

# **MD 175 FROM EAST OF DISNEY ROAD TO WEST OF REECE ROAD**

## **AIR QUALITY ANALYSIS TECHNICAL REPORT**

September 2015

**Anne Arundel County, Maryland**



**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**



**MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION**

# TABLE OF CONTENTS

|  |    |
|--|----|
| <b>I. INTRODUCTION</b> .....   | 1  |
| <b>II. AIR QUALITY BACKGROUND</b> .....                              | 2  |
| <b>III. ENVIRONMENTAL ANALYSIS</b> .....                             | 4  |
| <b>IV. ENVIRONMENTAL CONSEQUENCES</b> .....                          | 5  |
| 1. Carbon Monoxide (CO) Assessment.....                              | 5  |
| 2. Particulate Matter (PM <sub>2.5</sub> ) Assessment.....           | 7  |
| 3. Regional Conformity Determination.....                            | 9  |
| 4. MSAT Assessment.....  | 9  |
| 5. Greenhouse Gas Assessment.....                                    | 13 |
| 6. Construction Impacts.....   | 13 |
| <b>V. INTERAGENCY CONSULTATION GROUP / PUBLIC COORDINATION</b> ..... | 14 |

## LIST OF FIGURES

|   |    |
|---|----|
| FIGURE 1 - Project Location.....                          | 1  |
| FIGURE 2 - National MSAT Emission Trends 1999 – 2050..... | 11 |

## LIST OF TABLES

|   |   |
|---|---|
| TABLE 1 - National Ambient Air Quality Standards (NAAQS)..... | 3 |
| TABLE 2 - Monitored Ambient Air Quality Data 2012-2014.....   | 5 |
| TABLE 3 - Traffic Data: MD 175 0.3 mi North of MD 174.....    | 6 |
| TABLE 4 - Traffic Operation Summary.....                      | 6 |

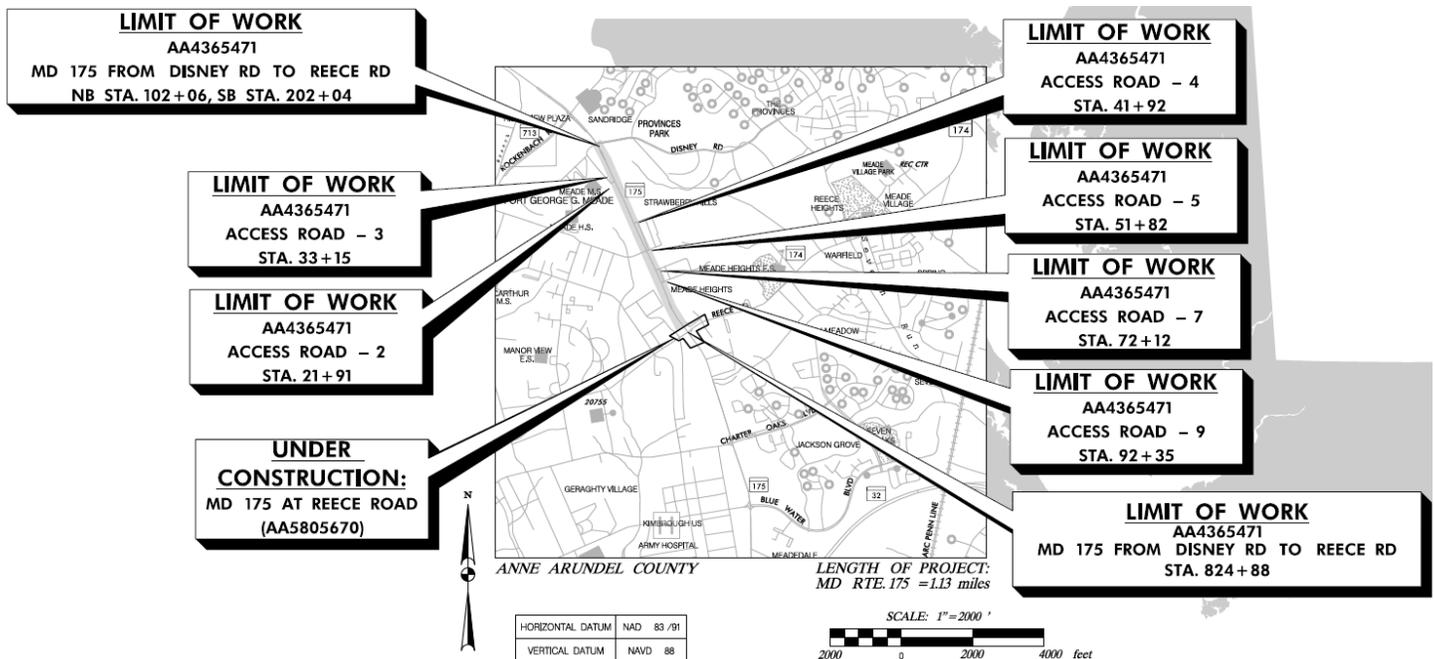
## APPENDICES

|   |  |
|---|--|
| APPENDIX A - Plans  |  |
| APPENDIX B - Monitored Ambient Air Quality Data 2012-2014 |  |
| APPENDIX C - Traffic Data                                 |  |
| APPENDIX D - Interagency Consultation Group Coordination  |  |

## I. INTRODUCTION

This report presents the results of a review of air quality impacts associated with proposed improvements to MD 175 from Disney Road to Reece Road in Anne Arundel County, Maryland. This study is intended as an evaluation of the project level air quality impacts of the proposed improvements. This evaluation is provided to meet the requirements of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

Within the project area, MD 175 is an undivided urban minor arterial running east to west that consists of one lane in both directions. Land use in the vicinity of the MD 175 from Disney Road to Reece Road project is a mix of commercial, institutional, forest, high density residential, and low density residential. The overall study area extends along MD 175 from just east of the Disney Road/MD 175 intersection to approximately 350 feet west of the Reece Road/MD 175 intersection for a distance of approximately 1.13 miles (See **Figure 1**).



**FIGURE 1 - Project Location**

The purpose of the MD 175 from Disney Road to Reece Road project is to improve the existing traffic operations, intermodal connectivity, and vehicular and pedestrian safety on MD 175, while supporting existing and planned development in the area. This will be accomplished by realigning and widening the roadway to provide a six lane roadway (from existing two lane roadway) and turn lanes; removing pavement; reconstructing and resurfacing pavement; installing new curb and gutter; installing new stormwater management facilities, drainage swales and drainage pipes; installing new pavement markings, signing, lighting and traffic signalization; relocating utilities; and installing new sidewalks, a hiker/biker trail, and landscaping. All roadway improvements have been designed to fit into existing SHA easements and will connect/tie-into the recently improved MD 175/Disney Road intersection as well as the MD 175

Reece Road intersection, which is currently under construction. Refer to **Appendix A** for project design details.

## **II. AIR QUALITY BACKGROUND**

The Clean Air Act (CAA) Amendments of 1990 and the Final Transportation Conformity Rule [40 CFR Parts 51 and 93] direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality. Both the Clean Air Act and the Final Transportation Conformity Rule affect the proposed transportation project.

According to the CAA Title I, Section 176 (c) 2; *“No federal agency may approve, accept, or fund any transportation plan, program, or project unless such plan, program, or project has been found to conform to any applicable State Implementation Plan (SIP) in effect under this act.”* The Final Conformity Rule defines conformity as; *“Conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and that such activities will not:*

- *Cause or contribute to any new violation of any NAAQS in any area;*
- *Increase the frequency or severity of any existing violation of any NAAQS in any area; or*
- *Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.”*

To comply with the CAA, the Environmental Protection Agency (EPA) has issued Proposed Rules, Guidance Clarifications, and Final Rules concerning the Conformity Determination of fine and coarse particulates (PM<sub>2.5</sub> and PM<sub>10</sub>), Draft and Final Rules concerning quantitative analysis of CO and PM<sub>2.5</sub>, and guidance on analysis of Mobile Source Air Toxics (MSATs). Following is a summary of recent rules and clarifications:

- Transportation Conformity Rule PM<sub>2.5</sub> and PM<sub>10</sub> Amendments, March 10, 2006;
- Final PM Qualitative Guidance Clarification, June 12, 2009;
- Final PM Conformity Rule, March 10, 2010;
- Draft Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, May 26, 2010;
- Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, December 20, 2010;
- Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in CO Nonattainment and Maintenance Areas, December 2010;
- Transportation Conformity Rule Restructuring Amendments, March 2012;
- Transportation Conformity Regulations, as of April 2012;
- Interim Guidance Update on MSAT Analysis in NEPA, December 6, 2012; and
- Revised Air Quality Standards for Particle Pollution, Annual PM<sub>2.5</sub> NAAQS, December 14, 2012
- Update to the Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, November 2013.

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants. These pollutants, known as criteria pollutants, are carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> & PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (pb). These federal standards are summarized in **Table 1**. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare, accounting for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

**TABLE 1 - National Ambient Air Quality Standards (NAAQS)**

| Pollutant  | Primary/<br>Secondary | Primary Standards      |                         | Form  |
|--|-----------------------|------------------------|-------------------------|---|
|  |                       | Level                  | Averaging Time          |   |
| Carbon Monoxide<br>76 FR 54294                         | Primary               | 9 ppm                  | 8-hour                  | Not to be exceeded more than once per year                                      |
|  |                       | 35 ppm                 | 1-hour                  |   |
| Lead<br>73 FR 669964                                   | Primary and Secondary | 0.15 µg/m <sup>3</sup> | Rolling 3-Month Average | Not to be exceeded  |
| Nitrogen Dioxide<br>75 FR 6464                         | Primary               | 100 ppb                | 1-hour                  | 98 <sup>th</sup> percentile, averaged over 3                                    |
|  | Primary and Secondary | 53 ppb                 | Annual                  | Annual Mean   |
| Particulate Matter (PM <sub>10</sub> )<br>71 FR 61144  | Primary and Secondary | 150 µg/m               | 24-hour                 | Not to be exceeded more than once per year on average over 3 years              |
| Particulate Matter (PM <sub>2.5</sub> )<br>71 FR 61144 | Primary               | 12 µg/m <sup>3</sup>   | Annual                  | Annual mean averaged over 3 years   |
|  | Secondary             | 15 µg/m <sup>3</sup>   | Annual                  | Annual mean averaged over 3 years   |
|  | Primary and Secondary | 35 µg/m <sup>3</sup>   | 24-hour                 | 98 <sup>th</sup> percentile, averaged over 3 years                              |
| Ozone<br>73 FR 16436                                   | Primary and Secondary | 0.075 ppm              | 8-hour                  | Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years |
| Sulfur Dioxide<br>75 FR 35520                          | Primary               | 75 ppb                 | 1-hour                  | Not to be exceeded more than once per year                                      |
|  | Secondary             | 0.5 ppm                | 3-hour                  |   |

Section 107 of the 1977 Clean Air Act Amendment requires that EPA publish a list of all geographic areas in compliance with the NAAQS, as well as those areas not in compliance with the NAAQS. The designation of an area is made on a pollutant-by-pollutant basis. EPA's area designations consist of: attainment, unclassified, maintenance, and nonattainment. Ambient air quality is monitored through a network of stations to determine conditions throughout the country. EPA reviews the monitoring data, and areas where air pollution levels persistently exceed the NAAQS may be designated "nonattainment" for one or more pollutants. After a nonattainment area improves conditions to meet the standard for a pollutant, it is redesignated as a maintenance area. Typically these designations are applied to entire counties or groups of counties.

In addition to the criteria pollutants for which there are NAAQS, EPA also regulates air toxics. Toxic air pollutants are those pollutants known or suspected to cause cancer or other serious health effects. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries). The Clean Air Act (CAA) identified 188 air toxics. In 2001 EPA identified a list of 21 Mobile Source Air Toxics (MSATs), and highlighted six of these MSATs as “priority” MSAT.

### **III. ENVIRONMENTAL ANALYSIS**

The MD 175 Disney Road to Reece Road project is located in Anne Arundel County, Maryland, which is included as a part of the Baltimore Metropolitan Statistical Area (MSA). The region has been classified as moderate nonattainment with respect to the 2008 eight-hour ozone standard and on June 1, 2015, EPA determined that the area has attained the 2008, 8-hour ozone standard. The region was classified as maintenance of the 1997 fine particulate (PM<sub>2.5</sub>) standard by EPA on December 16, 2014. A portion of the MSA, the Baltimore Central Business District (CBD), had been non-attainment for carbon monoxide; however, this area has been re-designated as a CO Maintenance Area. This CO Maintenance Area is only the Baltimore CBD and does not extend to Anne Arundel County.

Transportation programs and plans must be evaluated for “conformity” to the applicable State Implementation Plan (SIP) provisions before projects can receive federal funding. Metropolitan Planning Organizations (MPOs) are designated to evaluate projects and develop conforming transportation plans for the assigned MSAs, and to document project and plan conformity with SIP provisions. This is done through the development of Transportation Improvement Programs (TIPs) and Long Range Plans (LRPs). The TIP generally presents the SIP-conforming projects anticipated in an MSA over the next several years while an LRP covers a longer period. On a regional level, a project is considered to be conforming if it is a part of a conforming TIP and LRP.

For the Baltimore region, the Baltimore Regional Transportation Board (BRTB) serves as the MPO. As the MPO, BRTB develops the TIP and LRP for the region, including Anne Arundel County. Furthermore, it performs the related regional conformity analysis. The current LRP, referred to as the *Long Range Metropolitan Transportation Plan: Plan It 2035*, was adopted by BRTB on November 14, 2011. The latest TIP, covering the period 2016 to 2019, was adopted by BRTB on July 28, 2015.

The proposed project is one phase of the larger project MD 175: MD 295 to MD 170, which is included in the CLRP *Plan It 2035* as a highway project on the list of Projects with Available/Anticipated Funding. The CLRP describes the MD 175: MD 295 to MD 170 project as widening from 4-6 lanes between MD 295 and MD 32 and bicycle/pedestrian improvements from MD 32 to MD 170. The current TIP includes the MD 175 Disney Road to Reece Road project under ID 61-1601-41, which describes the project as a breakout of the MD 175: MD 295 to MD 170 project that will widen MD 175 from Disney Road to Reece Road from the existing two lane roadway to a six lane roadway and will provide bicycle and pedestrian facilities.

### **IV. ENVIRONMENTAL CONSEQUENCES**

In addition to the regional conformity analysis, any federally funded project within a nonattainment or maintenance area for carbon monoxide or particulate matter must be analyzed at the project level. At the project level, the pollutants could possibly have localized (“hot-spot”) levels above the criteria. Although the MD 175 Disney Road to Reece Road project is not in a CO nonattainment or maintenance area subject to the requirements of 40 CFR 93.116 concerning conformity determination, a qualitative CO assessment has been included. Since Anne Arundel County is a maintenance area for PM<sub>2.5</sub>, a project-specific PM<sub>2.5</sub> assessment has also been provided.

The closest MDE air monitoring station for the study area is located at the Anne Arundel County Public Works Building in Glen Burnie, Maryland. In addition, monitoring data is available at other Maryland monitoring stations including those located at Howard University’s Beltsville Laboratory, Essex, and Oldtown Fire Station. All sites are in EPA Region 3. Monitored air quality data within or near the study area for the years 2012-2014 is presented in **Table 2**. Monitoring information is located in **Appendix B**.

**TABLE 2 – Monitored Ambient Air Quality Data 2012-2014**

| Site<br>(ordered from closest to farthest<br>to project limits)       |         |                      | Site 240330030<br>HU-Beltsville<br>Beltsville MD          |      |      | Site 245100040<br>Oldtown Fire Station<br>Baltimore MD |      |      | Site 240053001<br>Essex<br>Essex MD                    |      |      |
|---|---------|----------------------|---|------|------|--|------|------|--|------|------|
| Year  |         |                      | 2012  | 2013 | 2014 | 2012   | 2013 | 2014 | 2012   | 2013 | 2014 |
| Carbon<br>Monoxide<br>(CO)<br>[ppm]                                   | 1-Hour  | 1st Maximum          | 1.3   | 1    | 1.5  | 2.5  | 2.4  | 1.7  | 2.3  | 2.4  | 2.4  |
|   |         | 2nd Maximum          | 1.2   | 0.9  | 1    | 2.5  | 2    | 1.6  | 2.1  | 2.2  | 1.8  |
|   |         | Actual Exceedances   | 0   | 0    | 0    | 0  | 0    | 0    | 0  | 0    | 0    |
|   | 8-Hour  | 1st Maximum          | 1.2   | 0.9  | 0.9  | 2.1  | 1.6  | 1.3  | 1.6  | 1.6  | 1.4  |
|   |         | 2nd Maximum          | 0.9   | 0.9  | 0.8  | 1.6  | 1.3  | 1    | 1.6  | 1.4  | 1.3  |
|   |         | Actual Exceedances   | 0   | 0    | 0    | 0  | 0    | 0    | 0  | 0    | 0    |
| Site<br>(ordered from closest to farthest<br>to project limits)       |         |                      | Site 240031003<br>Public Works Building<br>Glen Burnie MD |      |      | Site 240330030<br>HU-Beltsville<br>Beltsville MD       |      |      | Site 245100040<br>Oldtown Fire Station<br>Baltimore MD |      |      |
| Year  |         |                      | 2012  | 2013 | 2014 | 2012   | 2013 | 2014 | 2012   | 2013 | 2014 |
| Particulate<br>Matter<br>(PM <sub>2.5</sub> )<br>[ug/m <sup>3</sup> ] | Annual  | Weighted Annual Mean | 10.2  | 9.1  | 9.1  | 8.5  | 8.2  | 7.8  | 10   | 9.1  | 9.2  |
|   | 24-Hour | 98th Percentile      | 23  | 22   | 23   | 25   | 22   | 17   | 23   | 23   | 21   |

**1. Carbon Monoxide (CO) Assessment**

A portion of the Baltimore Metropolitan Statistical Area (MSA) is considered to be a maintenance area in terms of carbon monoxide (CO). This maintenance area only encompasses the Central Business District of Baltimore City, which previously had been in nonattainment. Anne Arundel County is not included in this maintenance area, and therefore is not located within a CO nonattainment or a maintenance area. There has not been a local violation of the CO standard since 1988. Code of Federal Regulations Title 40, Part 93-Subpart A (40CFR93A)

implements section 176(c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*). Paragraph 40CFR93.102(b):*Geographic Applicability* states that the provisions of the subpart apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. Since the study area is not in a CO nonattainment or maintenance area, a hot-spot conformity determination in conformance with 40 CFR 93.116 is not required, and a qualitative assessment that considers local factors is provided hereinafter.

