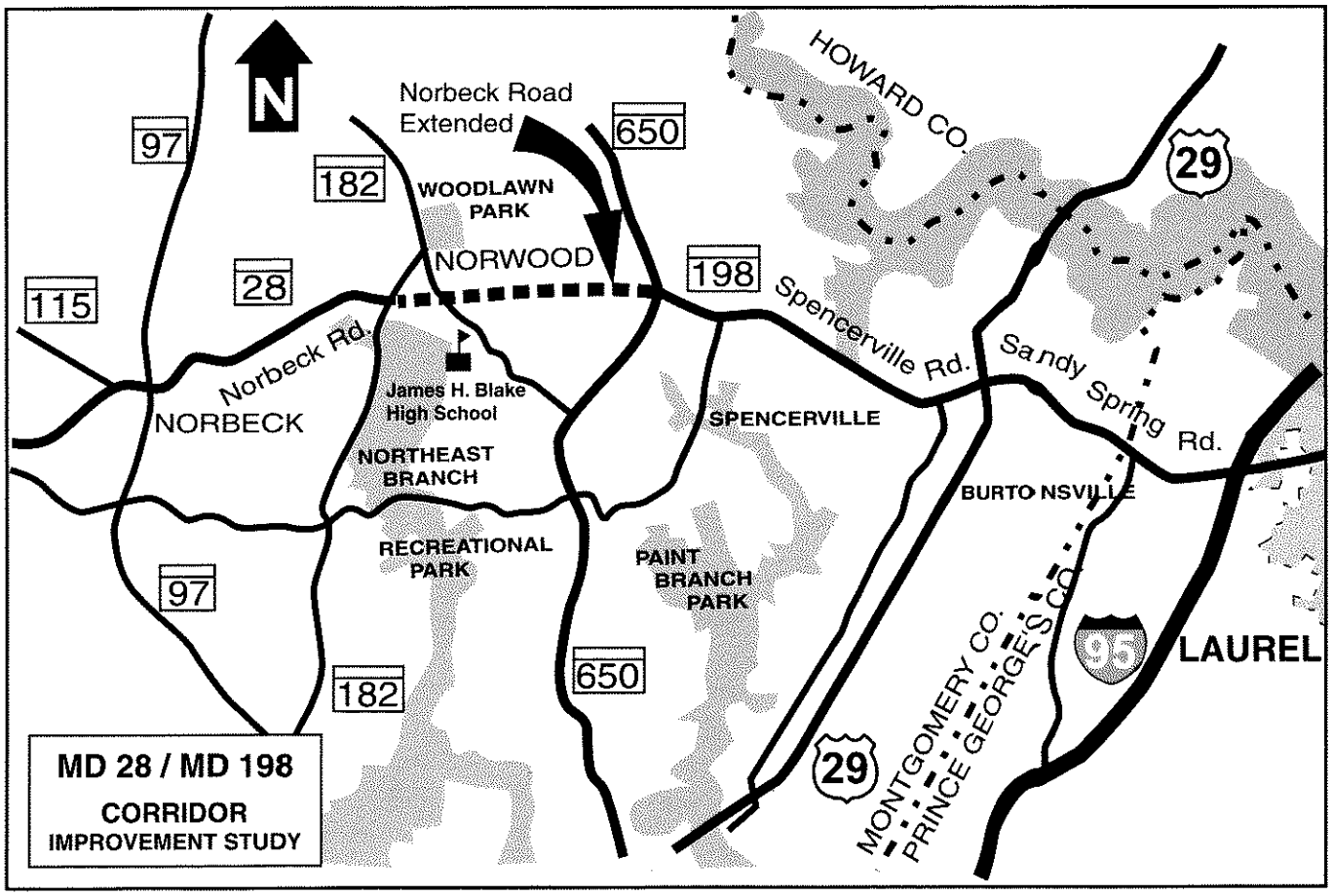
MD 28 / MD 198

Corridor Improvement Study

From East of MD 97(Georgia Ave.) to the US 29 / I-95 Corridor

ALTERNATES

Public Workshop



Tuesday
June 4, 2002

Displays Available
5:30 PM - 9:00 PM

James H. Blake High School
300 Norwood Road
Silver Spring, MD 20905

Project No. MO 886B11

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION

FEDERAL HIGHWAY ADMINISTRATION
US DEPARTMENT OF TRANSPORTATION

INSERT TO THE MD 28/ MD198 CORRIDOR IMPROVEMENT STUDY

ALTERNATES PUBLIC WORKSHOP BROCHURE

As a result of concerns expressed to the study team this insert has been developed to provide clarification of the Minimization and Avoidance Options presented in this project.

The Minimization and Avoidance Options were developed pursuant to Federal mandates that require the consideration and evaluation of options that avoid and minimize impacts to resources identified in Section 4(f) of the 1966 Department of Transportation Act. These resources include parklands and historic sites. Development of these options to address federal requirements does not imply that they are either endorsed or preferred by the State Highway Administration.

The study team recognizes that these "Section 4(f)" Minimization and Avoidance Options are not consistent with local master plans and would increase impacts to other types of resources in the social (e.g. homes and communities) and natural environment (e.g. wetlands, waterway and woodlands). For example, as shown on Table 5 in the brochure, the Master Plan Features Alternate 3 segment from MD 650 to US 29 potentially displaces a minimum of 6 homes or businesses. Section 4(f) Minimization/Avoidance Options A, B and C potentially displace a minimum of 11 to 13 homes or businesses in this same segment. In addition, Options B and C would introduce additional impervious area in the Upper Paint Branch Special Protection Area.

Section 4(f) Minimization and Avoidance Option A was developed by the study team as an attempt to reflect the goals of the local master plans by reconstructing MD 198 along the existing corridor while avoiding direct impacts to Section 4(f) resources. This option has similar impacts to the natural environment as the Master Plan Features Alternate 3.

The mapping for the project is currently being updated. The study team has attempted to verify the features on the mapping that have been pointed out and update the displays for this workshop. Recent aerial photography is being produced for use when developing the detailed alternatives. Please alert study team staff if you are aware of a feature on the mapping that may require updating.

Thank You.

List of Tables / Figures / Displays

Table Description

1. Traffic Safety Analysis MD 28 from MD 115 to MD 182

2. Traffic Safety Analysis MD 198 from MD 650 to I-95

3. MD 28/MD 198 Intersections V/C & LOS Analysis Results

4. MD 28/MD 198 Roadway Link LOS Analysis Results

5. Preliminary Alternates Environmental Impact Summary

6. Master Plan Typical Sections Along the MD 28/MD 198 Corridor

Figure Description

A MD 28/ MD 198 Corridor Improvement Study Limits

B Year 2000 and 2025 Average Daily Traffic Volumes for MD 28 between MD 97 and Norbeck Road Extended

C Year 2000 and 2025 Average Daily Traffic Volumes for MD 198 between MD 650 and Van Dusen Road

Display Description

1a – 1b	Alternate Typical Sections
2a – 2e	Alternate 2 Transportation Systems Management Alternate
3a – 3e	Alternate 3 Master Plan Features Alternate
4	Minimization/Avoidance Options
5	Display Legend

Greetings

Greetings from the MD 28/MD 198 Corridor Improvement Study project team! Thank you for your interest and involvement in this comprehensive planning study. The purpose of this brochure is to invite you to attend our upcoming Alternates Public Workshop and to inform you of the recent project development activities.

Purpose of the Workshop

The purpose of this workshop is to acquaint the public with this Project Planning Study, to present the findings of the conceptual alternate studies, and to provide a forum for public comment on the alternates that are currently under development.

This workshop is co-sponsored by the Maryland State Highway Administration (SHA) and the Federal Highway Administration (FHWA) in cooperation with Montgomery and Prince George's counties and the Maryland-National Capital Park and Planning Commission (M-NCPPC). The workshop is being conducted in an interactive open house format and includes project information stations that address specific topics and proposed alternates. Displays will be available for review between 5:30 and 9:00 PM. Please note that there will be no formal presentation.

SHA, Montgomery and Prince George's County, and M-NCPPC representatives will be present at the workshop to answer your questions and receive your comments.

Public Involvement

A focus group comprised of local residents, community leaders, and business owners has met with the study team periodically over the past year. The focus group assisted in the project's purpose and need; suggested, reviewed and commented on the preliminary alternates; and cited local traffic operation, access, and aesthetic concerns.

Comments and suggestions received from the focus group and the general public have been evaluated and incorporated into the alternates displayed at the workshop, where possible. The focus group has provided valuable comments and pointed out issues and goals that will help guide the study team though the remaining stages of the project planning process.

How to Comment on the Project

The public is encouraged to participate in the workshop to ensure citizen input in the planning process. Because these studies are preliminary, appropriate or reasonable changes can be made by the project team after comments are received and evaluated. You may choose any or all of the following methods to submit your comments:

- ❑ Give your comments to SHA, County or M-NCPPC representatives at the workshop.
- ❑ Fill out and submit the brochure comment card at the workshop or by mail.
- ❑ Contact Shawn Burnett, the Project Manager for SHA (project team contacts can be found in the back of the brochure).

Program Status

Project planning studies for the MD 28/MD 198 Corridor Improvement Study were initiated in March 2001.

The MD 28/MD 198 Corridor Improvement Study is included in the Primary Development and Evaluation Section of the Maryland Department of Transportation's Consolidated Transportation Program for 2002-2007 and is currently funded only for Project Planning. It is not funded for Final Design, Right-of-Way Acquisition or Construction.

Following approval of the project's location and design, if a build alternate is selected, the project will become eligible for inclusion in future Consolidated Transportation Programs for Final Design, Right-of-Way Acquisition and Construction.

Study Limits

The study area encompasses MD 198 (Sandy Spring Road) west of I-95 in Prince George's County, and MD 198 (Spencerville Road), Norbeck Road Extended and MD 28 (Norbeck Road) east of MD 97 in Montgomery County. The eastern study area terminus is the I-95 corridor in Prince George's County. The western study area terminus is located east of the intersection of MD 28 with MD 97 (Georgia Avenue). See Figure A.

Purpose of the Project

The purpose of the MD 28/MD 198 Corridor Improvement Study is to:

- ❑ Relieve locally generated congestion while managing access;
- ❑ Improve safety and traffic operations for motorists, bicyclists and pedestrians travelling along the MD 28/MD 198 corridor and across intersecting roads; and
- ❑ Preserve the rural and suburban quality of life relative to localized traffic congestion while realizing the local planning visions for the communities along the corridor.

Approved area master plans that include the MD 28/MD 198 corridor describe visions, goals and objectives for the roadway facilities, such as retaining rural character of adjacent communities and protection of sensitive environmental areas. These master plans also recommend such features as hiker-biker trails and sidewalks at some points, landscaping, etc. Where a proposed alternate for this study differs from the approved area master plans, the impact of such change on the development patterns as well as to surrounding communities and sensitive environmental areas will be discussed in the environmental document.

Project Need

MD 28 and MD 198 are currently operating near capacity in some areas between I-95 and MD 97. It is expected that congestion will increase due to planned and future development. In addition, the completion of Montgomery County's Norbeck Road Extended project would provide a direct connection of these facilities. Congestion will continue to worsen leading to stop-and-go conditions, particularly at several intersections in the study area which are projected to experience failing conditions by the 2025 design year. The segments between the intersections will experience peak hour capacity constraints imposed both by projected traffic volumes and by the lack of mid-block turning lanes on the two-lane facilities. The lack of storage lanes for left turns and deceleration lanes for right turns constrain intersection operations.

Along portions of the corridor, sideswipe, and wet surfaces collisions occurred at a rate significantly higher than their respective statewide average accident rate on similar roadways (see Tables 1 and 2). The accident rate along the study corridor is lower than the statewide average for certain types of accidents. This condition is expected to worsen as development occurs and congestion increases. This corridor is also an area where sidewalks and bicycle facilities do not exist and in some instances are not called for by design in master plans.

Existing Conditions

The existing typical cross sections of MD 28 and MD 198 vary along the corridor. MD 198 from Van Dusen Road (east of I-95) to just west of I-95 in Prince George's County is a six-lane divided roadway. From that point west to US 29 in Montgomery County, MD 198 is a four-lane divided roadway. The existing typical section for MD 198 transitions from a four-lane undivided roadway in Burtonsville west of US 29 to a two-lane roadway west of Burtonsville to MD 650 (New Hampshire Avenue). MD 28 from MD 182 (Layhill Road) to MD 97 (Georgia Avenue) is a two-lane roadway.

The typical cross section for Norbeck Road Extended, a Montgomery County project, varies as well. Norbeck Road Extended, currently under construction, is scheduled to be open to traffic in 2002. It will be a four-lane divided roadway at the intersection of MD 198 and MD 650. Just west of MD 650, Norbeck Road Extended will transition to a two-lane facility until just east of Norwood Road, where Norbeck Road Extended will transition back to a four-lane divided roadway until it ties back into the two-lane section of MD 28 west of MD 182.

These roadways provide uncontrolled access throughout the corridor. Along the 10.63 mile corridor, a total of 294 access points currently exist and are comprised of predominantly private residential driveways.

Traffic Operations

The travel demand forecasts developed for this project are based on the recently approved Metropolitan Washington Council of Governments (MWCOG) Round 6.2 land use forecasts and the MWCOG FY 2001-2006 Transportation Improvement Program Conformity Analysis travel demand forecasting model which allows travel demand forecasting to the year 2025. Year 2000 traffic volumes were determined based on recent intersection turning movement and roadway segment volume counts among 16 intersections along the corridor. The year 2025 volumes were developed for 18 intersections, including new intersections associated with Montgomery County's Norbeck Road Extended project, currently under construction and SHA's US 29 relocation project, which is funded for construction.

Intersection capacity constraints limit traffic operation along MD 198 from MD 650 to US 29. Some of the traffic is expected to be diverted as far south as Randolph Road. The year 2000 average daily traffic (ADT) volumes and the year 2025 ADT forecasts are illustrated in Figures B and C.

A select link analysis of travel along the corridor concluded that nearly 70 percent of the trips on the study portions of MD 28 and MD 198 either begin, end or begin and end in the surrounding travel analysis zones. This indicates that 30 percent of the trips along the corridor are of a regional nature.

Level of Service

The adequacy of roadway capacity is determined using a measure called the volume-to-capacity (v/c) ratio. The v/c ratio is the ratio of the peak hour volume carried by a roadway or intersection, and its hourly capacity expressed in vehicles per hour. Roadways may have traffic volumes that exceed or are forecast to exceed capacity. This would result in a v/c ratio that exceeds 1.00, and indicates the need for capacity improvements. Otherwise, if existing or committed levels of capacity exceed traffic volumes, the v/c ratio will be less than 1.00.

