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BRAC INTERSECTION IMPROVEMENTS
MD 355 AT CEDAR LANE/WEST CEDAR LANE

AIR QUALITY ANALYSIS
TECHNICAL REPORT

March 2013

Montgomery 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 the proposed widening and intersection improvements for the MD 355 intersection at Cedar Lane/West Cedar Lane, in Montgomery County, Maryland (see **Figure 1**). 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).

The project limits extend for approximately 0.7 mile along MD 355 from Wilson Drive to Broad Brook Drive, and along Cedar Lane/West Cedar Lane from Cedarcrest Drive to Elmhirst Parkway. MD 355 runs north-south and is classified as an urban other principle arterial in the Functional Classification System. The Average Daily Traffic (ADT) on MD 355 was 74,425 vehicles per day (VPD) in 2008, projected to 78,975 VPD in 2011. Trucks account for five percent of the current and future ADT. Cedar Lane/West Cedar Lane is an east-west Urban Minor Arterial roadway with an ADT of 18,400 VPD in 2008 projected to 18,950 VPD by 2011. Trucks account for four percent of the current and future ADT along Cedar Lane/West Cedar Lane. This project has been designed to improve efficiency of traffic operation at the intersection, rather than increase corridor capacity; therefore, there is no noticeable change expected in the no-build and build traffic volumes or vehicle mix.

The purpose of this project is to reduce roadway congestion and improve traffic flow and safety at the intersection to support the mission of the new Walter Reed National Military Medical Center (WRNMMC) by addressing transportation needs. Work consists of roadway widening to provide additional turning and through lanes at the intersection. Additional work consists of roadway resurfacing, pavement removal, installation/upgrade/modification of sidewalks, retaining walls, bike paths, bus pads, fencing, concrete medians, traffic signals, signing, pedestrian ramps, landscaping, utility relocations, slope grading and drainage improvements. The installation of culverts, pipes, inlets, junction boxes, manholes, pipe extensions and a stormwater management facility are the proposed drainage improvements.

SHA is evaluating these intersection improvements in order to prepare for the influx of jobs that will be added to the WRNMMC as part of the Base Realignment and Closure (BRAC) process. In addition, job growth is expected at the National Institute of Health (NIH). The project is included in the Transportation Improvement Plan (TIP) as Project ID No. 5998.

The intersection improvements are being constructed in four phases. Phases 1 through 3 include improvements along MD 355 consisting of construction of an additional northbound through lane from North Wood Road to Cedar Lane/West Cedar Lane and a southbound through lane from Cedar Lane/West Cedar Lane to Wilson Drive; the proposed lanes terminate as exclusive right turn lanes. The proposed design provides four through lanes, and variable width turn bays, as needed, adjacent to a median, for both northbound and southbound MD 355. One lane of widening will occur on West Cedar Lane and Cedar Lane. Both eastbound West Cedar Lane and westbound Cedar Lane will have two left turn lanes and one through lane at the intersection. Westbound Cedar Lane will also have a through/right lane. Eastbound West Cedar Lane will have an additional through lane and an exclusive right turn lane.

Pedestrian safety and transit access are also important features in the scope. The intersection ramps, shared use paths, and sidewalks within project limits will be upgraded to comply with the Americans with Disabilities Act (ADA). This project will upgrade the existing shared use path widths from 8 feet to 10 feet on the west side of MD 355, the south side of West Cedar Lane, and the north side of Cedar Lane within the limits of the project. A 5-foot sidewalk has been included in the design

FIGURE 1 PROJECT AREA

where a shared use path is not being proposed. Right-turn channelization island removal and roadway radius reduction in the northwest, southwest, and southeast quadrants of the intersection will enhance pedestrian safety when crossing this major intersection.

Phase 4 includes full depth widening on northbound MD 355 for an auxiliary lane north of the intersection with Cedar Lane/West Cedar Lane to just north of Locust Hill Road. Extensive construction of retaining walls is necessary due to bifurcation between MD 355 and a parallel Service Road. This improvement includes the addition of pedestrian accommodations via sidewalk adjacent to MD 355, since no sidewalk or shoulder area exists for pedestrians to safely proceed northward. Besides operational benefits, Phase 4 will provide sidewalk connectivity to northbound MD 355 and improve pedestrian safety and transit access.

Land use within the project area is a mix of governmental/institutional, commercial, educational, parkland and residential. The NIH occupies the southwest quadrant of the intersection. Stone Ridge School of the Sacred Heart is a private prekindergarten through 12th grade school that occupies the southeast quadrant of the intersection. South of the school is the WRNMMC. The northeast quadrant of the intersection is occupied by undeveloped parkland owned by the Maryland National Capital Park and Planning Commission (MNCPPC) within Rock Creek Park. The Locust Hill Estates, a community of single family suburban style homes, is located beyond the parkland in the northeast quadrant. The Boy Scouts of America occupy the northwest quadrant of the intersection.

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 proposed transportation projects.

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 course particulates ($PM_{2.5}$ and PM_{10}); and Draft and Final Rules concerning quantitative analysis of CO and $PM_{2.5}$, and guidance on analysis of Mobile Air Source Toxins (MSATs). Following is a summary of recent rules and clarifications:

Transportation Conformity Rule $PM_{2.5}$ and PM_{10} 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 $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas, May 26, 2010

Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} 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
Revised Air Quality Standards for Particle Pollution, Annual $PM_{2.5}$ NAAQS, December 14, 2012

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_2), ozone (O_3), particulate matter (PM_{10}& $PM_{2.5}$), sulfur dioxide (SO_2), 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, and they account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

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 (MSAT), and highlighted six of these MSATs as "priority" MSAT.

Gases that trap heat in the atmosphere are often referred to as greenhouse gases (GHG). Greenhouse gases are necessary to life, as we know it, because they keep the planet's surface warmer than it otherwise would be. This is referred to as the Greenhouse Effect. As concentrations of greenhouse gases are increasing, the Earth's temperature appears to be increasing. The principal greenhouse gases that enter the atmosphere because of human activities include carbon dioxide, methane, nitrous oxide, and fluorinated gases.

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	98th 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	98th percentile, averaged over 3 years
Ozone 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 75 FR 35520	Primary	75 ppb	1-hour	Not to be exceeded more than once per year
	Secondary	0.5 ppm	3-hour	

III. ENVIRONMENTAL ANALYSIS

The MD 355 at Cedar Lane/West Cedar Lane project is located in Montgomery County, Maryland, which is included as a part of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA). The region has been classified as marginal nonattainment with respect to the eight-hour ozone standard and nonattainment of the 1997 fine particulate ($PM_{2.5}$) annual standard. A portion of the MSA, election districts 4,7 and 13 in Montgomery County, had been non-attainment for carbon monoxide; however, this area has been re-designated as a CO Maintenance Area. As shown in **Figure 2**, the project is located within this CO Maintenance Area.

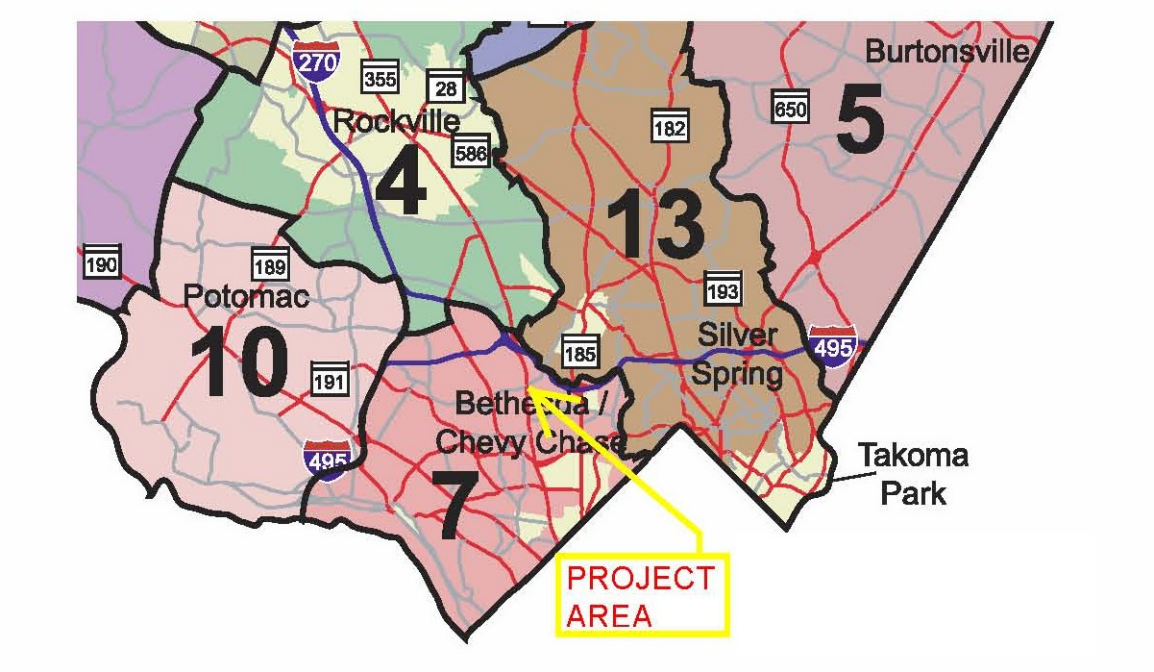


FIGURE 2 – MONTGOMERY COUNTY ELECTION DISTRICTS

Transportation programs and plans must be evaluated for "conformity" to the applicable State Implementation Plan (SIP) provisions before projects can receive Federal funding. In addition, they must be in the current Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP). A TIP generally presents projects anticipated over the next several years while the CLRP covers a longer period. A Metropolitan Planning Organization (MPO) is designated to develop the TIP and CLRP for a region, and to document their conformity with SIP provisions. For the Washington, DC region, the National Capital Region Transportation Planning Board (NCRTPB), which is part of the Metropolitan Washington Council of Governments (MWCOG), serves as the MPO for the MSA. Montgomery County is a member of the NCRTPB.

As the MPO, NCRTPB develops the TIP and CLRP for the region, including Montgomery County. Furthermore, it performs the related regional conformity analysis. The current CLRP, referred to as the *2012 National Capital Region's Financially Constrained Long-Range Transportation Plan*, was adopted by NCRTPB on July 18, 2012. The latest TIP, covering the period FY 2013 to 2018, was adopted by NCRTPB on July 18, 2012. An updated regional conformity analysis covering both the TIP and LRP was also adopted in on July 18, 2012.

At a regional level, a project is considered to be conforming if it is a part of a conforming TIP and CLRP. The proposed project, which is part of an intersection improvement project know as ***BRAC***

Intersections near National Naval Medical Center, Bethesda, is listed in the December 19, 2012 Air Quality Conformity Update of the 2012 CLRP (Project ID 2620) and the FY 2013-2018 TIP (Project ID 5998) for the Washington Metropolitan Region with Completion Date of 2012. The project description in the CLRP included "Design and construct intersection improvements at key locations along access to Bethesda Naval Center. Bicycles and pedestrian facilities will be provided where appropriate."

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. To satisfy the NEPA air quality assessment purpose, it has been common to analyze project-level CO conditions. The MD 355 at Cedar Lane/West Cedar Lane 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. Since Montgomery County is a nonattainment area for $PM_{2.5}$, a project-specific $PM_{2.5}$ assessment has also been provided.

The Division of Air Quality, within the Maryland Department of the Environment is responsible for implementing and enforcing regulations to ensure that the air that Maryland citizens breathe is clean and healthful. This mission is accomplished through several methods, including air pollution monitoring. The MDE CO air monitoring stations nearest to the study area are located at the Howard University Laboratory in Beltsville, Maryland and the Verizon Phone Company in NW Washington DC. The MDE $PM_{2.5}$ air monitoring stations nearest to the study area are located at the Howard University Laboratory in Beltsville, Maryland and the Lathrop E. Smith Environmental Education Center in Rockville, Maryland. These sites are in EPA Region 3. Monitored air quality data within or near the study area for the years 2009-2011 is presented in **Table 2**

1. Carbon Monoxide (CO) Assessment

A portion of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA) is considered to be a moderate maintenance area in terms of carbon monoxide (CO). This maintenance area only encompasses Election Districts 4, 7 and 13 in Montgomery County. The project area is in Election District 4. 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 in a CO maintenance area, a project level hot-spot conformity determination in conformance with 40 CFR 93.116 is required. Therefore, a qualitative assessment considering of local factors in conformance with 40 CFR 93.123(a)(2)(ii) is provided hereinafter.

As shown in Table 2, the maximum 2011 1-hour monitored CO concentrations is 5 ppm at MDE site 11010023, located at 2055 L Street NW Washington, D.C. This concentration is only 14.3 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 2011 8-hour monitored CO concentration is 2.2 ppm at this same site, which is only 24.4 percent of the 8-hour NAAQS of 9.0 ppm.

TABLE 2

Ambient Air Quality Data 2009-2011											
			Site 11010023 2055 L Street NW Washington, D.C.			Site 240330030 12003 Old Baltimore Pike Beltsville, Maryland			Site 240313001 5110 Meadowside Lane Rockville, Maryland		
			2009	*2010*	*2011*	*2009*	*2010*	*2011*	*2009*	*2010*	*2011*
Carbon Monoxide (CO) [ppm]	1-Hour	Maximum	2.5	2.8	5	1.1	1.5	1.7	-	-	-
		2nd Maximum	2.5	2.7	4.2	1.1	1.3	1.3	-	-	-
		# of Exceedances	0	0	0	0	0	0	-	-	-
	8-Hour	Maximum	2	2.4	2.2	0.9	1	1.1	-	-	-
		2nd Maximum	1.9	2	1.9	0.9	1	0.8	-	-	-
		# of Exceedances	0	0	0	0	0	0	-	-	-
Particulate Matter [ug/m^3]	$PM_{2.5}$	98th Pct. 24-Hour	-	-	-	18	20	22	22	19	-
		# of Exceedances	-	-	-	0	0	0	0	0	-
		Mean Annual	-	-	-	8.7	9.4	8.7	9.4	9.1	-
		# of Exceedances	-	-	-	0	0	0	0	0	-
Ozone (O_3) [ppm]	1-Hour	First Highest	-	-	-	0.091	0.122	0.114	0.087	0.102	0.097
		Second Highest	-	-	-	0.091	0.102	0.109	0.084	0.102	0.097
		Third Highest	-	-	-	0.084	0.101	0.093	0.084	0.098	0.096
		Fourth Highest	-	-	-	0.08	0.1	0.093	0.08	0.094	0.092
		# of Exceedances	-	-	-	0	0	0	0	0	0
	8-Hour	First Highest	-	-	-	0.076	0.094	0.094	0.074	0.081	0.088
		Second Highest	-	-	-	0.073	0.091	0.091	0.072	0.08	0.085
		Third Highest	-	-	-	0.071	0.087	0.088	0.071	0.079	0.082
		Fourth Highest	-	-	-	0.07	0.085	0.083	0.07	0.077	0.081
		# of Days Standard Exceeded	-	-	-	1	16	7	0	5	5

TABLE 2 (CONTINUED)

Ambient Air Quality Data 2009-2011										
		Site 11010023 2055 L Street NW Washington, D.C.			**Site 240330030 12003 Old Baltimore Pike Beltsville, Maryland**			**Site 240313001 5110 Meadowside Lane Rockville, Maryland**		
		2009	***2010***	***2011***	***2009***	***2010***	***2011***	***2009***	***2010***	***2011***
Sulfur Dioxide (SO_2) [ppb]	1-Hour 1st Maximum	-	-	-	42	16	14	-	-	-
	1-Hour 2nd Maximum	-	-	-	36	15	14	-	-	-
	24-Hour 1st Maximum	-	-	-	15	8	5	-	-	-
	24-Hour 2nd Maximum	-	-	-	8	7	4	-	-	-
	# of Days Standard Exceeded	-	-	-	0	0	0	-	-	-

A review of data provided, including traffic data and operational analysis summarized in Tables 3 and 4, demonstrates that the improvements to MD 355 at Cedar Lane/West Cedar Lane will not result in significant traffic volumes, or changes in vehicle mix or other factors that would cause an increase in CO emissions relative to the No-build conditions. This project has been designed to improve efficiency of traffic operation at the intersection, rather than increase corridor capacity; therefore, there is no noticeable change expected in the no-build and build traffic volumes or vehicle mix.

In conclusion, because the monitored data in Table 2 demonstrates monitored CO concentrations are a small percentage of the CO NAAQS, improvements to the intersection of MD 355 at Cedar Lane/West Cedar Lane will not cause or contribute to a new violation of the CO NAAQS.

TABLE 3
TRAFFIC DATA

	MD 355 N. of Cedar Lane/West Cedar lane			MD 355 S. of Cedar Lane/West Cedar Lane		
	2007	Projected 2011 w/ BRAC	Actual 2012 w/BRAC	2007	Projected 2011 w/ BRAC	Actual 2012 w/BRAC
AM Peak (vph)	5105	5401	4410	5551	5860	4965
PM Peak (vph)	5119	5507	4830	5342	5753	4990
% Trucks (ADT)	5%	5%	5%	5%	5%	5%
% Trucks (DHV)	3%	3%	3%	3%	3%	3%

TABLE 4
TRAFFIC OPERATION MD 355 AT CEDAR LANE/WEST CEDAR LANE

Peak Hour	2007		2011 No-Build		2012 No-Build		2011 Phases 1-3		2012 Phases 1-3		2011 Phase 4		2012 Phase 4	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
AM	F	104.3	F	135.7	E	74.1	E	63.0	D	42.6	D	54.4	D	42.4
PM	F	147.5	F	167.5	F	98.8	E	60.8	D	47.9	D	52.3	D	44.3

2. Particulate Matter ($PM_{2.5}$) Assessment

The project is located in Montgomery County, which is in the Washington DC-MD-VA Fine Particulate Matter ($PM_{2.5}$) Nonattainment Area. This area was designated as nonattainment for $PM_{2.5}$ based on 1997 NAAQAS 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 $PM_{2.5}$ 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 $PM_{2.5}$ NAAQS. The Washington DC-MD-VA region was not designated as nonattainment for the 2006 standard, therefore the designations based on the 1997 NAAQS remain in effect.

On March 10, 2006, EPA issued amendments to the Transportation Conformity Rule to address localized impacts of particulate matter: "*PM2.5 and PM10 Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New $PM_{2.5}$ and Existing PM_{10} 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_{10} and $PM_{2.5}$ nonattainment and maintenance areas. On December 20, 2010, EPA issued "*Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*", (75 FR 79370), which helps state and local agencies complete quantitative $PM_{2.5}$ and PM_{10} 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. Because this project was commenced prior to the end of the grace period, a quantitative analysis is not required for this project.

Projects that require hotspot analysis for $PM_{2.5}$ 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_{10} or $PM_{2.5}$ 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 $PM_{2.5}$ and PM_{10} 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 <u>significant increase</u> in the number of diesel transit buses and diesel trucks on the existing facility.

Determination as to whether the MD 355 at Cedar Lane/West Cedar Lane Intersection Improvement 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 355 at Cedar Lane/West Cedar Lane Intersection Improvement Project is considered under the following paragraphs 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), as amended, which includes "*Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles* ***<u>related to the project</u>****".*

- 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 project involves roadway widening to provide additional turning and through lanes at the intersection to reduce roadway congestion and improve traffic flow and safety at the intersection. Pedestrian safety and transit access are also important features in the scope.
    - As shown in Table 3, MD 355 does not carry a significant number of vehicles; nor will there be a significant increase in trucks.
    - Since the project consists primarily of safety and operational improvements, it does not add through capacity to any road in the study area.
    - The construction will not result in meaningful changes between No-Build and Build traffic volumes, vehicle mix, or location of the existing facility. A review of the traffic data demonstrates that there will not be a "significant" increase in the number of trucks.

- The proposed improvements to MD 355 at Cedar Lane/West Cedar Lane intersection also does 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 intersection is projected to operate at an unacceptable LOS F during the PM peak hour in the years 2011 and 2012 under the No-Build conditions.
    - Also shown in Table 4 the intersection is projected to operate at an LOS D during both peak hours in the years 2011 and 2012 under the Phase 4 conditions.
    - Therefore, the project does not meet the requirement that the change in LOS is cause 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 traffic memoranda in Appendix B for additional information.

- A review of the traffic data discussed above demonstrates that there will not be a "significant" increase in the number of trucks from the No-Build condition to the Build. This project has been designed to improve efficiency of traffic operation at the intersection, rather than increase corridor capacity; therefore, there is no noticeable change expected in the no-build and build traffic volumes or vehicle mix. Unless predicated by significant land use changes (heavy truck generators), existing truck percentages are used as the primary factor in determining future percentages.

- 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 $PM_{2.5}$ nonattainment areas. The National Capital Regional Transportation Planning Board (NCRTPB) serves as the Metropolitan Planning Organization (MPO), and therefore it is responsible for the regional conformity determination.

- The currently approved NCRTPB Constrained Long Range Plan (CLRP), referred to as the *2012 Constrained Long Range Plan,* and the *2013-2018 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 CLRP and TIP in accordance with 40 CFR 93.114. The proposed project, which is part of an intersection improvement project know as ***BRAC Intersections near National Naval Medical Center, Bethesda,*** is listed in the December 19, 2012 Air Quality Conformity Update of the 2012 CLRP (Project ID 2620) and the FY 2013-2018 TIP (Project ID 5998)

- 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.

- Based on review and analysis as discussed above, it is determined that the proposed improvements of the MD 355 at Cedar Lane/West Cedar Lane intersection project in Montgomery County 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 air quality concern as defined under 40 CFR 93.123(b)(1). The project will not cause or contribute to a new violation of the $PM_{2.5}$ NAAQS, or increase the frequency or severity of an existing violation.

3. 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 (MSAT) 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. On December 13, 2010, FHWA concurred with SHA's recommendation that in accordance with CEQ Regulation 23 CFR 771, the proposed MD 355 at Cedar Lane/West Cedar Lane intersection improvements in Montgomery County be classified as a Categorical Exclusions (CE). Therefore in accordance with the above referenced FHWA guidance, the project would be considered a **Project with No Meaningful Potential MSAT Effects**.

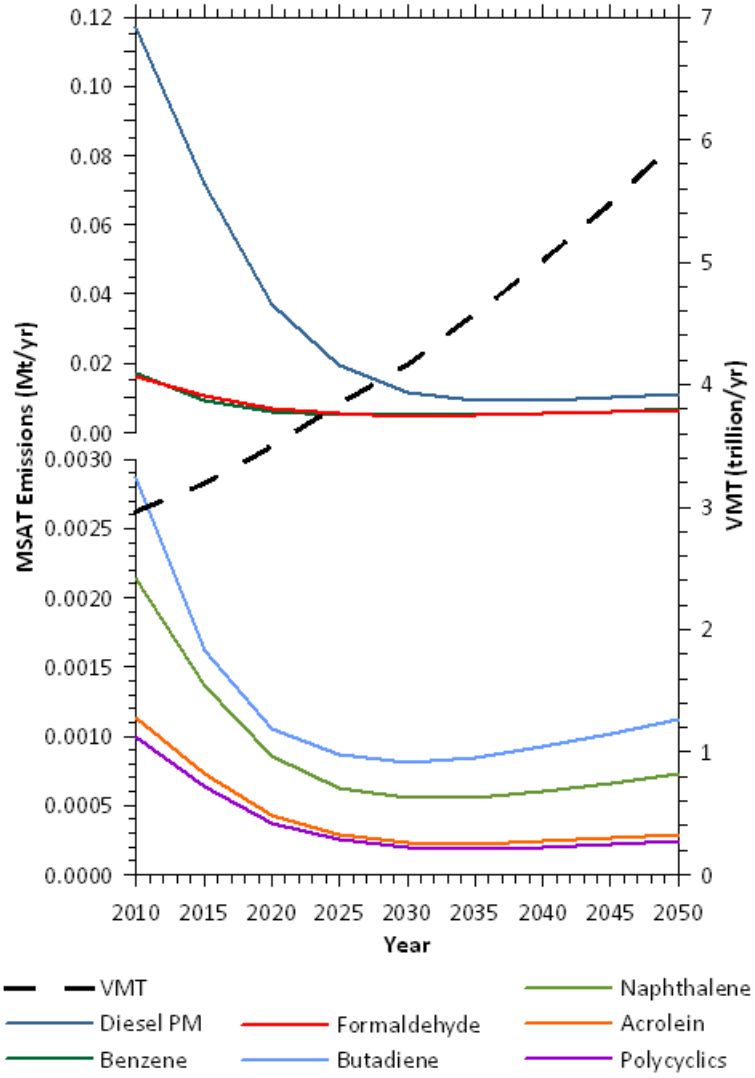
The purpose of this project is to reduce roadway congestion and improve traffic flow and safety at the intersection and improve pedestrian safety and transit access by constructing an additional northbound through lane from North Wood Road to Cedar Lane/West Cedar Lane and a southbound through lane from Cedar Lane/West Cedar Lane to Wilson Drive; the proposed lanes terminate as exclusive right turn lanes. The proposed design provides four through lanes, and variable width turn bays, as needed, adjacent to a median, for both northbound and southbound MD 355. One lane of widening will occur on West Cedar Lane and Cedar Lane. Both eastbound West Cedar Lane and westbound Cedar Lane will have two left turn lanes and one through lane at the intersection. Westbound Cedar Lane will also have a through/right lane. Eastbound West Cedar Lane will have an additional through lane and an exclusive right turn lane. Phase 4 of the project includes full depth widening on northbound MD 355 for an auxiliary lane north of the intersection with Cedar Lane/West Cedar Lane to just north of Locust Hill Road. Extensive construction of retaining walls is necessary due to bifurcation between MD 355 and a parallel Service Road. This improvement includes the addition of pedestrian accommodations via sidewalk adjacent to MD 355, since no sidewalk or shoulder area exists for pedestrians to safely proceed northward.

This project has been determined to generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in 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 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 (see **Figure 3**). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

FIGURE 3:
NATIONAL MSAT EMISSION TRENDS 1999 - 2050 FOR VEHICLES OPERATING ON ROADWAYS USING EPA's MOVES2010b MODEL



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.

4. Greenhouse Gas Assessment

From a NEPA perspective, it is analytically problematic to conduct a project level cumulative effects analysis of greenhouse gas emissions on a global-scale problem. Also, while Criteria Pollutant emissions last in the atmosphere for months, CO_2 emissions remain in the atmosphere far longer - over 100 years - and therefore require a much more sustained, intergenerational effort. Finally, due

to the interactions between elements of the transportation system as a whole, project-level emissions analyses would be less informative than ones conducted at regional, state, or national levels. Because of these concerns, FHWA concluded that the CO_2 emissions cannot be usefully evaluated in the same way that other vehicle emissions are addressed. However, it can be stated that estimates of CO_2 emissions, a primary factor in greenhouse gases, are based on the amount of direct energy required. The direct energy values represent the energy required for vehicle propulsion. This energy is a function of traffic characteristics such as volume, speed, distance traveled, vehicle mix, and thermal value of the fuel being used. A review of traffic data for the project reveals that, because there will not be a significant change in traffic volumes from the No-build to Build conditions, CO_2 emission burdens will most likely result in almost no change as compared to the existing conditions.

In 2009, Maryland Governor Martin O'Malley and the Maryland General Assembly passed the Greenhouse Gas Emission Reduction Act of 2009 (GGRA). The law requires the State to develop and implement a Plan (the GGRA Plan or the Plan) to reduce greenhouse gas (GHG) emissions 25 percent from a 2006 baseline by 2020. The Draft Plan in response to the GGRA was published on December 31, 2011. The Draft Plan puts the State on track to achieve the 25 percent GHG reduction required by the law while also creating jobs and improving Maryland's economy. The Plan also will help with other environmental priorities, including restoration of the Chesapeake Bay, improving air quality and other critical energy and national security issues. The Final Plan was due to be published December 31, 2012.

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 10.18.06.03 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. AGENCY COORDINATION/INTERAGENCY CONSULTATION

By email dated March 12, 2013, copies of this air quality analysis were circulated to the Federal Highway Administration (FHWA), the Environmental Protection Agency (EPA), the Maryland Department of the Environment (MDE), and MWCOG (NCRTPB) for a 15-day Interagency Consultation review and comment period until March 27, 2013. Response emails were received from EPA, MDE and MWCOG. EPA agreed that the project was not of air quality concern, and MDE and MWCOG had no comments on the analysis. As no other comments were received during the comment period, this Air Quality Analysis will be placed on SHA's website for a 15 day pubic review and comment period. Refer to Appendix C for Interagency Consultation emails.

APPENDIX

A: MONITORED AMBIENT AIR QUALITY DATA 2009-2011

B: TRAFFIC DATA

C: INTERAGENCY CONSULATATION EMAILS

D: PROJECT MAPPING

APPENDIX A: MONITORED AMBIENT AIR QUALITY DATA 2009-2011

2009 CO MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Actual Exceedance
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8649	2.5	2.5	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8584	4.2	4.2	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8452	1.1	1.1	0
1 HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	8637	1.7	1.7	0
1 HOUR	3	VA	Fairfax	Not in a city	Washington-Arlir	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	2849	1.2	1.1	0
1 HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	2094	1.4	1.3	0
1 HOUR	3	VA	Fairfax	Annandale	Washington-Arlir	6507 Columbia Pike	510591005	1	None	2837	1.1	1.1	0
1 HOUR	3	VA	Fairfax	McLean	Washington-Arlir	Lewinsville 1437 Balls Hill Rd	510595001	1	None	2858	1.8	1.7	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8581	1.8	1.7	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8705	2	1.9	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8638	4	3.8	0
8-HR RUN AVG END HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8539	0.9	0.9	0
8-HR RUN AVG END HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	8742	1.6	1.3	0
8-HR RUN AVG END HOUR	3	VA	Fairfax	Not in a city	Washington-Arlir	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	2869	0.9	0.9	0
8-HR RUN AVG END HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	2118	1.1	1	0
8-HR RUN AVG END HOUR	3	VA	Fairfax	Annandale	Washington-Arlir	6507 Columbia Pike	510591005	1	None	2871	0.9	0.8	0
8-HR RUN AVG END HOUR	3	VA	Fairfax	McLean	Washington-Arlir	Lewinsville 1437 Balls Hill Rd	510595001	1	None	2875	1.4	1.3	0
8-HR RUN AVG END HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8611	1.4	1.4	0

2010 CO MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8688	2.8	2.7	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8568	3.7	3.7	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8107	1.5	1.3	0
1 HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	8516	2.3	2.2	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8524	2.3	2	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8755	2.4	2	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8608	3.5	3.1	0
8-HR RUN AVG END HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8103	1	1	0
8-HR RUN AVG END HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	8559	1.8	1.7	0
8-HR RUN AVG END HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8561	1.8	1.6	0

2011 CO MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-A	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8680	5	4.2	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-A	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8561	2.7	2.7	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-A	2500 1st Street, N.W. Washington Dc	110010043	1	None	2734	3.1	3	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-A	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8183	1.7	1.3	0
1 HOUR	3	VA	Arlington	Arlington	Washington-A	S 18th And Hayes St	510130020	1	None	8675	4.2	1.9	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-A	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8527	5.7	1.7	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-A	Verizon Phone Co.2055 L St. N.W.	110010023	1	None	8748	2.2	1.9	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-A	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8590	2.5	2.3	0
8-HR RUN AVG END HOUR	3	DC	District of Columbia	Washington	Washington-A	2500 1st Street, N.W. Washington Dc	110010043	1	None	2730	2.5	2.4	0
8-HR RUN AVG END HOUR	3	MD	Prince George's	Beltsville	Washington-A	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8145	1.1	0.8	0
8-HR RUN AVG END HOUR	3	VA	Arlington	Arlington	Washington-A	S 18th And Hayes St	510130020	1	None	8704	1.4	1.4	0
8-HR RUN AVG END HOUR	3	VA	Alexandria City	Alexandria	Washington-A	517 N Saint Asaph St, Alexandria Health	515100009	1	None	8540	1.4	1.4	0

2009 PM 2.5 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Arithmetic Mean
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	360	37	31.4	29.4	28.6	24	10.5
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	2	None	62	38	26.4	20	18	26	10.3
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	Park Services Office 1100 Ohio Drive	110010042	1	None	117	41	25.2	22.7	20.6	23	10.1
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	2500 1st Street, N.W. Washington Dc	110010043	1	None	349	37	31.7	29.2	28.4	24	10.2
24 HOUR	3	MD	Montgomery	Rockville	Washington-Arli	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	117	29	22.7	21.5	20.5	22	9.4
24 HOUR	3	MD	Prince George's	Bladensburg	Washington-Arli	Bladensburg Volunteer Fire Department, 4213 Edmondson Road	240330025	1	None	118	28	23.5	21.2	20.4	21	10.7
24 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	112	22	19	17.7	17.3	18	8.7
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	117	28	20.9	18.6	16.8	19	8.9
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	2	None	32	15	14.9	14.7	14.2	15	8.8
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	1	None	117	41	23.7	23.2	20.8	23	10.1
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	2	None	118	41	24.4	23.1	20.5	23	10.1
24 HOUR	3	VA	Fairfax	Groveton	Washington-Arli	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	347	35	28.2	28	26.6	24	9.8
24 HOUR	3	VA	Fairfax	Annandale	Washington-Arli	6507 Columbia Pike	510591005	1	None	118	37	21.7	20.8	20.8	21	9.5
24 HOUR	3	VA	Fairfax	McLean	Washington-Arli	Lewinsville 1437 Balls Hill Rd	510595001	1	None	117	34	24.2	21.2	21.1	21	9.7
24 HOUR	3	VA	Loudoun	Not in a city	Washington-Arli	38-I, Broad Run High School, Ashburn	511071005	1	None	120	28	21.6	20	20	20	9.2
24-HR BLK AVG	3	MD	Montgomery	Rockville	Washington-Arli	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	3	None	349	31	27.9	24.8	23.9	23	10.2
24-HR BLK AVG	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	3	None	354	31	27.8	27	26.7	24	10.5

2010 PM 2.5 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Event	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Arithmetic Mean
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	339	62.2	36.8	35.9	35.1	28	11
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	2	None	59	37.1	25.8	20.1	19.3	26	11.4
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	Park Services Office 1100 Ohio Drive	110010042	1	None	116	35.1	25.2	23.2	22.5	23	11
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	2500 1st Street, N.W. Washington Dc	110010043	1	None	336	34.1	33	31.1	30.3	26	10.5
24 HOUR	3	MD	Montgomery	Rockville	Washington-Arli	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	50	18.6	17.7	17.2	16.9	19	9.1
24 HOUR	3	MD	Prince George's	Bladensburg	Washington-Arli	Bladensburg Volunteer Fire Department, 4213 Edmondson Road	240330025	1	None	115	35.7	32.4	24.9	24.9	25	11.5
24 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	107	34.4	20.3	19.8	18.6	20	9.4
24 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	2	None	12	17.2	14.4	14	13.8	17	9.8
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	112	21.4	21.3	20.9	19.9	21	9.5
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	2	None	27	19.3	18.6	15.1	14.2	19	10.1
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	1	None	108	34.1	23	21.8	20.5	22	10.3
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	2	None	101	34.6	23.4	22.1	20.4	22	10.4
24 HOUR	3	VA	Fairfax	Groveton	Washington-Arli	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	358	35.5	33.7	31.8	30.7	24	9.9
24 HOUR	3	VA	Fairfax	Annandale	Washington-Arli	6507 Columbia Pike	510591005	1	None	55	20.4	18.9	17.1	16.2	19	9.7
24 HOUR	3	VA	Fairfax	McLean	Washington-Arli	Lewinsville 1437 Balls Hill Rd	510595001	1	None	56	20	19.8	19.4	18.9	20	10.5
24 HOUR	3	VA	Loudoun	Not in a city	Washington-Arli	38-I, Broad Run High School, Ashburn	511071005	1	None	117	36.9	23.4	19.6	19.6	20	10.3
24 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arli	517 N Saint Asaph St, Alexandria Health	515100009	1	None	116	36.2	28.6	24	23.2	24	11.3
24-HR BLK AVG	3	MD	Montgomery	Rockville	Washington-Arli	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	3	None	352	35.8	33.8	33.1	29.6	28	11.1
24-HR BLK AVG	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	3	None	352	39.5	38.7	38.1	32.6	27	12.1

2011 PM 2.5 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Arithmetic Mean
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	340	34	28.1	27.8	26.8	25	10.4
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	2	None	60	29.2	25	20.7	18.1	25	9.4
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	Park Services Office 1100 Ohio Drive	110010042	1	None	124	30.7	26.9	26.2	24.7	26	10.2
24 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	2500 1st Street, N.W. Washington Dc	110010043	1	None	336	30.6	30.2	27.4	27.3	25	10.3
24 HOUR	3	MD	Prince George's	Bladensburg	Washington-Arli	Bladensburg Volunteer Fire Department, 4213 Edmondson Road	240330025	1	None	108	27	25.4	22.6	21.6	23	10.1
24 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	123	24.7	22	21.8	21	22	8.7
24 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	2	None	37	24.3	15.1	12.7	12.7	24	8.2
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	118	28.8	25.8	21.1	20.4	21	8.9
24 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arli	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	2	None	28	15	13.9	12.7	11.9	15	7.8
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	1	None	56	23.5	21.2	18.1	16.3	21	10.1
24 HOUR	3	VA	Arlington	Arlington	Washington-Arli	S 18th And Hayes St	510130020	2	None	53	23.6	21.9	17.8	16.6	22	10.4
24 HOUR	3	VA	Fairfax	Groveton	Washington-Arli	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	353	29	27.8	27.3	26.5	24	9.2
24 HOUR	3	VA	Loudoun	Not in a city	Washington-Arli	38-I, Broad Run High School, Ashburn	511071005	1	None	118	23.7	23.1	20.5	20.4	21	9.1
24 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arli	517 N Saint Asaph St, Alexandria Health	515100009	1	None	112	26.4	25.7	22.4	21.5	22	10.2
24-HR BLK AVG	3	DC	District of Columbia	Washington	Washington-Arli	2500 1st Street, N.W. Washington Dc	110010043	4	None	305	32.4	30.1	30	26.3	24	10.8
24-HR BLK AVG	3	MD	Montgomery	Rockville	Washington-Arli	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	3	None	331	31.8	30.5	30.2	29.9	25	10.9
24-HR BLK AVG	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	3	Included	344	76.1	35.3	31.5	29.5	27	11.8

2009 OZONE MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Third Max	Fourth Max	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Takoma Sc. 7010 Piney Branch Rd. N.W., Washington, Dc 20012	110010025	1	None	8323	0.1	0.093	0.09	0.087	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8554	0.09	0.093	0.08	0.077	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	2500 1st Street, N.W. Washington Dc	110010043	1	None	8628	0.1	0.095	0.09	0.085	0
1 HOUR	3	MD	Calvert	Not in a city	Washington-Arlir	350 Stafford Road	240090011	1	None	4946	0.1	0.079	0.08	0.076	0
1 HOUR	3	MD	Charles	Hughesville	Washington-Arlir	Oaks Road	240170010	1	None	5111	0.09	0.078	0.08	0.073	0
1 HOUR	3	MD	Frederick	Frederick	Washington-Arlir	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5056	0.08	0.082	0.08	0.077	0
1 HOUR	3	MD	Montgomery	Rockville	Washington-Arlir	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	5057	0.09	0.084	0.08	0.08	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8150	0.09	0.091	0.08	0.08	0
1 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arlir	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5121	0.09	0.088	0.08	0.077	0
1 HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	5062	0.09	0.085	0.08	0.083	0
1 HOUR	3	VA	Fairfax	Not in a city	Washington-Arlir	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	8684	0.08	0.077	0.08	0.072	0
1 HOUR	3	VA	Fairfax	Hybla Valley	Washington-Arlir	Mt.Vernon 2675 Sherwood Hall Lane	510590018	1	None	8670	0.09	0.084	0.08	0.081	0
1 HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5055	0.09	0.088	0.09	0.082	0
1 HOUR	3	VA	Fairfax	Annandale	Washington-Arlir	6507 Columbia Pike	510591005	1	None	8647	0.1	0.086	0.08	0.083	0
1 HOUR	3	VA	Fairfax	McLean	Washington-Arlir	Lewinsville 1437 Balls Hill Rd	510595001	1	None	8687	0.09	0.083	0.08	0.077	0
1 HOUR	3	VA	Fauquier	Not in a city	Washington-Arlir	Rt651 C Phelps Wildlife Management Area	510610002	1	None	5060	0.08	0.07	0.07	0.069	0
1 HOUR	3	VA	Loudoun	Not in a city	Washington-Arlir	38-I, Broad Run High School, Ashburn	511071005	1	None	5087	0.08	0.077	0.08	0.077	0
1 HOUR	3	VA	Prince William	Not in a city	Washington-Arlir	James S. Long Park	511530009	1	None	5085	0.08	0.073	0.07	0.07	0
1 HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arlir	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5098	0.08	0.076	0.08	0.071	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	5003	0.08	0.079	0.08	0.076	0
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Takoma Sc. 7010 Piney Branch Rd. N.W., Washington, Dc 20012	110010025	1	None	8341	0.08	0.074	0.07	0.072	1
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8605	0.08	0.078	0.07	0.064	2
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	2500 1st Street, N.W. Washington Dc	110010043	1	None	8683	0.09	0.076	0.07	0.071	2
8-HR RUN AVG BEGIN HOUR	3	MD	Calvert	Not in a city	Washington-Arlir	350 Stafford Road	240090011	1	None	4921	0.08	0.072	0.07	0.068	1
8-HR RUN AVG BEGIN HOUR	3	MD	Charles	Hughesville	Washington-Arlir	Oaks Road	240170010	1	None	5121	0.07	0.071	0.07	0.066	0
8-HR RUN AVG BEGIN HOUR	3	MD	Frederick	Frederick	Washington-Arlir	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5049	0.07	0.072	0.07	0.069	0
8-HR RUN AVG BEGIN HOUR	3	MD	Montgomery	Rockville	Washington-Arlir	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	5044	0.07	0.072	0.07	0.07	0
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8143	0.08	0.073	0.07	0.07	1
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arlir	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5121	0.07	0.068	0.07	0.067	0
8-HR RUN AVG BEGIN HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	5120	0.08	0.077	0.07	0.067	2
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Not in a city	Washington-Arlir	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	8740	0.07	0.067	0.07	0.065	0
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Hybla Valley	Washington-Arlir	Mt.Vernon 2675 Sherwood Hall Lane	510590018	1	None	8755	0.08	0.074	0.07	0.069	0
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5118	0.08	0.073	0.07	0.07	1
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Annandale	Washington-Arlir	6507 Columbia Pike	510591005	1	None	8750	0.08	0.073	0.07	0.07	1
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	McLean	Washington-Arlir	Lewinsville 1437 Balls Hill Rd	510595001	1	None	8755	0.07	0.072	0.07	0.068	0
8-HR RUN AVG BEGIN HOUR	3	VA	Fauquier	Not in a city	Washington-Arlir	Rt651 C Phelps Wildlife Management Area	510610002	1	None	5114	0.07	0.065	0.06	0.063	0
8-HR RUN AVG BEGIN HOUR	3	VA	Loudoun	Not in a city	Washington-Arlir	38-I, Broad Run High School, Ashburn	511071005	1	None	5121	0.07	0.068	0.07	0.068	0
8-HR RUN AVG BEGIN HOUR	3	VA	Prince William	Not in a city	Washington-Arlir	James S. Long Park	511530009	1	None	5120	0.07	0.065	0.07	0.064	0
8-HR RUN AVG BEGIN HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arlir	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5120	0.07	0.068	0.07	0.064	0
8-HR RUN AVG BEGIN HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	4974	0.07	0.067	0.07	0.066	0

2010 OZONE MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Third Max	Fourth Max	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Takoma Sc. 7010 Piney Branch Rd. N.W., Washington, Dc 20012	110010025	1	None	8563	0.1	0.097	0.09	0.091	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8610	0.11	0.109	0.1	0.101	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	2500 1st Street, N.W. Washington Dc	110010043	1	None	8656	0.11	0.109	0.1	0.099	0
1 HOUR	3	MD	Calvert	Not in a city	Washington-Arlir	350 Stafford Road	240090011	1	None	5019	0.11	0.107	0.1	0.096	0
1 HOUR	3	MD	Charles	Hughesville	Washington-Arlir	Oaks Road	240170010	1	None	5111	0.1	0.103	0.1	0.091	0
1 HOUR	3	MD	Frederick	Frederick	Washington-Arlir	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5117	0.11	0.099	0.1	0.096	0
1 HOUR	3	MD	Montgomery	Rockville	Washington-Arlir	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	4782	0.1	0.102	0.1	0.094	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8373	0.12	0.102	0.1	0.1	0
1 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arlir	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5076	0.11	0.108	0.11	0.103	0
1 HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	5073	0.11	0.103	0.1	0.099	0
1 HOUR	3	VA	Fairfax	Hybla Valley	Washington-Arlir	Mt.Vernon 2675 Sherwood Hall Lane	510590018	1	None	4120	0.09	0.086	0.09	0.079	0
1 HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5073	0.11	0.109	0.1	0.102	0
1 HOUR	3	VA	Fauquier	Not in a city	Washington-Arlir	Rt651 C Phelps Wildlife Management Area	510610002	1	None	4971	0.09	0.079	0.08	0.078	0
1 HOUR	3	VA	Loudoun	Not in a city	Washington-Arlir	38-I, Broad Run High School, Ashburn	511071005	1	None	5045	0.11	0.095	0.09	0.091	0
1 HOUR	3	VA	Prince William	Not in a city	Washington-Arlir	James S. Long Park	511530009	1	None	5064	0.12	0.089	0.09	0.084	0
1 HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arlir	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5085	0.1	0.097	0.1	0.093	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	5025	0.11	0.105	0.1	0.097	0
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	Takoma Sc. 7010 Piney Branch Rd. N.W., Washington, Dc 20012	110010025	1	None	8621	0.09	0.085	0.08	0.079	6
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8666	0.1	0.09	0.09	0.086	15
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arlir	2500 1st Street, N.W. Washington Dc	110010043	1	None	8714	0.1	0.088	0.09	0.082	16
8-HR RUN AVG BEGIN HOUR	3	MD	Calvert	Not in a city	Washington-Arlir	350 Stafford Road	240090011	1	None	5010	0.1	0.097	0.09	0.087	8
8-HR RUN AVG BEGIN HOUR	3	MD	Charles	Hughesville	Washington-Arlir	Oaks Road	240170010	1	None	5112	0.09	0.087	0.09	0.082	7
8-HR RUN AVG BEGIN HOUR	3	MD	Frederick	Frederick	Washington-Arlir	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5114	0.09	0.085	0.08	0.083	7
8-HR RUN AVG BEGIN HOUR	3	MD	Montgomery	Rockville	Washington-Arlir	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	4773	0.08	0.08	0.08	0.077	5
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Beltsville	Washington-Arlir	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8366	0.09	0.091	0.09	0.085	16
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arlir	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5072	0.09	0.09	0.09	0.085	9
8-HR RUN AVG BEGIN HOUR	3	VA	Arlington	Arlington	Washington-Arlir	S 18th And Hayes St	510130020	1	None	5091	0.09	0.089	0.09	0.087	13
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Hybla Valley	Washington-Arlir	Mt.Vernon 2675 Sherwood Hall Lane	510590018	1	None	4133	0.08	0.075	0.07	0.068	0
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Groveton	Washington-Arlir	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5103	0.1	0.091	0.09	0.089	13
8-HR RUN AVG BEGIN HOUR	3	VA	Fauquier	Not in a city	Washington-Arlir	Rt651 C Phelps Wildlife Management Area	510610002	1	None	5020	0.07	0.071	0.07	0.066	0
8-HR RUN AVG BEGIN HOUR	3	VA	Loudoun	Not in a city	Washington-Arlir	38-I, Broad Run High School, Ashburn	511071005	1	None	5056	0.09	0.084	0.08	0.078	5
8-HR RUN AVG BEGIN HOUR	3	VA	Prince William	Not in a city	Washington-Arlir	James S. Long Park	511530009	1	None	5087	0.09	0.079	0.08	0.073	2
8-HR RUN AVG BEGIN HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arlir	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5121	0.09	0.086	0.08	0.078	5
8-HR RUN AVG BEGIN HOUR	3	VA	Alexandria City	Alexandria	Washington-Arlir	517 N Saint Asaph St, Alexandria Health	515100009	1	None	4996	0.09	0.085	0.08	0.081	10

2011 OZONE MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	Third Max	Fourth Max	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8570	0.1	0.099	0.1	0.095	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arl	2500 1st Street, N.W. Washington Dc	110010043	1	None	8434	0.11	0.101	0.1	0.096	0
1 HOUR	3	MD	Calvert	Not in a city	Washington-Arl	350 Stafford Road	240090011	1	None	5031	0.11	0.107	0.11	0.095	0
1 HOUR	3	MD	Charles	Hughesville	Washington-Arl	Oaks Road	240170010	1	None	4964	0.11	0.098	0.1	0.095	0
1 HOUR	3	MD	Frederick	Frederick	Washington-Arl	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5117	0.09	0.089	0.08	0.083	0
1 HOUR	3	MD	Montgomery	Rockville	Washington-Arl	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	5084	0.1	0.097	0.1	0.092	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	7989	0.11	0.109	0.09	0.093	0
1 HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arl	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5107	0.11	0.11	0.11	0.105	0
1 HOUR	3	MD	Prince George's	Not in a city	Washington-Arl	Powder Mill Rd, Laurel, Md 20708	240339991	1	None	5840	0.11	0.102	0.1	0.095	0
1 HOUR	3	VA	Arlington	Arlington	Washington-Arl	S 18th And Hayes St	510130020	1	None	5104	0.11	0.103	0.1	0.098	0
1 HOUR	3	VA	Fairfax	Groveton	Washington-Arl	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5115	0.11	0.106	0.1	0.096	0
1 HOUR	3	VA	Fauquier	Not in a city	Washington-Arl	Rt651 C Phelps Wildlife Management Area	510610002	1	None	5095	0.08	0.076	0.07	0.069	0
1 HOUR	3	VA	Loudoun	Not in a city	Washington-Arl	38-I, Broad Run High School, Ashburn	511071005	1	None	5104	0.1	0.086	0.09	0.084	0
1 HOUR	3	VA	Prince William	Not in a city	Washington-Arl	James S. Long Park	511530009	1	None	5007	0.08	0.08	0.08	0.077	0
1 HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arl	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5107	0.1	0.097	0.09	0.084	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	1	None	5054	0.11	0.103	0.1	0.096	0
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8620	0.09	0.084	0.08	0.08	6
8-HR RUN AVG BEGIN HOUR	3	DC	District of Columbia	Washington	Washington-Arl	2500 1st Street, N.W. Washington Dc	110010043	1	None	8466	0.09	0.087	0.09	0.085	11
8-HR RUN AVG BEGIN HOUR	3	MD	Calvert	Not in a city	Washington-Arl	350 Stafford Road	240090011	1	None	5023	0.09	0.092	0.09	0.082	6
8-HR RUN AVG BEGIN HOUR	3	MD	Charles	Hughesville	Washington-Arl	Oaks Road	240170010	1	None	4957	0.1	0.087	0.09	0.085	7
8-HR RUN AVG BEGIN HOUR	3	MD	Frederick	Frederick	Washington-Arl	Frederick County Airport ,180 E Airport Drive	240210037	1	None	5121	0.09	0.082	0.08	0.077	6
8-HR RUN AVG BEGIN HOUR	3	MD	Montgomery	Rockville	Washington-Arl	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	240313001	1	None	5079	0.09	0.085	0.08	0.081	5
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	7946	0.09	0.091	0.09	0.083	7
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Greater Upper Marlboro	Washington-Arl	Pg County Equestrian Center, 14900 Pennsylvania Ave.	240338003	1	None	5087	0.1	0.092	0.09	0.086	14
8-HR RUN AVG BEGIN HOUR	3	MD	Prince George's	Not in a city	Washington-Arl	Powder Mill Rd, Laurel, Md 20708	240339991	1	None	5845	0.09	0.086	0.09	0.084	7
8-HR RUN AVG BEGIN HOUR	3	VA	Arlington	Arlington	Washington-Arl	S 18th And Hayes St	510130020	1	None	5101	0.1	0.093	0.09	0.087	8
8-HR RUN AVG BEGIN HOUR	3	VA	Fairfax	Groveton	Washington-Arl	Sta. 46-B9, Lee Park, Telegraph Road	510590030	1	None	5119	0.1	0.096	0.09	0.087	11
8-HR RUN AVG BEGIN HOUR	3	VA	Fauquier	Not in a city	Washington-Arl	Rt651 C Phelps Wildlife Management Area	510610002	1	None	5118	0.07	0.065	0.07	0.063	0
8-HR RUN AVG BEGIN HOUR	3	VA	Loudoun	Not in a city	Washington-Arl	38-I, Broad Run High School, Ashburn	511071005	1	None	5113	0.09	0.081	0.08	0.075	3
8-HR RUN AVG BEGIN HOUR	3	VA	Prince William	Not in a city	Washington-Arl	James S. Long Park	511530009	1	None	5017	0.08	0.073	0.07	0.071	1
8-HR RUN AVG BEGIN HOUR	3	VA	Stafford	Aquia Harbour	Washington-Arl	Widewater Elem. Sch., Den Rich Road	511790001	1	None	5127	0.09	0.08	0.08	0.074	2
8-HR RUN AVG BEGIN HOUR	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	1	None	5065	0.1	0.095	0.09	0.084	7

2009 SO2 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	99th Percentile	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8565	58	44	39	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8614	42	36	24	0
1 HOUR	3	VA	Fairfax	Not in a city	Washington-Arl	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	2852	31	28	28	0
1 HOUR	3	VA	Fairfax	Annandale	Washington-Arl	6507 Columbia Pike	510591005	1	None	2838	36	35	35	0
1 HOUR	3	VA	Fairfax	McLean	Washington-Arl	Lewinsville 1437 Balls Hill Rd	510595001	1	None	2857	77	31	31	1
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	2	None	8368	65	63	36	0
24-HR BLK	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	360	33	17	13	0
24-HR BLK	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	360	15	8	7	0
24-HR BLK	3	VA	Fairfax	Not in a city	Washington-Arl	Cub Run Lee Rd Chant.(Cubrun Treat Plant	510590005	1	None	120	16	9	9	0
24-HR BLK	3	VA	Fairfax	Annandale	Washington-Arl	6507 Columbia Pike	510591005	1	None	120	21	17	17	0
24-HR BLK	3	VA	Fairfax	McLean	Washington-Arl	Lewinsville 1437 Balls Hill Rd	510595001	1	None	120	18	17	17	0
24-HR BLK	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	2	None	353	25	16	11	0

2010 SO2 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	99th Percentile	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8586	50	25	21	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	8325	16	15	10	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arli	517 N Saint Asaph St, Alexandria Health	515100009	2	None	8305	30	25	17	0
24-HR BLK AVG	3	DC	District of Columbia	Washington	Washington-Arli	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	359	14	11	10	0
24-HR BLK AVG	3	MD	Prince George's	Beltsville	Washington-Arli	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	346	8	7	5	0
24-HR BLK AVG	3	VA	Alexandria City	Alexandria	Washington-Arli	517 N Saint Asaph St, Alexandria Health	515100009	2	None	350	10	10	7	0

2011 SO2 MONITOR DATA

Duration Description	EPA Region	State	County	City	CBSA	Address	Site ID	POC	Exc Events	Obs	First Max	Second Max	99th Percentile	Actual Exceedances
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	8556	34	23	20	0
1 HOUR	3	DC	District of Columbia	Washington	Washington-Arl	2500 1st Street, N.W. Washington Dc	110010043	2	None	4898	6	5	5	0
1 HOUR	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	7938	14	14	12	0
1 HOUR	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	2	None	8626	51	20	14	0
24-HR BLK AVG	3	DC	District of Columbia	Washington	Washington-Arl	420 34th Street N.E.,Washington, Dc 20019	110010041	1	None	359	10	8	8	0
24-HR BLK AVG	3	DC	District of Columbia	Washington	Washington-Arl	2500 1st Street, N.W. Washington Dc	110010043	2	None	197	4	3	3	0
24-HR BLK AVG	3	MD	Prince George's	Beltsville	Washington-Arl	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	240330030	1	None	330	5	4	3	0
24-HR BLK AVG	3	VA	Alexandria City	Alexandria	Washington-Arl	517 N Saint Asaph St, Alexandria Health	515100009	2	None	365	6	5	5	0

APPENDIX B: TRAFFIC DATA

TITLE SHEET TRAFFIC DATA
BRAC- Intersections near Bethesda National Navy Medical Center

MD 355 (Rockville Pike) @ Cedar Lane

	2008	2011
ADT:	74,425	78,975
DHV:	10%	10%
DD:	55%	55%
% Truck (ADT)	5%	5%
% Truck (DHV)	3%	3%

Recommended Weigh-in-Motion Station:
5010-88

Station ID: 150097
Location: MD 355 - .10 North of Jones Bridge Road
Date: 5/31/06

Truck Data Breakdown							
	2A	3D	2S1	2S2	3S2	3S3	Total
2008	2554	380	108	430	132	132	3736
2011	2700	401	114	454	139	140	3949

MD 355 (Rockville Pike) @ Jones Bridge Road./ Center Drive

	2008	2011
ADT:	48,100	51,050
DHV:	8%	8%
DD:	55%	55%
% Truck (ADT)	5%	5%
% Truck (DHV)	3%	3%

Recommended Weigh-in-Motion Station:
5010-88

Station ID: B150097
Location: MD 355 - .10 North of Jones Bridge Road
Date: 5/31/06

Truck Data Breakdown							
	2A	3D	2S1	2S2	3S2	3S3	Total
2008	1644	245	69	277	85	85	2405
2011	1745	259	74	294	90	90	2553

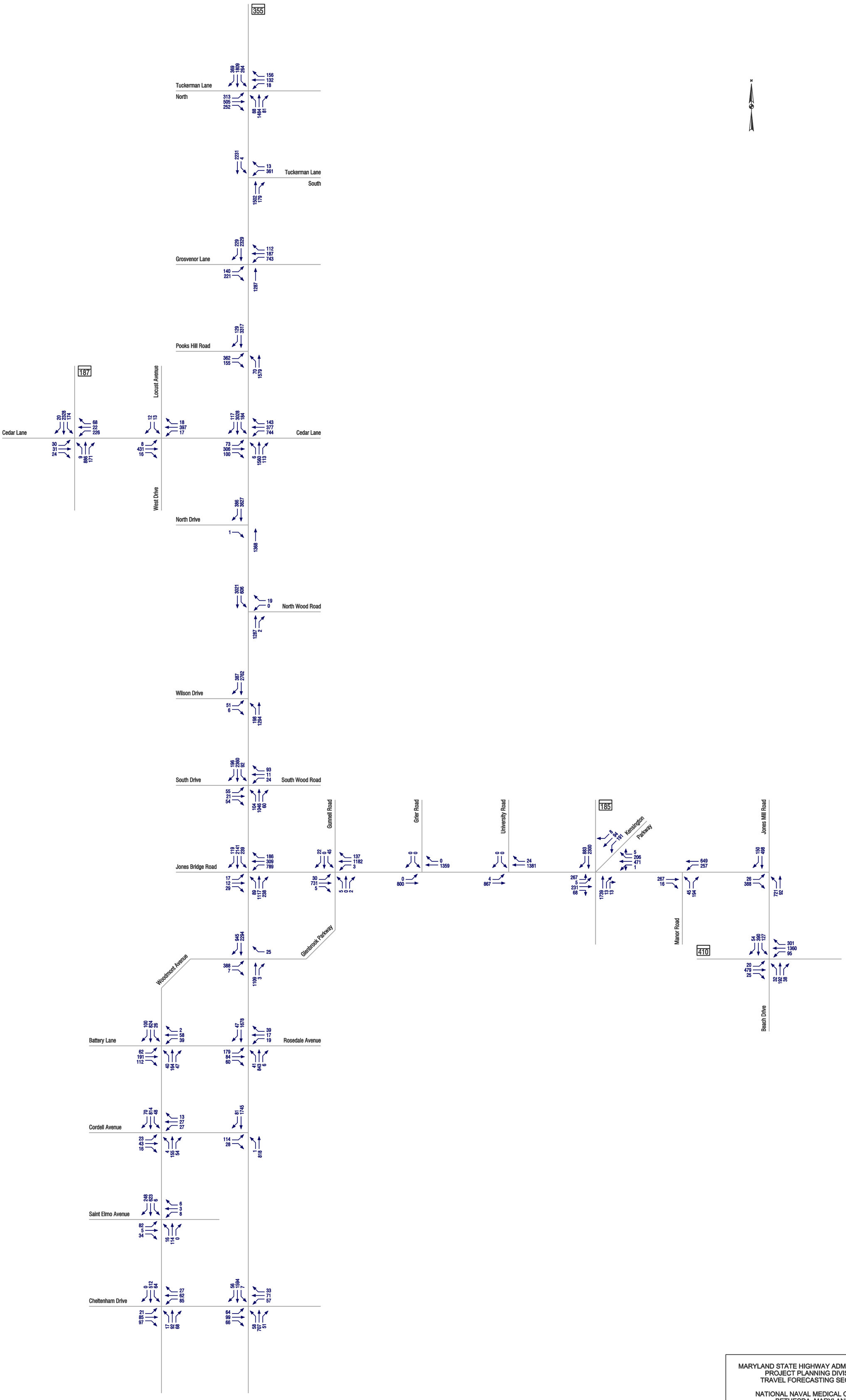
MD 185 (Connecticut Avenue @ Jones Bridge Road / Kensington Parkway

	2008	2011
ADT:	57,600	61,150
DHV:	8%	8%
DD:	65%	65%
% Truck (ADT)	5%	5%
% Truck (DHV)	4%	4%

Recommended Weigh-in-Motion Station:
5010-88

Station ID: B2793
Location: MD 185 - .10 MI South of MD 410
Date: 10/30/07

Truck Data Breakdown							
	2A	3D	2S1	2S2	3S2	3S3	Total
2008	2000	262	90	362	110	56	2880
2011	2123	278	96	383	117	60	3058



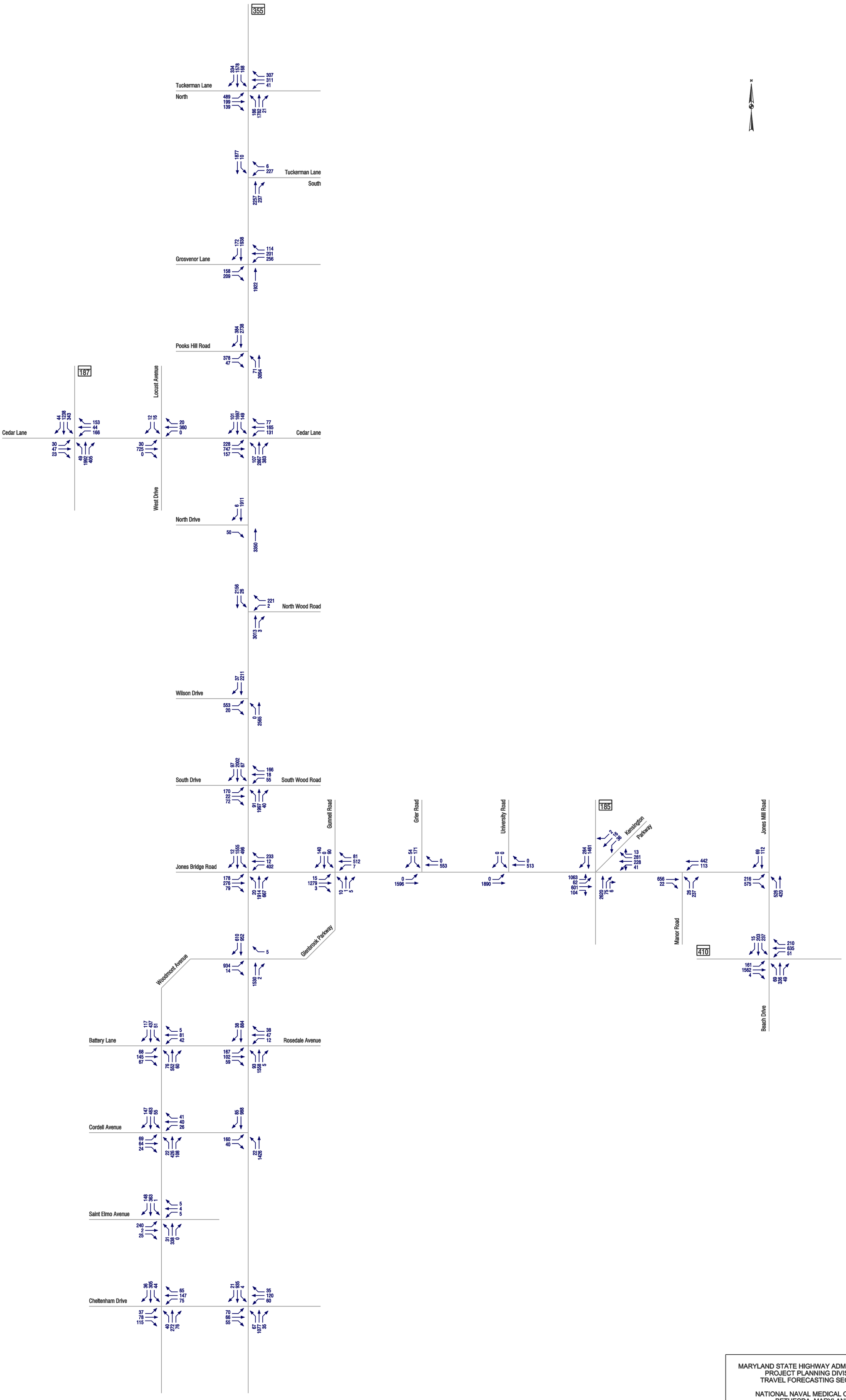
MARYLAND STATE HIGHWAY ADMINISTRATION
PROJECT PLANNING DIVISION
TRAVEL FORECASTING SECTION

NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND

URS

TURNING MOVEMENT VOLUMES
EXISTING AM

FIGURE 2 | OCTOBER 2007



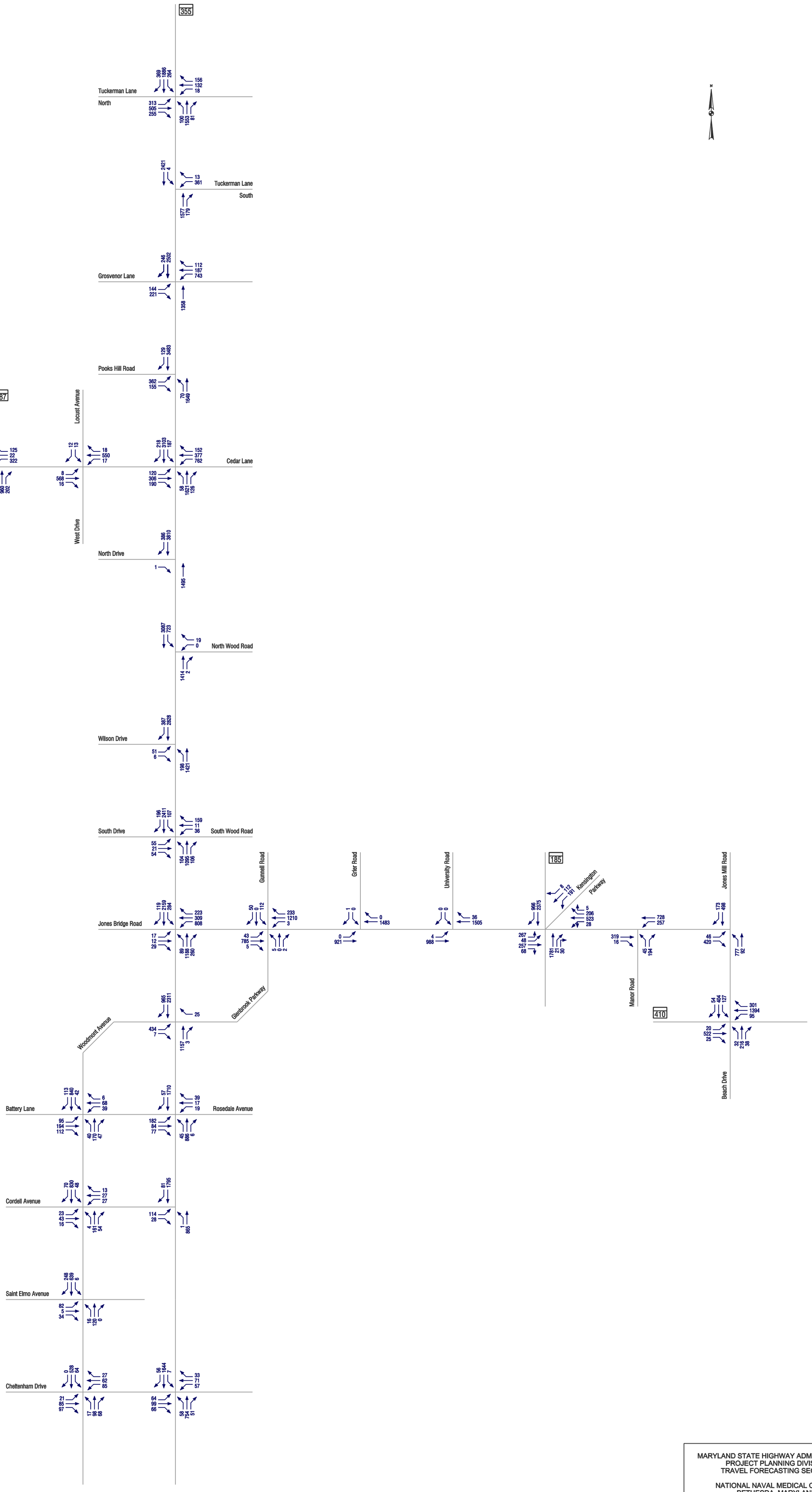
MARYLAND STATE HIGHWAY ADMINISTRATION
PROJECT PLANNING DIVISION
TRAVEL FORECASTING SECTION

NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND

URS

TURNING MOVEMENT VOLUMES
EXISTING PM

FIGURE 3 | OCTOBER 2007



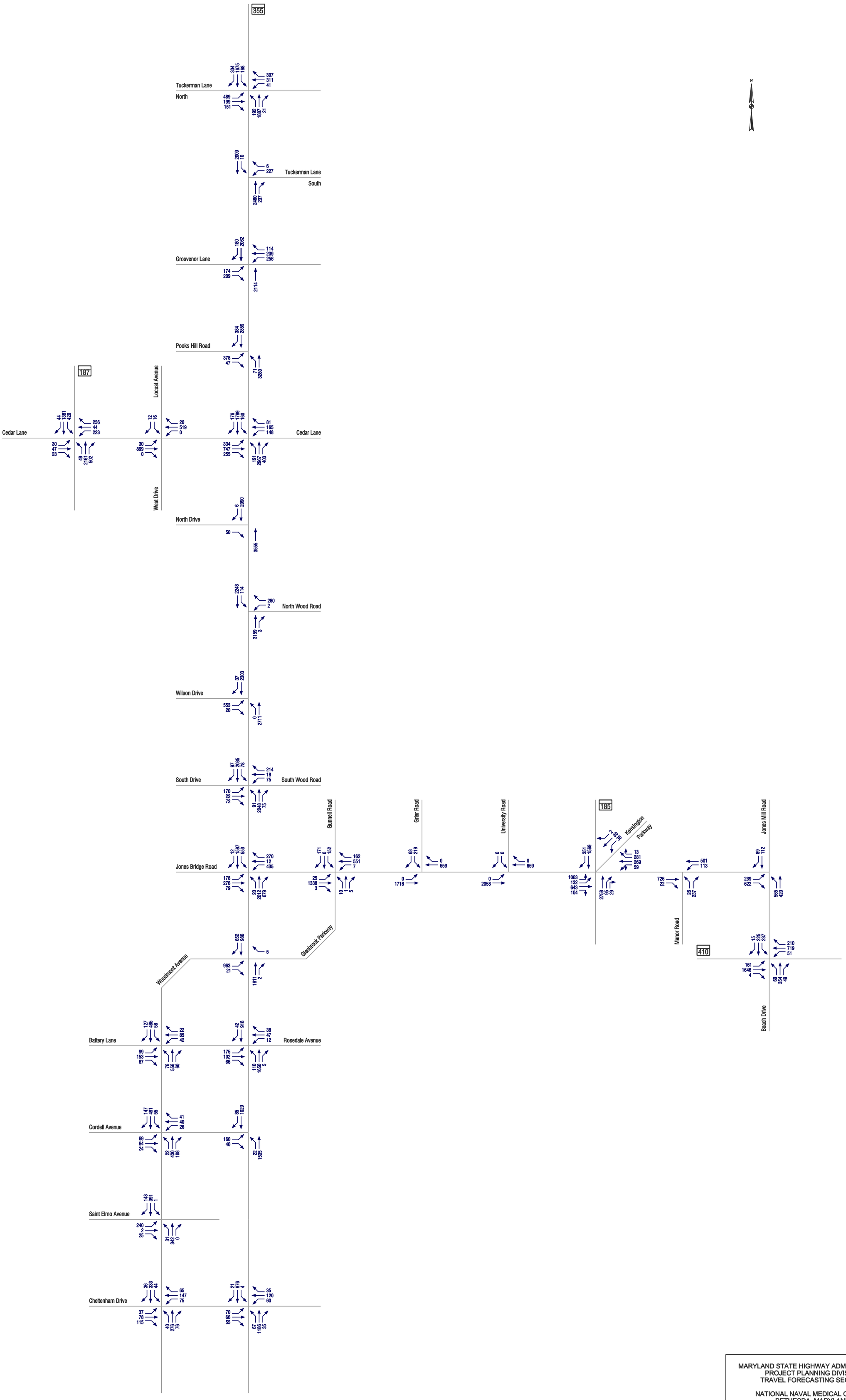
MARYLAND STATE HIGHWAY ADMINISTRATION
PROJECT PLANNING DIVISION
TRAVEL FORECASTING SECTION

NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND

URS

TURNING MOVEMENT VOLUMES
2011 WITH BRAC AM

FIGURE 4 | OCTOBER 2007



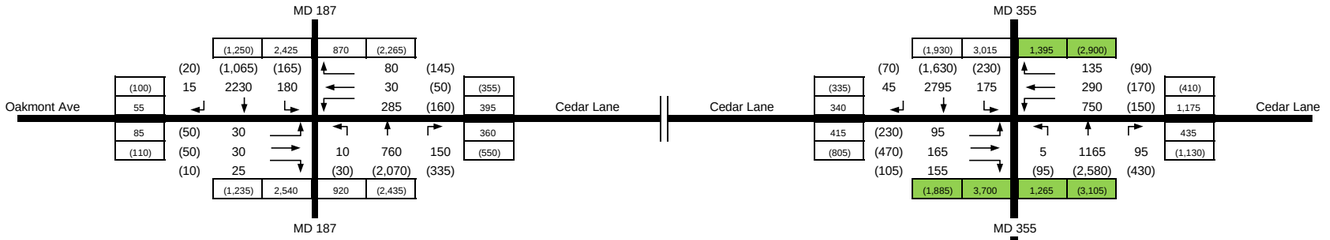
MARYLAND STATE HIGHWAY ADMINISTRATION
PROJECT PLANNING DIVISION
TRAVEL FORECASTING SECTION

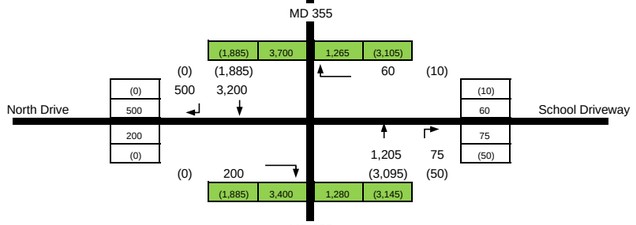
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND

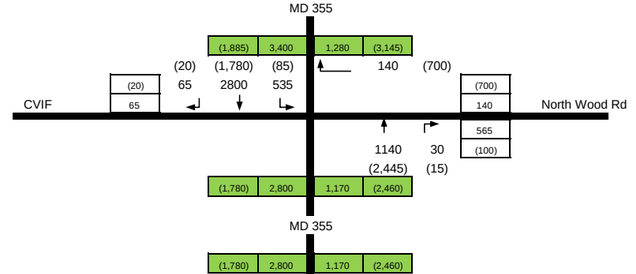
URS

TURNING MOVEMENT VOLUMES
2011 WITH BRAC PM

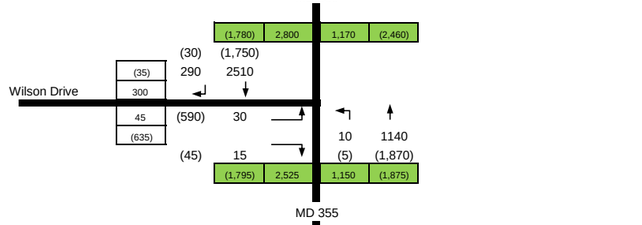
FIGURE 5 | OCTOBER 2007

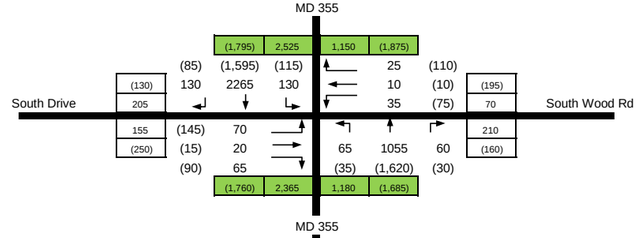


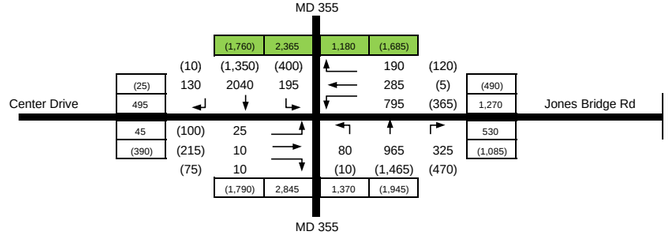




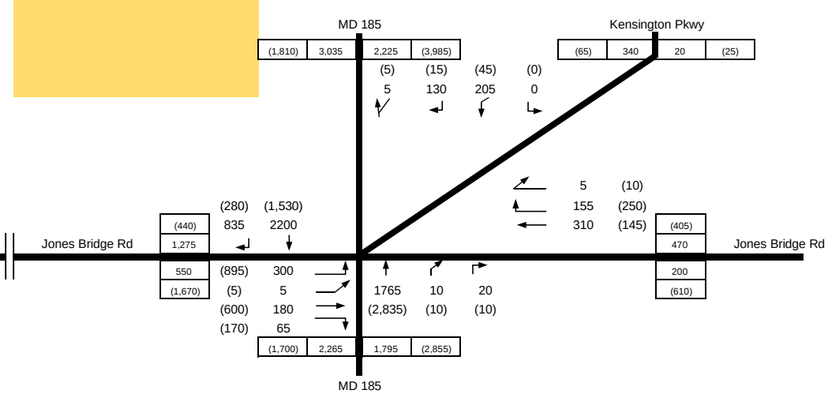
NIH







NNMC



NNMC BRAC
Volume Network

New SHA Count Data

Conditions: After BRAC	Year: 2012
AM (PM) Peak Hour Volumes	N

MD 355 at Cedar Lane - Synchro Delay Per Phase

Table 1. Using Original SHA Counts and 2011 Forecasts

		Existing		2011 No-Build		2011 Phases 1-3		2011 Phase 4	
Intersection	**Peak**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**
MD 355 at Cedar Lane	AM	F	104.3	F	135.7	E	63.0	D	54.4
	PM	F	147.5	F	167.5	E	60.8	D	52.3

Table 2. Using Post-BRAC SHA Counts from 2012

		Existing		2012 No-Build		2012 Phases 1-3		2012 Phase 4	
Intersection	**Peak**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**
MD 355 at Cedar Lane	AM	N/A	N/A	E	74.1	D	42.6	D	42.4
	PM	N/A	N/A	F	98.8	D	47.9	D	44.3

APPENDIX C: INTERAGENCY CONSULATATION EMAILS

Michael Kelly

From: kotsch, martin <kotsch.martin@epa.gov>
Sent: Wednesday, March 27, 2013 9:30 AM
To: Christina Brandt; 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'; 'jwilkinson@mde.state.md.us'; McCurdy, Alaina; Rudnick, Barbara; 'jrohlfs@mwcog.org'
Cc: Michael Kelly; Shawn Burnett; Caryn Brookman; Becoat, gregory; Khadr, Asrah
Subject: RE: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation

Based on the information provided, I agree that the project is not of air quality concern since it does not increase capacity, add new traffic beyond what would occur even without the project and will reduce congestion, which will in turn provide some emissions reductions due to less idling and more efficient traffic flow.

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Tuesday, March 12, 2013 1:24 PM
To: 'bhug@mde.state.md.us'; kotsch, martin; 'jeanette.mar@dot.gov'; 'jwilkinson@mde.state.md.us'; McCurdy, Alaina; Rudnick, Barbara; 'jrohlfs@mwcog.org'
Cc: 'Michael Kelly'; 'Shawn Burnett'; Caryn Brookman
Subject: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation

Good Afternoon,

Attached is the Air Quality Technical Report for the MD 355 at Cedar Lane BRAC intersection improvement project located in Montgomery County, Maryland. Please note that Appendix D will be sent as a separate file in a separate e-mail due to its size.

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 proposed project is listed in the December 19, 2012 Air Quality Conformity Update of the 2012 CLRP (Project ID 2620) and the FY 2013-2018 TIP (Project ID 5998) for the Washington Metropolitan Region.

Please review and provide concurrence/comments prior to 03/27/2013.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

Michael Kelly

From: Brian Hug <bhug@mde.state.md.us>
Sent: Thursday, March 28, 2013 7:49 AM
To: 'jeanette.mar@dot.gov'; 'jrohlfs@mwcog.org'; Christina Brandt
Cc: Shawn Burnett; Michael Kelly
Subject: Re: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation
Attachments: JPEG image

MDE has no comments on this analysis

Brian J. Hug
Deputy Program Manager
Air Quality Planning Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
410-537-4125>> Christina Brandt <CBrandt@sha.state.md.us> 3/28/2013 7:45 AM >>>

Good Morning,

The comment response deadline for the subject project was March 27, 2013. Please let me know if you have any comments on the attached report. If SHA does not receive any comments by Friday March 29, 2013, we will assume that your office concurs that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. Please let me know if you have any questions or need additional information.

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

Michael Kelly

From: Joan Rohlfs <jrohlfs@mwcog.org>
Sent: Thursday, March 28, 2013 8:32 AM
To: Christina Brandt; 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'
Cc: Michael Kelly; Shawn Burnett
Subject: RE: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation
Attachments: ~WRD000.jpg; image001.jpg

COG Department of Environmental Programs has no comment on this analysis.

Joan Rohlfs
Environmental Resources Program Director
Metropolitan Washington Council of Governments
777 North Capitol St., NE
Washington, D.C. 20002-4239
Tel: 202-962-3358
Fax: 202-962-3203

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Thursday, March 28, 2013 7:46 AM
To: 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'; Joan Rohlfs
Cc: Michael Kelly; 'Shawn Burnett'
Subject: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation

Good Morning,

The comment response deadline for the subject project was March 27, 2013. Please let me know if you have any comments on the attached report. If SHA does not receive any comments by Friday March 29, 2013, we will assume that your office concurs that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. Please let me know if you have any questions or need additional information.

Thank You!
Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

From: Jeanette.Mar@dot.gov
To: Christina Brandt; bhug@mde.state.md.us; jrohlfs@mwcog.org
Cc: mkelly@wtbco.com; sburnett@wtbco.com
Subject: RE: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation
Date: Thursday, March 28, 2013 3:18:03 PM

Chrissy:

FHWA has no additional comments on the analysis provided.

Thanks!

Jeanette

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

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Thursday, March 28, 2013 7:46 AM
To: 'bhug@mde.state.md.us'; Mar, Jeanette (FHWA); 'jrohlfs@mwcog.org'
Cc: Michael Kelly; 'Shawn Burnett'
Subject: MD 355 at Cedar Lane BRAC Intersection Improvements Air Quality Interagency Consultation

Good Morning,

The comment response deadline for the subject project was March 27, 2013. Please let me know if you have any comments on the attached report. If SHA does not receive any comments by Friday March 29, 2013, we will assume that your office concurs that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis. Please let me know if you have any questions or need additional information.

Thank You!
Chrissy

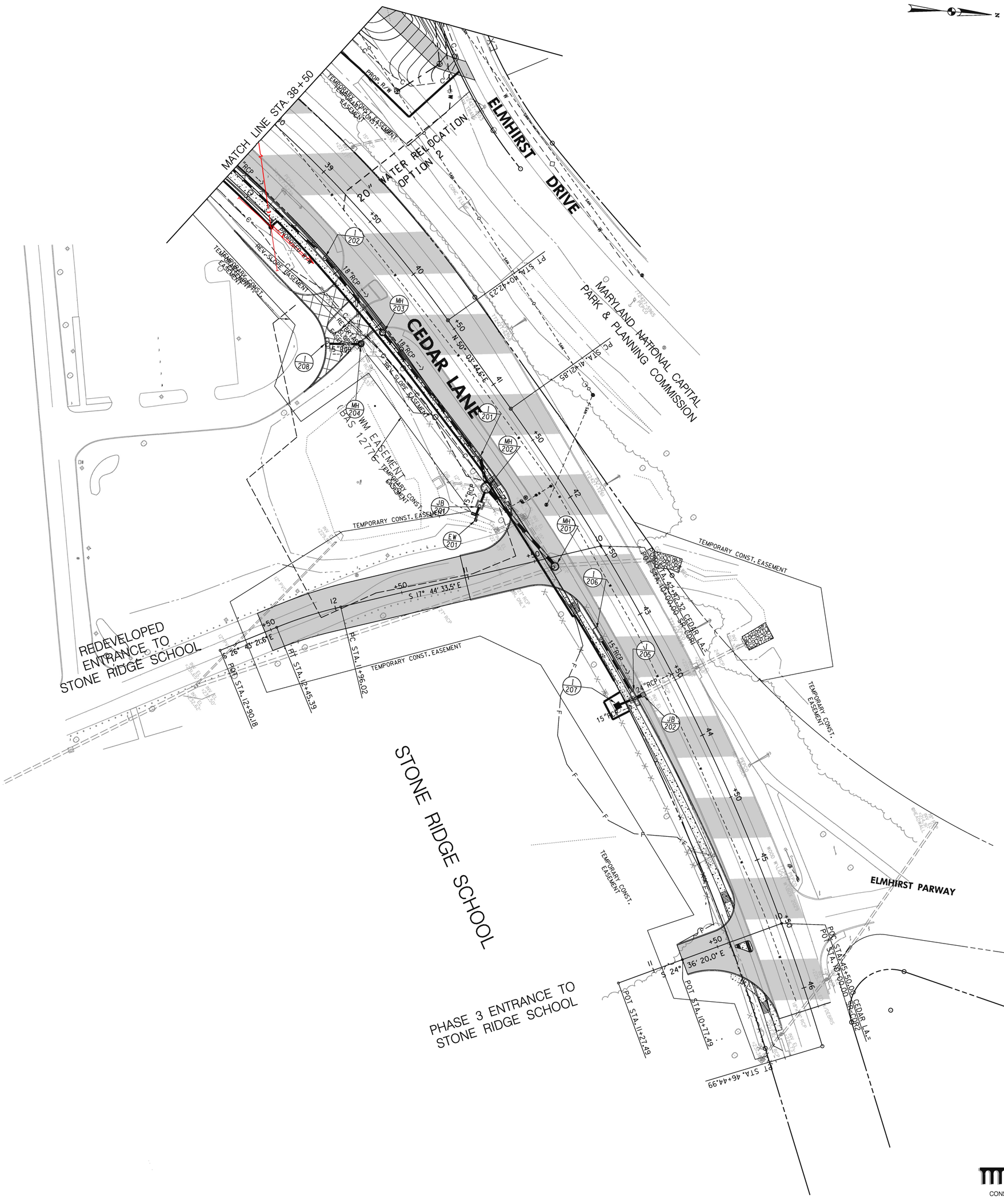
Christina Brandt

D: PROJECT MAPPING

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

MD 355 & CEDAR LANE – CONTRACT 1 PLAN

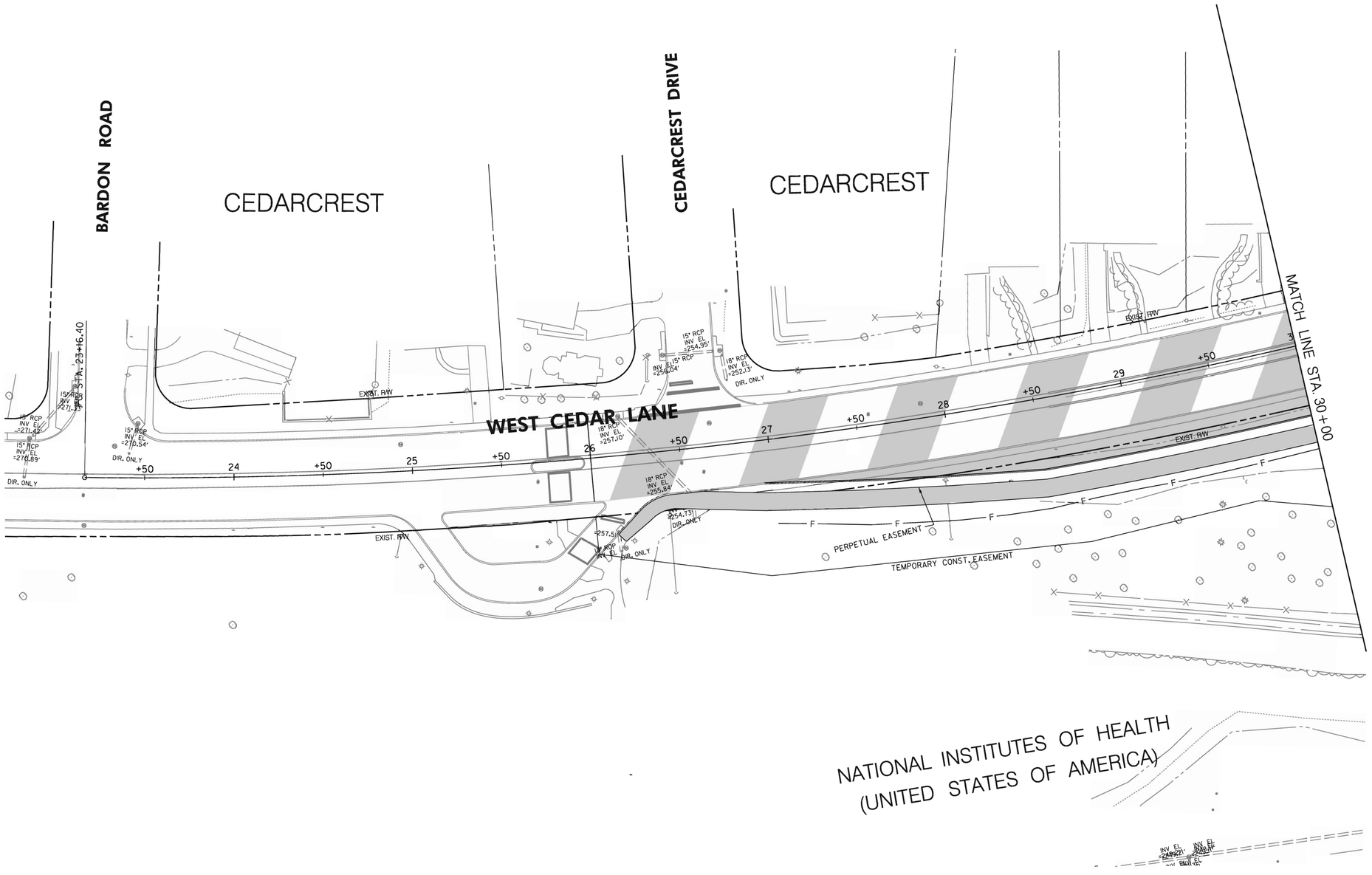
SCALE: 1" = 30' DATE: FEBUARY 24, 2010



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

30' 0 30' 60'
SCALE: 1" =30'

MD 355 & CEDAR LANE – CONTRACT 1 PLAN
SCALE: 1" = 30' DATE: FEBUARY 24, 2010



30' 0 30' 60'

SCALE: 1" = 30'

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

MD 355 & CEDAR LANE – CONTRACT 1 PLAN

SCALE: 1" = 30' DATE: FEBUARY 24, 2010

TO MD 187

TO I-495

N

WEST CEDAR LANE

LIMIT OF WORK
MO5935270
NORTHBOUND MD 355 PHASE 4
STA. 348+50

EXISTING R/W LINE

℄ CONSTRUCTION MD 355

RETAINING WALL

TRAFFIC BARRIER
STD. NO. MD. 648.02

345 +50 346 +50 347 +50 348 +50 349 +50

MD. 355 (ROCKVILLE PIKE)

EXISTING R/W LINE

EXISTING R/W LINE

℄ CONSTRUCTION ELMHIRST DRIVE

CEDAR LANE

ELMHIRST DRIVE

0+00 10+00 +50 +50

SERVICE ROAD

EXISTING R/W LINE

℄ CONSTRUCTION SERVICE RD.

MATCH LINE STA. 350+00 SEE DRAWING NO. PS-02

PROGRESS SUBMITTAL
3-27-12

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

BRAC INTERSECTION IMPROVEMENTS
MD 355 AT CEDAR LANE PHASE 4

ROADWAY LEGEND

- REMOVE & REPLACE DRIVEWAY ENTRANCE
- CONCRETE SIDEWALK
- GRIND AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- WORK DONE BY OTHERS

20' 0 20' 40'
SCALE: 1" = 20'

ROADWAY PLAN

SCALE 1" = 20' DATE MARCH 27, 2012 CONTRACT NO. MO5935270

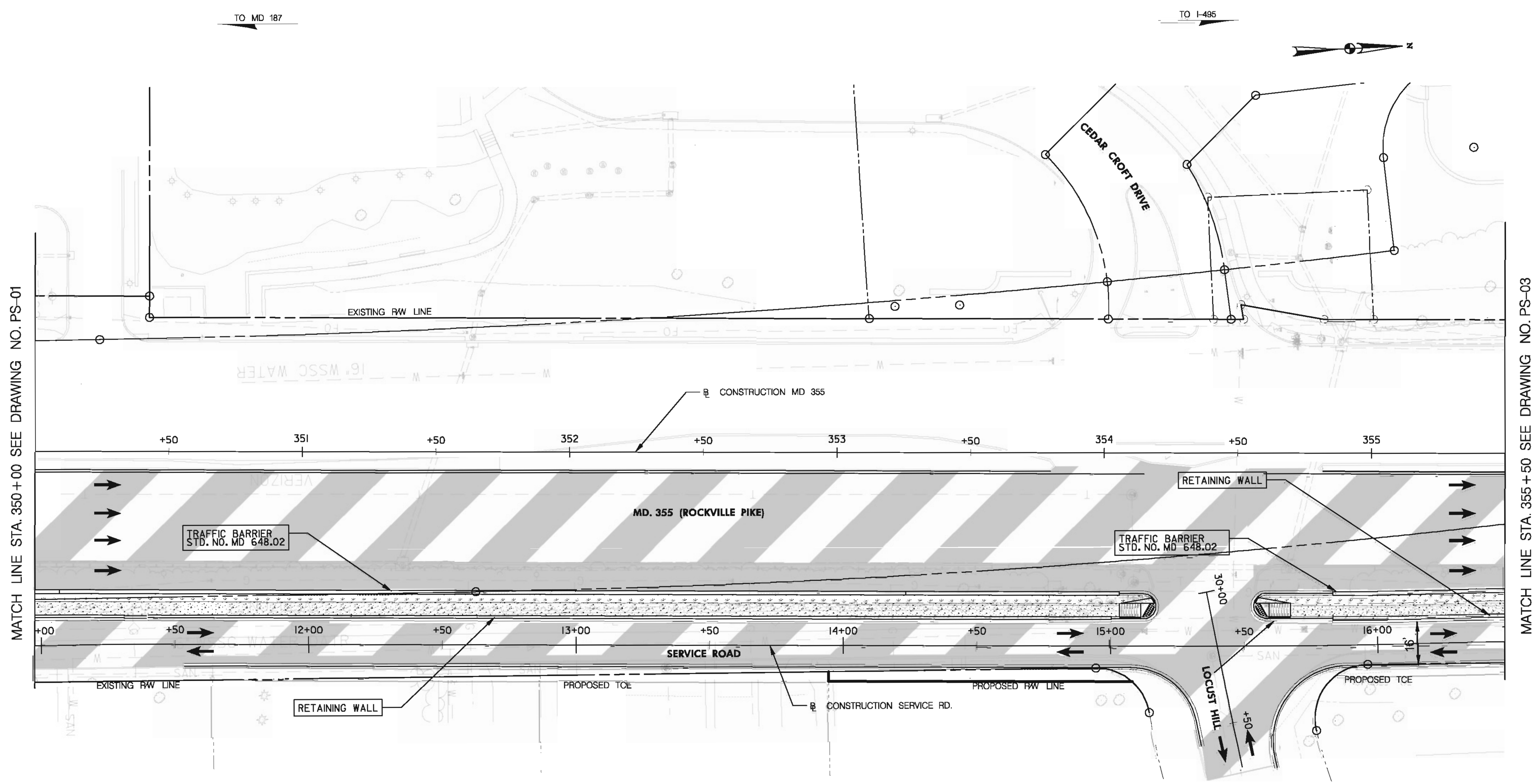
DESIGNED BY RR
DRAWN BY RR
CHECKED BY CHB
F.A.P. NO.
COUNTY MONTGOMERY
LOGMILE
T.I.M.S. NO.
TOD NO.

DRAWING NO. PS- 01 OF 04 SHEET NO. 10 OF 18

PARSONS BRINCKERHOFF
100 S. Charles Street
Tower 1, 10th Floor
Baltimore, MD 21201
(Ph) 410-787-5050 / (Fax) 410-727-4608
http://www.pbworld.com

BY: ROBERTSONR -

PLOTTED: TUESDAY, MARCH 27, 2012 AT 02:51 PM
FILE: T:\173022\35\CADD\CADD\PLANS\PHO-P041_MD355.DGN



PROGRESS SUBMITTAL
3-27-12

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

BRAC INTERSECTION IMPROVEMENTS
MD 355 AT CEDAR LANE PHASE 4

ROADWAY LEGEND

- REMOVE & REPLACE DRIVEWAY ENTRANCE
- CONCRETE SIDEWALK
- GRIND AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- -------- WORK DONE BY OTHERS

20' 0 20' 40'
SCALE: 1" = 20'

ROADWAY PLAN

SCALE 1" = 20' DATE MARCH 27, 2012 CONTRACT NO. MO5935270

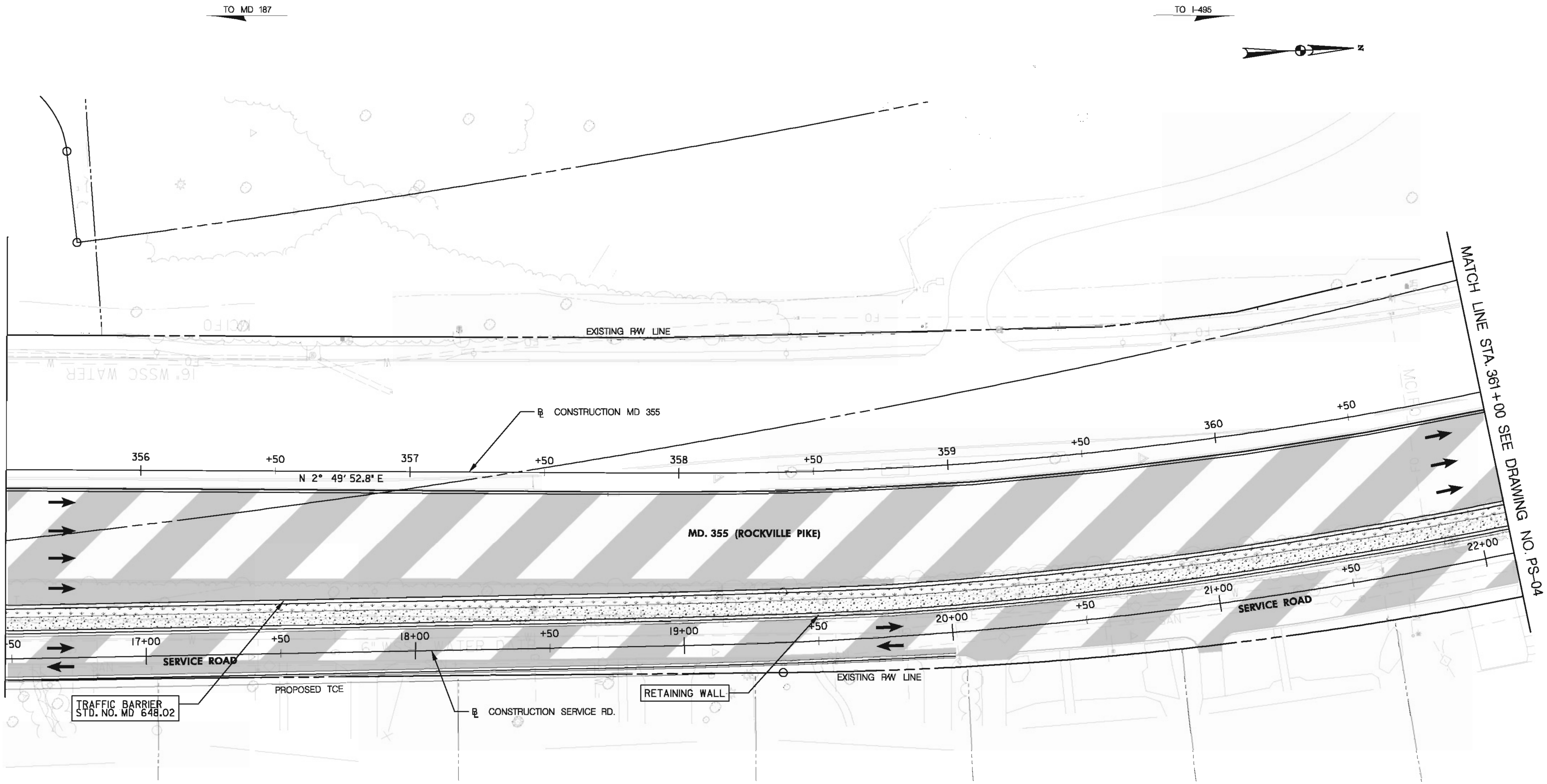
DESIGNED BY RR	COUNTY MONTGOMERY
DRAWN BY RR	LOGMILE
CHECKED BY CHB	T.I.M.S. NO.
F.A.P. NO.	TOD NO.

DRAWING NO. PS- 02 OF 04 SHEET NO. 11 OF 18

PARSONS BRINCKERHOFF
100 S. Charles Street
Tower 1, 10th Floor
Baltimore, MD 21201
(Ph) 410-787-5050 / (Fax) 410-727-4608
http://www.pbworld.com

BY: ROBERTSONR

PLOTTED: TUESDAY, MARCH 27, 2012 AT 02:51 PM
FILE: T:\173022\35\CADD\CADD\PLANS\PHD-P042_MD355.DGN



PROGRESS SUBMITTAL
3-27-12

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

BRAC INTERSECTION IMPROVEMENTS
MD 355 AT CEDAR LANE PHASE 4

ROADWAY PLAN

SCALE 1" = 20' DATE MARCH 27, 2012 CONTRACT NO. MO5935270

DESIGNED BY RR	COUNTY MONTGOMERY
DRAWN BY RR	LOGMILE
CHECKED BY CHB	T.I.M.S. NO.
F.A.P. NO.	TOD NO.

DRAWING NO. PS- 03 OF 04 SHEET NO. 12 OF 18

ROADWAY LEGEND

- REMOVE & REPLACE DRIVEWAY ENTRANCE
- CONCRETE SIDEWALK
- GRIND AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- WORK DONE BY OTHERS

PARSONS BRINCKERHOFF
100 S. Charles Street
Tower 1, 10th Floor
Baltimore, MD 21201
(Ph) 410-787-5050 / (Fax) 410-727-4608
http://www.pbworld.com

BY: ROBERTSONR -

PLOTTED: TUESDAY, MARCH 27, 2012 AT 02:51 PM

TO MD 187

TO I-495

℄ CONSTRUCTION ELSEMERE AVE.

LIMIT OF WORK
MO5935270
NORTHBOUND MD 355 PHASE 4
STA. 366+55

EXISTING R/W LINE

℄ CONSTRUCTION MD 355

+50 362 +50 363 +50 364 +50 365 +50 366 +50

ELSMERE AVE.

+50

+00

MATCH LINE STA. 361+00 SEE DRAWING NO. PS-03

MD. 355 (ROCKVILLE PIKE)

SERVICE ROAD

+50

℄ CONSTRUCTION SERVICE RD.

EXISTING R/W LINE

MD. 355 (ROCKVILLE PIKE)

REMOVE AND RELOCATE EXISTING INLET

+50

+00

BROAD BROOK DRIVE

TRAFFIC BARRIER STD. NO. MD. 648.01

DRIVEWAY ENTRANCE STD. NO. MD 630.02

DRIVEWAY ENTRANCE STD. NO. MD 630.02

PROP. CONCRETE BUS STOP

SIDEWALK RAMP STD. NO. MD 655.12

PROGRESS SUBMITTAL
3-27-12

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

BRAC INTERSECTION IMPROVEMENTS
MD 355 AT CEDAR LANE PHASE 4

ROADWAY LEGEND

- REMOVE & REPLACE DRIVEWAY ENTRANCE
- CONCRETE SIDEWALK
- GRIND AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- WORK DONE BY OTHERS

20' 0 20' 40'
SCALE: 1" = 20'

ROADWAY PLAN

SCALE 1" = 20' DATE MARCH 27, 2012 CONTRACT NO. MO5935270

DESIGNED BY RR
DRAWN BY RR
CHECKED BY CHB
F.A.P. NO.
COUNTY MONTGOMERY
LOGMILE
T.I.M.S. NO.
TDD NO.

DRAWING NO. PS- 04 OF 04
SHEET NO. 13 OF 18

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