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MD 212 (RIGGS ROAD) AT ADELPHI ROAD INTERSECTION IMPROVEMENTS

AIR QUALITY ANALYSIS TECHNICAL REPORT

April 2016

Prince George's County, Maryland



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



**MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION**

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I. INTRODUCTION

This report presents the results of a review of air quality impacts associated with proposed improvements to MD 212 (Riggs Road) at the intersection with Adelphi Road in Prince George's County, Maryland. This study is intended as an evaluation of the project level air quality impacts of the proposed intersection improvements. This evaluation is provided to meet the requirements of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

In the project area, MD 212 is an undivided urban minor arterial running north to south with one travel lane in each direction. Adelphi Road runs east to west with two travel lanes in each direction within the project limits. Land use along the corridor of the project is a mix of medium density residential and commercial. The overall project extends approximately 0.32 mile along MD 212 and approximately 0.16 mile along Adelphi Road (See **Figure 1**).

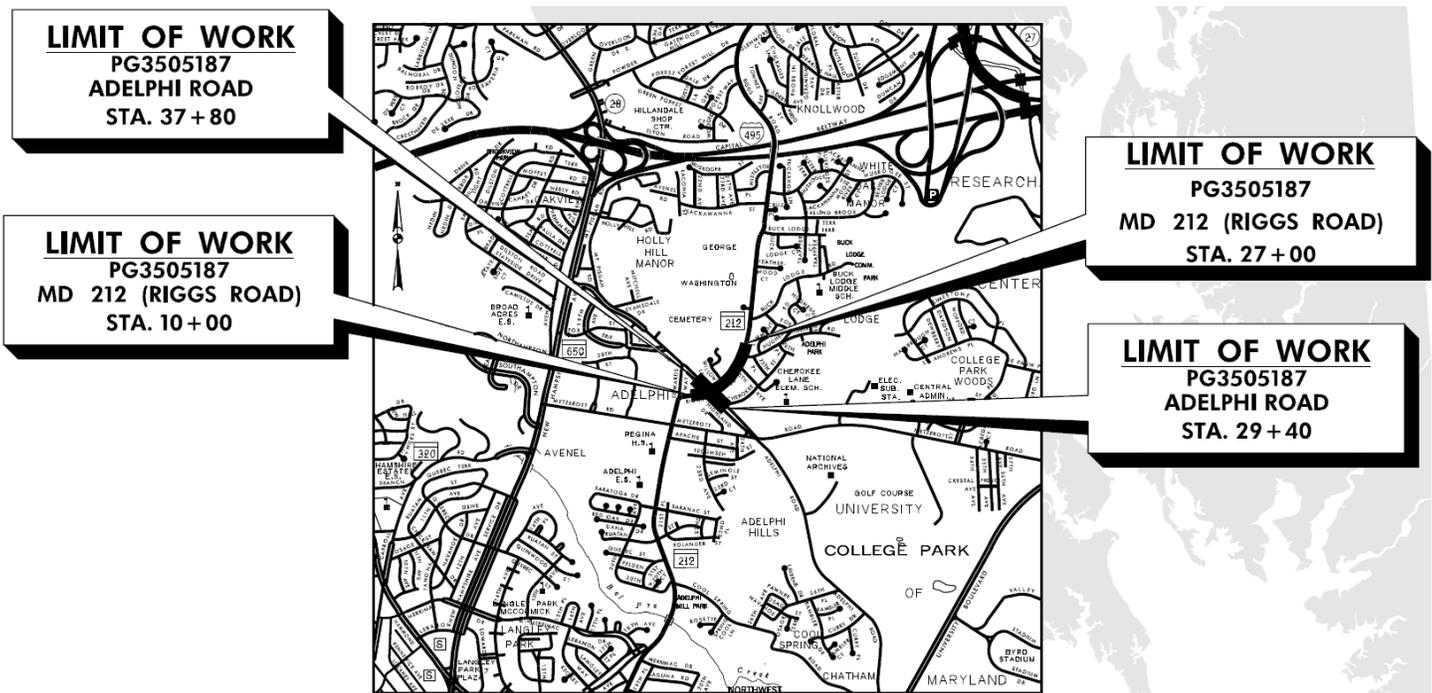


FIGURE 1 – Location Map

The purpose of the project is to alleviate high left turning queues at the intersection during peak hours. This will be accomplished by adding a dedicated left turn lane in each direction on Adelphi Road and replacing a single left with a double left turn lane along southbound MD 212. Additional roadway improvements include grinding and resurfacing all lanes of the existing roadway; cross slope correction; median reconstruction; construction of ADA sidewalk and ramps; installation of new inlets, manholes and endwalls; cleaning of existing inlets; replacement of existing pavement markings; signal modifications and APS/CPS installation; and installation of a shared use path along the east leg of Adelphi Road. Refer to **Appendix A** for project design plans.

II. AIR QUALITY BACKGROUND

The Clean Air Act (CAA) Amendments 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 CAA and the Final Transportation Conformity Rule apply to the proposed transportation project because it involves federal action and funding.

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 implementation plan in effect under this chapter.*” The CAA, Title I, Section 176 (c) 1, 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 and achieving expeditious attainment of such standards; and that such activities will not:*

- i. cause or contribute to any new violation of any standard in any area;*
- ii. increase the frequency or severity of any existing violation of any standard in any area; or*
- iii. delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.”*

As required by the CAA, 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 (NO₂), ozone (O₃), particulate matter (PM₁₀ & PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). These national 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.

The CAA Amendments require that the EPA publish a designation 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, designating areas where pollutant levels exceed the NAAQS as nonattainment. After a nonattainment area improves conditions to meet the standard for the corresponding pollutant, it is re-designated as a maintenance area. Typically these designations are applied to entire counties or groups of counties.

To comply with the CAA, EPA has issued proposed rules, guidance clarifications, and final rules concerning transportation conformity and pollutants for which standards have been set.

Following is a summary of recent rules and clarifications:

- *Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments; Final Rule, March 24, 2010;*
- *Using MOVES in Project-Level Carbon Monoxide Analyses, December 2010;*

- *Transportation Conformity Rule Restructuring Amendments*, March 14, 2012;
- *Transportation Conformity Regulations, as of April 2012*;
- *National Ambient Air Quality Standards for Particulate Matter*, January 15, 2013; and
- Update to the *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*, November 2015.

EPA has only provided rules and guidance for project level analyses of CO and particulate matter (PM_{2.5} and PM₁₀).

TABLE 1 - National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary/ Secondary	Primary Standards		Form
		Level	Averaging Time	
Carbon Monoxide 76 FR 54294	Primary	9 ppm	8-hour	Not to be exceeded more than once per year
		35 ppm	1-hour	
Lead 73 FR 669964	Primary and Secondary	0.15 µg/m ³	Rolling 3-Month Average	Not to be exceeded
Nitrogen Dioxide 75 FR 6464	Primary	100 ppb	1-hour	98 th percentile, averaged over 3 years
	Primary and Secondary	53 ppb	Annual	Annual Mean
Particulate Matter (PM ₁₀) 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 _{2.5}) 71 FR 61144	Primary	12 µg/m ³	Annual	Annual mean averaged over 3 years
	Secondary	15 µg/m ³	Annual	Annual mean averaged over 3 years
	Primary and Secondary	35 µg/m ³	24-hour	98 th percentile, averaged over 3 years
Ozone 80 FR 65292	Primary and Secondary	0.070 ppm	8-hour	Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years
Sulfur Dioxide 75 FR 35520	Primary	75 ppb	1-hour	Not to be exceeded more than once per year
	Secondary	0.5 ppm	3-hour	

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 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. 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.

III. ENVIRONMENTAL ANALYSIS

The MD 212 at Adelphi Road intersection improvements project is located in Prince George's County, Maryland, which is part of the Washington, DC-MD-VA designated area. A portion of the area, election districts 4, 7, and 13 of Montgomery County and election districts 2, 6, 12, 16, 17, and 18 of Prince George's County, had been non-attainment for carbon monoxide; however, these areas were re-designated as a CO maintenance area on January 30, 1996. Being located along the boundary of Prince George's County election district 17, this project is considered within a CO maintenance area (**Figure 2**). The area was classified as maintenance for the 1997 PM_{2.5} standard by EPA on December 16, 2014. Maryland is neither within a PM₁₀ maintenance nor nonattainment area.

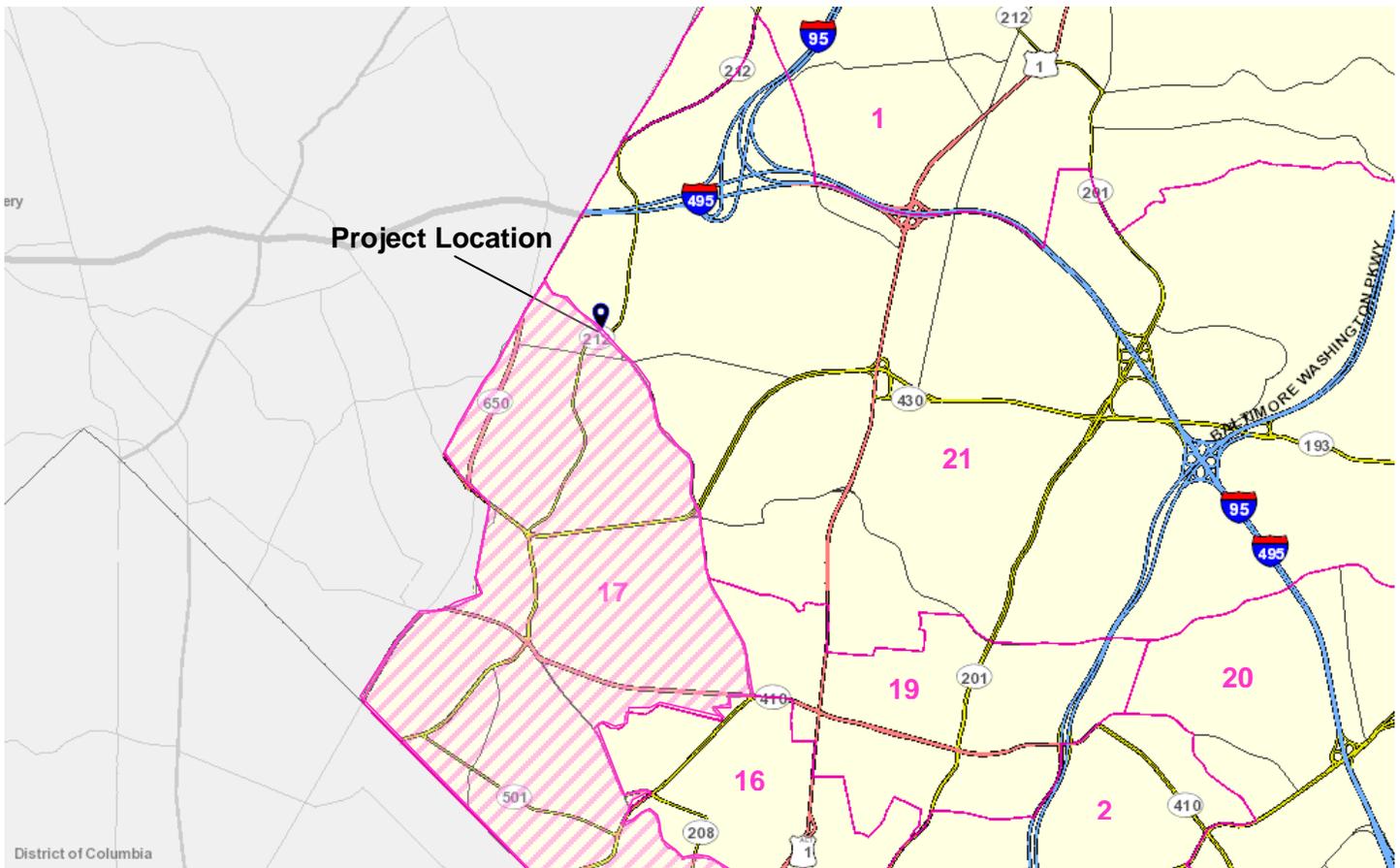


FIGURE 2 – Prince George's County Election Districts

For regional conformity determination, states develop State Implementation Plans (SIPs) to establish a plan for attaining and maintaining the NAAQS, as required by the CAA. Proposed and existing transportation projects and programs are compiled in short term (covering approximately 2-6 years) and long term (covering approximately 20 years) plans called

transportation improvement programs (TIPs) and long range plans, respectively, for urbanized areas. As defined by the United States Census Bureau, urbanized areas are geographic areas with a population greater than 50,000. These urbanized areas are governed by Metropolitan Planning Organizations (MPOs). MPOs are policy-making organizations which develop the TIPs and long range plans for their respective urbanized areas. Per 40 CFR 93.115, a project must be included in a long range plan and TIP that conforms to the SIP to achieve regional conformity. For the Washington, DC-MD-VA area, the National Capital Region Transportation Planning Board (NCRTPB) serves as the MPO. The current long range plan, the *2014 Constrained Long-Range Plan*, was adopted by NCRTPB on October 15, 2014. The latest TIP, covering fiscal years 2015 to 2020, was also adopted by NCRTPB on October 15, 2014. This assessment includes regional conformity determination for the project.