Level of service (LOS) is a scale measuring the freedom of mobility or severity of congestion experienced by drivers. The LOS scale ranges from A to F. LOS A represents free flow movement of traffic with no congestion. LOS F represents failure with stop-and-go conditions and long queues of traffic. LOS D occurs near a critical boundary where traffic flows become unstable. This level is generally considered acceptable during peak hours of traffic flow on streets and highways in urban and suburban areas. At LOS E, the roadway is operating near capacity, and day-to-day delays are very unpredictable. LOS is normally determined for the peak hours of the typical weekday. These levels have been determined through traffic research, and are related to measurable traffic characteristics such as delays, speeds, traffic density or v/c ratios.

Table 3 and Table 4 summarizes the results of an analysis of roadway capacity and level of service conducted for the 18 intersections and 15 link segments along the MD 28/MD 198 corridor. Under existing year 2000 conditions, most intersections along both MD 28 and MD 198 operate at LOS E or better during the AM and PM peak hours. Under year 2025 no-build conditions, some intersections are forecasted to exceed capacity. Most of the 2 lane segments (the study corridor west of Old Columbia Pike) currently operate at LOS E and are projected to become more congested by 2025.

Though the capacities of most roadways are constrained by the limitations imposed by traffic signals, the physical characteristics of the MD 28/MD 198 corridor roadways present a situation requiring special consideration for traffic analysis. Many of the intersections along the two-lane sections of the corridor from MD 97 to Old Columbia Pike have auxiliary or turning lanes. These lanes drop away between intersections. Therefore, the two-lane sections of the corridor between intersections may also impose a constraint on capacity.

Intermodal Connectivity

The study area is directly served by several transit agencies. The Washington Metropolitan Area Transit Authority (WMATA) Metrobus provides bus service along MD 198 between Burtonsville and MD 650, and ultimately, to the Silver Spring Metro Station. The Montgomery County Ride On program serves the US 29 corridor, where part of its route travels along MD 198 in Burtonsville. Nearby the study corridor in Prince George's County, public transportation in the Laurel area is served by Howard Area Transit (HAT) and the Corridor Transportation Commission's Connect-A-Ride service. HAT currently operates two routes in the vicinity of the study area: the Main Street route and the "D" route which follows along MD 198.

There are two park and ride lots within the MD 28/MD 198 study corridor that serve commuters with an additional lot nearby. These lots are located at the northeast quadrant of the intersection of MD 97 and MD 28, at the northeast quadrant of the intersection of US 29 and MD 198, and at the intersection of MD 198 and Van Dusen Road. The lot at MD 97 and MD 28 has 248 spaces and is served by WMATA and the Montgomery County

Ride On bus service as well. This lot is reporting a 6 percent average annual usage rate. The lot at US 29 and MD 198 is currently being expanded by 200 spaces as part of the SHA US 29 relocation project and will have 500 spaces. This lot is served by WMATA and the Montgomery County Ride On bus service. It is anticipated to be open to traffic in summer 2005. The lot at MD 198 and Van Dusen Road has 60 spaces and has an annual average usage of 49 percent.

It is important to consider both bicycle and pedestrian accessibility as part of this project. These types of improvements are specifically recommended in the Fairland, Cloverly and Aspen Hill Master Plans. Some master plans specifically do not recommend sidewalks along portions of the corridor.

Thinking Beyond the Pavement

As part of this project, the SHA will incorporate ideas from public comments received as a result of tonight's workshop. Coordination will continue with Montgomery and Prince George's counties and M-NCPPC to develop alternates that incorporate "Thinking Beyond the Pavement" concepts, wherever possible, to preserve and enhance the community's character while improving transportation in the study area.

"Thinking Beyond the Pavement" addresses issues on this project such as:

- ❑ Pedestrian circulation and safety
- ❑ Local traffic circulation in and out of the neighborhoods and businesses
- ❑ Speed control
- ❑ Disturbance to traffic circulation during construction
- ❑ Access to mass transit
- ❑ Right-of-way impacts
- ❑ Neighborhood traffic cut-through problems
- ❑ Effects on police, fire, and emergency rescue response time
- ❑ Aesthetics/Landscape/Streetscape opportunities
- ❑ Other specific community issues

Your comments will help assure that the transportation alternates developed to improve the study area reflect the local character and the aesthetic desires of the community. We encourage you to comment on "Thinking Beyond the Pavement" issues using the comment card at the back of this brochure.

Smart Growth

The intent of the Smart Growth Areas Act (1997) is to limit sprawl and direct state funding for growth-related projects toward County-designated Priority Funding Areas (PFAs). The project is partially located within the PFA designated by Montgomery County (see Figure A). MD 28 between MD 97 and MD 182 on the western end of the corridor forms the northern boundary of the PFA as does the section of MD 198 that passes through Burtonsville. However, the mid section of the MD 28/MD 198 corridor, from east of MD 182 (Layhill Road) to west of Burtonsville, is not located within a PFA. Prior to receiving state funding for construction, the project must be evaluated by both Montgomery County and the Maryland Department of Planning for compliance with Smart Growth regulations.

Design Guidelines

The proposed roadway improvements will be designed using current design guidelines developed by the American Association of State Highway and Transportation Officials (AASHTO). The existing posted speed limit along the corridor is 40 mph or higher, except in the vicinity of Burtonsville. The design speed for the build alternates is generally 50 mph for MD 28, Norbeck Road Extended, and

MD 198. In areas where potential impacts may be substantially reduced, a lower design speed will be considered.

Master Plans

The study area encompasses several master plans within Prince George's and Montgomery counties. Within Prince George's County, the study area falls within the Subregion I Master Plan, adopted by the Prince George's County Planning Board of the Maryland-National Capital Park and Planning Commission in 1990 and approved by the Prince George's District Council. In Montgomery County, the study area is covered by three master plans: Aspen Hill (1994), Cloverly (1997), and Fairland (1997). The Montgomery County Council has adopted these master plans.

Alternates Currently Under Consideration

No-Build Alternate (Alternate 1)

The No-Build Alternate would provide no significant improvements to the MD 28/MD 198 corridor in the study area (between MD 97 and I-95), other than those currently planned to be constructed as part of other projects (see Related Projects section of this brochure). Minor improvements would occur as part of normal maintenance, but would not measurably affect roadway capacity or operation. Typical sections for the No-Build Alternate for various segments of the MD 28/MD 198 corridor (existing conditions) are shown on Displays 1a and 1b.

The Transportation Systems Management (TSM) Alternate (Alternate 2)

The Transportation Systems Management (TSM) Alternate consists of a wide range of spot improvements throughout the corridor that address the most serious concerns at specific locations or segments of roadway. TSM improvements generally could be constructed with relatively low costs and few environmental impacts, but provide no substantial improvements in capacity or operations to address future traffic conditions. The general examples of TSM improvements that will be considered for the MD 28/MD 198 corridor include:

- ❑ Intersection improvements, such as the addition of turning lanes or improved signal timing.
- ❑ Geometric improvements to sharp curves, crests, or dips in the roadway allowing improved sight distance and safety.
- ❑ Access management strategies to improve safety and operations at access points with acceleration or deceleration lanes and/or reductions in the number of entrances onto MD 28/MD 198 through construction of medians, roundabouts and/or consolidation of entrances onto service roads.
- ❑ Adding a center turn lane in areas with a high frequency of entrances generating left turning traffic.

Displays 2a through 2e indicate specific locations where the above improvements could be applied. The potential range of impacts and costs associated with the TSM alternate are summarized in Table 5. Following this workshop, the locations and types of TSM improvements will be refined, modifications will be made based on Workshop comments, additional traffic counts will be taken and detailed engineering and environmental studies will be performed.

The Master Plan Features Alternate (Alternate 3)

The Master Plan Features Alternate consists of the improvement of MD 28, Norbeck Road Extended (between Norwood Road and MD 650) and MD 198, within the study area limits, to provide the roadway capacity called for in the master plans applicable to the various roadway segments in the corridor. This alternate would provide two through

lanes in each direction from MD 97 to the Montgomery/Prince George's County line and three through lanes in each direction from the County line to I-95. A median would be considered under this alternate for the entire corridor. A potential option would be studied for the section of MD 198 between relocated US 29 and the County line that provides three through lanes in each direction.

Displays 3a through 3e show the proposed alignment and right-of-way width according to the master plan for any given area along the corridor. The proposed alignment of the master plan "band width" shown is generally centered on the existing roadway, but deviates in some areas to address sharp horizontal curves or minimize impacts to existing features. As discussed below, options have been developed in the Spencerville area which depart from the existing road in an attempt to minimize impacts to residences, parks and historic sites.

A summary of the applicable County master plans in the MD 28/MD 198 corridor and the various roadway elements called for in each master plan segment, as provided by the Montgomery County Department of Public Works and Transportation and Prince George's County Department of Public Works and Transportation, is provided in Table 6.

Master plans are conceptual by nature in their portrayal of certain elements of roadway alignment and typical section, since they are generally not based on detailed engineering and environmental studies. In the case of the master plans pertaining to the MD 28/MD 198 corridor, there are several design issues that remain open to interpretation, based on a lack of consistency from one corridor segment to another (e.g., Fairland and Subregion I plans), lack of specificity with regard to roadway dimensions, median application, alignment, access management, etc. Consistency with area master plans has been and will continue to be an objective receiving considerable evaluation and discussion in this study. Agency coordination and public involvement will be instrumental in decisions regarding master plan consistency, while factoring in other design criteria.

Minimization and Avoidance Options

Based on preliminary engineering and environmental analyses, it appears that residential relocations, business displacements, and impacts to parklands, historic sites and wetlands would occur with the Master Plan Features Alternate at some locations, even based on a "best fit" application of the proposed master plan right-of-way widths throughout the corridor. Therefore, the study team has developed potential options for the minimization or avoidance of impacts to these sensitive resources. The consideration of these options satisfies not only prudent project planning practices, but also federal legal requirements which mandate evaluation of avoidance options in the case of parklands and historic sites.

The resources for which minimization and avoidance options are generally being developed consist of: the East Norbeck and Burtonsville parks; the Drayton, Edgewood II, Phair, Spencer/Carr and George Bennett historic properties; the Spencerville business district (between Thompson Road and Batson Road); the Union and Merson cemeteries; and various wetland and stream systems, including the Upper Paint Branch Special Protection Area.

In general, the minimization and avoidance options will consist of alignment shifts or reduction in typical sections that achieve minimization or avoidance of impacts to the given resource(s) without deviating substantially from the existing roadway alignment (e.g. Minimization/ Avoidance Option A along MD 198 from west of Good Hope Road to east of Peach Orchard Road – see Display 4). However, in the Spencerville area, the narrow right-of-way, proximity of buildings to the roadway and presence of parks and historic properties raise the potential that an off-alignment improvement may minimize impacts to sensitive resources more than an on-alignment improvement.

Two potential off-alignment minimization options are presented for review at this Workshop. Minimization/Avoidance Option B (see Display 4) would depart from existing MD 198 just west of Good Hope Road, but would parallel MD 198 no more than 600 feet to the south, and tie back in to MD 198 approximately 800 feet east of Peach Orchard Road. Minimization/Avoidance Option C would depart to the south from existing MD 198 just west of Good Hope Road, similar to Option B, continue east, parallel to and as much as 2,000 feet south of MD 198 and tie back in to MD 198 just west of Kruhm Road and Union Cemetery. Options B and C may be considered with either a 4-lane divided typical section (with the existing roadway between the tie-ins reverting to a local access road), or a 2-lane eastbound roadway (with the existing roadway providing the westbound lanes). Option B may also be considered as an alignment for a Class I bike trail, thereby lowering the impact of the typical section along the existing alignment.

Access Options

With the Master Plan Features Alternate, as well as the TSM Alternate, measures to improve the safety and operations at the numerous side road and driveway intersections will be evaluated throughout the corridor. Of particular concern will be the Spencerville (Good Hope Road to Burtonsville Drive) and Burtonsville areas (Old Columbia Pike to existing US 29). In the Spencerville area where a median and prohibition of left turns will be considered, roundabouts will be studied as a traffic calming measure and to facilitate U-turns for those vehicles accessing residences and businesses along the opposite side of the roadway.

In Burtonsville, several options are under consideration to ensure through lane capacity and master plan consistency while maintaining safe and efficient access to businesses. Options include:

- A 4-lane divided section with 8-foot planted median and no median breaks
- A 4-lane divided section with 18-foot median, one median break and some median plantings
- A 4-lane divided section with 18-foot median and two median breaks (left turn lanes would likely preclude any median plantings)
- A 5-lane undivided section with continuous center left turn lane

The Alternates and options have been developed and will continue to be refined taking into consideration a wide range of issues and objectives, including:

- Input from various stakeholders, including adjacent property owners, the Focus Group, elected officials, resource agencies and other concerned citizens.
- The project's purpose and need.
- Consistency with area master plans.
- Compliance, where possible, with current federal, state and county design standards and initiatives with regard to geometric alignment, capacity, access management, lane widths, shoulder widths, bicycle and pedestrian amenities and "Thinking Beyond the Pavement" practices, while minimizing impacts to resources of concern.
- Federal environmental laws that mandate the consideration of all practicable means for the avoidance or minimization of impacts to sensitive resources, such as wetlands, parks and historic sites.

The potential range of impacts and costs associated with the Master Plan Feature Alternate with the various associated options are summarized in Table 5.

Environmental Resources Summary

An environmental inventory was conducted to identify the socio-economic, cultural and natural environmental resources within the project area. A preliminary assessment of impacts, which could result from the alternatives under consideration, is included in the Preliminary Alternates Environmental Impact Summary table (Table 5). A more detailed evaluation of environmental impacts will be developed as part of the detailed study stage, which is the next step of the project planning process.

Socio-economic Resources

From west to east, the existing land use in the study area consists of single-family residential, mixed single-family residential and agricultural land uses, low-density single family residential, and some commercial and industrial land uses south of MD 198 in the eastern portion of the corridor.

Depending on the alternative chosen, a maximum of approximately 64 residential, 14 commercial displacements, and 73 acres of additional right-of-way may be required. Capacity improvements along this corridor are consistent with the area master plans.

In compliance with Executive Order (EO) 12898 "Federal Actions to Address Environmental Justice in the Minority and Low-Income Populations", the SHA is taking steps to identify and avoid disproportionately high and adverse effects on minority and low-income communities throughout the study. Through coordination with M-NCPPC community planners, individual citizens familiar with the area, field reconnaissance and review of census data, no low-income populations have been identified along the corridor. However, three potential minority populations and several churches with a predominant minority membership have been identified. The SHA will continue to address Environmental Justice requirements through the mailing list notifications, public meetings, and presentations about the project to interested parties.