As shown in **Table 2**, the maximum 1-hour monitored CO concentration of 2.5 ppm occurred in 2012 at Site 245100040, located at the Oldtown Fire Station in Baltimore, Maryland. This concentration is only 7.1 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 8-hour monitored CO concentration of 2.1 ppm occurred in the same year at the same site, which is only 23.3 percent of the 8-hour NAAQS of 9.0 ppm.

A review of data provided, including traffic volumes and operational analysis summarized in **Tables 3 and 4** (see **Appendix C** for details), demonstrates that while the MD 175 Disney Road to Reece Road project will increase the traffic volumes on this segment of MD 175, it will not result in a change in vehicle mix and will improve the level of service (LOS) at the two intersections at the project limits.

**TABLE 3 - Traffic Data: MD 175 0.3 mi North of MD 174**

| Condition           |              | Existing 2015 | No-Build 2040 | Build 2040    |
|---------------------|--------------|---------------|---------------|---------------|
| ADT                 |              | 24,900        | 43,500        | 66,500        |
| Percent Trucks      | Gas / Diesel | 1.93 / 3.07   | 1.93 / 3.07   | 1.93 / 3.07   |
|                     | Total        | 5             | 5             | 5             |
| Daily Truck Volumes | Gas / Diesel | 481 / 764     | 840 / 1,335   | 1,283 / 2,042 |
|                     | Total        | 1,245         | 2,175         | 3,325         |

**TABLE 4 - Traffic Operation Summary**

| Intersection with MD 175 | LOS (AM/PM) |                |             |
|--------------------------|-------------|----------------|-------------|
|                          | Existing    | No-Build: 2030 | Build: 2030 |
| Disney Road              | B/C         | F/F            | C/E         |
| Reece Road               | B/D         | F/F            | C/E         |

In conclusion, because the data presented in **Table 2** demonstrates monitored CO concentrations in the project area are a small percentage of the CO NAAQS, and the data in **Tables 3 and 4** demonstrates the improvements will not result in significant changes in vehicle mix relative to the No-Build conditions and will result in improved LOS at intersections along MD 175, construction of the MD 175 Disney Road to Reece Road project will not cause or contribute to a new violation of the CO NAAQS.

## 2. Particulate Matter (PM<sub>2.5</sub>) Assessment

The project is located in Anne Arundel County, which is in the Baltimore, MD, Fine Particulate Matter (PM<sub>2.5</sub>) Maintenance Area. This area was designated as nonattainment for PM<sub>2.5</sub> on January 5, 2005 by EPA. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation conformity for the PM<sub>2.5</sub> standards applied on April 5, 2006, after the one-year grace period provided by the Clean Air Act. On November 13, 2009 EPA designated nonattainment areas based on the 2006 24-hour PM<sub>2.5</sub> NAAQS. The Baltimore region was not designated as nonattainment for the 2006 standard, therefore the designations based on the 1997 NAAQS remain in effect. This area was re-designated as maintenance by the EPA on December 16, 2014.

On March 10, 2006, EPA issued amendments to the Transportation Conformity Rule to address localized impacts of particulate matter: "*PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New PM<sub>2.5</sub> and Existing PM<sub>10</sub> National Ambient Air Quality Standards*" (71 FR 12468). These rule amendments require the assessment of localized air quality impacts of Federally funded or approved transportation projects in PM<sub>10</sub> and PM<sub>2.5</sub> nonattainment and maintenance areas. On December 20, 2010, EPA issued "*Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas*", (75 FR 79370), which helps state and local agencies complete quantitative PM<sub>2.5</sub> and PM<sub>10</sub> hot-spot analyses for project-level transportation conformity determinations of certain highway and transit projects. This guidance included a two-year grace period until December 20, 2012.

Projects that require hotspot analysis for PM<sub>2.5</sub> are those that are *Projects of Air Quality Concern* as enumerated in 40 CFR 93.123(b)(1):

- (i) *New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles;*
- (ii) *Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;*
- (iii) *New bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location;*
- (iv) *Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and*
- (v) *Projects in or affecting locations, areas, or categories of sites which are identified in the PM<sub>10</sub> or PM<sub>2.5</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violations.*

As discussed in the examples of the preamble to the March 10, 2006 Final Rule for PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-Level Transportation Conformity Determinations (71 FR 12491), for projects involving the expansion of an existing highway, 40 CFR 93.123(b)(1)(i) has been interpreted as applying only to projects that would involve a significant increase in the number of diesel transit buses and diesel trucks on the existing facility.

Determination as to whether the MD 175 from east of Disney Road to west of Reece Road project is a *Project of Air Quality Concern* will be finalized by Interagency Consultation. To

assist with the Interagency Consultation process, SHA has prepared the following assessment of the proposed improvements:

- The MD 175 from east of Disney Road to west of Reece Road project is considered under the following paragraph of 40 CFR 93:
  - 40 CFR 92.123(b)(1)(i), as amended, which includes “*New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles.*”
  - 40 CFR 92.123(b)(1)(ii) *Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;*
- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(i) to be considered a project of “air quality concern” based on the following considerations:
  - The proposed project involves realigning and widening the roadway to provide a six lane roadway (from existing two lane roadway) and turn lanes; removing pavement; reconstructing and resurfacing pavement; installing new curb and gutter; installing new stormwater management facilities, drainage swales and drainage pipes; installing new pavement markings, signing, lighting and traffic signalization; relocating utilities; and installing new sidewalks, a hiker/biker trail, and landscaping.
  - As shown in **Table 3**, MD 175 does not carry a significant number of trucks; nor will there be an increase in the percentage of trucks. For the 2040 No-Build conditions, the total MD 175 ADT volume is 43,500 vehicles and the total average daily number of trucks is 2,175. For the 2040 Build conditions, the MD 175 ADT volume is 66,500 vehicles and the average daily number of trucks is 3,325.
  - Depicted truck percentages represent the amount of light, medium and heavy truck activity along a given roadway segment. Unless predicated by significant land use changes (heavy truck generators), existing truck percentages are used as the primary factor in determining future percentages. The Build condition will improve operation of the roadway and intersections, relieving system congestion, but will not necessarily induce new truck traffic origin-destination patterns.
  - A review of the traffic data demonstrates that there will not be a “significant” increase in the number of trucks from the No-Build condition to the Build. The Build condition will improve safety and operation of the roadway, but will not necessarily induce new truck origin-destination patterns.
- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(ii) to be considered a project of “air quality concern.”

- As shown in **Table 4**, the project will improve LOS at the intersections at the project limits in the Build condition as compared to the operation of the intersections in the No-Build condition.
- Therefore, the project does not meet the requirement that the change in LOS is caused by an increase in diesel vehicles “*related to the project.*”
- Compared to the No-Build configuration, the proposed Build alternative provides benefits during both peak hours. Refer to **Appendix C** for additional information.

Based on review and analysis as discussed above, it is determined that the proposed MD 175 Disney Road to Reece Road project in Anne Arundel County will meet the Clean Air Act and 40 CFR 93.109 requirements for Fine Particulate Matter – PM<sub>2.5</sub>. These requirements are met without a hot-spot analysis because the project has not been found to be a project of air quality concern as outlined under 40 CFR 93.123(b)(1). The project will not cause or contribute to a new violation of the PM<sub>2.5</sub> NAAQS, or increase the frequency or severity of an existing violation.

### **3. Regional Conformity Determination**

Section 176(c) of the Clean Air Act and the Federal Conformity Rule require that transportation plans and programs conform to the intent of the air quality state implementation plan (SIP) through a regional emissions analysis in PM<sub>2.5</sub> nonattainment areas. The Baltimore Regional Transportation Board (BRTB) serves as the Metropolitan Planning Organization (MPO), and therefore it is responsible for the regional conformity determination.

- The currently approved BRTB Long Range Metropolitan Transportation Plan (LRP), referred to as *Plan It 2035*, and the *2016-2019 Transportation Improvement Program* (TIP) have been determined to conform to the requirements of the Clean Air Act Amendments of 1990. These represent the currently conforming LRP and TIP in accordance with 40 CFR 93.114. The MD 175 from east of Disney Road to west of Reece Road project is included as a breakout of TIP ID 61-0605-41 in the 2016-2019 TIP.
- The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. Conformity to the requirements of the Clean Air Act Amendments of 1990 means that the transportation activity will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS.

### **4. MSAT Assessment**

The Federal Highway Administration (FHWA) *Guidance Update on Mobile Source Air Toxic Analysis in NEPA* requires an assessment of Mobile Source Air Toxics (MSATs) under specific conditions. The EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers. These seven MSATs are: acrolein; benzene; 1,3-butadiene; diesel exhaust (organic gases and diesel particulate matter); formaldehyde; naphthalene; and polycyclic organic matter. Since the No-Build and Build ADT traffic are projected to be less than 140,000 as reflected in **Table 3**, the project will have low impacts on traffic volumes or vehicle mixes. Therefore in accordance with the above referenced FHWA guidance, the project would be considered a **Project with Low Potential MSAT Effects.**

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:

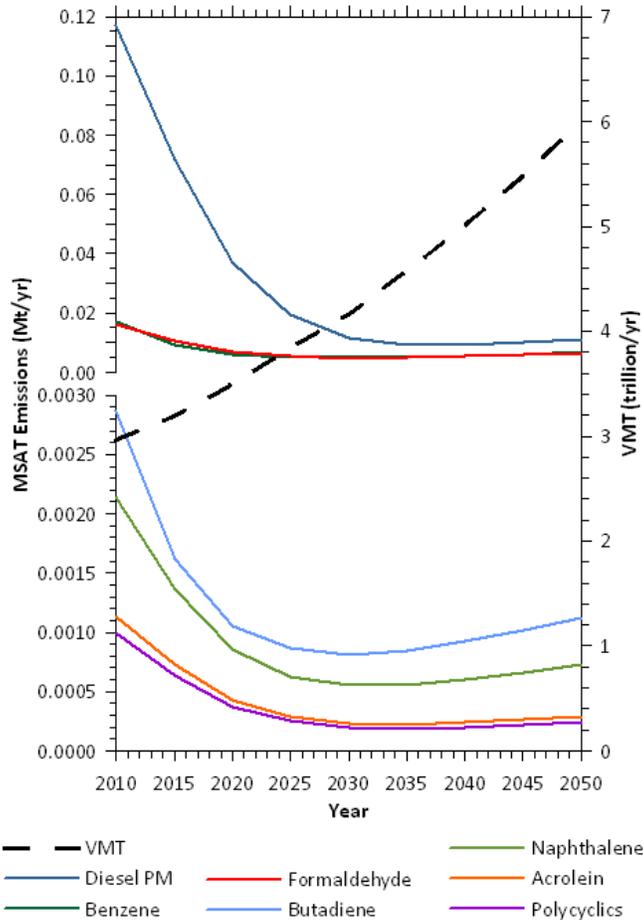
[www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/research\\_and\\_analysis/methodology/methodology00.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/methodology/methodology00.cfm)

For the build alternative, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to **Table 3**. This increase in VMT would lead to higher MSAT emissions for the build alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under each of the Alternatives are nearly the same, it is expected there would be no appreciable difference in overall MSAT emissions among the alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases (see **Figure 2**).

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <http://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA.

**FIGURE 2 - National MSAT Emission Trends 1999 – 2050 for Vehicles Operating on Roadways Using EPA's MOVES2010b Model**

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by

technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

## **5. Construction Impacts**

The construction phase of the proposed project has the potential to impact the local ambient air quality by generating fugitive dust through activities such as demolition and materials handling.

The State Highway Administration has addressed this possibility by establishing "Specifications for Construction and Materials" which specifies procedures to be followed by contractors involved in site work. The Maryland Air and Radiation 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 and Radiation Management Administration found the specifications to be consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 26.11.06.03 D) would be incorporated to minimize the impact of the proposed transportation improvements on the air quality of the area. Mobile source emissions can also be minimized during construction by not permitting idling delivery trucks or other equipment during periods of unloading or other non-active use. The existing number of traffic lanes should be maintained during construction, to the maximum extent possible, and construction schedules should be planned in a manner that will not create traffic disruption and increase air pollutants. Application of these measures will ensure that construction impact of the project is insignificant.

#### **V. INTERAGENCY CONSULTATION GROUP / PUBLIC COORDINATION**

Copies of this air quality analysis were circulated to FHWA, EPA, the Maryland Department of the Environment (MDE), and BRTB staff for a 15 day Interagency Consultation Group review and comment period. Each agency concurred that the MD 175 from Disney Road to Reece Road project is not a project of air quality concern and does not require a hot spot analysis. BRTB staff commented on clarifying the description of its role, the NAAQS attainment status of the Baltimore area, as well as the TIP description. These comments have been addressed and included in **Appendix D** along with the other agency coordination. This Air Quality Analysis will be placed on SHA's website for a 15 day public review and comment period.

## **APPENDIX**

**A - PLANS**

**B - MONITORED AMBIENT AIR QUALITY DATA 2012-2014**

**C - TRAFFIC DATA**

**D - INTERAGENCY CONSULTATION GROUP COORDINATION**

**APPENDIX A - PLANS**



Maryland Department of Transportation  
 STATE HIGHWAY ADMINISTRATION  
 PLANS OF PROPOSED HIGHWAY  
 S.H.A. CONTRACT NO. AA4365471  
 FEDERAL AID PROJECT NO.  
 MD 175 WEST OF REECE ROAD  
 TO EAST OF DISNEY ROAD

INDEX OF SHEETS  
 SEE SHEET 2

AASHTO DESIGN CRITERIA  
 THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE  
 2001 PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC  
 DESIGN OF HIGHWAYS AND STREETS."

STANDARD SPECIFICATIONS BOOK,  
 BOOK OF STANDARDS AND MUTCD

ALL WORK ON THIS PROJECT SHALL CONFORM TO:  
 THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE  
 HIGHWAY ADMINISTRATIONS SPECIFICATIONS ENTITLED STANDARD  
 SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED  
 JULY 2008 REVISIONS THEREOF OR ADDITIONS THERETO;  
 THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR  
 BIDS BOOK; THE ADMINISTRATIONS BOOK OF STANDARDS FOR  
 HIGHWAYS AND INCIDENTAL STRUCTURES AND THE LATEST ADOPTED  
 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

RIGHT OF WAY

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE  
 PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS.  
 THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT OF WAY  
 AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF  
 WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE  
 FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS  
 MADE OF THE ACCURACY OF SAID LOCATIONS.

COMPLETENESS OF DOCUMENTS

THE STATE HIGHWAY ADMINISTRATION SHALL ONLY BE  
 RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS  
 OBTAINED DIRECTLY FROM THE STATE HIGHWAY  
 ADMINISTRATION'S CASHIER'S OFFICE. FAILURE TO ATTACH  
 ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED  
 FACILITIES FOR THE ELDERLY AND HANDICAPPED IN  
 COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION

ENVIRONMENTAL INFORMATION

PRD # 15-PR-0023  
 ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED  
 FOR CONTRACT NO. AA4365471 SHALL BE INSPECTED  
 AND MAINTAINED IN ACCORDANCE WITH THE STATE HIGHWAY  
 ADMINISTRATION'S BEST MANAGEMENT PRACTICES (BMP)  
 INSPECTION AND REMEDIATION PROGRAM.

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE  
 STRICTLY ENFORCED DURING CONSTRUCTION.

STANDARD STABILIZATION NOTE :

FOLLOWING INITIAL SOIL DISTURBANCE OR  
 RESTORANCE PERMANENT OR TEMPORARY STABILIZATION  
 SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS  
 AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES,  
 SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES  
 GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND  
 SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED  
 AREAS ON THE PROJECT SITE.

OWNERS / DEVELOPERS CERTIFICATION :

I / WE HEREBY CERTIFY THAT ANY CLEARING, GRADING,  
 CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE  
 PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE  
 PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT  
 WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND  
 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING  
 PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION  
 BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE  
 THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION  
 BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT,  
 COMPLIANCE INSPECTORS.