At the project level, pollutants could possibly have localized (hot-spot) levels above the NAAQS. As outlined by 40 CFR 93.116 in the *Transportation Conformity Regulations, as of April 2012*, any highway or transit project which is proposed to receive funding assistance and/or approval through federal programs or the Federal Highway Administration (FHWA) must not “*cause or contribute to any new localized CO, PM₁₀, and/or PM_{2.5} violations, increase the frequency or severity of any existing CO, PM₁₀, and/or PM_{2.5} violations, or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in CO, PM₁₀, and PM_{2.5} nonattainment and maintenance areas.*” To determine project level conformity, analyses must be performed for the respective pollutant set in the corresponding nonattainment or maintenance area where a project is located. To make the determination that a project is conforming, consultation in accordance with 40 CFR 93.105 is completed via the Interagency Consultation Group (ICG). The ICG for Maryland State Highway Administration (SHA) projects includes a representative from FHWA, EPA, the Maryland Department of the Environment (MDE), and the appropriate MPO. This assessment includes a project level conformity determination.

IV. ENVIRONMENTAL CONSEQUENCES

1. Regional Conformity Determination

The currently approved NCRTPB long range transportation plan and TIP have been determined to conform to the requirements of the Clean Air Act Amendments of 1990 in accordance with 40 CFR 93.114. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. The current 2015-2020 TIP includes the project under ID 3084, therefore, the project is included in a regionally conforming TIP that meets the requirements of 40 CFR 93.115.

2. Project Level Conformity

Since the project is in a CO maintenance area subject to the requirements of 40 CFR 93.116 concerning conformity determination, a qualitative CO assessment has been included. Also, because Prince George’s County is a maintenance area for PM_{2.5}, a project-specific PM_{2.5} assessment has been provided.

To assist in analyzing potential project impacts to both CO and PM_{2.5} levels, recent ambient air quality data from MDE air monitoring stations has been referenced. The closest MDE air

monitoring station for the study area is located at the Lathrop E. Smith Environmental Education Center in Montgomery County, Maryland. Monitoring data is available at other stations including those located at the Howard University’s Beltsville Laboratory (MD), 2500 1st Street, NW (DC), and at S 18th and Hayes Street (VA). All these stations are located in EPA Region 3. Monitored ambient air quality data near the study area for the years 2012-2014 is presented in **Table 2** (see **Appendix B** for details).

TABLE 2 – Monitored Ambient Air Quality Data 2012-2014

Site (ordered from closest to farthest from project limits)			Site 240330030 Howard University Beltsville MD			Site 110010043 2500 1 st St., N.W. Washington DC			Site 510130020 S 18 th and Hayes St Arlington VA		
Year			2012	2013	2014	2012	2013	2014	2012	2013	2014
Carbon Monoxide (CO) [ppm]	1-Hour	1st Maximum	1.3	1	1.5	2.5	2.1	1.6	1.7	1.2	1.8
		2nd Maximum	1.2	0.9	1	2.4	1.4	1.6	1.6	1.2	1.6
		Actual Exceedances	0	0	0	0	0	0	0	0	0
	8-Hour	1st Maximum	1.2	0.9	0.9	1.9	1.2	1.5	1.6	1.1	1.3
		2nd Maximum	0.9	0.9	0.8	1.8	1	1.2	1.4	1	1.1
		Actual Exceedances	0	0	0	0	0	0	0	0	0
Site (ordered from closest to farthest from project limits)			Site 240313001 Smith Center Montgomery County MD			Site 240330030 Howard University Beltsville MD			Site 110010043 2500 1 st St., N.W. Washington DC		
Year			2012	2013	2014	2012	2013	2014	2012	2013	2014
Particulate Matter (PM _{2.5}) [ug/m ³]	Annual	Weighted Annual Mean	10.3	8.1	9	11.3	9.5	9.9	11.6	11.6	9.9
	24-Hour	98th Percentile	23	21	20	26	22	23	28	26	21

A. Carbon Monoxide (CO) Assessment

Since the study area is in a CO maintenance area, a qualitative hot-spot conformity determination in conformance with 40 CFR 93.116 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 110010043, located at 2500 1st Street, N.W., in Washington DC. This concentration is 7.1 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 8-hour monitored CO concentration of 1.9 ppm occurred in the same year at the same site, which is 21.1 percent of the 8-hour NAAQS of 9.0 ppm.

A review of project traffic volumes, summarized in **Table 3** (see **Appendix C** for details), demonstrates that the project will neither increase the traffic volumes nor result in changes in vehicle mix on these segments of MD 212 and Adelphi Road. As shown in **Table 3**, neither MD 212 nor Adelphi Road carry a significant number of trucks; nor is there an increase in the percentage of trucks between the future no-build and build conditions. For the 2033 no-build conditions, the total MD 212 average daily traffic (ADT) volume is 12,800 vehicles and the total

average daily number of trucks is 896 vehicles. For the 2033 build conditions, the MD 212 ADT and truck volumes are the same as the no-build conditions. For the 2033 no-build conditions along Adelphi Road, the total ADT volume is 23,450 vehicles and the total average daily number of trucks is 469 vehicles. For the 2033 build conditions along Adelphi Road, the ADT and truck volumes are the same as the no-build conditions.

TABLE 3 - Traffic Data

Condition	Existing 2013	No-Build 2033	Build 2033
Adelphi Road – North of MD 212			
ADT (vpd)	19,225	23,450	23,450
Percent Trucks (%)	2	2	2
Daily Truck Volumes (vpd)	385	469	469
MD 212 – East of Edwards Way			
ADT (vpd)	10,500	12,800	12,800
Percent Trucks (%)	7	7	7
Daily Truck Volumes (vpd)	735	896	896

In conclusion, because the data presented in **Table 2** demonstrates maximum recently monitored CO concentrations in the project area are a percentage of the CO NAAQS and the data in **Table 3** demonstrates the improvements will not result in significant changes in vehicle mix or volume relative to the no-build conditions, construction of the project will not cause or contribute to a new violation of the CO NAAQS, increase the frequency or severity of any existing violation, or delay timely attainment of any standard or any required interim emission reductions or other milestones.

B. Particulate Matter (PM_{2.5}) Assessment

On March 10, 2006, EPA issued a final rule to address localized impacts of particulate matter: “PM_{2.5} and PM₁₀ Hot-Spot Analyses in Project-Level Transportation Conformity Determinations for the New PM_{2.5} and Existing PM₁₀ 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 PM₁₀ and PM_{2.5} nonattainment and maintenance areas. In November 2013 EPA issued “Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas,” which helps state and local agencies complete quantitative PM_{2.5} and PM₁₀ hot-spot analyses for project-level transportation conformity determinations of certain highway and transit projects.

Projects that require hot-spot analysis for PM_{2.5} are those that are listed in 40 CFR 93.123(b)(1), which Appendix B to the December 2010 *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas* defines as examples of projects of local air quality concern and include:

- (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 PM₁₀ or PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violations.*

As discussed in examples outlined in the preamble to the March 10, 2006 final rule, projects of local air quality concern, 40 CFR 93.123(b)(1)(i) and (ii), have been interpreted as applying to projects that would involve a significant increase in the number of diesel transit buses and diesel trucks on the existing facility. As provided in the November 2015 guidance, Appendix B, examples of projects that are of air quality concern and, therefore, covered by 40 CFR 93.123(b)(1)(i) and (ii) include the following:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic;
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal;
- Expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks; and,
- Similar highway projects that involve a significant increase in the number of diesel transit busses and/or diesel trucks.

To assist with the ICG process, SHA has prepared the following assessment of the proposed improvements:

- This 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.*”
- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(i) to be considered a project of local air quality concern based on the following considerations:
 - The proposed project involves adding a dedicated left turn lane in each direction on Adelphi Road and replacing a single left with a double left turn lane along southbound MD 212.

- As shown in **Table 3**, neither MD 212 nor Adelphi Road carry a significant number of trucks; nor is there an increase in the percentage of trucks between the future no-build and build conditions. For the 2033 no-build conditions, the total MD 212 average daily traffic (ADT) volume is 12,800 vehicles and the total average daily number of diesel trucks is 896 vehicles. For the 2033 build conditions, the MD 212 ADT and truck volumes are the same as the no-build conditions. For the 2033 no-build conditions along Adelphi Road, the total ADT volume is 23,450 vehicles and the total average daily number of trucks is 469 vehicles. For the 2033 build conditions along Adelphi Road, the ADT and truck volumes are the same as the no-build conditions.
- Depicted truck percentages represent the amount of light, medium and heavy truck activity along the 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, relieving system congestion, but will not necessarily induce new truck traffic origin-destination patterns.

Based on review and analysis as discussed above, it is determined that the project will meet the Clean Air Act and 40 CFR 93.109 requirements for Fine Particulate Matter – PM_{2.5}. These requirements are met without a hot-spot analysis because the project has not been found to be a project of local 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_{2.5} NAAQS, increase the frequency or severity of any existing violation, or delay timely attainment of any PM_{2.5} standard or any required interim PM_{2.5} emission reductions or other milestones.

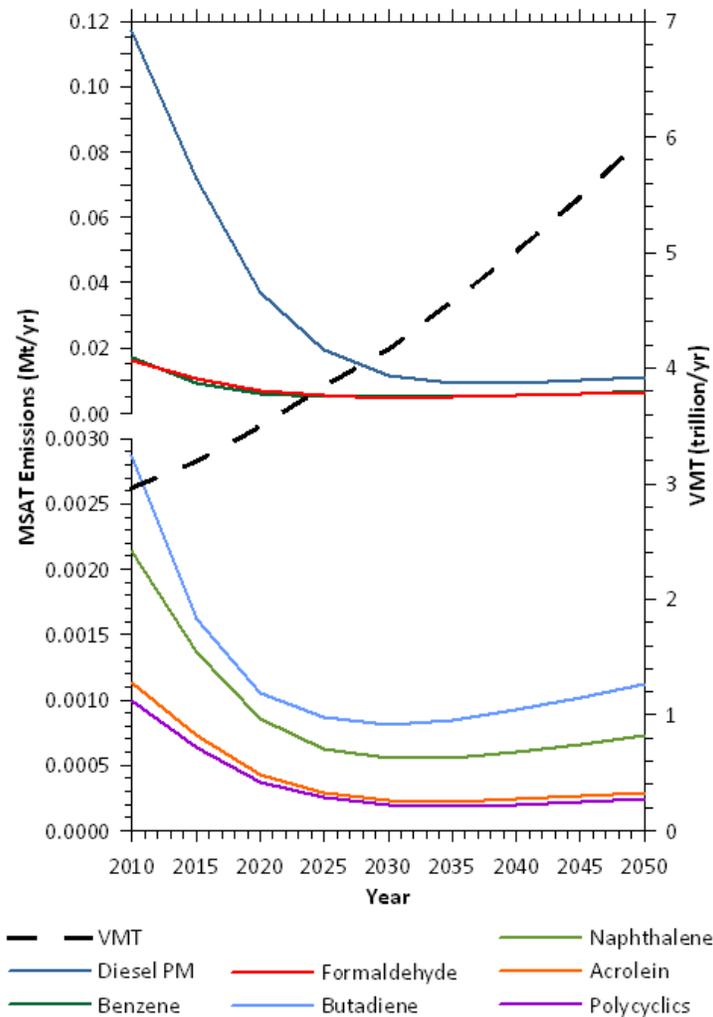
3. MSAT Assessment

The FHWA December 2012 *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA* requires an assessment of MSATs under specific conditions. Since the projected no-build and build traffic are substantially the same, as reflected in **Table 3**, the project will have no meaningful impacts on traffic volumes or vehicle mixes. Therefore in accordance with the referenced FHWA guidance, the project would be considered a Project with No Meaningful Potential MSAT Effects.