Several community facilities have been identified within the project corridor including:

- ❑ Our Lady of Grace Catholic Church (slight impacts possible)
- ❑ New Apostolic Church (impacts are likely)
- ❑ Emmanuel Jesus Christ Church (slight impacts possible)
- ❑ Blake High School (no impacts anticipated)
- ❑ Spencerville Korean S.D.A. Church and Academy (slight impacts possible)
- ❑ Spencerville Free Methodist (impacts are likely)
- ❑ Spencerville Post Office (impacts are likely)
- ❑ Idara Jaferia Islamic Church (impacts are likely)
- ❑ Burtonsville Baptist Church (impacts are likely)
- ❑ Burtonsville Post Office (impacts are likely)
- ❑ Burtonsville Elementary School (no impacts anticipated)
- ❑ Liberty Grove United Methodist Church (impacts are likely)
- ❑ Covenant Presbyterian Church (no impacts anticipated)

There are also four publicly-owned public parks or recreation facilities located along the project corridor, East Norbeck Park, Northwest Branch Recreational Park, Hampshire Greens Golf Course and Burtonsville Park, that could be affected by widening of MD 28 and MD 198. M-NCPPC has identified additional areas near the corridor, especially within the Upper Paint Branch SPA, to add to the stream valley park system. Coordination

with M-NCPPC will continue throughout the project to update park resources as necessary.

Noise and air quality analyses will be conducted once alternatives retained for detailed study have been identified.

Cultural Resources

Within the study corridor, 13 historic sites have been identified that are eligible for listing on the National Register of Historic Places, and qualify for protection under Section 4(f) of the U.S. Department of Transportation Act. These sites include:

- ❑ Alloway Site and Cemetery
- ❑ Amersley
- ❑ Drayton
- ❑ Edgewood II
- ❑ Free Methodist Church Camp Meeting Ground
- ❑ George Bennett House
- ❑ Holland Store and James Holland House
- ❑ Isaac Burton Jr. House
- ❑ Joseph Harding House
- ❑ Llewellyn Fields
- ❑ Pleasant View Farm
- ❑ Spencer/Carr House
- ❑ William Phair Property

In consultation with the Maryland Historical Trust, SHA has assessed the potential for archeological resources along the corridor and deternined that further archeological investigations are warranted once alternates retained for detailed study have been selected.

SHA will continue coordination with the M-NCPPC and the Maryland Historical Trust (MHT) to determine the effect of the various alternatives on significant cultural resources and minimize any potential impacts.

Natural Environmental Resources

Wetlands, Streams, and Floodplains

The project corridor roughly separates the Patuxent River watershed to the north from the Potomac River Washington Metropolitan watershed to the south. Within these watersheds are the Northwest Branch, Paint Branch, Little Paint Branch, Indian Creek and Patuxent River sub-watersheds. The T. Howard Duckett Watershed Property includes the Rocky Gorge Reservoir, which is a source of drinking water for the region.

Major streams within the study corridor include tributaries to the Patuxent River and Rocky Gorge Reservoir (Use I - Water Contact Recreation, Aquatic Life and Water Supply and Use IV - Recreational Trout Waters), Bear Branch and Walker Branch (Use I), Northwest Branch and tributaries (including Batchellor's Run and Nursery Run; all Use IV), Paint Branch and tributaries (including the Right Fork and Left Fork of the Paint Branch; all Use III – Natural Trout Waters), Little Paint Branch and tributaries (Use I) and Indian Creek and tributaries (Use I). The number of stream crossing ranges from 6 to 12 depending on the alternative or options chosen. 100-year floodplains exist for the Patuxent River, Northwest Branch and Paint Branch.

There are 5 wetland systems associated with the above described streams that have been identified within the project corridor including open water, emergent, scrub/shrub and forested communities. Depending on the alternative, wetland impacts range up to 3 acres. The Montgomery County Council has designated a Special Protection Area (SPA) within the Upper Paint Branch watershed located along MD 198 between MD 650 and Santini Road. This SPA includes the headwaters of Paint Branch which have supported a self-sustaining trout fishery for over 70 years. SHA will coordinate with M-NCPPC staff to determine appropriate mitigation for potential impacts to the SPA.

Permits will be required from the U.S. Army Corps of Engineers and the Maryland Department of the Environment as a result of aquatic resource impacts. Stormwater management and sediment and erosion control plans to minimize impacts to water quality will be prepared and implemented in accordance with the Maryland Department of the Environment regulations.

Wildlife and Plant Habitat

Coordination with the U.S. Fish and Wildlife Service, and the Maryland Department of Natural Resources (DNR) indicates that there are no federal or state listed species known to exist in the study corridor. DNR, however, has recent or historic records for the following species: horse gentian (MD endangered), greenish flowered pyrola (MD endangered extirpated), one-sided pyrola (MD endangered extirpated), and halberd-leaved greenbrier (MD threatened).

DNR has also noted that forested areas within the study corridor may provide habitat for Forest Interior Dwelling bird species (FIDS) which have been declining in MD and throughout the eastern United States. Most forest impacts will occur along the existing roadway alignment and no major changes to the interior forested habitat used by FIDS are expected. Minimization and Avoidance Options that are located off the existing MD 28/MD 198 will affect more forested habitat and will need to be evaluated in coordination with DNR.

Related Projects

Any build alternates developed as part of the MD 28/MD 198 Corridor Improvement Study will be compatible with other projects located within and near the study area. Related projects near the study area include:

MD 28/MD 97 Intersection Improvement Study

This project planning study is currently underway by SHA. It would improve traffic flow at the MD 28/MD 97 intersection, just west of the MD 28/MD 198 study limit by considering a variety of improvements, including upgraded intersection designs and interchange designs. Location/Design approval is expected in Spring 2003.

Norbeck Road Extended

This project, currently under construction by Montgomery County, would provide a direct connection between MD 28 and MD 198, between Layhill Road and MD 650. It is scheduled to open to traffic in late 2002, with project completion in 2003.

Burtonsville Access Road Study

This facilities planning study, currently underway by Montgomery County, would improve traffic flow within downtown Burtonsville by providing an access road behind the businesses on the north side of MD 198 between Old Columbia Pike and existing US 29. It is funded through 35% design, which is scheduled to be complete in 2003.

US 29 Relocated

This project, funded for construction by SHA, would relocate US 29 to the east in the vicinity of MD 198 and would involve a new interchange at US 29 relocated and MD 198. Construction is scheduled to begin in Summer 2002.

Remaining Steps in the Project Planning Process

The following steps are required to complete the Project Planning Process:

- ❑ Evaluate and address public and agency comments resulting from studies to date and from the Alternates Public Workshop (Summer 2002).
- ❑ Identify alternates for detailed study and complete detailed engineering/environmental studies (Fall 2002).

- ❑ Prepare Draft Environmental Document (Winter 2002 through Summer 2003).
- ❑ Hold Location/Design Public Hearing (Fall 2003).
- ❑ Address Public Hearing comments (Fall/Winter 2003).
- ❑ Select Preferred Alternate and Mitigation (Winter 2003/2004).
- ❑ Prepare Final Environmental Document (Spring 2004 through Fall 2004).
- ❑ Receive Location/Design Approval (Winter 2004/2005).

Non-Discrimination in Federally Assisted and State -Aid Programs

Should you have any questions concerning non-discrimination in federally assisted and state-aid programs, please contact:

Mr. Walter Owens, Jr., Director
Office of Equal Opportunity
State Highway Administration
707 North Calvert Street
Baltimore, MD 21202
410-545-0315

Right-Way and Relocation

The proposed project may require additional right-of-way. Residential and commercial relocations may be required. For information regarding right-of-way and relocation assistance, please contact:

R. Richard Ravenscroft, Chief
District 3, Office of Real Estate
State Highway Administration
9300 Kenilworth Avenue
Greenbelt, MD 20770
301-513-7455
Toll-Free 1-800-749-0737
Email: dravenscroft@sha.state.md.us

Media Used for Notification

Advertisements for this meeting appeared in the following newspapers:

- ❑ **El Montgomery**
- ❑ **Gazette**
- ❑ **Journal – Montgomery**
- ❑ **Journal – Prince George's**
- ❑ **Afro-American**
- ❑ **Enquirer Gazette**
- ❑ **Laurel Leader**
- ❑ **Prince George's Post**
- ❑ **Sentinel – Montgomery**
- ❑ **Sentinel – Prince George's**
- ❑ **Washington Jewish Week**
- ❑ **Washington Post**
- ❑ **Washington Times**

Your Opinion Matters

These workshops are intended to provide an opportunity for the public to discuss with the project team its thoughts and concerns about the project and to provide written comments to us. The project team will carefully review and consider the concerns and preferences expressed by the public during these pubic meetings. To assist you in providing comments, we have included a pre-paid postage mailer as well as team member addresses and telephone numbers as part of this brochure.

Project Mailing List

The brochure comment card can be used to add your name to the project mailing list. You may also add your name to the mailing list by signing in with the meeting receptionist located at the front door. If you received a copy of this brochure in the mail, you are already included on the list.

Project Planning Team

If you have any questions following tonight's Alternates Public Workshop, please feel free to contact one of the Team Members listed below:

Mr. Douglas Simmons, Director
Office of Planning and Preliminary Engineering
State Highway Administration
707 North Calvert Street
Baltimore, MD 21202
410-545-0414
Toll-Free 1-888-204-4828
Email: dsimmons@sha.state.md.us

Mr. Charles Watkins, District Engineer
District 3
State Highway Administration
9300 Kenilworth Avenue
Greenbelt, MD 20770
301-513-7300
Toll-Free 1-800-749-0737
Email: cwatkins@sha.state.md.us

Mr. Shawn Burnett, Project Manager
Project Planning Division
State Highway Administration
707 North Calvert Street
Baltimore, MD 21202
410-545-8531
Toll-free 1-800-548-5026
Email: sburnett@sha.state.md.us

Mr. Daniel Johnson, Environmental Specialist
Federal Highway Administration
The Rotunda – Suite 220
711 West 40th Street
Baltimore, MD 21202
410-962-4342
Email: danw.johnson@fhwa.dot.gov

Information for this and other SHA projects can be obtained at our web site: www.marylandroads.com.

Table 1. Traffic Safety Analysis (Accident Report) MD 28 from MD 115 to MD 182

Accidents	1998	1999	2000	TOTAL 1998 - 2000	STUDY RATE	STATE RATE
Fatal	-	-	-	0	0.0	1.2
Number Killed	-	-	-	0	-	-
Injury	22	9	10	41	63.0	85.8
Number	33	16	16	61	-	-
Property	13	10	35	58	89.1	96.9
Total Accidents	35	19	45	99	152.0	183.8
ADT	20600	21300	22000	-	-	-
VMT(millions)	21.0	21.7	22.5	65.1	-	-
Rate (per 100 MVM)	166.8	87.6	200.3	-	-	-
Accident Type						
Opposite	3	-	4	7	10.8	9.6
Rear End	12	9	18	39	59.9	59.3
Sideswipe	2	2	5	9	**13.8***	7.4
Left Turn	1	2	4	7	10.8	15.0
Angle	1	2	5	8	12.3	31.0
Pedestrian	1	-	1	2	3.1	5.2
Parked	1	-	-	1	1.5	7.3
Fixed Object	7	3	3	13	20.0	28.3
Wet Surface	14	7	15	36	36.0	28.0
Other	7	1	5	13	20.0	14.9

*** Significantly higher than the Statewide Average**

Table 2. Traffic Safety Analysis (Accident Report) MD 198 from MD 650 to I-95

Accidents	1998	1999	2000	TOTAL 1998- 2000	STUDY RATE	STATE RATE
Fatal	2	-	2	4	2.0	1.4
Number Killed	2	-	2	4	-	-
Injury	45	36	48	129	62.8	97.4
Number Injured	75	56	70	201	-	-
Property Damage	57	40	63	160	77.9	112.0
Total Accidents	104	76	113	293	142.7	210.9
ADT	29600	30600	31500	-	-	-
VMT(millions)	66.2	68.5	70.7	205.4	-	-
Rate (Acc per 100 MVM)	157.0	111.0	159.9	-	-	-
Accident Type						
Opposite Direction	8	2	2	12	5.8	6.9
Rear End	35	26	31	96	46.8	73.1
Sideswipe	9	4	5	18	8.8	12.6
Left Turn	9	4	8	21	10.2	21.3
Angle	9	11	21	41	20.0	33.3
Pedestrian	-	1	1	2	1.0	5.7
Parked Vehicles	1	-	2	3	1.5	4.9
Wet Surface	48	36	39	123	**41.0***	28.0
Fixed Object	13	17	17	47	22.9	25.9
Other	20	11	22	53	25.8	21.2

* **Significantly higher than the Statewide Average**

Table 3. MD 28/MD 198 Intersections - V/C & LOS Analysis Results

Location	2000 Existing		2025 No-Build	
	AM Peak *LOS (v/c)*	PM Peak *LOS (v/c)*	AM Peak *LOS (v/c)*	PM Peak *LOS (v/c)*
MD 28 (Norbeck Road) at:				
MD 115 (Muncaster Mill Road)	D (0.88)	C (0.76)	F (1.18)	F (1.02)
MD 97 (Georgia Avenue)	F (1.14)	F (1.04)	F (1.50)	F (1.38)
Norbeck Boulevard	B (0.65)	D (0.83)	F (1.24)	F (1.32)
Wintergate Drive	A (0.58)	A (0.58)	D (0.86)	D (0.86)
MD 182 (Layhill Road)	C (0.76)	C (0.76)	A (0.44)	A (0.46)
Norwood Road (at NRE)	n/a	n/a	B (0.63)	A (0.52)
MD 198 (Sandy Spring Road and Spencerville Road) at:				
MD 650 (New Hampshire Ave.)	B (0.63)	A (0.55)	A (0.57)	A (0.61)
Good Hope Road	E (0.96)	D (0.83)	F (1.21)	F (1.03)
Peach Orchard Road	A (0.62)	A (0.59)	B (0.66)	B (0.66)
Old Columbia Pike	B(0.63)	A (0.56)	D (0.86)	B (0.72)
Existing US 29 (Columbia Pike) SB Ramps	E (0.98)	F (1.03)	A (0.61)	B (0.72)
Relocated US 29-NB Ramps	n/a	n/a	D (0.90)	E (0.97)
Cedar Tree Drive	B (0.65)	A (0.58)	B (0.71)	B (0.65)
McKnew Road	B (0.69)	B (0.71)	C (0.76)	C (0.78)
Riding Stable Road	A (0.54)	B (0.64)	B (0.65)	B (0.67)
Old Gunpowder Road / Bond Mill Road	B (0.65)	B (0.70)	D (0.86)	E (0.96)
Sweitzer Lane	B (0.63)	C (0.73)	D (0.87)	F (1.11)
Van Dusen Road	D (0.85)	D (0.86)	E (0.98)	E (0.99)
I-95 (Directional Interchange)				
NB I-95/ MD 198 (CD weave)	F	F	F	F
EB 198/ I-95 (bridge weave)	F	F	E	E
WB 198 TO NB I-95 CD merge	C	C	C	C
WB MD 198 TO SB I-95 merge	C	B	F	C
NB I-95 diverge TO CD	C	C	D	F
SB I-95 diverge TO EB MD 198	D	C	F	C
EB MD 198 TO NB I-95	C	C	D	D
EB MD 198 merge TO SB I-95	C	B	D	C