LIMIT OF WORK  
 AA4365471  
 MD 175 FROM DISNEY RD TO REECE RD  
 NB STA. 102+06, SB STA. 202+04

LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 4  
 STA. 41+92

LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 3  
 STA. 33+15

LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 5  
 STA. 51+82

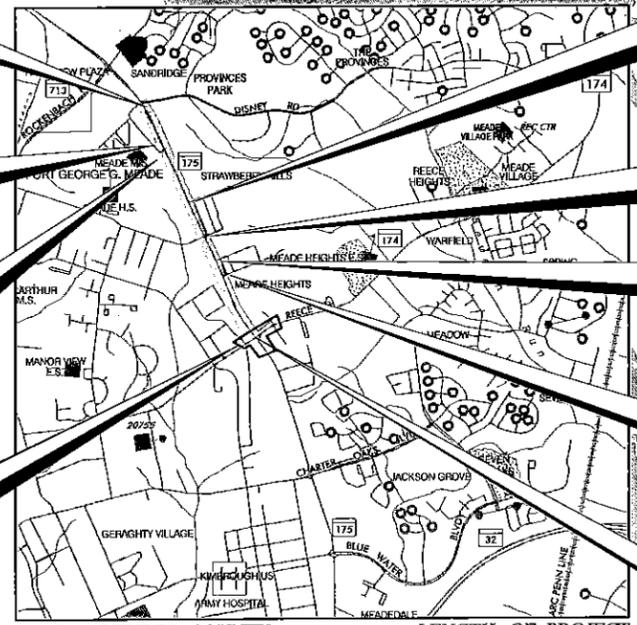
LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 2  
 STA. 21+91

LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 7  
 STA. 72+12

UNDER  
 CONSTRUCTION:  
 MD 175 AT REECE ROAD  
 (AA5805670)

LIMIT OF WORK  
 AA4365471  
 ACCESS ROAD - 9  
 STA. 92+35

LIMIT OF WORK  
 AA4365471  
 MD 175 FROM DISNEY RD TO REECE RD  
 STA. 824+88



ANNE ARUNDEL COUNTY LENGTH OF PROJECT:  
 MD RTE. 175 = 1.13 miles

|                  |             |
|------------------|-------------|
| HORIZONTAL DATUM | NAD 83 / 91 |
| VERTICAL DATUM   | NAVD 88     |



| DESIGN DESIGNATION             |                          |        |
|--------------------------------|--------------------------|--------|
| ROADWAY                        | MD 175 - NORTH OF MD 174 |        |
| CONTROLS / YEARS               | 2014                     | 2035   |
| AVERAGE DAILY TRAFFIC (A.D.T.) | 22,375                   | 65,700 |
| DESIGN HOURLY VOLUME (D.H.V.)  | 9%                       | 9%     |
| DIRECTIONAL DISTRIBUTION       | 53%                      | 53%    |
| % TRUCKS - A.D.T.              | 3%                       | 3%     |
| % TRUCKS - D.H.V.              | 3%                       | 3%     |
| DESIGN SPEED M.P.H.            | 45                       |        |
| FUNCTIONAL CLASSIFICATION      | URBAN MINOR ARTERIAL     |        |
| CONTROL OF ACCESS              | NONE                     |        |
| INTENSITY OF DEVELOPMENT       | RURAL                    |        |
| TERRAIN                        | ROLLING                  |        |
| ANTICIPATED POSTED SPEED       | 40 M.P.H.                |        |

| REVISIONS   |  |
|---|--|
| NOTE:   |  |
| See Sheet No. 2 for List of Revised Sheet Numbers |  |
|   |  |
|   |  |

| R-O-W PLAT NUMBERS | SURVEY BOOK NUMBERS |
|--------------------|---------------------|
| 58224-58230        | 05814               |
| 58241-58252        | 06006               |
| 58254-58266        | 06007               |
| 58637-58638        | 17110               |
| 58655-58656        | 20061               |
|                    | 20062               |
|                    | 25554               |
|                    | 25555               |
|                    | 31791               |

**AECOM**  
 7 ST. PAUL STREET, 17th FLOOR  
 BALTIMORE, MARYLAND 21202

REVIEWED AND APPROVAL RECOMMENDED DATE

\_\_\_\_\_  
 CHIEF, HIGHWAY DESIGN DIVISION

APPROVAL RECOMMENDED DATE

\_\_\_\_\_  
 DIRECTOR, OFFICE OF HIGHWAY DEVELOPMENT

APPROVED DATE

\_\_\_\_\_  
 DEPUTY ADMINISTRATOR / CHIEF ENGINEER FOR TRAINING,  
 ENGINEERING, REAL ESTATE AND ENVIRONMENT

DRILL HOLES  
 DRILL HOLES  
 DRILL HOLES



NBC-2  
 PI STA 103+82.57  
 $\Delta = 14^\circ 58' 33.75''(R)$   
 $D = 2^\circ 36' 15.67''$   
 $L = 575.04'$   
 $T = 289.17'$   
 $R = 2200.00'$

NBC-3  
 PI STA 112+36.77  
 $\Delta = 4^\circ 48' 03.16''(R)$   
 $D = 1^\circ 24' 35.41''$   
 $L = 340.53'$   
 $T = 170.36'$   
 $R = 4064.00'$

| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS |                           |
|---|---------------------------|
| 4 LF                                    | SBC - STA. 209+93, 3' LT  |
| 31 LF                                   | SBC - STA. 209+50, 30' RT |
| 16 LF                                   | NBC - STA. 110+90, 30' LT |
| 23 LF                                   | SBC - STA. 212+84, 3' LT  |
| 24 LF                                   | NBC - STA. 113+41, 40' LT |

QUANTITY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12"x8") (MD 620.02) |   |
|--|---|
| 66 LF  | NBC - STA. 107+56, 28' LT TO STA. 107+84, 77' LT        |
| 682 LF   | NBC - STA. 108+09, 78' LT TO MD 175 STA. 779+50, 49' LT |
| 547 LF   | NBC - STA. 107+56, 1' RT TO STA. 112+98, 10' RT         |
| 554 LF   | NBC - STA. 107+55, 9' RT TO STA. 112+98, 10' RT         |
| 958 LF   | SBC - STA. 207+49, 28' RT TO AR3 STA. 33+15, 10' RT     |
| 322 LF   | AR3 - STA. 33+15, 12' RT TO AR3 STA. 30+16, 51' RT      |
| 180 LF   | AR2 - STA. 21+91, 12' LT TO STA. 779+50, 49' RT         |
| 51 LF  | MD 175 - STA. 779+01, 6' RT TO STA. 779+50, 3' RT       |
| 51 LF  | MD 175 - STA. 779+01, 6' RT TO STA. 779+50, 9' RT       |

| 5 INCH CONCRETE SIDEWALK |  |
|--------------------------|--|
| 117 SF                   | NBC - STA. 107+56, 32' LT TO STA. 107+80, 41' LT |
| 3188 SF                  | NBC - STA. 108+38, 37' LT TO STA. 779+50, 58' LT |

| SIDEWALK RAMPS PERPENDICULAR (MD 655.11) |                            |
|--|----------------------------|
| 1 EA                                     | NBC STA. 107+65, 35' LT    |
| 1 EA                                     | NBC STA. 108+28, 35' LT    |
| 1 EA                                     | NBC STA. 113+35, 68' RT    |
| 1 EA                                     | MD 175 STA. 779+07, 59' RT |

| DETECTABLE WARNING SURFACES (MD 655.40) |  |
|---|--|
| 8 SF                                    | NBC STA. 107+73, 35' LT, 8' L X 2' W     |
| 8 SF                                    | NBC STA. 108+28, 35' LT, 8' L X 2' W     |
| 12 SF                                   | NBC STA. 113+42, 68' RT, 12' L X 2' W    |
| 21 SF                                   | MD 175 STA. 779+04, 57' RT, 12' L X 2' W |

| REMOVAL OF EXISTING PAVEMENT |  |
|------------------------------|--|
| 511 CY                       | NBC STA. 109+75, 64' LT TO MD 175 STA. 779+50, 100' LT |

| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.01) |   |
|--|---|
| 958 LF   | SBC - STA. 207+49, 28' RT TO STA. 33+15, 10' LT         |
| 66 LF  | NBC - STA. 107+56, 28' LT TO STA. 107+84, 77' LT        |
| 682 LF   | NBC - STA. 108+09, 78' LT TO MD 175 STA. 779+50, 49' LT |
| 322 LF   | AR3 - STA. 33+15, 12' RT TO AR3 STA. 30+16, 51' RT      |
| 180 LF   | AR2 - STA. 21+91, 12' LT TO STA. 779+50, 49' RT         |
| 51 LF  | MD 175 - STA. 779+01, 6' RT TO STA. 779+50, 9' RT       |

| 6' GALVANIZED CHAIN LINK FENCE (MD 690.01) |   |
|--|---|
| 607 LF                                     | SBC - STA. 207+50, 140' RT TO STA. 213+43, 88' RT       |
| 126 LF                                     | AR2 - STA. 21+91, 30' LT TO MD 175 STA. 779+50, 102' RT |

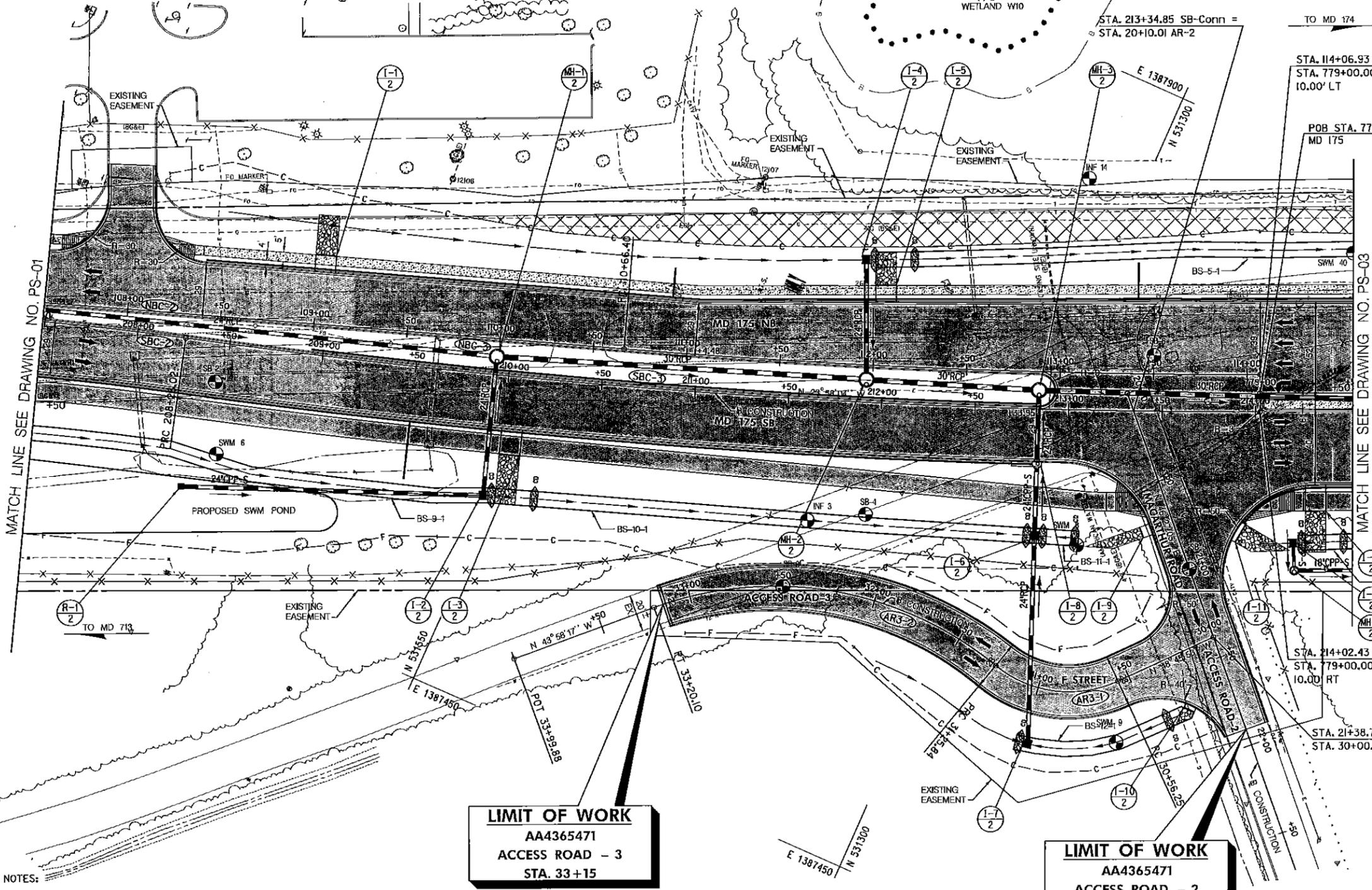
| FLOWABLE FILL FOR PIPE ABANDONMENT |   |
|------------------------------------|---|
| 5.6 CY                             | SBC - STA. 208+01, 16' RT TO STA. 208+12, 62' RT        |
| 10 CY                              | SBC - STA. 209+60, 16' LT TO STA. 209+61, 39' RT        |
| 20.7 CY                            | NBC - STA. 112+07, 28' LT TO STA. 112+88, 29' LT        |
| 6.7 CY                             | NBC - STA. 112+91, 32' LT TO STA. 113+50, 35' LT        |
| 10.5 CY                            | NBC - STA. 112+91, 27' LT TO STA. 113+50, 31' LT        |
| 10.7 CY                            | NBC - STA. 113+53, 33' LT TO STA. 113+76, 34' LT        |
| 21.2 CY                            | NBC - STA. 113+76, 34' LT TO MD 175 STA. 779+50, 45' LT |
| 16.5 CY                            | NBC - STA. 113+36, 69' RT TO MD 175 STA. 779+50, 16' LT |

| CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION |   |
|---|---|
| 25 SY   | NBC - STA. 109+04, 48' LT ROP TYPE III(2' L X 11" W X 19" D)    |
| 22 SY   | NBC - STA. 112+04, 52' LT ROP TYPE III(8' L X 11" W X 19" D)    |
| 26 SY   | SBC - STA. 210+05, 56' RT ROP TYPE III(2' L X 11" W X 19" D)    |
| 22 SY   | SBC - STA. 213+29, 69' RT ROP TYPE III(10' L X 6" W X 19" D)    |
| 23 SY   | SBC - STA. 214+01, 70' RT ROP TYPE III(2' L X 11" W X 19" D)    |
| 27 SY   | MD 175 - STA. 779+30, 74' RT ROP TYPE III(2' L X 11" W X 19" D) |

| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A-1 (MD 645.01) |   |
|---|---|
| 48 LF   | MD 175 - STA. 779+02, 6' RT TO STA. 779+50, 6' RT |

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION  
 MD 175 WEST OF REECE ROAD  
 TO EAST OF DISNEY ROAD

| ROADWAY PLAN               |  |
|----------------------------|--|
| SCALE 1"=30'               | ADVERTISED DATE _____ CONTRACT NO. AA4365471 |
| DESIGNED BY BS             | COUNTY ANNE ARUNDEL                          |
| DRAWN BY CB                | LOGMILE _____                                |
| CHECKED BY BP              | HORIZONTAL SCALE _____                       |
| F.A.P. NO. SEE TITLE SHEET | VERTICAL SCALE _____                         |
| DRAWING NO. PS-02 OF 10    | SHEET NO. 19 OF 182                          |



**LIMIT OF WORK**  
 AA4365471  
 ACCESS ROAD - 3  
 STA. 33+15

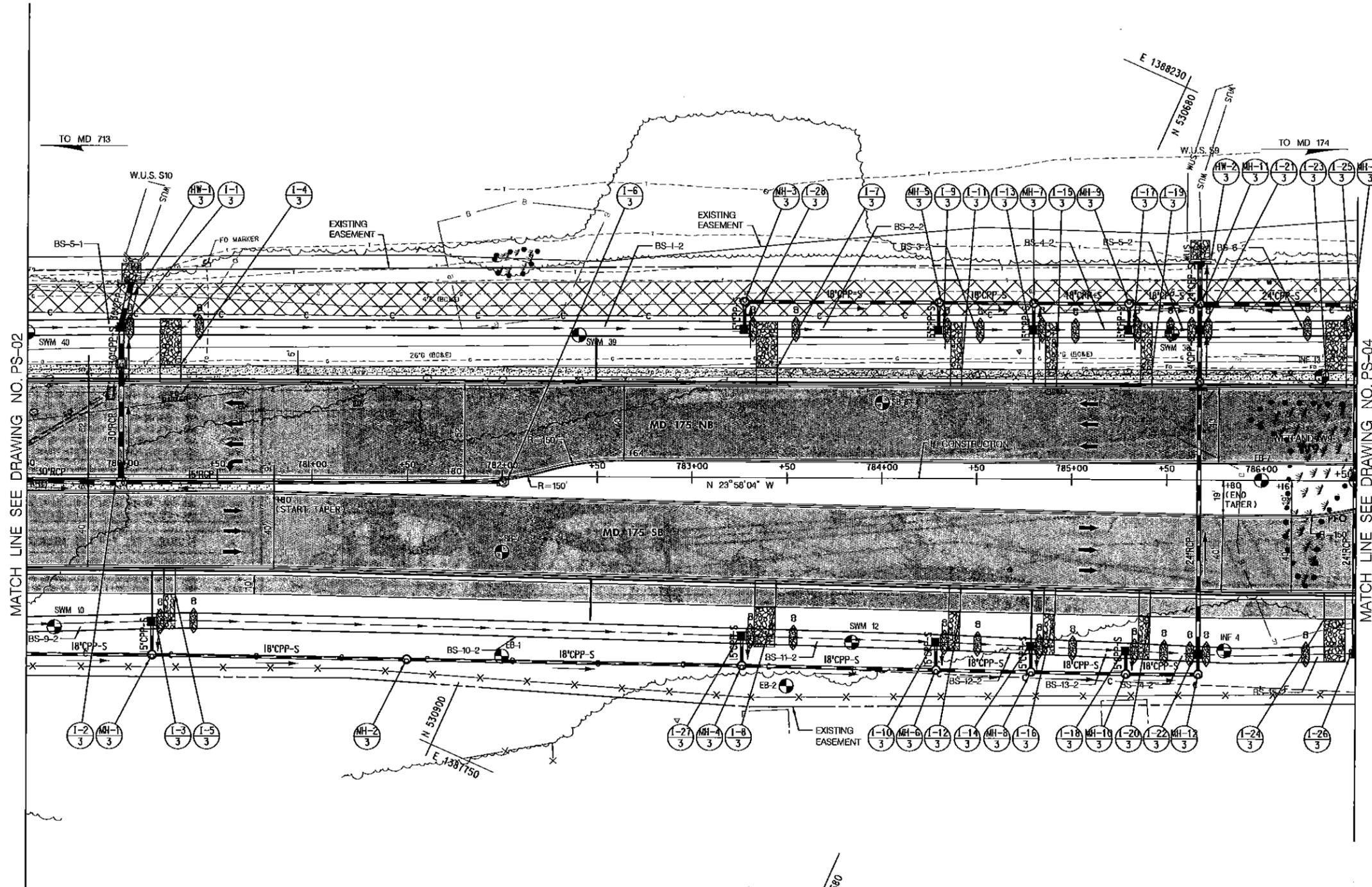
**LIMIT OF WORK**  
 AA4365471  
 ACCESS ROAD - 2  
 STA. 21+91