The purpose of the project is to alleviate high left turning queues at the intersection during peak hours. This project has been determined to generate minimal air quality impacts for CAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in substantial changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's Motor Vehicle Emission Simulator (MOVES) model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over

100 percent (Figure 3). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.



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

4. 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 procedures to be followed by contractors involved in site work through publishing the *Standard Specifications for Construction and Materials*. 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 the construction impact of the project is insignificant.

V. INTERAGENCY CONSULTATION GROUP / PUBLIC COORDINATION

Copies of this air quality analysis were circulated to FHWA, EPA, MDE, and NCRTPB staff for a 15 day Interagency Consultation Group review and comment period. FHWA, EPA, and MDE concurred that this project is not of air quality concern and does not require a quantitative hot-spot analysis (**Appendix D**). 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. PG3505187
FEDERAL AID PROJECT NO.
MD 212 (RIGGS ROAD) AT ADELPHI ROAD
INTERSECTION IMPROVEMENTS

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 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 PROVIDED BY THE STATE HIGHWAY ADMINISTRATION. 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

MDE # 14-SF-0186

ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED FOR CONTRACT NO. PG3505187 SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STATE HIGHWAY ADMINISTRATIONS 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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDER 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 DAYS (7) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

OWNERS / DEVELOPERS CERTIFICATION :

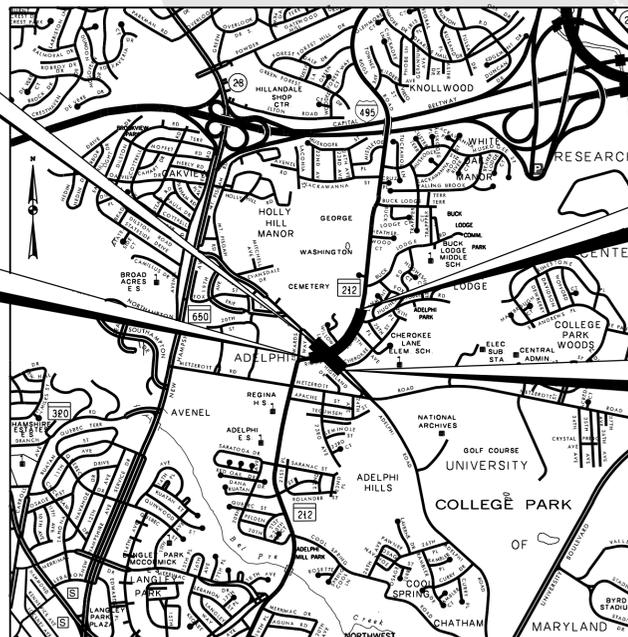
I / WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR 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
PG3505187
ADELPHI ROAD
STA. 37 + 80

LIMIT OF WORK
PG3505187
MD 212 (RIGGS ROAD)
STA. 10 + 00

LIMIT OF WORK
PG3505187
MD 212 (RIGGS ROAD)
STA. 27 + 00

LIMIT OF WORK
PG3505187
ADELPHI ROAD
STA. 29 + 40



PRINCE GEORGE'S COUNTY
LENGTH OF PROJECT:
MD 212 (RIGGS ROAD) = 0.32 miles
ADELPHI ROAD = 0.15 miles



HORIZONTAL DATUM	NAD 83 /91
VERTICAL DATUM	NAVD 88

SEMI-FINAL REVIEW
DATE: AUGUST 2015

DESIGN DESIGNATION				
ROADWAY	MD 212 (RIGGS ROAD)		ADELPHI ROAD	
CONTROLS / YEARS	2013	2033	2013	2033
AVERAGE DAILY TRAFFIC (A.D.T.)	10,500	12,800	19,225	23,450
DESIGN HOURLY VOLUME (D.H.V.)	9%	9%	9%	9%
DIRECTIONAL DISTRIBUTION	52%	52%	63%	63%
% TRUCKS - A.D.T.	7%	7%	2%	2%
% TRUCKS - D.H.V.	5%	5%	1%	1%
DESIGN SPEED M. P. H.	40 MPH		40 MPH	
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL		COLLECTOR	
CONTROL OF ACCESS	NONE		NONE	
INTENSITY OF DEVELOPMENT	URBAN		URBAN	
TERRAIN	ROLLING		ROLLING	
ANTICIPATED POSTED SPEED	30 MPH		35 MPH	

R-O-W PLAT NUMBERS	SURVEY BOOK NUMBERS
	25501 25596 25598

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

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. _____ Expiration Date _____

Century
ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031

REVIEWED AND APPROVAL RECOMMENDED DATE

DISTRICT ENGINEER

APPROVAL RECOMMENDED DATE

DIRECTOR, OFFICE OF HIGHWAY DEVELOPMENT

APPROVED DATE

DEPUTY ADMINISTRATOR / CHIEF ENGINEER FOR PLANNING, ENGINEERING, REAL ESTATE AND ENVIRONMENT

DRILL HOLES

DRILL HOLES

DRILL HOLES

BY: DGRAHAM

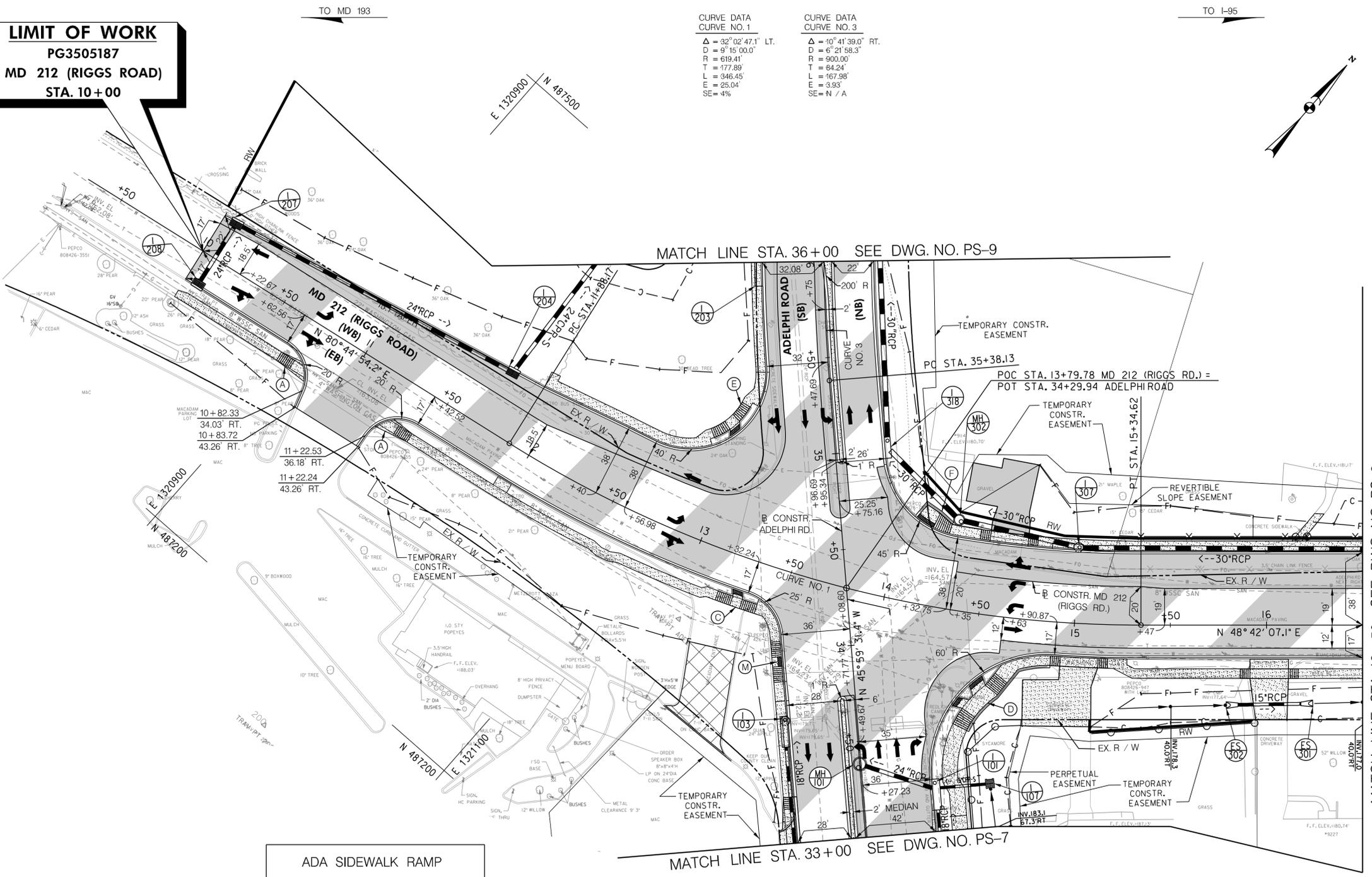
LIMIT OF WORK
PG3505187
MD 212 (RIGGS ROAD)
STA. 10+00

CURVE DATA
CURVE NO. 1
 $\Delta = 32^{\circ}02'47.1"$ LT.
 $D = 9^{\circ}15'00.0"$
 $R = 619.41$
 $T = 177.89$
 $L = 348.45$
 $E = 25.04$
 $SE = 4\%$

CURVE DATA
CURVE NO. 3
 $\Delta = 10^{\circ}41'39.0"$ RT.
 $D = 6^{\circ}21'58.3"$
 $R = 900.00$
 $T = 84.24$
 $L = 167.98$
 $E = 3.93$
 $SE = N / A$