Table 4. MD 28/MD 198 Roadway Link - LOS Analysis Results

Roadway Segment	# of Travel Lanes	2000 Existing		2025 No-Build	
		AM Peak *LOS*	PM Peak *LOS*	AM Peak *LOS*	PM Peak *LOS*
MD 28:					
MD 115 to MD 97	4/5	F	F	F	F
MD 97 to MD 182	2	E	E	F	F
MD 182:					
MD 28 to Norwood Road	2	E	E	D	D
Norbeck Road Extended at:					
MD 182 to Norwood Road	4	n/a	n/a	A	A
Norwood Road to MD 650	2	n/a	n/a	E	E
MD 198 at:					
MD 650 to Good Hope Road	2	E	E	E	E
Good Hope Road to Peach Orchard	2	E	E	E	E
Peach Orchard Road to Old Columbia Pike	2	E	E	F	E
Old Columbia Pike to US 29	4	B	B	C	C
US 29 to Cedar Tree Drive	4	C	C	C	D
Cedar Tree Drive to Riding Stable	4	C	C	C	C
Riding Stable Road to Old Gunpowder Road	4	C	C	C	C
Old Gunpowder Road to Sweitzer	4	C	C	C	C
Sweitzer Lane to I-95	4	C	E	C	E
I-95 to Van Dusen Road	6	C	E	D	E

T:\COREL\MD28MD198\WORKSHOP\TABLE

TABLE 5
MD 28/MD 198 CORRIDOR IMPROVEMENT STUDY
PRELIMINARY ALTERNATES ENVIRONMENTAL IMPACT SUMMARY

	NO BUILD ALTERNATE ALT. 1	TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE ALTERNATE 2					MASTER PLAN FEATURES ALTERNATE ALTERNATE 3					OPTIONS			
												MD 650 TO US 29 MINIMIZATION/AVOIDANCE			US 29 TO I-95
		MD 97 TO MD 182	MD 182 TO MD 650	MD 650 TO US 29	US 29 TO I-95	TOTAL	MD 97 TO MD 182	MD 182 TO MD 650	MD 650 TO US 29	US 29 TO I-95	TOTAL	OPTION A	OPTION B[1]	OPTION C[1]	6- LANE DIVIDED CONTINUOUS
Range of Displacements (number)															
Residential	0	5-17	0	2-8	0-5	7-30	4-18	0	5-37	1-2	10-57	12-30	10-26	11-27	1-5
Business Commercial	0	0	0	1-5	0-1	1-6	0	0	1-7	2-3	3-10	1-11	1-6	1-6	2-3
TOTAL	0	5-17	0	3-13	0-6	8-36	4-18	0	6-44	3-5	13-67	13-41	11-32	12-33	3-18
Range of Properties Impacted (number)															
Residential	0	45-52	0	40-52	22-26	107-130	95-105	0	100-110	20-24	215-239	105-115	56-66	54-64	22-26
Business/Commercial	0	0-2	0	12-17	17-21	29-40	0-3	0	30-35	17-21	47-59	30-35	32-38	32-38	17-21
Parkland	0	0-1	0	0-1	0	0-2	0-1	0	1	0	1-2	0	0	0	0
Place of Worship/School	0	0-2	0	2-6	0	2-8	0-2	0	4-6	0	4-8	4-6	4-6	4-6	0
Historic/Archeological[2]	0	0	0	0-4	0	0-4	0	0	3-5	0	3-5	0	0	0	0
TOTAL	0	45-57	0	54-80	39-47	138-184	95-111	0	138-157	37-45	270-313	139-156	92-110	90-108	39-47
Range of Right-of-Way Area Required (acres)															
Residential	0	2-11	0	3-10	0-3	5-24	12-15	0	19-23	1-4	32-42	19-23	17-25	21-30	2-5
Business/Commercial	0	0-1	0	1-3	0-2	1-6	0-1	0	3-5	6-8	9-14	4-6	5-7	5-8	6-8
Parkland	0	0-1	0	0-1	0	0-2	0-2	0	0.3-1	0	0.3-3	0	0	0	0
Place of Worship/School	0	0-1	0	0-2	0-1	0-4	0-2	0	0-2	0	0-4	0-2	0-2	0-2	0
Historic/Archeological[2]	0	0	0	0-2	0	0-2	0	0	0.2-2	0	0.2-2	0	0	0	0
TOTAL (acres)	0	2-14	0	4-18	0-6	6-38	12-20	0	22.5-33	7-12	41.5-65	23-31	22-34	26-40	8-13
Range of Selected Natural Environmental Impacts															
Number of Stream Crossings	0	0-2	6-8	0	0	6-10	0-2	6-8	0	0	6-10	0	1	2	0
100-Year Floodplain Affected (acres)	0	0-1	0	0	0	0-1	0-1.5	2-4	0	0	2-5.5	0	0	0.5-1.0	0
Wetlands Affected (acres)	0	0	0	0	0	0	0	0-1	0	0	0-1	0-1	1-2	0-1	0
Waters of the U.S. Affected (linear feet)	0	0-150	0	0-50	0	0-200	250-350	500-700	0-50	0	750-1100	0-50	0-200	0-350	0
Woodlands Affected (acres)	0	5-10	0	0-5	0-5	5-20	5-10	0	1-5	0-5	6-20	0-5	3-7	4-8	0-5
Estimated Range of Cost ($ Millions)	0	22-44	0	44-66	9-28	75-138	44-61	11-17	65-100	28-32	148-210	75-110	60-105	68-110	40-50

[1]The ranges shown for Options B and C reflect consideration of a two - lane facility (lower end of range) and a four - lane facility (higher end of range) along the alignments and within the limits shown on Display 4.

[2]Archeological impacts to be determined.

Table 6. Master Plan Typical Sections Along the MD 28/MD 198 Corridor

Master Plan	Route	FROM	TO	Min. ROW	No. of Lanes	Bikeway Class[3]	Sidewalk
Aspen Hill[1]	MD 28	East of MD 97	MD 182	150'	4-lanes, divided	Class 2	Both sides
Cloverly	NRE[4]	MD 182	MD 650	150'	4-lanes, divided	Class 1 (N)[5]	South Side
Cloverly[2]	MD 198	MD 650	Thompson Road	120'	4-lanes, divided	Class 1 (N)	South Side
Cloverly[2]	MD 198	Thompson Road	360' east of Batson Road	70'	4-lanes, undivided	Class 1 (N)	South Side
Cloverly[2]	MD 198	360' east of Batson Road	Oursler Road	120'	4-lanes, divided	Class 1 (N)	South Side
Fairland[2]	MD 198	Oursler Road	Old Columbia Pike	120'	4-lanes, divided	Class 2	South Side
Fairland	MD 198	Old Columbia Pike	U.S. 29	120'	4-lanes, divided	Class 1 (S)[5]	North Side
Fairland	MD 198	U.S. 29	County Line	120'	4-lanes, divided	Class 1 (S)	None
Subregion I	MD 198	County Line	I-95	120' – 150'	6-lanes, divided	None	None

Notes:

[1]The Aspen Hill Master Plan designates MD 28 as a Green Corridor with the intent that special landscaping and control of access by service roads be applied where feasible.

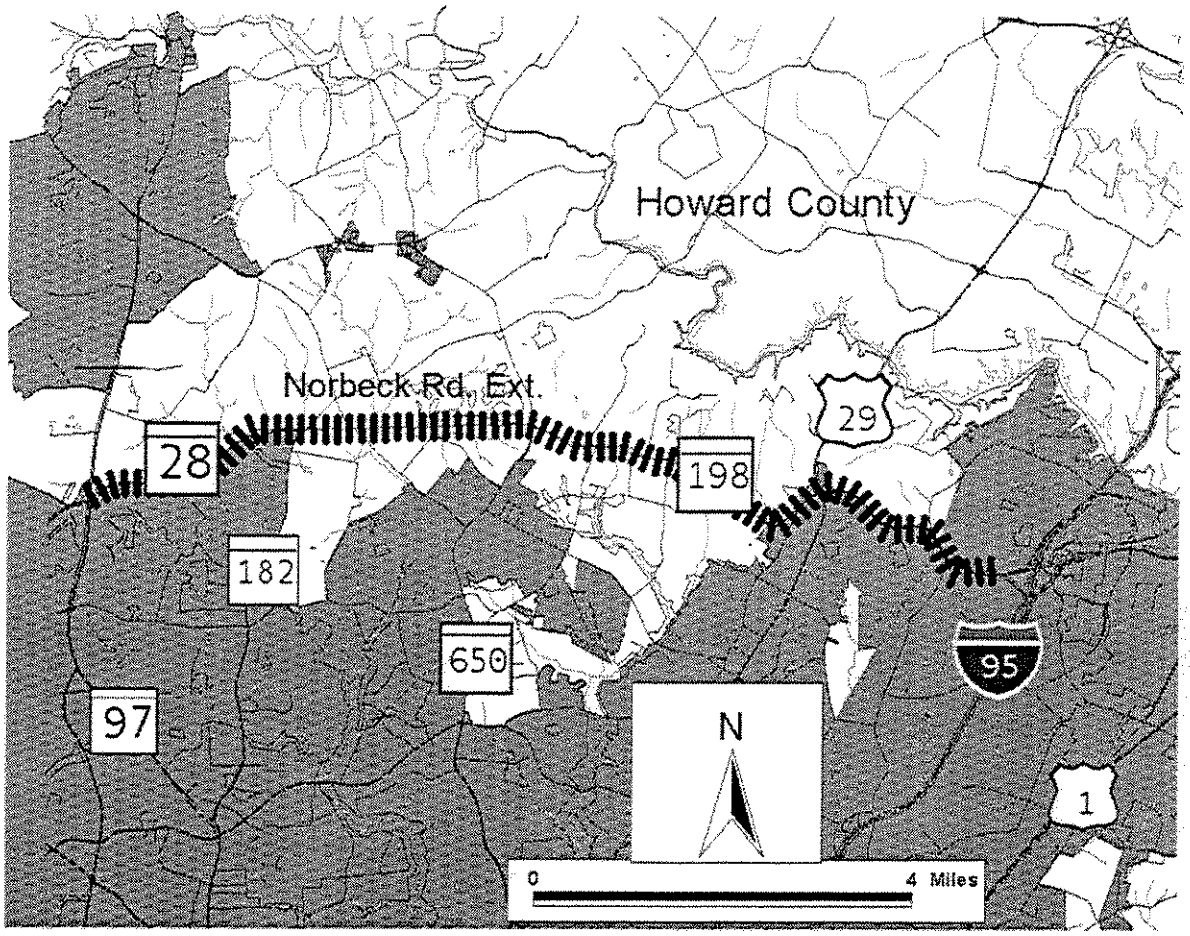
[2]These segments are contained within the Upper Paint Branch Special Protection Area; an open section roadway with no curb and gutter is called for in the master plan.

[3]Bikeway Class 1 is defined as an off-road bike path, and Bikeway Class 2 is defined as an on-road bike lane.

[4]Norbeck Road Extended (See Related Projects discussion in this brochure)

[5](N) = north side of roadway, (S) = south side of roadway

Figure A. MD 28/MD 198 Corridor Improvement Study Limits



Priority Funding Area

Figure B. Year 2000 and 2025 Average Daily Traffic Volumes for
MD 28 between MD 97 and Norbeck Road Extended (NRE)