NOTES:  
 1. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

| SBC-2                              | SBC-3                             | AR3-1                              | AR3-2                              |
|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| PI STA 206+31.67                   | PI STA 211+14.71                  | PI STA 30+95.22                    | PI STA 32+32.77                    |
| $\Delta = 12^\circ 36' 18.82''(R)$ | $\Delta = 8^\circ 10' 28.81''(L)$ | $\Delta = 64^\circ 18' 51.40''(R)$ | $\Delta = 59^\circ 31' 15.53''(L)$ |
| $D = 3^\circ 13' 47.10''$          | $D = 1^\circ 25' 05.56''$         | $D = 92^\circ 24' 45.17''$         | $D = 30^\circ 38' 22.04''$         |
| $L = 390.28'$                      | $L = 576.40'$                     | $L = 69.59'$                       | $L = 194.25'$                      |
| $T = 195.93'$                      | $T = 288.69'$                     | $T = 38.98'$                       | $T = 106.92'$                      |
| $R = 1774.00'$                     | $R = 4040.00'$                    | $R = 62.00'$                       | $R = 187.00'$                      |

| ROADWAY LEGEND                     | R/W PLAT NUMBER | CROSS REFERENCE            | REVISIONS |
|------------------------------------|-----------------|----------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                 | ITEM SHEET NOS.            |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                 | TYPICAL SHEETS             |           |
| CONCRETE SIDEWALK                  |                 | SUPERELEVATION SHEETS      |           |
| MILL AND OVERLAY                   |                 | PIPE & DRAINAGE SCHEDULE   |           |
|                                    |                 | GEOMETRIC LAYOUT SHEETS    |           |
|                                    |                 | ROADWAY PLAN SHEETS        |           |
|                                    |                 | ROADWAY PROFILE SHEETS     |           |
|                                    |                 | TRAFFIC CONTROL SHEETS     |           |
|                                    |                 | EROSION & SEDIMENT CONTROL |           |
|                                    |                 | SIGNING & MARKING PLANS    |           |
|                                    |                 | LANDSCAPE PLAN SHEETS      |           |
|                                    |                 | UTILITIES                  |           |

**AECOM**  
 7 St. Paul Street, 17th FLOOR  
 Baltimore, Maryland 21202  
 410-637-1700



MATCH LINE SEE DRAWING NO. PS-02

MATCH LINE SEE DRAWING NO. PS-04

**QUANTITY NOTES**

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12'x8') (MD 620.02) |   |
|--|---|
| 700 LF   | MD 175 - STA. 779+50, 49' LT TO STA. 786+50, 49' LT             |
| 701 LF   | MD 175 - STA. 779+50, 3' RT TO STA. 786+50, 9' LT               |
| 701 LF   | MD 175 - STA. 779+50, 9' RT TO STA. 786+50, 14' RT              |
| 700 LF   | MD 175 - STA. 779+50, 49' RT TO STA. 786+50, 59' RT             |
| 5 INCH CONCRETE SIDEWALK   |   |
| 3500 SF  | MD 175 - STA. 779+50, 58' LT TO STA. 786+50, 58' LT             |
| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.01)           |   |
| 700 LF   | MD 175 - STA. 779+50, 49' RT TO STA. 786+50, 59' RT             |
| 50 LF  | MD 175 - STA. 779+50, 9' RT TO STA. 780+00, 9' RT               |
| 701 LF   | MD 175 - STA. 779+50, 49' LT TO STA. 786+50, 49' LT             |
| REMOVAL OF EXISTING PAVEMENT                                     |   |
| 878 CY   | MD 175 - STA. 779+50, 100' LT TO STA. 786+50, 107' LT           |
| 6' GALVANIZED CHAIN LINK FENCE (MD 690.01)                       |   |
| 700 LF   | MD 175 - STA. 779+50, 101' RT TO STA. 786+50, 113' RT           |
| FLOWABLE FILL FOR PIPE ABANDONMENT                               |   |
| 11 CY  | MD 175 - STA. 779+50, 45' LT TO STA. 779+92, 45' LT             |
| 5.7 CY   | MD 175 - STA. 779+50, 16' LT TO STA. 779+91, 41' LT             |
| CLASS IIRIPRAP FOR SLOPE AND CHANNEL PROTECTION                  |   |
| 9 SY   | MD 175 - STA. 780+04, 107' RT ROP TYPE II(0' L X 10' W X 19' D) |
| 26 SY  | MD 175 - STA. 780+25, 70' LT ROP TYPE II(22' L X 11' W X 19' D) |
| 26 SY  | MD 175 - STA. 783+39, 70' LT ROP TYPE II(22' L X 11' W X 19' D) |
| 16 SY  | MD 175 - STA. 784+39, 70' LT ROP TYPE II(24' L X 6' W X 19' D)  |
| 16 SY  | MD 175 - STA. 784+89, 70' LT ROP TYPE II(24' L X 6' W X 19' D)  |
| 17 SY  | MD 175 - STA. 785+39, 71' LT ROP TYPE II(24' L X 6' W X 19' D)  |
| 9 SY   | MD 175 - STA. 785+67, 122' LT ROP TYPE II(0' L X 10' W X 19' D) |
| 33 SY  | MD 175 - STA. 786+39, 71' LT ROP TYPE II(27' L X 11' W X 19' D) |
| 12 SY  | MD 175 - STA. 780+25, 72' RT ROP TYPE II(0' L X 6' W X 19' D)   |
| 26 SY  | MD 175 - STA. 783+38, 79' RT ROP TYPE II(21' L X 11' W X 19' D) |
| 14 SY  | MD 175 - STA. 784+38, 81' RT ROP TYPE II(21' L X 6' W X 19' D)  |
| 14 SY  | MD 175 - STA. 784+88, 82' RT ROP TYPE II(21' L X 6' W X 19' D)  |
| 15 SY  | MD 175 - STA. 785+38, 84' RT ROP TYPE II(21' L X 6' W X 19' D)  |
| 28 SY  | MD 175 - STA. 786+39, 85' RT ROP TYPE II(23' L X 11' W X 19' D) |
| MONOLITHIC CONCRETE MEDIUM 6 FEET 0 INCHES TYPE A-1 (MD 645.01)  |   |
| 130 LF   | MD 175 - STA. 779+50, 6' RT TO STA. 780+80, 6' RT               |
| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS                          |   |
| 7 LF   | MD 175 - STA. 779+99, 51' LT                                    |
| 25 LF  | MD 175 - STA. 780+16, 51' RT                                    |
| 23 LF  | MD 175 - STA. 782+49, 51' RT                                    |
| 22 LF  | MD 175 - STA. 782+49, 54' RT                                    |
| 27 LF  | MD 175 - STA. 784+79, 51' LT                                    |
| 28 LF  | MD 175 - STA. 784+79, 59' RT                                    |

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 175 WEST OF REECE ROAD  
TO EAST OF DISNEY ROAD

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**AECOM**  
7 St. Paul Street, 17th FLOOR  
Baltimore, Maryland 21202  
410-637-1700

NOTES:  
1. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

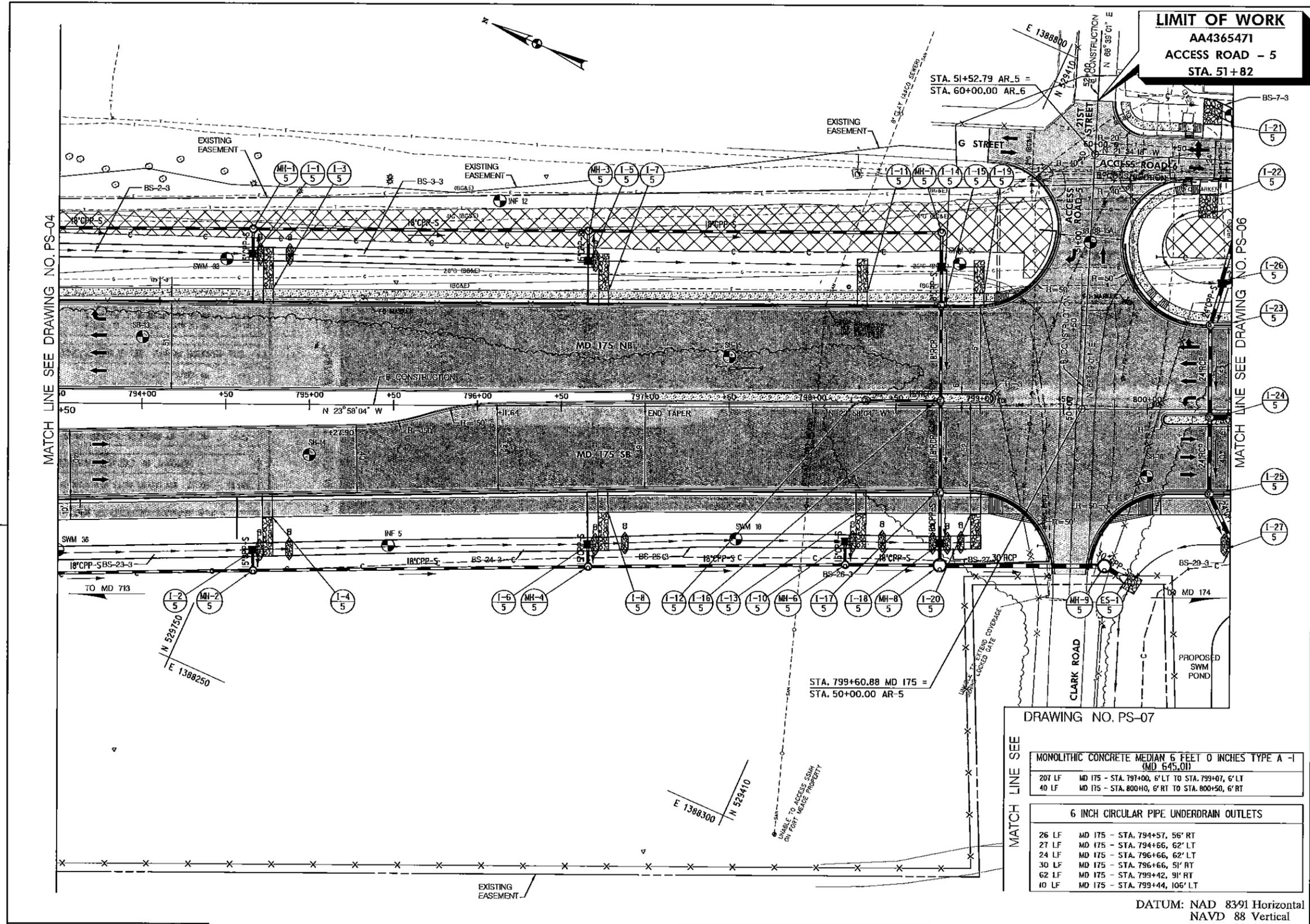
| ROADWAY LEGEND                     | R/W PLAT NUMBER | CROSS REFERENCE            | REVISIONS |
|------------------------------------|-----------------|----------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                 | ITEM SHEET NO.             |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                 | TYPICAL SHEETS             |           |
| CONCRETE SIDEWALK                  |                 | SUPERELEVATION SHEETS      |           |
| MILL AND OVERLAY                   |                 | PIPE & DRAINAGE SCHEDULE   |           |
|                                    |                 | GEOMETRIC LAYOUT SHEETS    |           |
|                                    |                 | ROADWAY PLAN SHEETS        |           |
|                                    |                 | ROADWAY PROFILE SHEETS     |           |
|                                    |                 | TRAFFIC CONTROL SHEETS     |           |
|                                    |                 | EROSION & SEDIMENT CONTROL |           |
|                                    |                 | SIGNING & MARKING PLANS    |           |
|                                    |                 | LANDSCAPE PLAN SHEETS      |           |
|                                    |                 | UTILITIES                  |           |

| ROADWAY PLAN |                 |                  |                        |
|--------------|-----------------|------------------|------------------------|
| SCALE        | 1" = 30'        | ADVERTISED DATE  | CONTRACT NO. AA4385471 |
| DESIGNED BY  | BS              | COUNTY           | ANNE ARUNDEL           |
| DRAWN BY     | CB              | LOGMILE          |                        |
| CHECKED BY   | BP              | HORIZONTAL SCALE |                        |
| F.A.P. NO.   | SEE TITLE SHEET | VERTICAL SCALE   |                        |
| DRAWING NO.  | PS-03           | OF               | 10                     |
| SHEET NO.    | 20              | OF               | 182                    |

PLOTTED: Friday, June 26, 2015 AT 07:24 AM  
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BY: DaininJ





**LIMIT OF WORK**  
**AA4365471**  
**ACCESS ROAD - 5**  
**STA. 51+82**

QUANTITY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12'X8') (MD 620.02) |  |
|--|--|
| 558 LF   | MD 175 - STA. 793+50, 9' LT TO STA. 799+08, 6' LT                |
| 560 LF   | MD 175 - STA. 793+50, 16' RT TO STA. 799+08, 6' LT               |
| 689 LF   | MD 175 - STA. 793+50, 60' LT TO AR5 STA. 51+45, 64' LT           |
| 623 LF   | MD 175 - STA. 793+50, 56' RT TO STA. 799+44, 90' RT              |
| 83 LF  | AR6 - STA. 60+10, 32' LT TO STA. 60+82, 12' LT                   |
| 182 LF   | AR6 - STA. 60+83, 12' RT TO MD 175 STA. 800+50, 49' RT           |
| 110 LF   | MD 175 - STA. 799+65, 96' RT TO STA. 800+50, 49' RT              |
| 42 LF  | MD 175 - STA. 800+10, 6' RT TO STA. 800+50, 3' RT                |
| 42 LF  | MD 175 - STA. 800+10, 6' RT TO STA. 800+50, 9' RT                |
| 5 INCH CONCRETE SIDEWALK   |  |
| 2897 SF  | MD 175 - STA. 793+50, 69' LT TO STA. 799+03, 69' LT              |
| 706 SF   | MD 175 - STA. 800+50, 58' LT TO AR6 STA. 60+50, 22' RT           |
| 283 SF   | AR6 - STA. 60+14, 32' LT TO STA. 60+19, 21' LT                   |
| SIDEWALK RAMPS COMBINATION (MD 655.13)                           |  |
| 1 EA   | AR6 STA. 60+56, 19' LT   |
| 1 EA   | AR6 STA. 60+56, 19' RT   |
| 1 EA   | MD 175 STA. 800+08, 67' LT                                       |
| SIDEWALK RAMPS PERPENDICULAR (MD 655.11)                         |  |
| 1 EA   | MD 175 STA. 799+19, 67' LT                                       |
| 1 EA   | MD 175 STA. 799+18, 60' RT                                       |
| 1 EA   | MD 175 STA. 799+12, 60' RT                                       |
| DETECTABLE WARNING SURFACE (MD 655.40)                           |  |
| 11 SF  | MD 175 STA. 799+19, 67' LT, 10' L X 2' W                         |
| 21 SF  | MD 175 STA. 799+18, 18' RT, 18' L X 3' W                         |
| 21 SF  | MD 175 STA. 799+12, 59' RT, 18' L X 3' W                         |
| 10 SF  | AR6 STA. 60+56, 19' LT, 5' L X 2' W                              |
| 10 SF  | AR6 STA. 60+56, 19' RT, 5' L X 2' W                              |
| 10 SF  | MD 175 STA. 800+08, 67' LT, 5' L X 2' W                          |
| REMOVAL OF EXISTING PAVEMENT                                     |  |
| 1010 CY  | MD 175 - STA. 793+50, 115' LT TO STA. 799+43, 108' LT            |
| 72 CY  | MD 175 - STA. 800+10, 100' LT TO STA. 800+50, 121' LT            |
| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.01)           |  |
| 623 LF   | MD 175 - STA. 793+50, 56' RT TO STA. 799+44, 90' RT              |
| 110 LF   | MD 175 - STA. 799+65, 96' RT TO STA. 800+50, 49' RT              |
| 689 LF   | MD 175 - STA. 793+50, 60' LT TO AR5 STA. 51+45, 64' LT           |
| 83 LF  | AR6 - STA. 60+83, 12' RT TO MD 175 STA. 800+50, 49' RT           |
| 182 LF   | AR6 - STA. 60+10, 32' LT TO STA. 60+82, 12' LT                   |
| 6' GALVANIZED CHAIN LINK FENCE (MD 690.01)                       |  |
| 771 LF   | MD 175 - STA. 793+50, 275' RT TO STA. 799+40, 100' RT            |
| 127 LF   | MD 175 - STA. 799+67, 100' RT TO STA. 800+17, 178' RT            |
| CLASS I RIPRAP FOR CHANNEL AND SLOPE PROTECTION                  |  |
| 16 SY  | MD 175 - STA. 794+75, 81' LT ROP TYPE III(23' L X 6' W X 19' T)  |
| 15 SY  | MD 175 - STA. 796+75, 80' LT ROP TYPE III(22' L X 6' W X 19' T)  |
| 13 SY  | MD 175 - STA. 798+29, 79' LT ROP TYPE III(20' L X 6' W X 19' T)  |
| 13 SY  | MD 175 - STA. 798+99, 79' LT ROP TYPE III(19' L X 6' W X 19' T)  |
| 16 SY  | MD 175 - STA. 794+75, 80' RT ROP TYPE III(23' L X 6' W X 19' T)  |
| 15 SY  | MD 175 - STA. 796+75, 79' RT ROP TYPE III(23' L X 6' W X 19' T)  |
| 14 SY  | MD 175 - STA. 798+29, 74' RT ROP TYPE III(21' L X 6' W X 19' T)  |
| 14 SY  | MD 175 - STA. 798+98, 74' RT ROP TYPE III(21' L X 6' W X 19' T)  |
| 9 SY   | MD 175 - STA. 799+92, 104' RT ROP TYPE III(10' L X 8' W X 19' T) |
| 17 SY  | AR 6 - STA. 60+69, 28' RT ROP TYPE III(15' L X 11' W X 19' T)    |
| 17 SY  | AR 6 - STA. 60+69, 28' RT ROP TYPE III(14' L X 11' W X 19' T)    |

DRAWING NO. PS-07

| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A - I (MD 645.01) |   |
|---|---|
| 207 LF  | MD 175 - STA. 797+00, 6' LT TO STA. 799+07, 6' LT |
| 40 LF   | MD 175 - STA. 800+10, 6' RT TO STA. 800+50, 6' RT |
| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS                           |   |
| 26 LF   | MD 175 - STA. 794+57, 56' RT                      |
| 27 LF   | MD 175 - STA. 794+66, 62' LT                      |
| 24 LF   | MD 175 - STA. 796+66, 62' LT                      |
| 30 LF   | MD 175 - STA. 796+66, 51' RT                      |
| 62 LF   | MD 175 - STA. 799+42, 91' RT                      |
| 10 LF   | MD 175 - STA. 799+44, 106' LT                     |

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION  
 MD 175 WEST OF REECE ROAD  
 TO EAST OF DISNEY ROAD

**AECOM**  
 7 St. Paul Street, 17th FLOOR  
 Baltimore, Maryland 21202  
 410-637-1700

NOTES:  
 1. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

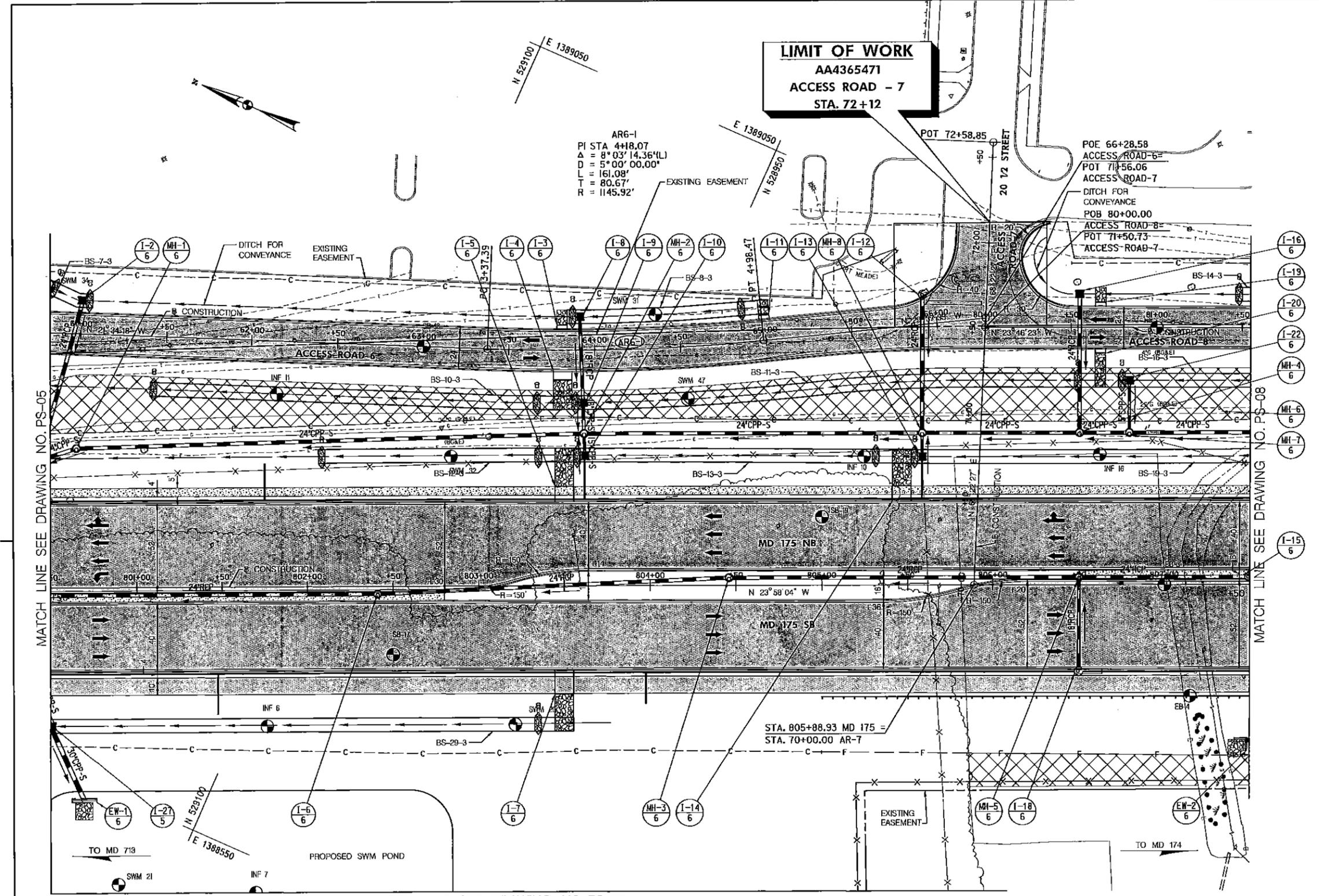
| ROADWAY LEGEND                     | R/W PLAT NUMBER | CROSS REFERENCE                 | REVISIONS |
|------------------------------------|-----------------|---------------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                 | ITEM SHEET NO.                  |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                 | TYPICAL SHEETS.....             |           |
| CONCRETE SIDEWALK                  |                 | SUPERELEVATION SHEETS.....      |           |
| MILL AND OVERLAY                   |                 | PIPE & DRAINAGE SCHEDULE.....   |           |
|                                    |                 | GEOMETRIC LAYOUT SHEETS.....    |           |
|                                    |                 | ROADWAY PLAN SHEETS.....        |           |
|                                    |                 | ROADWAY PROFILE SHEETS.....     |           |
|                                    |                 | TRAFFIC CONTROL SHEETS.....     |           |
|                                    |                 | EROSION & SEDIMENT CONTROL..... |           |
|                                    |                 | SIGNING & MARKING PLANS.....    |           |
|                                    |                 | LANDSCAPE PLAN SHEETS.....      |           |
|                                    |                 | UTILITIES.....                  |           |

**ROADWAY PLAN**

SCALE 1"=30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. AA4365471

DESIGNED BY BS COUNTY ANNE ARUNDEL  
 DRAWN BY CB LOGMILE \_\_\_\_\_  
 CHECKED BY BP HORIZONTAL SCALE \_\_\_\_\_  
 F.A.P. NO. SEE TITLE SHEET VERTICAL SCALE \_\_\_\_\_

DRAWING NO. PS-05 OF 10 SHEET NO. 22 OF 182



QUANTITY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12"x8" (MD 620.02)) |   |
|--|---|
| 561 LF   | ARG - STA. 60+82, 12' LT TO AR7 STA. 72+11, 19' LT                |
| 701 LF   | ARG - STA. 60+82, 12' RT TO AR8 STA. 81+55, 12' RT                |
| 179 LF   | AR7 - STA. 72+13, 35' RT TO AR8 STA. 81+55, 12' LT                |
| 700 LF   | MD 175 - STA. 800+50, 49' LT TO STA. 807+50, 49' LT               |
| 701 LF   | MD 175 - STA. 800+50, 3' RT TO STA. 807+50, 9' LT                 |
| 701 LF   | MD 175 - STA. 800+50, 9' RT TO STA. 807+50, 3' LT                 |
| 700 LF   | MD 175 - STA. 800+50, 49' RT TO STA. 807+50, 49' RT               |
| 5 INCH CONCRETE SIDEWALK   |   |
| 3500 SF  | MD 175 - STA. 800+50, 58' LT TO STA. 807+50, 58' LT               |
| REMOVAL OF EXISTING PAVEMENT                                     |   |
| 1344 CY  | MD 175 - STA. 800+50, 120' LT TO STA. 807+50, 127' LT             |
| 184 CY   | MD 175 - STA. 805+87, 118' RT TO STA. 807+50, 117' RT             |
| 14 CY  | MD 175 - STA. 807+48, 117' RT TO STA. 807+50, 117' RT             |
| TYPE C TRAFFIC BARRIER END TREATMENT (MD 605.03)                 |   |
| 1 EA   | MD 175 - STA. 805+00 TO 805+50 RT                                 |
| TRAFFIC BARRIER W BEAM (MD 605.22)                               |   |
| 200 LF   | MD 175 - STA. 805+50 TO 807+50 RT                                 |
| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.01)           |   |
| 561 LF   | ARG - STA. 60+82, 12' LT TO AR7 STA. 72+11, 19' LT                |
| 701 LF   | ARG - STA. 60+82, 12' RT TO AR8 STA. 81+55, 12' RT                |
| 179 LF   | AR7 - STA. 72+13, 35' RT TO AR8 STA. 81+55, 12' LT                |
| 700 LF   | MD 175 - STA. 800+50, 49' LT TO STA. 807+50, 49' LT               |
| 701 LF   | MD 175 - STA. 800+50, 3' RT TO STA. 807+50, 9' LT                 |
| 700 LF   | MD 175 - STA. 800+50, 49' RT TO STA. 807+50, 49' RT               |
| 6' GALVANIZED CHAIN LINK FENCE (MD 690.01)                       |   |
| 293 LF   | MD 175 - STA. 805+24, 179' RT TO 807+50, 114' RT                  |
| CLASS IIRIPRAP FOR CHANNEL AND SLOPE PROTECTION                  |   |
| 26 SY  | MD 175 - STA. 803+50, 69' LT ROP TYPE II (24" L X 12" W X 19" D)  |
| 26 SY  | MD 175 - STA. 805+47, 69' RT ROP TYPE II (24" L X 12" W X 19" D)  |
| 9 SY   | MD 175 - STA. 800+69, 13' RT ROP TYPE III (24" L X 10" W X 19" D) |
| 26 SY  | MD 175 - STA. 803+50, 74' RT ROP TYPE II (24" L X 12" W X 19" D)  |
| 9 SY   | MD 175 - STA. 807+43, 96' RT ROP TYPE III (24" L X 10" W X 19" D) |
| 6 SY   | AR 6 - STA. 63+81, 19' LT ROP TYPE III (24" L X 12" W X 19" D)    |
| 6 SY   | AR 6 - STA. 63+82, 26' RT ROP TYPE III (24" L X 12" W X 19" D)    |
| 6 SY   | AR 6 - STA. 65+00, 19' LT ROP TYPE III (24" L X 12" W X 19" D)    |
| 21 SY  | AR 8 - STA. 80+67, 19' LT ROP TYPE III (24" L X 12" W X 19" D)    |
| 13 SY  | AR 8 - STA. 80+67, 25' RT ROP TYPE III (24" L X 12" W X 19" D)    |
| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A-1 (MD 645.01)  |   |
| 230 LF   | MD 175 - STA. 800+50, 6' RT TO STA. 802+80, 6' RT                 |
| 100 LF   | MD 175 - STA. 806+50, 6' LT TO STA. 807+50, 6' LT                 |
| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS                          |   |
| 5 LF   | MD 175 - STA. 799+67, 93' RT                                      |
| 24 LF  | MD 175 - STA. 801+48, 51' RT                                      |
| 22 LF  | MD 175 - STA. 801+75, 51' LT                                      |
| 24 LF  | MD 175 - STA. 803+62, 51' LT                                      |
| 19 LF  | MD 175 - STA. 803+98, 51' RT                                      |
| 23 LF  | MD 175 - STA. 805+58, 51' LT                                      |

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 175 WEST OF REECE ROAD  
TO EAST OF DISNEY ROAD

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

MATCH LINE SEE DRAWING NO. PS-07

MATCH LINE SEE DRAWING NO. PS-05

MATCH LINE SEE DRAWING NO. PS-08

| ROADWAY LEGEND                     | R / W PLAT NUMBER | CROSS REFERENCE            | REVISIONS |
|------------------------------------|-------------------|----------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                   | ITEM SHEET No.             |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                   | TYPICAL SHEETS             |           |
| CONCRETE SIDEWALK                  |                   | SUPERELEVATION SHEETS      |           |
| MILL AND OVERLAY                   |                   | PIPE & DRAINAGE SCHEDULE   |           |
|                                    |                   | GEOMETRIC LAYOUT SHEETS    |           |
|                                    |                   | ROADWAY PLAN SHEETS        |           |
|                                    |                   | ROADWAY PROFILE SHEETS     |           |
|                                    |                   | TRAFFIC CONTROL SHEETS     |           |
|                                    |                   | EROSION & SEDIMENT CONTROL |           |
|                                    |                   | SIGNING & MARKING PLANS    |           |
|                                    |                   | LANDSCAPE PLAN SHEETS      |           |
|                                    |                   | UTILITIES                  |           |

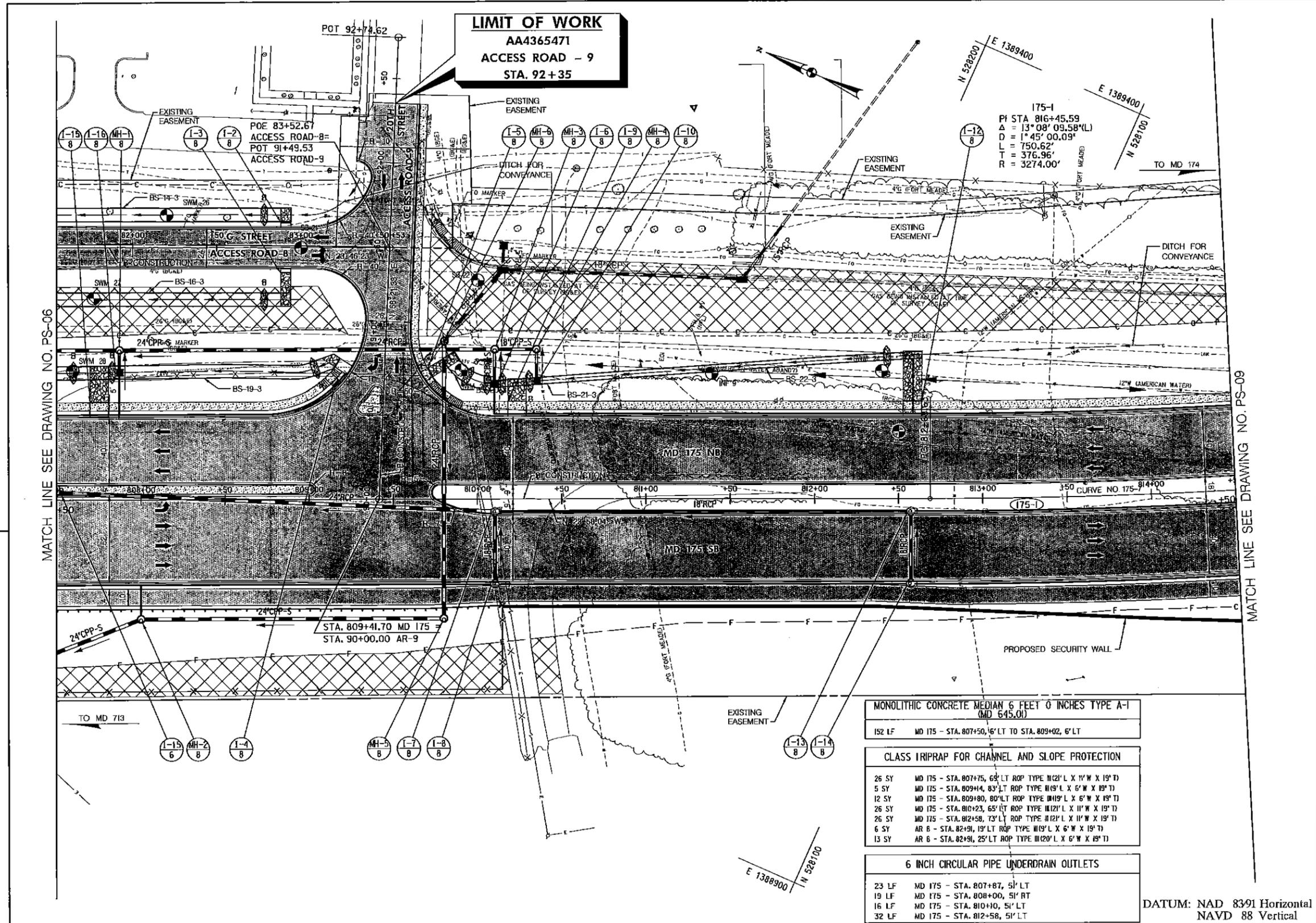
NOTES:  
I. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

**AECOM**  
7 St. Paul Street, 17th FLOOR  
Baltimore, Maryland 21202  
410-637-1700

| ROADWAY PLAN |                 |                  |                        |
|--------------|-----------------|------------------|------------------------|
| SCALE        | 1" = 30'        | ADVERTISED DATE  | CONTRACT NO. AA4365471 |
| DESIGNED BY  | BS              | COUNTY           | ANNE ARUNDEL           |
| DRAWN BY     | CB              | LOGMILE          |                        |
| CHECKED BY   | BP              | HORIZONTAL SCALE |                        |
| F.A.P. NO.   | SEE TITLE SHEET | VERTICAL SCALE   |                        |
| DRAWING NO.  | PS-06           | OF               | 10                     |
| SHEET NO.    | 23              | OF               | 182                    |

PLOTTED: Friday, June 26, 2015 AT 07:37 AM  
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**LIMIT OF WORK**  
AA4365471  
ACCESS ROAD - 9  
STA. 92+35

QUANTIFY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (MD 620.02)       |  |
|---|--|
| 217 LF  | ARB - STA. 81+55, 12' LT TO AR9 STA. 92+00, 22' LT     |
| 418 LF  | ARB - STA. 81+55, 12' RT TO MD 175 STA. 807+50, 49' LT |
| 155 LF  | MD 175 - STA. 807+50, 9' LT TO STA. 809+03, 6' LT      |
| 155 LF  | MD 175 - STA. 807+50, 3' LT TO STA. 809+03, 6' LT      |
| 703 LF  | MD 175 - STA. 807+50, 49' RT TO STA. 814+50, 49' RT    |
| 654 LF  | AR9 - STA. 92+35, 14' RT TO STA. 814+50, 49' LT        |
| 479 LF  | MD 175 - STA. 809+73, 5' LT TO STA. 814+50, 9' LT      |
| 484 LF  | MD 175 - STA. 809+73, 5' LT TO STA. 814+50, 9' RT      |
| 5 INCH CONCRETE SIDEWALK                                      |  |
| 893 SF  | MD 175 - STA. 807+50, 58' LT TO STA. 809+06, 70' LT    |
| 3104 SF   | AR9 - STA. 92+35, 19' RT TO MD 175 STA. 814+50, 58' LT |
| SIDEWALK RAMPS COMBINATION (MD 655.13)                        |  |
| 1 EA  | MD 175 STA. 809+13, 72' LT                             |
| SIDEWALK RAMPS PARALLEL (MD 655.12)                           |  |
| 1 EA  | MD 175 STA. 809+81, 62' LT                             |
| DETECTABLE WARNING SURFACE (MD 655.40)                        |  |
| 10 SF   | MD 175 STA. 809+13, 72' LT., 5' L X 2' W               |
| 10 SF   | MD 175 STA. 809+81, 62' LT., 5' L X 2' W               |
| 11 SF   | MD 175 STA. 809+33, 6' LT., 6' L X 2' W                |
| 10 SF   | MD 175 STA. 809+44, 59' LT., 5' L X 2' W               |
| CUT-THROUGH MEDIAN AND ISLAND OPENINGS (MD 655.21)            |  |
| 1 EA  | MD 175 STA. 809+36, 60' LT                             |
| STANDARD TYPE C COMBINATION CURB AND GUTTER (MD 620.02-01)    |  |
| 33 LF   | MD 175 - STA. 809+30, 56' LT TO STA. 809+43, 55' LT    |
| 17 LF   | MD 175 - STA. 809+37, 64' LT TO STA. 809+43, 64' LT    |
| REMOVAL OF EXISTING PAVEMENT                                  |  |
| 330 CY  | MD 175 - STA. 807+50, 12' LT TO STA. 809+23, 98' LT    |
| 466 CY  | MD 175 - STA. 807+50, 11' RT TO STA. 810+21, 116' RT   |
| 1286 CY   | MD 175 - STA. 809+73, 176' LT TO STA. 815+50, 122' LT  |
| 36 CY   | MD 175 - STA. 810+37, 116' RT TO STA. 810+51, 116' RT  |
| TRAFFIC BARRIER W BEAM (MD 605.22)                            |  |
| 200 LF  | MD 175 - STA. 807+50 TO 809+90 RT                      |
| TRAFFIC BARRIER W BEAM ANCHORAGE TO VERTICAL FACE (MD 605.42) |  |
| 1 EA  | MD 175 - STA. 809+90 TO 810+15 RT                      |
| 6 PERFORATED SOLID CIRCULAR PIPE UNDERDRAIN (MD 387.01)       |  |
| 217 LF  | ARB - STA. 81+55, 12' LT TO AR9 STA. 92+00, 22' LT     |
| 418 LF  | ARB - STA. 81+55, 12' RT TO MD 175 STA. 807+50, 49' LT |
| 654 LF  | AR9 - STA. 92+35, 14' RT TO STA. 814+50, 49' LT        |
| 703 LF  | MD 175 - STA. 807+50, 49' RT TO STA. 814+50, 49' RT    |
| 250 LF  | MD 175 - STA. 812+00, 5' LT TO STA. 814+50, 9' RT      |
| 6' GALVANIZED CHAIN LINK FENCE (MD 690.01)                    |  |
| 315 LF  | MD 175 - STA. 807+50, 114' RT TO 810+15, 63' RT        |

| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A-1 (MD 645.01) |  |
|---|--|
| 152 LF  | MD 175 - STA. 807+50, 16' LT TO STA. 809+02, 6' LT               |
| CLASS I RIPRAP FOR CHANNEL AND SLOPE PROTECTION                 |  |
| 26 SY   | MD 175 - STA. 807+75, 65' LT ROP TYPE III(21' L X 11' W X 19" D) |
| 5 SY  | MD 175 - STA. 809+14, 83' LT ROP TYPE III(9' L X 6' W X 19" D)   |
| 12 SY   | MD 175 - STA. 809+80, 80' LT ROP TYPE III(19' L X 6' W X 19" D)  |
| 26 SY   | MD 175 - STA. 810+23, 65' LT ROP TYPE III(21' L X 11' W X 19" D) |
| 26 SY   | MD 175 - STA. 812+58, 73' LT ROP TYPE III(21' L X 11' W X 19" D) |
| 6 SY  | AR 6 - STA. 82+91, 19' LT ROP TYPE III(9' L X 6' W X 19" D)      |
| 13 SY   | AR 6 - STA. 82+91, 25' LT ROP TYPE III(20' L X 6' W X 19" D)     |
| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS                         |  |
| 23 LF   | MD 175 - STA. 807+87, 5' LT                                      |
| 19 LF   | MD 175 - STA. 808+00, 5' RT                                      |
| 16 LF   | MD 175 - STA. 810+10, 5' LT                                      |
| 32 LF   | MD 175 - STA. 812+58, 5' LT                                      |

DATUM: NAD 83/91 Horizontal  
NAVD 88 Vertical

MATCH LINE SEE DRAWING NO. PS-06

MATCH LINE SEE DRAWING NO. PS-08

**AECOM**  
7 St. Paul Street, 17th FLOOR  
Baltimore, Maryland 21202  
410-637-1700

NOTES:  
1. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

| ROADWAY LEGEND                     | R / W PLAT NUMBER | CROSS REFERENCE            | REVISIONS |
|------------------------------------|-------------------|----------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                   | ITEM SHEET NOS.            |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                   | TYPICAL SHEETS             |           |
| CONCRETE SIDEWALK                  |                   | SUPERELEVATION SHEETS      |           |
| MILL AND OVERLAY                   |                   | PIPE & DRAINAGE SCHEDULE   |           |
|                                    |                   | GEOMETRIC LAYOUT SHEETS    |           |
|                                    |                   | ROADWAY PLAN SHEETS        |           |
|                                    |                   | ROADWAY PROFILE SHEETS     |           |
|                                    |                   | TRAFFIC CONTROL SHEETS     |           |
|                                    |                   | EROSION & SEDIMENT CONTROL |           |
|                                    |                   | SIGNING & MARKING PLANS    |           |
|                                    |                   | LANDSCAPE PLAN SHEETS      |           |
|                                    |                   | UTILITIES                  |           |

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 175 WEST OF REECE ROAD  
TO EAST OF DISNEY ROAD

**ROADWAY PLAN**

SCALE: 1"=30' ADVERTISED DATE: \_\_\_\_\_ CONTRACT NO: AA4365471

DESIGNED BY: BS COUNTY: ANNE ARUNDEL  
DRAWN BY: CB LOGMILE: \_\_\_\_\_  
CHECKED BY: BP HORIZONTAL SCALE: \_\_\_\_\_  
F.A.P. NO.: SEE TITLE SHEET VERTICAL SCALE: \_\_\_\_\_

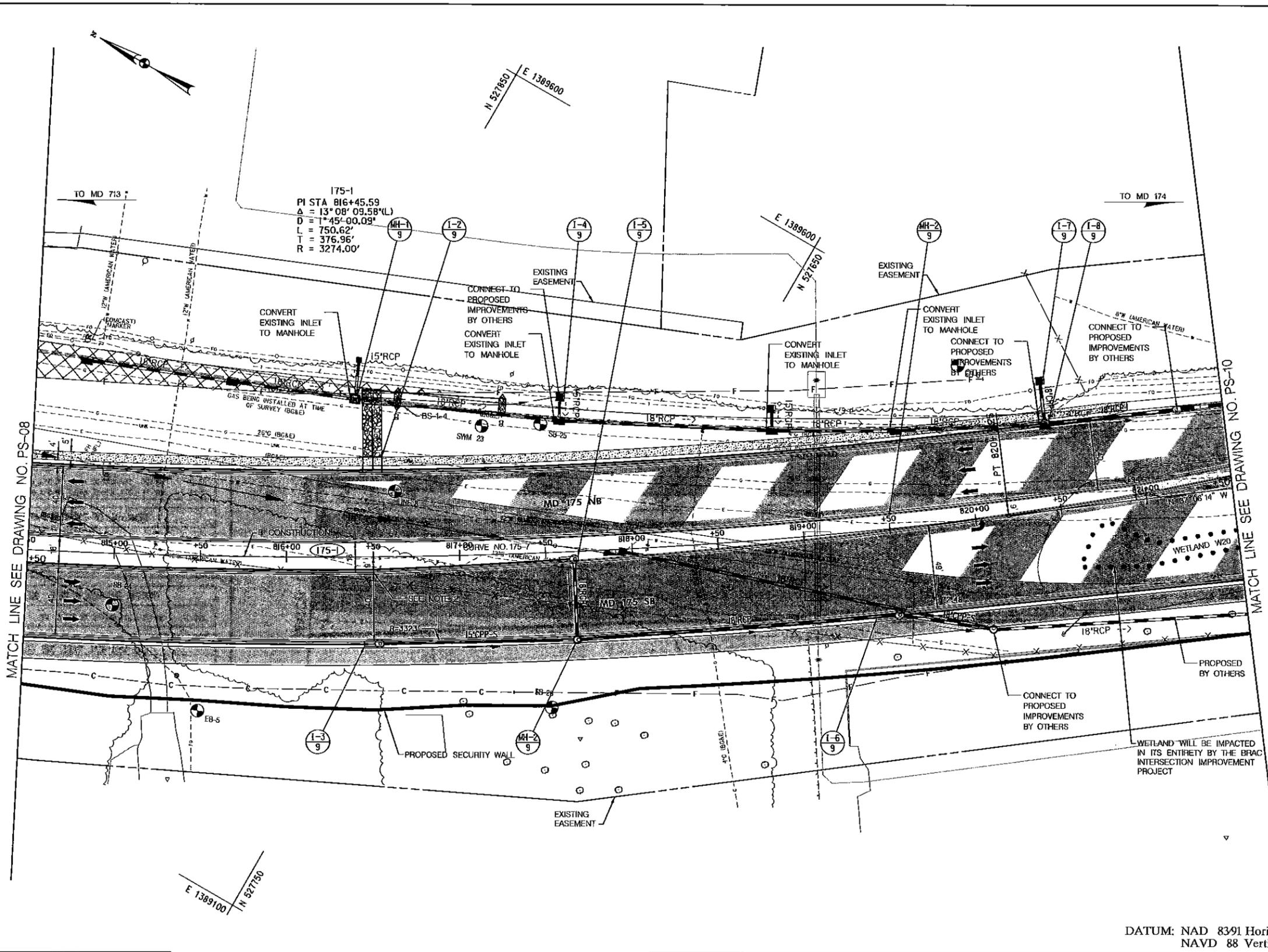
DRAWING NO: PS-08 OF 10 SHEET NO. 25 OF 182

QUANTITY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12"x8") (MD 620.02) |   |
|--|---|
| 630 LF   | MD 175 - STA. 814+50, 49' LT TO STA. 820+00, 49' LT             |
| 699 LF   | MD 175 - STA. 814+50, 9' LT TO STA. 821+50, 13' LT              |
| 699 LF   | MD 175 - STA. 814+50, 9' RT TO STA. 821+50, 7' LT               |
| 701 LF   | MD 175 - STA. 814+50, 49' RT TO STA. 821+50, 52' RT             |
| 5 INCH CONCRETE SIDEWALK   |   |
| 3177 SF  | MD 175 - STA. 814+50, 58' LT TO STA. 820+95, 57' LT             |
| REMOVAL OF EXISTING PAVEMENT                                     |   |
| 212 CY   | MD 175 - STA. 814+50, 122' LT TO STA. 817+07, 95' LT            |
| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.01)           |   |
| 630 LF   | MD 175 - STA. 814+50, 49' LT TO STA. 820+00, 49' LT             |
| 699 LF   | MD 175 - STA. 814+50, 9' RT TO STA. 821+50, 7' LT               |
| 701 LF   | MD 175 - STA. 814+50, 49' RT TO STA. 821+50, 52' RT             |
| CLASS IIRIPRAP FOR CHANNEL AND SLOPE PROTECTION                  |   |
| 26 SY  | MD 175 - STA. 816+50, 78' LT ROP TYPE III(2' L X 11" W X 19" D) |
| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A-1 (MD 645.01)  |   |
| 50 LF  | MD 175 - STA. 821+00, 6' LT TO STA. 821+50, 10' LT              |
| 6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS                          |   |
| 35 LF  | MD 175 - STA. 816+50, 51' LT                                    |

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION  
 MD 175 WEST OF REECE ROAD  
 TO EAST OF DISNEY ROAD

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical



MATCH LINE SEE DRAWING NO. PS-08

MATCH LINE SEE DRAWING NO. PS-10

**AECOM**  
 7 St. Paul Street, 17th FLOOR  
 Baltimore, Maryland 21202  
 410-637-1700

- NOTES:
- FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.
  - MD 175 SOUTHBOUND MEDIAN CURB CURVE DATA:  
 RADIUS = 3500'  
 BEGIN STA. = 816+50, 9' RT.  
 END STA. = 821+00 3' LT.

| ROADWAY LEGEND                     | R/W PLAT NUMBER | CROSS REFERENCE                 | REVISIONS |
|------------------------------------|-----------------|---------------------------------|-----------|
| FULL DEPTH RECONSTRUCTION          |                 | ITEM SHEET No.                  |           |
| EXISTING SIDEWALK/PAVEMENT REMOVAL |                 | TYPICAL SHEETS.....             |           |
| CONCRETE SIDEWALK                  |                 | SUPERELEVATION SHEETS.....      |           |
| MILL AND OVERLAY                   |                 | PIPE & DRAINAGE SCHEDULE.....   |           |
|                                    |                 | GEOMETRIC LAYOUT SHEETS.....    |           |
|                                    |                 | ROADWAY PLAN SHEETS.....        |           |
|                                    |                 | ROADWAY PROFILE SHEETS.....     |           |
|                                    |                 | TRAFFIC CONTROL SHEETS.....     |           |
|                                    |                 | EROSION & SEDIMENT CONTROL..... |           |
|                                    |                 | SIGNING & MARKING PLANS.....    |           |
|                                    |                 | LANDSCAPE PLAN SHEETS.....      |           |
|                                    |                 | UTILITIES.....                  |           |

| ROADWAY PLAN               |   |
|----------------------------|---|
| SCALE 1" = 30'             | ADVERTISED DATE _____ CONTRACT NO. AA635471 |
| DESIGNED BY BS             | COUNTY ANNE ARUNDEL                         |
| DRAWN BY CB                | LOGMILE _____                               |
| CHECKED BY BP              | HORIZONTAL SCALE _____                      |
| F.A.P. NO. SEE TITLE SHEET | VERTICAL SCALE _____                        |
| DRAWING NO. PS-09 OF 10    | SHEET NO. 26 OF 182                         |

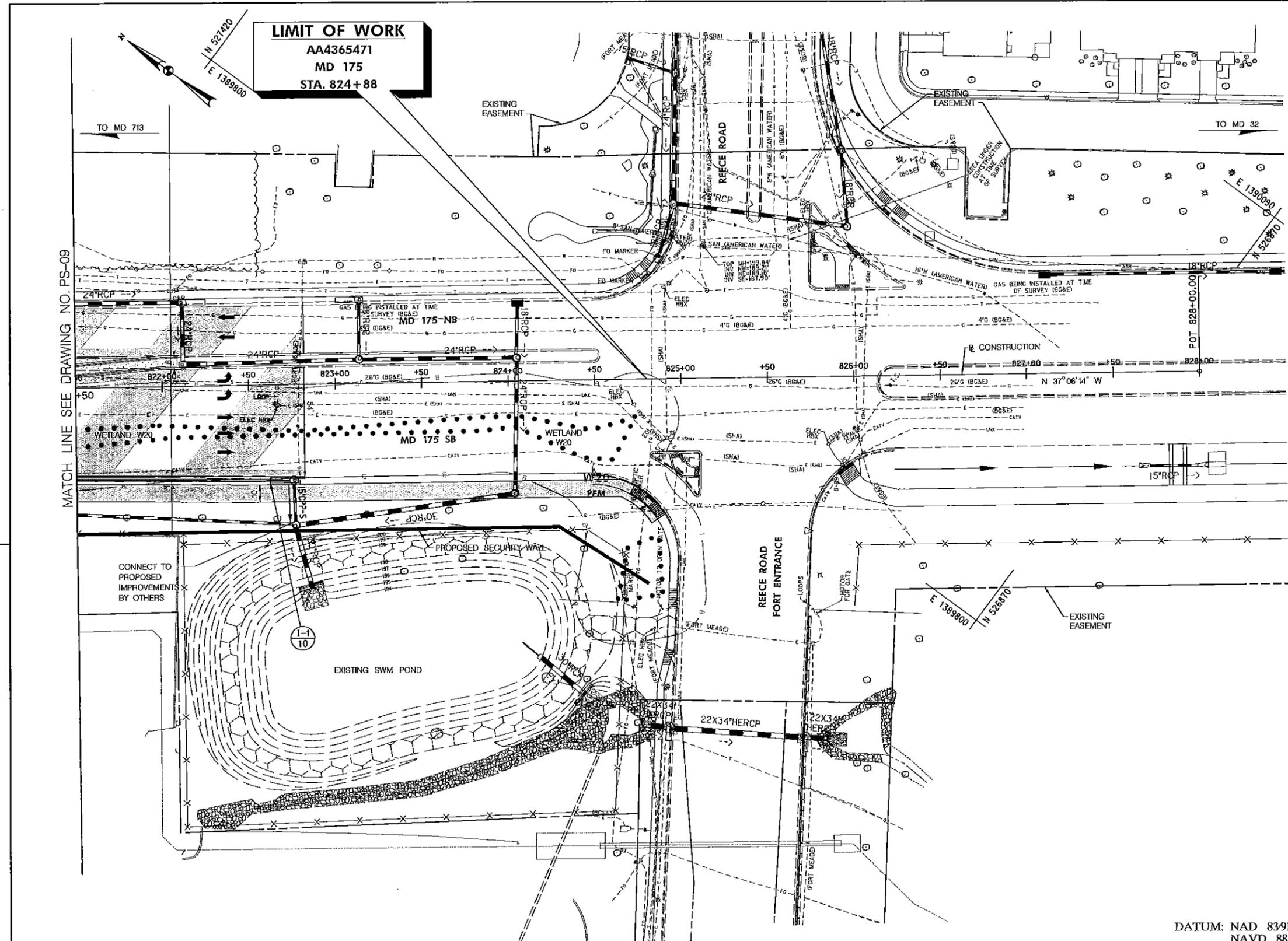
PLNOTE: Filed, June 28, 2016 at 07:40 AM  
 FILE: c:\pwworking\aescom\project\175-09\175-09\_P09\_026.dgn

BY: Deleijn

QUANTITY NOTES

| STANDARD TYPE A COMBINATION CURB AND GUTTER (12'X8") (MD 620.02) |   |
|--|---|
| 59 LF  | MD 175 - STA. 821+50, 13' LT TO STA. 822+09, 17' LT |
| 59 LF  | MD 175 - STA. 821+50, 7' LT TO STA. 822+09, 11' LT  |
| 105 LF   | MD 175 - STA. 821+50, 52' RT TO STA. 822+54, 54' RT |
| 6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (MD 387.0)            |   |
| 105 LF   | MD 175 - STA. 821+50, 52' RT TO STA. 822+54, 54' RT |
| MONOLITHIC CONCRETE MEDIAN 6 FEET 0 INCHES TYPE A-1 (MD 645.0)   |   |
| 59 LF  | MD 175 - STA. 821+50, 10' LT TO STA. 822+09, 14' LT |

**LIMIT OF WORK**  
AA4365471  
MD 175  
STA. 824+88



MATCH LINE SEE DRAWING NO. PS-09

DATUM: NAD 83/91 Horizontal  
NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 175 WEST OF REECE ROAD  
TO EAST OF DISNEY ROAD



7 St. Paul Street, 17th FLOOR  
Baltimore, Maryland 21202  
410-637-1700

- NOTES:  
1. FOR TEST HOLE LOCATIONS, SEE UTILITY PLANS.

| ROADWAY LEGEND                              | R / W PLAT NUMBER | CROSS REFERENCE            | REVISIONS |
|---|-------------------|----------------------------|-----------|
| [Symbol] FULL DEPTH RECONSTRUCTION          |                   | ITEM SHEET NOS.            |           |
| [Symbol] EXISTING SIDEWALK/PAVEMENT REMOVAL |                   | TYPICAL SHEETS             |           |
| [Symbol] CONCRETE SIDEWALK                  |                   | SUPERELEVATION SHEETS      |           |
| [Symbol] MILL AND OVERLAY                   |                   | PIPE & DRAINAGE SCHEDULE   |           |
|   |                   | GEOMETRIC LAYOUT SHEETS    |           |
|   |                   | ROADWAY PLAN SHEETS        |           |
|   |                   | ROADWAY PROFILE SHEETS     |           |
|   |                   | TRAFFIC CONTROL SHEETS     |           |
|   |                   | EROSION & SEDIMENT CONTROL |           |
|   |                   | SIGNING & MARKING PLANS    |           |
|   |                   | LANDSCAPE PLAN SHEETS      |           |
|   |                   | UTILITIES                  |           |

| ROADWAY PLAN               |  |
|----------------------------|--|
| SCALE 1"=30'               | ADVERTISED DATE _____ CONTRACT NO. AA4365471 |
| DESIGNED BY BS             | COUNTY ANNE ARUNDEL                          |
| DRAWN BY CB                | LOGMILE _____                                |
| CHECKED BY BP              | HORIZONTAL SCALE _____                       |
| F.A.P. NO. SEE TITLE SHEET | VERTICAL SCALE _____                         |
| DRAWING NO. PS-10 OF 10    | SHEET NO. 27 OF 182                          |

BY: Dejnleind

**APPENDIX B - MONITORED AMBIENT AIR QUALITY DATA 2012-2014**

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

| Duration Description | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 1 HOUR               | 8485 | 2.3       | 2.1        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 1 HOUR               | 5921 | 0.3       | 0.3        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 1 HOUR               | 8182 | 1.8       | 0.8        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 1 HOUR               | 8571 | 1.3       | 1.2        | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 1 HOUR               | 8626 | 2.5       | 2.5        | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated daily by state, local, and tribal organizations who own and submit the data. Please contact the appropriate air quality monitoring agency to report any data problems.  
<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

| Duration Description  | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|-----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 8-HR RUN AVG END HOUR | 8554 | 1.6       | 1.6        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 8-HR RUN AVG END HOUR | 6011 | 0.3       | 0.3        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8210 | 0.4       | 0.4        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8651 | 1.2       | 0.9        | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8713 | 2.1       | 1.6        | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2013

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

| Duration Description | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 1 HOUR               | 8716 | 2.4       | 2.2        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 1 HOUR               | 8477 | 1         | 0.4        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 1 HOUR               | 8626 | 0.5       | 0.4        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 1 HOUR               | 8689 | 1         | 0.9        | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 1 HOUR               | 8359 | 2.4       | 2          | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2013

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

| Duration Description  | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|-----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 8-HR RUN AVG END HOUR | 8755 | 1.6       | 1.4        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8526 | 0.3       | 0.3        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8701 | 0.3       | 0.3        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8698 | 0.9       | 0.9        | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8373 | 1.6       | 1.3        | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated daily by state, local, and tribal organizations who own and submit the data. Please contact the appropriate air quality monitoring agency to report any data problems.  
<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2014

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

| Duration Description | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 1 HOUR               | 8460 | 2.4       | 1.8        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 1 HOUR               | 8196 | 0.4       | 0.4        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 1 HOUR               | 8104 | 0.4       | 0.3        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 1 HOUR               | 6248 | 1.1       | 0.9        | 0          | None       | 1              | 240270006 | Interstate 95 South Welocme Center                                  | North Laurel  | Howard           | MD    | 03         |
| 1 HOUR               | 6989 | 1.5       | 1          | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 1 HOUR               | 8533 | 1.7       | 1.6        | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated daily by state, local, and tribal organizations who own and submit the data. Please contact the appropriate air quality monitoring agency to report any data problems.  
<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** CO

**Year:** 2014

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

| Duration Description  | Obs  | First Max | Second Max | Actual Exc | Exc Events | Monitor Number | Site ID   | Address   | City          | County           | State | EPA Region |
|-----------------------|------|-----------|------------|------------|------------|----------------|-----------|---|---------------|------------------|-------|------------|
| 8-HR RUN AVG END HOUR | 8476 | 1.4       | 1.3        | 0          | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex         | Baltimore        | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8233 | 0.4       | 0.3        | 0          | None       | 1              | 240190004 | University Of Maryland For Environmental And Estuarine Studies      | Not in a city | Dorchester       | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8068 | 0.3       | 0.3        | 0          | None       | 1              | 240230002 | Piney Run, Frostburg Reservoir, Finzel                              | Grantsville   | Garrett          | MD    | 03         |
| 8-HR RUN AVG END HOUR | 6293 | 0.9       | 0.8        | 0          | None       | 1              | 240270006 | Interstate 95 South Welocme Center                                  | North Laurel  | Howard           | MD    | 03         |
| 8-HR RUN AVG END HOUR | 6988 | 0.9       | 0.8        | 0          | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville    | Prince George's  | MD    | 03         |
| 8-HR RUN AVG END HOUR | 8555 | 1.3       | 1          | 0          | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore     | Baltimore (City) | MD    | 03         |

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** PM2.5

**Year:** 2012

**Exceptional Events:** Included (if any)

**Duration Description=24 HOUR**

| Duration Description | Obs | First Max | Second Max | Third Max | Fourth Max | 98th Percentile | Weighted Annual Mean | Exc Events | Monitor Number | Site ID   | Address  | City                   | County           | State | EPA Region |
|----------------------|-----|-----------|------------|-----------|------------|-----------------|----------------------|------------|----------------|-----------|--|------------------------|------------------|-------|------------|
| 24 HOUR              | 119 | 30.1      | 23.4       | 23        | 21.7       | 23              | 10.2                 | None       | 1              | 240031003 | Anne Arundel Co. Public Works Bldg. 7409<br>Baltimore Annapolis Blvd.  | Glen Burnie            | Anne Arundel     | MD    | 03         |
| 24 HOUR              | 112 | 29.5      | 22.6       | 21.5      | 18.3       | 22              | 8.9                  | None       | 1              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                        | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 41  | 21        | 18         | 16.8      | 13.7       | 21              | 9.1                  | None       | 2              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                        | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 116 | 28.2      | 25.5       | 24.7      | 23.6       | 25              | 10.7                 | None       | 1              | 240053001 | 600 Dorsey Avenue  | Essex                  | Baltimore        | MD    | 03         |
| 24 HOUR              | 121 | 25        | 22.3       | 21.7      | 20.8       | 22              | 8.5                  | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old<br>Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 43  | 25        | 22.1       | 15.4      | 13.9       | 25              | 8.3                  | None       | 2              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old<br>Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 97  | 24.7      | 23.8       | 15        | 14.7       | 24              | 7.8                  | None       | 1              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania<br>Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 35  | 14.8      | 14.7       | 14.2      | 12.6       | 15              | 7.8                  | None       | 2              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania<br>Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 121 | 23.8      | 22.5       | 22.1      | 21.8       | 22              | 9.3                  | None       | 1              | 245100007 | Northwest Police Station, 5271 Reistertown Road                        | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 111 | 23.7      | 22.6       | 22.5      | 20         | 23              | 9.6                  | None       | 1              | 245100008 | Baltimore City Fire Dept.-Truck Company 20; 5714<br>Eastern Avenue     | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 304 | 26.3      | 25.5       | 24.4      | 23.7       | 23              | 10                   | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                               | Baltimore              | Baltimore (City) | MD    | 03         |

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>  
Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** PM2.5

**Year:** 2013

**Exceptional Events:** Included (if any)

**Duration Description=24 HOUR**

| Duration Description | Obs | First Max | Second Max | Third Max | Fourth Max | 98th Percentile | Weighted Annual Mean | Exc Events | Monitor Number | Site ID   | Address   | City                   | County           | State | EPA Region |
|----------------------|-----|-----------|------------|-----------|------------|-----------------|----------------------|------------|----------------|-----------|---|------------------------|------------------|-------|------------|
| 24 HOUR              | 116 | 30.4      | 26.3       | 22.1      | 20.2       | 22              | 9.1                  | None       | 1              | 240031003 | Anne Arundel Co. Public Works Bldg. 7409 Baltimore Annapolis Blvd.  | Glen Burnie            | Anne Arundel     | MD    | 03         |
| 24 HOUR              | 111 | 26.5      | 24.7       | 19.9      | 19.7       | 20              | 8.5                  | None       | 1              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                     | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 53  | 26.9      | 20         | 17.9      | 17.8       | 20              | 8.5                  | None       | 2              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                     | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 113 | 35.2      | 29.4       | 26.8      | 23.4       | 27              | 9.5                  | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex                  | Baltimore        | MD    | 03         |
| 24 HOUR              | 121 | 22.2      | 20.1       | 18.6      | 17.5       | 19              | 7.8                  | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 32  | 21.7      | 18.5       | 16.4      | 12.7       | 22              | 8.2                  | None       | 2              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 106 | 23.5      | 20.4       | 17.2      | 15.5       | 17              | 7.5                  | None       | 1              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 50  | 16.6      | 15         | 15        | 14.7       | 17              | 7.9                  | None       | 2              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 116 | 28.6      | 27         | 20.4      | 18.8       | 20              | 8.6                  | None       | 1              | 245100007 | Northwest Police Station, 5271 Reistertown Road                     | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 114 | 32        | 28.7       | 24.3      | 22.8       | 24              | 9.4                  | None       | 1              | 245100008 | Baltimore City Fire Dept.-Truck Company 20; 5714 Eastern Avenue     | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 303 | 34.6      | 29.8       | 29.7      | 27.7       | 23              | 9.1                  | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore              | Baltimore (City) | MD    | 03         |

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>  
Generated: June 2, 2015

## Monitor Values Report

**Geographic Area:** Maryland

**Pollutant:** PM2.5

**Year:** 2014

**Exceptional Events:** Included (if any)

**Duration Description=24 HOUR**

| Duration Description | Obs | First Max | Second Max | Third Max | Fourth Max | 98th Percentile | Weighted Annual Mean | Exc Events | Monitor Number | Site ID   | Address   | City                   | County           | State | EPA Region |
|----------------------|-----|-----------|------------|-----------|------------|-----------------|----------------------|------------|----------------|-----------|---|------------------------|------------------|-------|------------|
| 24 HOUR              | 120 | 24.1      | 23         | 22.9      | 22.5       | 23              | 9.1                  | None       | 1              | 240031003 | Anne Arundel Co. Public Works Bldg. 7409 Baltimore Annapolis Blvd.  | Glen Burnie            | Anne Arundel     | MD    | 03         |
| 24 HOUR              | 115 | 23        | 21.4       | 20.8      | 20.6       | 21              | 8.9                  | None       | 1              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                     | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 58  | 21.4      | 21.2       | 19        | 16.2       | 21              | 7.7                  | None       | 2              | 240051007 | Padonia Elementary School, 9834 Greenside Drive                     | Cockeysville           | Baltimore        | MD    | 03         |
| 24 HOUR              | 110 | 25.9      | 23.3       | 21.6      | 21.3       | 22              | 9.7                  | None       | 1              | 240053001 | 600 Dorsey Avenue   | Essex                  | Baltimore        | MD    | 03         |
| 24 HOUR              | 119 | 22        | 18.1       | 17.4      | 16.2       | 17              | 7.8                  | None       | 1              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 29  | 13.9      | 13         | 12.9      | 10.7       | 14              | 6.7                  | None       | 2              | 240330030 | Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike | Beltsville             | Prince George's  | MD    | 03         |
| 24 HOUR              | 115 | 20.4      | 17.1       | 15.4      | 14         | 15              | 7.8                  | None       | 1              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 57  | 17.3      | 15.9       | 13.2      | 13.1       | 16              | 7.1                  | None       | 2              | 240338003 | Pg County Equestrian Center, 14900 Pennsylvania Ave.                | Greater Upper Marlboro | Prince George's  | MD    | 03         |
| 24 HOUR              | 122 | 22.4      | 20.9       | 20.3      | 19.7       | 20              | 8.5                  | None       | 1              | 245100007 | Northwest Police Station, 5271 Reistertown Road                     | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 110 | 23.7      | 22.1       | 22        | 21.2       | 22              | 9.3                  | None       | 1              | 245100008 | Baltimore City Fire Dept.-Truck Company 20; 5714 Eastern Avenue     | Baltimore              | Baltimore (City) | MD    | 03         |
| 24 HOUR              | 322 | 30.4      | 27.4       | 26.4      | 26.1       | 21              | 9.2                  | None       | 1              | 245100040 | Oldtown Fire Station, 1100 Hillen Street                            | Baltimore              | Baltimore (City) | MD    | 03         |

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>  
Generated: June 2, 2015

## **APPENDIX C - TRAFFIC DATA**

Larry Hogan, *Governor*  
Boyd Rutherford, *Lt. Governor*



Pete K. Rahn, *Secretary*  
Melinda Peters, *Administrator*

## **MEMORANDUM**

**TO:** Mr. Dennis German, Chief  
Community Design Division  
Office of Planning and Preliminary Engineering

**ATTN:** Mr. Christopher Weber

**FROM:** Morteza Tadayon, Chief  
Data Services Engineering Division  
Office of Planning and Preliminary Engineering

**DATE:** June 26, 2015

**SUBJECT:** MD 175 from Disney Road to Reece Road  
Anne Arundel County  
Project Number: AA436B24  
Environmental Traffic Data – Air Quality

In response to your request for environmental traffic data for air quality corresponding to the above project, we have provided data analyzed using the following conditions:

- 2015 Existing
- 2040 No-Build and Build

The analysis was performed along MD 175 between Disney Road and Reece Road in Anne Arundel County. The posted speed limit along this segment of MD 175 is 40 miles per hour. The analysis was completed as a single segment of roadway.

The existing and future No-Build conditions were evaluated as a two lane roadway, while the future Build condition was evaluated as a six lane roadway.

My telephone number/toll-free number is \_\_\_\_\_

Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • [www.roads.maryland.gov](http://www.roads.maryland.gov)

For each of the conditions the following data are attached:

- Air Quality Traffic Data Summary Sheets
  - Title Sheet Data
  - Truck classification percentages by fuel type data
  - Hourly percentage of total ADT for diurnal curves
  - Level of Service breakpoints C/D, D/E and E/F volumes and speeds
- Mainline Diurnal Curves

The following classified counts were used in this analysis:

- MD 175 - .30 MI W OF MD 174 (Station ID: B0676) – Tuesday, October 14 to Wednesday, October 15, 2014

If you have any questions or concerns, please contact the writer at 410-545-5643 or Ms. Lisa Shemer, Assistant Division Chief, DSED - Travel Forecasting & Analysis at 410-545-5640.

By:

\_\_\_\_\_  
Eric Sideras  
Travel Forecasting and Analysis  
Data Services Engineering Division

Attachments: Air Quality Traffic Data Summary

cc: Mr. Derek Gunn  
Mr. Joseph Kresslein  
Mr. Matthew Mann, Wilson T. Ballard  
Mr. Kenneth Polcak  
Ms. Lisa Shemer  
Ms. Kimberly Tran

### Air Quality Traffic Data - Summary Sheet

**Station ID:** B0676  
**Location:** MD175-.30 MI N OF GV174 (MD174)  
**Date:** Tuesday, October 14, 2014 to Wednesday, October 15, 2014  
**Project:** MD 175 from Disney Road to Reece Road  
**FMIS:** AA436B24

| <b>Condition:</b>                | <b>Existing</b>     | <b>Intermediate<br/>(No Build)</b> | <b>Intermediate<br/>(Build)</b> | <b>Future<br/>(No Build)</b> | <b>Future<br/>(Build)</b> |
|----------------------------------|---------------------|------------------------------------|---------------------------------|------------------------------|---------------------------|
| <b>Year:</b>                     | 2015                | 2015                               | 2015                            | 2040                         | 2040                      |
| <b>ADT:</b>                      | 24,900              | 24,900                             | 24,900                          | 43,500                       | 66,500                    |
| <b>DHV:</b>                      | 8%                  | 8%                                 | 8%                              | 7%                           | 8%                        |
| <b>Directional Distribution:</b> | 50%                 | 50%                                | 50%                             | 50%                          | 50%                       |
| <b>% Trucks (ADT):</b>           | 5% (1245)           | 5% (1245)                          | 5% (1245)                       | 5% (2175)                    | 5% (3325)                 |
| <b>% Trucks (DHV):</b>           | 3% (60)             | 3% (60)                            | 3% (60)                         | 2% (61)                      | 3% (160)                  |
| <b>Facility Type:</b>            | Two-Lane<br>Highway | Two-Lane<br>Highway                | Multilane<br>Highway            | Two-Lane<br>Highway          | Multilane<br>Highway      |
| <b>Max LOS Reached:</b>          |                     |                                    |                                 |                              |                           |
| Westbound                        | E                   | E                                  | A                               | F                            | C                         |
| Eastbound                        | E                   | E                                  | A                               | F                            | C                         |

### Air Quality Traffic Data - Summary Sheet

**Station ID:** B0676  
**Location:** MD175-.30 MI N OF GV174 (MD174)  
**Date:** Tuesday, October 14, 2014 to Wednesday, October 15, 2014  
**Project:** MD 175 from Disney Road to Reece Road  
**FMIS:** AA436B24

**Condition: Existing (2015)**

|                               | Light Trucks | Medium Trucks | Heavy Trucks | Total        |
|-------------------------------|--------------|---------------|--------------|--------------|
| <b>Average Daily Traffic:</b> |              |               |              |              |
| Gasoline Powered:             | 0.61%        | 1.26%         | 0.06%        | 1.93%        |
| Diesel Powered:               | 0.61%        | 1.25%         | 1.21%        | 3.07%        |
| <b>Total:</b>                 | <b>1.22%</b> | <b>2.51%</b>  | <b>1.27%</b> | <b>5.00%</b> |

|                            | Light Trucks | Medium Trucks | Heavy Trucks | Total        |
|----------------------------|--------------|---------------|--------------|--------------|
| <b>Design Hour Volume:</b> |              |               |              |              |
| Gasoline Powered:          | 0.40%        | 0.75%         | 0.04%        | 1.19%        |
| Diesel Powered:            | 0.39%        | 0.75%         | 0.67%        | 1.81%        |
| <b>Total:</b>              | <b>0.79%</b> | <b>1.50%</b>  | <b>0.71%</b> | <b>3.00%</b> |

| <b>Two-Lane Highway LOS:</b> | Volume    | Speed    |
|------------------------------|-----------|----------|
| LOS C/D Breakpoint           | 285 vph   | 40.2 mph |
| LOS D/E Breakpoint           | 624 vph   | 36.5 mph |
| LOS E/F Breakpoint           | 1,529 vph | 23.5 mph |

**Diurnal Curve:**

| Begin Hour   | % of ADT       |
|--------------|----------------|
| 12:00 AM     | 1.09%          |
| 1:00 AM      | 0.66%          |
| 2:00 AM      | 0.39%          |
| 3:00 AM      | 0.28%          |
| 4:00 AM      | 0.29%          |
| 5:00 AM      | 0.93%          |
| 6:00 AM      | 2.68%          |
| 7:00 AM      | 4.85%          |
| 8:00 AM      | 6.94%          |
| 9:00 AM      | 6.55%          |
| 10:00 AM     | 4.54%          |
| 11:00 AM     | 4.56%          |
| 12:00 PM     | 5.53%          |
| 1:00 PM      | 6.04%          |
| 2:00 PM      | 5.64%          |
| 3:00 PM      | 6.11%          |
| 4:00 PM      | 6.83%          |
| 5:00 PM      | 8.00%          |
| 6:00 PM      | 7.94%          |
| 7:00 PM      | 7.10%          |
| 8:00 PM      | 4.59%          |
| 9:00 PM      | 3.36%          |
| 10:00 PM     | 3.07%          |
| 11:00 PM     | 2.03%          |
| <b>Total</b> | <b>100.00%</b> |

### Air Quality Traffic Data - Summary Sheet

**Station ID:** B0676  
**Location:** MD175-.30 MI N OF GV174 (MD174)  
**Date:** Tuesday, October 14, 2014 to Wednesday, October 15, 2014  
**Project:** MD 175 from Disney Road to Reece Road  
**FMIS:** AA436B24

**Condition: Future No Build (2040)**

|                               | Light Trucks | Medium Trucks | Heavy Trucks | Total |
|-------------------------------|--------------|---------------|--------------|-------|
| <b>Average Daily Traffic:</b> |              |               |              |       |
| Gasoline Powered:             | 0.60%        | 1.27%         | 0.06%        | 1.93% |
| Diesel Powered:               | 0.60%        | 1.26%         | 1.21%        | 3.07% |
| <b>Total:</b>                 | 1.20%        | 2.53%         | 1.27%        | 5.00% |

|                            | Light Trucks | Medium Trucks | Heavy Trucks | Total |
|----------------------------|--------------|---------------|--------------|-------|
| <b>Design Hour Volume:</b> |              |               |              |       |
| Gasoline Powered:          | 0.16%        | 0.49%         | 0.04%        | 0.69% |
| Diesel Powered:            | 0.15%        | 0.48%         | 0.68%        | 1.31% |
| <b>Total:</b>              | 0.31%        | 0.97%         | 0.72%        | 2.00% |

| <b>Two-Lane Highway LOS:</b> | Volume    | Speed    |
|------------------------------|-----------|----------|
| LOS C/D Breakpoint           | 284 vph   | 40.2 mph |
| LOS D/E Breakpoint           | 623 vph   | 36.5 mph |
| LOS E/F Breakpoint           | 1,529 vph | 23.5 mph |

**Diurnal Curve:**

| Begin Hour   | % of ADT       |
|--------------|----------------|
| 12:00 AM     | 1.09%          |
| 1:00 AM      | 0.66%          |
| 2:00 AM      | 0.39%          |
| 3:00 AM      | 0.28%          |
| 4:00 AM      | 0.29%          |
| 5:00 AM      | 0.94%          |
| 6:00 AM      | 2.68%          |
| 7:00 AM      | 5.08%          |
| 8:00 AM      | 6.71%          |
| 9:00 AM      | 6.44%          |
| 10:00 AM     | 4.66%          |
| 11:00 AM     | 4.56%          |
| 12:00 PM     | 5.53%          |
| 1:00 PM      | 6.05%          |
| 2:00 PM      | 5.63%          |
| 3:00 PM      | 6.77%          |
| 4:00 PM      | 7.07%          |
| 5:00 PM      | 7.09%          |
| 6:00 PM      | 7.10%          |
| 7:00 PM      | 6.95%          |
| 8:00 PM      | 5.58%          |
| 9:00 PM      | 3.36%          |
| 10:00 PM     | 3.07%          |
| 11:00 PM     | 2.02%          |
| <b>Total</b> | <b>100.00%</b> |

**Air Quality Traffic Data - Summary Sheet**

**Station ID:** B0676  
**Location:** MD175-.30 MI N OF GV174 (MD174)  
**Date:** Tuesday, October 14, 2014 to Wednesday, October 15, 2014  
**Project:** MD 175 from Disney Road to Reece Road  
**FMIS:** AA436B24

**Condition: Future Build (2040)**

|                               | Light Trucks | Medium Trucks | Heavy Trucks | Total |
|-------------------------------|--------------|---------------|--------------|-------|
| <b>Average Daily Traffic:</b> |              |               |              |       |
| Gasoline Powered:             | 0.61%        | 1.26%         | 0.06%        | 1.93% |
| Diesel Powered:               | 0.61%        | 1.26%         | 1.20%        | 3.07% |
| <b>Total:</b>                 | 1.22%        | 2.52%         | 1.26%        | 5.00% |

|                            | Light Trucks | Medium Trucks | Heavy Trucks | Total |
|----------------------------|--------------|---------------|--------------|-------|
| <b>Design Hour Volume:</b> |              |               |              |       |
| Gasoline Powered:          | 0.41%        | 0.74%         | 0.04%        | 1.19% |
| Diesel Powered:            | 0.41%        | 0.73%         | 0.67%        | 1.81% |
| <b>Total:</b>              | 0.82%        | 1.47%         | 0.71%        | 3.00% |

| <b>Multilane Highway LOS:</b> | <b>Westbound</b> |          | <b>Eastbound</b> |          |
|-------------------------------|------------------|----------|------------------|----------|
|                               | Volume           | Speed    | Volume           | Speed    |
| <b>LOS C/D Breakpoint</b>     | 3,429 vph        | 50.0 mph | 3,429 vph        | 50.0 mph |
| <b>LOS D/E Breakpoint</b>     | 4,484 vph        | 48.6 mph | 4,484 vph        | 48.6 mph |
| <b>LOS E/F Breakpoint</b>     | 5,273 vph        | 46.5 mph | 5,273 vph        | 46.5 mph |

**Diurnal Curve:**

| <b>Begin Hour</b> | <b>% of ADT</b> |
|-------------------|-----------------|
| 12:00 AM          | 1.09%           |
| 1:00 AM           | 0.66%           |
| 2:00 AM           | 0.39%           |
| 3:00 AM           | 0.28%           |
| 4:00 AM           | 0.29%           |
| 5:00 AM           | 0.93%           |
| 6:00 AM           | 2.68%           |
| 7:00 AM           | 4.84%           |
| 8:00 AM           | 6.95%           |
| 9:00 AM           | 6.63%           |
| 10:00 AM          | 4.50%           |
| 11:00 AM          | 4.53%           |
| 12:00 PM          | 5.53%           |
| 1:00 PM           | 6.04%           |
| 2:00 PM           | 5.64%           |
| 3:00 PM           | 6.11%           |
| 4:00 PM           | 6.83%           |
| 5:00 PM           | 8.00%           |
| 6:00 PM           | 7.94%           |
| 7:00 PM           | 7.10%           |
| 8:00 PM           | 4.59%           |
| 9:00 PM           | 3.36%           |
| 10:00 PM          | 3.07%           |
| 11:00 PM          | 2.02%           |
| <b>Total</b>      | <b>100.00%</b>  |

**MD 175 (BROCK BRIDGE ROAD TO MD 170)**  
**Intersection Lane Configuration and Level of Service Summary**

February, 2009

| Location                          | Existing Lane Configuration | Existing Levels of Service AM (V/C)/PM (V/C) | No Build 2030 Levels of Service AM (V/C)/PM (V/C) | Preferred Alternative Build Lane Configuration | Build 2030 Levels of Service AM (V/C)/PM (V/C) | Delay (Seconds) | Comments                                 |
|-----------------------------------|-----------------------------|--|---|--|--|-----------------|--|
| Rockenbach Road/<br>Ridge Road    |                             | E(0.95)/<br>E(0.96)                          | (2.34)<br>F(1.61)/<br>F(1.55)<br>(3.60)           |  | D(0.99)/<br>F(1.18)                            | 52.8/<br>83.7   | -Volumes warrant grade separation.       |
| 26th Street/<br>Disney Road       |                             | B(0.63)/<br>C(0.72)                          | F(1.45)<br>D(0.84)/<br>F(1.15)<br>(1.64)          |  | C(0.87)/<br>E(1.09)                            | 30.6/<br>59.4   | -Lane configuration is adequate.         |
| 21 1/2 Street                     |                             | N/A  | N/A   |  | C(0.77)/<br>E(1.13)                            | 23.4/<br>57.0   | -No previous traffic volume projections. |
| Reece Road                        |                             | B(0.68)/<br>D(0.87)                          | (1.28)<br>F(2.27)/<br>F(1.97)<br>(2.08)           |  | C(0.77)/<br>E(1.01)                            | 32.6/<br>64.7   | -Lane configuration is adequate.         |
| Mapes Road/<br>Charter Oaks Blvd. |                             | A(0.58)/<br>C(0.74)                          | (1.65)<br>F(1.55)/<br>F(1.68)<br>(2.09)           |  | D(1.05)/<br>D(0.93)                            | 50.4/<br>48.0   | -Lane configuration is adequate.         |

NOTES: 1) Levels of Service analyzed utilizing Synchro modeling software.  
2) Assumes all Fort Meade gates open.

## **APPENDIX D - INTERAGENCY CONSULTATION GROUP COORDINATION**

## Nicole M. Hebert

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**From:** Christina Brandt <CBrandt@sha.state.md.us>  
**Sent:** Wednesday, October 07, 2015 11:00 AM  
**To:** Shawn Burnett; Nicole M. Hebert  
**Subject:** FW: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

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**From:** Sara Tomlinson [<mailto:stomlinson@baltometro.org>]  
**Sent:** Wednesday, October 07, 2015 10:57 AM  
**To:** Christina Brandt  
**Subject:** Re: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

Christina,

The ICG concurs that the MD 175 from Disney to Reece Rd Improvement Project is not a project of air quality concern and does not require a hot spot analysis.

Here are some thoughts on the document:

Page. 4: The BMC staff serves as staff to the BRTB, but the BRTB and the BMC have separate boards. To make it easier, you may just want to remove reference to the BMC.

Page 4: Remove reference to the 1997 ozone standard and being serious nonattainment, since that standard has been revoked. Refer instead to the 2008 ozone standard and being moderate nonattainment. The text should further note that EPA made the determination that the area has attained, ahead of schedule, the 2008, 8-hour ozone standard and that the determination was based upon data for the 2012–2014 monitoring period (80 FR 30941). Further, the area has been in maintenance of the PM2.5 NAAQS for almost a year (79 FR 75032). SHA probably doesn't need to include the nonattainment information on PM2.5 anymore as it is no longer relevant.

Page 9: The Disney to Reece Road project is a "breakout" rather than an "amendment to" TIP 61-0605-41.

There are many new people involved with air quality at the State; it would helpful if SHA could provide any guidelines / thresholds they use to determine whether projects are "of air quality concern" or not. Is SHA considering also using a different threshold under which an

agreement could be made that that type of project does not reach the level of truck traffic/emissions that would require it to go through the interagency process?

Thank you,

Sara

On Wed, Sep 23, 2015 at 10:16 AM, Christina Brandt <[CBrandt@sha.state.md.us](mailto:CBrandt@sha.state.md.us)> wrote:

Good Morning,

Attached is the Draft Air Quality Technical Report for the MD 175 from Disney to Reece Rd Improvement Project in Anne Arundel County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. The project is included as an amendment to TIP ID 61-0605-41 in the 2016-2019

TIP.

Please review and provide concurrence/comments by October 9, 2015. Please let me know if you have any questions.

Thank you,

Chrissy

*Christina Brandt*

## Nicole M. Hebert

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**From:** Christina Brandt <CBrandt@sha.state.md.us>  
**Sent:** Thursday, October 08, 2015 9:35 AM  
**To:** Shawn Burnett; Nicole M. Hebert  
**Subject:** FW: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

---

**From:** Alexandra Kremasanka -MDE- [<mailto:alexandra.kremasanka@maryland.gov>]  
**Sent:** Thursday, October 08, 2015 9:30 AM  
**To:** Christina Brandt; Brian Hug -MDE-  
**Subject:** Re: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

Good Morning Christina,

MDE concurs with the analysis.

Thank you,

Alex

On Wed, Sep 23, 2015 at 10:16 AM, Christina Brandt <[CBrandt@sha.state.md.us](mailto:CBrandt@sha.state.md.us)> wrote:

Good Morning,

Attached is the Draft Air Quality Technical Report for the MD 175 from Disney to Reece Rd Improvement Project in Anne Arundel County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. The project is included as an amendment to TIP ID 61-0605-41 in the 2016-2019

## Nicole M. Hebert

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**From:** Khadr, Asrah <Khadr.Asrah@epa.gov>  
**Sent:** Thursday, October 08, 2015 4:26 PM  
**To:** Christina Brandt; 'Brian Hug -MDE-'; 'Alexandra Krempasanka -MDE-'; Rudnick, Barbara; Becoat, gregory; 'Jeanette.Mar@dot.gov'; 'joy.liang@dot.gov'; Magerr, Kevin; 'Sara Tomlinson'  
**Cc:** Shawn Burnett; Nicole M. Hebert  
**Subject:** RE: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

EPA concurs with SHA's recommendation that this project does not require a quantitative hot-spot analysis.

Asrah Khadr, Environmental Engineer, EIT  
U.S. Environmental Protection Agency, Region III  
Air Protection Division  
Office of Air Program Planning  
1650 Arch Street  
Philadelphia, PA 19103  
Phone: 215-814-2071

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**From:** Christina Brandt [<mailto:CBrandt@sha.state.md.us>]  
**Sent:** Wednesday, September 23, 2015 10:17 AM  
**To:** 'Brian Hug -MDE-' <[brian.hug@maryland.gov](mailto:brian.hug@maryland.gov)>; 'Alexandra Krempasanka -MDE-' <[alexandra.krempasanka@maryland.gov](mailto:alexandra.krempasanka@maryland.gov)>; Rudnick, Barbara <[Rudnick.Barbara@epa.gov](mailto:Rudnick.Barbara@epa.gov)>; Becoat, gregory <[becoat.gregory@epa.gov](mailto:becoat.gregory@epa.gov)>; Khadr, Asrah <[Khadr.Asrah@epa.gov](mailto:Khadr.Asrah@epa.gov)>; 'Jeanette.Mar@dot.gov' <[Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov)>; 'joy.liang@dot.gov' <[joy.liang@dot.gov](mailto:joy.liang@dot.gov)>; Magerr, Kevin <[Magerr.Kevin@epa.gov](mailto:Magerr.Kevin@epa.gov)>; 'Sara Tomlinson' <[stomlinson@baltometro.org](mailto:stomlinson@baltometro.org)>  
**Cc:** 'Shawn Burnett' <[sburnett@wtbco.com](mailto:sburnett@wtbco.com)>; 'Nicole M. Hebert' <[nhebert@wtbco.com](mailto:nhebert@wtbco.com)>  
**Subject:** MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

Good Morning,

Attached is the Draft Air Quality Technical Report for the MD 175 from Disney to Reece Rd Improvement Project in Anne Arundel County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. The project is included as an amendment to TIP ID 61-0605-41 in the 2016-2019

TIP.

## Nicole M. Hebert

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**From:** joy.liang@dot.gov  
**Sent:** Thursday, October 22, 2015 9:36 PM  
**To:** CBrandt@sha.state.md.us; brian.hug@maryland.gov; alexandra.krempasanka@maryland.gov; Rudnick.Barbara@epamail.epa.gov; becoat.gregory@epa.gov; Khadr.Asrah@epa.gov; Jeanette.Mar@dot.gov; Magerr.Kevin@epamail.epa.gov; stomlinson@baltometro.org  
**Cc:** Shawn Burnett; Nicole M. Hebert  
**Subject:** RE: MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

Hi Chrissy,

I apologize for the extremely late response.

FHWA concurs that the MD 175 Improvement Project from Disney Rd to Reece Rd in Anne Arundel, MD meets the requirements of the CAA and 40 CFR 93 and does not need an additional quantitative hot-spot analysis.

Thank you.

Joy

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**From:** Christina Brandt [<mailto:CBrandt@sha.state.md.us>]  
**Sent:** Wednesday, September 23, 2015 10:17 AM  
**To:** 'Brian Hug -MDE-'; 'Alexandra Krempasanka -MDE-'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; Mar, Jeanette (FHWA); Liang, Joy (FHWA); 'Kevin Magerr'; 'Sara Tomlinson'  
**Cc:** 'Shawn Burnett'; 'Nicole M. Hebert'  
**Subject:** MD 175 from Disney to Reece Rd Improvement Project - Air Quality Interagency Consultation

Good Morning,

Attached is the Draft Air Quality Technical Report for the MD 175 from Disney to Reece Rd Improvement Project in Anne Arundel County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. The project is included as an amendment to TIP ID 61-0605-41 in the 2016-2019

TIP.