TO I-95

TO MD 193



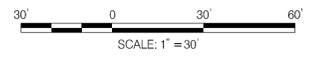
QUANTITY NOTES

GRINDING ASPHALT PAVEMENT - 0 INCH TO 2 INCH	
2822 SY.	MD 212 - STA. 10+00 TO STA. 16+50
949 SY.	ADELPHI ROAD - STA. 33+00 TO STA. 34+13
585 SY.	ADELPHI ROAD - STA. 34+69 TO STA. 36+00
REMOVAL OF EXISTING CURB (ANY TYPE)	
40 LF.	MD 212 - STA. 13+13, 5' TO 87' RT.
55 LF.	MD 212 - STA. 13+35, 48' RT. TO STA. 13+45, 100' RT.
REMOVAL OF EXISTING PAVEMENT	
42 CY.	MD 212 - STA. 13+13 TO STA. 13+35 RT.
STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 10 INCH DEPTH	
4 LF.	MD 212 - STA. 10+00 RT. TO STA. 10+04 RT.
90 LF.	MD 212 - STA. 10+11 RT. TO STA. 10+84 RT.
297 LF.	MD 212 - STA. 11+22 RT. TO ADELPHI ROAD - STA. 33+74 LT.
12 LF.	ADELPHI ROAD - STA. 33+07 RT. TO 33+19 RT.
267 LF.	ADELPHI ROAD - STA. 33+25 RT. TO MD 212 - STA. 16+50 RT.
4 LF.	MD 212 - STA. 10+00 LT. TO STA. 10+04 LT.
157 LF.	MD 212 - STA. 10+11 LT. TO STA. 11+67 LT.
160 LF.	MD 212 - STA. 11+74 LT. TO ADELPHI ROAD - STA. 35+45 LT.
160 LF.	ADELPHI ROAD - STA. 34+92 RT. TO MD 212 - STA. 14+86 LT.
147 LF.	MD 212 - STA. 15+03 LT. TO STA. 16+50 LT.
STANDARD TYPE A CURB 8 INCH X 16 INCH	
12 LF.	MD 212 - STA. 13+18 TO STA. 13+24 RT.
12 LF.	MD 212 - STA. 13+29 TO STA. 13+38 RT.
13 LF.	MD 212 - STA. 12+85 TO STA. 12+94 LT.
13 LF.	MD 212 - STA. 12+97 TO STA. 12+98 LT.
15 LF.	ADELPHI ROAD - STA. 33+55 TO STA. 33+64 RT.
14 LF.	ADELPHI ROAD - STA. 33+69 TO STA. 33+74 RT.
19 LF.	MD 212 - STA. 14+56 TO STA. 14+65 RT.
46 LF.	ADELPHI ROAD - STA. 33+45 TO STA. 33+77 LT. (PARKING LOT)
PRINCE GEORGE'S COUNTY CONCRETE CURB & GUTTER (SEE DWG. DE-2)	
6 LF.	ADELPHI ROAD - STA. 33+24 TO STA. 33+50 LT.
8 LF.	ADELPHI ROAD - STA. 33+66 TO STA. 33+74 LT.
42 LF.	ADELPHI ROAD - STA. 35+45 TO STA. 35+88 LT.
7 LF.	ADELPHI ROAD - STA. 33+00 TO STA. 33+07 RT.
3 LF.	ADELPHI ROAD - STA. 34+92 TO STA. 34+95 RT.
92 LF.	ADELPHI ROAD - STA. 35+06 TO STA. 35+88 RT.
PRINCE GEORGE'S COUNTY MONOLITHIC MEDIAN 2 FEET 0 INCH WIDE (SEE DWG. DE-2)	
73 LF.	ADELPHI ROAD - STA. 33+00 TO STA. 33+73 LT.
79 LF.	ADELPHI ROAD - STA. 34+96 TO STA. 35+75 RT.
PRINCE GEORGE'S COUNTY MONOLITHIC MEDIAN 2 FEET 0 INCH TO 6 FEET 0 INCH WIDE (SEE DWG. DE-2)	
25 LF.	ADELPHI ROAD - STA. 35+75 TO STA. 36+00 RT.
8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR PG DRIVEWAY ENTRANCE, MIX 3 (SEE DWG. DE-3)	
23 SY.	PG 200.05 - ADELPHI ROAD STA. 33+00 TO STA. 33+24.04 LT.
6 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX 6 (MD 630.01 & 630.02)	
17 SY.	MD 630.01 - MD 212 STA. 14+45.15 TO STA. 14+77.24 LT.
126 SY.	MD 630.01 - MD 212 STA. 14+88.86 TO STA. 15+17.77 RT.
71 SY.	MD 630.01 - MD 212 STA. 15+86.36 TO STA. 16+16.36 RT.
DETECTABLE WARNING SURFACE FOR CURB RAMPS	
11 SF.	MD 212 - STA. 13+26 RT.
17 SF.	MD 212 - STA. 14+53 RT.
20 SF.	MD 212 - STA. 14+13 LT.
11 SF.	ADELPHI RD. - STA. 33+67 RT.
10 SF.	ADELPHI RD. - STA. 33+95 LT.
13 SF.	MD 212 - STA. 12+96 LT.

ADA SIDEWALK RAMP

STATION	TYPE	STANDARD NO.
MD 212 10+78 RT.	A	*
MD 212 11+26 RT.	A	*
MD 212 13+26 RT.	C	*
MD 212 14+53 RT.	D	*
MD 212 12+96 LT.	E	*
MD 212 14+13 LT.	F	*
ADELPHI RD. 33+95 LT.	M	MD. 655.12

* SEE SHEET NO. 13 FOR RAMP DETAILS



NOTE: ALL DIMENSIONS AND RADII SHOWN AT CURB ARE TO FACE OF CURB.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical

ROADWAY LEGEND	R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
FULL DEPTH RECONSTRUCTION		ITEM SHEET NOs.	
GRIND AND RESURFACE		TYPICAL SHEETS.....	
EXISTING SIDEWALK/PAVEMENT REMOVAL		GEOMETRIC LAYOUT SHEETS.....	
CONCRETE SIDEWALK/CONCRETE MEDIAN/CONCRETE DRIVEWAY APRON		INTERSECTION DETAIL SHEETS.....	
		ROADWAY PROFILE SHEETS.....	
		TRAFFIC CONTROL SHEETS.....	
		SWM PLAN SHEETS.....	
		PIPE PROFILE SHEETS.....	
		EROSION & SEDIMENT CONTROL.....	
		LANDSCAPE PLANS.....	
		SIGNING & MARKING PLANS.....	
		UTILITIES.....	

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION

MD 212 (RIGGS ROAD) AT ADELPHI ROAD
 INTERSECTION IMPROVEMENTS

ROADWAY PLAN

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. PG3505187

DESIGNED BY JMJ COUNTY PRINCE GEORGE'S

DRAWN BY JMJ LOGMILE _____

CHECKED BY MCM / MA HORIZONTAL SCALE _____

F.A.P. NO. SEE TITLE SHEET VERTICAL SCALE _____

DRAWING NO. **PS-1** OF **10** SHEET NO. **23** OF **99**

CENTURY
 ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 GILROY ROAD
 HUNT VALLEY, MD 21031

BY: cgraham

TO MD 193

TO I-95

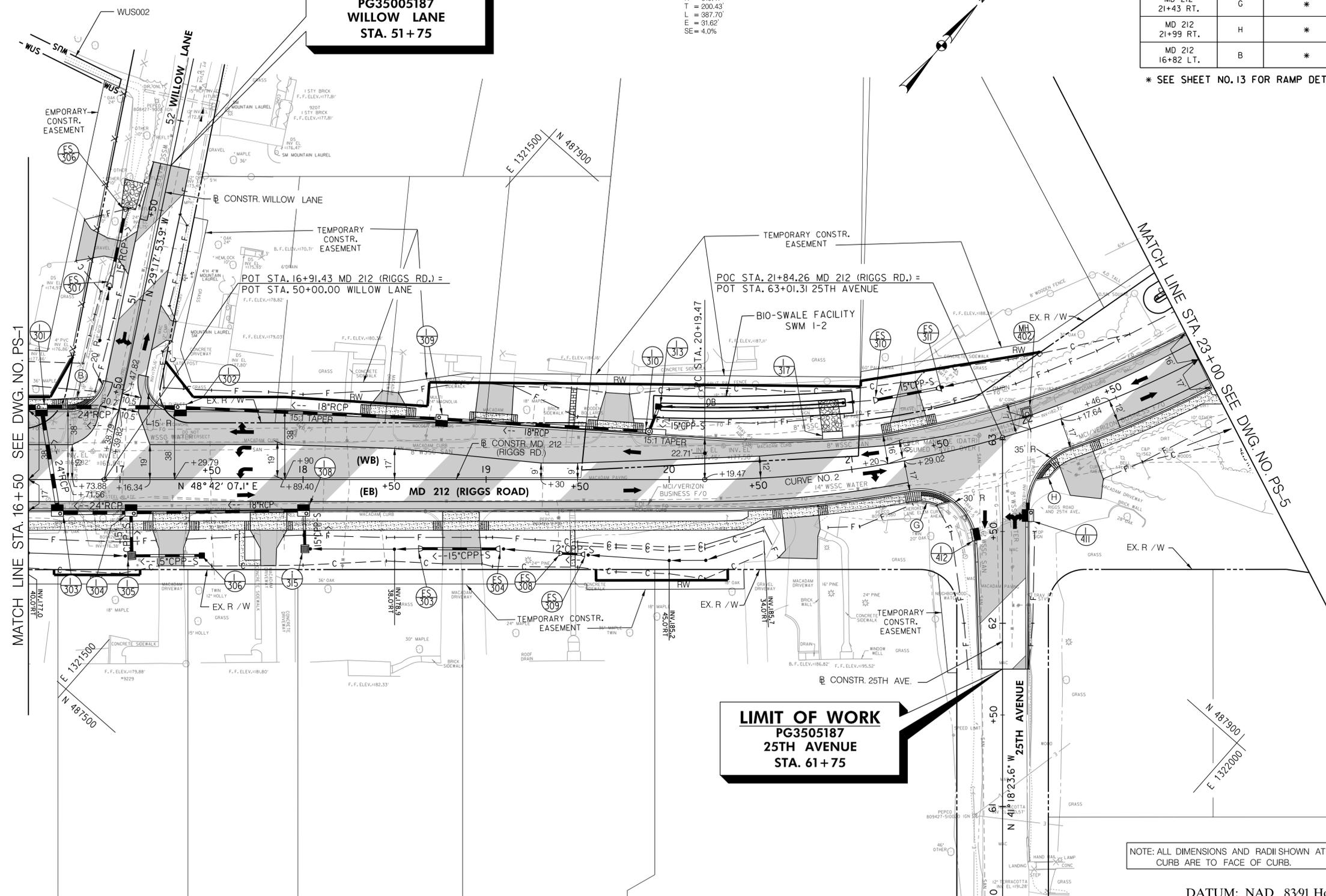
CURVE DATA
 CURVE NO. 2
 $\Delta = 35^{\circ}51'42.7''$ LT.
 $D = 9^{\circ}15'00.0''$
 $R = 619.41'$
 $T = 200.43'$
 $L = 387.70'$
 $E = 31.62'$
 $SE = 4.0\%$

ADA SIDEWALK RAMP		
STATION	TYPE	STANDARD NO.
MD 212 21+43 RT.	G	*
MD 212 21+99 RT.	H	*
MD 212 16+82 LT.	B	*

* SEE SHEET NO. 13 FOR RAMP DETAILS

LIMIT OF WORK
 PG3505187
 WILLOW LANE
 STA. 51 + 75

LIMIT OF WORK
 PG3505187
 25TH AVENUE
 STA. 61 + 75



NOTE: ALL DIMENSIONS AND RADII SHOWN AT CURB ARE TO FACE OF CURB.

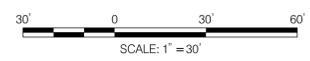
DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

QUANTITY NOTES	
GRINDING ASPHALT PAVEMENT - 0 INCH TO 2 INCH	
1852 SY.	MD 212 - STA. 10+00 TO STA. 16+50
355 SY.	WILLOW LA. - STA. 33+00 TO STA. 34+13
368 SY.	25TH AVE. - STA. 34+69 TO STA. 36+00
STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 10 INCH DEPTH	
4 LF.	MD 212 - STA. 16+50 LT. TO STA. 16+54 LT.
39 LF.	MD 212 - STA. 16+60 LT. TO WILLOW LA. - STA. 50+52.60 LT.
28 LF.	WILLOW LA. - STA. 50+60 RT. TO MD 212 - STA. 17+30 LT.
136 LF.	MD 212 - STA. 17+36 TO STA. 18+72 LT.
108 LF.	MD 212 - STA. 18+79 TO STA. 19+87 LT.
86 LF.	MD 212 - STA. 19+98 TO STA. 20+86 LT.
197 LF.	MD 212 - STA. 20+97 TO STA. 23+00 LT.
15 LF.	MD 212 - STA. 16+50 TO STA. 16+65 RT.
31 LF.	MD 212 - STA. 16+72 TO STA. 17+03 RT.
88 LF.	MD 212 - STA. 17+09 STA. 17+97 RT.
374 LF.	MD 212 - STA. 18+03 RT TO 25TH AVE. - STA. 62+52 LT.
12 LF.	25TH AVE. - STA. 62+33 TO STA. 62+45 LT.
3 LF.	25TH AVE. - STA. 62+52 TO STA. 62+55 RT.
128 LF.	25TH AVE. - STA. 62+62 RT. TO MD 212 - STA. 23+00 RT.
STANDARD TYPE A CURB 8 INCH X 16 INCH	
25 LF.	MD 212 - STA. 21+26.14 TO STA. 21+49.45 RT.
12 LF.	MD 212 - STA. 21+94.92 TO STA. 22+08.86 RT.
PRINCE GEORGE'S COUNTY CONCRETE CURB & GUTTER (SEE DWG. DE-2)	
58 LF.	25TH AVE. - STA. 61+75 TO STA. 62+33 LT.
77 LF.	25TH AVE. - STA. 61+75 TO STA. 62+52 RT.
8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX 6 (MD 630.01 & 630.02)	
17 SY.	MD 630.01 - MD 212 STA. 19+55.53 TO STA. 19+85.46 LT.
6 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX 6 (MD 630.01 & 630.02)	
28 SY.	MD 630.02 - MD 212 STA. 17+12.96 TO STA. 17+12.96 RT.
26 SY.	MD 630.02 - MD 212 STA. 17+68.17 TO STA. 17+94.17 RT.
28 SY.	MD 630.02 - MD 212 STA. 18+71.26 TO STA. 19+01.26 RT.
17 SY.	MD 630.01 - MD 212 STA. 20+55.50 TO STA. 20+84.39 RT.
16 SY.	MD 630.01 - MD 212 STA. 22+04.14 TO STA. 22+32.89 RT.
17 SY.	MD 630.01 - MD 212 STA. 18+31.39 TO STA. 18+61.32 LT.
14 SY.	MD 630.01 - MD 212 STA. 18+90.89 TO STA. 19+16.83 LT.
17 SY.	MD 630.01 - MD 212 STA. 21+20.03 TO STA. 21+50.91 LT.
DETECTABLE WARNING SURFACE FOR CURB RAMPS	
31 SF.	MD 212 - STA. 21+43 RT.
20 SF.	MD 212 - STA. 21+99 RT.
26 SF.	MD 212 - STA. 16+82 LT.
5 INCH CONCRETE SIDEWALK	
315 SF.	MD 212 - STA. 16+50 TO STA. 17+12.96 RT.
210 SF.	MD 212 - STA. 17+42.96 TO STA. 17+76.80 RT.
385 SF.	MD 212 - STA. 17+94.17 TO STA. 18+71.26 RT.
842 SF.	MD 212 - STA. 19+01.26 TO STA. 20+55.50 RT.
325 SF.	MD 212 - STA. 20+84.39 TO STA. 21+48.89 RT.
40 SF.	MD 212 - STA. 21+95.5 TO STA. 22+04.14 RT.
361 SF.	MD 212 - STA. 22+32.89 TO STA. 23+00 RT.
168 SF.	MD 212 - STA. 16+50 TO STA. 16+85.94 LT.
BRICK WALK	
62 SF.	MD 212 - STA. 19+45 TO STA. 19+50 LT.
3 FOOT GALVANIZED CHAIN LINK FENCE	
12 LF.	MD 212 - STA. 16+50 TO 16+61.42 LT.
25 LF.	MD 212 - STA. 16+61.42 LT TO WILLOW LA. - STA. 50+62.30 LT.
54 LF.	WILLOW LA. - STA. 50+62.30 TO 51+51.92 LT.
77 LF.	WILLOW LA. - STA. 50+31.42 TO 52+07.85 LT.

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION

MD 212 (RIGGS ROAD) AT ADELPHI ROAD
 INTERSECTION IMPROVEMENTS

ROADWAY LEGEND	R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
FULL DEPTH RECONSTRUCTION		ITEM SHEET NOS.	
GRIND AND RESURFACE		TYPICAL SHEETS.....	
EXISTING SIDEWALK/PAVEMENT REMOVAL		GEOMETRIC LAYOUT SHEETS.....	
CONCRETE SIDEWALK/ CONCRETE MEDIAN/ CONCRETE DRIVEWAY APRON		INTERSECTION DETAIL SHEETS.....	
		ROADWAY PROFILE SHEETS.....	
		TRAFFIC CONTROL SHEETS.....	
		SWM PLAN SHEETS.....	
		PIPE PROFILE SHEETS.....	
		EROSION & SEDIMENT CONTROL.....	
		LANDSCAPE PLANS.....	
		SIGNING & MARKING PLANS.....	
		UTILITIES.....	



CENTURY
 ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 GILROY ROAD
 HUNT VALLEY, MD 21031

BY: mmatzke

ROADWAY PLAN	
SCALE 1" = 30'	ADVERTISED DATE _____ CONTRACT NO. PG3505187
DESIGNED BY <u>JMJ</u>	COUNTY <u>PRINCE GEORGE'S</u>
DRAWN BY <u>JMJ</u>	LOGMILE _____
CHECKED BY <u>MCM / MA</u>	HORIZONTAL SCALE _____
F.A.P. NO. <u>SEE TITLE SHEET</u>	VERTICAL SCALE _____
DRAWING NO. PS-3	OF 10 SHEET NO. 25 OF 99

PLOTTED: Thursday, August 20, 2015 AT 03:29 PM
 FILE: S:\2013\Transportation\09009114 MD 212 at Adelphi Road\CADD\p0-D-P002_MD212.dgn

GRINDING ASPHALT PAVEMENT - 0 INCH TO 2 INCH

1090 SY.	MD 212 - STA. 23+00 TO STA. 27+00
359 SY.	HUGHES RD. - STA. 71+19 TO STA. 72+26.53

STANDARD TYPE A COMBINATION CURB AND GUTTER
12 INCH GUTTER PAN 10 INCH DEPTH

38 LF.	MD 212 - STA. 23+00 TO STA. 23+39 LT.
23 LF.	MD 212 - STA. 23+49 TO STA. 23+73 LT.
63 LF.	MD 212 - STA. 23+80 TO STA. 24+43 LT.
38 LF.	MD 212 - STA. 24+49 TO STA. 24+87 LT.
206 LF.	MD 212 - STA. 24+94 TO STA. 27+00 LT.
154 LF.	MD 212 - STA. 23+00 RT. TO HUGHES RD. - STA. 71+84 LT.
5 LF.	HUGHES RD. - STA. 71+68 LT. TO STA. 71+73 LT.
39 LF.	HUGHES RD. - STA. 72+09 RT. TO MD 212 - STA. 24+89 RT.
195 LF.	MD 212 - STA. 25+05 TO STA. 27+00 RT.

PRINCE GEORGE'S COUNTY CONCRETE CURB & GUTTER
(SEE DWG. DE-2)

52 LF.	HUGHES RD. - STA. 71+19 TO STA. 71+68 LT.
55 LF.	HUGHES RD. - STA. 71+19 TO STA. 71+76 RT.
22 LF.	HUGHES RD. - STA. 71+87 TO STA. 72+09 RT.

6 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR
DRIVEWAY MIX 6 (MD 630.01 & 630.02)

17 SY.	MD 630.01 - MD 212 STA. 25+63.42 TO STA. 25+93.42 LT.
61 SY.	MD 630.01 - MD 212 STA. 26+38.53 TO STA. 26+68.53 LT.
28 SY.	MD 630.02 - MD 212 STA. 25+55.06 TO STA. 25+85.06 RT.
28 SY.	MD 630.02 - MD 212 STA. 26+28.52 TO STA. 26+58.52 RT.

DETECTABLE WARNING SURFACE FOR CURB RAMPS

15 SF.	MD 212 - STA. 24+17.81 RT.
27 SF.	MD 212 - STA. 24+68.07 RT.

5 INCH CONCRETE SIDEWALK

628 SF.	MD 212 - STA. 23+00 TO STA. 24+20.74 RT.
515 SF.	MD 212 - STA. 24+66.02 TO STA. 25+55.06 RT.
50 SF.	MD 212 - STA. 25+85.06 TO STA. 25+90.06 RT.
40 SF.	MD 212 - STA. 26+30.50 TO STA. 26+38.53 LT.

4 INCH CONCRETE SIDEWALK

444 SF.	HUGHES RD. - STA. 71+19 TO STA. 72+12.77 RT.
---------	--

TRAFFIC BARRIER W BEAM USING 8 FOOT POST

80 LF.	MD 212 - STA. 24+29 TO STA. 25+08.42 LT.
--------	--

TYPE C TRAFFIC BARRIER END TREATMENT

1 EA.	MD 212 - STA. 23+79 LT.
1 EA.	MD 212 - STA. 25+08.42 LT.

FLOWABLE BACKFILL FOR PIPE ABANDONMENT

4 CY	HUGHES ROAD - STA. 71+95, LT TO STA. 72+26, RT	18" RCP
14 CY	MD 212 - STA. 24+76, 30' RT TO BASELINE	TWIN 33" RCP

REMOVAL OF EX. MASONRY

•••	HUGHES ROAD - STA. 71+95, 19' LT	INLET
10 CY	HUGHES ROAD - STA. 72+26, 27' RT	MANHOLE
••	HUGHES ROAD - STA. 72+08, 40' RT	INLET
••	MD 212 - STA. 24+77, 14' LT	INLET

••• REMOVAL INCIDENTAL TO INSTALLATION OF NEW DRAINAGE STRUCTURE
••• REMOVAL INCIDENTAL TO CLASS OF EXCAVATION



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

MD 212 (RIGGS ROAD) AT ADELPHI ROAD
INTERSECTION IMPROVEMENTS

ROADWAY PLAN

SCALE 1" = 30'	ADVERTISED DATE _____	CONTRACT NO. _____	PG3505187
DESIGNED BY	JMJ	COUNTY	PRINCE GEORGE'S
DRAWN BY	JMJ	LOGMILE	_____
CHECKED BY	MCM / MA	HORIZONTAL SCALE	_____
F.A.P. NO.	SEE TITLE SHEET	VERTICAL SCALE	_____
DRAWING NO.	PS - 5	OF	10
SHEET NO.	27	OF	99

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

NOTE: ALL DIMENSIONS AND RADII SHOWN AT CURB ARE TO FACE OF CURB.