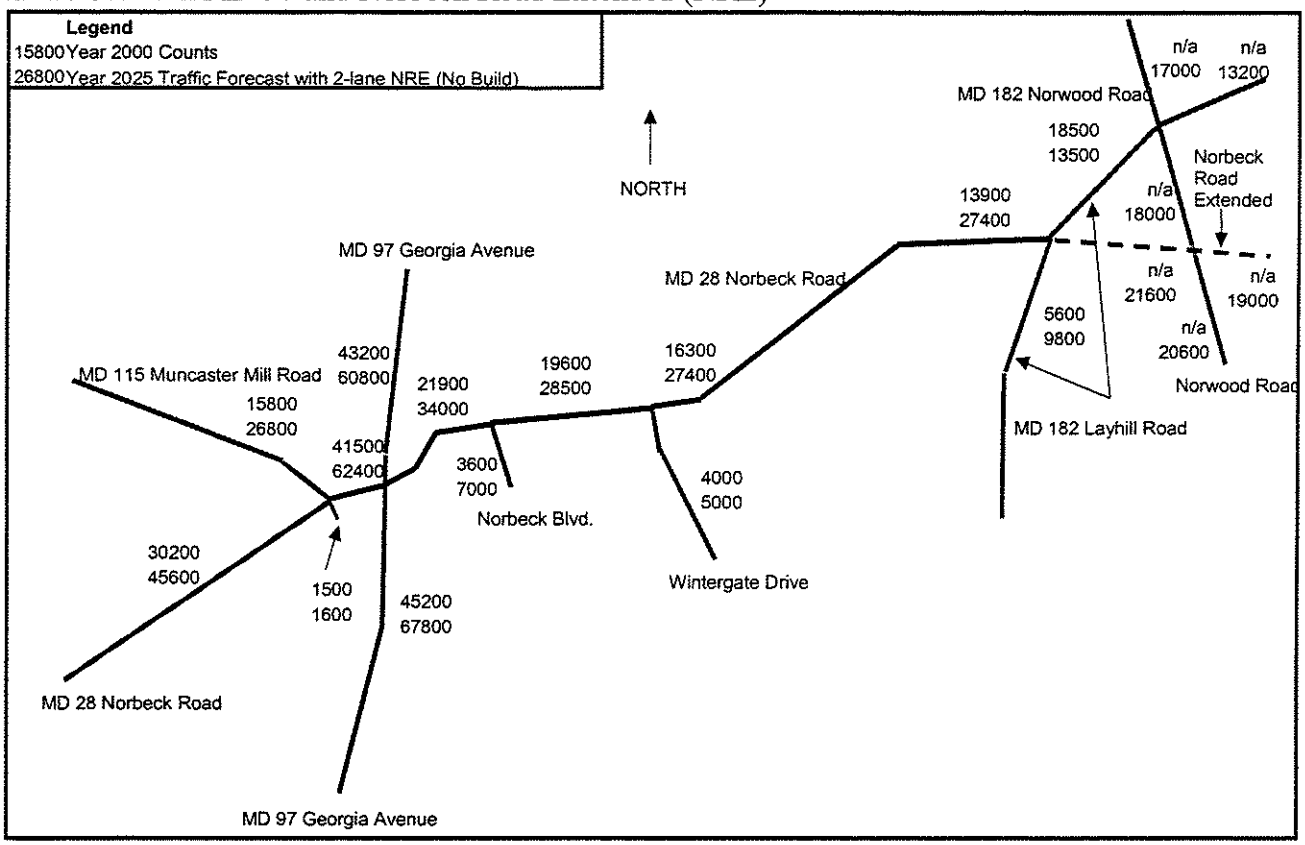
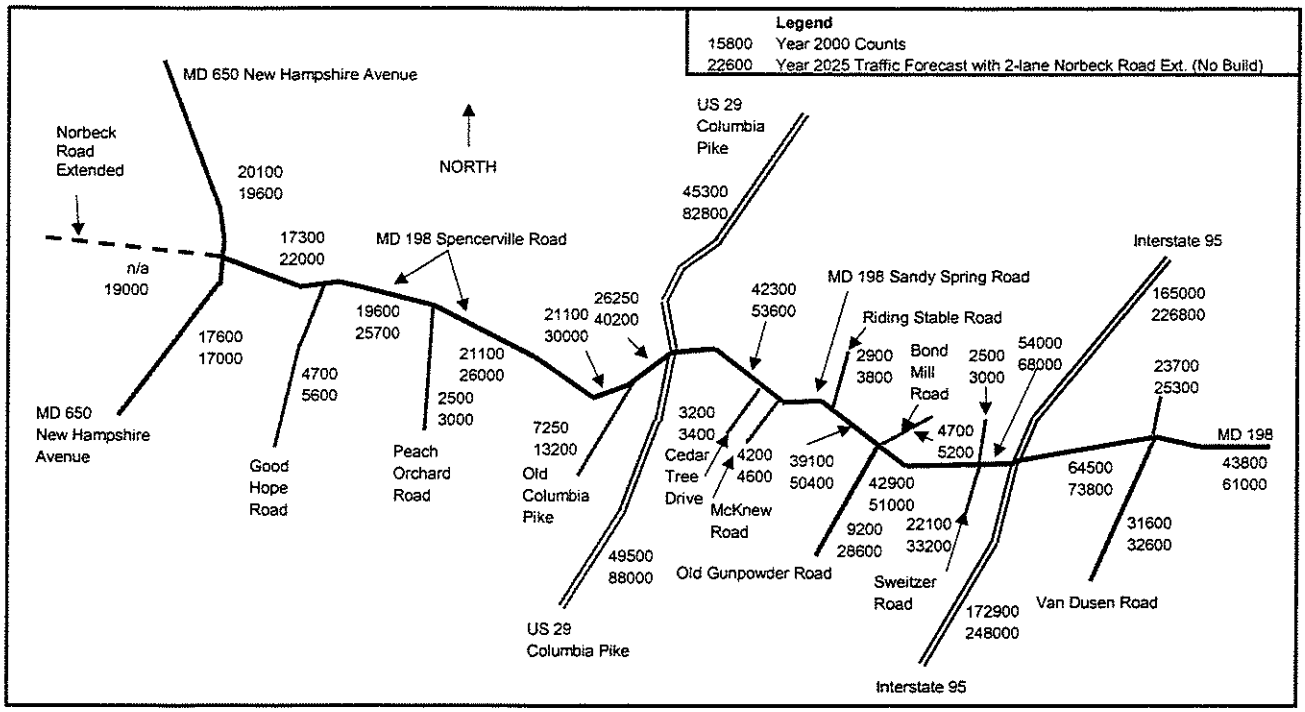
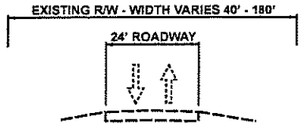
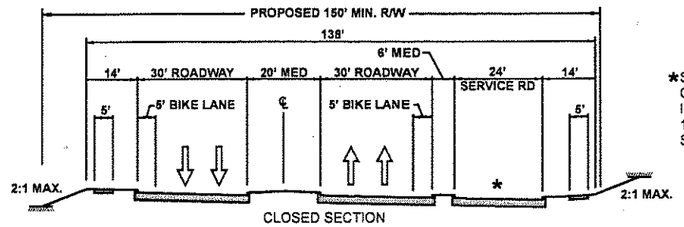
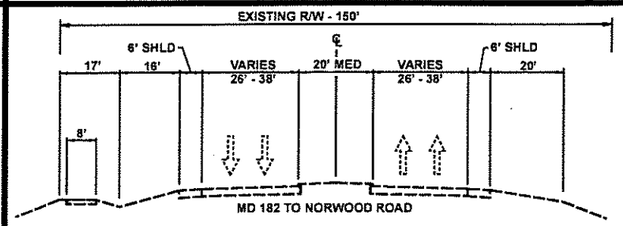
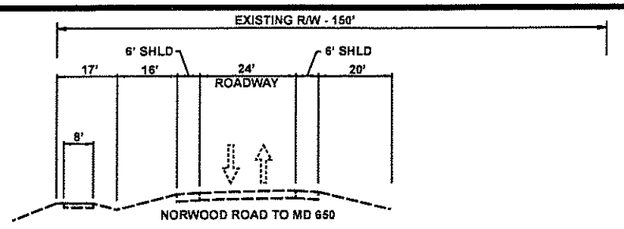
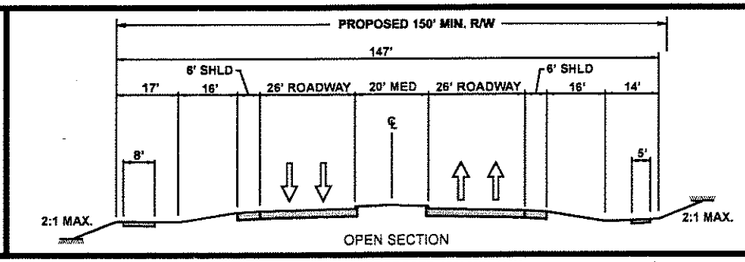
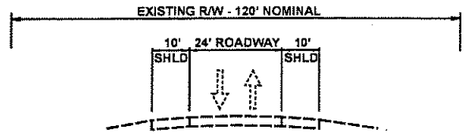
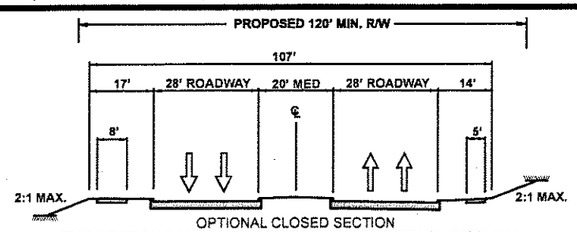
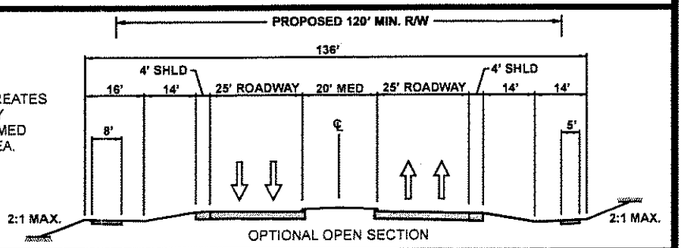
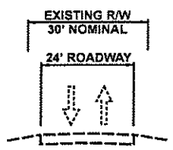
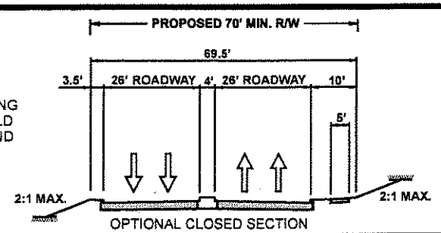
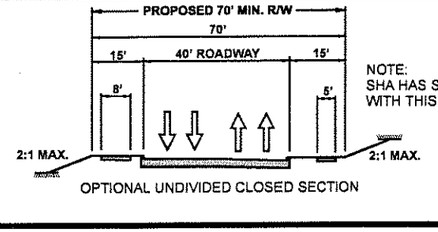
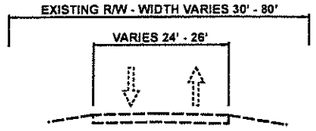
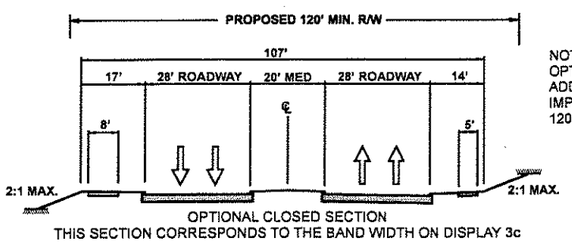
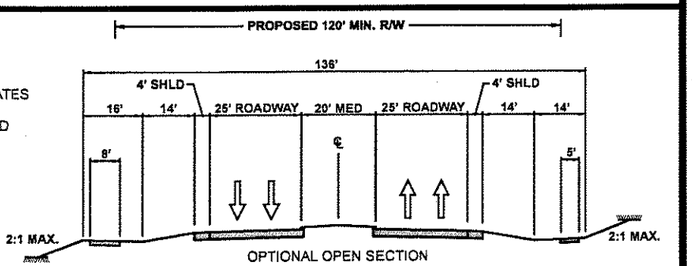


Figure C. Year 2000 and 2025 Average Daily Traffic Volumes for
MD 198 between MD 650 and Van Dusen Road



	SEGMENT	EXISTING TYPICAL SECTION ** ALTERNATE 1	PROPOSED MASTER PLAN FEATURES ALTERNATE TYPICAL SECTIONS ALTERNATE 3
ASPEN HILL MASTER PLAN	1-MD 97 TO MD 182	**NOTE: AUXILIARY LEFT AND/OR RIGHT TURNING LANES EXIST AT SEVERAL LOCATIONS.  MD 28	 CLOSED SECTION *SEVERAL SERVICE ROAD OPTIONS WILL BE CONSIDERED, INCLUDING A ONE DIRECTION, 12' WIDE SERVICE ROAD ON EACH SIDE OF MD 28.
CLOVERLY MASTER PLAN	2-MD 182 TO MD 650	 MD 182 TO NORWOOD ROAD  NORWOOD ROAD TO MD 650 NORBECK ROAD EXTENDED (UNDER CONSTRUCTION)	 OPEN SECTION
CLOVERLY MASTER PLAN	3-MD 650 TO THOMPSON ROAD	 MD 198	 OPTIONAL CLOSED SECTION THIS SECTION CORRESPONDS TO THE BAND WIDTH ON DISPLAY 3c NOTE: OPTIONAL OPEN SECTION CREATES ADDITIONAL RIGHT - OF - WAY IMPACTS BEYOND THE ASSUMED 120' BAND WIDTH IN THIS AREA. SEE NOTE 2  OPTIONAL OPEN SECTION
CLOVERLY MASTER PLAN	4-THOMPSON ROAD TO EAST OF BATSON ROAD	 MD 198	 OPTIONAL CLOSED SECTION NOTE: A CLASS I TRAIL ALONG THE ROADWAY WOULD RESULT IN A R/W BAND EXCEEDING THE PROPOSED 70'. SEE NOTE 2  OPTIONAL UNDIVIDED CLOSED SECTION NOTE: SHA HAS SAFETY CONCERNS WITH THIS TYPICAL SECTION.
CLOVERLY MASTER PLAN	5-EAST OF BATSON ROAD TO OURSLER ROAD	 MD 198	 OPTIONAL CLOSED SECTION THIS SECTION CORRESPONDS TO THE BAND WIDTH ON DISPLAY 3c NOTE: OPTIONAL OPEN SECTION CREATES ADDITIONAL RIGHT - OF - WAY IMPACTS BEYOND THE ASSUMED 120' BAND WIDTH IN THIS AREA. SEE NOTE 2  OPTIONAL OPEN SECTION

NOTES:
1. REFER TO DISPLAYS 2a AND 2d FOR THE TYPICAL SECTION OF THE 3-LANE IMPROVEMENT BEING CONSIDERED IN SOME AREAS UNDER ALTERNATE 2.
2. APPLICATION OF OPEN VERSUS CLOSED SECTION AND THE VALUE OF INCLUDING SIDEWALK IN THESE SEGMENTS WILL BE CONSIDERED IN REGARDS TO THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
3. THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE DETAILED STUDIES AND FINAL DESIGN PHASES.

LEGEND

R / W = RIGHT-OF-WAY

2:1 = 2' OF HORIZONTAL DISTANCE FOR EVERY 1' OF CHANGE IN ELEVATION.

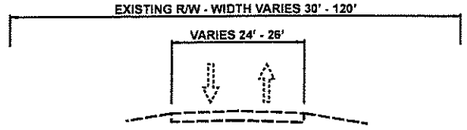
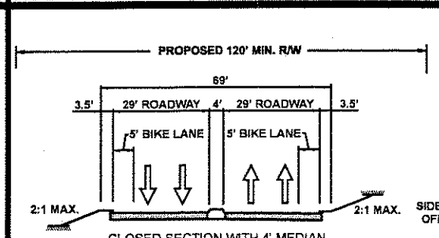
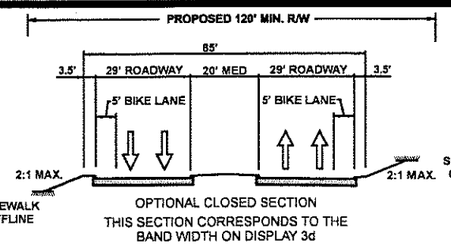
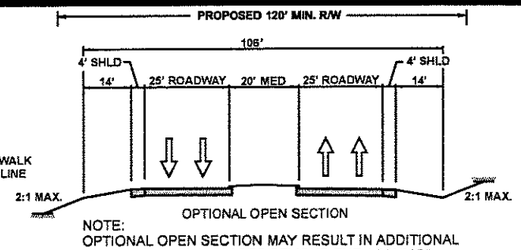
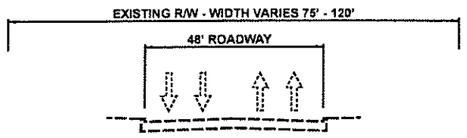
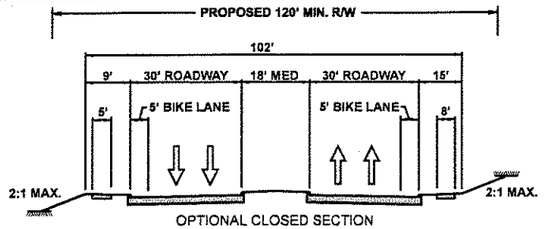
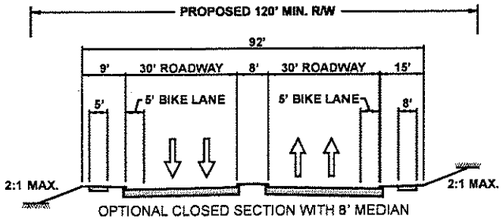
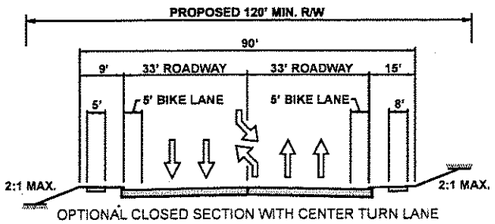
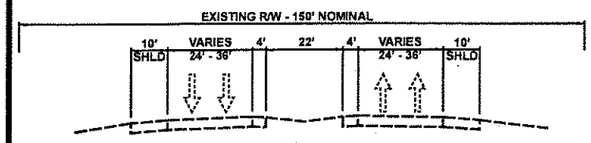
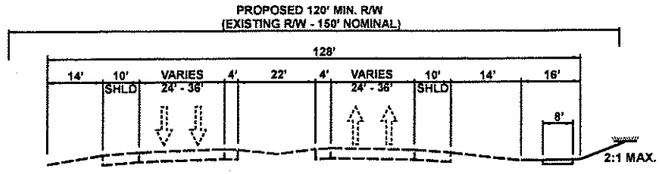
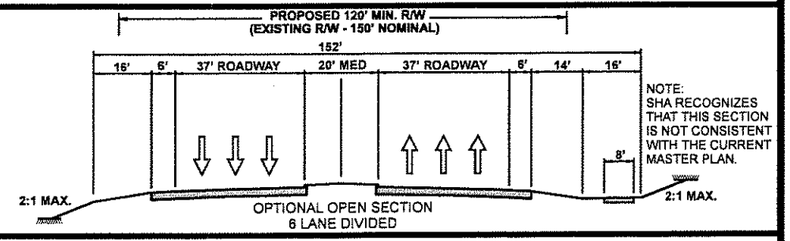
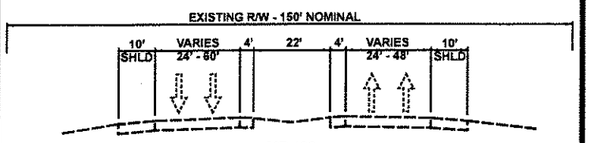
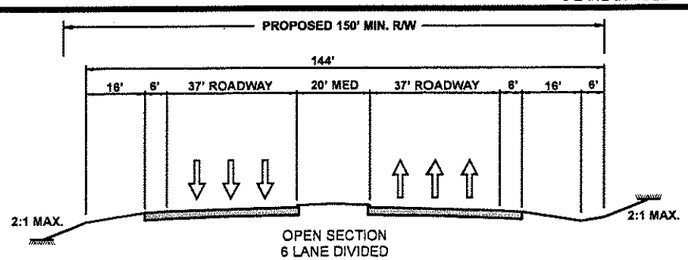
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 28 / MD 198 CORRIDOR IMPROVEMENT STUDY

