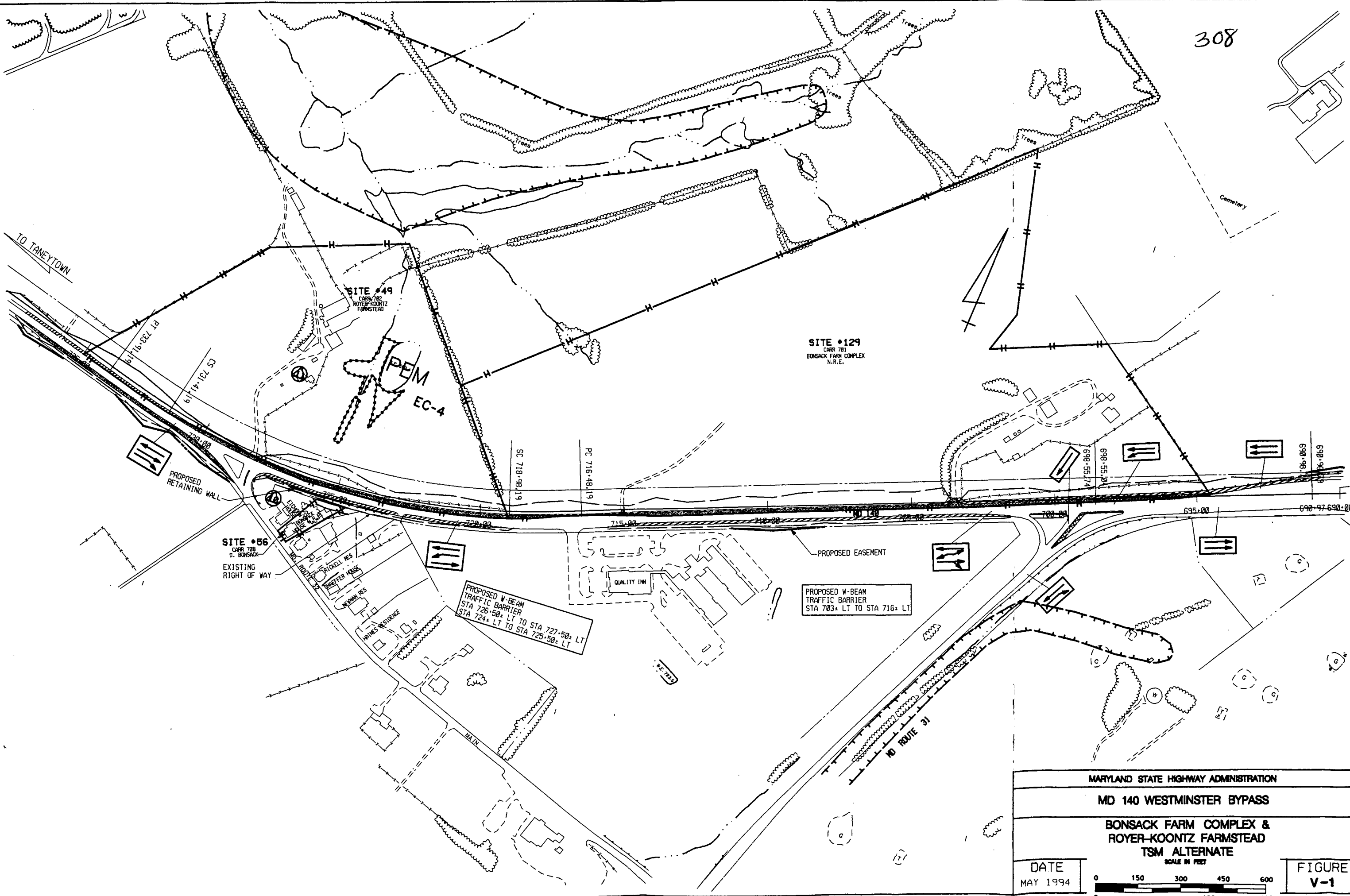
D. Impacts to 4(f) Properties

1. Bonsack Farm Complex

The TSM Alternate would require approximately 1.34 hectares (3.30 acres) (Figure V-1). Proposed Alternate 2 and 3A (Existing Roadway Improvements) would each require approximately 2.11 hectares (5.21 acres) from this national register eligible historic site (Figure 2) and alternate 3B would require approximately 2.66 hectares (6.58 acres) (Figure 3). All of the above improvements would have an adverse affect on this site.

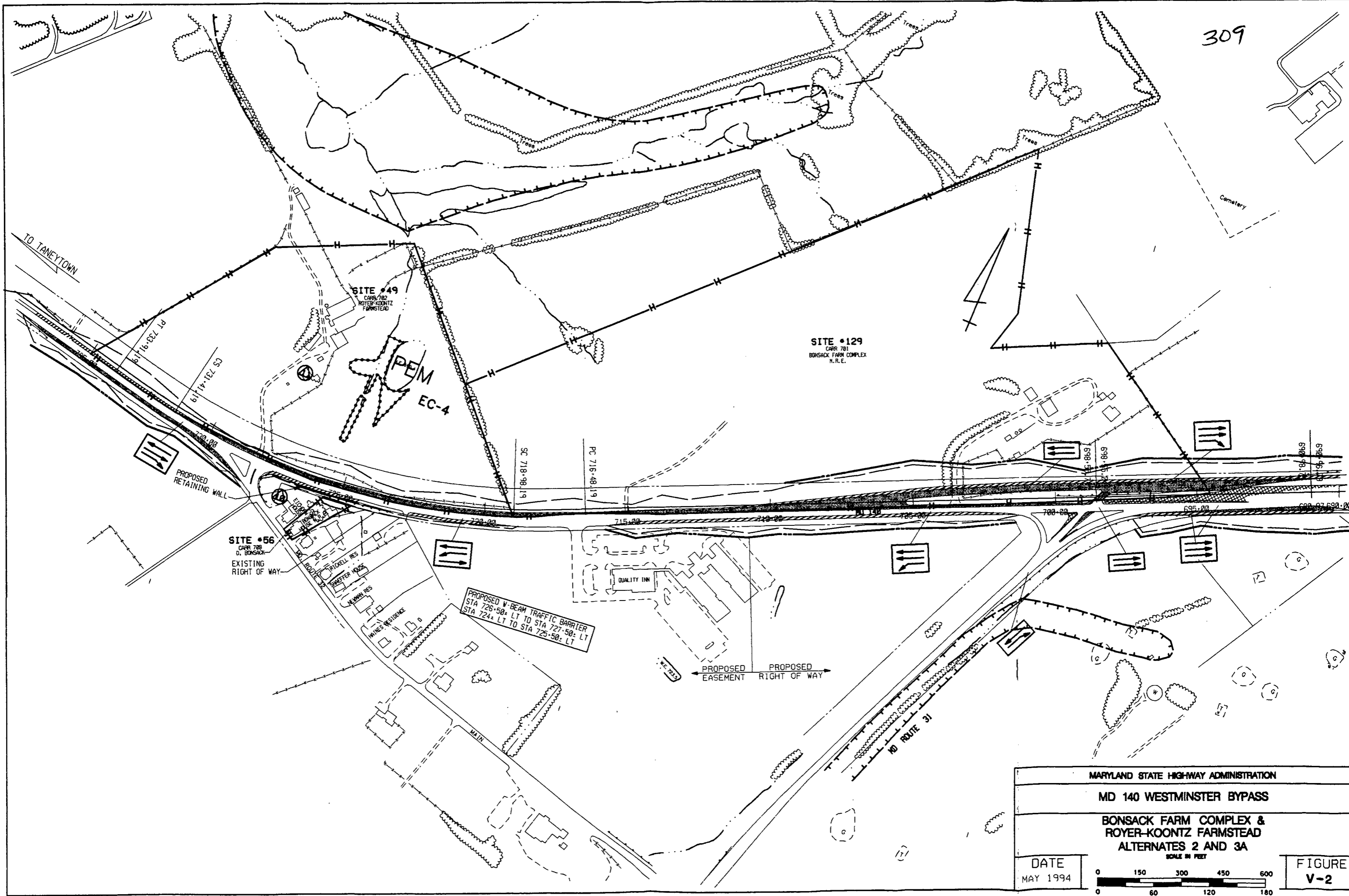
A noise and air analysis for this area has been completed. The Leq ambient noise level for the noise sensitive site representative of this area (NSA 6) is 70 dBA. The modeled design year Leq noise level is 66 dBA a difference of 4 dBA. An air analysis was performed in this area using a representative site (NSA 6). It revealed only a minor increase over existing

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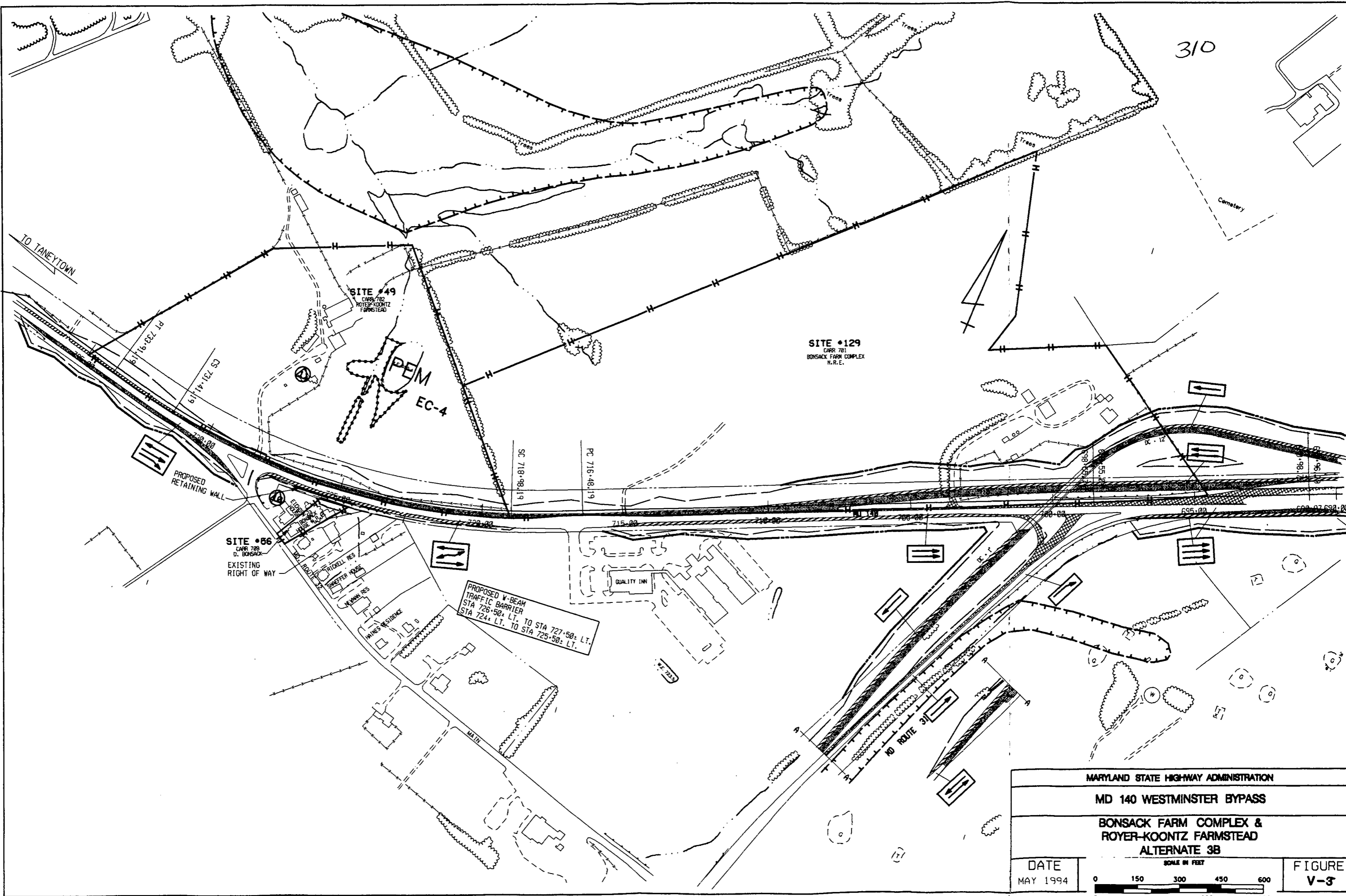


MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
BONSACK FARM COMPLEX & ROYER-KOONTZ FARMSTEAD TSM ALTERNATE	
SCALE IN FEET	
DATE MAY 1994	
	FIGURE V-1

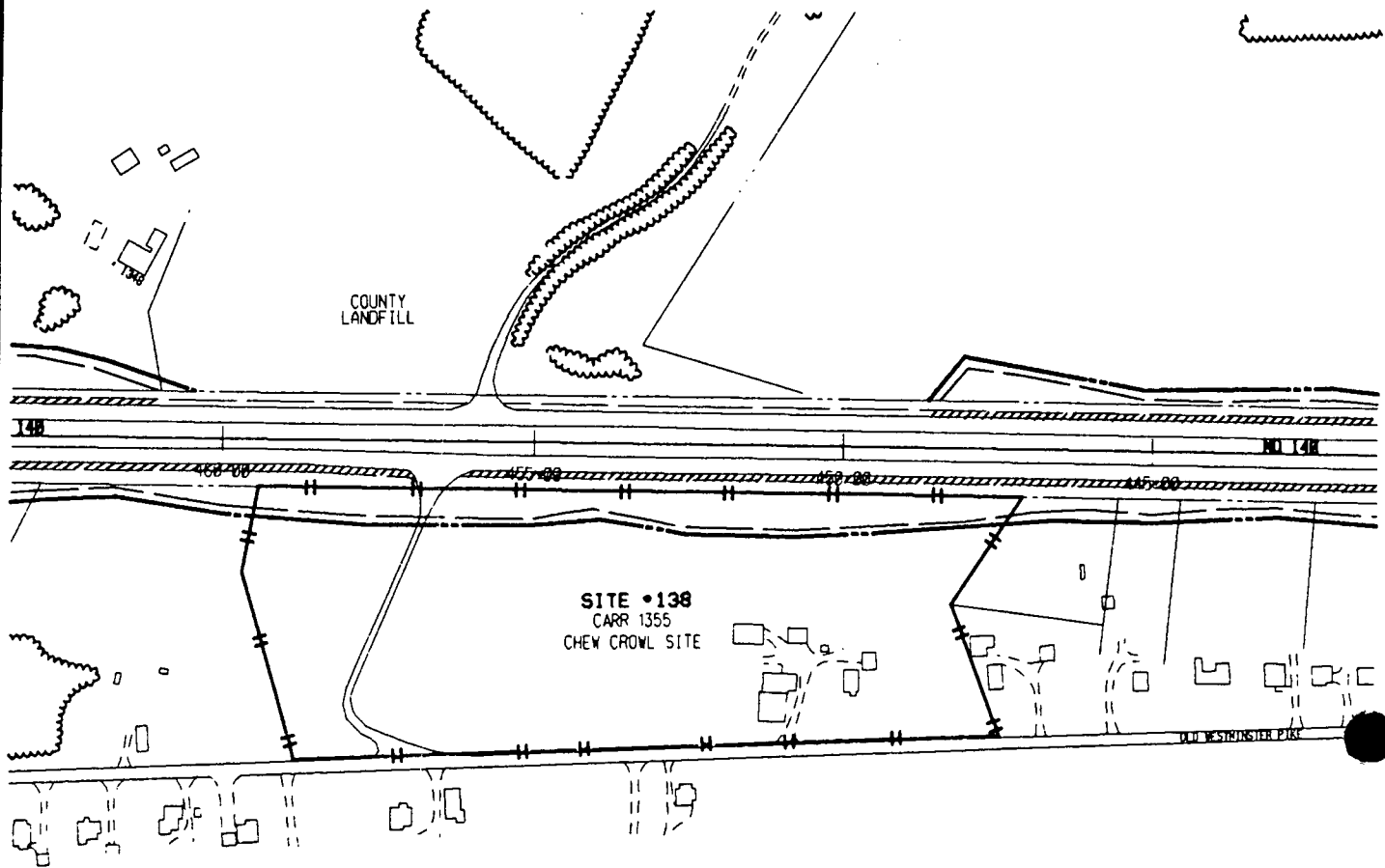
309



MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
BONSAK FARM COMPLEX & ROYER-KOONTZ FARMSTEAD ALTERNATES 2 AND 3A	
SCALE IN FEET	
DATE MAY 1994	
FIGURE V-2	

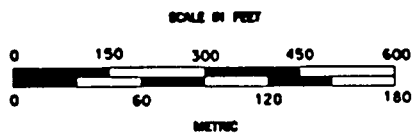


MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
BONSACK FARM COMPLEX & ROYER-KOONTZ FARMSTEAD ALTERNATE 3B	
DATE MAY 1994	SCALE IN FEET 0 150 300 450 600 0 60 120 180 METRIC
FIGURE V-3	



LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAYEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
CHEW CROWL SITE ALTERNATES 2, 3A AND 3B		
DATE MAY 1994	SCALE 1:3600 (1"=300')	FIGURE V-4



carbon monoxide concentrations, however on violations of the S/NAAQS occurred.

2. Royer-Koontz Farmstead

Proposed Alternates TSM, 2, 3A and 3B would each require approximately .75 hectare (1.86 acres) from this site, thus the site would be adversely affected (Figure V-1, V-2, and V-3).

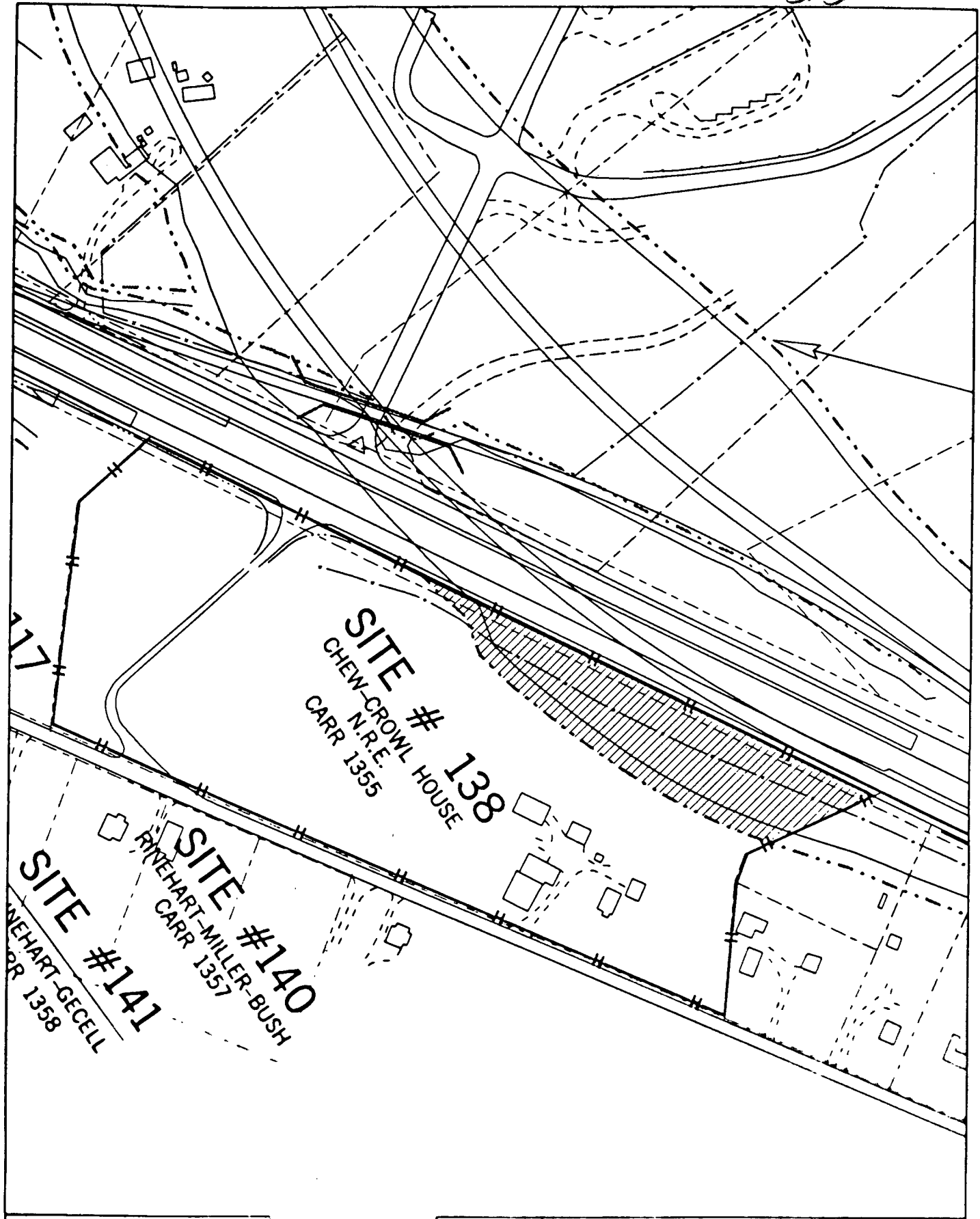
3. Chew Crowl Farm

Proposed Alternates 2, 3A and 3B (Existing Road Improvements) would each require approximately .51 hectare (1.27 acres) strip right-of-way from this national register eligible historic site, thus the site would be adversely affected (see Figure V-4).

Alternate 6 would require approximately .62 hectare (1.54 acres) from the back of the property along the interface of the historic site boundary with MD 140 (Figure V-5). The site would be adversely affected by Alternate 6.

Alternate 10A would require approximately 2.64 hectares (6.53 acres) which would place the ramp just west of the historic buildings and within the immediate viewshed (Figure V-6). For this reason, the Chew Crowl House would be adversely affected.

A noise and air analysis for this area has been completed. The Leq ambient noise level for the noise sensitive site representative of this area (NSA A) is 73 dBA. The modeled design year Leq noise level is 73 dBA, no change. An air analysis was performed in this area receptor (NSA 57). It revealed only a minor increase over existing carbon monoxide concentrations, however no violations of the S/NAAQS occurred.



LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION	
MD140 WESTMINISTER BYPASS	
CHEW - CROWL HOUSE ALTERNATE 6	
DATE 5-13-94	<p>RATIO 1:2400 SCALE IN FEET</p>
	FIGURE V-5

SITE 117
 HIMLER CROWL
 CARR 788

SITE # 138
 CHEW-CROWL HOUSE
 CARR 1355
 N.R.E.

SITE # 140
 RINEHART-BUSH HOUSE
 CARR 1357

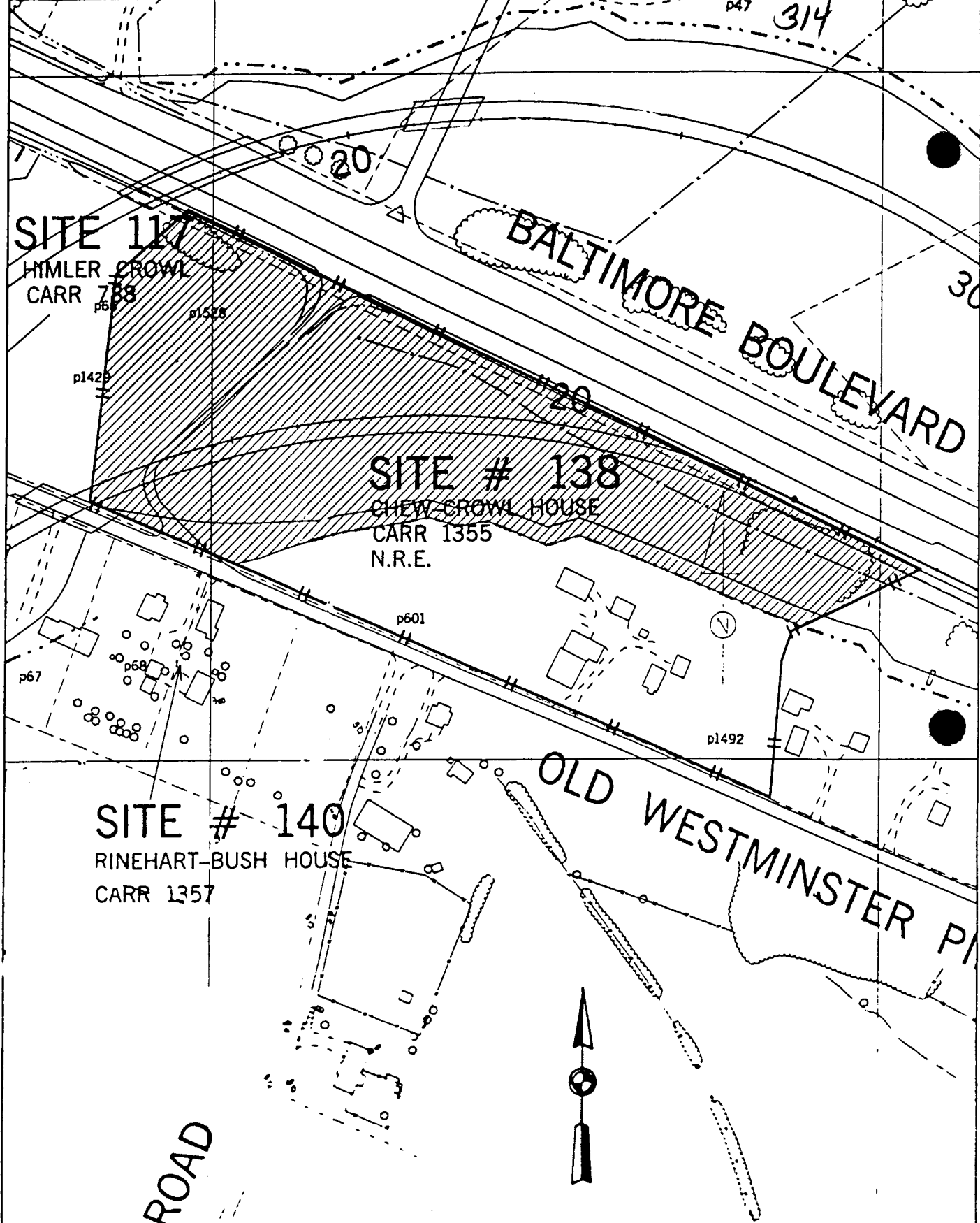
BALTIMORE BOULEVARD

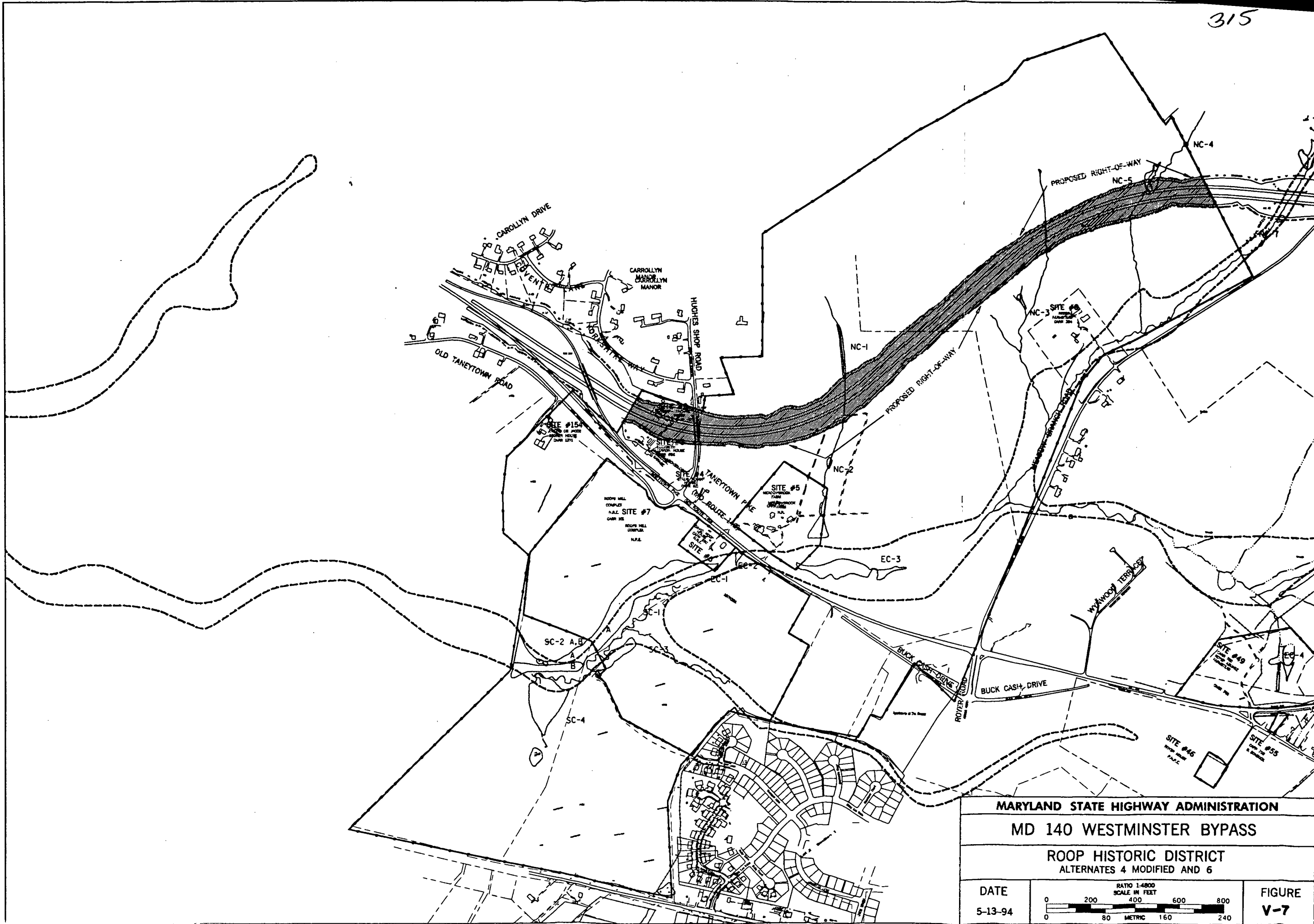
OLD WESTMINSTER PI

ROAD

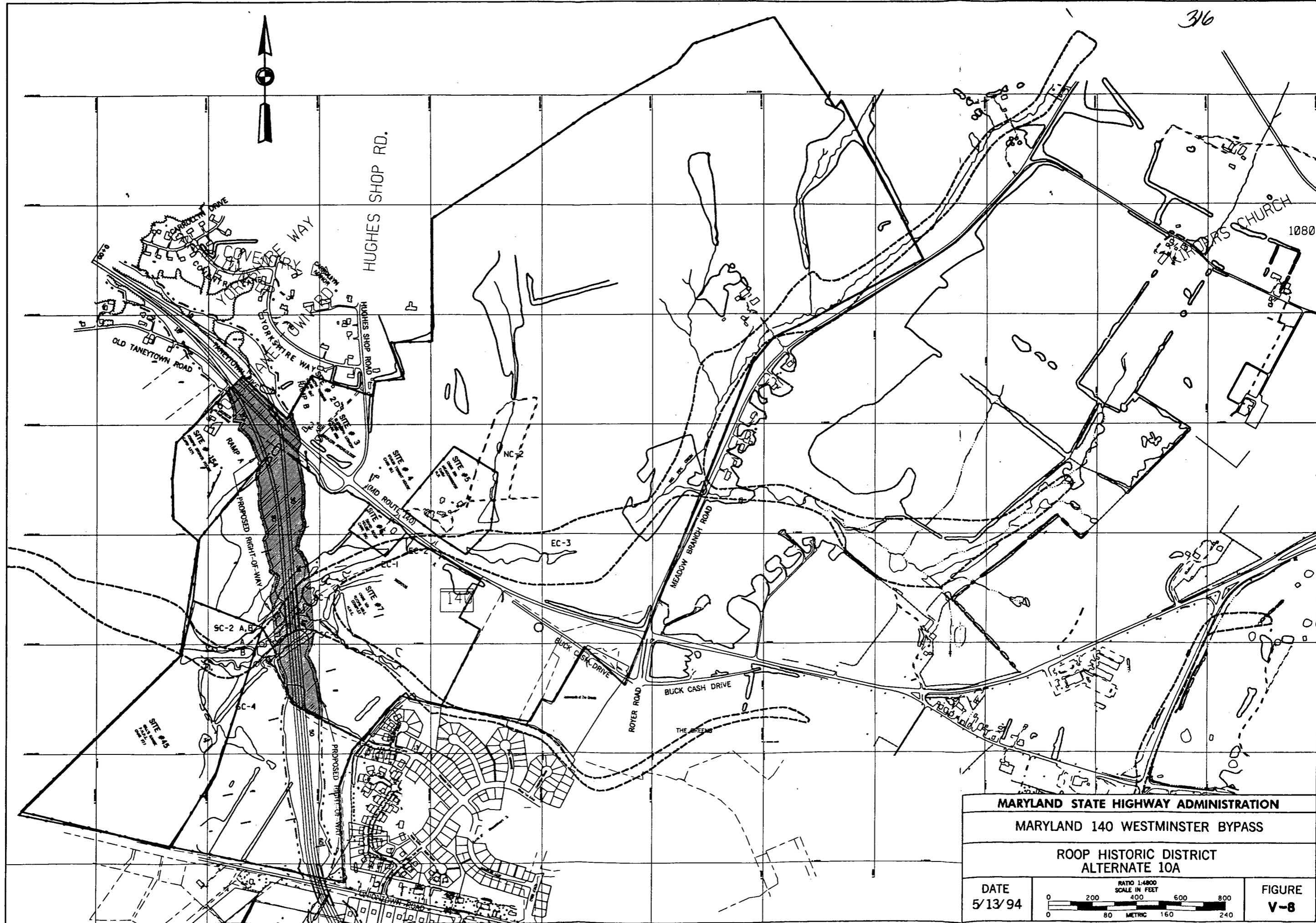
LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION		
MARYLAND 140 WESTMINSTER BYPASS		
CHEW-CROWL HOUSE ALTERNATE 10A		
DATE 5/13/94	SCALE IN FEET 0 100 200 300 400 METRIC 0 40 80 120	FIGURE V-6





MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
ROOP HISTORIC DISTRICT ALTERNATES 4 MODIFIED AND 6		
DATE 5-13-94	RATIO 1:4800 SCALE IN FEET 	FIGURE V-7



MARYLAND STATE HIGHWAY ADMINISTRATION

MARYLAND 140 WESTMINSTER BYPASS

ROOP HISTORIC DISTRICT
ALTERNATE 10A

DATE
5/13/94

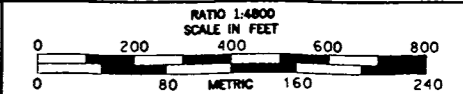


FIGURE
V-8

316

4. **Roop Rural Historic District**

Proposed Alternates 4 Modified and 6 would each require approximately 15.15 hectares (37.43 acres) from this site and would also require the acquisition of the Joseph Thomas House and the Elizabeth Lowry House which are components of the district which contributes to its significance (Figure V-7). The district would be adversely affected not only by the acquisition of property, but also because the rural environment would be altered by Alternates 4 and Alternate 6.

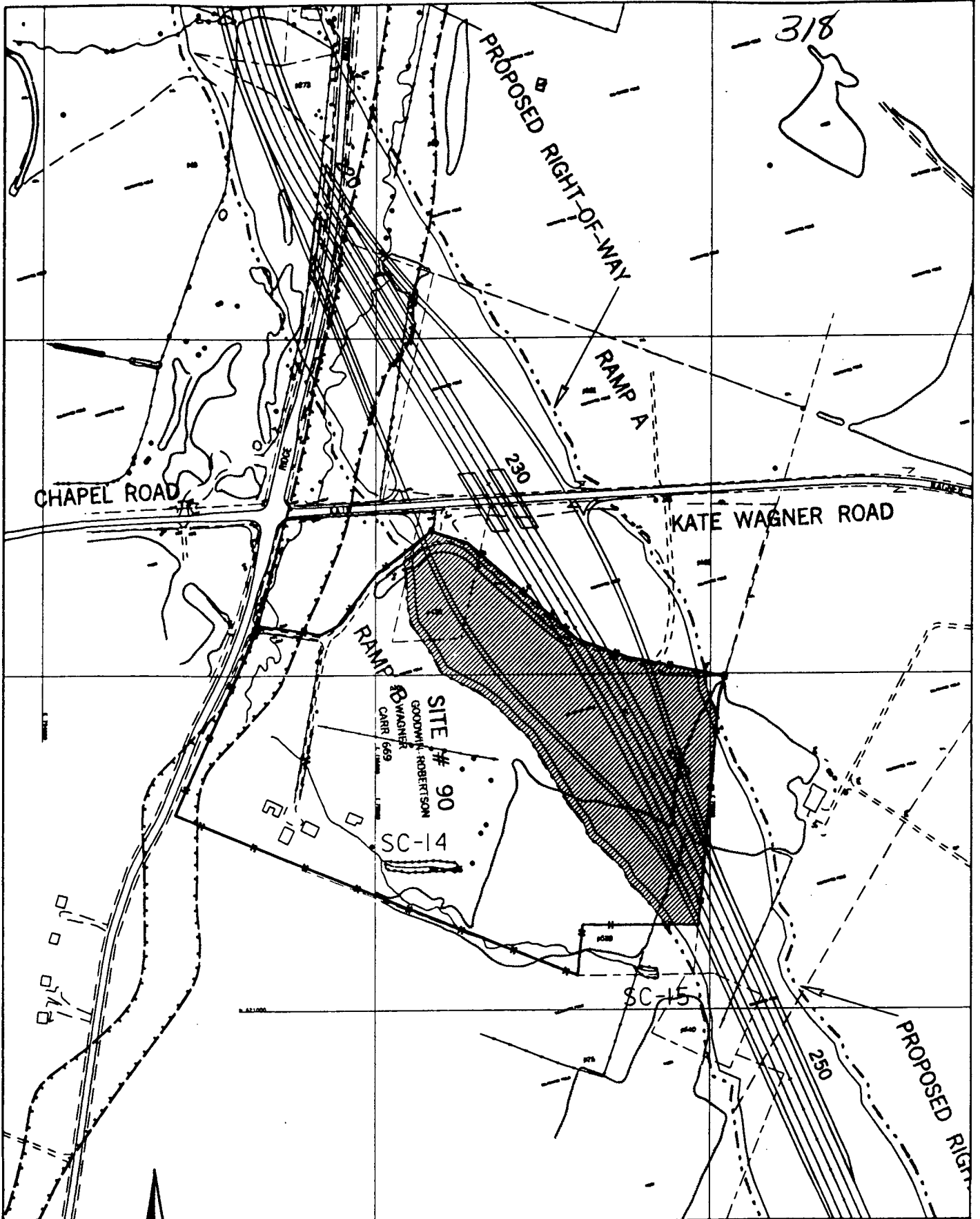
Proposed Alternate 10A would require approximately 14.62 hectares (36.13 acres) from this historic site located in close proximity to the Joseph Storner House and the Elizabeth Lowry House, contributing components of the district (Figure V-8). The district would be adversely affected not only by the acquisition of considerable property, but also because the rural environment would be altered by Alternate 10A.

A noise and air analysis for this area has been completed. The Leq ambient noise level for the noise sensitive site representative of this area (NSA 16) is 74 dBA. The modeled design year Leq noise level is 66 dBA, a difference of 8 dBA. An air analysis was performed in this area using a representative site 16. It revealed only a minor increase over existing carbon monoxide concentrations, however no violations of the S/NAAQS occurred.

5. **Goodwin-Robertson-Wagner Farm Complex**

Proposed Alternate 10A would require approximately 4.51 hectares (11.15 acres) from this national register eligible historic site (Figure V-9). Although the proposed road would be well above the grade of the cluster of historic buildings and would be largely hidden from view by rolling hills; the Goodwin-Robertson-Wagner site would be adversely affected due to the substantial property impacted.

A noise and air analysis for this area has been completed. The Leq ambient noise level for the noise sensitive site representative of this area (NSA 24) is 55 dBA. The modeled design year Leq noise level is 64 dBA a difference of 9 dBA. An air analysis was performed in this area using a



LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION	
MARYLAND 140 WESTMINSTER BYPASS	
GOODWIN-ROBERTSON WAGNER HOUSE ALTERNATE 10A	
DATE 5/13/94	RATIO 1:4800 SCALE IN FEET
	FIGURE V-9

representative site (NSA 16). It revealed only a minor increase over existing carbon monoxide concentrations, however no violations of the S/NAAQS occurred.

6. Elmer Fritz Farm Complex

Proposed Alternates 4 Modified and 6 would each require approximately 3.16 hectares (7.80 acres) from this site resulting in an adverse affect on this site which is a component of the Roop Rural Historic District (Figure V-10).

7. Tannery Historic District

Proposed Alternate 6 would require approximately .27 hectare (.67 acre) of property from this site (Figure V-11). The proposed road would be located uphill from the Tannery Survey District and would remove the woods, thus creating a adverse affect on this site.

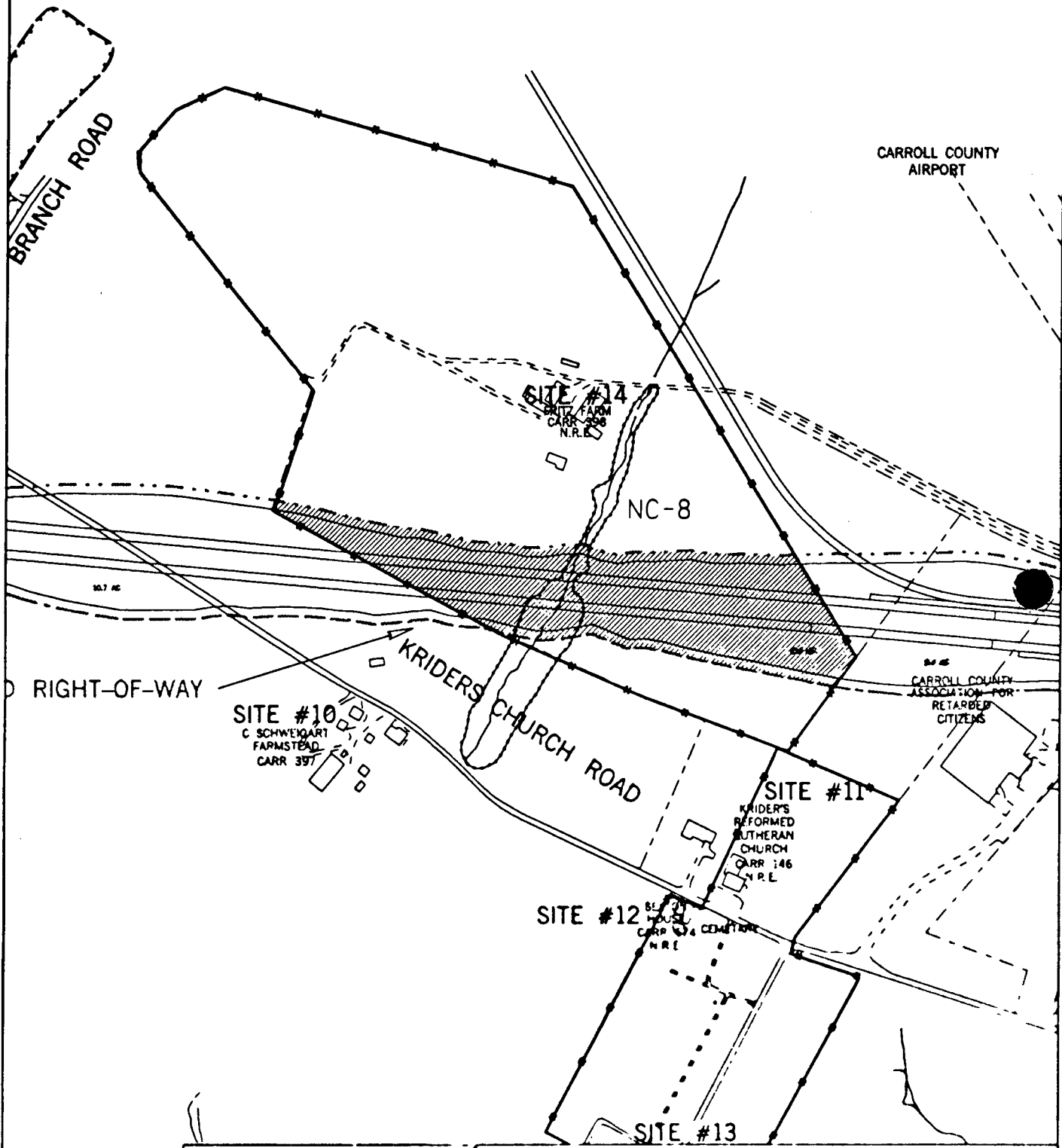
8. Evelyn Thompson House

Alternates 2 ,3A and 3B would each require approximately .49 hectare (1.20 acres) from this site for slight widening and for a stormwater management area (Figure V-12). Alternate 6 would require approximately .223 hectare (.55) acres and Alternate 10A would require approximately .58 hectare (1.43) acres from this site (Figure V-13 & 13A). The property acquisition for either of the proposed build alternates would cause an adverse affect on this site.

9. Carroll County East Middle School

Proposed Alternate 3B (Existing Road Improvement) would impact 1.58 hectares (3.9 acres) of this site which consists of a tennis court, soccer field, football field and athletic field in addition to impacting one of the temporary building which houses a class room (Figure V-14).

Air and noise analyses have been completed for each of these areas. The ambient Leq noise level for the noise sensitive site representative of this

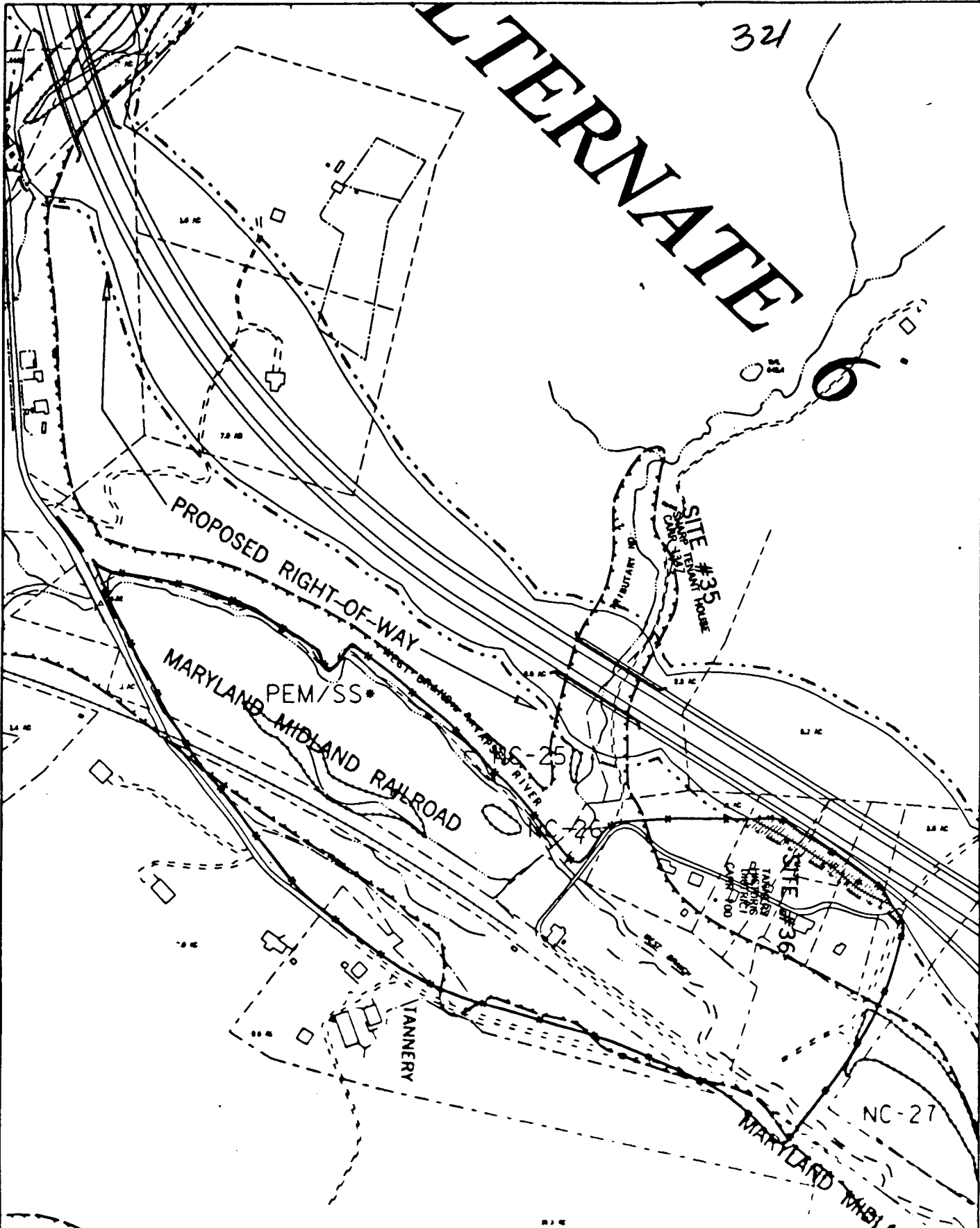


LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
FRITZ FARM	
ALTERNATES 4 MODIFIED AND 6	
DATE 5-13-94	SCALE IN FEET 0 200 400 600 800 METRIC 0 80 160 240
FIGURE V-10	

ALTERNATE

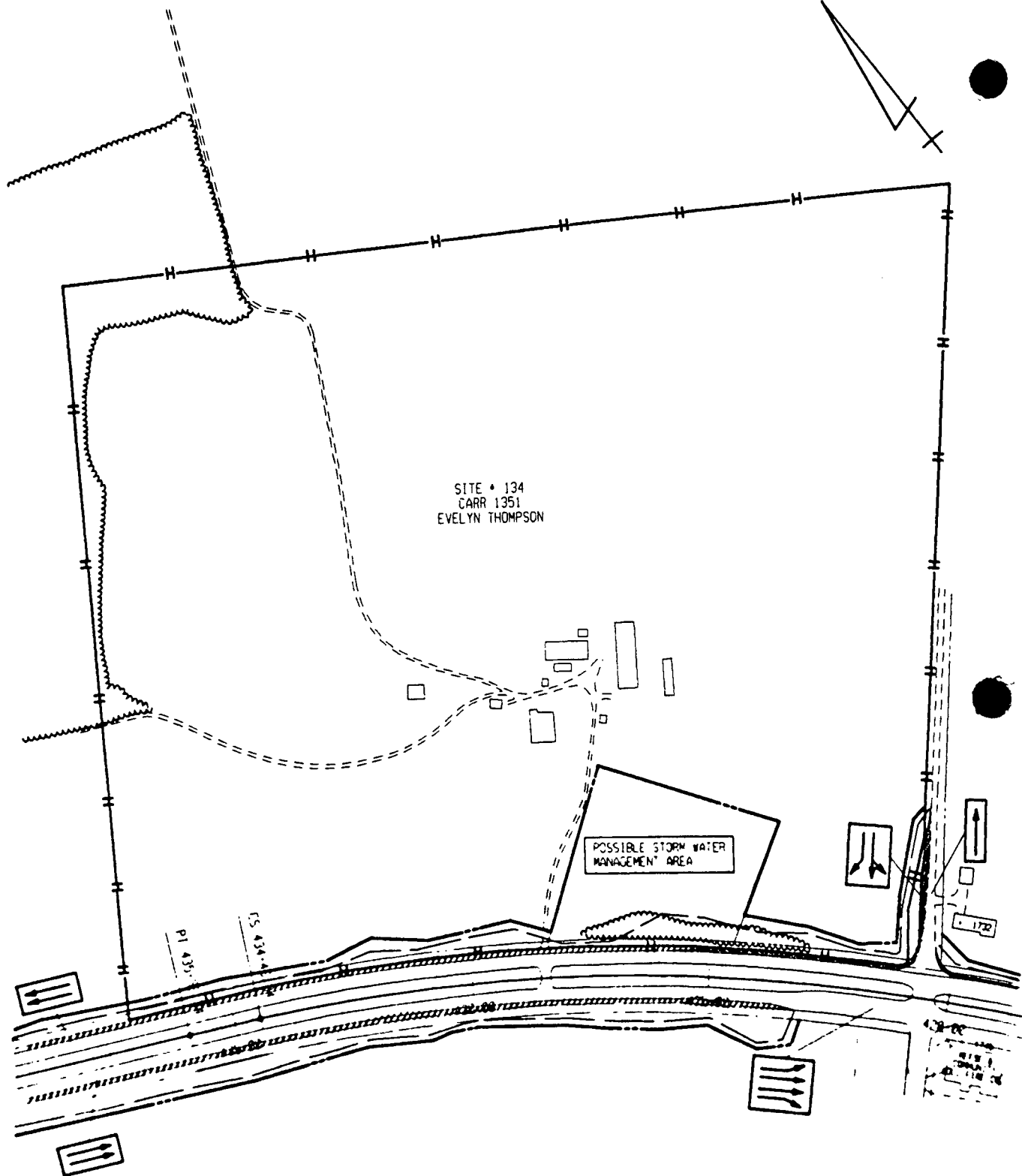
324



LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
TANNERY HISTORIC DISTRICT ALTERNATE 6		
DATE 5-13-94	RATIO 1:4800 SCALE IN FEET 	FIGURE V-11

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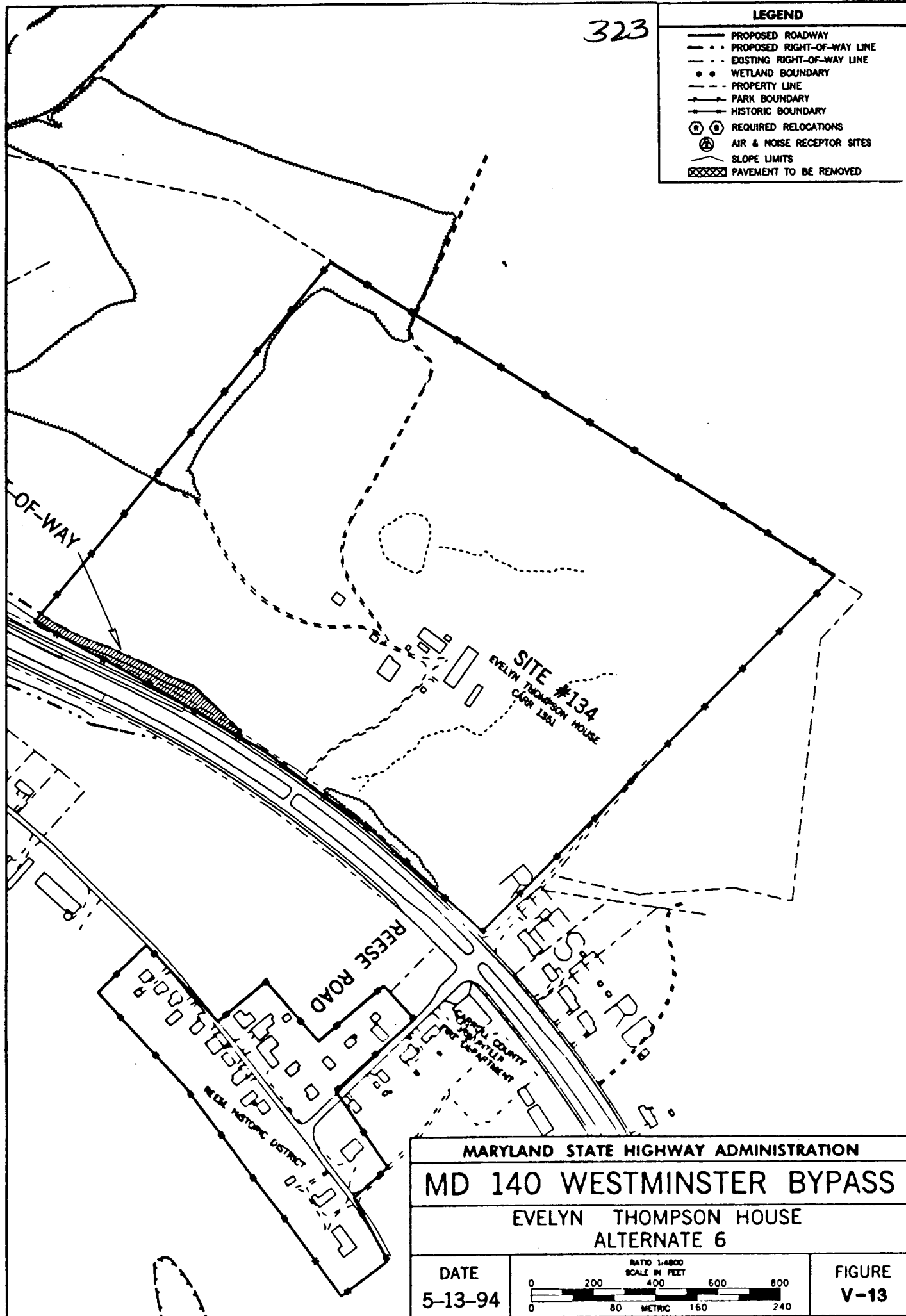
LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION	
MD 140 WESTMINSTER BYPASS	
EVELYN THOMPSON SITE ALTERNATES 2, 3A AND 3B	
SCALE IN FEET	
DATE MAY 1994	

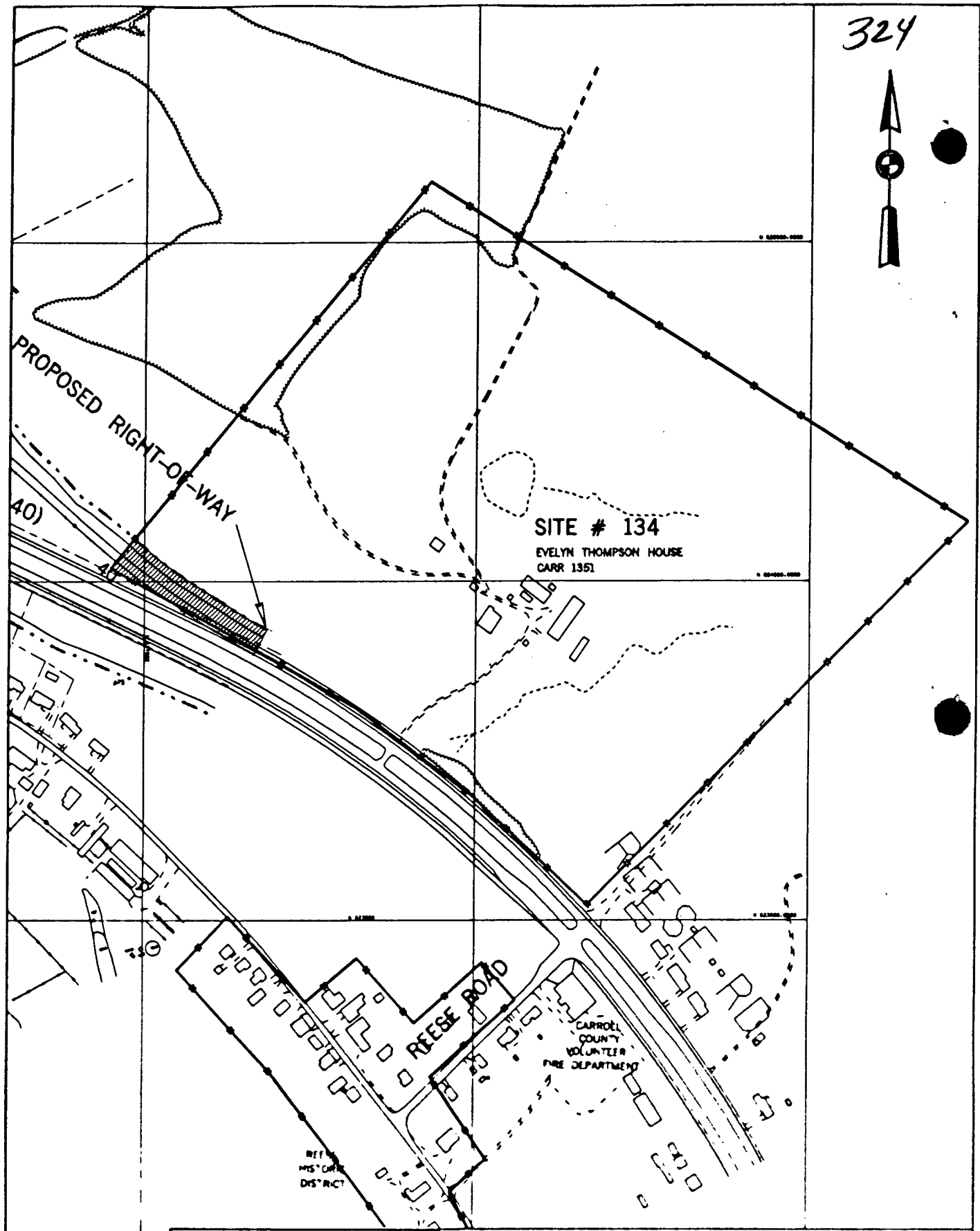
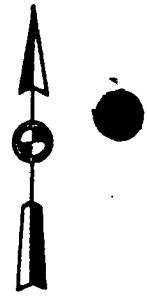
FIGURE V-12

323

LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	PROPERTY LINE
	WETLAND BOUNDARY
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

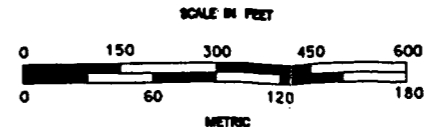
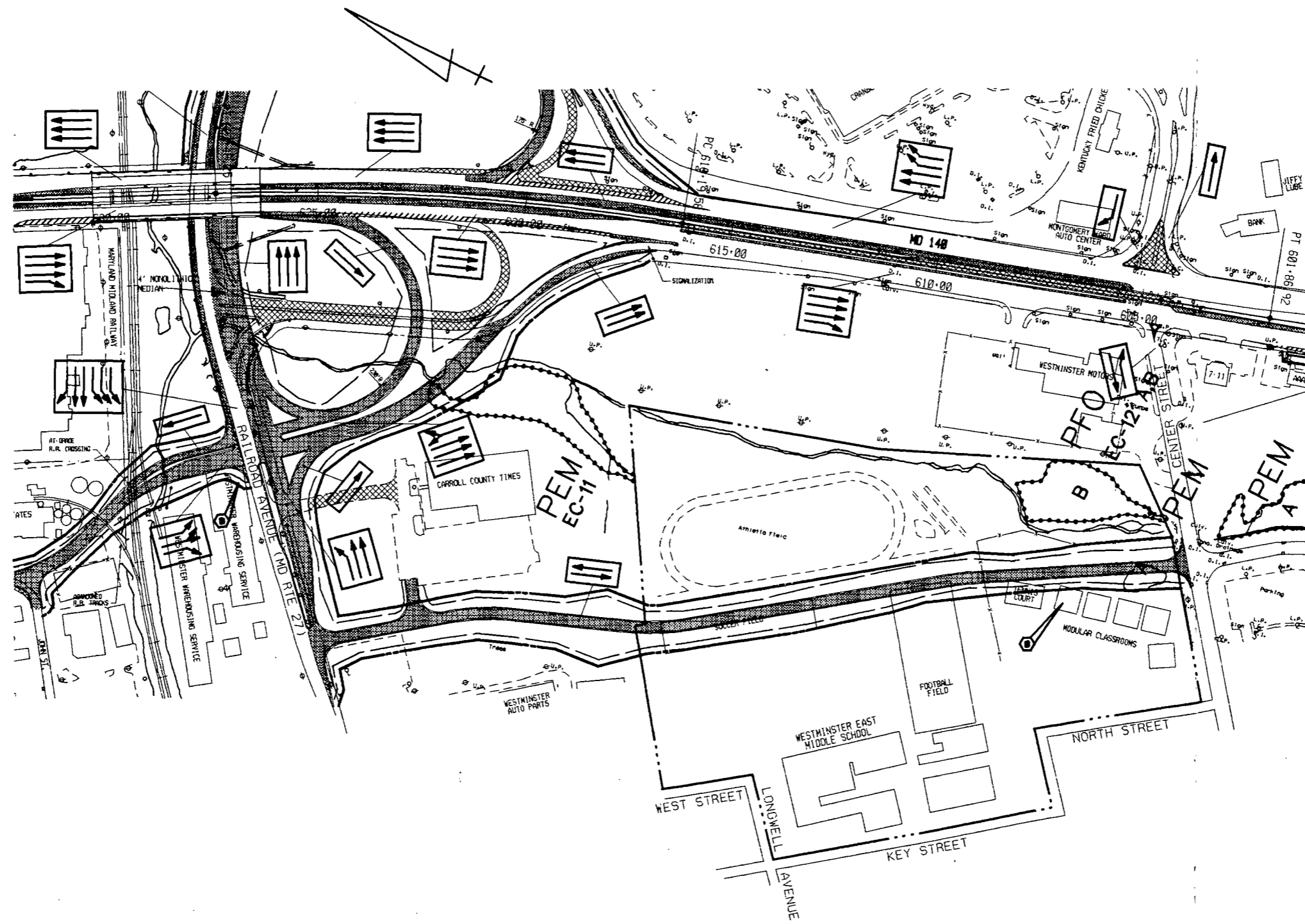


MARYLAND STATE HIGHWAY ADMINISTRATION		FIGURE V-13
MD 140 WESTMINSTER BYPASS		
EVELYN THOMPSON HOUSE ALTERNATE 6		RATIO 1:4800 SCALE IN FEET 0 200 400 600 800 0 80 METRIC 160 240
DATE	5-13-94	



LEGEND	
	PROPOSED ROADWAY
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING RIGHT-OF-WAY LINE
	WETLAND BOUNDARY
	PROPERTY LINE
	PARK BOUNDARY
	HISTORIC BOUNDARY
	REQUIRED RELOCATIONS
	AIR & NOISE RECEPTOR SITES
	SLOPE LIMITS
	PAVEMENT TO BE REMOVED

MARYLAND STATE HIGHWAY ADMINISTRATION	
MARYLAND 140 WESTMINSTER BYPASS	
EVELYN THOMPSON HOUSE ALTERNATE 10A	
DATE 5/13/94	RATIO 1:4800 SCALE IN FEET 0 80 METRIC 160 240
FIGURE V-13A	



MARYLAND STATE HIGHWAY ADMINISTRATION		
MD 140 WESTMINSTER BYPASS		
WESTMINSTER EAST MIDDLE SCHOOL ALTERNATE 3B		
DATE	SCALE	FIGURE
JAN 1994		V-14

area (NSA 7) is 65 dBa. The modeled design year Leq noise level is 63 dBa, a decrease of 2 dBa, therefore no further analysis is recommended. An air analysis was performed in this area using a representative site (NSA 7). It revealed only a minor increase over existing carbon monoxide concentrations, however no violations occurred. For more detail information regarding air and noise studies see Section IV of this document.

E. Avoidance Minimization Alternates

1. Roop Rural Historic District Alternate 6

The No-Build Alternate avoids impacts to all 4(f) properties since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. Even with these minor improvements, MD 140 would function at level of service "E" by design year 2015. Safety conditions would diminish considerably with the projected increase in traffic volumes. Due to the lack of added capacity, the No-Build Alternate does not meet the purpose and need of the project and is not considered to be a reasonable alternative.

In order to avoid this historic site, a shift in alignment of Alternate 10 A to the west side was considered. Beginning from existing MD 140 approximately 2438.4 meters (8000 feet) west of Hughes Shop Road, it would run in a southerly direction crossing Uniontown Road, Old Taneytown Road, Bid Pike Creek and Old Uniontown Road. Curving easterly and crossing Rockland Road and Bell Road it would pass through Wakefield Valley Golf Course. Crossing Capps Branch, it would run in a northeasterly direction passing through Wakefield Valley subdivision. Bridging MD 32 and MD 852, it would curve in a southerly direction and crossing over Maryland Midland Rail road and Little Pipe Creek, it would merge with Alternate 10 A alignment

The proposed Alternate 10A avoidance alignment would require approximately 25 additional relocations than Alternate 10A as proposed. It would cause severe impacts to the golf club by taking the club house and requiring numerous parking spaces. The avoidance alignment as proposed

would split the Wakefield Valley subdivision, require the club house to be relocated and impact the swimming pool in addition to taking numerous parking spaces. This alignment shift would increase the project length by another mile.

Since this historic district extend to Meadow Branch Road the bypass avoidance elignment begins east of the Meadow Branch Road/Royer Road intersection; this alignment would not fully address the purpose and need for the project. It would pass through well developed areas of Westminster requiring the displacement of several homes. It would pass through the Meadow Branch Cemetery, Apartments at the Green, The Greens of Westminster and Westminster Elementary School.

When compared to Alternates 4 Modified and 6, Alternate 10A minimizes impacts to the District.

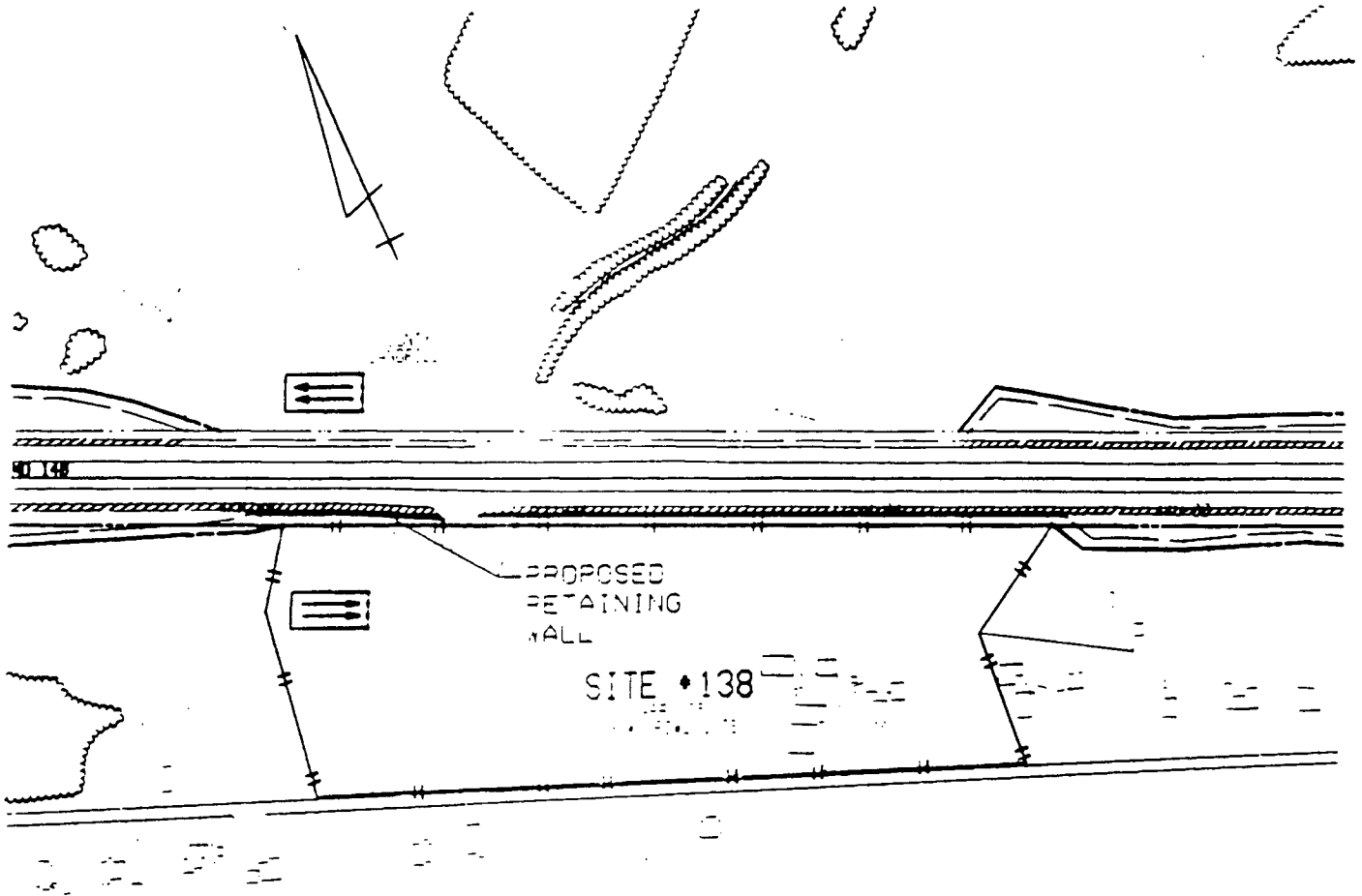
2. Chew Crowl House

Proposed Alternates 2, 3A and 3B impact on this property could be avoided by constructing a retaining wall approximately 1.8 meters (6 feet) high the entire length of the cut section at a cost of \$238,000 (Figure V-15).

The proposed Alternate 6 eastbound ramp also impacts this site. This impact could be avoided by constructing Alternate 4 Modified, which begins at MD 140 west of Chew Crowl House.

To avoid the site with Alternate 10A, the ramps would tie-in to the existing road about 914 meters (3000 feet) west of the current tie-in point. The avoidance alignment developed would cross Old Westminster Pike in the vicinity of Tara Oaks and would travel in a southerly direction. Crossing Poole Road and Beaver Run, it would join the Alternate 10 A alignment just north of Hook Road (Figures V-17A & V-17B).

Impacts associated with the Alternate 10A avoidance option include the relocation of Danner Farms Nursery, two additional stream crossings (tributaries to Beaver Run) and associated floodplains. One home and several subdivision lots along Arnold Road in Rebecca's Ridge Subdivision would be



MARYLAND STATE HIGHWAY ADMINISTRATION

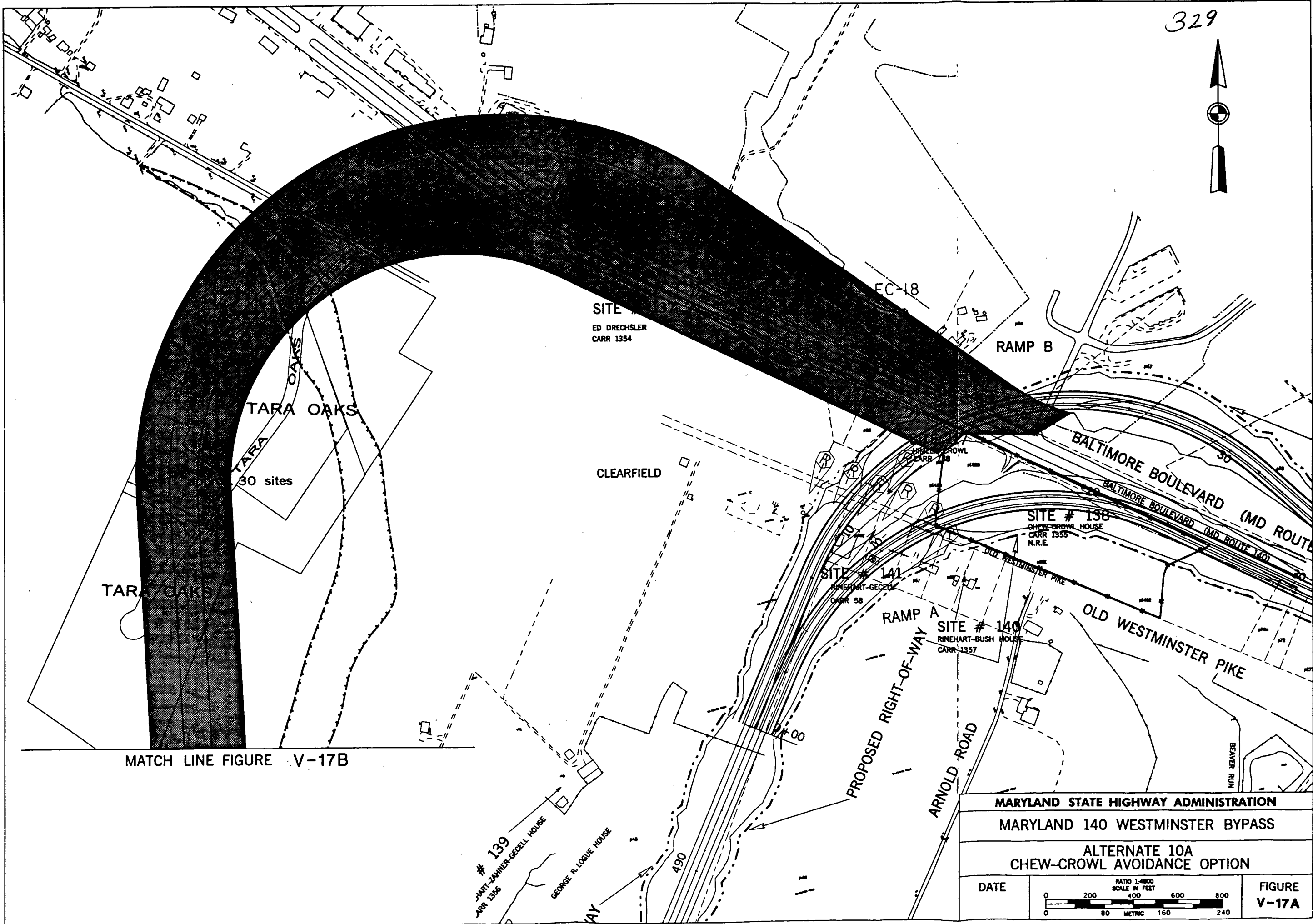
MD 140 WESTMINSTER BYPASS

CHEW CROWL SITE AVOIDANCE OPTION
ALTERNATES 2, 3A AND 3B

DATE
JAN 1994

SCALE
1" = 300'

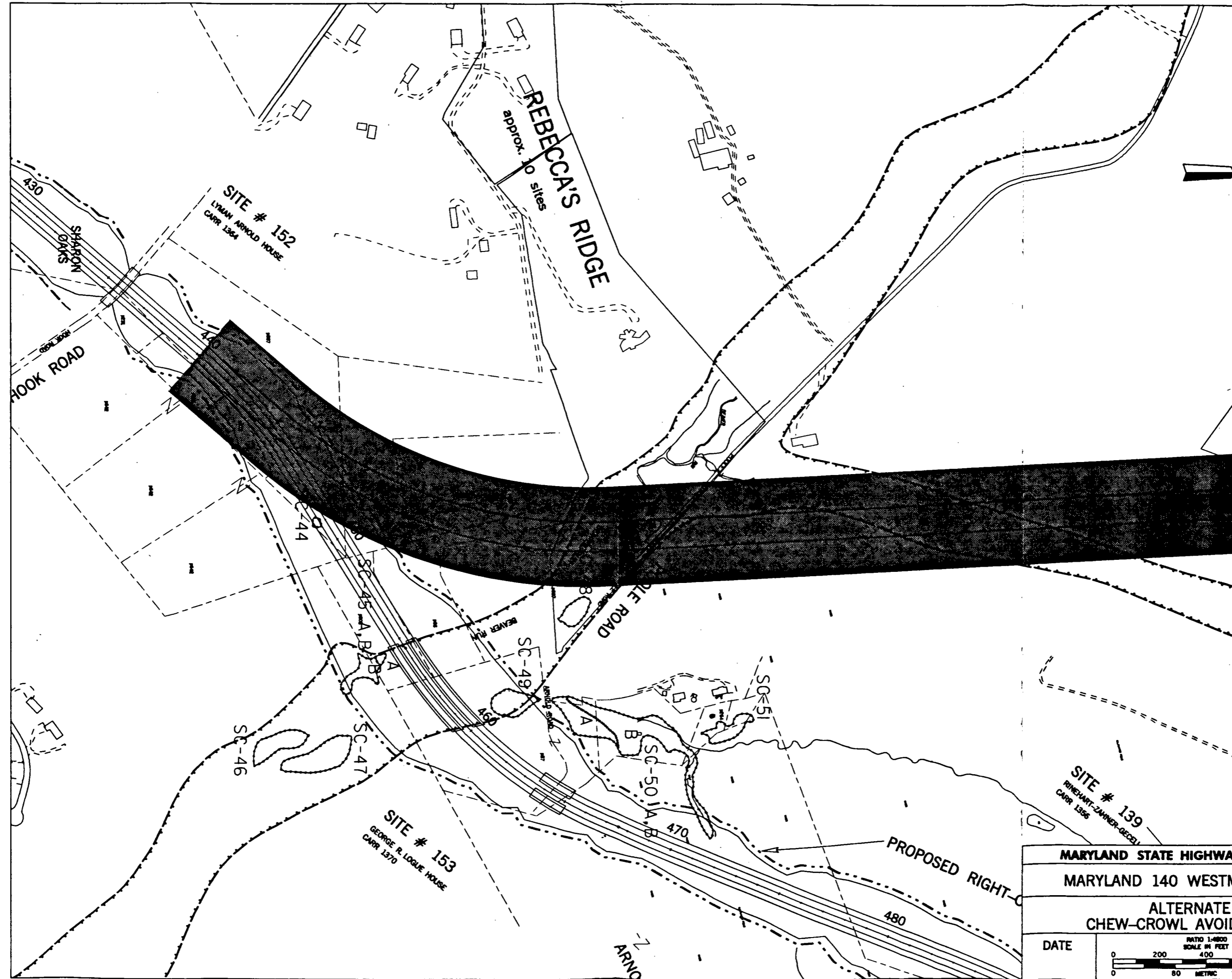
FIGURE
V-15



MATCH LINE FIGURE V-17B

MARYLAND STATE HIGHWAY ADMINISTRATION		FIGURE V-17A
MARYLAND 140 WESTMINSTER BYPASS		
ALTERNATE 10A CHEW-CROWL AVOIDANCE OPTION		
DATE	RATIO 1:4800 SCALE IN FEET 0 200 400 600 800 0 80 METRIC 160 240	

330



MATCH LINE FIGURE V-17A

MARYLAND STATE HIGHWAY ADMINISTRATION		
MARYLAND 140 WESTMINSTER BYPASS		
ALTERNATE 10A CHEW-CROWL AVOIDANCE OPTION		
DATE	RATIO 1:4000 SCALE IN FEET 0 200 400 600 800 0 80 METRIC 160 240	FIGURE V-17B

SITE # 152
LYMAN ARNOLD HOUSE
CARR 1364

REBECCA'S RIDGE

HOOK ROAD
SHAPRON OAKS

SITE # 153
GEORGE R. LOGUE HOUSE
CARR 1370

SITE # 139
RINEHART-ZAMNER-GECEL
CARR 1356

PROPOSED RIGHT-OF-WAY

ARNOLD

required. In the Clearfield area, it would pass through the center Tara Oaks Subdivision.

Alternates 2, 3A, and 3B minimizes impacts to the Chew Crowl House when compared to Alternates 6 and 10A.

3. Goodwin-Robertson-Wagner

A western shift of Alternate 10A was considered to avoid this site. A western shift would require taking six additional homes, would cross the tributary to Little Pipe Creek at a very acute angle, result in additional impacts to the stream and associated wetlands and increase the length of the project by 0.8 kilometer (1/2 mile) (Figure V-16).

4. Bonsack Farm Complex

Impacts to this site resulting from proposed alternatives TSM, 2, 3A and 3B would be avoided by the following Alternates, No Build, 4 Modified 6 or 10A.

Impacts to this site resulting from proposed Alternate 3B could be avoided by eliminating the MD 140/MD 31 fly-over ramp.

When compared to Alternates 2, 3A and 3B the TSM Alternate minimizes impacts to the Bonsack Farm.

5. Royer Koontz Farmstead

The No-Build Alternate avoids impacts to this site since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. The No-Build Alternate does not meet the purpose and need for the project and is not considered feasible or prudent. Alternates 4 Modified and 6 would also avoid impacts to this site.

6. Elmer Fritz Farmstead

The No-Build Alternate avoids impacts to this site since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. The No-Build Alternate does not meet the purpose and need for the project and is not considered feasible and prudent. Alternate 10A would also avoid this historic site.

7. Evelyn Thompson

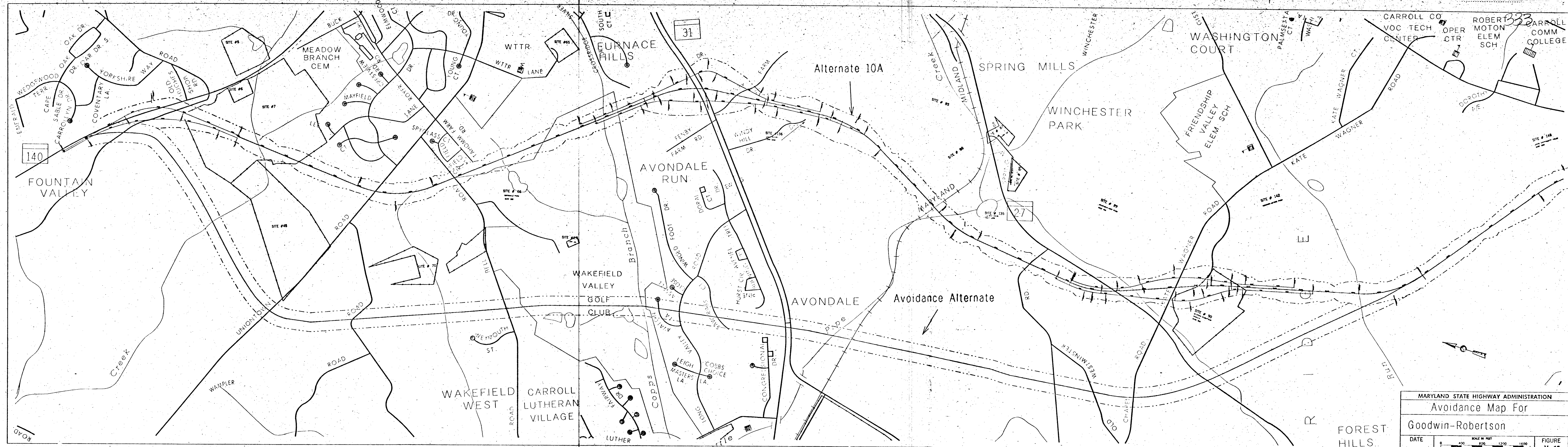
The No-Build Alternate avoids impacts to this site since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. The No-Build Alternate does not meet the purpose and need for the project and is not considered feasible and prudent. Alternate 10A would also avoid this historic site.

8. Tannery Survey District

The No-Build Alternate avoids impacts to this site since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. The No-Build Alternate does not meet the purpose and need for the project and is not considered feasible and prudent. The TSM Alternate, Alternates 2, 3A, 3B, 4 Modified and 10A would also avoid this historic site.

9. Carroll County East Middle School

The No-Build Alternate avoids impact to this school since there would be no widening of the existing roadway nor improvements which would include a bypass. Under the No-Build Alternate, only minor roadway improvements to MD 140 are planned. The No-Build Alternate does not meet the purpose and need for the project and is not considered feasible and prudent. The TSM Alternate, Alternates 2, 3A, 4 Modified and 10A would also avoid this historic site.



MARYLAND STATE HIGHWAY ADMINISTRATION		
Avoidance Map For		
Goodwin-Robertson		
DATE	SCALE IN FEET 0 400 800 1200 1600 0 150 300 450 METRIC	FIGURE V-16

F. Mitigation Measures

Mitigation will be developed in consultation with the Maryland Historical Trust, the Advisory Council on Historic Preservation once a selected alternate is identified.

G. Consultation and Coordination

Correspondence in Comment and Coordination Section document coordination with the Maryland Historical Trust and Superintendent of Carroll County Public Schools.

VI.

LIST OF PREPARES

VI. LIST OF PREPARERS

This Draft Environmental Impact Statement 4(f) Evaluation was prepared by the Maryland Department of Transportation, State Highway Administration in consultation with the Federal Highway Administration. The following personnel were instrumental in the preparation of this document.

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VII. DISTRIBUTION

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VIII.

COMMENTS AND COORDINATION

***INTERAGENCY
MEETING
MINUTES***

Contract No. CL 713-101-740
Westminster Bypass, from Reese Road
to Hughes Shop Road in Carroll County
Status: Alternates retained for study
Project Manager: Sue Rajan, x1138
Environmental Manager: Wes Glass, x1185

MS. SUE RAJAN, SHA:

Said the purpose of today's meeting is to present the alternates that are currently under consideration and to get your verbal concurrence at the end of the meeting and your comments and suggestions on these alternates.

One of the comments that SHA received at a previous Interagency Meeting regarding Alternate 4, was one of our preliminary alternates that we presented at the alternates public meeting. Since then, it had been dropped from our study due to impacts. At the last meeting, we were asked to take another look at that alternates. SHA reviewed old aerial photographs, we received county maps with all the recent developments and also we went and looked in the field.

Alternate 4 would have joined with Alternate 6 and 5 alignment and it has gone in a southerly direction and joined the Alternate 5 alignment. The reasons for dropping was, it would have gone through a nursery and tree farm and bisected two operating farms. Also it would have some wetland impacts. Alternate 5 was retained at the Alternates Meeting as an avoidance option to look at for the master plan alignment. It is called Alternate 6.

Recently, SHA has also considered minor changes to these alternates to minimize impacts to the wetland. Stated I will go through all the detailed alternates here and come back to the shift in Alternate 4. We brought the aerial photograph showing Alternate 4 which we'll lay on the table at the end of the presentation and go over it.

The current alternates that SHA is looking at are alternates along the existing road, and also a northern alternate and with an option on the east side that is Alternate 6 and Alternate 5. Alternate 6 is the master plan alignment. SHA is also studying one alignment south of Westminster for a bypass. After our meeting today and after we get the concurrence and alternates to be studied carried forward, we will go back and develop these alternates in detail.

SHA is currently studying three alternates along the existing MD 140. Alternate 2 which provides the minimum improvements within the right-of-way. Between MD 97 south and MD 97 north, we will need at least three through lanes and a right turn lane near the commercial areas. Under all alternates along the existing road, we propose to develop the portion from Hughes Shop Road to Route 31. And from there three through lanes are proposed.

Alternate 2 proposes some intersection improvements and some minor improvements to the ramps and try to stay within the existing right-of-way. SHA will be adding one more lane in the median. Also we will add some more turn lanes and things like that.

Alternate 3A proposes to eliminate some of the at-grade intersections. Alternate 3B would propose to eliminate all crosses over Morgan Run by constructing additional interchanges and service roads which would require additional right-of-way and would have impacts along the road.

Both Alternate 3-A and Alternate 3B would have a new interchange at MD Route 97 and modified the interchange at MD Route 27. SHA is also considering a new interchange at MD Route 31.

The master plan alignment which is Alternate 6 starts just west of Hughes Shop Road, this is Hughes Shop Road. It crosses some of the tributaries of Big Pipe Creek and also it crosses Big Pipe Creek and Meadow Branch Road and an interchange is proposed at MD 97. It passes just south of the Carroll County airport and pass over Sullivan Road and crosses West Branch Patapsco. It also crosses MD 27 where a new diamond interchange is proposed. It crosses through MD 852 and comes down in a southerly direction and crosses West Branch Patapsco again and the railroad. It comes southerly and crosses Gorsuch Road. We are currently considering an interchange there.

Alternate 6 then ties into the existing road. There is an interchange proposed for both bypass alternates. It just ties into Reese Road. The southern alternate also starts at the same point, just west of Hughes Shop Road and it crosses near three historic sites in that area. It then crosses Union Town Road where an overpass is proposed and it takes some land from the golf course property, crosses MD Route 31 where a diamond interchange is proposed. This alternate travels southerly and crosses Little Pipe Creek, Big Pipe Creek and it also crosses Morgan Run and Kate Wagner Road.

After this alternate crosses Morgan Run it proceeds in an easterly direction and interchanges are proposed at MD 97 and it passes over MD Route 32 crossing Beaver Run on the east side. There will be a grade separation at Hook Road and the alignment merges with the existing road at Reese Road where interchanges are proposed.

There are approximately 15 stream crossings in the area. Both alternates have about 14 or 15 stream crossings. Eight of them are major drainage areas with more then one square mile drainage area.

MS. CYNTHIA SIMPSON, SHA-PPD:

Asked the agencies if SHA should continue to carry Alternate 4.

RESPONSE:

MR. PAUL WETTLAUFER, COE:

Replied yes.

RESPONSE:

MR. PAUL WETTLAUFER, COE:

Wanted to know if there are other reasons this alternate is being dropped aside from the agriculture impacts because the Land Use shows it's all conservation which is a low density development. Stated that if it's all going to developed anyway, is there any real need to avoid the farms.

Pointed out some other reasons for keeping it in. There could be a spur from MD 97 up to the bypass which is going to attract additional traffic to this alternate that won't be attracted to the others. Stated that it was said last time that this alternate only diverts about 30 to 40% of the traffic off of MD 140.

COMMENT/QUESTION:

MS. CYNTHIA SIMPSON, SHA-PPD:

Asked the Corps if they are asking SHA to look at an alternative that may take portions of the park.

RESPONSE:

MR. PAUL WETTLAUFER, COE:

Replied that he's asking what's wrong with hitting the park.

MS. CYNTHIA SIMPSON, SHA-PPD:

Acknowledged his comment but SHA has to look at the 4(F) impacts.

COMMENT/QUESTION:

MR. PAUL WETTLAUFER, COE:

Replied that Alternate 4 still seems to be a viable alternative.

COMMENT/QUESTION:

MR. ART COPPOLA, COE:

Wanted to know why SHA couldn't just begin the bypass up farther on 140 instead of making a spur.

COMMENT/QUESTION:

MS. SUE RAJAN, SHA:

Replied that if the alignment took off further north on existing MD 140 there would be more impacts to the businesses and commercial development.

COMMENT/QUESTION:

MS. JERRY BARKDOLL, FHWA:

Stated that Sue said that beginning the bypass at MD 97 was not a good idea because there was so much commercial development already on MD 140. Wanted an explanation of that.

RESPONSE:

MS. SUE RAJAN, SHA:

Replied yes, the further you come west it's more developed commercial.

COMMENT/QUESTION:

MS. CHRISTINE WELLS, MOP:

Wanted to know if traffic accidents and problems were beyond MD 97.

RESPONSE:

MS. SUE RAJAN, SHA:

Replied that Gorsuch Road is considered as a high accident intersection.

COMMENT/QUESTION:

MR. ART COPPOLA, COE:

Stated that the Corps would like SHA to investigate possibly tying in further north than the original plan and at least investigate that.

COMMENT/QUESTION:

MR. PETER STOKELY, EPA:

Wants to know if there could be an alternative extending MD 97 up to something like Alternate 4 and that would be a take-off for the bypass itself.

RESPONSE:**MR. STEVE HORN, CARROLL COUNTY PLANNING:**

Stated that the county has a proposed major street like Paul Wettlaufer said between Gorsuch and MD 140 in this location. The county's concern would be the traffic volume at the intersection of MD 140 and MD 97.

MR. WES GLASS, SHA-PPD:

Stated that SHA would like to get all the agencies concurrence today for the alternates for detailed studies.

MR. STEVE HORN, CARROLL COUNTY PLANNING:

Stated that the county's priorities would be obviously the alternate they've been protecting on the master plan. Their second priority would be Alternate 4 and lastly would be the MD 97 extension.

MS. JERRY BARKDOLL, FHWA:

Wanted to know if the agencies are ready to narrow this to the alternates you want to study in depth.

RESPONSE:**MS. SUE RAJAN, SHA:**

That's why it might take longer if SHA had to get actual mapping, SHA will have to do a lot of work to look at Alternate 4 to the same level of detail.

COMMENT/QUESTION:**MR. BILL SCHULTZ, US FWS:**

Stated that until the field review is held he wants 4 considered like the other alternatives 5 and 6.

COMMENT/QUESTION:

MR. PAUL WETTLAUFER, COE:

The Corps would also like 4 considered, there's three possible tie in's that have been suggested. The current tie in for Alternate 4 at MD 97 and some place in between. But if SHA considers Alternate 4 north of the railroad there's also three possible alignments. One would be to tie back into Alternate 5, one would be to go across the northern part of the park with the 4(F) impact and then other would be to come up parallel the existing railroad and cross through the industrial area. You might be able to write that off with a quick analysis of whether it's going to meet your geometric requirements.

COMMENT/QUESTION:

MR. JIM WYNN, SHA-PPD:

Stated that what SHA would like to do is look at Alternate 4, and the modifications to 4 that The Corps discussed and bring them back up to the same Level of Detail as the other alternatives. Then come back to the agencies with those and discuss whether they're still valid alternatives or not.

RESPONSE:

MR. PAUL WETTLAUFER, COE:

Replied yes and the agencies need to be in the field to look at these areas before that next meeting.

MS. CYNTHIA SIMPSON, SHA-PPD:

Stated that not only is SHA going to be doing additional studies for Alternate 4 but the agency's are saying that SHA should be carrying it forward as the same as alternates 2, 3, 5, 6 and 10.

COMMENT/QUESTION:

MR. BILL SCHULTZ, US FWS:

Stated that he wants to look at Alternates 4, 5 and 6 and then decide if there are any problematic areas on those alternatives. Then at that time the Fish and Wildlife Service will be able to make a decision if there is a fatal flaw with 5 or 6 and then we'll want to keep 4.

MR. PETER CLAGGETT, EPA:

Said he would also like the MD 97 spur option looked at. Not just tying into Alternative 4 but tying into Alternatives 5 and 6. Because I don't want to see that thrown out in case there's 4(F) impacts that throws out Alternate 4 in the long run.

COMMENT/QUESTION:

MR. PAUL WETTLAUFER, COE:

Asked if SHA could conclude that an upgrade of the existing facility is sufficient to meet the design year need, the 20-year need, The Corps is proposing that we would like to see this study carried through anyway. It would be to The Corps interest to continue the study for corridor preservation purposes. Because it appears that this alignment is going to be pursued by the county someday if not in 20-years, then maybe in 40.

MR. STEVE HORN, CARROLL COUNTY PLANNING:

Supported Paul's comment, mentioned that SHA and the County continue with the corridor study. We've put a lot of effort into preserving a corridor out there and would hate to see a lot of commitment and expense on the part of the county go to waste.

There is a little bit more analysis needed at the School for the Deaf as far as the slope encroachments onto the buildings for the School for the Deaf. There is also a problem with Snowden River Parkway going underneath. Under Option D modifications 1 and modification 2, the elevation of Snowden River Parkway is only roughly 5 feet above the floodplain elevation. When the shift is made at Old Montgomery Road, MD 100 is basically the same elevation as the existing Old Montgomery Road. Snowden River Parkway has to drop, which would be real close to the floodplain elevation.

COMMENT/QUESTION:

Mr. Paul Wettlaufer, COE

Concurred to dropping modification 2.

Mr. Bill Schultz, US FWS

Concurred to dropping modification 2.

Mr. Karl Teitt, SHA-PPD

Stated that the last thing the SHA is going to be looking at is the bifurcated section at the Village of Montgomery Run and retaining walls.

**Contract No. CL 713-101-740
Westminster Bypass
From Reese Road to Hughes Shop Road
in Carroll County
STATUS: Alternates Retained for Study
PROJECT MANAGER: Sue Rajan, x1138
ENVIRONMENTAL MANAGER: Wes Glass, x1185**

Mrs. Sue Rajan, SHA-PPD

Stated that this project was presented two times before. The last time the purpose and need was presented for the project and that has been sent out for concurrence. This presentation is to discuss the alternates for detailed study. Stated that SHA is in the process of developing detailed alternates at this time and the agencies should make any suggestions for alignment modifications.

Stated that the alternates presented at the public meeting includes the No-Build Alternate and two alternates along the existing road. Alternates 2 and 3 are along the existing road. Alternate 2 proposed three through lanes in each direction and utilized right turn only lanes near all the business areas. Alternate 3 also would have three through lanes plus a right turn lane. One difference between these two alternates is that the existing road is a two-lane roadway from Hughes Shop Road to MD 31. Under Alternate 2, we would dualize that as a curb section and under Alternate 3, it would be an open section with a 54-foot median.

In both cases, SHA plans to utilize the 54-foot existing median to add a lane and also to reconstruct the shoulder to use as a right turn lane. And the other three alternates we looked at, Alternates 4, 5 and 6, were on the northern side.

Alternate 4 would have started from eastern MD 32 coming across MD 27 and would tie in near MD 97 at the existing road.

Alternate 5 starts from Hughes Shop Road and will also follow the alignment the same as Alternate 6 for the northern portion of the road and then it would have the same alignment as Alternate 4 in the area near MD 27 and crosses the railroad west of Alternate 4.

Alternate 6 is the master plan alignment that the County has been preserving right-of-way for and that alternate starts from Hughes Shop Road and crosses Meadow Branch and MD 97, Gorsuch Road and ties in at Reese Road.

She described Alternates 8, 9 and 10, which are southern alternates.

Following the Alternates Public Meeting, SHA dropped some alternates, including Alternate 4, and retained Alternate 6 and Alternate 5. Since then, SHA has also retained Alternate 2, 3 and 10, in addition to a freeway concept south of Alternate 10.

Alternate 8 was dropped because of its impact to a toxic waste dump and it would have had severe impacts to residential communities.

Restated that Alternate 2 is along the existing road that SHA proposes to construct three through lanes plus right turn lanes, to include one lane in the median. Alternate 3 would eliminate some of the intersections -- with some control of access gained by Alternate 3A and then another one is 3B, which would completely eliminate all the at-grade intersections, which means constructing new interchanges and service roads to make it a fully controlled access road. These are the three alternates that SHA is looking at along the existing road.

On the northern side, SHA is looking at Alternate 6 and Alternate 5.

On the southern side, Alternate 10 was dropped because of the wetland impacts. SHA is looking at a freeway concept (Alternate 10A) in the south.

COMMENT/QUESTION:

Mr. Peter Claggett, EPA

Wanted to know if Alternate 9 was going to be retained and if Alternate 8 was going to be dropped?

RESPONSE:

Mrs. Sue Rajan, SHA-PPD

Replied both Alternate 9 and 8 were dropped mainly because of the residential impacts and Alternate 8 also impacted a toxic waste dump.

Mr. Bill Schultz, US FWS

Confirmed that the only southern alternate retained is Alternate 10A.

RESPONSE:

Mrs. Sue Rajan, SHA-PPD

Stated that Alternate 10A was retained, but Alternate 10 was dropped because of the impacts to wetlands associated with Middle Run and Morgan Run.

COMMENT/QUESTION:

Mr. Peter Stokely, EPA

Wanted to know if the concurrence letter for the purpose and need, including the traffic data that supports the bypass, had been sent to the agencies.

RESPONSE:

Mrs. Sue Rajan, SHA-PPD

Stated that she had sent out the original purpose and need concurrence with level of service included.

COMMENT/QUESTION:

Mr. Peter Stokely, EPA

He recommended if possible to put all the environmental features on one map that show all the alternates like the 500 scale map. Stated that it will allow the agencies to cross-reference the alternates.

RESPONSE:

Mr. Wes Glass, SHA-PPD

Stated that the 500 scale map that was shown has the environmental inventory on it.

COMMENT/QUESTION:

Mr. Peter Stokely, EPA

Asked if the wetland delineation information could be

applied to the 500 scale mapping.

RESPONSE:

Mr. Wes Glass, SHA-PPD

Replied that a representation of it could be.

COMMENT/QUESTION:

Mr. Bill Schultz, US FWS

Wanted to know why Alternate 4 was dropped.

RESPONSE:

Mr. Wes Glass, SHA-PPD

Stated that the main reasons SHA dropped it was because it came much closer to the town water supply and impacts the active farms.

COMMENT/QUESTION:

Mr. Bill Schultz, US FWS

Wants SHA to double check into Alternate 4 again.

The group then examined the aerial photography in the area of Alternate 4. General discussions concerning environmental and topographic features were made.

Mrs. Sue Rajan, SHA-PPD

Summarized discussions of Alternate 4. Stated that SHA will go back and look at what was developed for Alternate 4 from the previous meeting.

SHA will take another look at Alternate 4 and see what the major problems are.

There was more general discussion regarding land use in the vicinity of Alternate 4. This included zoning issues and traffic patterns/capacity issues of existing MD 140.

Mrs. Sue Rajan, SHA-PPD

Stated that SHA will summarize agency comments on Alternate 4, which had been dropped earlier, and SHA should take another look at it. Paul Wettlaufer is going to sketch an alignment and send it to SHA.

MR. GREY, SHA - PPD:

Made opening remarks and asked people to introduce themselves. Reminded attendees that we are recording and to please give your name each time comments are made.

Contract No. CL 713-101-740
Westminster Bypass from Reese Road to
Hughes Shop Road in Carroll County.
Status: Pre-Draft Document (Purpose and Need).
Project Manager is Ms. Sue Rajan x1138.
Environmental Manager is Mr. Wes Glass x1185.

MS. RAJAN, SHA:

This project began in 1986. An Alternates Meeting was held in 1987; currently three of these corridors are being studied.

Discussed the purpose and need of the project. Stated that MD 140 is a major route running from the Pennsylvania State line north of Emmitsburg to Baltimore City. It connects points within Carroll County such as Emmitsburg and Taneytown to Westminster. It also provides access to travellers from the Baltimore area to Gettysburg and other points in Pennsylvania.

MD 140 is classified as a minor arterial in the State's primary system of roads, and as other principal arterial in the Federal system. This roadway was originally built in 1952 as a bypass of Westminster. However, due to the industrial and commercial development that has occurred along the road, it has lost its bypass character. It is currently functioning as a city street with local traffic mixing with through traffic. With the opening of the Northwest Expressway which ties directly into MD 140, and Cranberry Mall, along with projected development, additional traffic pressure is placed on the existing MD 140.

Carroll County is one of the fastest growing counties in the Baltimore metropolitan area. Some of the major factors affecting the growth of the study area are the central location of Westminster with access from other small towns, proximity of the area to the Baltimore-Washington corridor, the current trend of industries looking for location in the suburban areas and the attractiveness of the area for living, working, and for recreation.

Significant commercial, retail and residential development has occurred along MD 140 corridor and the adjacent areas in recent years. The two major corridor designated for business lies along MD 140 and Main Street. The largest area designated for industrial growth is located at the northern part of the study area along MD 97 corridor. Another area for industrial use lies along MD 31. Other small industrial areas exist along MD 140. Of these, some have been developed and there is still room for more development. There are also several well established industries in the area. A small industrial area is located at the southwest corner of MD 97 and old Westminster Pike. A long industrial corridor exists along MD 27 to Lucabaug Mill Road.

There has been a rapid growth of residential development in the Westminster area in recent years. Several new developments were built in the past few years, some are under construction and others planned. Suburban residential developments such as Washington court, Autumn Ridge and Delvin Square and the medium density residential development, Eden Farms are just a few to name. Also, undeveloped land adjacent to several older existing developments is available for expansion. 305 acres of urban residential area, which allows up to 15 units per acre, 1692 acres of suburban residential area, with 4 to 9 units per acre and 2472 acres of medium density residential area, with two units per acre, are designated for residential growth in Westminster and surrounding areas. In addition, there are also low density residential areas which allows one unit per acre lies around the outskirts of the study area.

The Westminster Bypass is included in the current Westminster Comprehensive Plan and has been recognized by County officials as a high priority.

Existing MD 140 from Hughes Shop Road to MD 31, is a two-lane, 24 foot roadway with shoulders ranging from 3 feet to 6 feet. From Maryland Route 31 to Reese Road, the project's eastern terminus, the existing road is a multi-lane divided highway with a 50 foot grass median. Since there is no control of access along this road, there are numerous entrances and intersections located on this portion of MD 140. Traffic entering and exiting from the commercial and residential entrances mix with the through traffic on MD 140. Six of the intersections, Sullivan Road, Englar Road, Center Street, Cranberry Road, Gorsuch Road and MD 97, are controlled by traffic signals. Two others, MD 31 and Reese Road have flashing signals. The existing road is posted for 55 mph west of MD 31 and east of Old Baltimore Boulevard within the study limits. The stretch of roadway in between is posted for 45 mph.

The existing average daily traffic on certain sections of this road has already reached over 41,000 vehicles per day. This number is projected to increase to above 70,000 by the year 2015. Currently, all of the signalized intersections are experiencing capacity problems. Some have already reached capacity and others nearing capacity. With the increase in traffic volumes, conditions will worsen at these intersections.

During a five year period from 1987 through 1991, there were a total of 616 accidents that occurred along this roadway. Although the total accident rate for this section of the roadway was below the statewide average rate, three intersections, Royer Road, Center Street and Gorsuch Road have been identified as "high accident" intersections. One type of accidents, "rear end collisions" were above the statewide rate which is an indication of congestion along the road.

As the Westminster area continues to grow, traffic using Maryland Route 140 is expected to increase. This will only add to current traffic congestion and increase accident potential. In response to this growth, improvements to the existing road are either planned, under construction, or have been completed. An additional lane has been added to the outside of the westbound roadway between the intersection with Maryland Route 97 south and Maryland Route 97 North. Another lane was added to meet the traffic needs the vicinity of Cranberry Mall.

Additional left turn lanes have been added at several intersections. Improved coordination of the signals at six intersections are being considered and expected to be implemented in 1993. Existing traffic including that associated with the continuing rapid development is particularly demanding on the existing road network. Even with these improvements, traffic congestion along MD 140 is increasing.

A bypass for Westminster was identified in the mid 1960s when the State Highway Administration conducted studies of the area. With the opening of the Northwest expressway and the Cranberry Mall, along with projected developments, additional traffic service pressure is placed on existing MD 140.

Since 1962, the County has undertaken considerable efforts to plan and protect a corridor for a controlled access highway north of the existing road. A comprehensive traffic study was completed jointly by the State, County and the City in cooperation with the Federal Highway Administration in order address the severe traffic problems in the City. Many of the capital improvements made to date are the results of this study.

The Westminster Bypass first appeared in the Highway Needs Inventory in 1986. This project was included in the Maryland Department of Transportation's Consolidated Transportation program in 1987. Project planning studies for this project began in March, 1987. An Alternates Public meeting was held in May of 1988.

An origin-destination study was performed in 1986. This study showed that approximately 27% of the traffic from existing MD 140 would be diverted to the bypass. The Regional Planning Council conducted another traffic survey using a computer model in 1987-1988, which showed almost the same diversion as the previous survey. Coordination between the State Highway Administration and the County in 1989 resulted in an additional origin and destination study being done. The diversion rates from this study showed approximately 30 to 40% for a northern alignment and 20 to 30% for a southern alignment.

MR. GLASS, SHA-PPD:

Reviewed the environmental inventory of the study area. Stated that existing land use in the study area is a mix of conservation areas, residential, industrial and small agricultural areas that are dispersed in between. There is prime and unique farmland in the study area and both alternative corridors could impact a hundred acres or more of that type of farmland. Depending on the alternative that SHA might develop, there could be as many as 75 residential displacements although the Master Plan Alignment to the north would have the least residential displacements. The same analogy applies to commercial and industrial development, depending on the alternative selected there could be as many as 60 businesses impacted. If SHA develops alternatives along the existing alignment, that would have the greatest business impact.

SHA has identified seven public parks in the study area. The only known potential impact at this time is to the Westminster pond. This park was developed with Program Open Space funds and any upgrade of the existing alignment to serve the project need and purpose would undoubtedly have an impact on that park.

SHA also identified eight historic properties potentially eligible for the National Register of Historic Places. SHA is in the process of having a Phase 1 archeological reconnaissance done for the study area. There are no Federally listed proposed endangered or threatened species in the area and there are no State threatened or endangered plant or wildlife species known to exist in the area.

In addition, SHA has identified several Class III and Class IV trout streams in the study area: West Branch of the Patapsco, Miller Run and it's tributaries, Cranberry Branch, Morgan Run, Little Morgan Run, Beaver Run are all Class III natural trout streams. The main stem of the west branch of the Patapsco River, Little Pike Creek and it's tributaries, Cobbs Branch, Big Pipe Creek and it's tributaries, Turkey Foot Run and it's tributaries are all Class IV recreational trout streams.

SHA has also identified wetland areas from the NWI mapping and from hydric soils. There's a high potential for wetland impact. SHA will complete air and noise quality stages and a natural study with a wetland delineation field meeting in March.

MR. CUEMAN, CARROLL COUNTY:

Stated that there are about 25,000 people, about half of the population residing within the City limits of Westminster and the other half in the immediate environments. There is and has been in Carroll County a Comprehensive Plan that's been recognized as being outstanding in the State.

The northern alignment which is referred to as Alternate 6, is the plan that is of official record, it is the one the County has protected and though a right-of-way protection policy. When sub-division development or other things come about in the corridor, arrangements are made so that improvements are not approved within the corridor.

The southern alignment is not on the official plan. The County recognizes that the Federal process requires looking at all the possibilities. There's some significant problems associated with it because building development is occurring in that southern alignment. With the advent of the concern for non-tidal wetlands, the people of our County and generally and certainly in the planning office, we appreciate the need to be very careful with how we construct infrastructure over wetlands or whatever. In addition, the County...that with this topography in the Piedmont, it is humanly impossible not to cross a wetland.

The County is very much concerned about the human environment which involves other issues, such as traffic congestion. Road safety is becoming a major issue in the County. People are being killed everyday on MD 140, on MD 97, etc. When the capacity of a road begins to overload and it happens quickly, safety diminishes where customarily people are used to moving quickly along in a rural area and the traffic speeds are 55 or 45 miles per hour.

COMMENT/QUESTION:

MR. WETTLAUFER, A.C.O.E.:

Had questions about the Purpose and Need. Asked what would the Level of Service (LOS) be in the design year under the No-build.

RESPONSE:

MS. RAJAN, SHA:

The level of service analysis was done in 1987 and at that time it showed some of the intersections failing by the design year even with three through lanes in each direction. Level of service information is not currently available for each intersection.

COMMENT/QUESTION:

MR. WETTLAUFER, A.C.O.E.:

Asked if the traffic congestion that's on the road is oriented to Westminster itself and what good is a bypass going to do if that's the case.

RESPONSE:

MS. RAJAN, SHA:

Replied that SHA developed an origin-destination study and found there is a large amount of traffic going to Westminster from Carroll County because of the employment that is provided in the area. The origin-destination study also showed that approximately 30-40% of the traffic would use a northern bypass and 20-30% would use a southern bypass.

COMMENT/QUESTION:

MR. CUEMAN, CARROLL COUNTY:

Added that there is tremendous commuter traffic coming to Westminster from many different roadways and directions.

COMMENT/QUESTION:

MR. WETTLAUFER, A.C.O.E.:

Asked if MD 140 would have a low Level of Service with the bypass. He also requested information on the project area land uses.

RESPONSE:

MR. GLASS, SHA-PPD:

Level of Service will be greatly improved, but there will always be shopping congestion.

COMMENT/QUESTION:

MR. WETTLAUFER, A.C.O.E.:

Asked if it would be possible to consider an alternate that upgrades the intersections along existing MD 140.

RESPONSE:

MR. GLASS, SHA-PPD:

Stated that there are some short term solutions being studied but it would not be a long range solution to the problem.

COMMENT/QUESTION:

MR. WETTLAUFER, A.C.O.E.:

Wanted to know where the major wetland impacts on the northern alignments are.

RESPONSE:

MR. GLASS, SHA-PPD:

Replied, SHA will have a consultant do a delineation of the study area. According to the NWI and hydric soils listings there are a lot of wetlands along every stream.

COMMENT/QUESTION:

MR. SCHULTZ, US FWS:

Requested a copy of the aerial photography for the various alignments.

RESPONSE:

MR. GLASS, SHA-PPD:

Stated that it would be ready in a couple of months.

COMMENT/QUESTION:

MR. SCHULTZ, US FWS:

Wanted to know why the bypass doesn't end at MD Route 32 to the south. There doesn't seem to be an interchange on 32 for some reason.

RESPONSE:

MR. GLASS, SHA-PPD:

Stated that MD 32 feeds directly into MD 97, and a very high percentage continues north of MD 97.

COMMENT/QUESTION:

MS. BARKDOLL, FHWA:

Wanted to know what kind of enforcement techniques for zoning the County has in place to protect that bypass once it's built.

RESPONSE:

MR. CUEMAN, CARROLL COUNTY:

Stated that the Federal Government will not put any money on any kind of a bypass and they haven't since 1954 unless there are access controls along the roadway. The State of Maryland built MD 140 from Hughes Shop Road all the way to Taneytown and that's a controlled access highway. There isn't one store or one commercial business that's located along that highway and that was done after the 1960s.

COMMENT/QUESTION:

MS. BARKDOLL, FHWA:

Asked what the status of the project is on the State plan.

RESPONSE:

MR. EGE, SHA:

Stated that as of now it's funded for project planning only. Whether it goes into final design probably wouldn't be determined until the next years tour with the County elected officials.

COMMENT/QUESTION:MR. GLASS, SHA-PPD:

Reviewed the environmental considerations. The West Branch of the Patapsco feeds down into Liberty Reservoir with a very wide floodplain area. SHA has identified some historic sites that are very important including Meadow Brook Farm. The Master Plan Alignment does not have an impact upon that site.

SHA has identified several areas where there are many homes on wells. These wells are sufficient but no deeper than 30 feet. There is potential impact to one park, there are many parks in the area but SHA has carefully avoided those.

COMMENT/QUESTION:MR. STOKELY, EPA:

Asked if this project is just going to be an isolated improvement not connected to other highway improvement in the area. Asked that a copy of the Master Plan be sent to EPA.

RESPONSE:MR. GLASS, SHA-PPD:

Responded yes.

COMMENT/QUESTION:MR. STOKELY, EPA:

Wanted to know if the origin and destination studies showed the through traffic primarily going to Baltimore or southern MD 97 to the DC area.

RESPONSE:MR. CUEMAN, CARROLL COUNTY:

Stated that what's usually on MD 140 is going mostly to Baltimore and Owings Mills or around the beltway.

COMMENT/QUESTION:

MR. CLAGGETT, EPA:

Asked if the existing average daily traffic is 41,000 vehicles per day. Also wanted to know what does that translate into as far as Level of Service.

RESPONSE:

MR. GLASS, SHA-PPD:

Replied that it is a little higher than 41,000 and it translates into a Level of Service "E" and "F" right through central area.

COMMENT/QUESTION:

MS. WELLS, MD OFFICE OF PLANNING:

Wanted to know what the percentage of through movements based on your O&D surveys.

RESPONSE:

MR. JORSS, SHA:

Stated that his estimate right now is about 28,000 cars a day on MD 140 at the southern end. That combines with a fairly heavy volume on MD 97 coming around 22,000 and the volume for the main portion of MD 140 is 44,000 right now.

COMMENT/QUESTION:

MS. COLE, MHT:

Asked for a copy of the County land use map. Stated that Wes had mentioned that there are eight National Register Historic Sites. Although the information booklet says that there are 30 NR Sites. Wants to know which is right.

RESPONSE:

MR. GLASS, SHA-PPD:

Replied that there are eight sites that SHA has identified that we are within close proximity of the two major alternatives that could possibly impact some. SHA has also identified both State and National Register SHA and that list is around 30-32 sites.

COMMENT/QUESTION:

MS. COLE, MHT:

Wanted to know if SHA was going to do Phase 1 and 2 archeological studies for all the alternates.

RESPONSE:

MR. GLASS, SHA-PPD:

SHA will do Phase 1 and 2 studies only on those alignments carried forward for detailed studies.

COMMENT/QUESTION:

MR. FOGELSON, MD OFFICE OF PLANNING:

Stated his concern that this bypass could have on creating secondary impacts.

RESPONSE:

MR. CUEMAN, CARROLL COUNTY:

Stated that the County has made a real incredible effort in doing basic planning to control growth and sprawl through growth management and building restrictions.

COMMENT/QUESTION:

MS. BARKDOLL, FHWA:

Asked how will the Purpose and Need concurrence process proceed.

RESPONSE:

MR. GREY, SHA - PPD:

Stated based on the comments made today, SHA is going to need to add a little bit of information and then we will formally transmit the Purpose and Need and asked for your concurrence.

ELECTED OFFICIALS



**Maryland Department of Transportation
State Highway Administration**

369
O. James Lighthizer
Secretary
Hal Kassoff
Administrator

November 4, 1993

The Honorable George W. Della, Jr.
Senate of Maryland
District Office
801 Light Street
Baltimore MD 21230-3912

Dear Senator Della:

This is in response to your telephone request for information on the Westminster Bypass project. I understand that Sue Rajan and Steven McHenry of my staff provided you with information about the project.

Attached is a 1"=2,000' scale map showing the alternates currently under consideration. Build alternates include bypass alternates on both the north and south and alternates improving the existing road. The bypass alternates propose to construct a four-lane divided roadway with full control of access.

Please note that this project is funded only for project planning in the Department's current Consolidated Transportation Program. A public hearing is tentatively scheduled for the spring of 1994.

The farm owned by your family near Old Bachman Road will not be impacted by any of the alternates currently under consideration. If you have any questions, or need additional information, please feel free to contact me or Mr. Neil Pedersen, Director of our Office of Planning and Preliminary Engineering. Neil can be reached at (410) 333-1110.

Sincerely,

Hal Kassoff
Administrator

Attachment

cc: Mr. Steven McHenry
Mr. Neil J. Pedersen
Mrs. Sue Rajan

VIII-24

My telephone number is _____

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

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

370

The Honorable George W. Della, Jr.
November 4, 1993
Page Two

bcc: Mr. William Baker, III
Mr. Louis H. Ege, Jr.
Ms. Anne Elrays R-503
Mr. Doug Rose

PROJECT
DEVELOPMENT
DIVISION
NOV 0 10 16 AM '93



Maryland Department of Transportation
State Highway Administration

371
O. James Lighthizer
Secretary
Hal Kassoff
Administrator

June 3, 1993

The Honorable W. Benjamin Brown
Mayor
City of Westminster
City Hall
Westminster MD 21157

Dear Mayor Brown:

I am writing to provide you an update of our progress on the Westminster Bypass study. Since our Consolidated Transportation Program tour meeting last fall, we have progressed toward completion of the required engineering studies for each of the alternates under consideration. We have also progressed with the environmental analyses required under the National and Maryland Environmental Policy Acts. We currently have individuals in the field identifying wetland areas and are completing the analyses for all natural environmental parameters. Our archeological and historic studies are also well under way.

A major and critical part of our work effort to date has been the coordination with state and federal environmental agencies. We have had numerous meetings and field reviews with the environmental agencies in order to familiarize them with the project and to obtain their comments and input. During a recent field meeting, the agencies recommended that an additional alternate be added to the study. The alternate would avoid and minimize impacts to wetlands and water quality along a portion of the Master Plan alignment. The alternate, known as Alternate 4 Modified, would have the same alignment as the Master Plan alignment from Hughes Shop Road to Old Manchester Road and then would proceed in a southerly direction through the Westminster Nursery property to merge with existing MD 140 just west of Arnold Road. We believe this is a viable alternate and should be included in the study. A map showing Alternate 4 Modified, as well as the other alternates under consideration, is attached. Since Alternate 4 Modified is new, the detailed engineering studies will need to be completed, as well as the environmental analyses.

According to our schedule, we had anticipated conducting a location/design public hearing in early December; however, with the additional studies required as a result of our agency coordination, there could be some delay in scheduling the public hearing.

My telephone number is _____

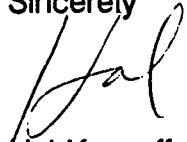
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1-800-735-2258 Statewide Toll Free
707 North Calvert Street, Baltimore, Maryland 21202

VIII-26

The Honorable W. Benjamin Brown
June 3, 1993
Page Two

Members of my staff will be meeting with Mr. Tom Beyard of your staff to provide an update on this project. If you would like us to give you a briefing, we will be more than happy to do so. If you have any questions, please feel free to contact me or Neil Pedersen, Director of our Office of Planning and Preliminary Engineering. Neil can be reached at (410) 333-1110.

Sincerely



Hal Kassoff
Administrator

Attachment

cc: Mr. Neil J. Pedersen

The Honorable W. Benjamin Brown
June 3, 1993
Page Three

bcc: Mr. Louis H. Ege, Jr.
Mrs. Sue Rajan
Mr. Doug Rose
Ms. Cynthia Simpson

RECEIVED
JUN 3 10 52 AM '93

AGENCY COORDINATION

CARROLL COUNTY MARYLAND
225 N. Center Street
Westminster, Maryland 21157-5194



375
Department of Planning
Edmund R. Cueman
Director
Westminster 410-857-2145
Baltimore 410-876-2085
FAX 410-848-0003
T.T. 410-848-3017

MEMORANDUM

May 4, 1994

Re: Response to Maryland Office of Planning April 15, 1994 letter to Lou Ege of the SHA on the Westminster Bypass alignment alternatives.

TSM Alternate

This alternative would provide for three lanes in each direction from MD 97 north to Old Baltimore Road and would meet only short term traffic needs. The State has recognized that these improvements need to be made to facilitate traffic flow on MD 140 regardless of progress on the Westminster Bypass. Because minimal right-of-way acquisition is needed and no relocations are required, this alternative is the most feasible of the four improvements proposed on existing MD 140. Because the State is projecting that most intersections along this segment will reach capacity well before the design year, this alternative can only be regarded as a short term solution for a longer term problem. As the intersections along this segment reach capacity, as projected by the State, the businesses located throughout this corridor will suffer drops in business with poor accessibility as a major concern for long term viability of the commercial establishments.

TSM Alternate 2

This alternative provides for a more expensive short term solution to the long term viability problems discussed under the TSM alternative. The addition of lanes between the State Police Barracks to west of MD 31 is projected to accommodate most of the design year travel demand. However, several of the intersections will be nearing capacity by the design year, and the 45 million dollar price tag is high for a short term solution which will only delay our commitment to a long range solution to this problem. As the intersections continue to deteriorate as we approach the design year, the negative impact on the long term viability of the corridor will be significant. This proposal will only sustain the commercial activity until the level of service the roadway provides begins to break down.

TSM Alternate 3A and 3B

These alternatives are contrary to the locally adopted Westminster and Environs Comprehensive Plan, and as such, appear to be contrary to the Economic Growth, Resource Protection and Planning Act. The existing MD 140 was the last roadway of its type to be

built with no access controls. As a result, a considerable investment was made in this community to develop MD 140 as a commercial activity center. To suggest under the previous alternatives that there is a level of concern for the economic viability of businesses in the corridor and then to support either of these alternatives is contradictory. Both of these proposals either severely limit or eliminate the ability of local citizens to traverse MD 140 at the existing main intersections. The act of restricting or eliminating cross traffic on MD 140 will effectively cut off business establishments located on the north side of MD 140 between MD 31 and MD 97 south (Cranberry Mall, Cranberry Square, Englar Business Park, etc.). What could be more of a threat to the economic viability of the corridor?

Assertions that the extension of MD 97 south to Gorsuch Road could create increased pressure for development outside the planned growth area are unfounded. This proposed extension is within the Westminster and Environs Community Planning Area (CPA). The CPA is a locally designated growth area, as required by the Planning Act, and this project has been part of the Plan since 1985. No land use designation changes are planned within the Westminster CPA as a result of this or any other roadway improvement in the area. The extension of MD 97 south to Gorsuch Road is a project on the locally adopted Major Street plan for the Westminster and Environs Comprehensive Plan. Failure to build this connection, in the absence of other improvements which could supersede this project (Alternative 4A modified) would be contrary to the local plan.

Alternate 4 modified

This alternative provides a long term solution to the documented projections of failing levels of service along the MD 140 corridor by the design year 2015. Sections of this alignment have been protected by Carroll County for the eventual construction of a roadway for thirty years. It provides direct access to a crucial element of Carroll County's long term economic development plans by placing a full interchange with MD 97 in the vicinity of the Air Business Park. This route is expected to divert up to forty percent of the traffic from the existing MD 140 corridor. Because the project is long overdue, this diversion of trips is expected to improve rather than threaten the economic viability of businesses in the corridor by improving unacceptable levels of congestion in the corridor. This alternative is truly intermodal (rail, freight, air transport), and will facilitate the efficient movement of people, goods and services to the industrial opportunities available at the Air Business Park. The employment opportunities offered at the Air Business Park are higher skilled, higher wage and longer term opportunities than those the Maryland Office of Planning asserts will be compromised by the construction of this alternative.

The Meadow Branch Road partial interchange, as proposed, will eliminate the need for the existing and future residents of the area in the MD 31 corridor south of Westminster to enter and exit the bypass at the MD 97 interchange. The partial interchange at Meadow Branch will decrease the congestion along MD 140 and MD 97 by giving the residents the opportunity to avoid those areas and will serve only those trips going to and coming from the east.

The 1992 traffic trends manual published by the SHA indicates that traffic volumes on MD 140 increased over 110 percent between 1982 and 1992. The County and the Industrial Development Authority (IDA) of Carroll County recently conducted a study of the MD 97 corridor (Whitney, Bailey, Cox and Magnani as consultant) which shows that without the bypass in the year 2020, intersections with MD 97 at Airport Drive, Old Bachman Valley Road and Kriders Church Road will all be operating at unacceptable levels of service (E/F). The traffic projections included impacts on the local network from regional traffic growth in southern Pennsylvania (Hanover, Gettysburg, Littlestown). Results of the computations indicate major roadway improvements along MD 97 and side street approaches are needed. Cross sections will have to be expanded to six or eight lanes to accommodate the projected growth in traffic volume. Key factors influencing the need for major improvements include growth in background traffic and heavy turning movements from industrial users. Without construction of a bypass to the north, the County loses its ability to effectively market the Air Business Park and will also see unacceptable congestion levels spreading from the MD 140 corridor north on MD 97.

Alternate 6

The comments put forward and under Alternate 4 modified apply here. The Maryland Office of Planning comments regarding the interchange at Gorsuch Road are adequately addressed by the shift in Alternate 6 to the west, thereby sparing a significant wetland at the Patapsco River and eliminating the need for an interchange at Gorsuch Road (see Alternate 4 modified).

Alternate 10A

The County's preferred alternate is either of the northern alternates. Selection of this alternate is contrary to the locally adopted Comprehensive Plan, does not facilitate the development of the Air Business Park, does not respond to projected growth in background traffic volume from Pennsylvania and does not divert traffic from MD 97 onto MD 140. It also causes considerably more of a social impact on residential communities south of Westminster. No protection has been undertaken locally for this alternate.

Conclusion

The Maryland Office of Planning asserts that traffic volumes for the design year do not justify the cost of proceeding with construction at this time. They do, however, recommend that right-of-way acquisition of the northern alignment Alternate 4 modified be implemented for future consideration. They also endorse any of the TSM alternatives as supportive of the existing commercial establishments of MD 140. As noted in the previous pages, endorsement of TSM Alternate or TSM Alternate 2 would be a short term solution to the long range problems projected for MD 140. TSM Alternates 3A and 3B severely restrict the economic viability of the corridor through elimination of cross traffic on MD 140.

Right-of-way ~~acquisition~~ now with implementation of TSM Alternate would be the best strategy in the short term. It is relatively cheap compared to the other alternates and

can be put in place quicker than the other alternates. However, it should be noted that the ability of MD 140 to continue in its current state is unacceptable. Efforts to move up the construction of the MD 140 relocated project will continue through the regional Metropolitan Planning Organization (MPO).

SH:la
shmcemo80.la

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CARROLL COUNTY MARYLAND
225 N. Center Street
Westminster, Maryland 21157-5194



Department of Planning
Edmund R. Cueman
Director
Westminster 410-857-2145
Baltimore 410-876-2085
FAX 410-848-0003
T.D.D. 410-848-5355

April 7, 1993

Mr. Thomas Osborne, Assistant to the Secretary
Maryland Department of Transportation
Office of Policy and Government Affairs
Box 8755
BWI Airport, MD 21240-0577

Dear Mr. Osborne:

Recently enacted legislation, namely the Economic Growth, Resource Protection and Planning Act of 1992 and the Intermodal Surface Transportation Efficiency Act (ISTEA), are requiring jurisdictions to review how they plan for development and transportation projects. The overall objective of these and other legislative initiatives is to facilitate economic growth and development in appropriate areas through maximizing utilization of existing public infrastructure. To the extent that these laws can be implemented, it is hoped that they will lead to cleaner air, reduced urban sprawl, and a new focus on "intermodalism" in transportation. No one can deny that these are worthy goals. At several meetings I have attended over the last few months, State representatives have continually pushed for land use plans that include transportation elements based on a "village" concept.

In Carroll County, we have been directing growth and development toward our eight local municipalities (villages) and their corresponding planning areas since the adoption of the original Carroll County Master Plan in 1964 (see enclosed County Master Plan map). The County and its local villages have been working jointly toward a common goal, very similar to the ultimate goal envisioned by the 1992 Planning Act: a reduction of urban sprawl into agriculturally-zoned land through a concentration of development in and around the existing villages. To successfully implement the "vision" of the original Carroll County Master Plan, it became apparent that a set of innovative tools, and cooperation among state, county, and local governments would be required.

Carroll County's land use controls on residential development in the agriculture zone and a substantial commitment to an equity program for farmers through participation in the Maryland State Agricultural Land Preservation Program has yielded one of the most successful agricultural land preservation programs in the country. The County's 41,000 acres of district property represents sixteen percent of total State districts, and the 20,165 acres of this district property that is under permanent easement is twenty percent of the State's easement acreage. This is all stated with the knowledge that Carroll County holds only 7 percent of the State's land in farms and 4 percent of the total land area in the State of Maryland. Unfortunately, as a result of the development pressures of the late 1980's and the fiscal problems faced by the State in the early 1990's, more counties are competing for less money from the Program. The commitment to this program on the part of the State has not

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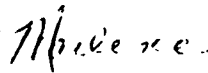
corridor for the bypass of these two villages for years, and yet no relief is in sight. The Manchester and Hampstead Plans include other planned streets for the internal circulation of traffic; construction of these local roads will be addressed by the town and County as development occurs.

In another example, portions of the proposed MD 140 Westminster Bypass have been protected since the mid-1960's. The County has been purchasing right-of-way along the corridor for the eventual construction of the bypass. Seven intersections along the most congested stretch of MD 140 are currently operating at Level of Service (LOS) E or worse. The result of this dearth of support from the State is that the facilities become inadequate, which pushes new development away from the municipality and the CPA. In many Carroll County towns, Main Street is a State Highway, and as such, the through traffic coming from beyond the town limit severely impacts the economic functioning of a Main Street corridor.

The construction of realigned MD Route 97 from MD Route 26 to Interstate 70 is another important State Highway project planned for Carroll County. The four N/S State Highways running through southern Carroll County will, over the next 10 years, approach inadequacy. Without Route 97 constructed as a limited access N/S highway, the communities in southern Carroll County will be increasingly impacted from traffic moving through Carroll County to Columbia, Montgomery County, and the Washington, D.C. area. This will also hurt economic opportunities planned for the existing CPA's of Westminster, Mount Airy, and Freedom.

Until the State assumes a balanced approach to transportation issues, that is, an approach which balances intermodalism with planned roadway construction projects, all the new legislation the State can muster will not improve the plight of towns like Hampstead and Manchester. Reductions in vehicle miles traveled (VMT's) through innovative transportation control measures (TCM's) may serve to reduce traffic conditions in more densely developed areas, but may have little effect, and actually be detrimental to planning efforts, on the towns in Carroll County. Planning for liveable villages and towns has become the "planning key" of the '90's. Carroll County has been pursuing the concept of "town and country" for 30 years. If Carroll County is going to provide for growth areas in compliance with the new legislation, then the public infrastructure commitment must be met.

Sincerely,



K. Marlene Conaway
Assistant Planning Director

KMC/SCH/Th:Osborne.tr

cc: Edmund R. Cueman
Ronald Kreitner, Director, MD Ofc. of Planning (w/ attach.)
Steve McHenry, Regional Planner, MD State Highway Admin., (w/ attach.)
Harvey Bloom, Director of Transportation, Baltimore Metropolitan Council (w/ attach.)

CARROLL COUNTY MARYLAND
225 N. Center Street
Westminster, Maryland 21157-5194



381
Department of Planning

Edmund R. Cueman
Director
Westminster 410-857-2145
Baltimore 410-876-2085
FAX 410-848-0003
T.D.D. 410-848-5355

June 22, 1993

Ms. Sue Rajan, Project Manager
State Highway Administration
Planning and Preliminary Engineering
707 North Calvert Street
Baltimore, Maryland 21202

Re: June 17 meeting on MD 140 Relocated:
Concurrence on Purpose and Need

Dear Ms. Rajan:

After the June 17 meeting in Neil Pedersen's office, I thought some of the points raised regarding the purpose and need for the MD 140 relocation project were worthy of further discussion.

First, the MD 140 Relocation Project is a crucial element of the Westminster and Environs Comprehensive Plan. The local Land Use Plan and the local Transportation Plan cannot be divorced from each other in this case. The northern route is expected to remove 40 percent of the through traffic from existing MD 140. However, because the relocation project is long overdue, we fully expect that the relocated roadway will improve rather than threaten the economic vitality of the community by decreasing the congestion currently reaching unacceptable levels along the existing MD 140 corridor.

Also, the local Land Use Plan designates the County's premier economic development project just north of Westminster at the Carroll County Air Business Center. The northern bypass route, with a full interchange at the MD 97 junction, will facilitate the efficient movement of people, goods and services to the Industrial Park at the Airport. It is important to note that the types of employment opportunities offered at the Air Business Center are higher skilled, higher wage and longer term opportunities versus those that the Maryland Office of Planning claims will be effected along the existing MD 140 corridor.

Finally, the ease of a trip to Baltimore from Carroll County and points north and west was greatly enhanced by the construction of I-795 in Baltimore County. That project alone brought Pennsylvania and the cheapest land prices in the region that much closer to the Baltimore and Washington metropolitan areas. Evidence of the impact that I-795 is having

Ms. Sue Rajan
June 22, 1993
Page 2

on MD 140 can be seen in the March 1993 Monthly Traffic Table and the corresponding volumes recorded at the Patapsco Bridge Count Station (attached for your reference).

Thank you for your continued attention to the MD 140 Relocated project, and please call if I can be of any assistance on this most important local concern.

Sincerely,

Steven C. Horn/la

Steven C. Horn
Senior Transportation Planner

Attachment

cc: Edmund R. Cueman, Director
Carroll County Department of Planning

SH:la
shlet72.la

Howard S. Redman, Jr.
Emergency Services Administrator
Scott R. Campbell
Fire Protection Engineer
301/848-1488
301/876-5486
T.D.D. 301/848-7119



Emergency Services Office
1345 Washington Road Westminster, Maryland 21157-6900

December 17, 1993

Mr. Howard Johnson
Maryland Department of Transportation
State Highway Administration
Environmental Planning
Project Planning Division
P.O. Box 717
Baltimore, MD 21203-0717

Dear Mr. Johnson:

Pursuant to your request, we have reviewed the information that you provided regarding the three alternative routes for the possible improvement of MD Rte.140 in the Westminster vicinity.

The Emergency Services in Carroll County is provided via an all-volunteer system. Because the proposed routes involve several individual fire districts which are under the auspices of each individual fire department & its fire chief, we made an attempt to include the comments and concerns from each of these organizations.

In general, the following list of questions and/or comments should cover the majority of the concerns voiced by the various individuals that reviewed the information:

1. Will the Emergency Services have access to both directions of travel, for each segment of the bypass that runs between an existing or new cross-street or intersection, regardless of which alternative is selected for implementation? In other words, will there be any intersections with limited access that would restrict or completely eliminate access to portions of the bypass by fire and rescue apparatus responding to an emergency on the by-pass or on the "other side" of the bypass?
2. What is the expected impact on the amount of traffic that will use the new roadway? Concern exists that we may experience a substantial increase in traffic accidents because of the anticipated increase in traffic movements on the new bypass.
3. Does the possibility exist that any of the possible routes for the bypass may lead to the elimination of any existing roads or intersections, thus reducing the Emergency Services' access to areas near and beyond the altered roads and intersections? Could the construction of the bypass, regardless of which route is selected, result in the creation of dead-end roads?

Mr. Howard Johnson
December 17, 1993
Page #2

4. What type of intersections or interchanges will be used to gain access to, and to exit, the bypass? Will you utilize overpasses, underpasses, at-grade intersections controlled by traffic lights, etc.?
5. What is the expected time frame for the construction of a "Westminster Bypass"?

At this time, the comments listed above appear to cover the questions and concerns that were voiced regarding the information that you provided for our review. If any additional or more specific information regarding the "Westminster Bypass" becomes available, we would appreciate the opportunity to receive and review that information, as well.

Thank you for allowing us the opportunity to participate in the review of this preliminary information. We look forward to hearing from you in the future.

Respectfully yours,



Scott R. Campbell
Fire Protection Engineer / Assistant Chief
Bureau of Emergency Services Operations

cc: Chief 3, 6, 9, 10 & 13

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CARROLL COUNTY PUBLIC SCHOOLS

55 North Court Street
WESTMINSTER, MARYLAND 21157EDWARD SHILLING
Superintendent

November 23, 1993

TELEPHONE:
(410) 848-8280
(410) 876-2208
(410) 875-3383
TTY (410) 876-3010
FAX (410) 876-9224

Mr. Louis H. Ege, Jr.
Deputy Director
Office of Planning and Preliminary Engineering
State Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203

Dear Mr. Ege:

Consistent with your November 22, 1993 inquiry about evaluating alternatives to improve traffic capacities and safety on Maryland Route 140 in the Westminster vicinity, I am supplying you a copy of the plat of Westminster East Middle School for your usage. This parcel of property contains approximately 21 +/- acres. Also included on the enclosure you will note the name of the school and address as well as the telephone number.

In response to the questions you have raised, you are advised the athletic fields are used for public recreation after school hours and the athletic fields do play an important role in serving the recreational needs of the community. As indicated to you in our telephone conversation on November 22, there would not be a positive response to State Highway Administration should there be a desire to utilize a portion of these fields to accommodate traffic flow in the Westminster area. It is hoped that any alternative being considered will not impact on this school facility.

Thank you for advising of the potential impact on this facility.

Sincerely,

Dr. Lester P. Surber
Supervisor of School FacilitiesLPS/baa
Enclosure

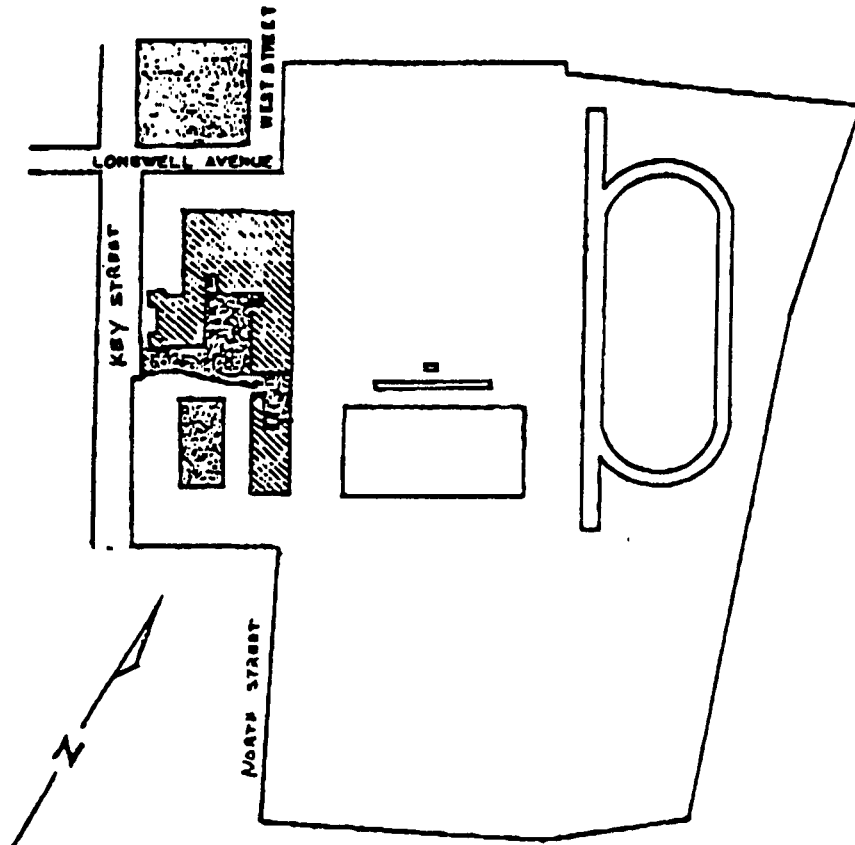
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WESTMINSTER EAST MIDDLE SCHOOL

Longwell Avenue
Westminster, Maryland 21157
(301) 848-0191

Westminster East Middle School is located within the city limits of Westminster and serves the middle school population in an attendance area which includes parts of Westminster, as well as areas north and east of the city. The original building was constructed in 1936 with subsequent additions and renovations in 1950, 1964 and 1975; the current building totals 120,400 square feet of space.

SITE MAP Westminster East Middle School



PLAT PLAN OF WESTMINSTER EAST MIDDLE



MARYLAND *Office of Planning*

April 15, 1994

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ECONOMIC
DEVELOPMENT
DIVISION

APR 16 3 41 PM '94

Ronald M. Kreitner
Director

William Donald Schaefer
Governor

Louis H. Ege, Jr.
Deputy Director
SHA Office of Planning & Preliminary Engineering
707 North Calvert Street
Baltimore, Maryland 21203

re: Study of Westminster Bypass & Alignment Alternatives

Dear Mr. Ege:

The Maryland Office of Planning staff has studied the information provided by SHA on the three new alignment alternatives and the four existing alignment alternatives currently under study. Our assessment of the consistency of each of these alternatives is based on the State's growth management policy elaborations and the Planning Act Visions. Our comments are summarized below and more detail is provided on the attached pages.

In general we find that the improvements to the existing alignment best meet the State's growth management policies. These TSM alternatives address to varying degrees the traffic problems while not conflicting with the County's Land Use Master Plan and not encouraging development that would compete with the commercial center along MD 140. They would represent an endorsement of the existing MD 140 business corridor rather than a diversion around it.

The two northern alignments provide optimal highway access to the Air Business Park, but the forecasted traffic volumes for 2015 do not justify the cost of proceeding with construction at this time, when considered in terms of other transportation needs across the state. It may be more appropriate to preserve a northern alignment corridor through right-of-way acquisition so that this option is available for reconsideration in the future. If such an action is taken, the Alternate 4 modified alignment is the alternative with the fewest negative growth management implications, primarily because its' connection with MD 97S creates less potential for unplanned development in the conservation area north and east of Gorsuch Road. The southern alignment is not consistent with the County's Land Use Plan or the Visions of the Economic Growth Resource Protection and Planning Act of 1992.

VIII-41

TSM Alternate

This alternative would support the State's Planning Act by improving the adequacy of existing transportation infrastructure within the Westminster community. It would improve the level of service in the AM peak period at four intersections, including Englar Road, the most congested intersection. It increases the capacity of MD 140 and provides for more efficient use of the existing highway for both through and local traffic. This alternative would help maintain MD 140 as an important corridor and would help sustain the commercial activity located there. This alternative does not introduce new pressures for development outside of the planned growth area, yet addresses the identified transportation need.

TSM Alternate 2

This alternative supports the State's Planning Act by improving the adequacy of the existing transportation infrastructure within the Westminster community. It would improve the level of service in the AM and PM peak periods at nine intersections, including Englar Road. This alternative improves the functioning of two of the three identified high accident intersections that serve areas planned by the County for business development. The capacity of MD 140 is increased allowing more efficient use of the facility and more efficient vehicle flow for both through and local traffic. This alternative would help maintain MD 140 as an important corridor and would help sustain the commercial activity located there. This alternative does not introduce new pressures for development outside of the planned growth area, yet significantly improves the function of MD 140 as a through and local corridor in Westminster.

TSM Alternate 3A

This alternative supports the State Planning Act by improving the existing highway and significantly improving the level of service at seven intersections, including Englar Road. In reducing the number of intersections and prohibiting movements across MD 140 it would establish some access control and restore the ability of MD 140 to accommodate through and local traffic demand more efficiently. It proposes widening of intersecting roads and an interchange at MD 97 south to accommodate the traffic forecasted in the year 2015. This alternative would support the County's goal of promoting the development of the Carroll County Air Business Center by improving the connection of MD97 N to the existing highway system and improving the safety and efficiency of that highway system. It would also support growth in the Westminster planning area by making improvements to highway access at MD 140 intersections with MD 27, Englar Road, Center Street, Cranberry which are areas of existing and planned business and industrial development.

However, the extension of MD 97S to Gorsuch Road that is proposed in this Alternative, in conjunction with the new interchange, presents growth management concerns. North and east of Gorsuch Road area is planned for conservation by Carroll County. The extension of MD 97 to Gorsuch Road could increase pressure for development outside of the planned growth area.

TSM Alternate 3b

This alternative supports the State's Planning Act by improving the adequacy of the existing transportation infrastructure within the Westminster community. It would improve the level of service in the AM and PM peak periods at five intersections including Englar Rd. In reducing the number of intersections and prohibiting movements across MD 140, and left turns from MD 140, it would establish some access control and restore the ability of MD 140 to accommodate through and local traffic demand more efficiently. However, the extension of MD 97S to Gorsuch Road that is proposed in this Alternative, in conjunction with the new interchange, presents growth management concerns. North and east of Gorsuch Road area is planned for conservation by Carroll County. The extension of MD 97 to Gorsuch Road could increase pressure for development outside of the planned growth area.

Alternate 4 Modified Northern Relocation Alignment

The alternative proposes construction of a new highway that would facilitate the flow of through traffic around the Westminster community and into the Baltimore and Washington metropolitan areas. Interchanges proposed at MD 97 N and MD 27 would be located in areas planned for development. The interchange proposed at MD 97 N provides direct access to the County's Air Business Park, the major site within the Westminster planning area designated for business development. The proposed interchange at MD 31/Meadow Branch Road would occur on the perimeter of the planned Westminster growth area, and may impact the designated conservation area. Its' purpose seems to be to provide an easier opportunity for residents within the Westminster community to access the new facility and bypass Westminster's businesses. This is seen as contrary to State policy which should consider how such an investment supports Westminster's function as an activity center. The eastern portion of the alignment goes through an area in the County designated for conservation and includes a direct connection to MD 97S. Full control access on this highway is the only way to protect the conservation area and would prevent growth pressure from causing land use changes in this area.

The traffic forecasts for the year 2015 show significant growth in traffic on MD 97 N from origins within the County, and growth in traffic on MD 140 northwest of the Westminster community. Yet, for the year 2015, it is estimated that just 21,000 trips

would be diverted to a northern bypass alignment. Apparently, because people have secondary destinations within the Westminster business community, the traffic volume on MD 140 would still be approximately 49,000 trips at its' highest point, similar to the volume exists today.

Alternate 6 Northern Relocation Alignment

The alternative proposes construction of a new highway that would facilitate the flow of through traffic around the Westminster community and into the Baltimore and Washington metropolitan areas. This alternative is consistent with the alignment shown in the Carroll County Master Plan.

Interchanges proposed at MD 97 N and MD 27 would be located in areas planned for development. The interchange at MD 97 N provides direct access to the County's Air Business Park, the major site within the Westminster planning area designated for business development. The proposed interchange at MD 31/Meadow Branch Road would occur on the perimeter of the planned Westminster growth area, and may impact the designated conservation area. Its' purpose seems to be to provide an easier opportunity for residents within the Westminster community to access the new facility and bypass Westminster's businesses. This is seen as contrary to State policy which should consider how such an investment supports Westminster's function as an activity center. This alternative varies only in the eastern end from the Alt. 4 modified alignment. The proposed interchange at Gorsuch Road occurs in an area planned for conservation and agriculture and is likely to create pressure for land use change in this area. This interchange is not consistent with the State's policy to make investments in infrastructure in areas designated for growth.

Alternate 10A Southern Relocation Alignment

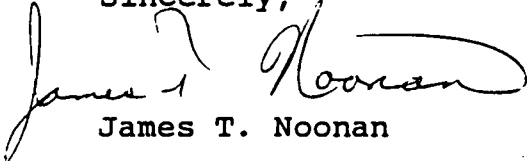
This alternative proposes construction of a new highway to facilitate the flow of through traffic around the Westminster community and into the Baltimore and Washington area. The alignment proposed is much longer than the northern alternatives and would not divert traffic from MD 97N off of MD 140. Because it is projected to divert less through traffic it would be a less efficient use of financial resources.

The interchanges at MD 27 and MD 97S are located in areas designated for conservation and agriculture, and would not be consistent with the State policy to make infrastructure investments in areas planned for growth. This alignment is not consistent with the County Master Plan, and would not improve access for most of the sites planned in the Westminster area for business and industrial development. This alternative is not consistent with the Visions of the Planning Act because it does not promote or direct development into suitable areas, it does not encourage economic growth in the areas designated by the

County for such growth and it would negatively impact the County's designated agricultural and conservation areas.

We hope that these comments are useful to SHA as the project study continues toward the selection of an alternative.

Sincerely,



James T. Noonan

JTN: CW

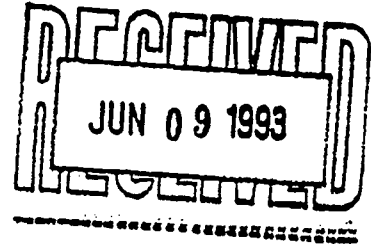
cc: Edmund R. Cueman, Director of Planning, Carroll County
Bob McNamara, OP
Members, Technical Support Group of the Economic Growth,
Resource Protection & Planning Committee



UNITED STATES DEPARTMENT OF COMMERCE
 National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 1335 East-West Highway
 Silver Spring, MD 20910
 THE DIRECTOR

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JUN 02 1993



Mr. William R. Zemaitis
 Gannett Fleming, Inc.
 Harrisburg, Pennsylvania 17106-7100

Dear Mr. Zemaitis:

Thank you for the opportunity to comment on a project evaluating improvements to Maryland Route 140 including bypass corridor alternatives in the vicinity of Westminster, Maryland.

The National Marine Fisheries Service (NMFS) has reviewed the information provided and has determined that the project will not affect resources for which NMFS is responsible. No subsequent consultations with NMFS, further copies of any correspondence, or any additional information is required by this office on the above project.

Sincerely,

Nancy Foster

for Nancy Foster, Ph.D.
 Acting Assistant Administrator
 for Fisheries

THE ASSISTANT ADMINISTRATOR
 FOR FISHERIES



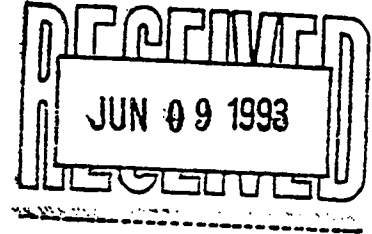


United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
1825 Virginia Street
Annapolis, Maryland 21401
(410) 269-5448

June 2, 1993



Mr. William R. Zemaitis
Gannett Fleming, Inc.
Post Office Box 67100
Harrisburg, PA 17106-7100

Re: Maryland Route 140
Westminster Bypass Project

Dear Mr. Zemaitis:

This responds to your April 27, 1993, request for information on the presence of species that are Federally listed or proposed for listing as endangered or threatened within the area affected by the referenced project in Carroll County, Maryland. We have reviewed the information you enclosed and are providing comments in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species are known to exist in the project impact area. Therefore, no biological assessment or further Section 7 consultation is required with the Fish and Wildlife Service. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

The following candidate species (those placed under view in the Federal Register to determine suitability for listing) may be present in the project area:

bog turtle Clemmys muhlenbergii

It is recommended that you contact the Maryland Nongame and Endangered Species Program at (410) 827-8612 for additional information concerning bog turtle records in the project planning corridors and regarding the need for additional bog turtle surveys there. Should they indicate a need for additional surveys in the project area, such surveys should be conducted by a qualified biologist approved by both Maryland DNR at the U.S. Fish and Wildlife Service to conduct bog turtle surveys.

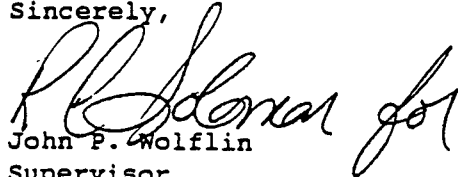
Although not required by the Endangered Species Act, we believe it is to your advantage for projects such as this one, with long lead times, to survey for this Federal candidate species. Because of the serious threats to the bog turtle, the Fish and Wildlife Service, in concert with state agencies, is currently funding extensive status survey work throughout this

species' range. Consequently, the probability that the bog turtle will be listed as threatened prior to construction of this proposed section of Route 140 is fairly high.

This response relates only to endangered species under our jurisdiction. It does not address other Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other legislation.

Thank you for your interest in endangered species. We look forward to receiving the results of any bog turtle surveys you conduct. If you have any questions or need further assistance, please contact Andy Moser of our Endangered Species staff at (410) 269-5448.

Sincerely,



John P. Wolflin
Supervisor
Chesapeake Bay Field Office

cc: Glen Therres
Maryland Department of Natural Resources

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William Donald Schaefer
Governor

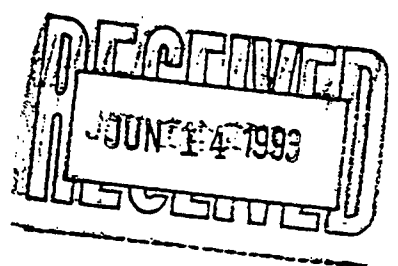
Maryland Department of Natural Resources

Torrey C. Brown, M.D.
Secretary

Tidewater Administration
Power Plant and Environmental Review Division
Tawes State Office Building
Annapolis, Maryland 21401

Peter M. Dunbar, Ph.D., P.E.
Director

June 8, 1993



William Zemaitis
Gannett Fleming
P.O. Box 67100
Harrisburg, PA 17106-7100

RE: Maryland Route 140 Westminster By-pass, Natural Environmental Studies

Dear Mr. Zemaitis:

In response to your request, we have compiled information regarding the known environmental resources and issues of concern in the study area for the above referenced project. We have itemized these resources and issues below for your use.

- 1) Although the Maryland Environmental Trust (MET) does not hold any conservation easements in the study area, the owners of a farm in the Fountain Valley area have expressed interest in donating a conservation/preservation easement to MET and the Maryland Historical Trust. The farm is shown on the enclosed map.
- 2) According to Nontidal Wetlands Guidance Maps, there are no Wetlands of Special State Concern in the study area.
- 3) There are no threatened or endangered plant or wildlife species known to be present in the study area. However, the forested areas in the study area may be utilized as breeding areas by Forest Interior Dwelling Birds. The habitat of these birds is rapidly disappearing in Maryland. For additional information concerning these species, contact Glenn Therres of the Wildlife Division at (410) 827-8612.

(410) 974-3195

William Zemaitis
June 8, 1993
Page 2

4) The following streams and trout resources are located within the subject study area:

<u>Stream</u>	<u>Use</u>	<u>Watershed</u>	<u>Trout Resources</u>
Little Pipe Creek	IV	Monocacy	None Known
Morgan Run	III-P	Patapsco	Stocked at Morgan Run Sp. Park
Middle Run	I-P	Patapsco	Wild Brown Trout
Beaver Run	III-P	Patapsco	Wild Brown Trout
West Branch	IV-P	Patapsco	None Known
East Branch	IV-P	Patapsco	Wild Brown Trout
Cranberry Branch	IV-P	Patapsco	None Known
Westminster Pond	IV-P	Patapsco	Stocked

5) In addition to trout resources, the attached tables (VIII-2 and IV-2) which were prepared by our Freshwater Fisheries Division, list other fish species documented in the Patapsco and Middle Potomac River basins respectively. Many of these fish species could be expected to inhabit the above listed streams.

The Water Resources Administration has indicated that a Water Appropriation Permit will be required for withdrawals from streams or wells for construction activities such as mixing materials, dust control, hydroseeding, and/or construction dewatering. A Nontidal Wetlands permit will also be necessary for impacts to nontidal wetlands and their associated buffer areas.

It is our understanding that recent coordination between the State Highway Administration and the Federal resource agencies has resulted in the development of new potential alternate alignments for the project. We will consider these new alternates during our participation in the NEPA/404 process. If you have any questions

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William Zemaitis
June 8, 1993
Page 3

regarding these comments, please contact Sean Smith of my staff at
(410) 974-2788.

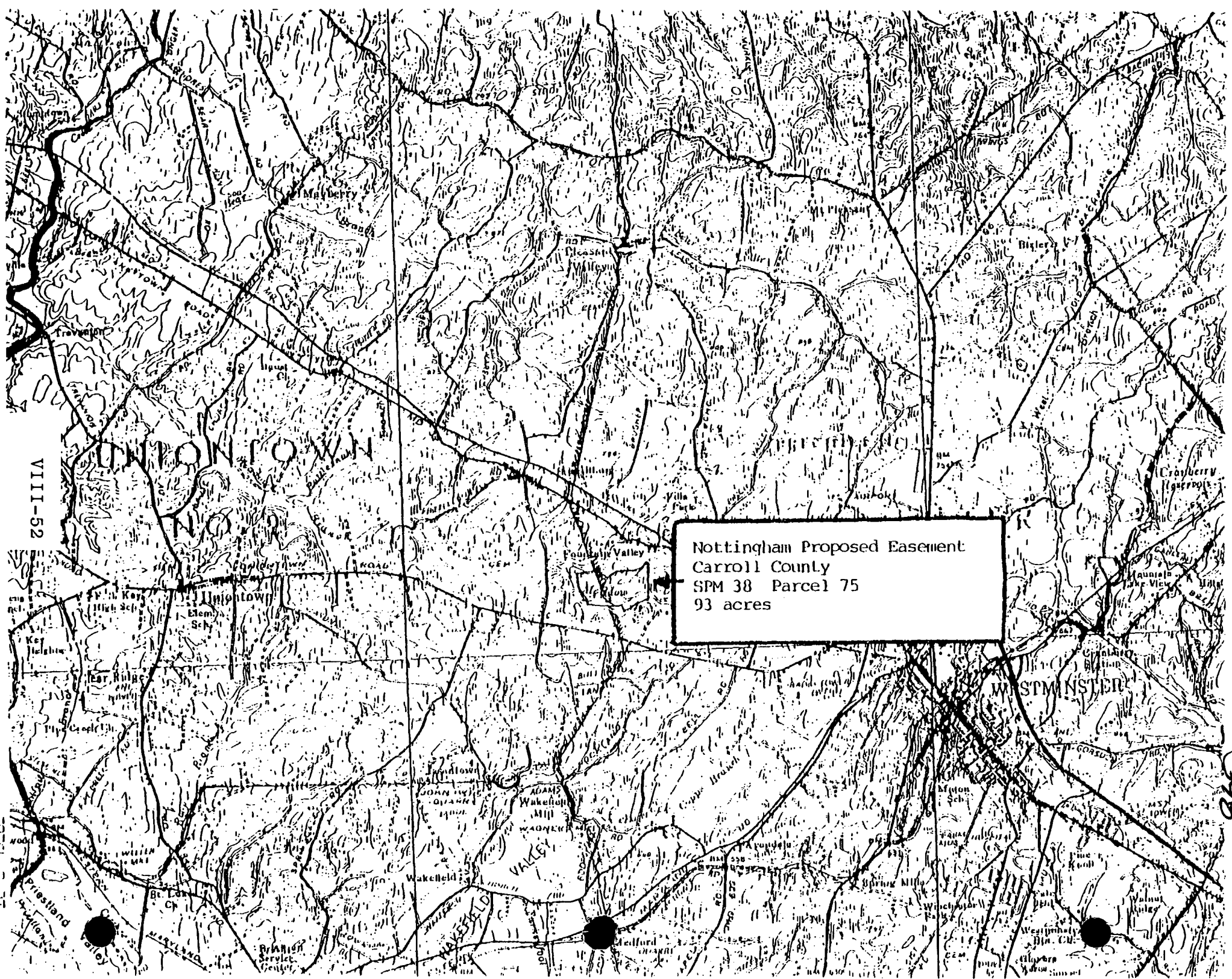
Sincerely,

Ray C. Dintaman, Jr.

Ray C. Dintaman, Jr., Chief
Environmental Review Program

RCD:SMS
Enclosure

cc: Bill Schultz, USFWS
Paul Wettlauffer, USACOE
Gary Setzer, WRA
Janet McKegg, NHP



VIII-52

Nottingham Proposed Easement
Carroll County
SPM 38 Parcel 75
93 acres

WESTMINSTER

Table IV-2. Fish Species Collected in the Middle Potomac River Basin, 1974-1984.

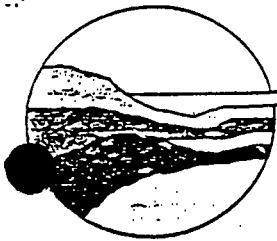
Salmonidae	
Brook trout	<u>Salvelinus fontinalis</u> (Mitchill)
Brown trout	<u>Salmo trutta</u> Linnaeus
Rainbow trout	<u>Salmo gairdneri</u> Richardson
Cyprinidae	
Stoneroller	<u>Campostoma anamalum</u> (Rafinesque)
Blacknose dace	<u>Rhinichthys atratulus</u> (Hermann)
Longnose dace	<u>Rhinichthys cataractae</u> (Valenciennes)
Cutlips minnow	<u>Exoglossum maxillingua</u> (Lesueur)
Creek chub	<u>Semotilus atromaculatus</u> (Mitchill)
River chub	<u>Noconis micropogon</u> (Cope)
Fallfish	<u>Semotilus corporalis</u> (Mitchill)
Rosyside dace	<u>Clinostomus funduloides</u> Girard
Common shiner	<u>Notropis cornutus</u> (Mitchill)
Bluntnose minnow	<u>Pimiplanes notatus</u> (Rafinesque)
* Peal dace	<u>Semotilus margarita</u> (Cope)
Catostomidae	
Northern hogsucker	<u>Hypentelium nigricans</u> (Lesueur)
White sucker	<u>Catostomus commersoni</u> (Lacepede)
Ictaluridae	
Margined madtom	<u>Noturus insignis</u> (Richardson)
Brown bullhead	<u>Ictalurus nebulosus</u> (Lesueur)
Cottidae	
Mottled sculpin	<u>Cottus hairdi</u> Girard
Centrarchidae	
Bluegill sunfish	<u>Lepomis macrochirus</u> (Rafinesque)
Smallmouth bass	<u>Micropterus dolomieu</u> Lacepede
Largemouth bass	<u>Micropterus salmoides</u> Lacepede
Rock bass	<u>Ambloplites rupestris</u> (Rafinesque)
Pumpkinseed sunfish	<u>Lepomis gibbosus</u> (Linnaeus)
Longear sunfish	<u>Lepomis megalotis</u> (Rafinesque)
Percidae	
Tessellated darter	<u>Etheostoma olmstedii</u> Storer
Greenside darter	<u>Etheostoma blennioides</u> Rafinesque
Fantail darter	<u>Etheostoma flabellare</u> Rafinesque
Anguillidae	
American eel	<u>Anguilla rostrata</u> (Lesueur)

* Additional fish species collected, 1980-1984.

Table VIII-2. -Fish Species Collected in the Patapsco River Basin, 1974 through 1984. (New species collected in 1980 to 1984 study designated by *.)

Salmonidae	
Brook trout	<u>Salvelinus fontinalis</u> (Mitchill)
Brown trout	<u>Salmo trutta</u> Linnaeus
Rainbow trout	<u>Salmo gairdneri</u> Richardson
Cyprinidae	
Stoneroller	<u>Campostoma anomalum</u> (Rafinesque)
Blacknose dace	<u>Rhinichthys atraculus</u> (Hermann)
Longnose dace	<u>Rhinichthys cataractae</u> (Valenciennes)
Cutlips minnow	<u>Exoellossum maxillingua</u> (Lesueur)
Creek chub	<u>Semotilus atromaculatus</u> (Mitchill)
Rosyside dace	<u>Clinostomus funduloides</u> Girard
Common shiner	<u>Notropis cornutus</u> (Mitchill)
Bluntnose minnow	<u>Pimephales notatus</u> (Rafinesque)
Fallfish	<u>Semotilus corporalis</u> (Mitchill) *
Golden shiner	<u>Notemigonus crysoleucas</u> (Mitchill) *
Silverjaw minnow	<u>Ericymba buccata</u> Cope *
Spottail shiner	<u>Notropis hudsonius</u> (Clinton) *
Spotfin shiner	<u>Notropis spilopterus</u> (Cope) *
Carp	<u>Cyprinus carpio</u> Linnaeus *
Catostomidae	
Northern hogsucker	<u>Hypentelium nigricans</u> (Lesueur)
White sucker	<u>Catostomus commersoni</u> (Lacepede)
Ictaluridae	
Margined madtom	<u>Noturus insignis</u> (Richardson)
Yellow bullhead	<u>Ictalurus natalis</u> (Lesueur) *
Channel catfish	<u>Ictalurus punctatus</u> (Rafinesque) *
Cottidae	
Mottled sculpin	<u>Cottus bairdi</u> Girard
Centrarchidae	
Smallmouth bass	<u>Micropterus dolomieu</u> Lacepede
Rock bass	<u>Ambloplites rupestris</u> (Rafinesque)
Bluegill sunfish	<u>Lepomis macrochirus</u> (Rafinesque)
Largemouth bass	<u>Micropterus salmoides</u> Lacepede *
Green sunfish	<u>Lepomis cyanellus</u> Rafinesque *
Pumpkinseed	<u>Lepomis gibbosus</u> (Linnaeus) *
Longear sunfish	<u>Lepomis megalotis</u> (Rafinesque) *
Percidae	
Tessellated darter	<u>Etheostoma olmstedii</u> Rafinesque
Fantail darter	<u>Etheostoma flabellare</u> Rafinesque
Anguillidae	
American eel	<u>Anguilla rostrata</u> (Lesueur)

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Maryland Department of Natural Resources

Tidewater Administration
Tawes State Office Building
580 Taylor Avenue
Annapolis, Maryland 21401

William Donald Schaefer
Governor

Torrey C. Brown, M.D.
Secretary

May 13, 1993

A. David Shellman
Gannett Fleming, Inc.
P.O. Box 67100
Harrisburg, PA 17106-7100

I am in receipt of your request for a Scientific Collection Permit. Under Maryland Statute 4-212 the Secretary of the Department of Natural Resources may grant certificates to accredited persons of scientific institutions to permit them to collect fish, fish eggs, crustaceans, and mollusks for scientific purposes.

I have attached a Scientific Collection Permit which will expire on December 31, 1993. The Department requires an annual report on your collection activities. Collections must be made only with gear types authorized by the Annotated Code of Maryland and the Code of Maryland Regulations.

Before you collect trout from Class III waters you must first obtain permission from the Freshwater Fisheries Regional Manager of the region in which you intend to work. The purpose of this additional step is to avoid unnecessary duplication of effort and possible harm to fragile trout populations. A map showing the regions of responsibility and the telephone number of the Freshwater Regional Managers is enclosed for your convenience.

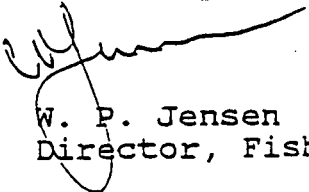
Another aspect of the scientific collection permit which is very important is that you are not authorized by this permit to collect, or remove striped bass from Maryland waters. If your studies necessitate collection of striped bass please write a full explanation of what you intend to do, with enough detail so that we may specifically evaluate your request and give permission to take striped bass, if justified. This level of protection is required to protect the species.

Telephone: 410 974-3558
DNR TTY for Deaf: 301-974-3683

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Finally, please contact the Department of Natural Resources
police (410) 267-7740 to let them know when you will be operating
in Maryland waters. This eliminates the necessity of confirming
any calls related to your collection activities.

Sincerely,



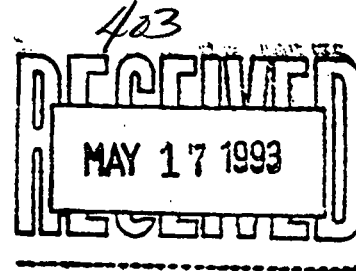
W. P. Jensen
Director, Fisheries

WPJ/lk

encl.



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715



May 12, 1993

Planning Division

Mr. William R. Zemaitis
Environmental Scientist
Gannett Fleming, Inc.
P.O. Box 67100
Harrisburg, Pennsylvania 17106-7100

Dear Mr. Zemaitis:

Reference your letter dated, April 27, 1993, requesting Baltimore District comments on the proposed improvements to Maryland Route 140 in the vicinity of Westminster, Carroll County, Maryland. The comments provided below address the Corps of Engineers (Corps) areas of concern, including direct and indirect impacts on existing and/or proposed Corps projects, flood control hazard potential, and permit requirements under Section 404 of the Clean Water Act.

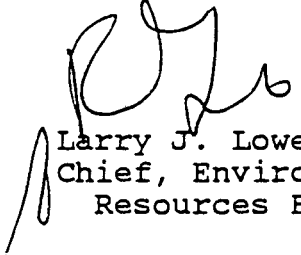
There are no existing or proposed Corps projects that would be affected by the work. Additionally, in accordance with the subject document, portions of the proposed work will be located within the flood plain. New construction or major replacements within the flood plain requires full compliance with Executive Order (E.O.) No. 11988, Flood Plain Management, May 24, 1977; Federal Emergency Management Agency (FEMA) regulations; and other Federal, state, and local flood plain regulations. The objectives of the E.O. and the other flood plain regulations are to avoid the adverse effects of occupying and modifying the flood plain and to avoid direct and indirect support of development in the flood plain. The E.O. requires that activities not be located in the flood plain unless it is the only practicable alternative. Activities which must be located in the flood plain must incorporate measures to: (1) reduce the hazard and risks associated with floods, (2) minimize the adverse effects on human health, safety, and welfare, and (3) restore and preserve the natural and beneficial values of the flood plain.

The proposed bridge may cause an increase in water surface elevation (surcharge). FEMA regulations require that the surcharge not increase more than 1.0-foot. It is also suggested that the state and local resource agencies be contacted as some states and local governments have more stringent surcharge requirements than FEMA.

Certain activities in the waters of the United States, and jurisdictional wetlands, require Department of the Army permits from the Corps of Engineers. Corps regulations (33 CFR 320 through 330 and 33 CFR 230 and 325 (Appendix B)) require full compliance with the National Environmental Policy Act (NEPA) of 1969 during the review and evaluation of permit applications. To the maximum extent possible, the Corps will accept the information presented in NEPA documents for evaluating permit applications. If you have any questions or need additional information on permits, the point of contact is Mr. Tom Filip, Assistant Chief, Regulatory Branch, Operations Division, at (410) 962-3671.

If you have any questions on this matter, please call me or my action officer, Mr. Stephen S. Israel, at (410) 962-0685.

Sincerely,



Larry J. Lower
Chief, Environmental
Resources Branch



**Maryland Department of Transportation
State Highway Administration**

405

O. James Lighthizer
Secretary
Hal Kassoff
Administrator

May 17, 1994

Re: Contract No. CL 713-101-770
MD 140 (Westminster Bypass)
from Reese Rd. to Hughes Shop Rd.
PDMS No. 062027

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville MD 21032-2023

Dear Mr. Little:

We have assessed the effect of the current project alternates, Alternates 6, 4 Modified and 10A, on historic resources we agreed were eligible for inclusion in the National Register of Historic Places. These assessments are summarized on Attachment 1, and alternate maps are included as Attachment 2. None of the alternates would affect the Westminster Historic District, which is outside the area of potential effect.

Alternate 4 Modified

Alternate 4 Modified consists of a northern bypass beginning from Hughes Shop Road with a directional interchange and ending west of Reese Road with a directional interchange. This alternate would follow the same alignment as the Master Plan alignment to the vicinity of MD 27 and MD 852 (Old Manchester Road).

Passing east of Carrolllyn Manor subdivision, Alternate 4 Modified bridges Big Pipe Creek and Meadow Branch Road. Krider's Church Road would be closed at both ends at the bypass.

Alternate 4 Modified continues east crossing MD 97 North (Littlestown Pike) just south of the Carroll County Airport. A partial clover-leaf interchange is proposed at MD 97. Running east, it bridges Sullivan Road and the West Branch Patapsco River. Proceeding east and passing under Lucabaugh Mill Road, it bridges MD 27. A partial clover-leaf interchange is proposed at this location. (Initially a diamond interchange was proposed at this location. Following a field review with the environmental agencies, this interchange was redesigned as a partial clover-leaf in order to minimize wetland impacts).

VIII-58 a

My telephone number is _____

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

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

East of Old Manchester Road (MD 852), it would run in a southerly direction crossing Brehm Road, Tannery Road, West Branch Patapsco River and Gorsuch Road. In conjunction with this alternate, MD 97 (Old Washington Road) would be extended northeasterly to meet the proposed bypass approximately 1000 feet south of Gorsuch Road. Alternate 4 Modified would merge with existing MD 140 about one mile west of Reese Road.

Alternate 6

Alternate 6 closely follows the County's Master Plan alignment for a bypass on the north side. As described above, it follows the same alignment as Alternate 4 Modified to a point east of MD 27 and MD 852. The alignment at the crossing of Cranberry Branch has been modified to eliminate crossing the stream confluence point, by shifting the alignment slightly to the north.

Turning south, just past Gahle Road, it crosses Old Manchester Road (MD 852) north of Lynnhaven Drive approximately 1/2 mile east of Tannery Road. Running southeast along the east side of Tannery Road and West Branch Patapsco River, it bridges Gorsuch Road, where a diamond interchange would be provided. Crossing the West Branch Patapsco River and Maryland Midland Railroad, it runs in a southerly direction. Turning east, Alternate 6 would join the existing MD 140 alignment.

Alternate 10A

Alternate 10A proposes a bypass on the south side of Westminster. Beginning at the northern terminus just west of Hughes Shop Road with a directional interchange from existing MD 140, it proceeds in a southerly direction. Bridging Union Town Road, it turns east passing under Bell Road. Continuing east, it passes behind Westminster Elementary School, and through the northern portion of Wakefield Valley Golf Course. Turning southeast, it bridges New Windsor Pike (MD 31), where a diamond interchange is proposed. Continuing south, it bridges the Maryland Midland Railroad, Little Pipe Creek and Old Westminster Road. Then it crosses over Ridge Road (MD 27) and Kate Wagner Road with an interchange at Kate Wagner Road to serve both roads. Proceeding southeast, it would cross Morgan Run, Washington Road (MD 854) and Short Lane Road. The alignment then curves to the east and bridges Old Washington Road (MD 97) and Sykesville Road (MD 32). An interchange would be constructed to provide access to both roads. Curving north, it passes north of Smallwood Acres subdivision, under Hook Road, and continuing east, bridges Beaver Run and Arnold Road. From here, running northerly, it parallels the west side of Arnold Road and bridges Old Westminster Pike. Turning east, it merges with existing MD 140 just west of Reese Road.

Transportation System Management (TSM)

The Transportation System Management Alternate consists of various spot improvements to existing MD 140 from approximately 1300 feet west of Meadow Branch Road/Royer Road to approximately 1500 feet east of Old Baltimore Road. These improvements include adding an eastbound through lane from east of MD 97 (N) to MD 27 and from east of Cranberry Road to east of Old Baltimore Road, providing additional left and right-turn lanes where traffic volumes indicate a need for them, lengthening substandard left-turn lanes, re-striping certain approaches to achieve a higher level-of-service, and optionally reconstructing shoulders which are currently in poor condition. The resulting roadway would have three through lanes in each direction from MD 97 (N) to east of MD 97 (S).

Alternate 2

Alternate 2 consists of widening improvements along existing MD 140. The widening would occur in the median wherever possible. Alternate 2 includes the following improvements: extension of the dual roadway section to a point west of MD 31, improvements such as additional and lengthened turn lanes at intersections as needed widening to provide four through lanes in each direction from Sullivan Road/Wimert Avenue to Old Baltimore Road and three lanes in each direction from Old Baltimore Road to east of the State Police barracks.

Alternate 3A Existing Road

These improvements extend from west of West Main Street to Reese Road. Alternate 3A consists of three lanes in each direction from MD 97 (N) to Old Baltimore Road, a new interchange at MD 97 (S) and other intersection improvements as in Alternate 2.

The major difference between Alternate 3A and Alternate 2 is that Alternate 3A proposes the prohibition, between MD 97 (N) and MD 97 (S), of left-turn and through movements from all intersecting roads onto or across MD 140. Right-turns from the intersecting roads onto MD 140 and left and right-turns from MD 140 onto the intersecting roads would still be permitted.

The prohibition of movements from the intersecting roads will result in more traffic using parallel routes and accessing MD 140 at the interchanges. Therefore, Alternate 3A includes improvements to MD 97 (N) and MD 27. In addition, the at-grade intersection of MD 140 and MD 97 (S) would be converted to an interchange and MD 97 (S) would be extended northward to Gorsuch Road.

Whereas Alternate 2 has four through lanes in each direction on MD 140 between Sullivan Road/Wimert Avenue and MD 97 (S), the

prohibition of left-turn and through movements from the side roads allows achievement of an acceptable level of service with only three through lanes in each direction in this area for Alternate 3A.

Alternate 3B Existing Road

The major differences between Alternates 3B and 3A are as follows: Alternate 3B includes a flyover ramp from westbound MD 140 to southbound MD 31 in lieu of a left-turn lane. Alternate 3B includes the prohibition of all left-turns from MD 140 to the intersecting roads at the at-grade intersections and of movements across the median between MD 97 (N) and MD 97 (S).

For the proposed MD 140/MD 97 (S) interchange, MD 97 (S) is relocated slightly to the west under Alternate 3B rather than following its existing horizontal alignment as proposed under Alternate 3A. The improvements to MD 27 proposed under Alternate 3B are more substantial than those proposed under Alternate 3A, due to the larger amount of traffic diverted to MD 27.

HISTORIC SITE IMPACTS

We agreed that the following sites are eligible for the National Register and within the area of potential effect for the common alignment of Alternates 4 Modified and 6:

- The Roop Rural Historic District. Archeological sites identified within this district are 18CR208, associated with the Jacob or Joseph Stoner House (CARR 1371); 18CR226, associated with the Elizabeth Lowry House (CARR 656); 18CR205, associated with Meadow Brook Farm (CARR 391) and 18CR206, associated with the Roop Mill Complex (CARR 101, CARR 390). Sites 18CR205, 18CR206 and 18CR226 are potentially significant and may contribute to the eligibility of the properties individually under Criterion D. However only 18CR226 is impacted by proposed alternates 6/4 Modified. Sites 18CR205 and 206 will be avoided. We previously agreed that site 18CR208 is not potentially significant.
- #14 Fritz Farm Complex (CARR 398). Potentially significant archeological site 18CR207 is associated with CARR 398. However, the archeological component of the property is avoided by Alternates 4 Modified and 6.
- #11 Brick Kriders Church (CARR 146) and #13, the 1890 frame Queen Anne style church (CARR 172) and #12, Sexton's House (CARR 674).
- #20 Leister House (CARR744). Site 18CR210 is the potentially significant archeological component of the

Leister House. It is avoided by Alternates 4 Modified and 6.

Where Alternate 4 Modified deviates from its common alignment with Alternate 6, the # 138, Chew-Crowl House (CARR-1355) is within the area of potential effect.

Where Alternate 6 deviates from its common alignment with Alternate 4 Modified, the Tannery Survey District (CARR 700), # 155 - the Distillery Masters House (CARR 1377) and # 134- Evelyn Thompson property (CARR 1351) are within the area of potential effect. Archeological sites 18CR221 and 18CR222 were identified in the Tannery Survey District. Both are considered potentially significant and may contribute to the National Register eligibility of the District. Both archeological components are avoided by Alternates 4 Modified and 6.

The following sites are within the area of potential effect for Alternate 10A:

- The Roop Rural Historic District also includes archeological site 18CR226, which will be impacted by Alternate 10A. All other archeological sites within the Roop Rural Historic District will be avoided.
- # 66 - Swisssdale (CARR 262)
- # 70 - John Rinehart House (CARR 389)
- #'s 68 & 69 - John Schweigart House and Barn (CARR 371 and 388)
- # 87 - Spring Mill House (CARR 110)
- # 88 - Old Spring Mill School (CARR 519)
- # 90 - Goodwin-Robertson-Wagner Farm (CARR 669)
- # 148 - Jacob Coppersmith House (CARR 1365)
- # 138 - Chew-Crowl House (CARR 1355)
- # 134 - Evelyn Thompson property (CARR 1351)

The following sites are within the area of potential effect of Alternates 2, 3A and 3B:

- # 55 - the D. Bonsack House (CARR 708)
- # 49 - the Royer-Koontz Farmstead (CARR 702)
- # 129 - the Bonsack Farm Complex (CARR 701)
- # 138 - Chew-Crowl House (CARR 1355)
- # 134 - Evelyn Thompson property (CARR 1351)

The TSM alternate has within its area of potential effect the following sites:

- # 55 - the D. Bonsack House (CARR 708)
- # 49 - the Royer-Koontz Farmstead (CARR 702)
- # 129 - the Bonsack Farm Complex (CARR 701)
- # 138 - Chew-Crowl House (CARR 1355)
- # 134 - Evelyn Thompson property (CARR 1351)

Two archeological sites, 18CR224 and 18CR226, have been determined to be potentially significant and will be impacted. The former is impacted by Alternate 4 Modified, and the latter by Alternates 6 and 10A. Other potentially significant sites identified are 18CR203 associated with #84, Log Dwelling (CARR 809); 18CR212 associated with #133, Jesse Long House Ruins (CARR 1350); and 18CR216 associated with #132, Isaac Long House Ruins (CARR 1349). All of these archeological components will be avoided.

Two archeological sites which require additional Phase I to determine potential significance and which are impacted by proposed alternates are sites 18CR202 and 18CR190. Both would be impacted by Alternate 10A.

We have previously agreed that the following archeological sites are not potentially significant: 18CR204, the archeological component of CARR 1395 (the Jesse Babylon House); 18CR208, the archeological component of the Joseph Stoner House, itself a contributing element to the Roop Rural Historic District; 18CR209, the archeological component of CARR 794 (#33 The Schaffer House); 18CR211 (a prehistoric lithic scatter); 18CR213 (the remains of a lime kiln); 18CR214 (amorphous earthworks); 18CR215 (Quarry Pit); and 18CR227 (School house ruins/dump).

Effects of Alternates 4 Modified and 6 The Common Alignment

Roop Rural Historic District--Alternates 4 Modified and 6 will traverse the entire width of the district and require the displacement of the Joseph Thomas House and the Elizabeth Lowry House. Both sites are components of the district which contribute to its significance. The district would be adversely affected not only by the acquisition of 37.43 acres, but also because the rural environment would be altered by Alternate 4 Modified and Alternate 6. No archeological component was identified in the area of the Joseph Thomas House. Phase II evaluation of the potentially significant archeological component associated with the Elizabeth Lowry is needed to determine the property's eligibility under criterion D.

Site #14 - the Fritz Farm Complex (CARR 398)--The common alignment of Alternates 4 Modified and 6 would traverse the Fritz site diagonally from the intersection of Meadow Branch and Krider's Church Road on the east to the intersection of the new roadway with MD 97/Relocated Meadow Branch Road. The building would be approximately 200' from the right-of-way line and approximately 270' from the edge of pavement. Approximately 7.80 acres of land included within the historic site boundary would be required for right-of-way, and the site would be adversely affected. The potentially significant archeological component

(18CR207) will be avoided.

Sites 11-13, Kriders Lutheran Churches -- The alignments would be located below the grade of the churches and would be readily seen from the brick Kriders Lutheran Church and partially seen from the frame Kriders Lutheran Church. The valley in which the alternates would be located is not a pristine rural setting, but the location of an airport and some industrial/commercial development, with additional development slated to occur. Whereas for most of the length of these alternates (and where they cross Kriders Church Road northwest of the frame church) they are not within the viewshed of either church because of the change in grade, there is a point northeast of the brick church, in the area of MD 97, where there is low area through which the alignments could be seen. Much of that view, however, would be hindered by the Albright Building located at 180 Kriders Church Road and by the buildings located along MD 97 between the existing intersection of Kriders Church Road with MD 97 and the Westminster Airport on the north. At the closest point of the historic site boundary to the common alignments of Alternates 4 Modified and 6, it would be 190 feet from the right-of-way line and 320 feet to the edge of pavement. The closest building would be 550 feet from the right-of-way line and 670 feet from the edge of pavement. These alternates would have a no adverse effect on this site. Cemeteries associated with the Kriders Lutheran Churches are considered potentially significant as archeological components of the property and will be avoided by the proposed Alternates.

#20 - Leister House (CARR 744) -- Alternates 4 Modified (Figure II-40) and 6 (Figure II-47) would come within very close proximity to this property resulting in an adverse effect. At the closest point the historic site boundary would be 100 feet from the right-of-way line and 190 feet to the edge of pavement of the common alignment of Alternates 4 Modified and 6. The closest the alternate would be to the principal historic building would be 250 feet from the right-of-way line and 320 feet from the edge of pavement. The potentially significant archeological component of this property (18CR210) will be avoided.

#21 - Windy Hills, (CARR 107) -- Alternates 4 Modified (Figure II-40) and 6 (Figure II-47) are quite far from the nucleus of buildings within this site and is separated from them by the rolling contours of the land. As best as could be determined, the alternates would not be within the viewshed of the buildings. In an area of exploding subdivision development, there will be some alteration in the environment of Windy Hills. The site would be affected, but not adversely.

Alternate 6 east of the common alignment

Tannery Survey District -- Alternate 6 (Figures II-48 and II-49) would be located just uphill from the Tannery Survey District. Construction of Alternate 6 would remove the woods, and .67 acres of land, resulting in an adverse effect to the district. The closest building is approximately 50' from the edge of right-of-way and approximately 80' from the edge of pavement. Potentially significant archeological components of the Tannery (18CR222) and Tannery Workers Houses (18CR221) will be avoided.

#155 - the Distillery Masters House (CARR 1377) -- This site is located uphill and well east of the point where Alternate 6 (Figure II-49) would cross the West Branch of the Patapsco River. The alignment could only barely be seen through the heavy woods located within the historic site boundary and could not be seen at all from the only historic building. This dwelling is located approximately 200' from the edge of the proposed right-of-way and approximately 250' from the edge of pavement. The historic site boundary is located approximately 80' from the edge of right-of-way and approximate 135' from the edge of proposed paving. The site would be affected because the rural environment would be altered. This rural environment is increasingly threatened by the relentless development of the land for subdivision housing, which has started to occur at the perimeters of this presently very rural valley. The site would be affected, but not adversely, given the imminent threat of change to the setting already posed by subdivision plans.

#138 - Chew-Crowl House (CARR 1355) -- The ramp from eastbound Alternate 6 (Figure II-50) would tie into MD 140 and would require the acquisition of 1.54 acres of right of way from the back of the property along MD 140. The closest building is located approximately 160' from the right-of-way line and approximately 210' from the proposed edge of pavement. Although this is on the side of the property opposite the historic buildings, which front Old Westminster Pike, the site would be adversely affected by this taking of land. Phase I archeological survey is necessary to assess the property's National Register eligibility under Criterion D.

#134 - Evelyn Thompson property (CARR 1351) -- Alternate 6 (Figure II-50) would impact .55 acres along the frontage of the site, thus resulting in an adverse effect to the Evelyn Thompson House. The building is located approximately 340' from the right-of-way line and approximately 600' from the edge of the proposed paving.

Alternate 4 Modified
East of the Common Alignment

#138 - Chew-Crowl House (CARR 1355) -- The Alternate 4 Modified directional ramps will tie into existing eastbound MD 140 just west of the historic site boundary and into westbound MD 140 further east of the historic site boundary. Nonetheless, because these travel lanes would be removed from this interface of the historic site boundary with MD 140, which is along the rear portion of the site and well removed from the buildings which front Old Westminster Pike, there would be no effect. Phase I archeological survey is necessary to assess the property's National Register eligibility under Criterion D.

#134 - Evelyn Thompson property (CARR 1351) -- Because Alternate 4 Modified (Figure II-43) would tie into MD 140 west of the historic site boundary, and no construction would occur along the frontage of the site with MD 140, the Evelyn Thompson House would not be affected.

Alternate 10A

Roop Rural Historic District -- Alternate 10A (Figure 11-51) would traverse the entire width of the district south of MD 140 and bisect the historic property between the Roop's Mill and Gill's Range sites, both significant components of the district. Part of the considerable acquisition of historic property would occur in the immediate vicinity of the Joseph Stoner House and the Elizabeth Lowry House. Old Taneytown Road would be cul-de-sacked. The district would be adversely affected not only by the acquisition of 36.13 acres, but also because the rural environment would be altered by Alternate 10A.

#66 - Swisssdale (CARR 262) -- Swisssdale (Figure II-52) is located on a small plot of land surrounded by a split rail fence and heavy vegetation. It is separated from Alternate 10A by a field located between it and Firestone Road, the location of new subdivision housing. Although Alternate 10A would be constructed in an area characterized by building activity, it would introduce an element out of keeping with the strictly residential nature of the area, thus having an adverse effect on the Swisssdale historic site.

At the closest point of the historic site boundary to Alternate 10A, it would be 400 feet from the right-of-way line and 550 feet to the edge of pavement. The closest historic structures would be 680 feet from the right-of-way line and 750 feet from the edge of pavement.

#70 - John Rinehart House (CARR 389) -- This site is well removed from Alternate 10A, being separated from it by a considerable

area of hedgerows, modern houses and rolling countryside, and thus it would not be affected.

#'s 68 & 69 -- John Schweigart House and Barn (Carr 371 and 388) -This site is separated from Alternate 10A by a few modern dwellings, a thick hedgerow, fields, and a change in elevation, making the site much lower than the alternate. Thus, the Schweigart site would not be affected. The distance from the building to the right-of-way line is approximately 400' and the historic site boundary would be approximately 440' from the edge of new paving.

#87 - Spring Mill House (CARR 110) -- Located on Spring Mill Road, this site is separated from Alternate 10A by MD 27, numerous houses and farms and a change in elevation which keeps the roadway well out of the viewshed of the historic dwelling. The building would be approximately 1500' from the right-of-way line and would be approximately 1710' from the edge of proposed paving. The historic site boundary would be approximately 1600' from the edge of proposed paving. The Spring Mill House would not be affected.

#88 - Old Spring Mill School, (CARR 519) -- The building would be approximately 1200' from the proposed right-of-way line and approximately 1150' from the edge of proposed paving. The historic site boundary would be approximately 950' from the right-of-way line and approximately 1400' from the edge of proposed paving. Located on Spring Mill Road, this site is separated from Alternate 10A by MD 27, numerous houses, farms, an heating oil facility and changes in elevation which keep the roadway well out of the viewshed of the historic site. Spring Mill School would not be affected.

#90 - Goodwin-Robertson-Wagner Farm (CARR 669) -- Alternate 10A would be located well above the grade of the cluster of historic buildings associated with this site. This alternate would be largely hidden from view by rolling hills located between it and the historic site. The Goodwin-Robertson-Wagner Farm would nonetheless be impacted because 11.15 acres would be required from within the historic site boundary by the alternate. Thus Alternate 10A has an adverse effect on the Goodwin-Robertson-Wagner Farm.

#148 - Jacob Coppersmith House (CARR 1365) -- Alternate 10A would cut across the farmland immediately west of and largely below the grade of the Jacob Coppersmith House, thus resulting in the introduction of an element into the immediate viewshed of the site which is out of keeping with the largely rural area just south of the intersection of MD 32 and the Old Washington Road where the site is located. For this reason, the site would be adversely affected by Alternate 10A.

#138 - Chew-Crowl House (CARR 1355) -- Alternate 10A would tie into MD 140 immediately west of the nucleus of historic buildings. Not only would the ramp to eastbound MD 140 require 6.23 acres from the historic site boundary but the roadway would be located just west of the historic buildings and within their immediate viewshed. For these reasons, the Chew-Crowl House would be adversely affected. A Phase I archeological survey is necessary to assess the property's National Register eligibility under Criterion D.

#134 - Evelyn Thompson property (CARR 1351) -- Alternate 10A would require 1.43 acres from the historic site boundary. This results in an adverse effect to the Evelyn Thompson House.

Alternates 2 and 3A

#55 D. Bonsack House (CARR 708) -- Alternates 2, and 3A would not require any land from the historic site, and any slight increase of pavement along the rear of the property would be kept within existing right-of-way by a retaining wall. Because the historic site is well below the grade of the road, it would not be affected.

#49 Royer-Koontz Farmstead (CARR 702) -- Alternates 2, and 3A would require 1.86 acres from the historic site boundary of the Royer-Koontz Farmstead, thus the site would be adversely affected.

#129 the Bonsack Farm Complex (CARR 701) -- Alternates 2, and 3A would require 5.21 acres from the historic site boundary of the Bonsack Farm Complex. These alternates have an adverse effect on the Bonsack Farm.

#138 Chew-Crowl House (CARR 1355) -- Alternates 2, and 3A would require 1.27 acres from the land included within the historic site boundary, thus the site would be adversely affected. Phase I archeology is needed to assess National Register eligibility under Criterion D.

#134 Evelyn Thompson property (CARR 1351) -- Alternates 2, and 3A would require a small strip of frontage, amounting to 1.20 acres, for slight widening of the pavement at the intersection and along the frontage of MD 140, in addition to a storm water management area. The site would be adversely affected by this acquisition of historic property.

Alternate 3B

#55 D. Bonsack House (CARR 708) -- Alternate 3B would not require any land from the historic site, and any slight increase of pavement along the rear of the property would be kept within existing right-of-way by a retaining wall. Because the historic site is well below the grade of the road it would not be affected.

#49 Royer-Koontz Farmstead (CARR 702) -- Alternate 3B would require 1.86 acres from the historic site boundary of the Royer-Koontz Farmstead, thus the site would be adversely affected.

#129 the Bonsack Farm Complex (CARR 701) -- Alternate 3B would require 6.58 acres from the historic site boundary of the Bonsack Farm Complex. Therefore, it has an adverse effect on the site.

#138 Chew-Crowl House (CARR 1355) -- Alternate 3B would require 1.27 acres from the land included within the historic site boundary, thus the site would be adversely affected. Phase I archeology is needed to assess eligibility under Criterion D.

#134 Evelyn Thompson property (CARR 1351) -- Alternate 3B would require a small strip of frontage, amounting to 1.20 acres, for slight widening of paving at the intersection and along the frontage of MD 140, plus a storm water management area. This constitutes an adverse effect on the Evelyn Thompson site.

TSM Alternate

#55 the D. Bonsack House (CARR 708) -- The TSM alternate would require a minor amount of additional paving, within existing right-of-way. The historic structure is located below the grade of the road and would not be affected.

#49 the Royer-Koontz Farmstead (CARR 702) -- The TSM alternate would require 1.86 acres from this site, resulting in an adverse effect.

#129 the Bonsack Farm Complex (CARR 701) -- The TSM alternate would require 3.30 acres from this site, resulting in an adverse effect.

#138 Chew-Crowl House (CARR 1355) -- The TSM alternate would not affect this site.

Please return this signed correspondence documenting your formal concurrence by fax and call Ms. Suffness on 333-1183 for historic resources and Ms. Barse on 321-2213 for archeology, should you have any questions.

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- 13 -

Very truly yours,

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

by: Cynthia D. Simpson
Cynthia D. Simpson
Deputy Division Chief
Project Planning Division

Concurrence:

State Historic Preservation Office

Date

LHE:RMS:sc

Attachments (2)

cc: Ms. Chris Barse
Mr. Howard Johnson (w/attach)
Mr. Bruce Grey
Ms. Sue Rajan (w/attach)

**PRELIMINARY
EFFECT DETERMINATIONS**

	Alt 4M,6 Common Alignment	Alt. 6	Alt. 4M	Alt. 10A	Alts. 3A & 3B	TSM	2
Roop Rural Historic Dist.	A.E.	-	-	A.E.	-	-	-
Fritz Farm	A.E.	-	-	-	-	-	-
Kriders Churches	N.A.E.	-	-	-	-	-	-
Leister House	A.E.	-	-	-	-	-	-
Windy Hills	N.A.E.	-	-	-	-	-	-
Tannery Historic District		A.E.		-	-	-	-
Distillery Masters House	-	N.A.E.	-	-	-	-	-
Chew-Crow House	-	A.E.	N.E.	A.E.	A.E.	N.E.	A.E.
E. Thompson House	-	A.E.	N.E.	A.E.	A.E.	N.E.	A.E.
Swissdale	-	-	-	A.E.	-	-	-
J. Rinehart House	-	-	-	N.E.	-	-	-
J. Schweigart House	-	-	-	N.E.	-	-	-
Spring Hill House	-	-	-	N.E.	-	-	-
Spring Hill School	-	-	-	N.E.	-	-	-
Goodwin House	-	-	-	A.E.	-	-	-
Coopersmith House	-	-	-	A.E.	-	-	-
D. Bonsack House	-	-	-	-	N.E.	N.E.	N.E.
Royer-Koontz House	-	-	-	-	A.E.	A.E.	A.E.
Bonsack Farm Complex	-	-	-	-	A.E.	A.E.	A.E.

VIII-58 u

SH

MARYLAND
HISTORICAL



TRUST

419
PROJECT
DEVELOPMENT
William Donald Schaefer
Governor

Nov 4 2 03 PM '94
Jacqueline H. Rogers
Secretary, DHCD

April 27, 1994

Office of Preservation Services

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Re: Contract No. CL 713-101-770
MD 140 (Westminster Bypass)
from Reese Road to Hughes Shop
Road
Carroll County, Maryland

Cynthia
Dear Ms. Simpson:

Thank you for your September 21, 1993 and January 6, 1994 letters regarding the above referenced project. These letters identified and evaluated historic standing structures in the area of potential effect for the alternatives under study for the Westminster bypass. In addition, boundaries were proposed for those properties which State Highway Administration (SHA) determined eligible for the National Register of Historic Places.

We apologize for taking so long to respond. The bypass has the potential to have great impacts on cultural resources in the Westminster area and we wanted to give it our full attention. As you know, the Section 106 coordination for this project has a long history, involves a large volume of information and is rather confusing.

We have based our evaluations of eligibility on the information in your September 21, 1993 and January 6, 1994 letters, the Phase Ib Intensive Archeological Survey Report, site visits and staff knowledge of the area. We hope our response will be easily understood. The attached list simply addresses the eligibility and, if appropriate, boundaries for each property in the same order as the properties are found in the two notebooks submitted with SHA's September 21 letter, starting with the northern, then the southern and mainline alignments. In several instances, we request

VIII-59

Division of Historical and Cultural Programs

100 Community Place • Crownsville, Maryland 21032 • (410) 514-7627/7628

The Maryland Department of Housing and Community Development (DHCD) pledges to foster the letter and spirit of the law for achieving equal housing opportunity in Maryland.



EQUAL HOUSING
OPPORTUNITY

Ms. Cynthia D. Simpson
April 27, 1994
Page 2

additional information to evaluate the eligibility or boundaries. For the sake of clarity and consistency we only use the property name SHA used on the eligibility assessments found in the two notebooks. This name may be different from that found on the notebook tabs, the maps, photographs, inventory forms and letters.


As we have no information on the project other than the general alignments provided by SHA, we can not comment on the scope or adequacy of the identification effort and must trust that SHA has properly defined the Area of Potential Effect (APE). In the course of our review we noted several historic standing structures over 50 years of age, either in the field or mentioned in the archeology report, which do not appear to have been identified in the historic standing structures survey. We understand that two properties were recently identified by SHA and that inventory forms were prepared and will be forwarded to us. I am sure you are aware that defining the APE too narrowly in the beginning may ultimately result in more work and problems, as alignments are refined and the potential impacts of the project are more fully understood. As you know, the APE should encompass all that area which may be altered, directly and indirectly, by the undertaking. This could include changes in visual setting, noise levels, traffic patterns, development and use. Finally, closer coordination between the standing structures and archeology survey would reduce the chances of missing properties, as well as provide a better understanding of the significance of the resources in the APE and eliminate redundant research efforts.

We reiterate our previously stated position regarding historic property boundaries: historic property boundaries should be governed by visual setting and historic associations rather than by existing property ownership or right-of-way considerations. Unless otherwise demonstrated, we assume that the property historically extended to the edge of the roadway.

Please note that we made a mistake in assigning inventory numbers to those properties inventoried by SHA. The number CARR 1372 was incorrectly given to two properties. Site #155, the Miles Long House, should be CARR 1372 and Site #156, the Distillery Master's House, should be CARR 1377. We will comment on the inventory forms completed by SHA at a later date. We did not want to delay the Section 106 coordination any further.

Ms. Cynthia D. Simpson
April 27, 1994
Page 3

Once again, we appreciate your patience and look forward to working with SHA to ensure that impacts to cultural resources are minimized to the greatest possible in the design of the proposed Westminster Bypass. Should you have any questions, please contact Ms. Elizabeth Hannold (for structures) or Ms. Beth Cole (for archeology) at (410) 514-7628.

Sincerely,


J. Rodney Little
State Historic Preservation Officer

JRL/EAH
9400072
Attachment

cc: Ms. Rita Suffness
Dr. Charles Hall
Mrs. Phillip St. C. Thompson
Mr. Joseph M. Getty

Northern Bypass

<u>Site #</u>	<u>MHT Inventory #</u>	<u>Property Name</u>
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1.	CARR 657	Joseph Thomas House
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We do not concur that this property is not eligible. While not individually eligible, we believe it is contributing resource in a large rural historic district centered around a number of properties which belonged to the Roop family in the 19th century but which also includes properties not linked to the Roop family. This area just outside Westminster remains largely rural and reflects the historic agricultural character of the County. Throughout the 19th century Carroll County was an extremely productive agricultural area and its economy and lifeways remained largely agricultural well into the 20th century. This area still conveys a strong sense of the agricultural landscape that characterized the County until recently. A number of the properties included in the district are associated with the Roop family, a prominent and prosperous farm family in this area in the 19th century.

The following sites are included in the district: #1, #3, #4, #5, #6, #7, #8, #44, #45 and #154. Please provide appropriate boundaries.

No preservation easement required as long as the property remains in SHA ownership.

3.	CARR 656	Elizabeth Lowry House
----	----------	-----------------------

We can not concur that the property is not eligible. We do not have enough knowledge to determine that the property is not important for its association with Black history in Carroll County. The house itself no longer conveys much of a sense of the mid-19th century structure which would have been associated with Elizabeth Lowry. However, if there are significant archeological resources related to that period on the property, the house and archeological resources would be eligible together.

In addition, we believe the property is a contributing resource in the Roop Rural Historic District.

No preservation easement is required as long as property remains in SHA ownership.

If SHA still seeks to remove the house from the property as soon as possible, regardless of the alternative selected for the bypass, it could be problematic. The Advisory Council may have problems with an MOA for such an undertaking, judging by their reaction to the 400 Main Street MOA.

- 4. CARR 811 Tenant House--Staub Residence
We can not concur that the property is not eligible.

We believe the property is eligible as a contributing resource in the Roop Rural Historic District.

- 5. CARR 391 Meadow Brook Farm
We believe this property, which is already listed in the National Register of Historic Places, is also a contributing resource in the Roop Rural Historic District.

- 8. CARR 394 Reese Farmstead
We can not concur that the property is not eligible.

We believe the property is eligible as a contributing resource in the Roop Rural Historic District.

- 9. CARR 395 Starner Farm
Concur not eligible.

- 10. CARR 397 Cyrus Schweigart Farm
Concur not eligible.

- 11. CARR 146 Krider's Reformed Lutheran Church
(Note - this was originally listed as #13/ CARR 172)
Concur eligible. However, we believe the property is also eligible as part of a larger resource composed of sites #11, #12 (the Sexton House CARR 674) and #13 (the frame Krider's Lutheran Church CARR 172).

Please provide boundaries.

- 14. CARR 398 C. Elmer Fritz Farm Complex
Concur eligible.

The proposed boundary must include more acreage around the buildings both as a buffer and to better reflect the historic agricultural use of the land.

- 15. CARR 755 Towney Farm
Concur not eligible.

- 19. CARR 746 Stoner House
Concur not eligible.

20. CARR 744 Leister House
We can not concur that the property is not eligible. We believe the house is eligible under Criterion C for architecture.

This very substantial and well detailed farmhouse appears to retain much integrity and has a commanding presence in the area.

Please provide boundaries.

21. CARR 107 Windy Hills
Concur eligible.

Concur with boundaries.

22. CARR 745 Essig House
Concur not eligible.

26. CARR 743 Schaeffer-Wine-Hull
Concur eligible.

Concur with boundaries shown in aerial photo. (However, these do not appear to match the tax parcel boundaries provided earlier).

27. CARR 1344 Schweigart House
Concur not eligible.

28. CARR 739 1147 Old Manchester Road
Concur not eligible.

29. CARR 1343 Noah Hotzfelt House
Concur not eligible.

30. CARR 738 Adam Miles House
Concur not eligible.

33. CARR 794 Shaffer House
Concur not eligible.

35. CARR 1347 Sharp Tenant House
Concur not eligible.

40. CARR 710 Green Residence
Concur not eligible.

28. CARR 1344 Schweigart-Shriver House
(Note - this appears to be a repeat of #28 above, Schweigart House)
Concur not eligible.

41. CARR 1346 Noah Long House
Concur not eligible.

- 42. CARR 698 Beaver-Gorsuch-Long House
Concur not eligible.
- 131. CARR 1348 Lowe School
Concur not eligible.
- 132. CARR 1349 Isaac Long House Ruins
Concur not eligible.
- 133. CARR 1350 Jesse Long House Ruins
Concur not eligible.
- 156. CARR 1377 Distillery Master's House
(Note - We previously gave this property the inventory number CARR 1372. That number was also give to the Miles Long House. The correct number for the Distillery Master's House is CARR 1377.)
Concur eligible.

Concur with boundaries.
- 155. CARR 1372 Miles Long House
Concur eligible.

Concur with boundaries
- 36. CARR 700 Tannery Survey District
Can not concur that the district is not eligible at this time. Given the available information, we believe Tannery could be eligible as the remnant of an industrial village associated with the tanning industry. This district would include the six remaining houses and the archeological resources associated with the village and tannery. While the houses have undergone numerous alterations over the years they still retain their original form and proportions. Through their similarity and regular linear spacing, they still manage to convey a sense of a company town.

Please provide additional context for the tanning industry in Carroll County to assist us in evaluating this resource. Are there other resources left in Carroll County which represent the tanning industry? Are there other comparable company towns in Carroll County?

Southern Bypass

<u>Site #</u>	<u>MHT Inventory #</u>	<u>Property Name</u>
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6.	CARR 390 Concur eligible.	David Roop House
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We believe this property, in addition to being individually eligible, is also a contributing resource in the Roop Rural Historic District.

7.	CARR 101 Concur eligible.	Roop's Mill Complex
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We believe this property, in addition to being individually eligible, is also a contributing resource in the Roop Rural Historic District.

45.	CARR 377 Concur eligible.	Gill's Range
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We believe this property, in addition to being individually eligible, is also a contributing resource in the Roop Rural Historic District.

66.	CARR 262 We can not concur that the property is not eligible.	Swissdale Farm
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The property is significant under Criterion C for architecture. Retention of the bake oven makes this well preserved, but relatively common, mid- to late-nineteenth century house significant. Bake ovens do not survive in large numbers and this one, together with the house is representative of the domestic aspect of farm life.

Please provide boundaries.

68.	CARR 388 & CARR 371 Concur eligible.	John Schweigart Barn and John Schweigart House
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Concur with boundaries.

70. CARR 389 John Rinehart House
Concur eligible.

We can not concur with the boundaries. They may represent the current tax parcel, but they defy logic. It is not even clear that they include all the resources mentioned as contributing in the eligibility statement. The boundaries must include the house, springhouse and barn, convey a sense of the original agricultural setting and provide some buffer for the structures.

84. CARR 809 Log Dwelling
Concur not eligible.

85. CARR 814 Brick Colonial Revival House
Concur not eligible.

86. CARR 815 Brick Farmhouse
Concur not eligible.

87. CARR 110 Spring Mill House
Concur eligible.

Concur with boundaries.

88. CARR 519 Spring Mill School
Concur eligible.

Concur with boundaries.

89. CARR 666 Stevenson-Hoff Farm
Concur not eligible.

90. CARR 669 Goodwin-Robertson-Wagner Farm
Concur eligible.

Concur with boundaries.

91. CARR 670 Carr House

We can not concur that the property is not eligible.

We believe that the property is significant under Criterion A as an intact agricultural and domestic complex of the late 19th and 20th centuries representative of Carroll County's agricultural heritage.

Please provide boundaries.

93. CARR 672 Mitten Residence
Concur not eligible.

94. CARR 673 Close House
Concur not eligible.

- 117. CARR 788 Himmel-Crowl Log House
Concur not eligible.
- 135. CARR 1352 R. Logue House
Concur not eligible.
- 136. CARR 1353 Kastner-Keck House
Concur not eligible.
- 137. CARR 1354 Ed Drechsler House
Concur not eligible.
- 138. CARR 1355 Chew-Crowl House
Concur eligible.

Concur with boundaries. However, as stated in our letter, we believe the boundaries must extend to the road, regardless of SHA right-of-way or the relatively recent fence.

- 139. CARR 1356 Rinehart-Gecell House
Concur not eligible.
- 140. CARR 1357 Rinehart-Miller-Bush House
Concur not eligible.
- 141. CARR 1358 Rinehart-Miller-Gecell House
Concur not eligible.
- 142. CARR 1359 Goodwin-Myers Farm
Concur not eligible.
- 143. CARR 1360 Buckingham-Owings Farm
Concur not eligible.
- 144. CARR 1361 Logue-Nelson Farm
Concur not eligible.
- 145. CARR 1362 Lewis Dittman House
Concur not eligible.
- 146. CARR 1363 Coppersmith-Shipley House
Concur not eligible.
- 147. CARR 1364 W.B. Nelson Farm
Concur not eligible.

148. CARR 1365 Jacob Coppersmith House
We can not concur that this property is not eligible.

We believe the property is eligible under Criterion C for its architectural character. The substantial house, topped with a heavy hipped roof which is broken by prominent dormers on all sides and a three story polygonal tower with bellcast roof on one corner, gains even greater presence by virtue of its prominent location at the intersection of two major roads. It was owned by a prominent local tradesperson and appears to represent a conscious effort to present an urban appearance.

Please provide boundaries.

149. CARR 1366 George Dittman House
Concur not eligible.

150. CARR 1367 Arnold-Gorsuch House
Concur not eligible.

151. CARR 1368 I. Winchester House
Concur not eligible.

152. CARR 1369 Lyman Arnold House
Concur not eligible.

44. CARR 392 Meadow Branch Church of the Brethren
(Note this property has also been incorrectly listed as #41)
We can not concur that the property is not eligible.

We believe the property is eligible as a contributing resource in the Roop Rural Historic District.

Mainline MD 140

<u>Site #</u>	<u>MHT Inventory #</u>	<u>Property Name</u>
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- 153. CARR 1370 George R. Logue House
Concur not eligible.
- 49. CARR 702 Royer-Koontz Farmstead
Concur eligible.

Concur with boundaries.
- 56. CARR 709 Maus Residence
Concur not eligible.
- 120. CARR 791 Housen Residence
Concur not eligible.
- 121. CARR 792 Marshall Residence
Concur not eligible.
- 122. CARR 767 Ellsworth Cemetery
We can not concur that this property is not eligible at this time. The property may be eligible under Criterion A for association with black history in Carroll County.

Please provide a context for evaluating this property. For additional information on how cemeteries can be eligible for the National Register, please refer to National Register Bulletin #41.
- 127. CARR 711 Stoner Residence
Concur not eligible.
- 129. CARR 701 Bonsack Farm Complex
Concur eligible.

We can not concur with the boundaries. The boundaries should be greater to reflect the original agricultural use and setting.
- 154. CARR 1371 Joseph Stoner House
We can not concur that the property is not eligible.

We believe the property is eligible as a contributing resource in the Roop Rural Historic District.
- 55. CARR 708 D. Bonsack House
Concur eligible.

Concur with boundaries.

Alternate 4

<u>Site #</u>	<u>MHT Inventory #</u>	<u>Property Name</u>
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134.	CARR 1351	Evelyn Thompson House
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We can not concur that the property is not eligible
We believe it is eligible under Criteria A and C for
agriculture and architecture.

The farmstead is representative of the longevity and prosperity of agriculture in Carroll County, where farming remained a viable way of life well into the 20th century. The farm retains a frame bank barn and domestic outbuildings from the 19th century as well as a substantial brick bungalow and tile dairy barn dating to the early 20th century. The two later buildings reflect the continued prosperity of the farm. The bungalow style is not common in the area and is more likely to be found in urban or suburban settings than on a farm. This house is particularly well executed and the design is closely integrated with its site. The farm is located well off MD 140 and retains integrity of setting.

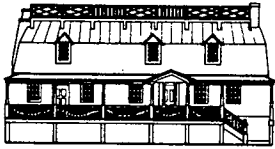
Please provide boundaries.

- | | | |
|------|----------------------|--------------------------|
| 38. | CARR 1345 | Hagan Residence |
| | Concur not eligible. | |
| 39. | CARR 793 | Leister Residence |
| | Concur not eligible. | |
| 37. | CARR 1342 | August E. Witte House |
| | Concur not eligible. | |
| 125. | CARR 695 | Thompson House |
| | Concur not eligible. | |
| 126. | CARR 694 | Leister House |
| | Concur not eligible. | |
| 157. | CARR 1373 | T. Mathias House |
| | Concur not eligible. | |
| 158. | CARR 1374 | J.D. Wymert House |
| | Concur not eligible. | |
| 118. | CARR 789 | Cole Residence |
| | Concur not eligible. | |
| 119. | CARR 790 | J. Lockhard House |
| | Concur not eligible. | |
| 159. | CARR 1375 | J.W. Hook House and Barn |
| | Concur not eligible. | |

160. CARR 1376 Crout-Thompkins House and Barn
Concur not eligible.

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MARYLAND HISTORICAL



TRUST

PROJECT DEVELOPMENT DIVISION

Dec 21 9 41 AM '93

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

December 13, 1993

Office of Preservation Services

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. CL 713-101-770N
MD 140: Westminster Bypass
Carroll County, Maryland

Dear Ms. Simpson:

Thank you for your recent submittals regarding the cultural resource investigations conducted for the above-referenced project. The Trust is currently reviewing the various materials which present the results of SHA's efforts in the identification and evaluation of historic properties. Our review has been hampered by inconsistencies in the mapping of the identified resources and alternate corridors, the quality of the information presented, and by the large size and complexity of the project itself.

We understand that SHA is currently preparing large scale (1:400) maps of the alternates. In order to facilitate the completion of our review, we request that SHA provide us with copies of the large scale maps which clearly delineate:

- ◆ the accurate limits of the alternate corridors and proposed rights of way;
- ◆ the locations of all identified historic structures, districts, and archeological sites - designated with their official MHT inventory number; and
- ◆ the boundaries for all historic structures and districts which SHA believes to be National Register eligible.

Enclosed please find a list of the Trust inventory numbers that have been assigned to the newly identified historic structures. Consistent use of the official inventory numbers for all properties should eliminate much confusion in our future coordination on this project.

Maryland

Ms. Cynthia D. Simpson
December 13, 1993
Page 2


In addition, we are awaiting the following information which was discussed at the November 15, 1993 meeting at SHA offices attended by Ms. Elizabeth Hannold and SHA staff:

- ◆ historic property boundary maps which show the location of the buildings and other contributing elements on the property in relation to the proposed boundaries and which are of a sufficiently large scale to show in some detail the boundary in relation to SHA right-of-way;
- ◆ inventory forms for CARR 811, CARR 814 and CARR 815 (These properties have inventory numbers but no forms); and
- ◆ a discussion of SHA's opinion whether any of the individually inventoried resources could together constitute a rural historic district. As discussed in the meeting, a number of properties appear to group together both geographically and on the basis on history.

Other miscellaneous information needs were also discussed for a number of properties.

Once we have received the maps and the above information, we will be able to proceed with our review and provide our comments on SHA's assessments of National Register eligibility for the identified resources, including structures and archeological sites. Since the majority of identified archeological sites also include associated above ground resources, the careful integration of architectural and archeological data will be essential for this project. We will submit the Trust's comments on the draft archeological report and the identification and evaluation efforts for historic structures under separate cover. While we will do all we can to ensure the timeliness of the Section 106 review, please be aware that we do anticipate that we will have further questions and information needs as the review proceeds.

If you have questions or require additional information, please call Ms. Elizabeth Hannold (for structures) or me (for archeology) at (410) 514-7631. Thank you for your cooperation and assistance.

Sincerely,

Elizabeth J. Cole
Administrator, Archeological Services

EJC/EAH/Enclosure
cc: Mr. Bruce Grey
Ms. Mary Barse
Ms. Rita Suffness

SHA
Project
G. J. Soffness
Compliance
(Beth H.)

435

Carroll Co.

1. CARR-1342

Witte House
216 Tannery Rd., Westminster

2. CARR-1343

Noah Notzfelt House
1124 Old Manchester Rd., Westminster

3. CARR-1344

C. Schweigart House
(Red Hills Farm North Subdivision)
Carrolls Folly Drive, Westminster

4. CARR-1345
F.A. Bowman Hse.
138 Tannery Rd., Westminster

5. CARR-1346
Noah Long House
143 N. Gorsuch Rd., Westminster

6. CARR-1347
Sharp Tenant Hse.
Tributary Rd., Westminster

7. CARR-1348
Howes School
107 North Gorsuch Rd.; Westminster

8. CARR-1349
Isaac Long House
located behind 1433 Gorsuch Rd., Westminster

9. CARR-1350
Ludwig Long - Jesse Long House + Site
located behind southeast of 1433 Gorsuch Rd., Westminster

10.

CARR-1351

Evelyn Thompson Farm
MD 40 + Reese Rd., Westminster

11.

CARR-1352

J. Logue House
1810 Ridge Rd., Westminster

12.

CARR-1353

Kastner-Heck House
600 Wendy Hill, Westminster

13.

CARR-1354

Ed Drecksler Farm
1264 Old Westminster Pike, Westminster

14.

CARR-1355

Chew-Crowl Farm
1434 Old Westminster Pike, Westminster

15.

CARR-1356

Penhart-Golner-Keell House
near 1264 Old Westminster Rd., Westminster

16. CARR-1357
 Finchart-Miller-Bush Assoc.
 1405 Old Westminster Rd., Westminster
17. CARR-1358
 Finchart-Miller-Hecell House
 1329 Old Westminster Pike, Westminster
18. CARR-1359
 Goodwin-Myers Assoc.
 411 Kate Wagner Rd., Westminster
19. CARR-1360
 Buckingham-Dwight Farm
 1812 Old Washington Rd., Westminster
20. CARR-1361
 Logue-Nelson Farm
 1901 Old Washington Rd., Westminster
21. CARR-1362
 Lewis Wittman Assoc.
 1817 Old Washington Rd., Westminster

22. CARR-1363
Coppersmith - Shipley Hse.
1733 Old Washington Rd., Westminster

23. CARR-1364
W. B. Nelson Farm
1835 Nelson Rd., Westminster

24. CARR-1365
Jacob Coppersmith Hse.
1706 Sykesville Rd., Westminster

25. CARR-1366
George Dittman Residence
1766 MD 32 (Sykesville Rd.), Westminster

26. CARR-1367
Arnold - Gorsuch
920 Hook Rd., Westminster

27. CARR-1368
J. Winchester
near 717 Hook Rd., Westminster

28. CARR-1369
 Crestview Manor (Lynnen Arnold Hse)
 909 Hook Rd; Westminster

29. CARR-1370
 George R. Logue Hse
 1137 Arnold Rd; Westminster

30. CARR-1371
 Jacob Joseph Stone Hse. (DeLauney Hse.)
 1161 Old Taneytown Rd; Westminster

31. CARR-1392
 Miles Long Hse.
 143 N. Dorsuch Rd; Westminster

32. CARR-1372
 Mc Dixie's Distillery Master's Hse.
 139 N. Dorsuch Rd; Westminster

33. CARR-1373
 T. Mathias Hse.
 338 Tanney Rd., Westminster

34.

CARR-1374

J. D. Wymert Hse
334 Tanner Rd., Westminster

35.

CARR-1375

James W. Hook Hse. (B. L. Lockard Farm)
1201 Hemlock Lane, Westminster

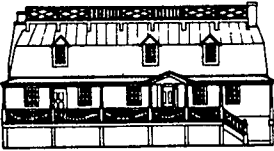
36.

CARR-1376

Chout-Tompkins Hse.
Hemlock Lane, Westminster

Howard 442

MARYLAND
HISTORICAL



TRUST

PROJECT
DEVELOPMENT
DIVISION
MAY 10 2 02 PM '94

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

May 6, 1994

Office of Preservation Services

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. CL 713-101-770N
MD 140: Westminster Bypass
Carroll County, Maryland

Dear Ms. Simpson:

Thank you for your recent letter, dated 17 March 1994 and received by the Trust on 23 March 1994, which provided additional information and requested our concurrence that sites 18CR215, 18CR220, and 18CR225 are not eligible for inclusion in the National Register of Historic Places.

Based on the documentation presented in your correspondence, we are now able to agree that these three sites are not National Register eligible properties. 18CR215 (Nelson 4 Site) represents the site of a quarry pit. The survey was not able to determine the quarry's exact function, time period, or association. The study did not generate any information to suggest that the quarry is a significant resource. Sites 18CR220 (Puglisi) and 18CR225 (Lockhard) both consist of low density artifact scatters dating from the 18th - 20th century. The sites likely represent occasional field deposition of trash over a broad time period. Testing did not identify any intact features or occupational deposits associated with these artifact scatters. For these reasons, we concur that 18CR215, 18CR220, and 18CR225 do not meet the criteria for eligibility in the National Register of Historic Places, due to their low information potential and lack of integrity.

We would like to take this opportunity to reiterate our prior request (dated 13 December 1993) for basic, comprehensive mapping of cultural resources and alternates data for this project. Many of the complications and delays we have had in reviewing this project stem from the difficulties in correlating the various mapping and other materials that have been submitted during the

Division of Historical and Cultural Programs

100 Community Place • Crownsville, Maryland 21032 • (410) 514-7627/7628

VIII-82



EQUAL HOUSING
OPPORTUNITY

The Maryland Department of Housing and Community Development (DHCD) pledges to foster the letter and spirit of the law for achieving equal housing opportunity in Maryland.



Ms. Cynthia D. Simpson
May 6, 1994
Page 2

course of recent coordination on this complex project. These problems have also hindered the effective coordination and integration of the project's archeological and architectural reviews. Mapping becomes a very critical issue as we progress to the assessment of effects stage for this project.

In order to facilitate the continued Section 106 review of this project, we request that SHA provide us with a set of large scale maps which clearly delineate the following items on the same maps:

- ◆ the accurate limits of the alternate corridors and proposed rights-of-way;
- ◆ the locations and boundaries of all historic structures and districts listed in or eligible for inclusion in the National Register of Historic Places - designated with their name, official MHT inventory number, and SHA site number;
- ◆ the locations and preliminary boundaries of all identified archeological sites which may be eligible for the National Register and warrant Phase II investigation - designated with their official MHT inventory number; and
- ◆ the limits of all areas which still require Phase I archeological survey.

The Trust will not be able to review the future effect assessments without this comprehensive information provided on one set of maps for the project.

If you have questions or require additional information, please call Ms. Elizabeth Hannold (for structures) or me (for archeology) at (410) 514-7628. Thank you for your cooperation and assistance.

Sincerely,



Elizabeth J. Cole
Administrator, Archeological Services

EJC/9400707

cc: Mr. Bruce Grey
Dr. Charlie Hall
Ms. Rita Suffness
Mrs. Phillip St.C. Thompson
Mr. Joseph M. Getty

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MARYLAND
HISTORICAL



TRUST

PROJECT
DEVELOPMENT
DIVISION

JAN 4 3 55 PM '94

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

December 30, 1993

Office of Preservation Services

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. CL 713-101-770N
MD 140: Westminster Bypass
Draft Phase I Archeology Report
Carroll County, Maryland

Dear Ms. Simpson:

Thank you for your recent letter, dated 26 October 1993 and received by the Trust on 2 November 1993, requesting our comments on the above-referenced project. We have reviewed the following draft report submitted with your letter: "Phase Ib Intensive Archaeological Survey, Westminster Bypass, Carroll County, Maryland." The report was prepared by Engineering Science, Inc. This current correspondence provides the Trust's comments on the draft archeology report alone.

The report documents the goals, methods, results, and recommendations of a Phase I archeological survey conducted within accessible portions of Alternates 2/3, 5, 6 and 6 modified, 10 and 10A for the proposed MD 140 Westminster Bypass. Given the large size of the entire study area (over 3,800 acres), we believe the document is generally consistent with the standards of the "Guidelines for Archeological Investigations in Maryland" (McNamara 1981). The attachment lists our specific comments on the draft itself. We ask SHA to have the consultant address these issues, in addition to the items outlined in SHA's correspondence, in the preparation of the final report.

Additional areas remain to be surveyed for this project, including areas to which access was denied and the locations of historic structures SHA identified after completion of the archeological fieldwork. The results of the additional survey should be prepared as an addendum to the present report. We look forward to receiving a copy of the final report and completed NADB form, when available.

Maryland

Division of Historical and Cultural Programs
Department of Housing and Community Development
100 Community Place, Crownsville, Maryland 21032-2023 (410) 514-7600

VIII-84

Johnson

Ms. Cynthia D. Simpson
December 30, 1993
Page 2

The survey identified and examined 26 archeological sites within the investigated study areas. We agree that Phase II evaluations are warranted for the following sites, in order to conclusively determine their eligibility for the National Register of Historic Places:

- 18CR191 (Middle Run), 19th - 20th c. farm complex
- 18CR203 (Russell 1 Site), 19th - 20th c. farm complex
- 18CR205 (Meadowbrook Farm), 18th - 20th c. farm complex
- 18CR206 (Roop Mill Complex) 18th - 20th c. mill complex
- 18CR207 (Fritz Site), 19th - 20th c. farm complex
- 18CR210 (O'Farrell Site), 19th - 20th c. farm complex
- 18CR212 (Nelson 1 Site), 19th - 20th c. farm complex
- 18CR216 (Nelson 5 Site), 19th -20th c. farm complex
- 18CR221 (Tannery Row), 19th - 20th c. tannery community
- 18CR222 (Tannery), 19th - 20th c. tannery
- 18CR224 (Dreschler Site) 19th c. farmhouse
- 18CR226 (Elizabeth Lowry Site), 19th - 20th c. dwelling.

If any of these sites will be avoided by the proposed alignments, the Phase II work will not be warranted. However, in order for us to concur that the sites are being adequately avoided, we will need to review the more detailed mapping of alternates and preliminary site boundaries which SHA is preparing.

Based on the information presented in the report and SHA's cover letter, we agree with SHA's determination that the sites listed below do not meet the criteria for eligibility in the National Register of Historic Places. The sites do not have the potential to yield important information and do not retain sufficient integrity. The following sites are not eligible for the National Register of Historic Places:

- 18CR204 (Tarkington Site), 19th - 20th c. residence
- 18CR208 (Dulaney Site), late 19th - 20th c. farm complex
- 18CR209 (Green site), 19th - 20th c. farm complex
- 18CR211 (O'Farrell 2 Site), prehistoric scatter
- 18CR213 (Nelson 2 Site), lime kiln ruin
- 18CR214 (Nelson 3 Site), earthworks of unknown function
- 18CR217 (Barnes 1 Site), 19th c. trash dump
- 18CR218 (Barnes 2 Site), 20th c. trash dump
- 18CR219 (Barnes 3 Site), 19th -20th c. scatter
- 18CR227 (Schoolhouse Sits), 19th c. school.

We concur that additional survey is warranted of the following sites, in order to complete the Phase I survey efforts:

- 18CR190 (Barn Foundation)
- 18CR202 (Norman Site), mill race.

Ms. Cynthia D. Simpson
December 30, 1993
Page 3

At this point, we do not have sufficient information regarding the following two sites to agree that the sites are ineligible for the National Register of Historic Places:

- 18CR220 (Puglisi Site), 18th - 20th c. scatter
- 18CR225 (Lockhard Site), late 18th - 19th c. scatter.

Both sites are located near standing historic structures, yet no testing was conducted in the yard areas. In addition, both sites yielded artifacts dating to the 18th century. The report must present a more detailed description of the field results and provide an interpretation for the presence of the 18th century materials. Unless SHA can present a defensible argument for why these sites are not significant, Phase II work should be conducted to conclusively determine their National Register eligibility.

The report states that 18CR215 (Nelson 4 Site) is potentially significant, but the site is located outside the area of potential effect for Alternate 6. However, SHA's cover letter includes this site with those sites that the consultant recommends are not eligible for the National Register. Please provide us with SHA's official comments and recommendations for this resource.

Finally, no archeological survey was conducted of the Ellsworth Cemetery (CARR 767) or the Kriders Cemetery (CARR 146), because they are both located outside the project's area of potential effects. What is the basis for the current boundary designations for these cemeteries? Until we have received the more detailed mapping of alternates, along with SHA's boundary justification, we are not able to concur that no further work is necessary for these resources.

Our comments on the draft report raise concerns regarding the adequacy of the survey coverage (particularly the use of 120 foot test intervals) for certain segments of the study area. We trust that more explicit descriptions and explanations in the report will help alleviate these concerns. However, it may be necessary to conduct supplemental Phase I testing in select areas. We will work with SHA and its consultant to resolve these questions.


We greatly appreciate the assistance Ms. Mary Barse of your staff provided for our examination of this report. The information and materials she supplied certainly facilitated our review of this complex project. We look forward to continued close coordination with SHA to resolve the project's varied historic preservation issues and complete the Section 106 review.

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Ms. Cynthia D. Simpson
December 30, 1993
Page 4

If you have questions or require additional information, please call Ms. Elizabeth Hannold (for structures) or me (for archeology) at (410) 514-7631. Thank you for your cooperation and assistance.

Sincerely,



Elizabeth J. Cole
Administrator, Archeological Services

EJC/9302512
Attachment

cc: Ms. Mary Barse
Dr. Charles Hall
Ms. Beth Hannold
Mrs. Phillip St.C. Thompson
Mr. Joseph Getty

**MHT COMMENTS ON DRAFT PHASE I REPORT
MD 140 WESTMINSTER BYPASS**

- 1) The title should include the full name of the project - MD 140 Westminster Bypass.
- 2) The Prehistoric Background should include a brief discussion of the Contact Period.
- 3) The report should incorporate the results of SHA's supplemental identification of historic structures for the study area, using the newly assigned MHT inventory numbers for these properties, and illustrate the property locations on Figures 4a and 4b. The report should use this new information in addressing areas of high archeological potential and for recommending additional survey coverage.
- 4) It would be useful if the report referred to the proposed alternates with the same names currently being utilized by SHA.
- 5) The Field Methodology should explain why disturbed areas were chosen as part of the study sample. It would seem that disturbance should have been a factor to eliminate a parcel (or portion thereof) from selection as a survey area, rather than designating the survey areas and then evaluating the degree of disturbance.
- 6) The disturbance key should be added to Figures 8a and 8b, so it is visually apparent which segments of the high and low potential areas are disturbed.
- 7) It is presently difficult to assess the adequacy of the survey coverage or the consistency in the application of the field methodology, based on the information presented in the report. The Field Methodology states that shovel tests were excavated at 30 to 60 foot intervals in areas where there were visible surface remains, favorable environmental conditions, and/or evidence of historical sites based on the background research. However, it appears that 120 foot intervals were used in areas which had one or more of the conditions stated above and were assessed as having high archeological potential. In those survey areas (such as Areas 19, 23, 37) where Figures 3a/3b note the locations of structures on the 1877 map, and where Figures 4a/4b show inventoried historic structures within or adjacent to the survey area, the report must present a defensible argument for employing a 120 foot testing strategy. We seriously question the adequacy of 120 foot interval shovel testing for the identification of archeological sites, particularly in areas of limited ground surface exposure.

Ms. Cynthia D. Simpson
December 29, 1993
Page 6 - Attachment

- 8) The Archaeological Findings must provide a more detailed explanation and justification of the field methodology employed for each survey area. Ideally, it would be very useful if the report contained a figure(s) illustrating the type (surface reconnaissance or subsurface testing) and intensity (shovel test interval) of the survey efforts within all the study areas. If it is not feasible to produce such a figure(s), the text must provide sufficient description for the reader to comprehend the nature, location, and level of survey coverage utilized in each area. More explicit descriptions may help alleviate our concerns regarding the sufficiency of the testing strategy.
- 9) The Laboratory Methodology should provide a more detailed explanation of the procedures employed for artifact labeling. It is currently unclear whether the lab procedures were consistent with the Trust's "Interim Minimum Standards for Collections to be Curated by MHT" (1991) regarding labeling. The report does not currently state that any artifacts were individually labeled, but only mentions the placement of acid-free tags within each bag of artifacts. If the labeling procedures differed from the 1991 standards, the report must provide justification for any deviation and evidence of MHT prior approval of those methods.
- 10) What is the Bell Barn foundation? The report states that it is associated with the O'Farrell farm complex (18CR210); however, Figure 31 shows the foundation outside of the site boundaries. What is the structure shown just southwest of the barn foundation on Figure 31? What was the reason why this resource was not recorded as an archeological site? Is there any physical evidence or background information to suggest a possible date of construction?
- 11) All the survey area maps must include clear points of reference, so the areas could be relocated in the field (see Figure 34, page 99).
- 12) In general, the site descriptions and interpretations are rather brief. We acknowledge that a certain level of brevity is acceptable, given the project's large scope. However, the discussions must provide sufficient information to support the interpretations, justify the conclusions, and defend the presented boundaries. It would also be useful if the report included site photographs and illustrations of key artifacts.
- 13) We question the reliability of the site boundaries, based upon the level of testing conducted by the Phase I survey. The report should acknowledge that the identified boundaries are somewhat preliminary at this time. If SHA is relying upon

Ms. Cynthia D. Simpson
December 29, 1993
Page 7 - Attachment

these boundaries to demonstrate avoidance of resources, there must be clear justification for the boundary delineation and/or sufficient buffer between the site and the proposed area of potential effects to comfortably assure that the resources will not be impacted. Until we have received more detailed mapping of the proposed alignment corridors, we will not be able to agree that certain resources are in fact being adequately avoided.

- 14) Why were the boundaries of the Fritz site (18CR207) drawn to exclude the coarse earthenwares recovered from the east side of the creek?
- 15) Where was the rest of the Tannery community located, including the church, school, railroad depot, general store, and distillery? Was the survey coverage in this area adequate to locate the archeological remains of these former activities?
- 16) We question the basis for the recommendation that no further work at the Nelson I site (18CR212) (Ludwig/Jesse Long House complex) is necessary since "the significant archaeological deposits" do not extend within the area of potential effect for Alternate 6. We do not believe that the level of Phase I testing was adequate to determine the exact site boundaries or significance of the deposits. These determinations are generally based upon more thorough Phase II level research and field testing. Clearly, agricultural activities were occurring within the study corridor, and these activities may be an integral component of the site as a whole.
- 17) The report should include a map of the Nelson 5 Site (18CR216).
- 18) The report should provide an explanation for why the survey did not locate the cemetery and other structures illustrated on the 1877 map for Survey Area 37. The report states that a 120 foot interval was employed for this area. Was this adequate survey coverage?
- 19) At this point, we do not have sufficient information regarding the following two sites to agree that the sites are ineligible for the National Register of Historic Places:

18CR225 (Lockhard Site), late 18th - 19th c. scatter
18CR220 (Puglisi Site), 18th - 20th c. scatter.

Both sites are located near standing historic structures, yet no testing was conducted in the yard areas. Both sites yielded artifacts dating to the 18th century. The report must present a more detailed description of the field results and

Ms. Cynthia D. Simpson
December 29, 1993
Page 8 - Attachment

provide an interpretation for the presence of the 18th century materials. Unless the report presents a justifiable argument for why these sites are not significant, Phase II work should be conducted to determine their eligibility.

- 20) The Conclusions and Recommendations should include a more detailed discussion and evaluation of the predictive model. While full interpretation may not be possible until the survey of the parcels to which access was denied is complete, the report should still address the model's effectiveness in the identification efforts for this project. The conclusions state that "Those areas on the historical maps, regardless of environmental variables, that showed historical residential, agricultural, or industrial sites were predicted to have high potential for historical archaeological resources." However, it appears that several of these "high" potential areas were tested using 120 foot intervals. The report should present a justification for this testing strategy and account for its apparent inconsistency with the proposed field methodology.
- 21) The Conclusions and Recommendations must include concise and defensible evaluations of significance, utilizing the National Register criteria for evaluation, for all sites recommended as being ineligible for the National Register.
- 22) The Conclusions and Recommendations in the final report should reflect the levels of significance and recommendations agreed upon between SHA and the Trust, once we have resolved the outstanding issues raised in this letter.
- 23) Table 2 should note the exact acreage of the areas remaining to be surveyed, and include the locations of the newly inventoried historic structures which warrant archeological survey.
- 24) Table 2 includes Survey Area 10 in the list of areas remaining to be surveyed; however, the text does not specifically discuss Area 10 in this chapter. The table and text should be consistent in all recommendations.
- 25) Table 3 should clarify what is meant by "No further work" in the recommendations column. For example, is no further work recommended because the site is located outside the area of potential effect, or because the site is not eligible for the National Register of Historic Places? The table is somewhat misleading in its current form.
- 26) Table 3 recommends Phase II work for the Puglisi Site (18CR220); however, the text does not recommend additional testing of this resource. The table and text should also be

Ms. Cynthia D. Simpson
December 29, 1993
Page 9 - Attachment

consistent on this issue, once SHA and the Trust have agreed upon the appropriate treatment for this site.

- 27) We have no objection to eliminating the site forms from the appendices of the final report, due to the large volume of the document. The report should state that the forms are all on file with the Trust, in the Maryland Inventory of Historic Properties, and that the Trust waived the requirement to include the forms with the final report due to its large size.
- 28) The Phase II Cost Proposals are rather brief and repetitive. The scopes of work should include site-specific research questions along with a justified methodology to fulfill the Phase II goals. We would prefer not to provide detailed comments on the scopes at this time. However, we request the opportunity to review revised scopes prior to the initiation of any Phase II work for this project.
- 29) Inclusion of one page resumes or statements of professional qualifications for the key personnel would also help reduce the size of the final report.

COMBINED NEPA/404

454



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

REPLY TO
ATTENTION OF

DEC 14 1993

Operations Division

Subject: CENAB-OP-RX(MD SHA/MD 140 Westminster Bypass, from
Hughes Shop Road to Reese Road)93-00483-4

Mr. George W. Walton
Maryland State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Dear Mr. Walton:

I am replying to the wetland site visit conducted in accordance with the procedure for merging NEPA and Section 404, for the subject project in Carroll County, Maryland.

The Corps has the following concerns based on the wetland site visits performed in recent months.

a. We request that additional studies be performed to develop an alignment shift that avoids or minimizes impacts to wetland(s) NCA-2A,B (see enclosed) within the proposed right-of-way of Alternate 4 Modified. At the field review, it was suggested that the alignment be shifted to avoid the wetter, palustrine emergent portion of the wetland, unless a commitment is made to bridge this wetland. Additional avoidance and minimization practices should be considered at NC-10a and NC-10b (see enclosed) within the right-of-way of Alternate 6 Modified. At the field review, it was suggested the alignment be shifted southward to avoid the wetter, palustrine emergent portion of the wetland which contains underground stream channels. This shift would also reduce the impact on the Leister House. It appears that the number of residential displacements along Lucabaugh Road would not change. We would appreciate a presentation of these shifts at an Interagency meeting, prior to the submission of a preliminary Draft Environmental Impact Statement.

b. The impact to wetlands NC-29A,B,C and NC-30A,B,C,D (see enclosed) within the right-of-way of Alternte 6 is unacceptable. Through functional assessment, the ecological significance of these wetlands is found to be of high quality. Moreover, these true scrub-shrub wetlands are an aquatic resource which is scarce in Maryland. The Corps believes that every attempt to avoid or minimize impacts to these wetlands should be exercised. In addition, an instrument survey will be needed to accurately plot the wetland limits because there were no topographic features in the field to provide reference points on the mapping.

If you have any questions concerning this matter, please call Mr. Arthur Coppola of this office at (410) 962-1723.

Sincerely,

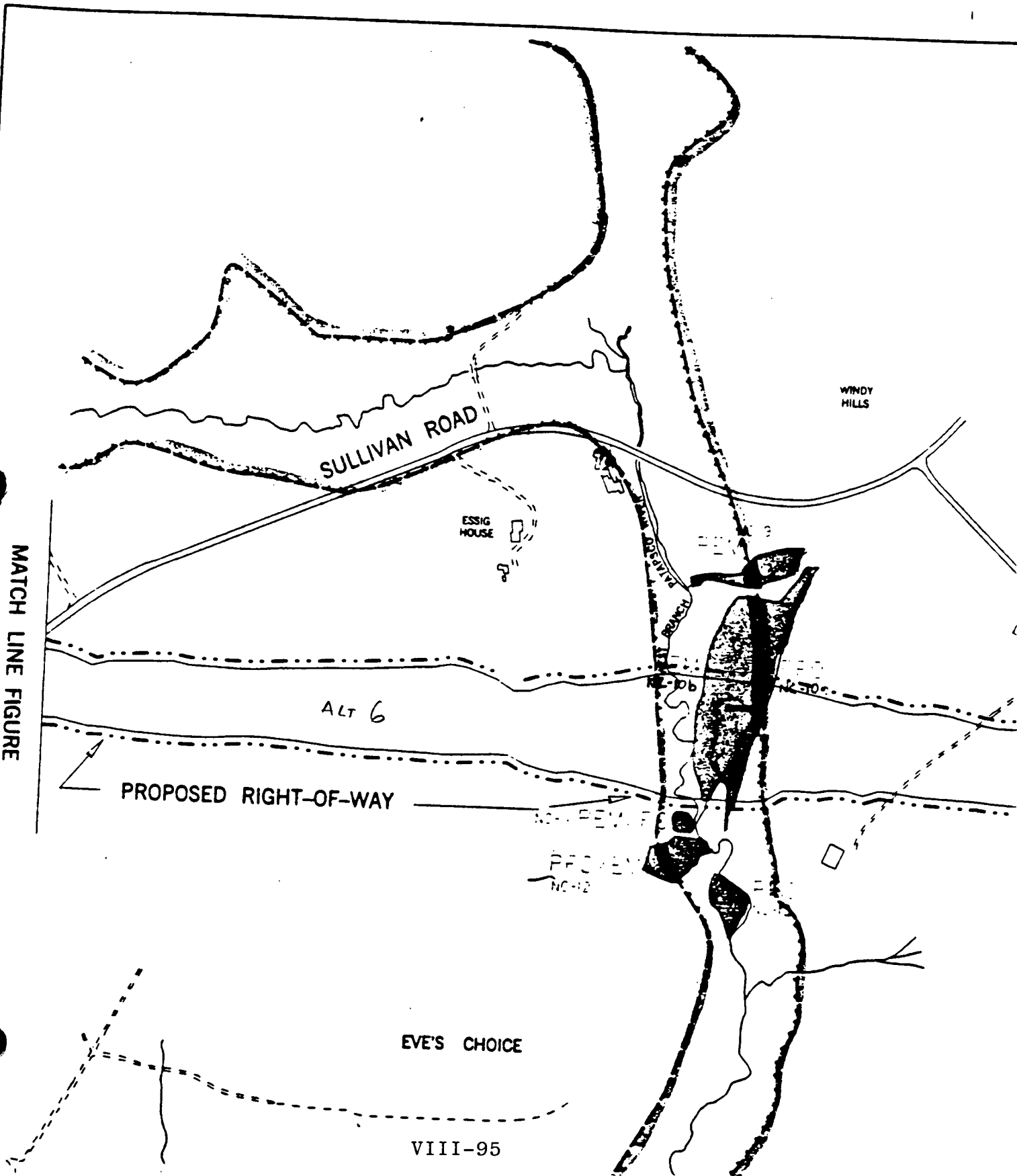
Paul R. Wittlauper

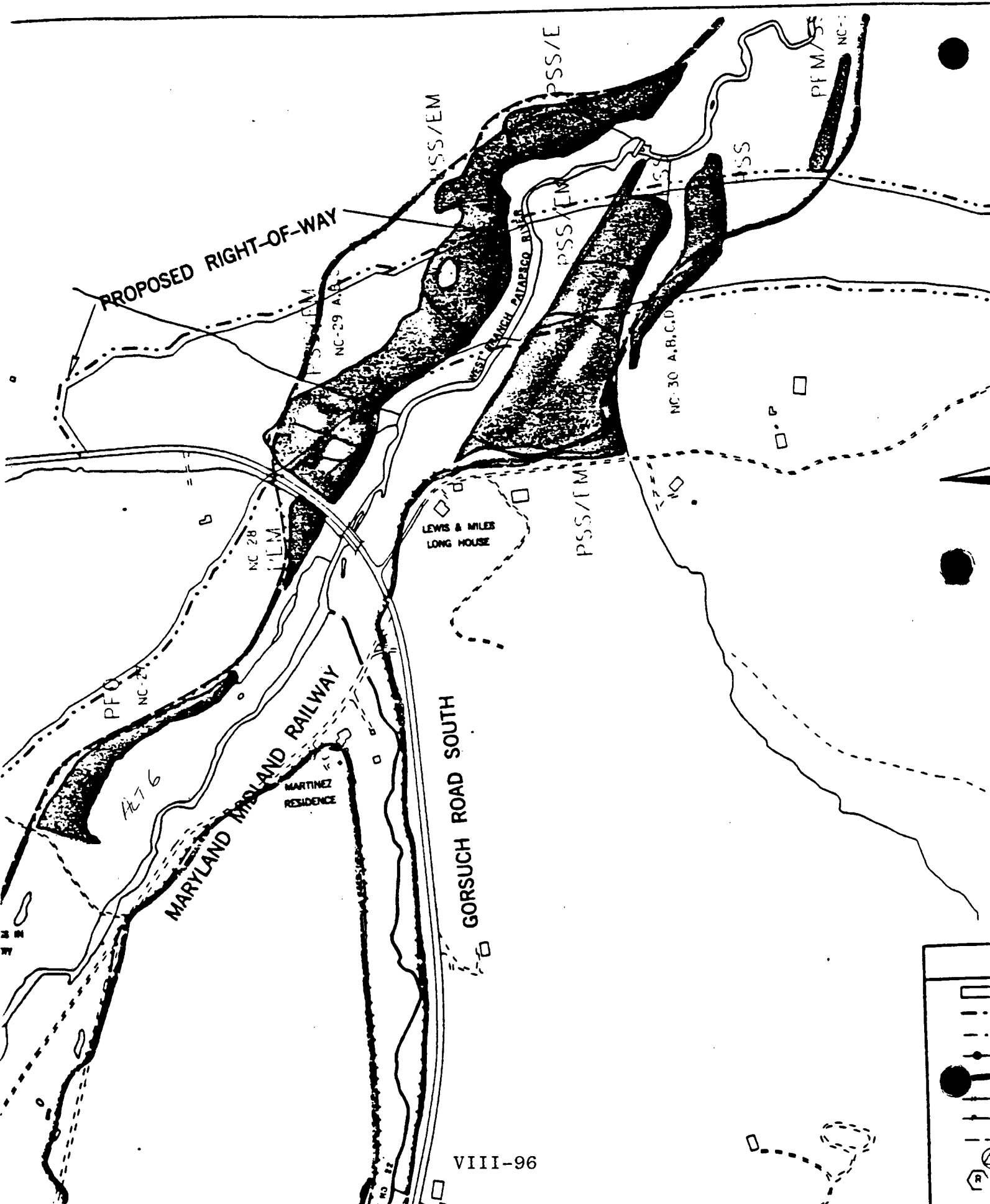
Keith A. Harris
Chief, Special Projects
Permits Section

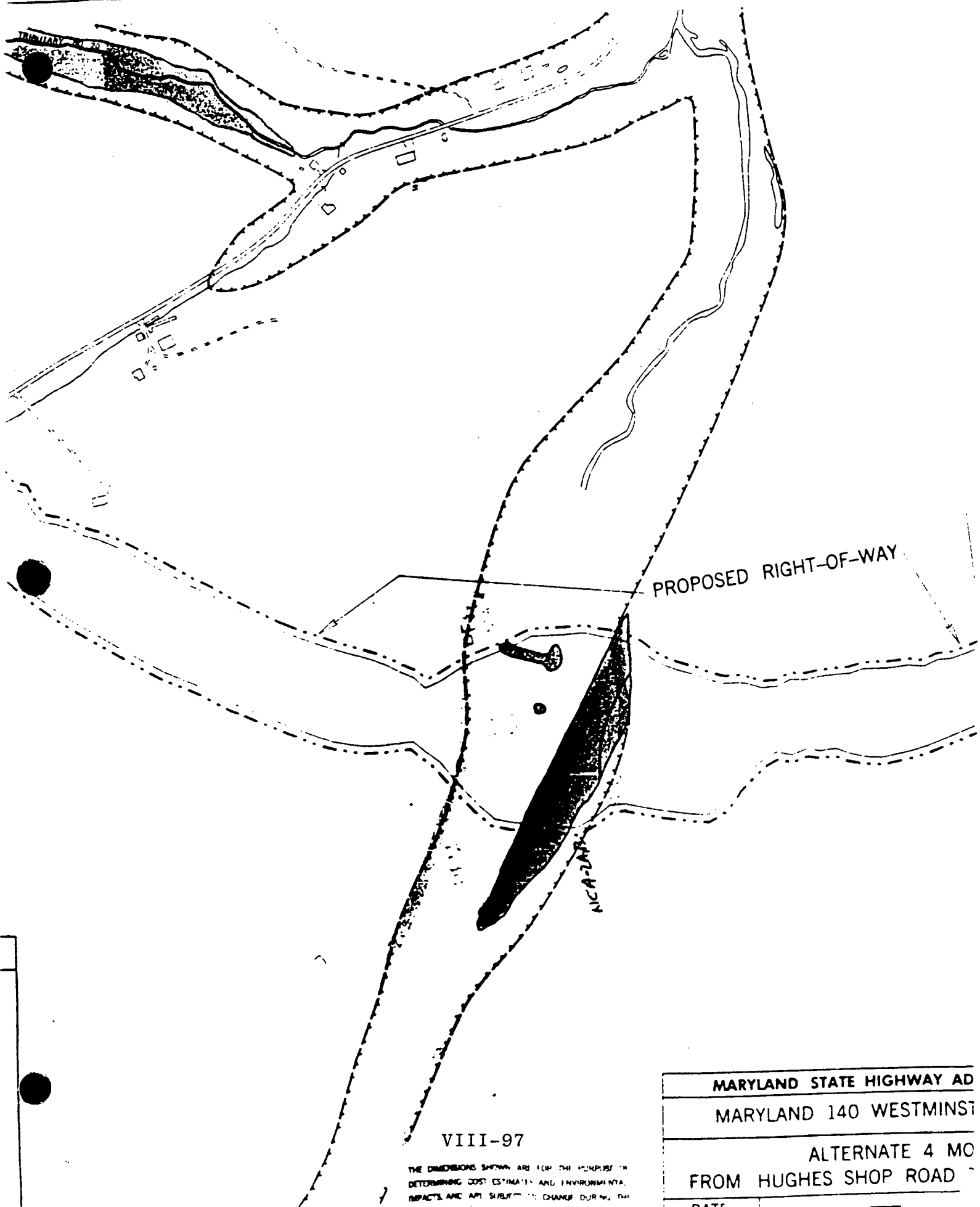
Enclosures

Copy Furnished:

- MD DNR, Nontidal
- MDE
- FWS
- EPA







PROPOSED RIGHT-OF-WAY

NEARBY

VIII-97

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

MARYLAND STATE HIGHWAY AD
MARYLAND 140 WESTMINST
ALTERNATE 4 MO
FROM HUGHES SHOP ROAD
DATE

AGENCY FIELD VIEW
WESTMINSTER BYPASS - MD ROUTE 140

FIELD VIEW DATE: NOVEMBER 19, 1993

ATTENDEES: Paul Wettlaufer - U.S. Army Corps of Engineers
Art Coppola - U.S. Army Corps of Engineers
Bill Schultz - U.S. Fish and Wildlife Service
Michele Huffman - MD Department of Natural Resources
John Hurt - MD Department of Natural Resources
Steve Horn - Carroll County Planning
Sue Rajan - MD State Highway Administration
Howard Johnson - MD State Highway Administration
Bakash Dave - MD State Highway Administration
Wayne Drury - MD State Highway Administration
Bill Zemaitis - Gannett Fleming, Inc.
Scott Martin - Gannett Fleming, Inc.

PURPOSE: The purpose of the wetland field views is to gain agency concurrence of wetland boundaries and classifications. It is understood that the potential impact areas should be reduced in the future. When an alternate is selected for design, further evaluation will be done for avoidance, minimization, and mitigation of wetland impacts.

RESULTS: This field view is the fifth and last being held for the project (Previous: September 16 and 30, and October 8 and 15, 1993). The following summarizes the findings of the agency field view for individual sites, as indicated. In continuation of the previous field view, the work was started with the Existing Corridor (EC), also referred to as Alternate 3B. One asterisk (*) is placed before wetlands requiring an edit of wetland mapping and two asterisks (**) are placed before wetlands requiring edits to both the wetland mapping and delineation report text.

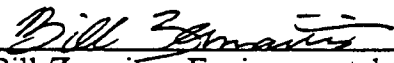
- **EC-5 Coppola (COE) stated that this area is not a jurisdictional wetland. Soils were judged indicative of an upland area.
- SC-3 Wetland boundaries concurred with as delineated.
- *SC-2A Wetland was extended to join with SC-1. This area was noted to have soil colors indicative of uplands. However, overwhelming evidence with hydrophytic vegetation and apparent hydrology suggests that this area is wet for a sufficient duration in the growing season to be considered wetland. Wettlaufer (COE) suggested that if SHA would like to refute the call, they may do so by monitoring hydrology in the wetland using shallow wells.

- *SC-1 According to Schultz (USFWS), in an area outside the proposed R-O-W, the wetland boundaries were extended to the north to join with EC-1. This action was confirmed by SHA without review by the field party.
- SC-2B Wetland boundaries concurred with as delineated.
- SC-7 Wetland boundaries accepted without verification.
- SC-9 Wetland boundaries accepted without verification.
- SC-10 Wetland boundaries accepted without verification.
- SC-13 Wetland boundaries accepted without verification.
- *SC-11 Wetland was extended to the west approximately 30 feet.

Additional View: At the end of this day, the following personnel remained in the project area to revisit a location along the Northern Corridor (NC-10): Wettlauffer, Coppola, Schultz, Zemaitis, and Martin. This area was determined to have exceptional function and value. It was suggested by the COE that a southward shift take place to miss NC-10. The shift was proposed to have a centerline crossing NC-13.

CONCLUSION: All wetlands field viewed were agreed upon for approximate jurisdictional boundary and classification. Mapping was adjusted in the field to reflect decided boundaries. Revised wetland mapping and delineation report will be available soon after the agency field view minutes are accepted.

Submitted by:


Bill Zemaitis, Environmental Scientist
Gannett Fleming, Inc.

pc: Attendees
M. Duvall, SHA
W. Willey, GF
R. Pugh, GF
File 28030.120

**AGENCY FIELD VIEW
WESTMINSTER BYPASS - MD ROUTE 140**

FIELD VIEW DATE: OCTOBER 15, 1993

ATTENDEES: Paul Wettlaufer - U.S. Army Corps of Engineers
Bill Schultz - U.S. Fish and Wildlife Service
Michele Huffman - MD Department of Natural Resources
Sue Rajan - MD State Highway Administration
Howard Johnson - MD State Highway Administration
Bakash Dave - MD State Highway Administration
Wayne Drury - MD State Highway Administration
Alex Andreadis - Wilson T. Ballard Co.
Bill Zemaitis - Gannett Fleming, Inc.
Scott Martin - Gannett Fleming, Inc.

PURPOSE: The purpose of the wetland field views is to gain agency concurrence of wetland boundaries and classifications. It is understood that the potential impact areas should be reduced in the future. When an alternate is selected for design, further evaluation will be done for avoidance, minimization, and mitigation of wetland impacts.

RESULTS: This field view is the fourth being held for the project (Previous: September 16 and 30, and October 8, 1993). Prior to the field view, a discussion was held verifying the purpose of the agency field views. Schultz (USFWS) explained that he felt there was too little detail on the mapping used for the delineation to be able to have the Corps of Engineers issue a Jurisdictional Determination (JD). Wettlaufer (COE) explained that for many of the wetlands, there appears to be enough detail to give an "approximate call" for the wetland boundaries. This is needed so that an alignment can be chosen with respect to environmental concerns. Where practical and warranted during the field views, wetland dimensions will be paced or judged approximately for review. Certain wetlands were found to be quite extensive, covering much of floodplain areas with little change in topography. In these cases and where otherwise requested by the COE, SHA has agreed that if they would like something more than a "diagrammatic" representation, they would conduct surveying to confirm flagged wetland boundaries. Of the wetlands previously visited, COE requested that the following should be surveyed: NC-10A/B, along the Cranberry Branch of the Patapsco River; NC-14; NC-15; NC-29A/B and NC-30A/B/C/D, along the West Branch of the Patapsco River. During the remaining field view process, survey requests will be as noted in the minutes.

The following summarizes the findings of the agency field view for individual sites, as indicated. In continuation of the previous field view, the work was started with the Northern Corridor Alternate (NCA), also referred to as Alternate 4 Modified. One asterisk (*) is placed before wetlands requiring an edit of wetland mapping and two asterisks (**) are placed before wetlands requiring edits to both the wetland mapping and delineation report text.

- NCA-7 Wetland boundaries concurred with as delineated. Wettlaufer (COE) mentioned that stream channels should be noted on the mapping to be used in highway design.
- NCA-6 Wetland boundaries accepted without verification.
- NCA-2A/B Wetland boundaries concurred with as delineated. COE strongly recommended the avoidance of this area. Specifically, the "wettest" part of the area, as sketched on the field mapping. Drury (SHA) said he would look into shifting the alignment to the east. However, Rajan (SHA) stated that it is too late to change the design at this stage. A change would have to come in the future study. It appears that a house along Tannery Road North and a wetland (NCA-4B) opposite the railroad tracks and creek from NCA-2A/B would be affected by the shift. It was agreed that prior to the public hearings, if there is any chance that a shift will occur, the house should be shown as a conflict with R-O-W proximity, not wetlands.
- NCA-3 Wetland boundaries concurred with as delineated.
- NCA-4(A) Wetland boundaries concurred with as delineated.
- **NCA-4B This area was added outside the study area and existing R-O-W. It may be affected through the potential shift of alignment noted to avoid NCA-2A/B. NCA-4B is a forested wetland similar to NCA-4(A) located about 100 feet to the east, approximately 6 feet wide and 200 feet long.
- *NCA-1 Wetland boundaries concurred with as delineated. It was noticed that the boundaries are not properly shown on the CAD mapping. This will be corrected for the final mapping.
- EC-11 Wetland boundaries concurred with as delineated. Wettlaufer (COE) suggested a ramp shift to avoid (preserve) the stream meander, even if this would mean additional wetland impacts.
- *EC-12A/B Wetland boundaries concurred with as delineated. It was noted that the boundaries are not properly shown on the mapping. According to Andreadis (Wilson T. Ballard Co.), the wetland boundary is at the proposed R-O-W and will be avoided by construction.


**EC-10 Wettlaufer (COE) stated that this area is not a jurisdictional wetland. It is a stormwater management basin constructed in what appears to have been upland (verified on NWI map after field view). The wetland will be removed from mapping and report.

EC-6 Wetland boundaries concurred with as delineated.

CONCLUSION: All wetlands field viewed were agreed upon for approximate jurisdictional boundary and classification. Mapping was adjusted in the field to reflect decided boundaries. Revised wetland mapping and delineation report will be available after agency field views are completed. It is expected that one more field view will be needed to finish the review. The next agency field view has not yet been determined. SHA will notify participants early during the week of October 18, 1993 to set up a date and time. The next field view will begin at EC-5 and then continue to finish the Southern Corridor (SC), also referred to as Alternate 10A.

NOTE: At the time of the field studies, only a standard band width was available for the assessment of wetland impacts. Current mapping shows cut and fill lines and a varying R-O-W and will allow a more accurate calculation. It is expected that wetland impacts will be reduced as a result of this.

Submitted by:



Bill Zemaitis, Environmental Scientist
Gannett Fleming, Inc.

pc: Attendees
 M. Duvall, SHA
 W. Willey, GF
 R. Pugh, GF
 File 28030.120

AGENCY FIELD VIEW
WESTMINSTER BYPASS - MD ROUTE 140

FIELD VIEW DATE: OCTOBER 8, 1993

ATTENDEES: Art Coppola - U.S. Army Corps of Engineers
Bill Schultz - U.S. Fish and Wildlife Service
Steve Horn - Carroll County Planning
Sue Rajan - MD State Highway Administration
Bakash Dave - MD State Highway Administration
Vaughn Lewis - MD State Highway Administration
Wayne Drury - MD State Highway Administration
Bill Zemaitis - Gannett Fleming, Inc.
Scott Martin - Gannett Fleming, Inc.

PURPOSE: The purpose of the wetland field views is to gain agency concurrence of wetland boundaries and classifications. It is understood that the potential impact areas should be reduced in the future. When an alternate is selected for design, further evaluation will be done for avoidance, minimization, and mitigation of wetland impacts.

RESULTS: This field view is the third being held for the project (Previous: September 16 and 30, 1993). The following summarizes the findings of the agency field view for individual sites, as indicated. A decision was made at the conclusion of the previous field view to start this day with the Northern Corridor (NC) alternate where we left off. One asterisk (*) is placed before wetlands requiring an edit of wetland mapping and two asterisks (**) are placed before wetlands requiring edits to both the wetland mapping and delineation report text.

- NC-15 Wetland boundaries concurred with as delineated.
- *NC-14 Wetland was extended south to include a small intermittent channel which connects with a small stream nearby.
- *NC-24 Wetland was reduced to include approximately one-half of the acreage represented on the wetland summary table. In this section of the wetland, there is a high area in the middle which is an upland, not upland inclusion within the wetland.
- NC-29A/B Wetland boundaries accepted without verification.
- NC-30A-D Wetland boundaries concurred with as delineated.
- NC-31 Wetland boundaries accepted without verification.
- NC-32 Wetland boundaries accepted without verification.

**EC-17 Wetland boundaries concurred with as delineated. This wetland is found within the R-O-W for the Northern Corridor. EC-17 must be given an NC designation (NC-41) and added to the impacts analysis for NC.

**NC-40 Wetland was added according to discussions with agency personnel. It is a channel below reported wetland EC-17 with dimensions approximately 8 feet wide and 360 feet in length.

NC-37A-C Wetland boundaries concurred with as delineated.

NCA-9 Wetland boundaries concurred with as delineated. According to agency personnel, this wetland is approximately 6 feet wide.

NCA-10 Wetland boundaries concurred with as delineated.

CONCLUSION: All wetlands field viewed were agreed upon for approximate jurisdictional boundary and classification. Mapping was adjusted in the field to reflect decided boundaries. Revised wetland mapping and delineation report will be available after agency field views are completed. It is expected that at least one more field views will be needed to finish the review. It was agreed that the next agency field view will be held on October 15, 1993, starting at 9:00 AM.

Submitted by:

Bill Zernatis
Bill Zernatis, Environmental Scientist
Gannett Fleming, Inc.

pc: Attendees
M. Duvall, SHA
W. Willey, GF
R. Pugh, GF
File 28030.120

AGENCY FIELD VIEW
WESTMINSTER BYPASS - MD ROUTE 140

FIELD VIEW DATE: SEPTEMBER 16, 1993

ATTENDEES: Paul Wettlaufer - U.S. Army Corps of Engineers
 Art Coppola - U.S. Army Corps of Engineers
 Jeff Trulick - U.S. Army Corps of Engineers
 Michele Gomez - U.S. Army Corps of Engineers
 John Hurt - MD Department of Natural Resources
 Bill Schultz - U.S. Fish and Wildlife Service
 Wes Glass - MD State Highway Administration
 Sue Rajan - MD State Highway Administration
 Bill Fletcher - MD State Highway Administration
 Carl Bialecki - MD State Highway Administration
 William Baker - MD State Highway Administration
 Marvin Disney - MD State Highway Administration
 Bakash Dave - MD State Highway Administration
 Vaughn Lewis - MD State Highway Administration
 Bill Zemaitis - Gannett Fleming, Inc.
 Scott Martin - Gannett Fleming, Inc.

PURPOSE: The purpose of the wetland field views is to gain agency concurrence of wetland boundaries and classifications. It is understood that the potential impact areas should be reduced in the future. When an alternate is selected for design, further evaluation will be done for avoidance, minimization, and mitigation of wetland impacts.

RESULTS: At the beginning of the field view, attendees were provided copies of reduced mapping and summary tables for wetlands of each alternate being studied. It was decided that only wetlands within the right-of-way (R-O-W) would be visited, if reasonably accessed. Additional areas were viewed at the request of the agencies, incidental to the review of each alternate.

The following summarizes the findings from the agency field view for individual sites, as indicated. A decision was made by SHA to start with the Southern Corridor (SC) alternate. One asterisk (*) is placed before wetlands requiring an edit of wetland mapping and two asterisks (***) are placed before wetlands requiring edits to both the wetland mapping and delineation report text.

SC-49 Wetland boundaries concurred with as delineated.

SC-45A/B Wetland boundaries concurred with as delineated.

SC-50B Wetland boundaries not verified. The southern boundary of SC-50A was concurred with as delineated, outside the R-O-W.


9/16/93 Agency Field View

Page 2

- SC-44 Wetland boundaries concurred with as delineated.
- **SC-39 Wetland was reduced to include two separate areas. SC-39A is the intermittent stream corridor which parallels the gravel access road. SC-39B is the isolated wetland located within the pasture adjacent to SC-42. Wetland data sheets were not taken because access was denied to this property.
- SC-40 Wetland boundaries concurred with as delineated.
- *SC-42A Wetland was expanded outside of the R-O-W to the south.
SC-42B Wetland boundaries concurred with as delineated.
- SC-37 Wetland boundaries accepted without verification.
- SC-38 Wetland boundaries accepted without verification.
- SC-31 Wetland boundaries accepted without verification.
- SC-30 Wetland boundaries accepted without verification.
- SC-28 Wetland boundaries accepted without verification.
- *SC-17 Wetland was expanded approximately 40 feet to the west.
- SC-16A Wetland boundaries concurred with as delineated.
- *SC-19 Wetland was expanded to include an additional area to the west within the R-O-W.

CONCLUSION: All wetlands field viewed were agreed upon for approximate jurisdictional boundary and classification. Mapping was adjusted in the field to reflect decided boundaries. Revised wetland mapping and delineation report will be available after agency field views are completed. It is expected that at least two or three more field views will be needed to finish the review. It was agreed that the next agency field view will be held on September 30, 1993, starting at 9:30 AM.

Submitted by:


Bill Zemaitis, Environmental Scientist
Gannett Fleming, Inc.

pc: Attendees
M. Duvall, SHA
W. Willey, GF
A. Pugh, GF
File 28030.120

VIII-106

AGENCY FIELD VIEW
WESTMINSTER BYPASS - MD ROUTE 140

FIELD VIEW DATE: SEPTEMBER 30, 1993

ATTENDEES: Art Coppola - U.S. Army Corps of Engineers
Jeff Trulick - U.S. Army Corps of Engineers
Michele Gomez - U.S. Army Corps of Engineers
Ned Cueman - Carroll County Planning
Steve Horn - Carroll County Planning
Wes Glass - MD State Highway Administration
Bill Fletcher - MD State Highway Administration
William Baker - MD State Highway Administration
Bakash Dave - MD State Highway Administration
Vaughn Lewis - MD State Highway Administration
Wayne Drury - MD State Highway Administration
Bill Zemaitis - Gannett Fleming, Inc.
Scott Martin - Gannett Fleming, Inc.

PURPOSE: The purpose of the wetland field views is to gain agency concurrence of wetland boundaries and classifications. It is understood that the potential impact areas should be reduced in the future. When an alternate is selected for design, further evaluation will be done for avoidance, minimization, and mitigation of wetland impacts.

RESULTS: This field view is the second being held for the project (Previous: September 16, 1993). The following summarizes the findings of the agency field view for individual sites, as indicated. A decision was made at the conclusion of the previous field view to start this day with the Northern Corridor (NC) alternate. One asterisk (*) is placed before wetlands requiring an edit of wetland mapping and two asterisks (***) are placed before wetlands requiring edits to both the wetland mapping and delineation report text.

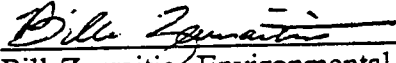
- NC-1 Wetland boundaries accepted without verification.
- *NC-7 Wetland was expanded to the north approximately 30 feet, to include a small swale which enters the adjacent intermittent stream. Wetland was also expanded to the west approximately 15 feet, to include the intermittent stream channel.
- *NC-5 Wetland was expanded to the north to include an approximately 8 feet wide channel which extends from a spring box. Wetland was also expanded to the east approximately 20 feet.
- NC-8 Wetland boundaries concurred with as delineated.
- NC-10A/B Wetland boundaries concurred with as delineated.

*NC-19 Wetland was expanded to the north approximately 20 feet, to near stream channel.

NC-18 Wetland boundaries concurred with as delineated.

CONCLUSION: All wetlands field viewed were agreed upon for approximate jurisdictional boundary and classification. Mapping was adjusted in the field to reflect decided boundaries. Revised wetland mapping and delineation report will be available after agency field views are completed. It is expected that at least one or two more field views will be needed to finish the review. It was agreed that the next agency field view will be held on October 8, 1993, starting at 8:30 AM.

Submitted by:



Bill Zemaitis, Environmental Scientist
Gannett Fleming, Inc.

pc: Attendees
M. Duvall, SHA
W. Willey, GF
R. Pugh, GF
File 28030.120

MD 140 WESTMINSTER BYPASS
INTERAGENCY FIELD REVIEW

An Interagency Field Review of the Westminster Bypass study was held on January 7, 1993. In attendance were the following:

- | | |
|------------------|------------------------------------|
| Jareene Barkdoll | Federal Highway Administration |
| Chris Barse | SHA Archeologist |
| Carl Bialecki | SHA Engineer |
| Beth Cole | MD Historical Trust |
| Art Coppola | US Army Corps of Engineers |
| Edward R. Cueman | Director, Carroll County Planning |
| Marvin Disney | SHA CADD Mapping |
| Wes Glass | SHA Environmental Manager |
| Steve Horn | Carroll County Planning |
| Michele Huffman | MD Dept. of Natural Resources NTWW |
| Roger Jorss | SHA Traffic Forecasting |
| ✓ Sue Rajan | SHA Project Manager |
| Bill Schultz | US Fish and Wildlife |

The meeting began at the SHA Owings Mills Shop conference room at 9:00 AM. After the introduction of everyone, Wes Glass gave a brief review of the project and stated that although an alternates meeting was held in May of 1988, the study would follow the new combined NEPA/404 process and the agency representatives would have an opportunity to suggest alternates to be studied. Also, they would be part of the team to select the alternates for detailed studies. Wes stated that, as a result of the alternates meeting, SHA had selected three build alternates to study in detail, a northern bypass alternate which is the County Master Plan alternate (with an option to the west to avoid wetlands), a southern bypass alternate which follows Kate Wagner Road (with an option to the south to avoid impacts to county facilities), and upgrading the existing road.

A map was handed out (attached) showing the alternates presented at the Alternates Public Meeting and Sue Rajan gave a brief explanation of why the various alternates were dropped (see attached alternates sheet).

Ned Cueman then gave a description of why a bypass is important to the County and the City. He stated that when the existing MD 140 was constructed in the early 50's it was to be a bypass of Westminster but the State did not secure access controls. The lack of access controls has resulted in the heavy development

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that exists along the roadway today. Ned stated that the proposed Master Plan bypass would have access controls and that the existing zoning would restrict development along the roadway, even at interchanges. Art Coppola took issue with the theory that the new bypass would not encourage development. Ned then gave a brief history of the success of Carroll County's planning and gave several examples of how they had managed growth.

Ned stated that MD 140 is a Major Arterial Highway and that the problem exists only between MD 31 on the north to just south of MD 97 South. In that area MD 140 has taken on the characteristics of a main street. From Taneytown to Hughes Shop Road, the northern study limits, the State owns a 300-foot right of way with full control of access. There are intersections at public roads only. From MD 97 south to I-795, there is no control of access but the road functions very well with one exception at Finksburg. Ned then pointed out that the County has been protecting the Master Plan alignment and has usually purchased right of way whenever a property owner wants to sell (see attached handout).

Michelle Huffman asked why there was a proposed interchange at Gorsuch Road. Wes explained that interchanges were shown on the Master Plan for planning purposes but the actual location and type of interchange would depend on the traffic analysis. Wes then asked Roger Jorss to explain the existing traffic conditions. Roger explained that Westminster is like the hub of a wheel with many radial roads having the highest concentration of traffic in the center. The highest average daily traffic (ADT) along MD 140 is at Center Street (Cranberry Mall).

Art Coppola asked about the presence of hazardous waste sites. Wes responded that there were two identified within the study area, however they are not close to any proposed alternate. Wes then pointed to the general location of each site on the study map.

At the end of the discussion, the attendees boarded a van to tour the study area. The approximate route is shown on the two attached maps labeled "Southern Alternates" and "Northern Alternates". From Owings Mills, we proceeded north along I-795 until I-795 merged into MD 140. As we proceeded north, Ned pointed out how smooth the transition was and that there were no present or anticipated future traffic problems until we reached Finksburg (the intersection of MD 140 and MD 91). At this intersection, southbound traffic on MD 140 must turn right then left onto MD 91 in order to access northbound MD 91; similar to a jug handle. Ned explained that the County wanted a grade separation at this location many years ago but funding has never been available.

The group proceeded to Reese Road where the take off points of both the northern and southern alignments were pointed out. Also, Wes pointed out that the northern alignment would have a minor impact to the new County landfill property; however, the County designed the landfill to be compatible with the northern alternate. Ned added that the landfill is "state of the art" and there is no encroachment problem. Next Wes pointed out the Reese Historic District noting that both alternates would avoid the District.

Following the southern alignment, the next stop was at the intersection of Arnold and Poole roads where Wes noted that there is no avoiding the crossing of Beaver Run which has a wide associated floodplain/wetland. We proceeded to Hook Road where development was very heavy for such a rural area. Ned noted that the County was not in a position to protect the southern alignment. The next stop was on MD 32 at Bullock's Restaurant where the southern most option would cross. Again the area in general is under going rapid development. Next we stopped on MD 97 at the County emergency Operations Center. Ned pointed out that while the County has reserved enough right-of-way for a two-lane county road, there is not enough room for any type of four lane expressway without major impact to public facilities. Ned noted that the entire area between MD 97 and MD 32 from Hook Road on the north to the MD 32 MD 97 intersection on the south was fully developed with schools and other public facilities. We then proceeded to the area where the alignment would cross Big Pipe Creek noting the floodplain/wetland area. Again Wes stated that there is no alternative to crossing the stream and associated wetlands.

We then proceeded into town and north to MD 852 (Old New Windsor Road) where the proposed alignment would be crossed. This area has been heavily developed and intense development is continuing. It was noted by Wes that virtually all of the dense development has occurred within the last four years. A tour of the area along MD 31 from Avondale, a National Register Historic Site, to MD 140 did not reveal any area that could accommodate an expressway type highway without major residential or stream valley impacts. When we reached the area along Bell Road where the alignment is proposed to cross, we found the entire area developed. There did not appear to be a location to put a highway without bisecting the community or eliminating the Wakefield Valley Golf Club club house and related facilities. Ned said that the Golf Club was open to the public but privately owned. At Uniontown Road, where the alignment is proposed to cross, Ned pointed out that there was a large subdivision approved and that the development would start very soon.

We then went to the northern end of the study area where both the northern and southern alignments would tie into the existing roadway. Roop Mill, a National Register Historic site, was noted on the south. On the north in the area of the tie-in is Meadow Brook Farm, a National Register Historic site. Wes explained that the County had established the northern alignment in conjunction with the Maryland Historic Trust so there would be no conflict with the historic boundary of Meadow Brook Farm.

We then proceeded south along the existing MD 140 noting the development and congestion. Roger stated that the average daily traffic at Cranberry Mall (Center Street) has exceeded 40,000 vehicles per day. There was a brief discussion about upgrading the existing roadway to control access by grade separations and service roads. All present agreed that it appeared this approach would be highly disruptive to the business community; however, alternates to upgrade the existing road will be considered.

After driving the existing roadway, we proceeded along Gorsuch Road to the area where a western shift, called Alt. 5 on the attached map, of the Master Plan (MP) (northern) alignment could cross. This shift will be looked at in more detail as an avoidance alternative to the potential wetland impacts of the MP alignment at the West Branch Patapsco River. Then we went to the area where the MP alignment would cross the West Branch and south to the end of Tannery Road. The area on both sides of the River appeared to be a wide floodplain/wetland. A shift to the east would impact a wooded ridge about two miles long with slopes in excess of 15%. Next we went north along Tannery Road noting that the MP alignment may impact the Tannery complex, a potential archeological site. Also, the area where Alt. 5 could cross the West Branch was observed to be primarily riverine. Next we looked at the area where the MP alignment would cross Brehm Road, which is open field, then on to MD 852, Manchester Road, where it was noted that approximately 6 homes would be displaced, but the County has purchased them all. We then went to MD 27, Lucabaugh Road and Sullivan Road crossings which are all open field. At MD 97 and the MP alignment, Wes noted that the alignment was close to the existing Carroll County Airport runway. He further stated that the County had development plans for the airport and asked Ned to give more details. Ned explained that a new runway is to be constructed to the north of the old runway and the existing runway will be a taxiway eliminating any possible conflict between the MP alignment and the airport. He also stated that the airport development and the MP alignment has been coordinated with the Federal Aviation Administration (FAA).

We then returned to the SHA Owings Mills conference room to review the County aerial photography. First Ned presented the alignment of Kate Wagner Road extended, which is also a part of the southern alignment, Alt. 10. The locations of current and approved development was recorded on the photography. Based upon the field review and the photography, everyone agreed that it would be difficult to develop a southern alternative without major impacts to stream valleys and existing and approved residential development. Ned then went through the aerial photography for the MP alignment. The only potentially major problem appeared to be the crossing of the West Branch Patapsco River. Bill Schultz suggested that we have a field review of the area to see if there are any fatal flaws with the MP line prior to wetland delineations. He suggested that if it appears there are no fatal flaws, then we should drop the southern alignments from further consideration. This approach would save SHA considerable time and money by not having to do detailed engineering and environmental studies. Also, he expressed concern about the amount of time it would take to field check delineations for the entire study area. Bill felt that his suggestion could cut the agency time in the field, to review delineations, down to two or three days.

Jerry Barkdoll expressed concern with dropping the southern alignments because of NEPA compliance. She did say that if EPA agreed with the approach and if the documentation was very strong, then it may be possible to eliminate the detailed work. However, we should include the southern alternates in the environmental as studied but dropped.

Art Coppola suggested that if we had to field review delineations on the entire study area, then we should do the review once a week, preferably on Fridays, until completed.

At the end of the meeting Ned repeated the excellent record that Carroll County has in controlling growth through adhering to their Master Plan.

The meeting ended at 4:15 PM.

The Federal Highway Administration's Comments:

1. We would like to see you strengthen the social and economic discussion so that you can prove (in the end) that building the selected alternate will be worth the costs. The following subjects could help you do this:

- o What are the major social and economic demands that are driving this project?
- o What will happen to Westminster if the No-Build is the selected alternate?
- o If built, who will benefit and in what ways?

2. Define the study area and name it as such.

3. Can you demonstrate that there is public support (beyond the approved Master Plan) for this project?

4. We will want to see some strong statements of commitment to Access Protection to assure that this bypass does not suffer the same fate as current MD 140.

5. Page 3, bottom ¶-- Suggest that this ¶ be split into two, with another ¶ beginning with the penultant sentence... "Level-of-service is an expression...".

6. Page 4, Level-of-service discussion-- Can you provide a more recent year's traffic data? 1989 data is now three to four years old (by the time the document gets to the public).

Last ¶-- The chart says that MD 140/Englar Road functions at LOS E.

7. Page 5-- Can you set the events in this ¶ into a time frame, both the traffic conditions and the TSM improvements?

Project History-- Typos-- space between "A" and "need" and double space between ¶s.

8. Tell us more about this Alternates meeting-- was this the Master Plan (northern) alignment? what was the public's reaction?

Second ¶, last sentence-- Add "The diversion rate potential from this alignment". Can you briefly explain why the diversion rates are not projected to be any higher than this?

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Maryland Department of Transportation
State Highway Administration

O. James Lighthizer
Secretary
Hal Kassoff
Administrator

October 19, 1993

RE: Contract No. CL 713-101-770
MD 140 Westminster Bypass
Hughes Shop Road to Reese Road
in Carroll County, Maryland

Mr. A. Porter Barrows
Division Administrator
Federal Highway Administration
The Rotunda-Suite 220
711 West 40th Street
Baltimore MD 21211

Attention: Dave Lawton

Dear Mr. Barrows:

Thank you for your letter of February 25, 1993 commenting on the Purpose and Need for the Westminster Bypass study.

At the Interagency Review Meeting on December 19, 1992 you indicated that you generally concurred with the Purpose and Need for the study; however, you included comments in your letter about various study alternates which we have answered during subsequent Interagency Meetings and have been summarized below.

1. The social-economic section of the Draft Environmental Impact Statement (DEIS) is currently being developed. All concerns listed in item 1 will be addressed in the document.
2. The study area is from Reese Road on the east to Hughes Shop Road on the west.
3. The most recent traffic survey indicates the need for a highway improvement study. A copy of the press release concerning the study is attached.
4. Existing MD 140 has no control of access; thus, strip development has occurred along the roadway. The bypass alternates have access controls thus similar development should not occur. Also, Carroll County has made a strong commitment to control development. The DEIS will contain a complete discussion on land use and growth management.

VIII-115

My telephone number is (410) 333-1110

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free
707 North Calvert Street, Baltimore, Maryland 21202

Mr. A. Porter Barrows
Page Two

- 5. See attached Purpose and Need statement which has been revised.
- 6. Current traffic data will be included in the DEIS. Attached is the latest level-of-service data for the existing roadway.
- 7. A detailed sequence of improvements to the existing roadway will be included in the DEIS.
- 8. At the Alternates Public Meeting held on May 26, 1988, 13 alternates were presented to the public. A complete summary of the public meeting will be included in the DEIS. Detailed traffic analysis will be included in the DEIS.

At this time, we are only asking for concurrence that there is an existing and potential future problem and that there is sufficient reason to study the problem. We are not requesting that you concur that a bypass is the solution to the problem. Under separate cover, we have sent you the alternates to be retained for detailed study. Your concurrence with those alternates is a separate step in the process. After the DEIS is circulated, comments received, a public hearing held and all comments addressed, we will select an alternate for detailed design.

At this time, we are again formally requesting your concurrence with the Purpose and Need for the Westminster Bypass study. You may provide your approval by signing the concurrence line provided below.

If you have any questions, you may contact me or the Environmental Manager, Mr. Wes Glass. Wes can be reached in Baltimore at (410) 333-1185.

Very truly yours,

Hal Kassoff
Administrator

by: Neil J. Pedersen
Neil J. Pedersen, Director
Office of Planning and
Preliminary Engineering

Mr. A. Porter Barrows
Page Three

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Concurrence:

for the David L. Factor
Federal Highway Administration
Division Administrator

11-18-93
Date

Enclosure (3)

- cc: Ms. Jareene Barkdoll
- Mr. Louis H. Ege, Jr.
- Ms. Linda Kelbaugh
- Ms. Sue Rajan
- Ms. Cynthia D. Simpson
- Mr. Jeffrey H. Smith

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DEPARTMENT OF THE ARMY PROJECT
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

MAR 30 1993

APR 1 9 19 AM '93

REPLY TO
ATTENTION OF

Operations Division

Subject: CENAB-OP-RX(MD SHA/MD 140 Westminster Bypass, from Hughes Shop Road to Reese Road)93-00483-4

Mr. Bruce M. Grey
Maryland State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Dear Mr. Grey:

I am replying to your letters dated February 12, 1993, and March 17, 1993 requesting Corps concurrence on Purpose and Need and requesting that the Corps participate as a cooperating agency for the subject project, the Westminster Bypass, from Hughes Shop Road to Reese Road, in Carroll County, Maryland.

The Corps agrees to be a cooperating agency in the preparation of a DEIS following the NEPA-404 process. The Corps has the following concerns based on information provided in your letter and the February 17, and March 17, 1993 Interagency Meetings.

a. We request that additional studies be performed to reconsider Alternate 4, East of Westminster. Based on the information provided to the Corps at the March 17, 1993 Interagency Meeting, the Corps requests that additional studies be performed to investigate the 3 options north of Gorsuch Road, and the 3 options south of Gorsuch Road. Following the scheduled field review, and your analysis of their feasibility, the Corps then will comment on the Alternate(s) which should be carried forward for detailed study.

b. The Corps requests that a "spur" be considered to connect Maryland Route 97 to all of the proposed eastern alternatives. This proposal would reduce local traffic congestion on MD 140 north of MD 97, in accordance with the stated need for the project.

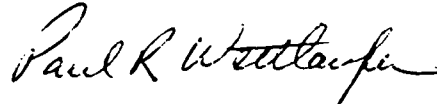
c. It has been stated that an upgrade of MD 140 was not considered because extensive landscaping had been planted within the fifty-foot grass median. Utilizing this available space to relieve traffic congestion is feasible, practicable, and will avoid impacts to Waters of the U.S., including nontidal wetlands and associated aquatic resources. We anticipate that an upgrade of this existing road would adequately serve the projected traffic for many years. An upgrade of MD 140 should be thoroughly considered.

d. The Corps has the concern that the proposed bypass might result in the loss of business for owners located along MD 140. While the bypass might relieve some of the rushhour traffic that 140 is witnessing, an evaluation of the potential loss of business in the area should be addressed in the Draft Environmental Impact Statement.

e. Based on the information presented in your February 11, 1993 letter, we concur that there is a need to relieve congestion on MD 140 between the two intersections of MD 97. It would be helpful on future requests for concurrence in purpose and need to also be presented information on the design year No-build levels-of-service.

If you have any questions concerning this matter, please call Mr. Arthur Coppola of this office at (410) 962-1843.

Sincerely,



for Keith A. Harris
Acting Chief, Special Projects
Permits Section



Maryland Department of Transportation
State Highway Administration

481

O. James Lighthizer
Secretary
Hal Kassoff
Administrator

MEMORANDUM

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

FROM: Jeffrey H. Smith, Assistant
to the Deputy Division Chief

DATE: December 2, 1993

SUBJECT: Contract No. CL 713-101-770
MD 140, Hughes Shop Road to Reese Road
Carroll County, Maryland

A handwritten signature in black ink, appearing to read 'Jeffrey H. Smith', written over the typed name in the 'FROM' field.

On November 30, 1993 I spoke with Mr. Art Coppola of the Army Corps of Engineers (COE) about their concurrence with the Purpose and Need for this project. He indicated that the COE does concur with the purpose and need to study alternatives to eliminate congestion on MD 140. This memo will serve as the COE's concurrence on purpose and need, in lieu of our request for formal concurrence dated August 3, 1993.

JHS:

cc: Mr. Art Coppola
Mr. Howard Johnson
Ms. Sue Rajan
Mr. Doug Simmons
Ms. Cynthia Simpson
Mr. George Walton

VIII-120

My telephone number is 410-333-8513

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

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

482



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

PROJECT
DATE
5 9 47 am '93

MAR 30 1993

Mr. Bruce M. Grey, Assistant Division Chief
Project Planning Division
Maryland State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re.: Purpose and Need for the proposed MD 140 Westminster Bypass
from Hughes Shop Road to Reese Road in Carroll County,
Maryland.

Dear Mr. Grey:

In accordance with the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act, EPA is responding to your request for concurrence on the purpose and need for the above referenced project.

The data we have been provided on this project, from your letter dated February 11, 1993 and from several interagency meetings, indicate that the roadway congestion problems are mainly confined to MD 140 between MD 97 North and MD 97 South. The majority of traffic in this area appears to be destined for central Westminster. Even though 20% - 40% of the traffic volumes in the congested region of MD 140 may consist of through traffic, it is unclear what proportion of the through traffic is destined for MD 140 west of Westminster compared with that destined for MD 97 North and MD 27.

Therefore, although EPA concurs with the purpose and need to relieve traffic congestion on MD 140 between MD 31 on the north and MD 97 South, we do not concur that a MD 140 bypass between Hughes Shop and Reese Roads adequately addresses this need. We also question the adequacy of a MD 140 bypass based on the predicted diversion rates of only 30% - 40%. Even considering the most optimistic predictions (40% diversion rate), currently failing intersections (MD 140/Englar Road) will also fail in the design year 2015. Traffic volumes in the year 2015 will be comparable to current levels [70,000 ADT - (0.40 * 70,000) = 42,000 ADT].

Based on the data provided us, a road starting from MD 140 east of Westminster and MD 97 South which would terminate at MD 97 North may also provide an equal or greater level of diversion as the proposed MD 140 bypass, thus eliminating the need for additional roadway connecting MD 97 North to MD 140 west of Westminster. To address this concern, please provide us with a

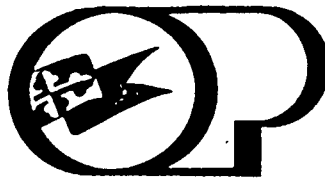
copy of the most recent origin/destination study and an explanation of why the estimated diversion rate increased from 27% to @ 40% compared to previous studies. In addition, a map of the study area showing current average daily traffic volumes would be helpful.

Thank you for providing us with this opportunity to comment. We look forward to reviewing additional data to support the purpose and need for this project. If you would like to discuss EPA's comments, please contact Peter Claggett, of my staff, at 215-597-0765.

Sincerely,

Teffrey J. Burke
for RED

Roy E. Denmark, Jr., Chief
Environmental Planning and
Assessment Section



484 Wes

MARYLAND Office of Planning

March 29, 1993

William Donald Schaefer
Governor

Ronald M. Kreitner
Director

Mr. Louis H. Ege, Jr.
Deputy Director
Office of Planning and Preliminary Engineering
State Highway Administration
707 North Calvert St
Baltimore, MD. 21203-0717

re: Contract # CL 713-1-1-707
MD 140 Westminster Bypass

Dear Mr. Ege;

Staff at the Maryland Office of Planning has reviewed the Purpose and Need Statement for the Proposed Westminster Bypass Study. Our comments focus on growth management as well as the adequacy of the information presented.

One major factor affecting the growth of the study area and not specifically mentioned, is the ease of vehicular access to Baltimore County and Baltimore City jobs. In 1990, 31% of Carroll County's commuters were destined to Baltimore City and County. However, the average Carroll County commuter travelled 29.8 minutes to work in 1990, which the highest average commuting time within the Baltimore Region. (Source: Commuting Trends in the Baltimore Region Baltimore Metropolitan Council, March 1993)

We have concerns that the improved travel time resulting from a bypass of Westminster, would contribute to this commuter trend. In light of the region's need to comply with Clean Air Act requirements, consideration must be given to the State's role in fostering long distance commuting. The State should be considering how to promote the City of Westminster as a employment center, and what the impact of a bypass around it will be.

We also have concerns about possible negative impacts of a bypass to the existing businesses on MD 140. A bypass that diverts from 20-40% of the daily through traffic around Westminster may also divert customers away from businesses, whose markets depend on pass-by traffic.

We recognize that the proposed transportation bypass may provide improved access between County business parks situated on the periphery of Westminster and Baltimore. However, Westminster is the County seat, and the center of economic activity in Carroll

VIII-123

Mr. Louis H. Ege, Jr.
March 29, 1993
Page 2

County. Transportation improvements undertaken by the State should not focus on alternatives that bypass this important destination, but contribute to improved accessibility from other areas to Westminster.

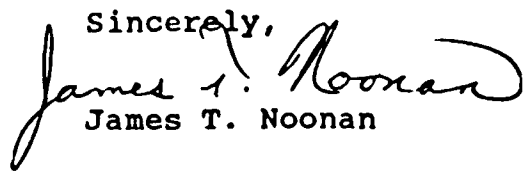
We have interest in learning more about the volume of interstate traffic that is utilizing MD 140. A transportation improvement that encourages commuting from Hanover, Littlestown and Gettysburg in Pennsylvania to the Baltimore region may not be in the interest of the State of Maryland. However, there may be benefits in freight movement that are not addressed here.

Our understanding of the basis for the proposed bypass study are: peak period traffic volumes that exceed capacity in certain locations; and the high accident rates at certain locations. Given that, we are interested in understanding more fully what the TSM improvements already planned or underway (lane additions, signal coordination, etc...) for the MD 140 corridor will do to address these identified problems. A focus on the alternative to upgrade the existing road may adequately address the fundamental safety and capacity issues facing the area in a more cost effective fashion.

An explanation of impacts of the opening of the Northwest Expressway would contribute to our understanding of the history of the project. It is unclear whether there were unanticipated traffic problems resulting from the new connection.

The Statewide Commuter Assistance Study of the Westminster/Owings Mills Corridor (Corridor 19) should be discussed in the history of the project, especially since a transit solution for commuters between Westminster and the Baltimore area could help address the capacity problems identified.

We are pleased to have this opportunity to comment on this project and are available to discuss our comments further, if necessary.

Sincerely,

James T. Noonan

VIII-124

cc: Mike Nortrup, OP
Christine Wells, OP



486

PROJECT DEVELOPMENT DIVISION
FEB 28 8 43 AM '94

William Donald Schaefer
Governor

**Maryland Department of Natural Resources
Water Resources Administration**

Tawes State Office Building
Annapolis, Maryland 21401

Torrey C. Brown, M.D.
Secretary

Robert D. Miller
Director

"A Commitment to Excellence in Managing Maryland's Water Resources"

February 18, 1994

Mr. George W. Walton
Project Planning Division
State Highway Administration
707 N. Calvert Street
Baltimore, MD 21203-0717

RE: Contract No. CL 713-101-770
MD 140 Westminster Bypass

Dear Mr. Walton:

The Department of Natural Resources has reviewed the submittal from the State Highway Administration identifying alternates retained for detailed study for the proposed Westminster Bypass. Overall, we concur with the scope of the no-build, existing alignment, and relocation alignment alternates presented in the SHA submittal of August 2, 1993 to this Department (see attached).

Recommendations regarding specific modifications and shifts to the proposed alignments under study and/or preferred alignments in the study area will be provided pending the receipt of more detailed information regarding natural resource impacts. This information will require the quantification of forestland impacts, wetland impacts, and stream/floodplain crossings. Future analyses of the alignment alternatives will require that conceptual designs of stream crossing structures be provided to assess potential impacts to wetlands and waterways. Structure type (i.e., pipe, arch, box or bridge) and length should be provided for these analyses.

We will continue our review of the information concerning the alignment alternatives upon the receipt of additional information concerning natural resources impacts through the combined NEPA/404 process. Please keep us apprised as additional information becomes available on this project.

Telephone: (410) 974-2156

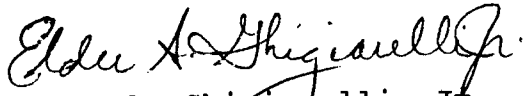
VIII-125

DNR TTY for the Deaf: 301-974-3683

Mr. George W. Walton
February 18, 1994
Page 2

If you have any questions, please contact me.

Sincerely,



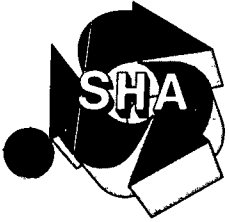
Elder A. Ghiarelli, Jr.
Chief, Coastal Zone Consistency Unit

Enclosure

EAGJr:cma

cc: Sean Smith, TID
John Hurt, WRA

486



Maryland Department of Transportation
State Highway Administration

O. James Lighthizer
Secretary
Hal Kassoff
Administrator

August 2, 1993

RE: Contract No. CL 713-101-770
MD 140 Westminster Bypass
Hughes Shop Road to Reese Road
Carroll County, Maryland

RECEIVED

Mr. Elder Ghigiarelli
Maryland Department of Natural Resources
Water Resource Administration
Tawes State Office Building
Annapolis Maryland 21401

AUG 11 1993

WATER RESOURCES ADMIN.
WATER & WETLANDS
PROGRAM

Dear Mr. Ghigiarelli:

In accordance with the combined environmental/regulatory process, we are transmitting the Alternates Retained for Detailed Study for the Westminster Bypass Study. The alternates were first presented at the Interagency Review Meeting held on February 17, 1993. In response to agency comments, Alternate 4 has been added to the list of Alternates to be Retained and all alternates were presented at the Interagency Review Meeting held on July 21, 1993. At this time we are seeking your concurrence with these alternates.

Consistent with the "combined process", you will again have the opportunity to provide comments when the Draft Environmental Impact Statement is circulated.

Please provide us with your concurrence by September 15, 1993. Please return your response to the attention of Mr. Jeffrey H. Smith in the Project Planning Division. Should you have any questions please feel free to call Mr. George Walton at (410) 333-3439.

Very truly yours,

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

by:

George Walton
Assistant Division Chief
Project Planning Division

My telephone number is _____ VIII-127

Mr. Elder Ghigiarelli
Page Two

Concurrence:

Elder A. Ghigiarelli, Jr.
Maryland Department of Natural Resources

2/15/94
Date

LHE:WMG:sc
Enclosure

- cc: Ms. Jareene Barkdoll
- Mr. Louis H. Ege, Jr.
- Mr. Linda Kelbaugh
- Ms. Sue Rajan
- Ms. Cynthia D. Simpson
- Mr. Jeffrey H. Smith



490

MARYLAND *Office of Planning*

William Donald Schaefer
Governor

September 15, 1993

Ronald M. Kreitner
Director

Mr. Louis H. Ege, Jr.
Deputy Director
Office of Planning and Preliminary Engineering
State Highway Administration
707 North Calvert Street
Baltimore, MD 21203-0717

re: **Contract # CL 713-101-770**
MD 140 Westminster Bypass

Dear Mr. Ege:

The Maryland Office of Planning has reviewed the Alternates Retained for Detailed Study for the Westminster Bypass Study. Along with the relocation alternates, the State Highway Administration has proposed several alternates with potential to address the capacity problem and high accident rates. We are encouraged that TSM strategies have been included along with other improvements to increase efficiency.

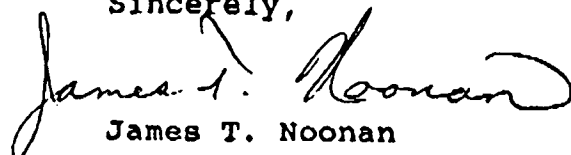
The alternates which include TSM strategies (TSM, 2, 3A, and 3B) would encourage the use of existing infrastructure because they improve MD 140's existing alignment. They would also support businesses along MD 140, since higher levels of service would result. We concur with detailed study of these Alternates because they would maintain traffic in developed areas.

The Office of Planning would encourage the consideration of public transit strategies in the TSM scenario. Bus service during the peak periods, in conjunction with the TSM alternates' road improvements, may reduce traffic congestion without the costs associated with extensive construction (as detailed for the Relocation Alternatives).

We find the information transmitted adequate. However, maps with the alternates marked more clearly would help in understanding their relative merits.

We are pleased to have this opportunity for comment on Alternates Retained for Detailed Study for the Westminster Bypass Study. We are available to discuss our comments further, if necessary.

Sincerely,


James T. Noonan

VIII-129

491



STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
2500 Broening Highway Baltimore, Maryland 21224
(410) 631-3563

William Donald Schafer
Governor

David A.G. Carroll
Secretary

September 15, 1993

Mr. Louis H. Ege, Jr., Deputy Director
Office of Planning and Preliminary Engineering
Maryland Department of Transportation
State Highway Administration
Attn: Mr. Jeffery H. Smith
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract No. CL 713-101-770
Md 140 Westminster Bypass
Hughes Shop Road to Reese Road
Carroll County, Maryland

Dear Mr. Ege:

The Administration has received and Reviewed the August 10, 1993 transmittal for the above referenced project. The review, as requested, pertained only to the SHA "Alternatives Retained for Detailed Study". The following comments are a result of that review:

The Administration's primary concern is avoidance and minimization of impacts to waters and wetlands of the State. The level of detail provided in this submission does not identify wetland locations along the alternates. However, based upon the "Description" it appears that the Existing Alignment Alternatives will minimize the wetlands and waters impacts and would therefore be preferred by the Administration.

The Administration appreciates the opportunity to provide comments on this "study". If you have any questions regarding the above, please call.

Sincerely,

James K. Tracy, P.E.
Water Resources Engineer
Water Management Administration

JKT



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

OCT 25 1993

Operations Division

Subject: CENAB-OP-RX(MD SHA/WESTMINSTER BYPASS) 93-00483-4

Mr. George Walton
Maryland State Highway Administration
707 North Calvert Street
Baltimore, MD 21203-0717

Dear Mr. Walton:

This is in reply to your August 2, 1993 request for concurrence in the alternatives retained for detailed study. We concur in the scope of alternatives to be studied. This concurrence does not, however, preclude our future recommendation of shifts in the alignment(s), where necessary, to reduce impacts. We must defer any such recommendations until we have information on the impacts associated with the various alignments. We note however, that the location of the crossings of Cranberry Branch and West Branch Patapsco River on Alternates 4 and 6 Modified have been dictated by the desire to cross Lucabaugh Road at the location where the County has previously acquired right-of-way. If subsequent analysis reveals that there is a better crossing of these streams which results in less impact to aquatic resources, we will ask that it be considered.

We note that the various alignments have dissimilar impacts on the major stream systems. In some cases, broad wetland complexes are crossed. At other streams, the impact to wetlands is negligible. In order to weigh and compare the aquatic impacts of the various alternatives, so that the alternative with the least impact on aquatic resources is readily identified, it will be necessary to have an approximation of the length of structure that will be proposed at each of the major stream crossings.

If you have any further questions, please call Mr. Art Coppola at 962-1723 or Mr. Paul Wettlaufer at 962-1844.

Sincerely,

Paul R. Wettlaufer

for Keith A. Harris
Acting Chief, Special Projects

VIII-131



**Maryland Department of Transportation
State Highway Administration**

493

O. James Lighthizer
Secretary
Hal Kassoff
Administrator

August 2, 1993

RE: Contract No. CL 713-101-770
MD 140 Westminster Bypass
Hughes Shop Road to Reese Road
Carroll County, Maryland

Mr. Roy Denmark, Acting Chief
NEPA Compliance Section
Environmental Protection Agency
Region III
841 Chestnut Avenue
Philadelphia PA 19107

Dear Mr. Denmark:

In accordance with the combined environmental/regulatory process, we are transmitting the Alternates Retained for Detailed Study for the Westminster Bypass Study. The alternates were first presented at the Interagency Review Meeting held on February 17, 1993. In response to agency comments, Alternate 4 has been added to the list of Alternates to be Retained and all alternates were presented at the Interagency Review Meeting held on July 21, 1993. At this time we are seeking your concurrence with these alternates.

Consistent with the "combined process", you will again have the opportunity to provide comments when the Draft Environmental Impact Statement is circulated.

Please provide us with your concurrence by September 15, 1993. Please return your response to the attention of Mr. Jeffrey H. Smith in the Project Planning Division. Should you have any questions please feel free to call Mr. George Walton at (410) 333-3439.

Very truly yours,

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

by:

Handwritten signature of George W. Walton in cursive script, written over a horizontal line.

George W. Walton
Assistant Division Chief
Project Planning Division

VIII-132

My telephone number is _____

Mr. Roy Denmark
Page Two

Concurrence:

Jeffrey H. Smith for RSD
Environmental Protection Agency

Sept 24 1993
Date

LHE:WMG:sc
Enclosure

- cc: Ms. Jareene Barkdoll
- Mr. Louis H. Ege, Jr.
- Mr. Linda Kelbaugh
- Ms. Sue Rajan
- Ms. Cynthia D. Simpson
- Mr. Jeffrey H. Smith



Maryland Department of Transportation
State Highway Administration

495
O. James Lighthizer
Secretary
Hal Kassoff
Administrator

August 4, 1993

RE: Contract No. CL 713-101-770
MD 140 Westminster Bypass
Hughes Shop Road to Reese Road
Carroll County, Maryland

Mr. A. Porter Barrows
Division Administrator
Federal Highway Administration
The Rotunda - Suite 220
711 West 40th Street
Baltimore Maryland 21211

Attention: Dave Lawton

Dear Mr. Barrows:

In accordance with the combined environmental/regulatory process, we are transmitting the Alternates Retained for Detailed Study for the Westminster Bypass Study. The alternates were first presented at the Interagency Review Meeting held on February 17, 1993. In response to agency comments, Alternate 4 has been added to the list of Alternates to be Retained and all alternates were presented at the Interagency Review Meeting held on July 21, 1993. At this time we are seeking your concurrence with these alternates.

Consistent with the "combined process", you will again have the opportunity to provide comments when the Draft Environmental Impact Statement is circulated.

Please provide us with your concurrence by September 15, 1993. Please return your response to the attention of Mr. Jeffrey H. Smith in the Project Planning Division. Should you have any questions please feel free to call Mr. George Walton at (410) 333-3439.

Very truly yours,

Hal Kassoff
Administrator

by:

Neil J. Pedersen
Neil J. Pedersen, Director
Office of Planning and
Preliminary Engineering

My telephone number is (410) 333-1110 VIII-134

496

Mr. A. Porter Barrows
Page Two

Concurrence:

for the David L. Linton
Federal Highway Administration

8-11-93
Date

LHE:WMG:sc
Enclosure

- cc: Ms. Jareene Barkdoll
- Mr. Louis H. Ege, Jr.
- Mr. Linda Kelbaugh
- Ms. Sue Rajan
- Ms. Cynthia D. Simpson
- Mr. Jeffrey H. Smith

Appendix

APPENDIX

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

All State Highway Administration projects must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) as amended by Title IV of the Surface Transportation & Uniform Relocation Assistance Act of 1987 (P.L. 100-17), the Annotated Code of Maryland entitled "Real Property Article" Section 12-112 and Subtitle 2, Sections 12-201 to 12-212. The Maryland Department of Transportation, State Highway Administration, Office of Real Estate administers the Transportation Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State laws require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments include replacement housing payments and moving costs. The maximum limits of the replacement housing payments are \$22,500 for owner-occupants and \$5,250 for tenant-occupants. Certain payments may also be made for increased mortgage interest costs and other incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe and sanitary replacement housing. In addition to these payments, there are also moving expense payments to persons, businesses, farms and non-profit organizations. Actual but reasonable moving expenses for residences are reimbursed for a move of up to 50 miles or a schedule moving payment of up to \$1,300 may be used.

In the event comparable replacement housing is not available within the monetary limits for owners and tenants to rehouse persons displaced by public projects or available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies must be completed by the State Highway Administration before relocation "housing as a last resort" can be utilized.

The moving cost payments to businesses are broken down into several categories, which include actual moving expense payments, reestablishment expenses limited to \$10,000 or fixed payments "in lieu of" actual moving expenses of \$1,000 to \$20,000. Actual moving expenses may also include actual direct losses of tangible personal property and expenses for searching for a replacement site up to \$1,000.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Payments for the actual reasonable expenses are limited to a 50-mile radius unless the State determines a longer distance is necessary. The expenses claimed for actual cost moves must be supported by firm bids and receipted bills. An inventory of the items to be moved must be prepared in all cases. In self-moves, the State will negotiate an amount for payment, usually lower than the lowest acceptable bid. The allowable expenses of a

self-move may include amounts paid for equipment hired, the cost of using the business vehicles or equipment, wages paid to persons who participate in the move, the cost of actual supervision of the move, replacement insurance for the personal property moved, costs of licenses or permits required and other related expenses.

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 elects not to move or to discontinue the use of an item, the payment shall consist of the lesser of: the fair market value of the item for continued use at the displacement site, less the proceeds from its sale; or the estimated cost of moving the item.

If an item of personal property which is used as part of a business or farm operation is not moved and is promptly replaced with a substitute item that performs a comparable function at the replacement site, payment shall be of the lesser of: the cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item; or the estimated cost of moving and reinstalling the replaced item.

In addition to the moving payments described above, a business may be eligible for a payment up to \$10,000 for the actual reasonable and necessary expenses of reestablishing at the replacement site. Generally, reestablishment expenses include certain repairs and improvements to the replacement site, increased operating costs, exterior signing, advertising the replacement location and other fees paid to reestablish. Receipted bills and other evidence of these expenses are required for payment. The total maximum reestablishment payment eligibility is \$10,000.

In lieu of all moving payments described above, a business may elect to receive a fixed payment equal to the average annual net earnings of the business. This payment shall not be less than \$1,000 nor more than \$20,000. 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 more than three other establishments in the same or similar business that are not being acquired; and the business contributes materially to the income of a displaced owner during the two taxable years prior to the year of the displacement. A business operated at the displacement site solely for the purpose of renting to others is not eligible. 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 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 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, owner's spouse, or dependents during the period. Should a business be in operation less than two years, the owner of the business may still be 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, or certified financial statements, for the tax years in question.

Displaced farms and non-profit organizations are also eligible for actual reasonable moving costs up to 50 miles, actual direct losses of tangible personal property, search costs up to \$1,000 and reestablishment expenses up to \$10,000 or a fixed payment "in lieu of" actual moving expenses of \$1,000 to \$20,000. The State may determine that a displaced farm may be paid a minimum of \$1,000 to a maximum of \$20,000, based upon the net income of the farm, provided that the farm has been relocated or the partial acquisition caused a substantial change in the nature of the farm. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive a fixed payment or an "in lieu of" actual moving cost payment, in the amount of \$1,000 to \$20,000 based on gross annual revenues less administrative expenses.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms and non-profit organizations is available in the "Relocation Assistance" brochure that will be distributed at the public hearing for this project and be given to displaced persons.

Federal & State laws require that the State Highway Administration shall not proceed with any phase of a project which will cause the relocation of any persons, 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.

502

United States
Department of
Agriculture

PROJECT DEVELOPMENT
Soil Conservation Service

1004 Littlestown Pike, Suite B-1
Westminster, Maryland 21157
Tele: 410-848-6626

APR 13 8 33 AM 1994

April 13, 1994

Maryland Department of Transportation
Mr. Howard Johnson
P.O. Box 717
Baltimore, Maryland 21203-0717

Dear Mr. Johnson:

Enclosed is the completed Farmland Conversion Impact Rating form for the Maryland 140 Westminster Bypass. As I looked through our records I found a copy of the one that was previously done and included it with the new information. The sites were the same on the other form except the numbers on the alternatives were different.

1994		1988
Site 4	was	Site 4
Site 6	was	Site 10
Site 10A	was	Site 6A

Sincerely,



Maggie Rhodes
District Conservationist

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 4/30/94			
Name Of Project MD 140		Federal Agency Involved State Highway Administration			
Proposed Land Use Roadway (Highway)		County And State Carroll County, Maryland			
PART II (To be completed by SCS)		Date Request Received By SCS 4/7/94			
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form).</i>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated None	Average Farm Size 133
Major Crop(s) Corn, Small Grain, Hay	Farmable Land In Govt. Jurisdiction Acres: 212,000 % 73	Amount Of Farmland As Defined in FPPA Acres: 143,300 % 49.4		Date Land Evaluation Returned By SCS 4/14/94	
Name Of Land Evaluation System Used Carroll Co. MD - Land Evaluation	Name Of Local Site Assessment System FPPA				
PART III (To be completed by Federal Agency)		Alternative Site Rating			
		Site A 3B	Site B6	Site C10A	Site D4
A. Total Acres To Be Converted Directly		19.7	219.6	238.0	230.6
B. Total Acres To Be Converted Indirectly		0	0	0	0
C. Total Acres In Site		19.7	219.6	238.0	230.6
PART IV (To be completed by SCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		42	99	85	42
B. Total Acres Statewide And Local Important Farmland		0	0	0	0
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		.029	.069	.059	.029
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		19	19	19	19
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		96	96	96	96
PART VI (To be completed by Federal Agency)					
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area In Nonurban Use	15	2	11	13	11
2. Perimeter In Nonurban Use	10	2	11	13	11
3. Percent Of Site Being Farmed	20	3	16	16	16
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	NA	NA	NA	NA	NA
6. Distance To Urban Support Services	NA	NA	NA	NA	NA
7. Size Of Present Farm Unit Compared To Average	10	0	0	0	0
8. Creation Of Nonfarmable Farmland	25	1	20	20	20
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	7	7	7	7
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	5	5	5
TOTAL SITE ASSESSMENT POINTS	160	40	95	99	95
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	96	96	96	96
Total Site Assessment (From Part VI above or a local site assessment)	160	40	95	99	95
TOTAL POINTS (Total of above 2 lines)	260	136	191	195	191
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Reason For Selection:					

**TABLE III-6
STORET RETREIVAL
WATER CHEMISTRY FOR SINGLE SAMPLES WITHIN STUDY AREA
WESTMINSTER BYPASS**

	CBNRW*	CLBd86	SWE1
Sampling Date	3/3/66	9/15/75	9/16/75
pH (standard units)	6.9	6.9	8.5
Color (platinum -cobalt units)	5.0	-	-
Conductivity (micromhos)	145	-	-
Total Alkalinity (mg/l as CaCO ₃)	-	26	57
HCO ₃ Ion (mg/l)	33	32	69
Total Hardness (mg/l as CaCO ₃)	54	64	90
Non-carbonate Hardness (mg/l as CaCO ₃)	28	38	33
Dissolved Calcium (mg/l)	16	16	26
Dissolved Magnesium (mg/l)	3.6	5.9	6.0
Dissolved sodium (mg/l)	3.7	-	-
Dissolved potassium (mg/l)	1.8	-	-
Dissolved fluoride (mg/l)	0.1	-	-
Dissolved silica (mg/l)	7.3	-	-
Dissolved residue (mg/l)	95	-	-
Nitrate (mg/l)	12	-	-
Iron (mg/l)	160	-	-
Manganese (mg/l)	60	-	22
Total Chloride (mg/l)	10	3.9	22
Total Sulfate (mg/l)	12	-	-
Total Phosphate (mg/l)	0.3	-	-

* Cranberry Branch of Patapsco River near Westminster, MD - STORET1D.
- Parameter not measured.

**TABLE III-7
STREAM CHARACTERISTICS
SAMPLED JULY 21 - AUGUST 5, 1993
WESTMINSTER BYPASS**

Watershed	Sampling ID*	Use Classification	Width ft (m)	Depth in (cm)	Approx. Volume gpm (m ³ /sec)	Water Temperature °F (°C)	Watershed Size acres (hectares)
West Branch of Patapsco River	ECS-1	I-P	6 (2)	2 (5)	294 (0.02)	58.4 (22.0)	700 (283)
Meadow Branch of Big Pipe Creek	NCS-1	IV-P	3 (0.9)	1.5 (4)	65 (0.004)	60.6 (15.9)	83 (33)
	NCS-2	IV-P	1.2 (0.4)	1.0 (2.5)	13 (0.0008)	65.7 (18.7)	94 (38)
	NCS-3	IV-P	2-3 (0.6-0.9)	1.5 (4)	60 (0.004)	69.4 (20.8)	114 (46)
	NCS-4	IV-P	1.5 (0.5)	3 (8)	118 (0.008)	75.7 (24.3)	306 (124)
	NCS-5	IV-P	Diffuse flow; not available				57.2 (14.0)
West Branch of Patapsco River	NCS-6	IV-P	4-8 (1-2)	3-24 (8-61)	1307 (0.08)	60.4 (15.8)	1938 (784)
	NCS-6a	intermittent	1-10 (0.3-3)	1-5 (2-13)	17 (0.001)	58.8 (14.9)	<5 (<2)
Cranberry Branch of Patapsco River	NCS-7	IV-P	6-12 (2-4)	3-18 (8-46)	97 (0.006)	70.3 (21.3)	1654 (669)
	NCS-8	IV-P	3 (0.9)	2.5 (6)	191 (0.01)	61.2 (16.2)	238 (96)
West Branch of Patapsco River	NCS-9	I-P	1.5-6 (0.5-2)	1-8 (2-20)	295 (0.02)	64.2 (17.9)	602 (244)
	NCS-10	I-P	5 (1.5)	4 (10)	358 (0.023)	62.4 (17.2)	590 (239)
	NCS-11	intermittent	1-3 (0.3-0.9)	1-2 (2-5)	50 (0.003)	66.7 (19.3)	110 (44)
	NCS-12	IV-P	17-20 (5-6)	8-28 (20-71)	3042 (0.14)	71.8 (22.1)	13008 (5264)
	NCS-13	I-P	1-3 (0.3-0.9)	1-3 (2-8)	101 (0.006)	65.3 (18.5)	173 (70)
	NCS-14	I-P	4 (1)	3 (8)	245 (0.016)	65.5 (18.6)	425 (172)
	NCS-15	intermittent	1.5 (0.5)	1.5 (4)	125 (0.008)	66.6 (19.2)	48 (19)

SOS

**TABLE III-7
STREAM CHARACTERISTICS
SAMPLED JULY 21 - AUGUST 5, 1993
WESTMINSTER BYPASS**

Watershed	Sampling ID*	Use Classification	Width ft (m)	Depth in (cm)	Approx. Volume gpm (m ³ /sec)	Water Temperature °F (°C)	Watershed Size acres (hectares)
	NCMS-1	IV-P	18 (5)	6 (15)	2047 (0.13)	64.0 (17.8)	10027 (4058)
	NCMS-2	I-P	4 (1)	3 (8)	118 (0.008)	76.3 (24.6)	309 (125)
	NCMS-3	intermittent	1.5 (1.5)	1 (2.5)	21 (0.001)	71.2 (21.8)	105 (42)
Meadow Branch of Big Pipe Creek	SCS-1	IV-P	4 (1)	8 (20)	1155 (0.07)	75.6 (24.2)	1632 (660)
Little Pipe Creek	SCS-2	intermittent	Dry; no defined channel				<5 (<2)
Cops Branch of Little Pipe Creek	SCS-3	intermittent	Crossing is now a detention basin for housing development				40 (16)
	SCS-4	IV-P	2-4 (0.6-1)	5-16 (13-41)	142 (0.009)	62.8 (17.1)	676 (273)
	SCS-5	IV-P	1-2 (0.3-0.6)	1-3 (2.5-8)	40 (0.002)	70.9 (21.6)	68 (27)
Little Pipe Creek	SCS-6	intermittent	2 (0.6)	2 (5)	112 (0.007)	20.7 (69.3)	117 (47)
	SCS-7	IV	4-14 (1-4)	6-24 (15-61)	1847 (0.12)	19.3 (66.7)	2757 (1116)
	SCS-8	IV	3 (0.9)	3 (8)	56 (0.004)	13.4 (56.1)	42 (17)
	SCS-9	IV	2 (0.6)	10 (25)	645 (0.04)	16.1 (60.9)	726 (294)
Little Morgan Run	SCS-10	III-P	4 (1)	4 (10)	354 (0.02)	17.2 (62.9)	541 (219)
	SCS-11	intermittent	1.5 (0.5)	2 (5)	11 (0.0007)	19.8 (67.6)	111 (45)
Middle Run	SCS-12	I-P	3 (0.9)	4 (10)	67 (0.004)	22.2 (71.9)	298 (121)
	SCS-13	I-P	2-6 (0.6-2)	4-18 (10-46)	399 (0.02)	20.2 (68.4)	1898 (768)
Beaver Run	SCS-14	III-P	3-8 (0.9-2)	3-24 (8-61)	518 (0.03)	20.0 (68.0)	2774 (1123)
	SCS-15	intermittent	Dry; channel is 2 feet deep and 4 feet wide				37 (15)

* Sampling ID locations are coded as follows: ECS - Alternate 3B (Existing Corridor); NCS and NCMS - Alternates 6 Modified and 4 Modified (Northern Corridor and Northern Corridor Alternate); SCS - Alternate 10A (Southern Corridor).

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**TABLE III-8
STREAM CHEMICAL ANALYSES
FIELD MEASURED PARAMETERS
WESTMINSTER BYPASS**

Watershed	Sampling ID*	Dissolved Oxygen	Specific Conductivity μ mhos	pH
West Branch of Patapsco River	ECS-1	9.8	600	8.1
Meadow Branch of Big Pipe Creek	NCS-1	9.2	109	7.6
	NCS-2	8.2	85	7.4
	NCS-3	7.5	128	7.4
	NCS-4	5.0	308	7.2
	NCS-5	6.5	264	6.8
West Branch of Patapsco River	NCS-6	9.4	205	7.5
	NCS-6a	7.7	205	7.2
Cranberry Branch of Patapsco River	NCS-7	8.8	203	7.6
	NCS-8	9.7	157	7.4
West Branch of Patapsco River	NCS-9	9.4	160	7.1
	NCS-10	9.2	120	6.7
	NCS-11	9.4	132	7.2
	NCS-12	10.1	285	8.2
	NCS-13	8.5	70	7.2
	NCS-14	8.9	228	7.4
	NCS-15	8.8	328	7.6
	NCMS-1	8.9	302	7.8
	NCMS-2	6.6	311	7.6
NCMS-3	7.6	343	7.5	
Meadow Branch of Big Pipe Creek	SCS-1	7.2	327	7.8
Little Pipe Creek	SCS-2		Dry	

**TABLE III-8
STREAM CHEMICAL ANALYSES
FIELD MEASURED PARAMETERS
WESTMINSTER BYPASS**

Watershed	Sampling ID*	Dissolved Oxygen	Specific Conductivity μ mhos	pH
Cops Branch of Little Pipe Creek	SCS-3	Detention Basin		
	SCS-4	9.3	458	7.8
	SCS-5	8.2	99	7.4
Little Pipe Creek	SCS-6	7.5	128	7.6
	SCS-7	7.8	258	7.7
	SCS-8	7.3	199	7.4
	SCS-9	9.2	242	7.7
Little Morgan Run	SCS-10	9.2	179	7.5
	SCS-11	8.7	51	7.4
Middle Run	SCS-12	7.3	205	6.9
	SCS-13	7.7	251	7.3
Beaver Run	SCS-14	8.6	219	7.3
	SCS-15	Dry		

* Sampling ID locations are coded as follows: ECS - Alternate 3B (Existing Corridor); NCS and NC Alternates 6 Modified and 4 Modified (Northern Corridor and Northern Corridor Alternate); SCS - Alt 10A (Southern Corridor).

**TABLE III-9
STREAM CHEMICAL ANALYSES
LABORATORY MEASURED PARAMETERS
WESTMINSTER BYPASS**

Watershed	Sampling ID ^a	5d-Biological Oxygen Demand mg/l	NO ₃ -N mg/l	NO ₂ -N mg/l	P mg/l	Total Solids mg/l	TSS mg/l	Turbidity NTU	Fecal Coliform #/100 ml	Total Coliform #/m
West Branch of Patapsco River	ECS-1	1	7.5	<0.01	0.04	454	18	4.3	<1	185
	NCS-6	<1	8.4	<0.01	<0.02	181	10	5.9	--	--
	NCS-12	<1	5.3	<0.01	<0.02	200	5	2.6	127	TNTC
	NCS-14	1	2.9	<.01	0.03	190	22	10	--	--
Meadow Branch of Big Pipe Creek	SCS-1	3	4.5	0.19	0.15	259	39	16	262	Confluent
Little Pipe Creek	SCS-7	1	3.2	<0.01	0.06	218	28	10	TNTC	TNTC
Little Morgan Run	SCS-10	1	5.5	<0.01	0.03	156	4	4.5	282 ^a	TNTC ^a
Middle Run	SCS-13	<1	8.9	<0.01	<0.02	182	3	1.2	356	323
Beaver Run	SCS-14	<1	6.6	0.02	<0.02	169	15	5.8	TNTC	TNTC

* Sampling ID locations are coded as follows: ECS - Alternate 3B (Existing Corridor); NCS and NCMS - Alternates 6 Modified and 4 Modified (Northern Corridor and Northern Corridor Alternate); SCS - Alternate 10A (Southern Corridor).

-- Not Sampled

TNTC - Too Numerous To Count

^a Collected at a point 1/4 mile downstream of crossing for convenience due to the short holding time for samples.

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TABLE III-10
WESTMINSTER BYPASS
MACROINVERTEBRATE AND FISH SURVEY

Watershed	Sampling ID*	Macrobenthos Present		Relative Abundance	Fish Present		Rapid Bioassessment Protocol I Results
		Common Name	Scientific Name		Common Name	Scientific Name	
West Branch of Patapsco River	ECS-1	scuds, side swimmers snails true crane flies blackflies mayflies caddisflies	<i>Amphipoda</i> <i>Gastropoda</i> <i>Tipulidae</i> <i>Simuliidae</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	Common Rare Rare Dominant Common Abundant	blacknose dace rosyside dace	<i>Rhinichthys atratulus</i> <i>Clinostomus funduloides</i>	Quality not impaired
Meadow Branch of Big Pipe Creek	NCS-1	scuds, side swimmers caddisflies	<i>Amphipoda</i> <i>Trichoptera</i>	--		--	--
	NCS-3	scuds, side swimmers beetles caddisflies	<i>Amphipoda</i> <i>Coleoptera</i> <i>Trichoptera</i>	--		--	--
	NCS-4	beetles midges caddisflies	<i>Coleoptera</i> <i>Chironomidae</i> <i>Trichoptera</i>	--		--	--
West Branch of Patapsco River	NCS-6	crayfish true bugs beetles mayflies caddisflies	<i>Decapoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	Abundant Rare Dominant Rare Dominant	blacknose dace	<i>Rhinichthys atratulus</i>	Quality not impaired
Cranberry Branch of Patapsco River	NCS-7	crayfish true bugs midges	<i>Decapoda</i> <i>Hemiptera</i> <i>Chironomidae</i>	--	blacknose dace greenside darter	<i>Rhinichthys atratulus</i> <i>Etheostoma blennioides</i>	--
	NCS-8	scuds, side swimmers crayfish stoneflies caddisflies	<i>Amphipoda</i> <i>Decapoda</i> <i>Plecoptera</i> <i>Trichoptera</i>	--		--	--

**TABLE III-10
WESTMINSTER BYPASS
MACROINVERTEBRATE AND FISH SURVEY**

Watershed	Sampling ID*	Macrobenthos Present		Relative Abundance	Fish Present		Rapid Bioassessment Protocol I Results
		Common Name	Scientific Name		Common Name	Scientific Name	
West Branch of Patapco River	NCS-9	crayfish dragonflies beetles Dobson flies, hellgrammites true caddisflies stoneflies mayflies caddisflies horse hair worms	<i>Decapoda</i> <i>Anisoptera</i> <i>Coleoptera</i> <i>Corydalidae</i> <i>Tipulidae</i> <i>Plecoptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i> <i>Nematomorpha</i>	—	blacknose dace mottled sculpin	<i>Rhinichthys atratulus</i> <i>Cottus bairdi</i>	—
	NCS-10	dragonflies beetles Dobson flies, hellgrammites stoneflies mayflies caddisflies	<i>Anisoptera</i> <i>Coleoptera</i> <i>Corydalidae</i> <i>Plecoptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	—			
	NCS-12	crayfish true bugs beetles caddisflies horse hair worms	<i>Decapoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Trichoptera</i> <i>Nematomorpha</i>	Common Common Abundant Dominant Rare	blacknose dace longnose dace common shiner	<i>Rhinichthys atratulus</i> <i>Rhinichthys cataractae</i> <i>Notropis cornutus</i>	Quality not impaired
	NCS-14	crayfish snails true bugs beetles stoneflies mayflies caddisflies	<i>Decapoda</i> <i>Gastropoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Plecoptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	Rare Common Common Rare Rare Common Abundant	mottled sculpin	<i>Cottus bairdi</i>	Quality not impaired

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**TABLE III-10
WESTMINSTER BYPASS
MACROINVERTEBRATE AND FISH SURVEY**

Watershed	Sampling ID*	Macrobenthos Present		Relative Abundance	Fish Present		Rapid Bioassessment Protocol I Results
		Common Name	Scientific Name		Common Name	Scientific Name	
	NCS-15	snails Dobson flies, hellgramites true crane flies blackflies caddisflies	<i>Gastropoda</i> <i>Corydalidae</i> <i>Tipulidae</i> <i>Simuliidae</i> <i>Trichoptera</i>	--		--	--
	NCMS-1	crayfish true bugs Dobson flies, hellgrammites mayflies caddisflies	<i>Decapoda</i> <i>Hemiptera</i> <i>Corydalidae</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	--	blacknose dace mottled sculpin	<i>Rhinichthys atratulus</i> <i>Cottus bairdi</i>	--
	NCMS-2	crayfish midges caddisflies	<i>Decapoda</i> <i>Chironomidae</i> <i>Trichoptera</i>	--		--	--
	NCMS-3	true bugs caddisflies	<i>Hemiptera</i> <i>Trichoptera</i>	--	blacknose dace	<i>Rhinichthys atratulus</i>	--
Meadow Branch of Big Pipe Creek	SCS-1	crayfish true crane flies midges	<i>Decapoda</i> <i>Tipulidae</i> <i>Chironomidae</i>	Common Rare Abundant	rosyside dace common shiner mottled sculpin	<i>Clinostomus funduloides</i> <i>Notropis cornutus</i> <i>Cottus bairdi</i>	Quality impaired
Little Pipe Creek	SCS-7	aquatic snowbugs scuds, side swimmers crayfish beetles caddisflies	<i>Isopoda</i> <i>Amphipoda</i> <i>Decapoda</i> <i>Coleoptera</i> <i>Trichoptera</i>	Rare Dominant Common Dominant Abundant	blacknose dace longnose dace greenside darter	<i>Rhinichthys atratulus</i> <i>Rhinichthys cataractae</i> <i>Etheostoma blennioides</i>	Quality not impaired
	SCS-8	scuds, side swimmers crayfish true bugs	<i>Amphipoda</i> <i>Decapoda</i> <i>Hemiptera</i>	--		--	--

**TABLE III-10
WESTMINSTER BYPASS
MACROINVERTEBRATE AND FISH SURVEY**

Watershed	Sampling ID*	Macrobenthos Present		Relative Abundance	Fish Present		Rapid Bioassessment Protocol I Results
		Common Name	Scientific Name		Common Name	Scientific Name	
	SCS-9	scuds, side swimmers crayfish true bugs beetles midges	<i>Amphipoda</i> <i>Decapoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Chironomidae</i>	--	blacknose dace common shiner mottled sculpin	<i>Rhinichthys atratulus</i> <i>Notropis cornutus</i> <i>Cottus bairdi</i>	
Little Morgan Run	SCS-10	scuds, side swimmers crayfish true bugs mayflies caddisflies	<i>Amphipoda</i> <i>Decapoda</i> <i>Hemiptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	Abundant Rare Rare Rare Abundant	mottled sculpin	<i>Cottus bairdi</i>	Quality not impaired
	SCS-11	dragonflies stoneflies caddisflies	<i>Anisoptera</i> <i>Plecoptera</i> <i>Trichoptera</i>	--		--	--
Middle Run	SCS-12	crayfish true bugs beetles stoneflies caddisflies	<i>Decapoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Plecoptera</i> <i>Trichoptera</i>	--	blacknose dace rosyside dace mottled sculpin	<i>Rhinichthys atratulus</i> <i>Clinostomus funduloides</i> <i>Cottus bairdi</i>	--
	SCS-13	crayfish true bugs beetles true crane flies stoneflies caddisflies	<i>Decapoda</i> <i>Hemiptera</i> <i>Coleoptera</i> <i>Tipulidae</i> <i>Plecoptera</i> <i>Trichoptera</i>	Common Common Dominant Common Rare Abundant	blacknose dace rosyside dace common shiner mottled sculpin	<i>Rhinichthys atratulus</i> <i>Clinostomus funduloides</i> <i>Notropis cornutus</i> <i>Cottus bairdi</i>	Quality not impaired

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**TABLE III-10
WESTMINSTER BYPASS
MACROINVERTEBRATE AND FISH SURVEY**

Watershed	Sampling ID*	Macrobenthos Present		Relative Abundance	Fish Present		Rapid Bioassessment Protocol I Results
		Common Name	Scientific Name		Common Name	Scientific Name	
Beaver Run	SCS-14	crayfish dragonflies beetles Dobson flies, hellgrammites true craneflies stoneflies mayflies caddisflies	<i>Decapoda</i> <i>Anisoptera</i> <i>Coleoptera</i> <i>Corydalidae</i> <i>Tipulidae</i> <i>Plecoptera</i> <i>Ephemeroptera</i> <i>Trichoptera</i>	Common Rare Rare Rare Rare Rare Abundant Dominant	rosyside dace blacknose dace mottled sculpin	<i>Clinostomus funduloides</i> <i>Rhinichthys atratulus</i> <i>Cottus bairdi</i>	Quality not impaired