ADA SIDEWALK RAMP

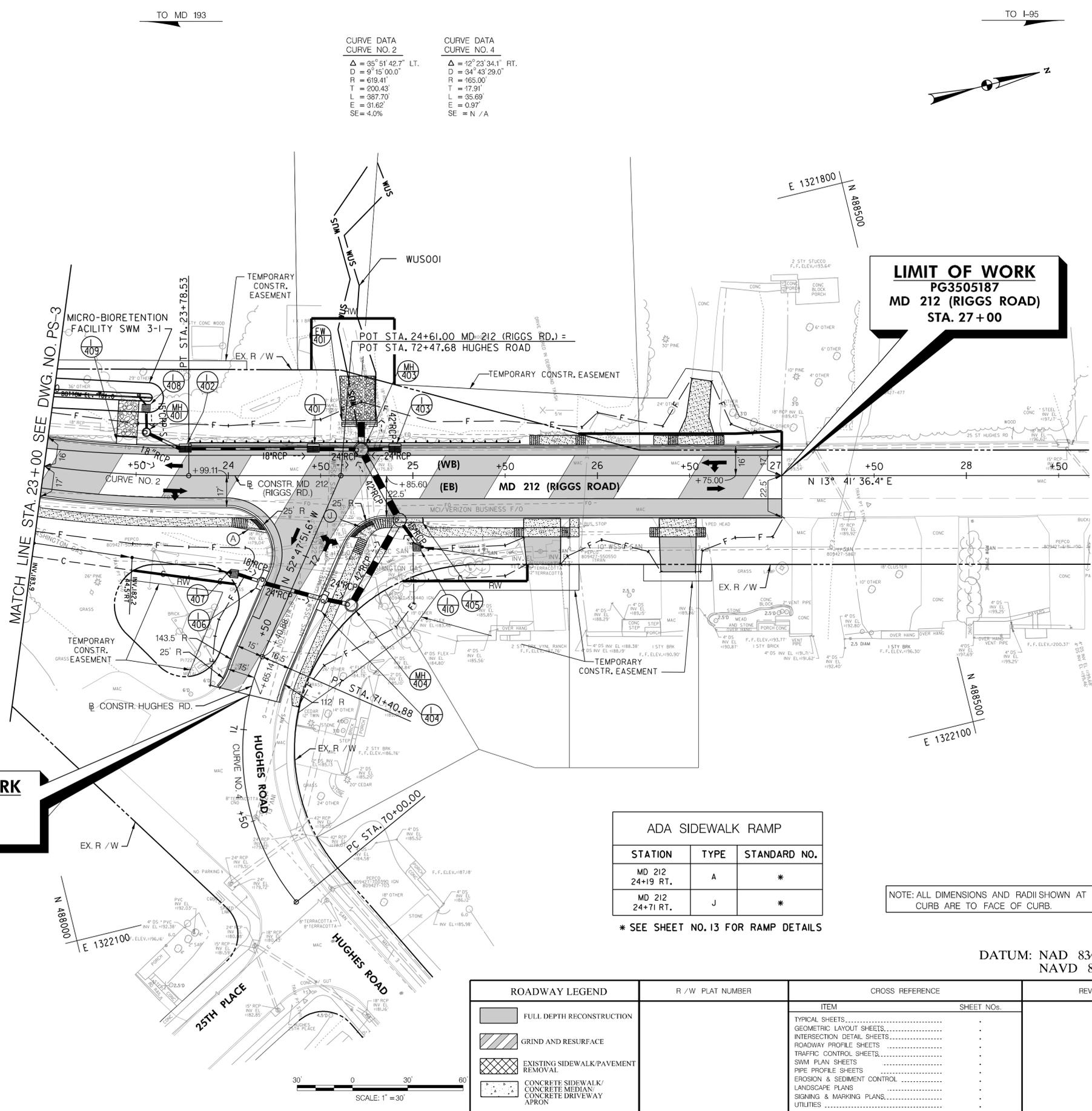
STATION	TYPE	STANDARD NO.
MD 212 24+19 RT.	A	*
MD 212 24+71 RT.	J	*

* SEE SHEET NO. 13 FOR RAMP DETAILS

ROADWAY LEGEND	R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
FULL DEPTH RECONSTRUCTION		ITEM SHEET NOS.	
GRIND AND RESURFACE		TYPICAL SHEETS.....	
EXISTING SIDEWALK/PAVEMENT REMOVAL		GEOMETRIC LAYOUT SHEETS.....	
CONCRETE SIDEWALK/CONCRETE MEDIAN/CONCRETE DRIVEWAY APRON		INTERSECTION DETAIL SHEETS.....	
		ROADWAY PROFILE SHEETS.....	
		TRAFFIC CONTROL SHEETS.....	
		SWM PLAN SHEETS.....	
		PIPE PROFILE SHEETS.....	
		EROSION & SEDIMENT CONTROL.....	
		LANDSCAPE PLANS.....	
		SIGNING & MARKING PLANS.....	
		UTILITIES.....	

CURVE DATA
CURVE NO. 2

Δ = 35° 51' 42.7" LT.	Δ = 12° 23' 34.1" RT.
D = 9° 15' 00.0"	D = 34° 43' 29.0"
R = 619.41'	R = 185.00'
T = 200.43'	T = 17.91'
L = 387.70'	L = 35.69'
E = 31.62'	E = 0.97'
SE = 4.0%	SE = N / A



LIMIT OF WORK
PG3505187
HUGHES ROAD
STA. 71+19

LIMIT OF WORK
PG3505187
MD 212 (RIGGS ROAD)
STA. 27+00

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031

BY: cgraham

TO MD 193

CURVE DATA
CURVE NO. 5

$\Delta = 35^{\circ}11'07.8"$ RT.
D = $82^{\circ}43'46.7"$
R = 75.66'
T = 23.99'
L = 42.53'
E = 3.71'
SE = N / A

N 487000
E 1321250

TO MD 212

ADA SIDEWALK RAMP

STATION	TYPE	STANDARD NO.
ADELPHI RD. 30+14 RT.	K	*
ADELPHI RD. 30+52 RT.	L	*

* SEE SHEET NO. 13 FOR RAMP DETAILS

QUANTITY NOTES

GRINDING ASPHALT PAVEMENT - 0 INCH TO 2 INCH

2442 SY. ADELPHI ROAD - STA. 29+40 TO STA. 33+00
128 SY. CHEROKEE ST. - STA. 40+35.16 TO STA. 40+66

STANDARD TYPE A CURB 8 INCH X 16 INCH

9 LF. ADELPHI ROAD - STA. 30+13.91 TO STA. 30+16.34 RT.
6 LF. ADELPHI ROAD - STA. 30+50.49 TO STA. 30+56.49 RT.

PRINCE GEORGE'S COUNTY CONCRETE CURB & GUTTER
(SEE DWG. DE-2)

203 LF. ADELPHI ROAD - STA. 29+40 TO STA. 31+43 LT.
72 LF. ADELPHI ROAD - STA. 31+64 TO STA. 32+36 LT.
6 LF. ADELPHI ROAD - STA. 32+52 TO STA. 32+59 LT.
98 LF. ADELPHI ROAD - STA. 29+40 TO CHEROKEE ST. - STA. 40+66 RT.
104 LF. CHEROKEE ST. - STA. 40+66 LT. TO ADELPHI ROAD - STA. 31+32 RT.
76 LF. ADELPHI ROAD - STA. 31+38 TO STA. 32+15 RT.
79 LF. ADELPHI ROAD - STA. 32+21 TO STA. 33+00 RT.
123 LF. ADELPHI ROAD - STA. 29+40 TO STA. 29+98.69 (MEDIAN)
225 LF. ADELPHI ROAD - STA. 30+72.73 TO STA. 31+82.87 (MEDIAN)

PRINCE GEORGE'S COUNTY MONOLITHIC MEDIAN
2 FEET 0 INCH WIDE (SEE DWG. DE-2)

77 LF. ADELPHI ROAD - STA. 32+23 TO STA. 33+00 LT.

PRINCE GEORGE'S COUNTY MONOLITHIC MEDIAN
2 FEET 0 INCH TO 6 FEET 0 INCH WIDE (SEE DWG. DE-2)

41 LF. ADELPHI ROAD - STA. 31+82.48 TO STA. 32+23 LT.

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR
PG DRIVEWAY ENTRANCE, MIX 3 (SEE DWG. DE-3)

44 SY. PG 200.05 - ADELPHI ROAD STA. 32+58.64 TO STA. 33+00 LT.

6 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR
PG DRIVEWAY ENTRANCE MIX 3 (SEE DWG. DE-3)

46 SY. PG 200.01 - ADELPHI ROAD STA. 29+47.80 TO STA. 29+64.89 LT.
38 SY. PG 200.02 - ADELPHI ROAD STA. 30+21.05 TO STA. 30+43.14 LT.
16 SY. PG 200.01 - ADELPHI ROAD STA. 30+99.39 TO STA. 31+19.31 LT.
17 SY. PG 200.01 - ADELPHI ROAD STA. 31+76.55 TO STA. 31+93.60 LT.
33 SY. PG 200.02 - ADELPHI ROAD STA. 31+51.23 TO STA. 31+73.45 RT.
53 SY. PG 200.02 - ADELPHI ROAD STA. 31+78.45 TO STA. 32+00.45 RT.

4 INCH CONCRETE SIDEWALK

46 SF. ADELPHI RD. - STA. 29+40 TO STA. 29+48.30 LT.
353 SF. ADELPHI RD. - STA. 26+64.39 TO STA. 30+21.05 LT.
310 SF. ADELPHI RD. - STA. 30+43.14 TO STA. 31+00.89 LT.
302 SF. ADELPHI RD. - STA. 31+17.79 TO STA. 31+78.10 LT.
357 SF. ADELPHI RD. - STA. 31+92.10 TO STA. 32+58.64 LT.
362 SF. ADELPHI RD. - STA. 29+77 TO STA. 30+15.98 RT.
879 SF. ADELPHI RD. - STA. 30+50.49 TO STA. 31+51.22 RT.
40 SF. ADELPHI RD. - STA. 31+73.45 TO STA. 31+78.45 RT.
821 SF. ADELPHI RD. - STA. 32+00.45 TO STA. 33+00 RT.

DETECTABLE WARNING SURFACE FOR CURB RAMPS

22 SF. ADELPHI RD. - STA. 30+13.04 RT.
22 SF. ADELPHI RD. - STA. 30+53.15 RT.

6" REINFORCED CONCRETE BUS SHELTER PAD (SEE DE-4)

340 SF. PG 300.24 ADELPHI RD. - STA. 29+57 TO STA. 29+77 RT.

TYPE B SOIL STABILIZATION MATTING

85 SY. ADELPHI ROAD - STA. 30+76, 61.3' RT TO STA. 31+33, 61' RT (W=2; H=18)
127 SY. ADELPHI ROAD - STA. 32+00, 57.3' RT TO STA. 33+00, 67' RT (W=2; H=18)



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

MD 212 (RIGGS ROAD) AT ADELPHI ROAD
INTERSECTION IMPROVEMENTS

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

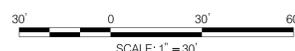
ROADWAY PLAN

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. PG3505187

DESIGNED BY JMJ COUNTY PRINCE GEORGE'S
DRAWN BY JMJ LOGMILE _____
CHECKED BY MCM / MA HORIZONTAL SCALE _____
F.A.P. NO. SEE TITLE SHEET VERTICAL SCALE _____

DRAWING NO. **PS-7** OF **10** SHEET NO. **29** OF **99**

ROADWAY LEGEND	R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
FULL DEPTH RECONSTRUCTION		ITEM SHEET NOS.	
GRIND AND RESURFACE		TYPICAL SHEETS	
EXISTING SIDEWALK/PAVEMENT REMOVAL		GEOMETRIC LAYOUT SHEETS	
CONCRETE SIDEWALK/CONCRETE MEDIAN/CONCRETE DRIVEWAY APRON		INTERSECTION DETAIL SHEETS	
		ROADWAY PROFILE SHEETS	
		TRAFFIC CONTROL SHEETS	
		SWM PLAN SHEETS	
		PIPE PROFILE SHEETS	
		EROSION & SEDIMENT CONTROL	
		LANDSCAPE PLANS	
		SIGNING & MARKING PLANS	
		UTILITIES	



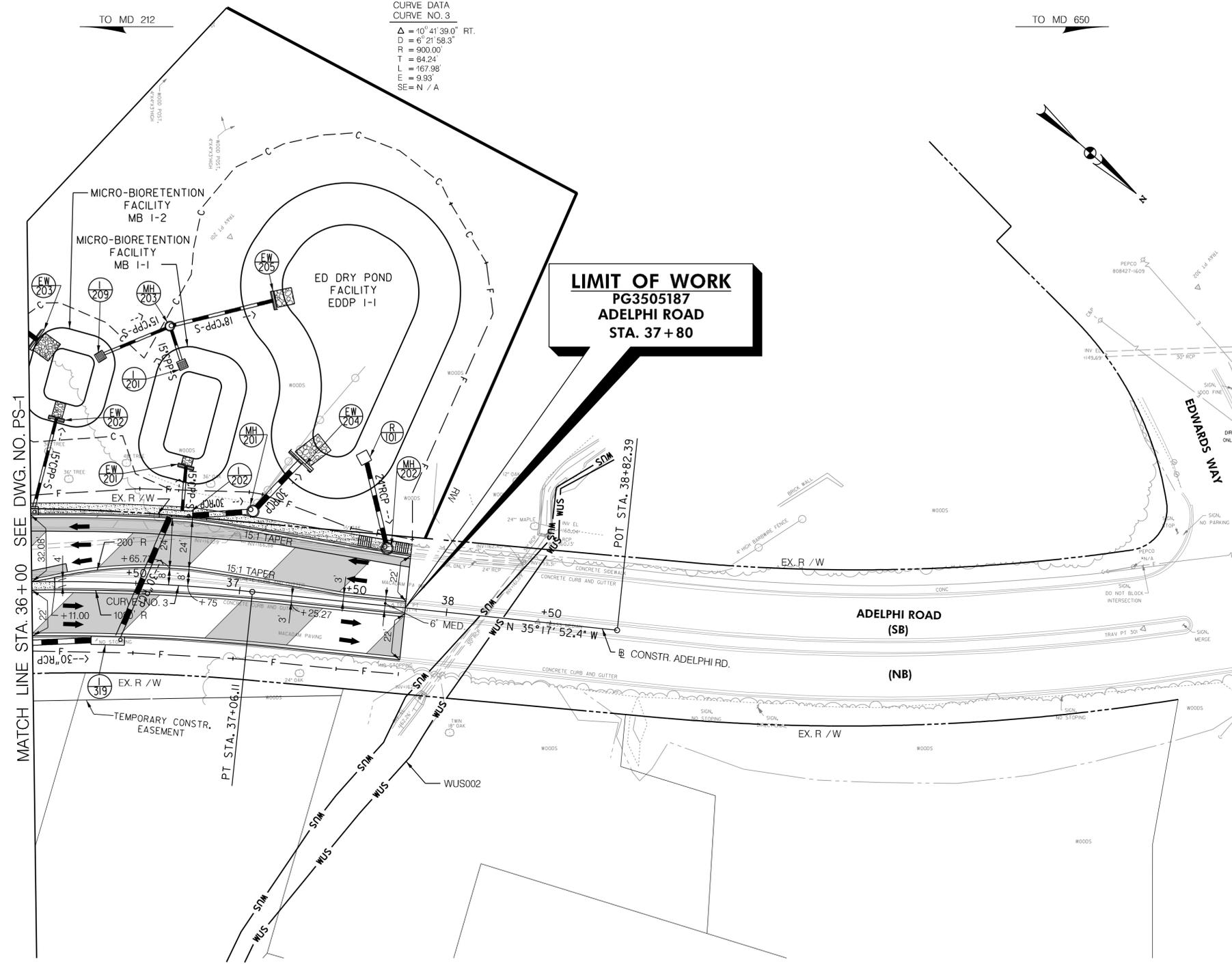
LIMIT OF WORK
PG3505187
ADELPHI ROAD
STA. 29+40

LIMIT OF WORK
PG3505187
CHEROKEE STREET
STA. 40+66

NOTE: ALL DIMENSIONS AND RADII SHOWN AT CURB ARE TO FACE OF CURB.

CENTURY
ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031

BY: mmatzke



CURVE DATA
 CURVE NO. 3
 $\Delta = 10^{\circ} 41' 39.0''$ RT.
 $D = 6' 21' 58.3''$
 $R = 900.00'$
 $T = 84.24'$
 $L = 167.98'$
 $E = 9.93'$
 $SE = N / A$

LIMIT OF WORK
PG3505187
ADELPHI ROAD
STA. 37+80

MATCH LINE STA. 36+00 SEE DWG. NO. PS-1

QUANTITY NOTES

GRINDING ASPHALT PAVEMENT - 0 INCH TO 2 INCH	
717 SY.	ADELPHI ROAD - STA. 36+00 TO STA. 37+80
PRINCE GEORGE'S COUNTY CONCRETE CURB & GUTTER (SEE DWG. DE-2)	
59 LF.	ADELPHI ROAD - STA. 36+04 TO STA. 36+60 LT.
106 LF.	ADELPHI ROAD - STA. 36+75 TO STA. 37+80 LT.
171 LF.	ADELPHI ROAD - STA. 36+11 TO STA. 37+80 LT. (MEDIAN)
169 LF.	ADELPHI ROAD - STA. 36+11 TO STA. 37+80 RT. (MEDIAN)
29 LF.	ADELPHI ROAD - STA. 36+00 TO STA. 36+29 RT.
132 LF.	ADELPHI ROAD - STA. 36+46 TO STA. 37+80 RT.

PRINCE GEORGE'S COUNTY MONOLITHIC MEDIAN 2 FEET 0 INCH TO 6 FEET 0 INCH WIDE (SEE DWG. DE-2)	
11 LF.	ADELPHI ROAD - STA. 36+00 TO STA. 36+11

4 INCH CONCRETE SIDEWALK	
794 SF.	ADELPHI ROAD - STA. 36+00 TO STA. 37+54.25 LT.
9 SF.	ADELPHI ROAD - STA. 37+78.19 TO STA. 37+80 LT.

6 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR PG DRIVEWAY ENTRANCE, MIX 3 (SEE DWG. DE-3)	
14 SY.	ADELPHI ROAD - STA. 37+54.25 TO 37+78.19 LT.

BOTTOM CUTOFF WALL FOR CLASS I RIPRAP	
5 LF	ADELPHI ROAD - STA. 36+13, 79' LT
5 LF	ADELPHI ROAD - STA. 36+72, 58' LT
8 LF	ADELPHI ROAD - STA. 37+04, 140' LT
10 LF	ADELPHI ROAD - STA. 37+24, 66' LT

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION		
5 SY	ADELPHI ROAD - STA. 36+13, 79' LT	8'Lx5'Wx19'D
3 SY	ADELPHI ROAD - STA. 36+72, 58' LT	4'Lx5'Wx19'D
8 SY	ADELPHI ROAD - STA. 37+04, 140' LT	9'Lx8'Wx19'D
15 SY	ADELPHI ROAD - STA. 37+24, 66' LT	13'Lx10'Wx19'D

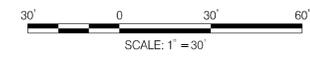


MD 212 (RIGGS ROAD) AT ADELPHI ROAD
 INTERSECTION IMPROVEMENTS

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



- NOTES:
 1. EXISTING RIGHT OF WAY NOT AVAILABLE.
 2. DIMENSIONS ARE TO FACE OF PROPOSED CURB.



ROADWAY LEGEND	R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
FULL DEPTH RECONSTRUCTION		ITEM SHEET NOs.	
GRIND AND RESURFACE		TYPICAL SHEETS.....	
EXISTING SIDEWALK/PAVEMENT REMOVAL		GEOMETRIC LAYOUT SHEETS.....	
CONCRETE SIDEWALK/CONCRETE MEDIAN/CONCRETE DRIVEWAY APRON		INTERSECTION DETAIL SHEETS.....	
		ROADWAY PROFILE SHEETS.....	
		TRAFFIC CONTROL SHEETS.....	
		SWM PLAN SHEETS.....	
		PIPE PROFILE SHEETS.....	
		EROSION & SEDIMENT CONTROL.....	
		LANDSCAPE PLANS.....	
		SIGNING & MARKING PLANS.....	
		UTILITIES.....	

ROADWAY PLAN	
SCALE 1" = 30'	ADVERTISED DATE _____ CONTRACT NO. PG3505187
DESIGNED BY <u>JMJ</u>	COUNTY <u>PRINCE GEORGE'S</u>
DRAWN BY <u>JMJ</u>	LOGMILE _____
CHECKED BY <u>MCM / MA</u>	HORIZONTAL SCALE _____
F.A.P. NO. <u>SEE TITLE SHEET</u>	VERTICAL SCALE _____
DRAWING NO. PS - 9	OF 10 SHEET NO. 31 OF 99

APPENDIX B - MONITORED AMBIENT AIR QUALITY DATA 2012-2014

Monitor Values Report

Geographic Area: District of Columbia

Pollutant: CO

Year: 2012

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8712	2	1.9	0	2.5	2.2	0	None	1	110010023	Verizon Phone Co.2055 L St. N.W.	Washington	District of Columbia	DC	03
8444	2.8	2.5	0	2.9	2.9	0	None	1	110010041	420 34th Street N.E.,Washington, Dc 20019	Washington	District of Columbia	DC	03
5238	1.9	1.8	0	2.5	2.4	0	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03

Get detailed information about this report, including column descriptions, at http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon

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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: February 1, 2016

Monitor Values Report

Geographic Area: Maryland

Pollutant: CO

Year: 2012

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8485	1.6	1.6	0	2.3	2.1	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
5921	0.3	0.3	0	0.3	0.3	0	None	1	240190004	University Of Maryland For Environmental And Estuarine Studies	Not in a City	Dorchester	MD	03
8182	0.4	0.4	0	1.8	0.8	0	None	1	240230002	Piney Run, Frostburg Reservoir, Finzel	Grantsville	Garrett	MD	03
8571	1.2	0.9	0	1.3	1.2	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
8626	2.1	1.6	0	2.5	2.5	0	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: January 20, 2016

Monitor Values Report

Geographic Area: District of Columbia

Pollutant: CO

Year: 2013

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
7663	2.8	2.5	0	5.8	4.4	0	None	1	110010023	Verizon Phone Co.2055 L St. N.W.	Washington	District of Columbia	DC	03
8373	1.9	1.9	0	2.3	2.2	0	None	1	110010041	420 34th Street N.E.,Washington, Dc 20019	Washington	District of Columbia	DC	03
7715	1.2	1	0	2.1	1.4	0	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>
Generated: February 1, 2016

Monitor Values Report

Geographic Area: Maryland

Pollutant: CO

Year: 2013

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8716	1.6	1.4	0	2.4	2.2	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
8477	0.3	0.3	0	1	0.4	0	None	1	240190004	University Of Maryland For Environmental And Estuarine Studies	Not in a City	Dorchester	MD	03
8626	0.3	0.3	0	0.5	0.4	0	None	1	240230002	Piney Run, Frostburg Reservoir, Finzel	Grantsville	Garrett	MD	03
8689	0.9	0.9	0	1	0.9	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
8359	1.6	1.3	0	2.4	2	0	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: January 20, 2016

Monitor Values Report

Geographic Area: District of Columbia

Pollutant: CO

Year: 2014

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8514	1.6	1.5	0	2.1	2	0	None	1	110010023	Verizon Phone Co.2055 L St. N.W.	Washington	District of Columbia	DC	03
2006	2.2	2	0	2.5	2.5	0	None	1	110010041	420 34th Street N.E.,Washington, Dc 20019	Washington	District of Columbia	DC	03
8623	1.5	1.2	0	1.6	1.6	0	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>
Generated: February 1, 2016

Monitor Values Report

Geographic Area: Maryland

Pollutant: CO

Year: 2014

Exceptional Events: Included (if any)

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8460	1.4	1.3	0	2.4	1.8	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
8196	0.4	0.3	0	0.4	0.4	0	None	1	240190004	University Of Maryland For Environmental And Estuarine Studies	Not in a City	Dorchester	MD	03
8104	0.3	0.3	0	0.4	0.3	0	None	1	240230002	Piney Run, Frostburg Reservoir, Finzel	Grantsville	Garrett	MD	03
6248	0.9	0.8	0	1.1	0.9	0	None	1	240270006	Interstate 95 South Welocme Center	North Laurel	Howard	MD	03
6989	0.9	0.8	0	1.5	1	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
8533	1.3	1	0	1.7	1.6	0	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: January 20, 2016

Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2012

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
331	35.5	33.8	31.6	30.8	28	9.8	None	1	110010041	420 34th Street N.E., Washington, Dc 20019	Washington	District of Columbia	DC	03
112	31.2	27.7	24.3	22.5	24	9.8	None	1	110010042	Park Services Office 1100 Ohio Drive	Washington	District of Columbia	DC	03
360	34.1	31.9	28.4	26.1	24	9.6	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
120	31	23.6	23.5	22	24	9.3	None	2	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
349	37.3	37	34.7	33.8	28	11.6	Included	4	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
356	33.1	30.2	29	25	23	10.3	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadows Lane	Not in a City	Montgomery	MD	03
121	25	22.3	21.7	20.8	22	8.5	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
43	25	22.1	15.4	13.9	25	8.3	None	2	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
341	34.1	30.2	29.9	29.7	26	11.3	None	3	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
97	24.7	23.8	15	14.7	24	7.8*	None	1	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
35	14.8	14.7	14.2	12.6	15	7.8*	None	2	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03

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<http://www.epa.gov/airquality/airdata/ad_contacts.html>

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>
Generated: February 1, 2016

Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2012

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
119	33.4	22.1	21.8	20.8	22	9.4	None	1	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
115	33.5	22.2	21.8	20.9	22	9.5	None	2	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
346	38.1	26.6	26.2	21.5	21	8.7	None	1	510590030	Sta. 46-B9, Lee Park, Telegraph Road	Groveton	Fairfax	VA	03
111	26.1	22.5	20.6	20.5	21	9	None	1	511071005	38-I, Broad Run High School, Ashburn	Not in a City	Loudoun	VA	03
2	11.9	6.9	.	.	12	9.4*	None	1	515100009	517 N Saint Asaph St, Alexandria Health	Alexandria	Alexandria City	VA	03

Get detailed information about this report, including column descriptions, at http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon

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<http://www.epa.gov/airquality/airdata/ad_contacts.html>

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Generated: February 1, 2016

Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2013

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
355	27.6	25.8	25	24.6	23	9.3	None	1	110010041	420 34th Street N.E., Washington, Dc 20019	Washington	District of Columbia	DC	03
126	25.7	18.7	18.6	18.1	19	8.3	None	1	110010042	Park Services Office 1100 Ohio Drive	Washington	District of Columbia	DC	03
358	27.3	26.7	25.5	24.6	22	9.1	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
110	27.6	26	19.4	19	19	9.1	None	2	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
350	31	29.4	28.8	27.8	26	11.6	None	4	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
346	27.4	27.1	25.7	25.2	21	8.1	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Not in a City	Montgomery	MD	03
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
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
323	27.9	26.8	25.6	24.5	21	9.5	None	3	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
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
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

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Generated: February 1, 2016

Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2013

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
122	25.5	24.6	21.2	18.5	21	8.9	None	1	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
117	25.2	24.7	20.9	18.7	21	8.9	None	2	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
352	24.4	23.9	22.3	22.2	21	8.3	None	1	510590030	Sta. 46-B9, Lee Park, Telegraph Road	Groveton	Fairfax	VA	03
110	30.6	25	19.9	19.8	20	8.5	None	1	511071005	38-I, Broad Run High School, Ashburn	Not in a City	Loudoun	VA	03

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Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2014

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
83	30.7	24.7	23.8	20.9	25	10.2*	None	1	110010041	420 34th Street N.E., Washington, Dc 20019	Washington	District of Columbia	DC	03
116	24.6	22.5	21.1	17.3	21	9.1	None	1	110010042	Park Services Office 1100 Ohio Drive	Washington	District of Columbia	DC	03
347	30.1	25.8	24.4	24.3	22	9.4	None	1	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
111	24	22.5	20.2	19.1	20	9.6	None	2	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
357	30.5	26.3	24	23.6	21	9.9	Included	4	110010043	2500 1st Street, N.W. Washington Dc	Washington	District of Columbia	DC	03
340	27.7	23.2	23	21.9	20	9	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Not in a City	Montgomery	MD	03
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
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
341	26.7	26.1	26	24.8	23	9.9	None	3	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
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
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

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Generated: February 1, 2016

Monitor Values Report

Geographic Area: Washington-Arlington-Alexandria, DC-VA-MD-WV

Pollutant: PM2.5

Year: 2014

Exceptional Events: Included (if any)

Note: The * indicates the mean does not satisfy minimum data completeness criteria.

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
120	22.8	19.3	19.2	19.1	19	8.7	None	1	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
114	22.5	20	19	18.5	19	8.8	None	2	510130020	S 18th And Hayes St	Arlington	Arlington	VA	03
348	26	24	22.1	21.9	18	8.2	None	1	510590030	Sta. 46-B9, Lee Park, Telegraph Road	Groveton	Fairfax	VA	03
115	25.3	24.6	19.2	16.6	19	8.5	None	1	511071005	38-I, Broad Run High School, Ashburn	Not in a City	Loudoun	VA	03

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>
Generated: February 1, 2016

APPENDIX C - TRAFFIC DATA

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor



James T. Smith, Jr., Secretary
Melinda B. Peters, Administrator

MEMORANDUM

TO: Ms. Kate Mazzara, Assistant District Engineer
Project Development
District 3

ATTN: Mr. Kyle Tarnoviski

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

DATE: December 3, 2013

SUBJECT: MD 212 at Adelphi Road
Prince George's County
Project No: PG350A21
Title Sheet/Loadometer Data

In response to your request for traffic and loadometer data for the subject project, we offer the following:

Adelphi Road - north of MD 212

	<u>2013</u>	<u>2033</u>
Average Daily Traffic (ADT)	19,225	23,450
Design Hour Volume (DHV)	9%	9%
Directional Distribution of DHV	63%	63%
Percent Trucks- ADT	2%	2%
Percent Trucks- DHV	1%	1%

Truck Breakdown:

	ADT	2A	3D	2S1	2S2	3S2	3S3	Total
2013	19,225	306	42	4	16	13	3	384
2033	23,450	374	51	5	20	16	3	469

We recommend using Weigh-in-Motion Station 1508-88 to produce the needed loadometer data.

My telephone number/toll-free number is _____
Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

The FHWA Vehicle Classification Data for this project was based upon the following:

FHWA Class	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
2013 ADT	13	17,874	954	116	190	27	15	20	13	3	0	0	0	19,225
2013 DHV	1	1,638	74	4	10	2	0	1	0	0	0	0	0	1,730
2033 ADT	16	21,801	1,164	142	232	33	18	25	16	3	0	0	0	23,450
2033 DHV	1	1,999	90	6	12	2	0	1	0	0	0	0	0	2,111

MD 212 - east of Edwards Way

	<u>2013</u>	<u>2033</u>
Average Daily Traffic (ADT)	10,500	12,800
Design Hour Volume (DHV)	9%	9%
Directional Distribution of DHV	52%	52%
Percent Trucks- ADT	7%	7%
Percent Trucks- DHV	5%	5%

Truck Breakdown:

	ADT	2A	3D	2S1	2S2	3S2	3S3	Total
2013	10,500	443	208	12	48	17	7	735
2033	12,800	540	254	15	58	20	9	896

We recommend using Weigh-in-Motion Station 5209-87 to produce the needed loadometer data.

The FHWA Vehicle Classification Data for this project was based upon the following:

FHWA Class	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
2013 ADT	9	8,258	1,498	164	279	203	5	60	17	4	1	0	2	10,500
2013 DHV	1	749	148	7	18	16	0	4	1	1	0	0	0	945
2033 ADT	11	10,065	1,828	200	340	248	6	73	20	6	1	0	2	12,800
2033 DHV	1	912	181	9	22	20	0	5	1	1	0	0	0	1,152

An electronic copy of the loadometer data and percent of Class 9 through Class 13 (attached) is being sent to the Pavement and Geotechnical Division along with this memorandum.

Traffic diagram sketches showing the existing year 2013 and future year 2033 AM/PM peak hour turning movement volumes are attached. Please note the data presented in this memo supersede any past reports for this location.

If you have any questions or concerns, please contact the writer at 410-545-5641 or Ms. Lisa Shemer, Assistant Division Chief, Data Services Engineering Division at 410-545-5640.

By:  FOR:
Jay Zheng, P.E.
Travel Forecasting and Analysis
Data Services Engineering Division

Attachments

cc: Mr. Paulo DeSousa
Ms. Chanel Torsell
Mr. Shekhar Murkute
Ms. Claudine Myers
Mr. Venu Nemani

APPENDIX D - INTERAGENCY CONSULTATION GROUP COORDINATION

Nicole M. Hebert

From: Jeanette.Mar@dot.gov
Sent: Thursday, April 28, 2016 9:58 AM
To: Khadr.Asrah@epa.gov; CBrandt@sha.state.md.us; becoat.gregory@epa.gov; jdesimone@mwcog.org
Cc: Shawn Burnett; Nicole M. Hebert
Subject: RE: MD 212 at Adelphi Road Improvement Project - Air Quality Interagency Consultation

Hi Chrissy:

FHWA concurs that the MD 212 at Adelphi Road Improvement project meets the requirements of the CAA and 40 CFR 93 and does not need an additional quantitative hot-spot analysis.

Thanks!

Jeanette

Jeanette Mar
Environmental Program Manager
FHWA - Maryland Division
10 South Howard Street, Suite 2450
Baltimore, MD 21201
phone (410) 779-7152
fax (410) 962-4054

From: Khadr, Asrah [<mailto:Khadr.Asrah@epa.gov>]
Sent: Wednesday, April 27, 2016 10:17 AM
To: Christina Brandt; Becoat, gregory; Mar, Jeanette (FHWA); 'jdesimone@mwcog.org'
Cc: 'Shawn Burnett'; 'Nicole M. Hebert'
Subject: RE: MD 212 at Adelphi Road Improvement Project - Air Quality Interagency Consultation

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

From: Christina Brandt [<mailto:CBrandt@sha.state.md.us>]
Sent: Wednesday, April 27, 2016 7:49 AM
To: Becoat, gregory <becoat.gregory@epa.gov>; Khadr, Asrah <Khadr.Asrah@epa.gov>; 'jeanette.mar@dot.gov' <jeanette.mar@dot.gov>; 'jdesimone@mwcog.org' <jdesimone@mwcog.org>
Cc: 'Shawn Burnett' <sburnett@wtbco.com>; 'Nicole M. Hebert' <nhebert@wtbco.com>
Subject: RE: MD 212 at Adelphi Road Improvement Project - Air Quality Interagency Consultation

Good Morning,

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Wednesday, April 20, 2016 7:46 AM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: MD 212 at Adelphi Road Improvement Project - Air Quality Interagency Consultation

From: Alexandra Brun -MDE- [<mailto:alexandra.brun@maryland.gov>]
Sent: Tuesday, April 19, 2016 11:00 AM
To: Christina Brandt <CBrandt@sha.state.md.us>
Cc: Brian Hug -MDE- <brian.hug@maryland.gov>
Subject: Re: MD 212 at Adelphi Road Improvement Project - Air Quality Interagency Consultation

Hi Christina,

MDE concurs that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis.

Thank you,

Alex

On Fri, Apr 8, 2016 at 8:41 AM, Christina Brandt <CBrandt@sha.state.md.us> wrote:

Good Morning,

Attached is the Draft Air Quality Technical Report for the MD 212 at Adelphi Road project in Prince George's 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 current 2015-2020 TIP includes the project under ID 3084.

Please review and provide concurrence/comments by April 22, 2016 . Please let me know if you have any questions.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

Phone: [410-545-2874](tel:410-545-2874)

E-mail: cbrandt@sha.state.md.us



Maryland now features 511 traveler information!
Call 511 or visit: www.md511.org