TYPICAL SECTIONS

DATE		DISPLAY
MAY, 2002	NOT TO SCALE	1a

Broch typ1.cdr

	SEGMENT	EXISTING TYPICAL SECTION ** ALTERNATE 1	PROPOSED MASTER PLAN FEATURES ALTERNATE TYPICAL SECTIONS ALTERNATE 3
FAIRLAND MASTER PLAN	6-OURSLER ROAD TO OLD COLUMBIA PIKE	**NOTE: AUXILIARY LEFT AND/OR RIGHT TURNING LANES EXIST AT SEVERAL LOCATIONS. 	 CLOSED SECTION WITH 4' MEDIAN THIS SECTION IS BEING CONSIDERED ONLY IN THE UNION CEMETERY AREA  OPTIONAL CLOSED SECTION THIS SECTION CORRESPONDS TO THE BAND WIDTH ON DISPLAY 3d SEE NOTE 2  OPTIONAL OPEN SECTION NOTE: OPTIONAL OPEN SECTION MAY RESULT IN ADDITIONAL RIGHT - OF - WAY IMPACTS BEYOND THE ASSUMED 120' BAND WIDTH IN THIS AREA.
FAIRLAND MASTER PLAN	7-OLD COLUMBIA PIKE TO US 29		 OPTIONAL CLOSED SECTION  OPTIONAL CLOSED SECTION WITH 8' MEDIAN  OPTIONAL CLOSED SECTION WITH CENTER TURN LANE
FAIRLAND MASTER PLAN	8-US 29 TO COUNTY LINE		  NOTE: SHA RECOGNIZES THAT THIS SECTION IS NOT CONSISTENT WITH THE CURRENT MASTER PLAN. OPTIONAL OPEN SECTION 6 LANE DIVIDED
SUBREGION I MASTER PLAN	9-COUNTY LINE TO I-95		 OPEN SECTION 6 LANE DIVIDED

NOTES:
1. REFER TO DISPLAYS 2a AND 2d FOR THE TYPICAL SECTION OF THE 3-LANE IMPROVEMENT BEING CONSIDERED IN SOME AREAS UNDER ALTERNATE 2.
2. APPLICATION OF OPEN VERSUS CLOSED SECTION AND THE VALUE OF INCLUDING SIDEWALK IN THESE SEGMENTS WILL BE CONSIDERED IN REGARDS TO THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
3. THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE DETAILED STUDIES AND FINAL DESIGN PHASES.

LEGEND

R / W = RIGHT-OF-WAY

2:1 = 2' OF HORIZONTAL DISTANCE FOR EVERY 1' OF CHANGE IN ELEVATION.

STATE OF MARYLAND
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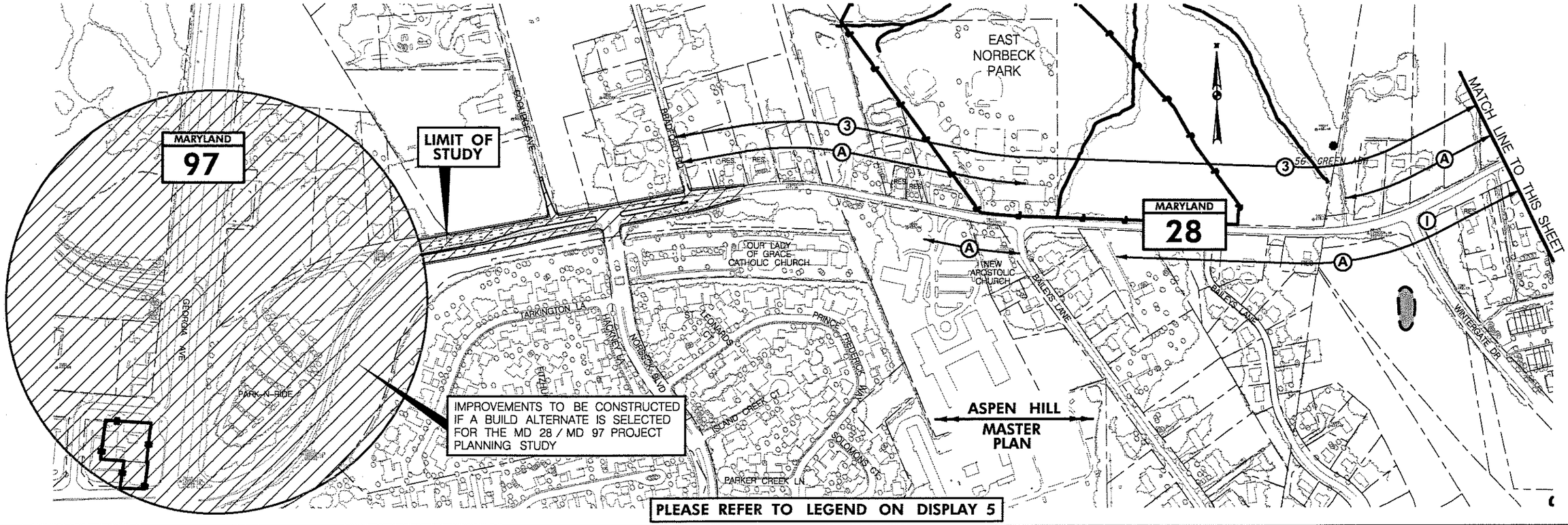
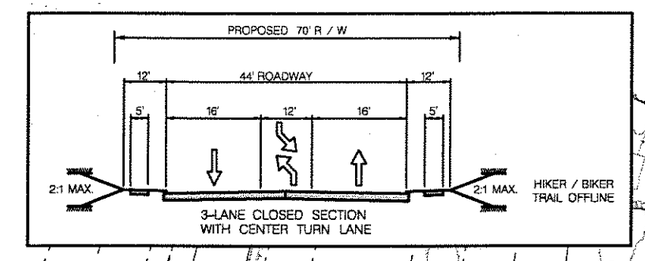
MD 28 / MD 198 CORRIDOR IMPROVEMENT STUDY

TYPICAL SECTIONS

DATE		DISPLAY
MAY, 2002	NOT TO SCALE	1b

Broch_typ2.cdr





Alternate 2
Potential TSM Improvements

- (I) Intersection Improvement
  - Signal timing
  - Auxiliary lanes
- (G) Geometric Improvement
  - Improve horizontal / vertical curves for better safety / sight distance
- (A) Access Management Strategy
  - Consolidation of entrances
  - Service road
  - Continuous acceleration / deceleration lane
- (3) Continuous 3 lane undivided roadway with center turn lane

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ALTERNATE 2

TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	1" = 400'	2a

broch-18.dgn
5-09-02 TLL

ASPEN HILL MASTER PLAN

CLOVERLY MASTER PLAN

HOLLAND STORE AND JAMES HOLLAND HOUSE

MATCH LINE TO DISPLAY 2a

MARYLAND 28

MARYLAND 182

WALLINGFORD RD.

CHESTER MILL TERR.

CHESTER MILL RD.

NORBECK ROAD EXTENDED

LLEWELLYN FIELDS

LLEWELLYN MANOR WAY

LINDSEY MANOR LANE

NORWOOD ROAD

MATCH LINE TO THIS SHEET

NORTHWEST BRANCH RECREATIONAL PARK

NORTHWEST BRANCH

PLEASE REFER TO LEGEND ON DISPLAY 5

Alternate 2
Potential TSM Improvements

- (I) Intersection Improvement
  - Signal timing
  - Auxiliary lanes
- (G) Geometric Improvement
  - Improve horizontal/vertical curves for better safety / sight distance
- (A) Access Management Strategy
  - Consolidation of entrances
  - Service road
  - Continuous acceleration / deceleration lane
- (3) Continuous 3 lane undivided roadway with center turn lane

OLD ORCHARD RD.

HAMPSHIRE GREENS

MATCH LINE TO DISPLAY 2c

NORBECK ROAD EXTENDED

NURSERY RUN

BRYANTS NURSERY ROAD

DUXBURY DR.

MATCH LINE TO THIS SHEET

STATE OF MARYLAND
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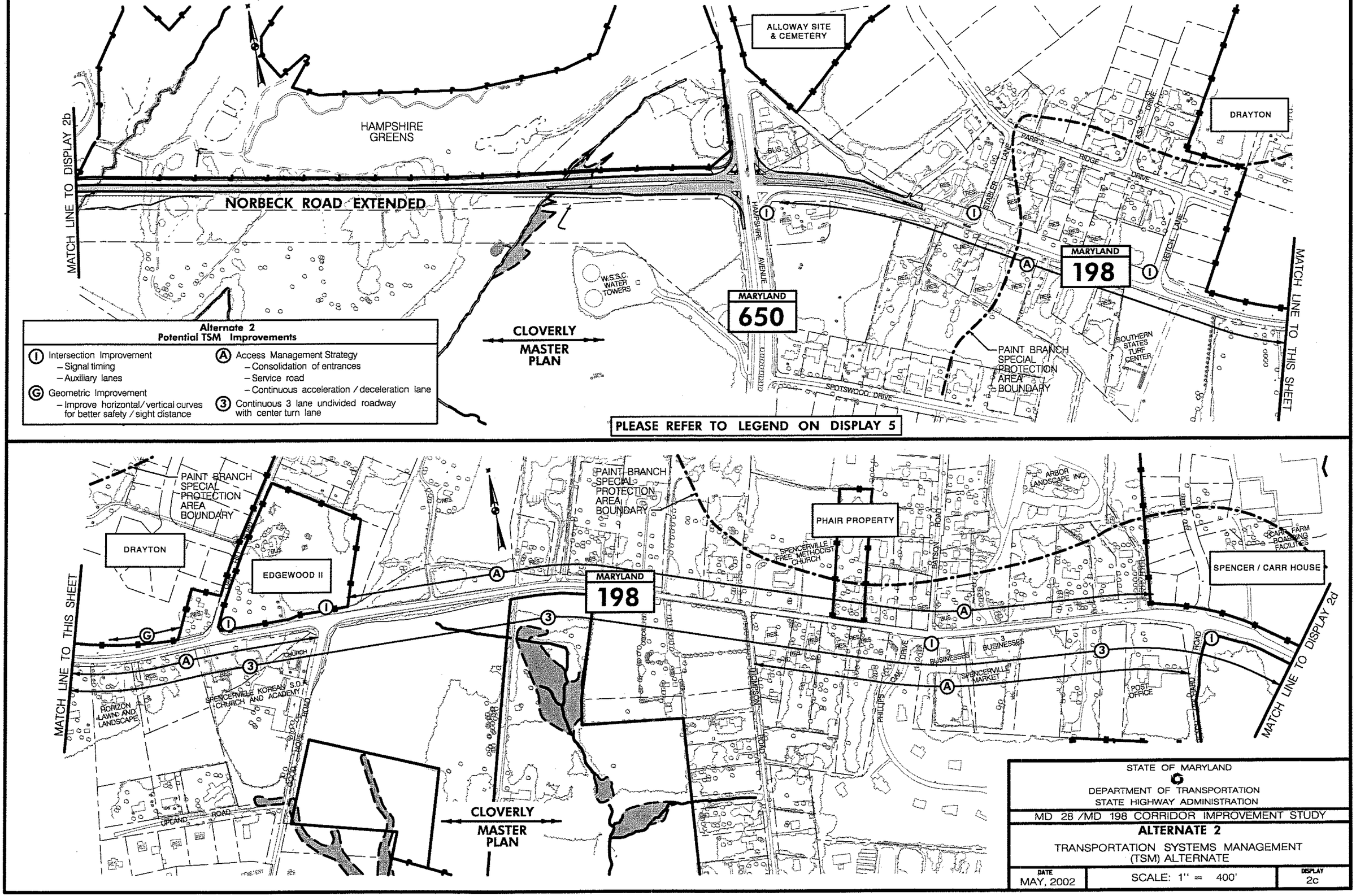
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 2

TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	2b



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

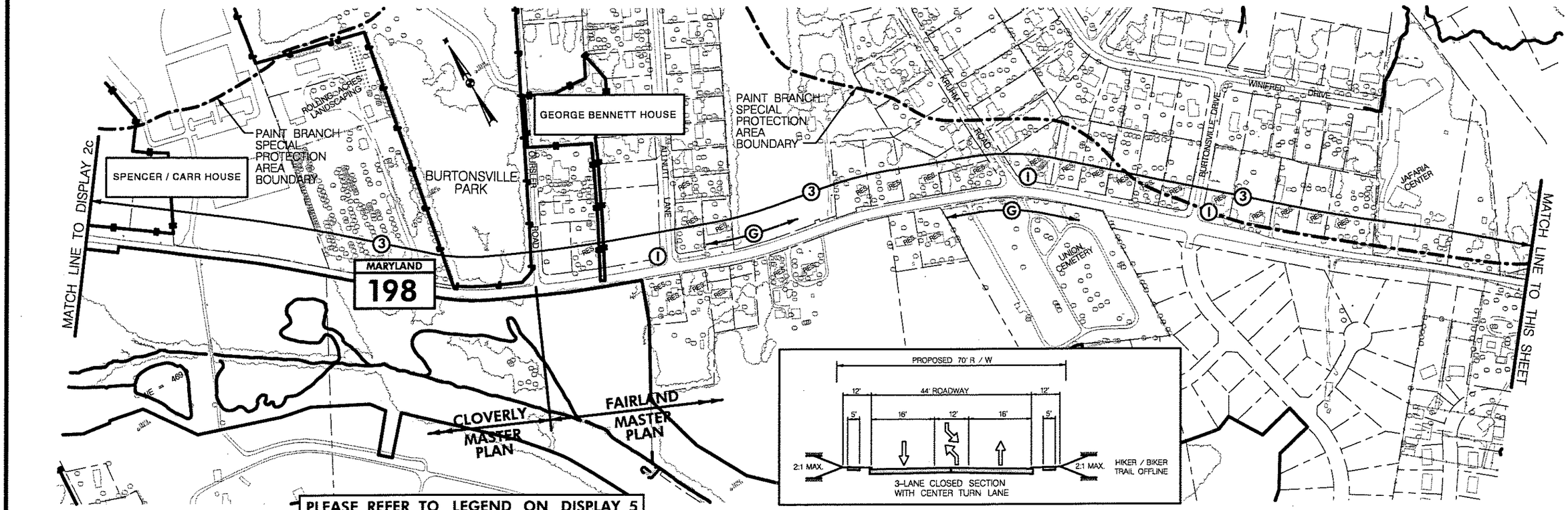
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 2

TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE

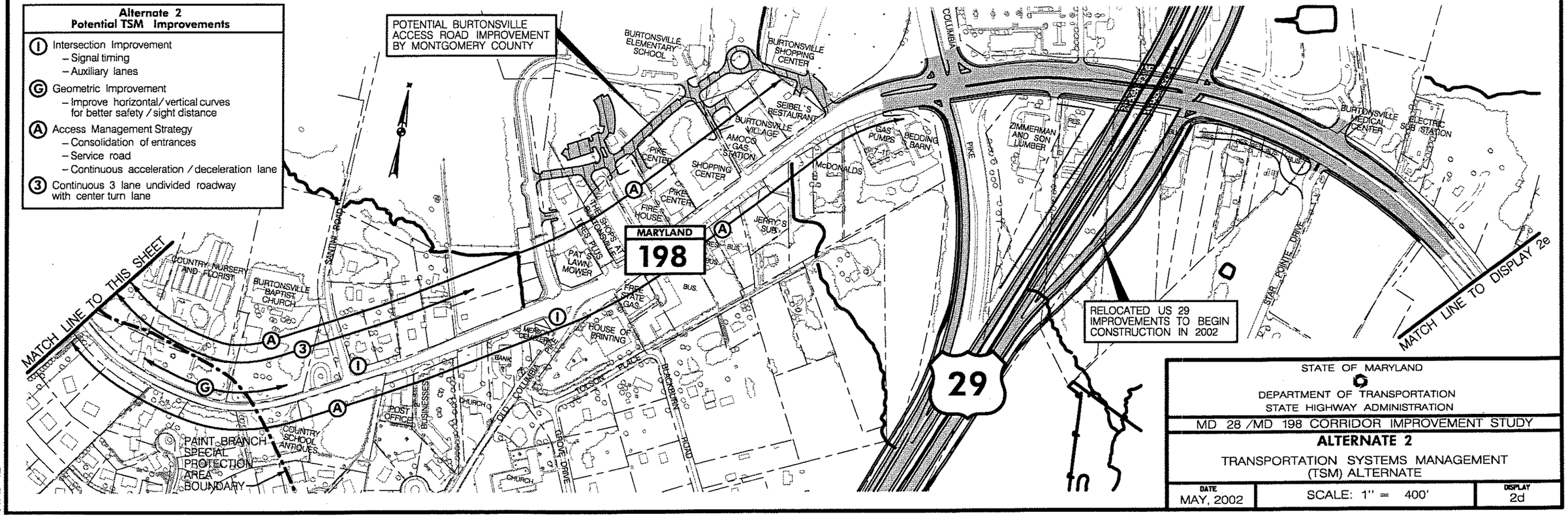
DATE	SCALE	DISPLAY
MAY, 2002	1" = 400'	2c

bmch-2b.dgn
5-09-02 TLL



Alternate 2
Potential TSM Improvements

- (I) Intersection Improvement
  - Signal timing
  - Auxiliary lanes
- (G) Geometric Improvement
  - Improve horizontal / vertical curves for better safety / sight distance
- (A) Access Management Strategy
  - Consolidation of entrances
  - Service road
  - Continuous acceleration / deceleration lane
- (3) Continuous 3 lane undivided roadway with center turn lane



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
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MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 2

TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	2d

Branch-Dt dsgn
5-09-02 TLL

MATCH LINE TO DISPLAY 2d

MARYLAND 198

FEHR'S NURSERY AND GARDEN CENTER

CHICK LANDSCAPING CONTRACTING

DINO DRIVE

VALLEY STREAM AVENUE

ELK'S LODGE

WOOTTENS LANE

CEDAR TREE DRIVE

MC KNEW ROAD

COVENANT ORTHODOX PRESBYTERIAN CHURCH

BIRMINGHAM DRIVE

ELECTRIC TRANSMISSION LINES

PETROLEUM PIPELINE

ISAAC BURTON JR. HOUSE

RIDING STABLE ROAD

PRINCE GEORGES COUNTY

MONTGOMERY COUNTY

FAIRLAND MASTER PLAN

SUBREGION MASTER PLAN

CLAYBURN DRIVE

TUBBY'S DINER

VICKI AND MIKE'S SEAFOOD STAND

MATCH LINE TO THIS SHEET

PLEASE REFER TO LEGEND ON DISPLAY 5

Alternate 2
Potential TSM Improvements

- (I) Intersection Improvement
  - Signal timing
  - Auxiliary lanes
- (G) Geometric Improvement
  - Improve horizontal/vertical curves for better safety / sight distance
- (A) Access Management Strategy
  - Consolidation of entrances
  - Service road
  - Continuous acceleration / deceleration lane
- (3) Continuous 3 lane undivided roadway with center turn lane

MATCH LINE TO THIS SHEET

BOND MILL ROAD

BAUER DRIVE

MARYLAND 198

WATER TREATMENT POOLS

W.S.S.C. FILTRATION PLANT

SWEITZER LANE

PARK HALL DRIVE

OAKTON COURT

OLD SANDY SPRING ROAD

LIMIT OF STUDY

I-95

95

STATE OF MARYLAND
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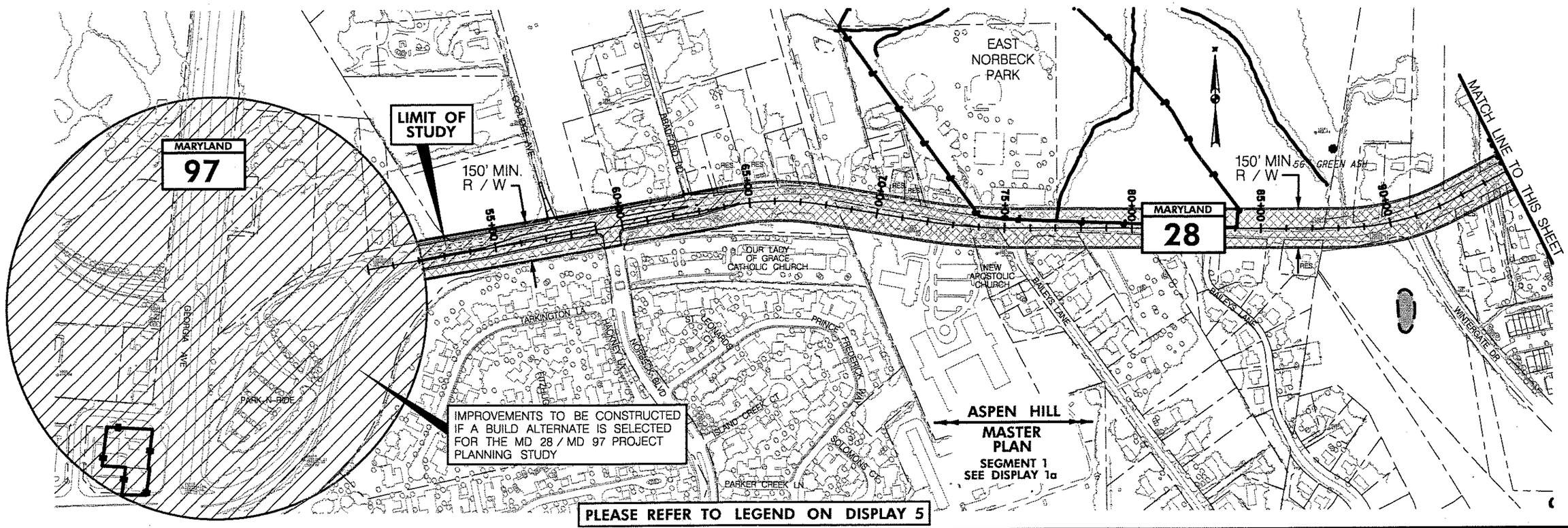
ALTERNATE 2

TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	2e

boch-2d.dgn
5-09-02 TLL



STATE OF MARYLAND
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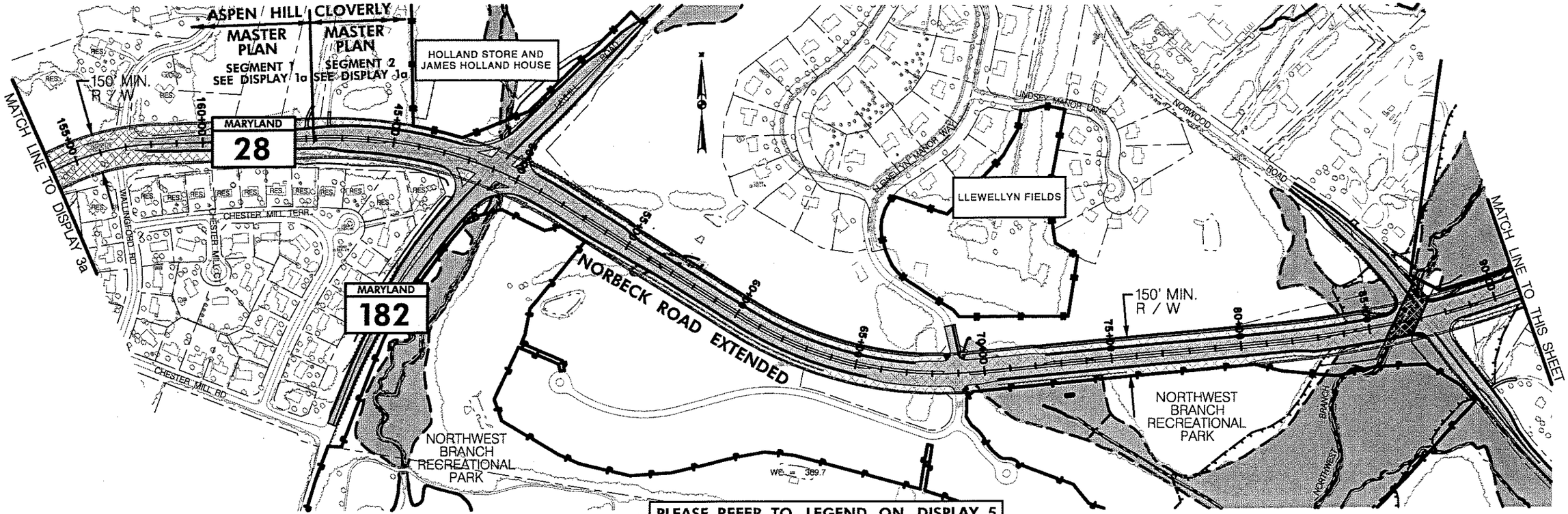
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 3

MASTER PLAN FEATURES ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	3a

broch-13.dgn
5-09-02 TLL



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

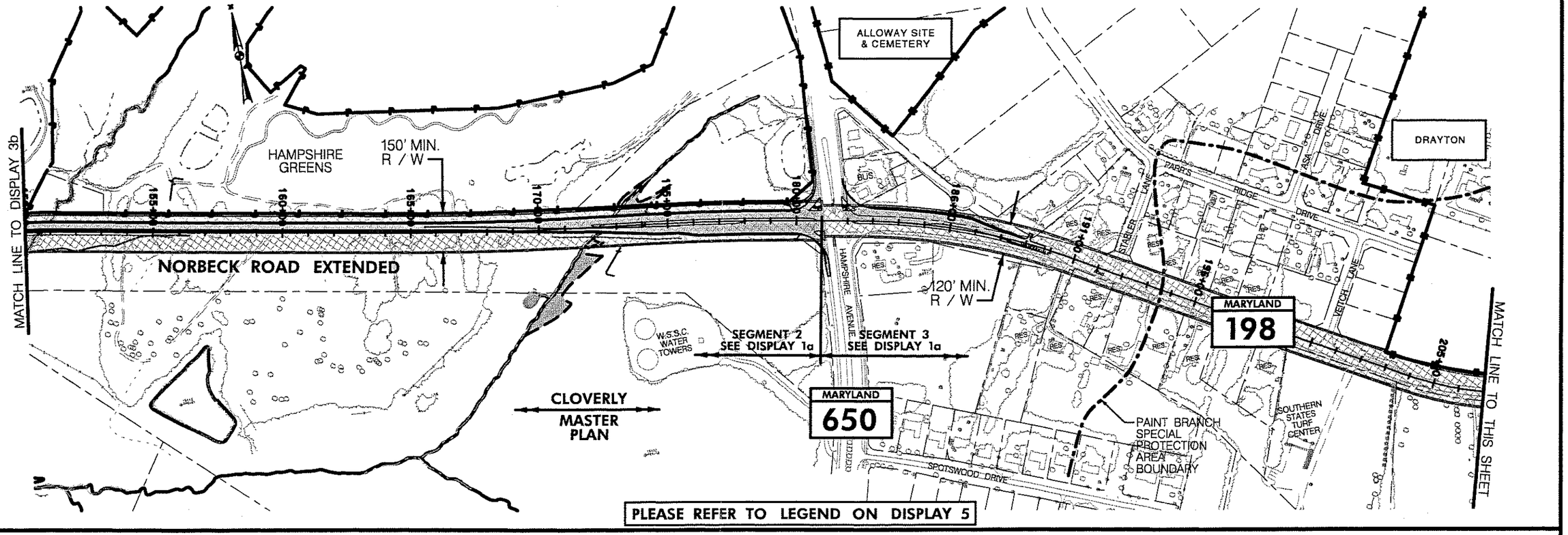
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 3

MASTER PLAN FEATURES ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	3b

broch-14.dgn
4-24-02
TJL



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

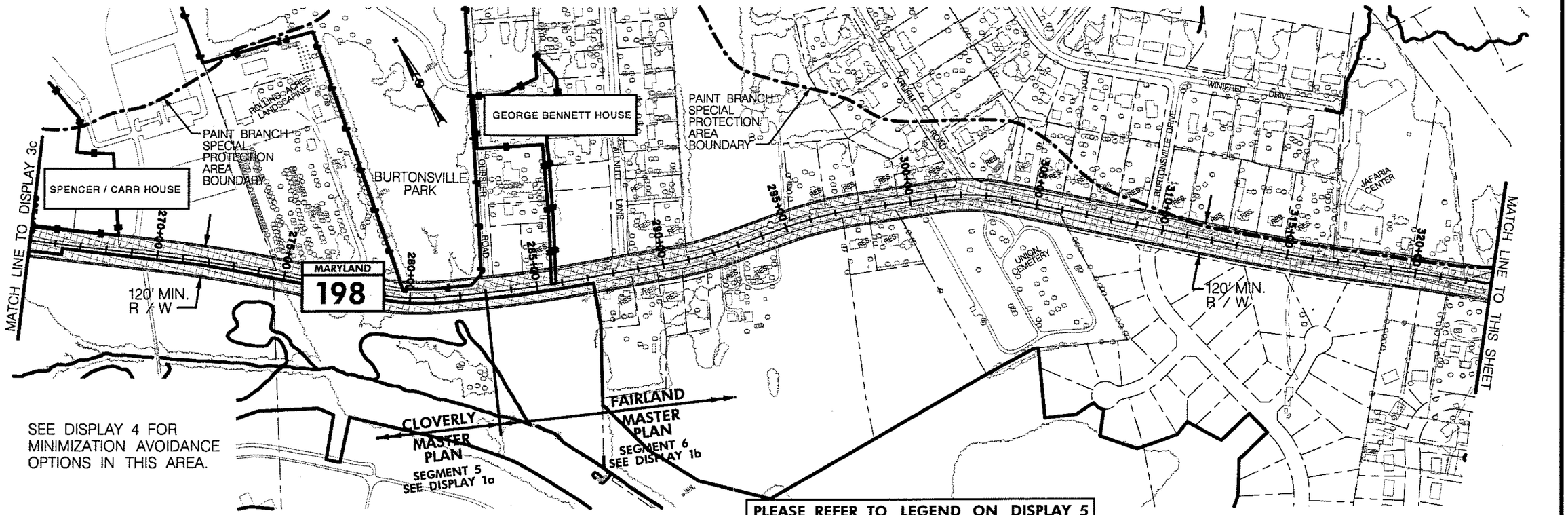
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 3

MASTER PLAN FEATURES ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	3c

brochr15.dgn
5-09-02 TLL



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

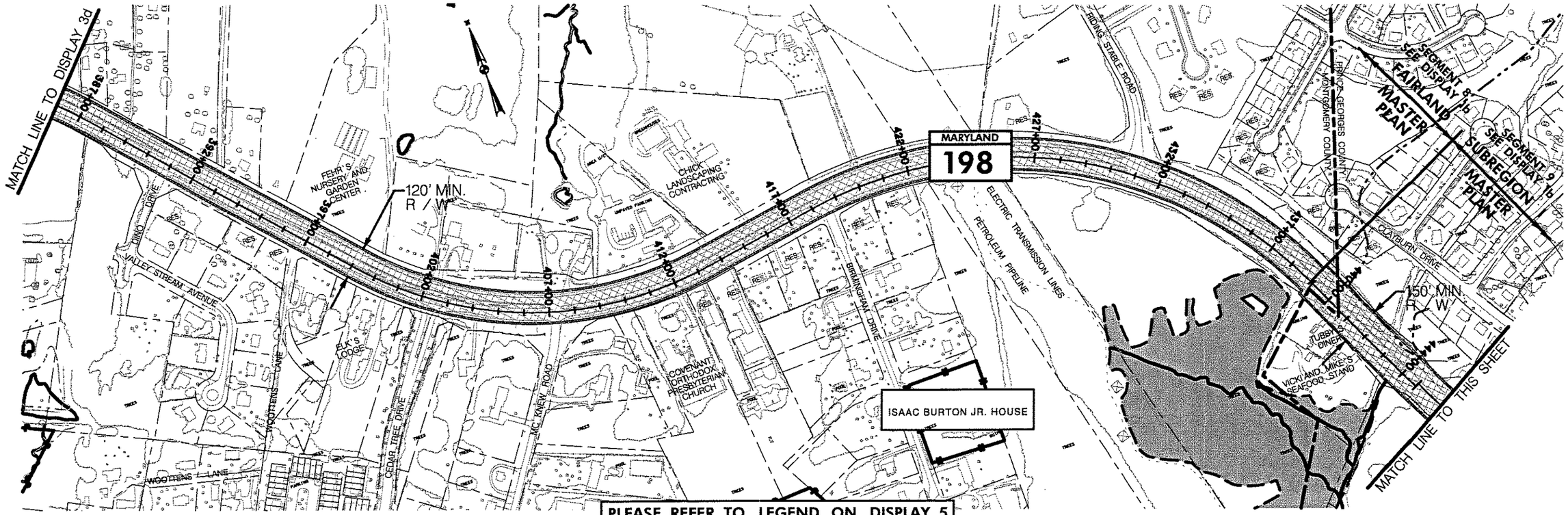
MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

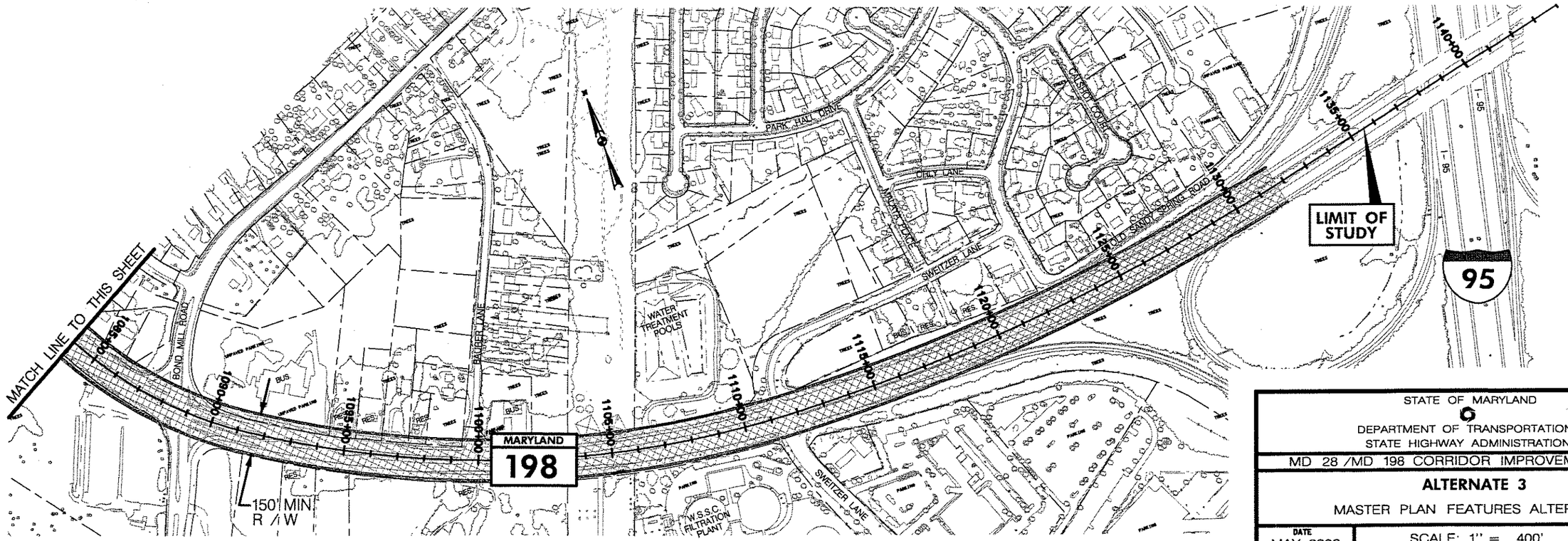
ALTERNATE 3

MASTER PLAN FEATURES ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	3d

broch-16.dgn
4-24-02
ILL





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MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

ALTERNATE 3

MASTER PLAN FEATURES ALTERNATE

DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 400'	3e

bcoch-47.dgn
5-09-02 TLL

SPENCER / CARR HOUSE

PHAIR PROPERTY

GEORGE BENNETT HOUSE

BURTONSVILLE PARK

EDGEWOOD II

DRAYTON

FREE METHODIST CHURCH CAMP METEING GROUND

OPTION A

OPTION B

OPTION C

70' MIN. R/W (2-LANE)

120' MIN. R/W (4-LANE)

120' MIN. R/W (4-LANE)

70' MIN. R/W (2-LANE)

OAK HILL ROAD

BATSON ROAD

HIGHLAND ROAD

PEACH ORCHARD RD.

BURSEEN ROAD

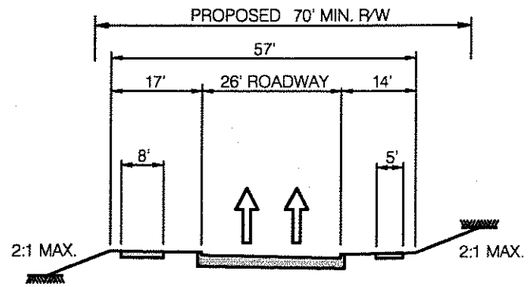
KENNEY LANE

KEMP MILL ROAD

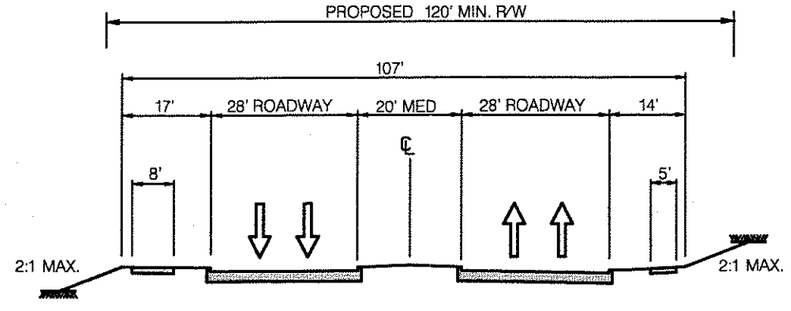
GOOD HOPE ROAD

PAINT BRANCH SPECIAL PROTECTION AREA BOUNDARY

Right Park



OPTIONAL CLOSED SECTION
ONE WAY PAIR OPTION
ALONG OPTION B OR C ALIGNMENTS
SEE NOTE 2



OPTIONAL CLOSED SECTION
TWO WAY ROADWAY OPTION
ALONG OPTION B OR C ALIGNMENTS
SEE NOTE 2

NOTES:
1. OPTIONS B AND C ARE UNDER CONSIDERATION AS EITHER A 2-LANE HALF OF A ONE-WAY PAIR WITH A 70' MIN. R/W OR A 4-LANE, TWO-WAY FACILITY WITH A 120' MIN. R/W.
2. APPLICATION OF OPEN VERSUS CLOSED SECTION AND THE VALUE OF INCLUDING SIDEWALK IN THESE SEGMENTS WILL BE CONSIDERED IN REGARDS TO THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
3. PLEASE REFER TO DISPLAYS 1a AND 1b FOR OPTION A TYPICAL SECTIONS.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

MINIMIZATION / AVOIDANCE OPTIONS

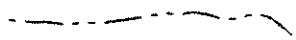
DATE	SCALE	DISPLAY
MAY, 2002	SCALE: 1" = 600'	4

Broch-12.dgn
5-09-02
TLL

DISPLAY LEGEND

WETLANDS

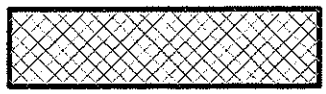
100–YR. FLOODPLAIN



STREAM

WATERS OF THE U.S.

PAINT BRANCH SPECIAL PROTECTION AREA BOUNDARY



PROPOSED RIGHT OF WAY

PARKLAND BOUNDARY

HISTORIC BOUNDARY

EXISTING RIGHT OF WAY LINE / PROPERTY LINE

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 28 /MD 198 CORRIDOR IMPROVEMENT STUDY

LEGEND

DATE		DISPLAY
MAY, 2002		5

STATE HIGHWAY ADMINISTRATION
QUESTIONS AND/OR COMMENTS

MD 28/MD 198 Corridor Improvement Study
Project No. MO886B11

Alternates Public Workshop
Tuesday, June 4, 2002
5:30 PM to 8:30 PM

James H. Blake High School
300 Norwood Road
Silver Spring, MD 20905

Please Print **NAME** _____ **DATE** _____

ADDRESS _____

CITY _____ **STATE** _____ **ZIP** _____

I/We wish to comment or inquire about the following aspects of this project:

_____

_____

_____

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☐ Please add my/our name(s) to the mailing list.*
☐ Please remove my/our name(s) from the mailing list.
Persons who received this brochure in the mail are already on the mailing list.

HOW ARE WE DOING?

In an effort to improve the effectiveness of our public involvement and outreach programs, we would appreciate it if you would take a few minutes to answer this questionnaire.

Project No. MO886B11 – MD 28/MD 198 Corridor Improvement Study

Please circle the most appropriate number

	Poor				**Excellent**
Clarity of the brochure	1	2	3	4	5
Was each part of the brochure easy to understand?					
Purpose of Workshop	1	2	3	4	5
Program Status	1	2	3	4	5
Purpose of the Project	1	2	3	4	5
Project Need	1	2	3	4	5
Existing Conditions	1	2	3	4	5
Traffic	1	2	3	4	5
Intermodal Connectivity	1	2	3	4	5
Thinking Beyond the Pavement	1	2	3	4	5
Alternatives Currently Under Consideration	1	2	3	4	5
Environmental Resources Summary	1	2	3	4	5
Related Projects	1	2	3	4	5
Remaining Steps in Planning Process	1	2	3	4	5

Which part of the brochure was the most valuable?

_____

_____

Which part of the brochure was the least valuable?

_____

_____

What suggestions do you have for improvement?

_____

_____

Thank you for answering this questionnaire. You may either leave it at the receptionist's table as you leave or return it to us by mail.

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
Project Planning Division

TO: