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MD 22:
PROSPECT MILL ROAD TO
THOMAS RUN ROAD IMPROVEMENTS

AIR QUALITY ANALYSIS
TECHNICAL REPORT

August 19, 2013

Harford 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 for MD 22 from approximately 2,100 feet west of Prospect Mill Road to approximately 1,900 feet east of Thomas Run Road in Harford County, Maryland. This study is intended as an evaluation of the project level air quality impacts of the proposed improvements. This evaluation is provided to meet the requirements of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

Land use in the vicinity of this portion of MD 22 is primarily residential, small business and commercial. Residential areas are comprised mainly of single-family detached houses. Oak Grove Baptist Church is located east of Prospect Mill Road and at the eastern limit of the study is Harford Community College. The overall study area is approximately 0.91 miles in length (See Figure 1).

The purpose of the project is to improve the operation and safety of MD 22, as well as provide additional local capacity at the Prospect Mill Road and Thomas Run Road intersection areas. This will be accomplished by adding an additional through/right turn lane on eastbound MD 22 from approximately 750 feet west of the Prospect Mill Road intersection to approximately 1,250 feet east of the Thomas Run Road intersection. An additional through/right turn lane will be also added to westbound MD 22 from approximately 1,250 feet east of the Thomas Run Road intersection to approximately 1,500 feet west of the Prospect Mill Road intersection. All widening will be to the outside of MD 22. New curb/gutter will be constructed with a wide outside lane to accommodate bicyclists along MD 22 and a five foot wide sidewalk will be installed along the south side of MD 22 between Prospect Mill Road and Thomas Run Road for pedestrians. Other work activities include grinding, resurfacing, signing, lighting, pavement marking, signal modification and landscaping.

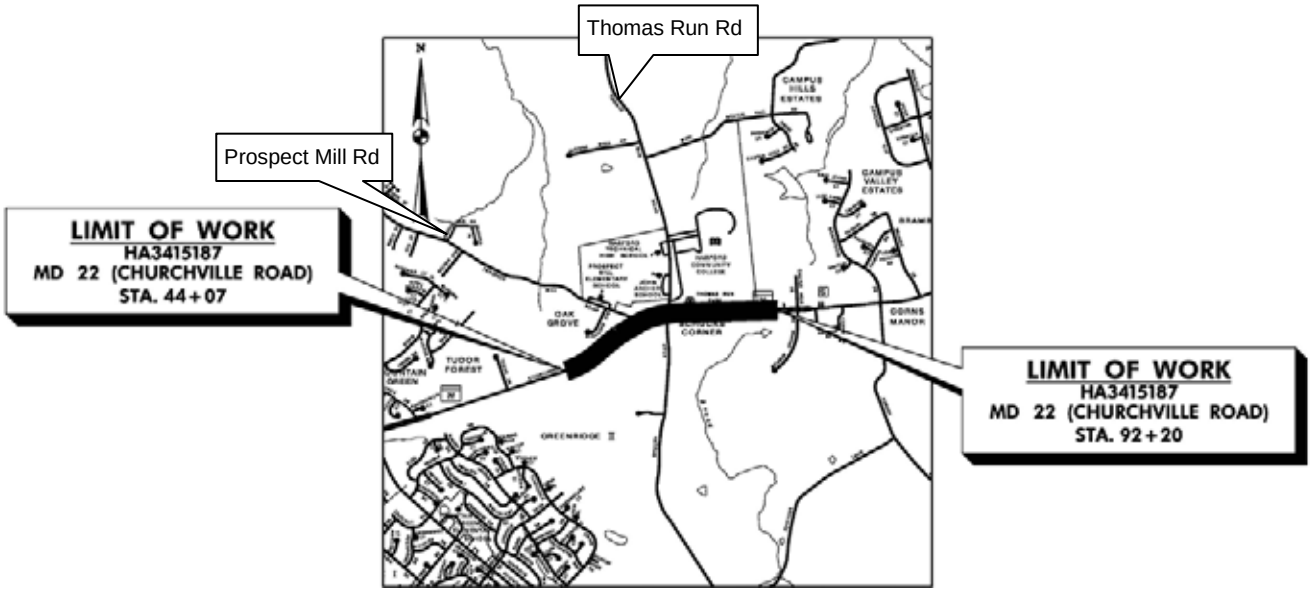


FIGURE 1 – PROJECT LOCATION

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 Source Air Toxics (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.

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	

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.

III. ENVIRONMENTAL ANALYSIS

The MD 22 project is located in Harford County, Maryland, which is included as a part of the Baltimore Metropolitan Statistical Area (MSA). The region has been classified as moderate nonattainment with respect to the eight-hour ozone standard and nonattainment of the 1997 fine particulate ($PM_{2.5}$) standard. A portion of the MSA, the Baltimore Central Business District (CBD), had been non-attainment for carbon monoxide; however, this area has been re-designated as a CO Maintenance Area. This CO Maintenance Area is only the Baltimore CBD and does not extend to Harford County.

Transportation programs and plans must be evaluated for "conformity" to the applicable SIP provisions before projects can receive Federal funding. A Transportation Improvement Program (TIP) generally presents projects anticipated over the next several years while a Long Range Plan (LRP) covers a longer period. A Metropolitan Planning Organization (MPO) is designated to develop the TIP and LRP for a region, and to document their conformity with SIP provisions. For the Baltimore region, the Baltimore Regional Transportation Board (BRTB), which is part of the Baltimore Metropolitan Council (BMC), serves as the MPO. Harford County is a member of the BMC.

As the MPO, BRTB develops the TIP and LRP for the region, including Harford County. Furthermore, it performs the related regional conformity analysis. The current LRP, referred to as the *Long Range Metropolitan Transportation Plan: Plan It 2035,* was adopted by BRTB on November 14, 2011. The latest TIP, covering the period 2012 to 2015, was adopted by BRTB on November 14, 2011. An updated conformity analysis covering both the TIP and LRP was also adopted on November 14, 2011.

At a regional level, a project is considered to be conforming if it is a part of a conforming TIP and LRP. The proposed project is part of the SHA Areawide Safety and Spot Improvements listed in the 2012-2015 TIP with ID# 60-9508-19. These areawide improvements are non-capacity highway improvements which include projects dealing with bypass lanes, acceleration and deceleration lanes, turn lanes, rail crossings, safety improvements, pavement markers, and roundabouts.

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. Although the MD 22: Prospect Mill Road to Thomas Run Road project is not in a CO nonattainment or maintenance area subject to the requirements of 40 CFR 93.116 concerning conformity determination, a qualitative CO assessment has been included. Since Harford County is a nonattainment area for $PM_{2.5}$, a project-specific $PM_{2.5}$ assessment has also been provided.

The closest MDE air monitoring station for the study area is located at 600 Dorsey Road in Essex, Maryland. In addition, monitoring data is available at Delaware DNREC (Delaware Department of Natural Resources and Environmental Control) monitoring stations near Wilmington, Delaware and Newark, Delaware. All sites are in EPA Region 3. Monitored air quality data within or near the study

area for the years 2010-2012 is presented in Table 2. Monitoring information is located in Appendix A.

1. Carbon Monoxide (CO) Assessment

A portion of the Baltimore Metropolitan Statistical Area (MSA) is considered to be a maintenance area in terms of carbon monoxide (CO). This maintenance area only encompasses the Central Business District of Baltimore City, which previously had been in nonattainment. Harford County is not included in the Baltimore maintenance area, and therefore is not a nonattainment or a maintenance area. There has not been a local violation of the CO standard since 1988. Code of Federal Regulations Title 40, Part 93-Subpart A (40CFR93A) implements section 176(c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*). Paragraph 40CFR93.102 (b):*Geographic Applicability* states that the provisions of the subpart apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. Since the study area is not in a CO nonattainment or maintenance area, a hot-spot conformity determination in conformance with 40 CFR 93.116 is not required, and a qualitative assessment considering of local factors is provided hereinafter.

As shown in Table 2, the maximum 2010 1-hour monitored CO concentrations is 3.0 ppm at Site 240053001, located at 600 Dorsey Road in Essex Maryland. This concentration is only 8.6 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 2010 8-hour monitored CO concentration is 2.2 ppm at this same site, which is only 22.2 percent of the 8-hour NAAQS of 9.0 ppm.

A review of data provided, including traffic data summarized in Table 3, demonstrates that the improvements to MD 22: Prospect Mill Road to Thomas Run Road will not result in significant traffic volumes, or changes in vehicle mix or other factors that would cause an increase in emissions relative to the No-build conditions.

In conclusion, improvements to MD 22: Prospect Mill Road to Thomas Run Road will not cause or contribute to a new violation of the CO NAAQS.

TABLE 2
Ambient Air Quality Data 2010-2012

			Site 240053001 600 Dorsey Road, Essex MD			Site 100032004 MLK Blvd, Wilmington DE			100031007 Lums Pond State Park,		
			2010	***2011***	***2012***	***2010***	***2011***	***2012***	***2010***	***2011***	***2012***
Carbon Monoxide (CO) [ppm]	1-Hour	Maximum	3.0	2.3	2.3	1.7	1.7	2.1	-	-	-
		2nd Maximum	2.7	2.3	2.1	1.6	1.7	2.1	-	-	-
		# of Exceedances	0	0	0	0	0	0	-	-	-
	8-Hour	Maximum	2.2	1.7	1.6	1.3	1.5	1.8	-	-	-
		2nd Maximum	1.9	1.6	1.6	1.2	1.1	1.3	-	-	-
		# of Exceedances	0	0	0	0	0	0	-	-	-
Particulate Matter [ug/m^3]	PM2.5	98th Pct. 24-Hour	29	26	25	26	25	21	28	22	21
		# of Exceedances	0	0	0	0	0	0	0	0	0
		Mean Annual	11.6	10.7	10.7	11.3	10.3	10.6	10.0	8.8	8.5
		# of Exceedances	0	0	0	0	0	0	0	0	0

TABLE 3
Traffic Data

	MD 22 2011	No-build MD 22 2031	Build MD 22 2031
ADT volumes	25,000	30,500	30,500
Percent Trucks (ADT)	6%	6%	6%
Daily Truck Volumes (ADTT) Total	1,500	1,830	1,830

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

The project is located in Harford County, which is in the Baltimore, MD Fine Particulate Matter ($PM_{2.5}$) Nonattainment Area. This area was designated as nonattainment for $PM_{2.5}$ 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 Baltimore 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*", (75FR79370), 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 22: Prospect Mill Road to Thomas Run Road project is a *Project of Air Quality Concern* will be finalized by Interagency Consultation. To assist with the Interagency Consultation process, SHA has prepared the following assessment of the proposed improvements:

- The MD 22: Prospect Mill Road to Thomas Run Road 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), which includes "*Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;*

- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(i) or (ii) to be considered a project of "air quality concern" based on the following considerations:
  - The proposed improvement for MD 22 involves adding a through/right turn lane to MD 22 in both the eastbound and westbound directions by widening to the outside from approximately 1,500 feet west of the Prospect Mill Road intersection to approximately 1,250 feet east of the Thomas Run Road intersection.
  - As shown in Table 3, MD 22 does not carry a significant number of trucks; nor will there be a significant increase in trucks. For both the No-build and Build conditions, the MD 22 2031 ADT volume is 30,500 vehicles and the average daily number of trucks is 3,332.

- A review of the traffic data demonstrates that there will not be a "significant" increase in the number of trucks from the No-Build condition to the Build. The projected 2031 ADT represents the unconstrained user demand. This demand will not change under a Build scenario, assuming that the real demand includes traffic that has previously shifted to alternate routes in the network due to congestion and returns with the availability of additional capacity. Depicted truck percentages represent the amount of light, medium and heavy truck activity along a given roadway segment. Unless predicated by significant land use changes (heavy truck generators), existing truck percentages are used as the primary factor in determining future percentages. The Build condition will improve operation of the roadway and intersections, relieving system congestion, but will not necessarily inducing new truck traffic origin-destination patterns.

- 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 Baltimore Regional Transportation Board (BRTB) serves as the Metropolitan Planning Organization (MPO), and therefore it is responsible for the regional conformity determination.

- The currently approved BRTB Long Range Metropolitan Transportation Plan (LRP), referred to as *Plan It 2035*, and the *2012-2015 Transportation Improvement Program* (TIP) have been determined to conform to the requirements of the Clean Air Act Amendments of 1990. These represent the currently conforming LRP and TIP in accordance with 40 CFR 93.114. MD 22: Prospect Mill Road to Thomas Run Road is considered part of the Areawide Safety and Spot Improvements with TIP ID# 60-9508-19 in the 2012-2015 TIP.

- The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. Conformity to the requirements of the Clean Air Act Amendments of 1990 means that the transportation activity will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS.

- Based on review and analysis as discussed above, it is determined that the proposed improvements of MD 22: Prospect Mill Road to Thomas Run Road in Harford 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

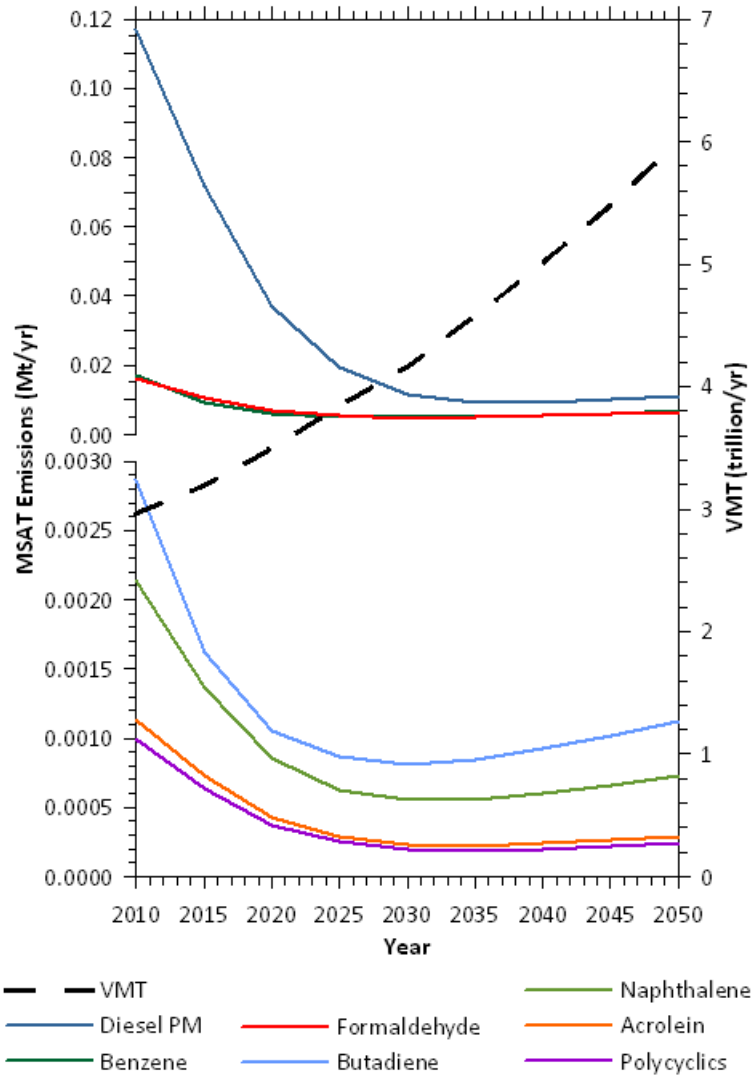
The Federal Highway Administration (FHWA) *Guidance Update on Mobile Source Air Toxic Analysis in NEPA* requires an assessment of Mobile Source Air Toxics (MSAT) under specific conditions. The EPA identified seven compounds with significant contributions from mobile sources that are among the national 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. Since the projected No-Build and Build traffic are substantially the same, as reflected in Table 3, the MD 22: Prospect Mill Road to Thomas Run Road will not have no meaningful impacts on traffic volumes or vehicle mixes. 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 the project is to improve the operation and safety of MD 22, as well as provide additional local capacity at the Prospect Mill Road and Thomas Run Road intersection areas by constructing an additional through/right turn lane on eastbound MD 22 from approximately 750 feet west of the Prospect Mill Road intersection to approximately 1,250 feet east of the Thomas Run Road intersection, and an additional through/right turn lane will be also added to westbound MD 22 from approximately 1,250 feet east of the Thomas Run Road intersection to approximately 1,500 feet west of the Prospect Mill Road intersection. All widening will be to the outside of MD 22. New curb/gutter will be constructed with a wide outside lane to accommodate bicyclists along MD 22 and a five foot wide sidewalk will be installed along the south side of MD 22 between Prospect Mill Road and Thomas Run Road for pedestrians. Other work activities include grinding, resurfacing, signing, lighting, pavement marking, signal modification and landscaping

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 2). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

FIGURE 2:
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.

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 July 22, 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 Baltimore Metropolitan Council (BMC) for a 15-day Interagency Consultation review and comment period. Response emails were received from EPA, MDE, FHWA and BMC. EPA and FHWA agreed that the project did not require a hot-spot analysis, and neither MDE nor BMC had comments on the analysis. FHWA had an editorial comment that has since been revised. 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 public review and comment period. Refer to Appendix B for Interagency Consultation emails.

APPENDIX

A: MONITORED AMBIENT AIR QUALITY DATA 2010-2012

B: INTERAGENCY CONSULTATION EMAILS

C: PROJECT MAPPING

D: TRAFFIC MEMO

APPENDIX A: MONITORED AMBIENT AIR QUALITY DATA 2010-2012

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2010
Exceptional Events: Included (if any)

Duration Description=1 HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8096	3	2.7	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
1 HOUR	4500	0.4	0.4	0	None	1	240230002	Frostburg Reservoir, Finzel	Not in a city	Garrett	MD	03
1 HOUR	8107	1.5	1.3	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
1 HOUR	7781	2.1	1.9	0	None	1	245100040	Oldtown Fire Station, 1100 Hillen Street	Baltimore	Baltimore (City)	MD	03

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

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

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

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2010
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8107	2.2	1.9	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
8-HR RUN AVG END HOUR	4564	0.4	0.4	0	None	1	240230002	Frostburg Reservoir, Finzel	Not in a city	Garrett	MD	03
8-HR RUN AVG END HOUR	8103	1	1	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
8-HR RUN AVG END HOUR	7818	1.5	1.4	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: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2011
Exceptional Events: Included (if any)

Duration Description=1 HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8230	2.3	2.3	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
1 HOUR	8343	0.4	0.4	0	None	1	240230002	Frostburg Reservoir, Finzel	Not in a city	Garrett	MD	03
1 HOUR	8183	1.7	1.3	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
1 HOUR	8533	2.3	2.2	0	None	1	245100040	Oldtown Fire Station, 1100 Hillen Street	Baltimore	Baltimore (City)	MD	03

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Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2011
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8224	1.7	1.6	0	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
8-HR RUN AVG END HOUR	8430	0.4	0.3	0	None	1	240230002	Frostburg Reservoir, Finzel	Not in a city	Garrett	MD	03
8-HR RUN AVG END HOUR	8145	1.1	0.8	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
8-HR RUN AVG END HOUR	8548	1.8	1.5	0	None	1	245100040	Oldtown Fire Station, 1100 Hillen Street	Baltimore	Baltimore (City)	MD	03

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Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2012
Exceptional Events: Included (if any)

Duration Description=1 HOUR

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

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: CO
Year: 2012
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

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

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2010
Exceptional Events: Included (if any)

Duration Description=1 HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	7828	1.4	1.4	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
1 HOUR	8618	1.7	1.6	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
1 HOUR	8655	1.1	0.7	0	None	1	340071001	Ancora State Hospital, 202 Spring Garden Road	Winslow (Township of)	Camden	NJ	02
1 HOUR	8716	2.3	2.1	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
1 HOUR	8237	3.1	3	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2010
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	7866	1.2	1.2	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
8-HR RUN AVG END HOUR	8607	1.3	1.2	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
8-HR RUN AVG END HOUR	8680	0.4	0.4	0	None	1	340071001	Ancora State Hospital, 202 Spring Garden Road	Winslow (Township of)	Camden	NJ	02
8-HR RUN AVG END HOUR	8715	1.8	1.7	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
8-HR RUN AVG END HOUR	8575	2.4	1.8	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03

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Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2011
Exceptional Events: Included (if any)

Duration Description=1 HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8615	1.6	1.1	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
1 HOUR	8422	1.7	1.7	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
1 HOUR	4196	0.7	0.6	0	None	1	340071001	Ancora State Hospital, 202 Spring Garden Road	Winslow (Township of)	Camden	NJ	02
1 HOUR	8684	2.4	2.1	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
1 HOUR	7893	2.6	2.5	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
1 HOUR	7669	2.2	2.1	0	None	1	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2011
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8633	0.8	0.7	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
8-HR RUN AVG END HOUR	8429	1.5	1.1	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
8-HR RUN AVG END HOUR	4216	0.3	0.3	0	None	1	340071001	Ancora State Hospital, 202 Spring Garden Road	Winslow (Township of)	Camden	NJ	02
8-HR RUN AVG END HOUR	8681	1.8	1.8	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
8-HR RUN AVG END HOUR	8137	2.2	1.7	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
8-HR RUN AVG END HOUR	7820	1.2	1.2	0	None	1	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2012
Exceptional Events: Included (if any)

Duration Description=1 HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	7509	1.2	1.2	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
1 HOUR	8220	2.1	2.1	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
1 HOUR	5859	2.2	2.2	0	None	1	340070002	266 Spruce Street	Camden	Camden	NJ	02
1 HOUR	8492	2.1	1.9	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
1 HOUR	8088	2.7	2.3	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
1 HOUR	7803	2.1	2.1	0	None	1	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: CO
Year: 2012
Exceptional Events: Included (if any)

Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	7514	1.1	0.8	0	None	1	100031008	Route 9, Delaware City	Not in a city	New Castle	DE	03
8-HR RUN AVG END HOUR	8253	1.8	1.3	0	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
8-HR RUN AVG END HOUR	5879	1.7	1.4	0	None	1	340070002	266 Spruce Street	Camden	Camden	NJ	02
8-HR RUN AVG END HOUR	8488	1.3	1.2	0	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
8-HR RUN AVG END HOUR	8516	1.9	1.5	0	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
8-HR RUN AVG END HOUR	7921	1.6	1.5	0	None	1	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: PM2.5
Year: 2010
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	352	36.1	34.7	33.4	33.1	28	11	None	1	240031003	Anne Arundel Co. Public Works Bldg. 7409 Baltimore Annapolis Blvd.	Glen Burnie	Anne Arundel	MD	03
24 HOUR	118	32	29.7	21.1	21	21	10.3	None	1	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	30	31.5	20	19.1	17.7	32	11.5	None	2	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	112	37.3	33.6	28.6	25.2	29	11.6	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
24 HOUR	57	20.8	18.4	18.4	17	21	9.2	None	1	240150003	4600 Telegraph Road	Not in a city	Cecil	MD	03
24 HOUR	112	24.4	23.2	21.6	20.7	22	9.5	None	1	240251001	Edgewood Chemical Biological Center (Apg), Waehli Road	Edgewood	Harford	MD	03
24 HOUR	50	18.6	17.7	17.2	16.9	19	9.1	None	1	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Not in a city	Montgomery	MD	03
24 HOUR	115	35.7	32.4	24.9	24.9	25	11.5	None	1	240330025	Bladensburg Volunteer Fire Department, 4213 Edmondson Road	Bladensburg	Prince George's	MD	03
24 HOUR	107	34.4	20.3	19.8	18.6	20	9.4	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	12	17.2	14.4	14	13.8	17	9.8	None	2	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	112	21.4	21.3	20.9	19.9	21	9.5	None	1	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
24 HOUR	27	19.3	18.6	15.1	14.2	19	10.1	None	2	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: PM2.5
Year: 2011
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	112	26.4	24.7	24.4	22.7	24	10.7	None	1	240031003	Anne Arundel Co. Public Works Bldg. 7409 Baltimore Annapolis Blvd.	Glen Burnie	Anne Arundel	MD	03
24 HOUR	110	28.6	27.2	22.8	20.9	23	9.7	None	1	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	28	26.8	21.2	20.2	17.5	27	10	None	2	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	116	26.7	26.6	26.3	26.3	26	10.7	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
24 HOUR	72	25	24.5	20.6	20.5	25	10.3	None	1	240251001	Edgewood Chemical Biological Center (Apg), Waehli Road	Edgewood	Harford	MD	03
24 HOUR	108	27	25.4	22.6	21.6	23	10.1	None	1	240330025	Bladensburg Volunteer Fire Department, 4213 Edmondson Road	Bladensburg	Prince George's	MD	03
24 HOUR	123	24.7	22	21.8	21	22	8.7	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	37	24.3	15.1	12.7	12.7	24	8.2	None	2	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	118	28.8	25.8	21.1	20.4	21	8.9	None	1	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
24 HOUR	28	15	13.9	12.7	11.9	15	7.8	None	2	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
24 HOUR	115	26.4	25.2	23.2	21.7	23	9.9	None	1	245100006	Northeast Police Station, 1900 Argonne Drive	Baltimore	Baltimore (City)	MD	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Maryland
Pollutant: PM2.5
Year: 2012
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	119	30.1	23.4	23	21.7	23	10.2	None	1	240031003	Anne Arundel Co. Public Works Bldg. 7409 Baltimore Annapolis Blvd.	Glen Burnie	Anne Arundel	MD	03
24 HOUR	112	29.5	22.6	21.5	18.3	22	8.9	None	1	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	41	21	18	16.8	13.7	21	9.1	None	2	240051007	Padonia Elementary School, 9834 Greenside Drive	Cockeysville	Baltimore	MD	03
24 HOUR	116	28.2	25.5	24.7	23.6	25	10.7	None	1	240053001	600 Dorsey Avenue	Essex	Baltimore	MD	03
24 HOUR	121	25	22.3	21.7	20.8	22	8.5	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	43	25	22.1	15.4	13.9	25	8.3	None	2	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03
24 HOUR	96	24.7	23.8	15	14.7	24	7.9	None	1	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
24 HOUR	35	14.8	14.7	14.2	12.6	15	7.8	None	2	240338003	Pg County Equestrian Center, 14900 Pennsylvania Ave.	Greater Upper Marlboro	Prince George's	MD	03
24 HOUR	121	23.8	22.5	22.1	21.8	22	9.3	None	1	245100007	Northwest Police Station, 5271 Reistertown Road	Baltimore	Baltimore (City)	MD	03
24 HOUR	111	23.7	22.6	22.5	20	23	9.6	None	1	245100008	Baltimore City Fire Dept.-Truck Company 20; 5714 Eastern Avenue , Baltimore, Maryland 21224	Baltimore	Baltimore (City)	MD	03
24 HOUR	304	26.3	25.5	24.4	23.7	23	10	None	1	245100040	Oldtown Fire Station, 1100 Hillen Street	Baltimore	Baltimore (City)	MD	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2010
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	117	28.9	26.2	24.3	23.6	24	10.2	None	1	100031003	River Road Park, Bellefonte	Not in a city	New Castle	DE	03
24 HOUR	114	28.6	27.9	27.5	19.7	28	10	None	1	100031007	Lums Pond State Park	Not in a city	New Castle	DE	03
24 HOUR	113	28.2	25.2	24.9	22	25	10.4	None	1	100031012	Univ. De North Campus	Newark	New Castle	DE	03
24 HOUR	345	40	32.7	30.4	30.3	28	10.6	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	51	25.9	22.9	20	19.2	26	11.3	None	2	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	57	20.8	18.4	18.4	17	21	9.2	None	1	240150003	4600 Telegraph Road	Not in a city	Cecil	MD	03
24 HOUR	117	29	25.2	23.4	22	23	9.5	None	1	340071007	Morris Delair Water Treatment Plant, Off Griffith-Morgan Lane	Pennsauken (Pensauken)	Camden	NJ	02
24 HOUR	113	24.9	22.9	21.6	20.9	22	9.1	None	1	340150004	Municipal Maintenance Yard, North School Street, North Of Morse Avenue	Greenwich (Township of)	Gloucester	NJ	02
24 HOUR	343	43.8	33.6	33	31.5	29	10.4	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
24 HOUR	51	26.8	25.6	21.2	20.5	26	11	None	2	420450002	Front St & Norris St	Chester	Delaware	PA	03
24 HOUR	326	38.9	30.9	30.5	29.4	26	9.5	None	1	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03
24 HOUR	329	44.2	34.2	33.6	29.7	28	10.7	None	1	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24 HOUR	52	25.2	24.7	21.7	20.8	25	11	None	2	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24 HOUR	352	27.7	26.3	26.1	25.8	25	9.6	None	1	421010024	Grant-Ashton Roads Phila Ne Airport	Philadelphia	Philadelphia	PA	03
24 HOUR	316	42.7	32	31.6	30.3	32	10.9	None	1	421010047	500 South Broad Street-Parking Lot (Chs)	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2010
Exceptional Events: Included (if any)

Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	347	64.8	47.8	36.3	36.2	33	12	None	3	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24-HR BLK AVG	315	34.8	33.4	33	32.7	32	12	None	3	240150003	4600 Telegraph Road	Not in a city	Cecil	MD	03
24-HR BLK AVG	191	50.6	43.3	38.4	35.2	35	12.7	None	3	420170012	Rockview Lane	Bristol	Bucks	PA	03
24-HR BLK AVG	341	39	38.9	38.6	36.7	35	13.8	None	3	420290100	New Garden Airport - Toughkenamon	Not in a city	Chester	PA	03
24-HR BLK AVG	346	42.6	34.5	33.8	33.7	33	13.5	None	3	420450002	Front St & Norris St	Chester	Delaware	PA	03
24-HR BLK AVG	79	41.1	32.6	31.9	31	33	11.8	None	3	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2011
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	109	25.5	23	22.4	20.4	22	9.4	None	1	100031003	River Road Park, Bellefonte	Not in a city	New Castle	DE	03
24 HOUR	109	27	21.5	21	20.9	22	8.8	None	1	100031007	Lums Pond State Park	Not in a city	New Castle	DE	03
24 HOUR	107	26.2	23.9	22.2	22	22	10.4	None	1	100031012	Univ. De North Campus	Newark	New Castle	DE	03
24 HOUR	323	32	31.2	30.3	30.2	25	10.3	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	53	28.6	24.1	24	17.3	24	9.6	None	2	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	120	27	26.3	24.3	24	24	10.1	None	1	340071007	Morris Delair Water Treatment Plant, Off Griffith-Morgan Lane	Pennsauken (Pensauken)	Camden	NJ	02
24 HOUR	117	30.7	23.8	22.2	22	22	9.4	None	1	340150004	Municipal Maintenance Yard, North School Street, North Of Morse Avenue	Greenwich (Township of)	Gloucester	NJ	02
24 HOUR	340	49.6	35	34.2	34	30	11.7	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
24 HOUR	55	27.4	23.5	21.8	17.5	24	9.8	None	2	420450002	Front St & Norris St	Chester	Delaware	PA	03
24 HOUR	339	33.7	33.2	31	28.8	28	10.2	None	1	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03
24 HOUR	57	25.3	23.7	17.7	16.1	24	8.9	None	2	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24 HOUR	308	37	34.5	31.5	31.4	32	11.3	None	1	421010047	500 South Broad Street-Parking Lot (Chs)	Philadelphia	Philadelphia	PA	03
24 HOUR	310	37.2	32.1	32.1	31	28	11.4	None	4	421010047	500 South Broad Street-Parking Lot (Chs)	Philadelphia	Philadelphia	PA	03
24 HOUR	335	36	32.8	32.6	32.4	31	11.4	None	1	421010055	24th & Ritner Streets	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2011
Exceptional Events: Included (if any)

Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	349	41	37.8	34.5	34.4	30	12.1	None	3	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24-HR BLK AVG	336	37.2	32.1	31.4	30.5	29	10.9	None	3	240150003	4600 Telegraph Road	Not in a city	Cecil	MD	03
24-HR BLK AVG	345	55.6	39.3	35.7	34.6	32	11.8	None	3	420170012	Rockview Lane	Bristol	Bucks	PA	03
24-HR BLK AVG	297	47.1	40.3	36.7	35	34	13.3	None	3	420290100	New Garden Airport - Toughkenamon	Not in a city	Chester	PA	03
24-HR BLK AVG	336	39.8	36.5	35.5	34.3	29	13	None	3	420450002	Front St & Norris St	Chester	Delaware	PA	03
24-HR BLK AVG	311	42.4	36.2	35.8	35	30	11.7	None	3	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03
24-HR BLK AVG	346	40.2	39.2	35.9	35.2	30	13.4	None	3	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24-HR BLK AVG	270	30.5	19.3	19.1	16.5	19	8.4	None	3	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2012
Exceptional Events: Included (if any)

Duration Description=24 HOUR

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	116	24.8	21.9	21.5	20.2	22	9.3	None	1	100031003	River Road Park, Bellefonte	Not in a city	New Castle	DE	03
24 HOUR	110	23.8	22.7	21.1	18.2	21	8.5	None	1	100031007	Lums Pond State Park	Not in a city	New Castle	DE	03
24 HOUR	110	23.4	22	21.3	20.7	21	9.4	None	1	100031012	Univ. De North Campus	Newark	New Castle	DE	03
24 HOUR	336	30.6	30.2	28.7	28.2	24	10.3	None	1	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	56	23.3	21.4	21.3	20.4	21	10.6	None	2	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24 HOUR	75	23	21.5	19.7	19.3	22	9.7	None	1	340070002	266 Spruce Street	Camden	Camden	NJ	02
24 HOUR	119	23.2	20.9	19.8	19.4	20	9	None	1	340071007	Morris Delair Water Treatment Plant, Off Griffith-Morgan Lane	Pennsauken (Pensauken)	Camden	NJ	02
24 HOUR	121	25.2	22.3	21.8	20.9	22	9.4	None	1	340150004	Municipal Maintenance Yard, North School Street, North Of Morse Avenue	Greenwich (Township of)	Gloucester	NJ	02
24 HOUR	342	36	35.2	34.9	34.9	29	10.9	None	1	420170012	Rockview Lane	Bristol	Bucks	PA	03
24 HOUR	78	24.8	24.2	23	22.7	24	10.4	None	1	420290100	New Garden Airport - Toughkenamon	Not in a city	Chester	PA	03
24 HOUR	54	23.5	23.3	22.2	19.6	23	10.8	None	2	420450002	Front St & Norris St	Chester	Delaware	PA	03
24 HOUR	337	28	27.5	26.5	25.7	23	9.9	None	1	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03
24 HOUR	47	21.1	19.3	18.9	18.7	21	9.7	None	2	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24 HOUR	337	34.7	27.3	24.2	24.2	24	10.2	None	1	421010047	500 South Broad Street-Parking Lot (Chs)	Philadelphia	Philadelphia	PA	03
24 HOUR	331	33.7	26.9	25	24.6	22	10.1	None	4	421010047	500 South Broad Street-Parking Lot (Chs)	Philadelphia	Philadelphia	PA	03

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Generated: June 19, 2013

Monitor Values Report

Geographic Area: Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Pollutant: PM2.5
Year: 2012
Exceptional Events: Included (if any)

Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	352	31.7	31.2	30	29.3	26	11.3	None	3	100032004	Mlk Blvd And Justison St.	Wilmington	New Castle	DE	03
24-HR BLK AVG	354	26	25.2	23.3	23.2	22	9.3	None	3	240150003	4600 Telegraph Road	Not in a city	Cecil	MD	03
24-HR BLK AVG	342	40.5	36.3	36.2	35.3	27	10.9	None	3	420170012	Rockview Lane	Bristol	Bucks	PA	03
24-HR BLK AVG	317	29.9	27	26.9	24.6	23	9.7	None	3	420290100	New Garden Airport - Toughkenamon	Not in a city	Chester	PA	03
24-HR BLK AVG	288	35.5	33.9	32.2	31.7	31	13.1	None	3	420450002	Front St & Norris St	Chester	Delaware	PA	03
24-HR BLK AVG	332	27.5	25.8	24.8	24.2	23	8	None	3	420910013	State Armory - 1046 Belvoir Rd	Norristown	Montgomery	PA	03
24-HR BLK AVG	359	40.4	36	34	33.5	31	16.5	None	3	421010004	1501 E. Lycoming Ave.	Philadelphia	Philadelphia	PA	03
24-HR BLK AVG	293	31.1	28.7	25.1	24.6	25	11.5	None	3	421011002	5200 Pennypack Park Philadelphia, Pa. 19136	Philadelphia	Philadelphia	PA	03

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

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

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

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

Source: U.S. EPA AirData <http://www.epa.gov/airdata>
Generated: June 19, 2013

APPENDIX B: INTERAGENCY CONSULTATION EMAILS

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Wednesday, July 24, 2013 3:00 PM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

FYI

From: Khadr, Asrah [mailto:Khadr.Asrah@epa.gov]
Sent: Wednesday, July 24, 2013 2:57 PM
To: Christina Brandt
Subject: RE: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

Hi Christina,

I concur with the recommendation provided in the Air Quality Analysis Technical Report that this project does not require a hot-spot analysis.

Thanks,

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

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Monday, July 22, 2013 8:32 AM
To: 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'; McCurdy, Alaina; Rudnick, Barbara; Becoat, gregory; Khadr, Asrah; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'; Regina Aris
Cc: 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'
Subject: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

Good Morning,

Attached is the PM2.5 Conformity Determination for the MD 22 from Prospect Mill Road to Thomas Run Road project located in Harford 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 proposed project is part of the SHA Areawide Safety and Spot Improvements listed in the 2012-2015 TIP with ID# 60-9508-19.

Please review and provide concurrence/comments prior to August 6, 2013.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

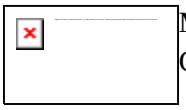
MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

Phone: 410-545-2874

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



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Nicole M. Hebert

From: Jeanette.Mar@dot.gov
Sent: Tuesday, August 06, 2013 6:37 PM
To: CBrandt@sha.state.md.us; bhug@mde.state.md.us; McCurdy.Alaina@epa.gov; Rudnick.Barbara@epamail.epa.gov; becoat.gregory@epa.gov; Khadr.Asrah@epa.gov; mrutkowski@mde.state.md.us; stomlinson@baltometro.org; raris@baltometro.org
Cc: Jen Rohrer; Shawn Burnett; Nicole M. Hebert; joy.liang@dot.gov
Subject: RE: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

Hi Chrissy:

I concur that the MD 22 from Prospect Mill Road to Thomas Run Road project meets the requirements of the CAA and 40 CFR 93 and does not need an additional quantitative hot-spot analysis.

I have one minor editorial comment on page 2, please change "Mobile Air Source Toxins" to "Mobile Source Air Toxics".

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: Monday, July 22, 2013 8:32 AM
To: 'bhug@mde.state.md.us'; Mar, Jeanette (FHWA); 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'; Regina Aris
Cc: 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'
Subject: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

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The proposed project is part of the SHA Areawide Safety and Spot Improvements listed in the 2012-2015 TIP with ID# 60-9508-19.

Please review and provide concurrence/comments prior to August 6, 2013.

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

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

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Nicole M. Hebert

From: Brian Hug -MDE- <brian.hug@maryland.gov>
Sent: Friday, August 16, 2013 9:52 AM
To: Christina Brandt
Subject: Re: FW: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

no comments from us

On Fri, Aug 16, 2013 at 9:20 AM, Christina Brandt <CBrandt@sha.state.md.us> wrote:

Hi Brain,

Just wanted to make sure you didn't have comments before I post for public comment.

Thanks,

Chrissy

From: Christina Brandt
Sent: Monday, July 22, 2013 8:32 AM
To: 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'; 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'; Regina Aris
Cc: 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'
Subject: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

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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

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

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--
Brian J. Hug
Deputy Program Manager
Air Quality Planning Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
410â€ž537â€ž4125

Nicole M. Hebert

From: Howard Simons <hsimons@mdot.state.md.us>
Sent: Tuesday, August 06, 2013 12:00 PM
To: Regina Aris; Brian J. Hug; Emery Hines
Cc: Tony McClune; Sara Tomlinson; Todd Lang
Subject: RE: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

Sorry I am late. Document seems fine and I concur with its content.

From: Regina Aris [mailto:raris@baltometro.org]
Sent: Thursday, July 25, 2013 6:46 AM
To: Brian J. Hug; Howard Simons; Emery Hines
Cc: Tony McClune; Sara Tomlinson; Todd Lang
Subject: Fwd: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation

Good Morning Folks - I meant to share this with the ICG yesterday and did not have it out. Some of you have already received this message directly from SHA, but could the rest of you take a look and let me know if there are any concerns with the conclusion. SHA has asked us to respond by August 6 so please e-mail a response to me and I will coordinate.

If you have an issues or questions please let me know at your earliest convenience.

FYI - Tony, the ICG shares these reports with the jurisdiction where the project is proposed for your awareness.

Thanks all, Regina.

---------- Forwarded message ----------
From: **Christina Brandt** <CBrandt@sha.state.md.us>
Date: Mon, Jul 22, 2013 at 8:31 AM
Subject: MD 22 from Prospect Mill Road to Thomas Run Road - Air Quality Interagency Consultation
To: "bhug@mde.state.md.us" <bhug@mde.state.md.us>, "jeanette.mar@dot.gov" <jeanette.mar@dot.gov>, "McCurdy.Alaina@epa.gov" <McCurdy.Alaina@epa.gov>, "Rudnick.Barbara@epamail.epa.gov" <Rudnick.Barbara@epamail.epa.gov>, "Becoat, gregory" <becoat.gregory@epa.gov>, "Khadr, Asrah" <Khadr.Asrah@epa.gov>, "mrutkowski@mde.state.md.us" <mrutkowski@mde.state.md.us>, Sara Tomlinson <stomlinson@baltometro.org>, Regina Aris <raris@baltometro.org>
Cc: Jen Rohrer <jrohrer@wtbco.com>, Shawn Burnett <sburnett@wtbco.com>, "Nicole M. Hebert" <nhebert@wtbco.com>

Good Morning,

Attached is the PM2.5 Conformity Determination for the MD 22 from Prospect Mill Road to Thomas Run Road project located in Harford 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 proposed project is part of the SHA Areawide Safety and Spot Improvements listed in the 2012-2015 TIP with ID# 60-9508-19.

Please review and provide concurrence/comments prior to August 6, 2013.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

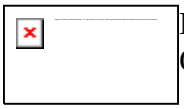
MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

Phone: 410-545-2874

E-mail: cbrandt@sha.state.md.us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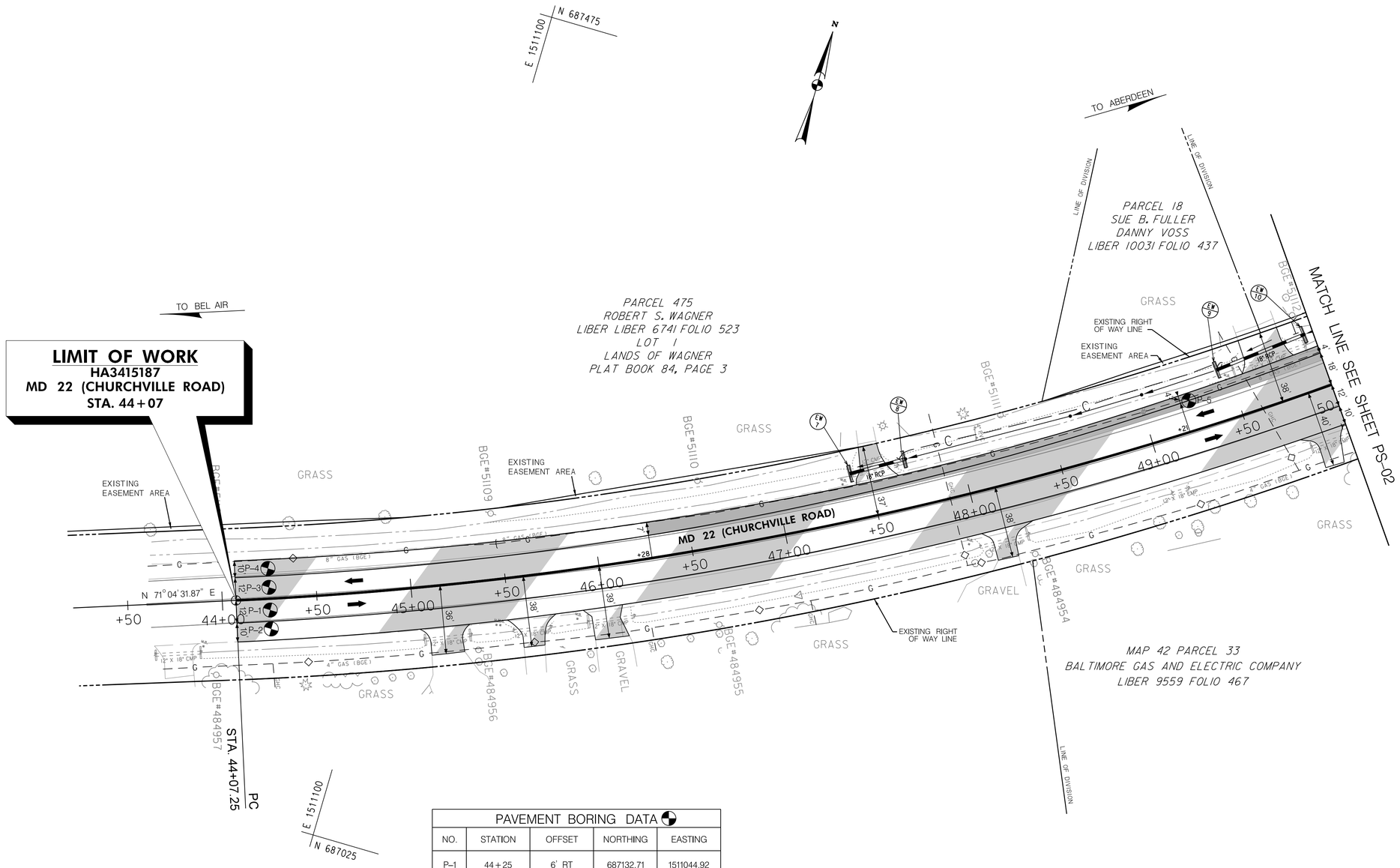
--
Regina Aris
Assistant Director & Policy Manager
Baltimore Metropolitan Council
1500 Whetstone Way, Suite 300
Baltimore, MD 21230-4767
410-732-9572
www.baltometro.org

APPENDIX C: PROJECT MAPPING



PAVEMENT BORING DATA				
NO.	STATION	OFFSET	NORTHING	EASTING
P–1	44+25	6' RT	687132.71	1511044.92
P–2	44+25	16' RT	687123.28	1511048.25
P–3	44+25	6' LT	687144.03	1511040.93
P–4	44+25	16' LT	687153.46	1511037.60
P–5	49+25	16' LT	687374.93	1511479.97

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN		
L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
104	CHURCHVILLE ROAD - 46+28 LT TO 47+33 LT	WESTBOUND
169	CHURCHVILLE ROAD - 47+67 LT TO 49+37 LT	WESTBOUND
11	CHURCHVILLE ROAD - 49+88 LT TO 50+00 LT	WESTBOUND
	TOTAL THIS SHEET	284

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS		
L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
6	CHURCHVILLE ROAD - 47+33 LT	WESTBOUND
6	CHURCHVILLE ROAD - 49+37 LT	WESTBOUND
	TOTAL THIS SHEET	12

BY: CRaabe – Highway Design Division

R/W PLAT NUMBER

CROSS REFERENCE		
ITEM	SHEET NOs.	
TYPICAL SHEETS	04	
SUPERELEVATION SHEETS	05	
GEOMETRIC LAYOUT SHEETS	07	
ROADWAY PLAN SHEETS	11–17	
ROADWAY PROFILE SHEETS	18–21	
PIPE & STORMWATER SHEETS	22–35	
TRAFFIC CONTROL SHEETS	36–50	
EROSION & SEDIMENT CONTROL	51–60	
SIGNING & MARKING PLANS	-	
LANDSCAPE PLAN SHEETS	61–67	
UTILITIES	-	

REVISIONS

PLOTTED: Tuesday, June 04, 2013 at 3:02:47 PM
FILE: pHD–P001_MD22.dgn

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DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

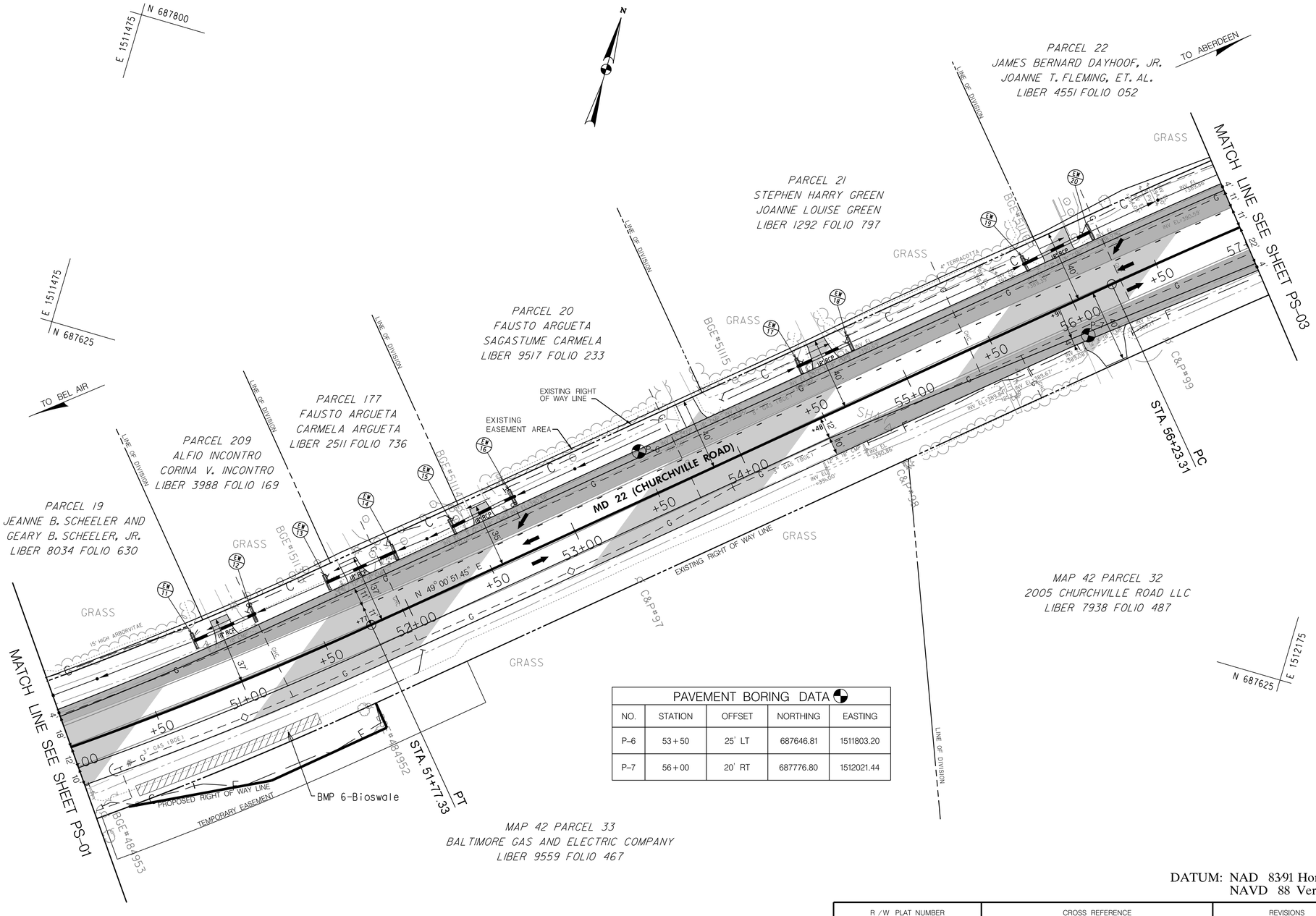
ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

COUNTY HARFORD
LOGMILE 3.04–3.95

DRAWING NO. PS–01 OF 07 SHEET NO. 11 OF 36



PAVEMENT BORING DATA				
NO.	STATION	OFFSET	NORTHING	EASTING
P-6	53+50	25' LT	687646.81	1511803.20
P-7	56+00	20' RT	687776.80	1512021.44

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN		
L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
77	CHURCHVILLE ROAD - 50+00 LT TO 50+77 LT	WESTBOUND
44	CHURCHVILLE ROAD - 51+16 LT TO 51+60 LT	WESTBOUND
46	CHURCHVILLE ROAD - 51+89 LT TO 52+35 LT	WESTBOUND
94	CHURCHVILLE ROAD - 52+18 LT TO 53+12 LT	WESTBOUND
49	CHURCHVILLE ROAD - 53+96 LT TO 54+45 LT	WESTBOUND
140	CHURCHVILLE ROAD - 54+48 RT TO 55+88 RT	EASTBOUND
105	CHURCHVILLE ROAD - 54+74 LT TO 55+79 LT	WESTBOUND
77	CHURCHVILLE ROAD - 56+23 RT TO 57+00 RT	EASTBOUND
77	CHURCHVILLE ROAD - 56+23 LT TO 57+00 LT	WESTBOUND
	TOTAL THIS SHEET	709

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS		
L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
8	CHURCHVILLE ROAD - 50+80 LT	WESTBOUND
5	CHURCHVILLE ROAD - 51+62 LT	WESTBOUND
4	CHURCHVILLE ROAD - 52+37 LT	WESTBOUND
4	CHURCHVILLE ROAD - 53+64 LT	WESTBOUND
4	CHURCHVILLE ROAD - 54+46 LT	WESTBOUND
5	CHURCHVILLE ROAD - 55+80 LT	WESTBOUND
7	CHURCHVILLE ROAD - 50+90 RT	EASTBOUND
	TOTAL THIS SHEET	37

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

BY: CRaabe – Highway Design Division

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

R / W PLAT NUMBER

CROSS REFERENCE

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TYPICAL SHEETS	04
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ROADWAY PLAN SHEETS	11-17
ROADWAY PROFILE SHEETS	18-21
PIPE & STORMWATER SHEETS	22-35
TRAFFIC CONTROL SHEETS	36-50
EROSION & SEDIMENT CONTROL	51-60
SIGNING & MARKING PLANS	-
LANDSCAPE PLAN SHEETS	61-67
UTILITIES	-

REVISIONS

ROADWAY PLAN SHEET

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DRAWN BY C.RAABE
CHECKED BY CDD
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DRAWING NO. PS-02 OF 07 SHEET NO. 12 OF 36

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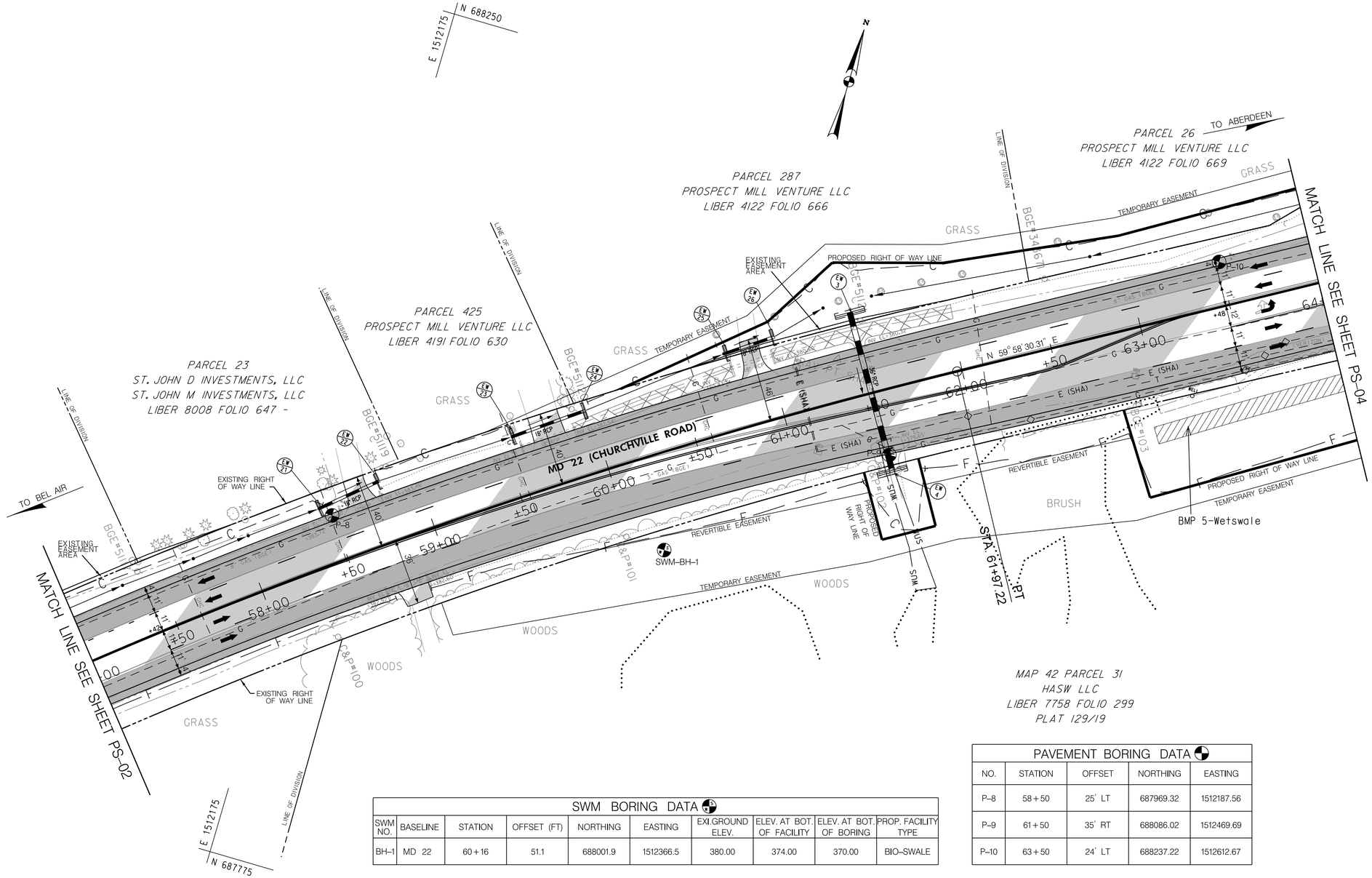
FILE: pHD-P002_MD22.dgn



SWM BORING DATA

SWM NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	EXI.GROUND ELEV.	ELEV. AT BOT. OF FACILITY	ELEV. AT BOT. OF BORING	PROP. FACILITY TYPE
BH-1	MD 22	60+16	51.1	688001.9	1512366.5	380.00	374.00	370.00	BIO-SWALE

PAVEMENT BORING DATA

NO.	STATION	OFFSET	NORTHING	EASTING
P-8	58+50	25' LT	687969.32	1512187.56
P-9	61+50	35' RT	688086.02	1512469.69
P-10	63+50	24' LT	688237.22	1512612.67

DATUM: NAD 83'91 Horizontal
NAVD 88 Vertical

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

BY: CRaabe – Highway Design Division

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
141	CHURCHVILLE ROAD - 57+00 LT TO 58+40 LT	WESTBOUND
164	CHURCHVILLE ROAD - 57+00 RT TO 59+66 RT	EASTBOUND
74	CHURCHVILLE ROAD - 58+78 LT TO 59+51 LT	WESTBOUND
507	CHURCHVILLE ROAD - 58+90 RT TO 64+00 RT	EASTBOUND
85	CHURCHVILLE ROAD - 59+87 LT TO 60+71 LT	WESTBOUND
298	CHURCHVILLE ROAD - 61+03 LT TO 64+00 LT	WESTBOUND
	TOTAL THIS SHEET	**1269**

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
5	CHURCHVILLE ROAD - 58+42 LT	WESTBOUND
4	CHURCHVILLE ROAD - 58+67 RT	EASTBOUND
6	CHURCHVILLE ROAD - 59+53 LT	WESTBOUND
17	CHURCHVILLE ROAD - 60+75 LT	WESTBOUND
16	CHURCHVILLE ROAD - 61+35 LT	WESTBOUND
12	CHURCHVILLE ROAD - 61+35 RT	EASTBOUND
13	CHURCHVILLE ROAD - 63+89 LT	WESTBOUND
16	CHURCHVILLE ROAD - 63+89 RT	EASTBOUND
	TOTAL THIS SHEET	**89**

REMOVAL OF EXISTING PAVEMENT

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
603	CHURCHVILLE ROAD - 59+89 LT TO 60+79 LT	OLD CONCRETE DITCH
714	CHURCHVILLE ROAD - 61+03 LT TO 62+02 LT	OLD CONCRETE DITCH
	TOTAL THIS SHEET	**1317**

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

R / W PLAT NUMBER

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SHEETS	04
SUPERELEVATION SHEETS	05
GEOMETRIC LAYOUT SHEETS	07
ROADWAY PLAN SHEETS	11-17
ROADWAY PROFILE SHEETS	18-21
PIPE & STORMWATER SHEETS	22-35
TRAFFIC CONTROL SHEETS	36-50
EROSION & SEDIMENT CONTROL	51-60
SIGNING & MARKING PLANS	-
LANDSCAPE PLAN SHEETS	61-67
UTILITIES	-

REVISIONS

ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

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LOGMILE 3.04-3.95

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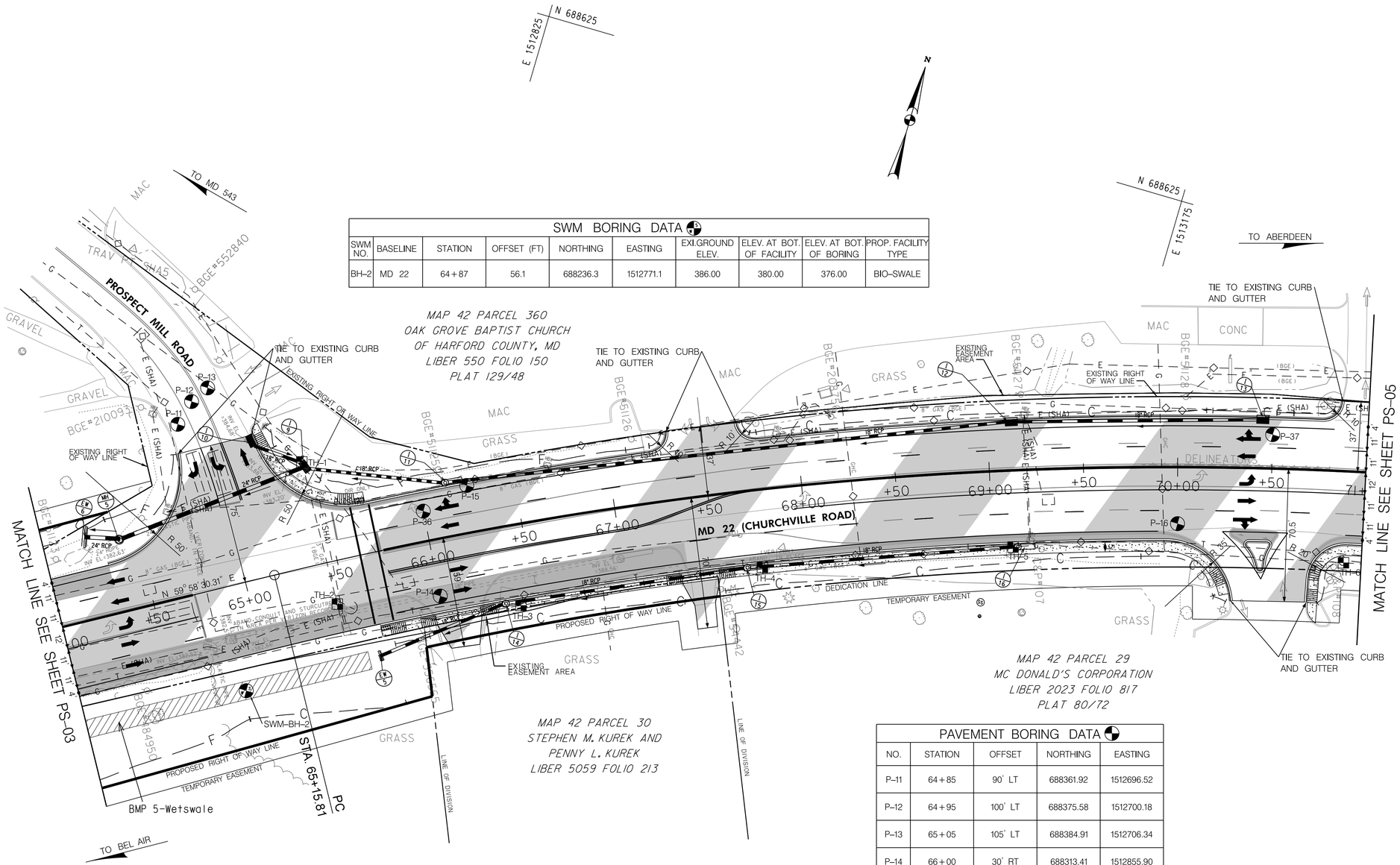


SWM BORING DATA

SWM NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	EXI.GROUND ELEV.	ELEV. AT BOT. OF FACILITY	ELEV. AT BOT. OF BORING	PROP. FACILITY TYPE
BH-2	MD 22	64+87	56.1	688236.3	1512771.1	386.00	380.00	376.00	BIO-SWALE

PAVEMENT BORING DATA

NO.	STATION	OFFSET	NORTHING	EASTING
P-11	64+85	90' LT	688361.92	1512696.52
P-12	64+95	100' LT	688375.58	1512700.18
P-13	65+05	105' LT	688384.91	1512706.34
P-14	66+00	30' RT	688313.41	1512855.90
P-15	66+25	25' LT	688373.74	1512852.91
P-16	72+00	30' RT	688460.02	1513220.90
P-36	66+00	16' LT	688354.17	1512834.58
P-37	70+50	18' LT	688519.55	1513256.18

UTILITY TEST HOLE DATA

TH NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	UTILITY IMPACTED
TH-1	MD 22	65+43	55 LT	688361.1834	1512765.3593	3" BGE GAS
TH-2	MD 22	65+45	23 RT	688293.9688	1512804.6169	3" BGE GAS
TH-3	MD 22	66+42	43 RT	688361.1834	1512765.3593	4" BGE GAS
TH-4	MD 22	67+75	41 RT	688293.9688	1512804.6169	4" BGE GAS
TH-5	MD 22	69+11	41 RT	688361.1834	1512765.3593	4" BGE GAS
TH-6	MD 22	70+90	49 RT	688464.7633	1513311.3107	4" BGE GAS

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
105	CHURCHVILLE ROAD - 64+00 LT TO 64+80 LT	WESTBOUND
228	CHURCHVILLE ROAD - 64+00 RT TO 66+30 RT	EASTBOUND
102	CHURCHVILLE ROAD - 65+24 LT TO 66+04 LT	WESTBOUND
101	CHURCHVILLE ROAD - 66+23 LT TO 67+23 LT	WESTBOUND
115	CHURCHVILLE ROAD - 66+43 RT TO 67+60 RT	EASTBOUND
130	CHURCHVILLE ROAD - 67+76 RT TO 69+08 RT	EASTBOUND
123	CHURCHVILLE ROAD - 69+16 LT TO 70+38 LT	WESTBOUND
117	CHURCHVILLE ROAD - 69+23 RT TO 70+27 RT	EASTBOUND
28	CHURCHVILLE ROAD - 70+48 LT TO 70+76 LT	WESTBOUND
48	CHURCHVILLE ROAD - 70+73 RT TO 71+00 RT	EASTBOUND
	TOTAL THIS SHEET	1097

STANDARD TYPE A - COMBINATION CURB AND GUTTER

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
470	CHURCHVILLE ROAD - 65+65 RT TO 70+29 RT	EASTBOUND
333	CHURCHVILLE ROAD - 67+69 LT TO 80+86 LT	WESTBOUND
47	CHURCHVILLE ROAD - 70+37 RT TO 70+50 RT	EASTBOUND MEDI
51	CHURCHVILLE ROAD - 70+71 RT TO 71+00 RT	EASTBOUND
	TOTAL THIS SHEET	901

STANDARD TYPE D - COMBINATION CURB AND GUTTER

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
76	CHURCHVILLE ROAD - 64+32 LT TO 64+81 LT	WESTBOUND
246	CHURCHVILLE ROAD - 65+21 LT TO 67+32 LT	WESTBOUND
	TOTAL THIS SHEET	322

5 INCH CONCRETE SIDEWALK

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
378	CHURCHVILLE ROAD - 64+32 LT TO 64+81 LT	WESTBOUND
108	CHURCHVILLE ROAD - 70+71 RT TO 71+00 RT	EASTBOUND
461	CHURCHVILLE ROAD - 70+71 RT TO 71+00 RT	EASTBOUND
1363	CHURCHVILLE ROAD - 70+71 RT TO 71+00 RT	EASTBOUND
271	CHURCHVILLE ROAD - 70+71 RT TO 71+00 RT	EASTBOUND
	TOTAL THIS SHEET	2581

DETECTABLE WARNING SURFACE

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
10	CHURCHVILLE ROAD - 65+68 LT	WESTBOUND
10	CHURCHVILLE ROAD - 65+68 RT	EASTBOUND
	TOTAL THIS SHEET	20

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX 6

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
200	CHURCHVILLE ROAD - 65+87 RT TO 66+28 RT	EASTBOUND
180	CHURCHVILLE ROAD - 67+22 RT TO 67+59 RT	EASTBOUND
	TOTAL THIS SHEET	380

SIDEWALK RAMPS (QTY INCLUDED IN 5" CONCRETE SIDEWALK)

	ALIGNMENT-STATION - OFFSET	REMARKS
1	CHURCHVILLE ROAD - 65+25 LT	MD STD. 655.1
1	CHURCHVILLE ROAD - 65+65 LT	MD STD. 655.1
1	CHURCHVILLE ROAD - 65+75 RT	MD STD. 655.1
1	CHURCHVILLE ROAD - 70+25 RT	MD STD. 655.1
1	CHURCHVILLE ROAD - 70+75 RT	MD STD. 655.1
	TOTAL =	5

DRIVEWAY ENTRANCES (QTY INCLUDED IN 8" CONCRETE DRIVEWAY)

	ALIGNMENT-STATION - OFFSET	REMARKS
1	CHURCHVILLE ROAD - 66+08 RT	MD STD. 630.0
1	CHURCHVILLE ROAD - 67+41 RT	MD STD. 630.0
	TOTAL =	2

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

R / W PLAT NUMBER	CROSS REFERENCE		REVISIONS
	ITEM	SHEET NOs.	
	TYPICAL SHEETS	04	
	SUPERELEVATION SHEETS	05	
	GEOMETRIC LAYOUT SHEETS	07	
	ROADWAY PLAN SHEETS	11-17	
	ROADWAY PROFILE SHEETS	18-21	
	PIPE & STORMWATER SHEETS	22-35	
	TRAFFIC CONTROL SHEETS	36-50	
	EROSION & SEDIMENT CONTROL	51-60	
	SIGNING & MARKING PLANS	-	
	LANDSCAPE PLAN SHEETS	61-67	
	UTILITIES	-	

ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

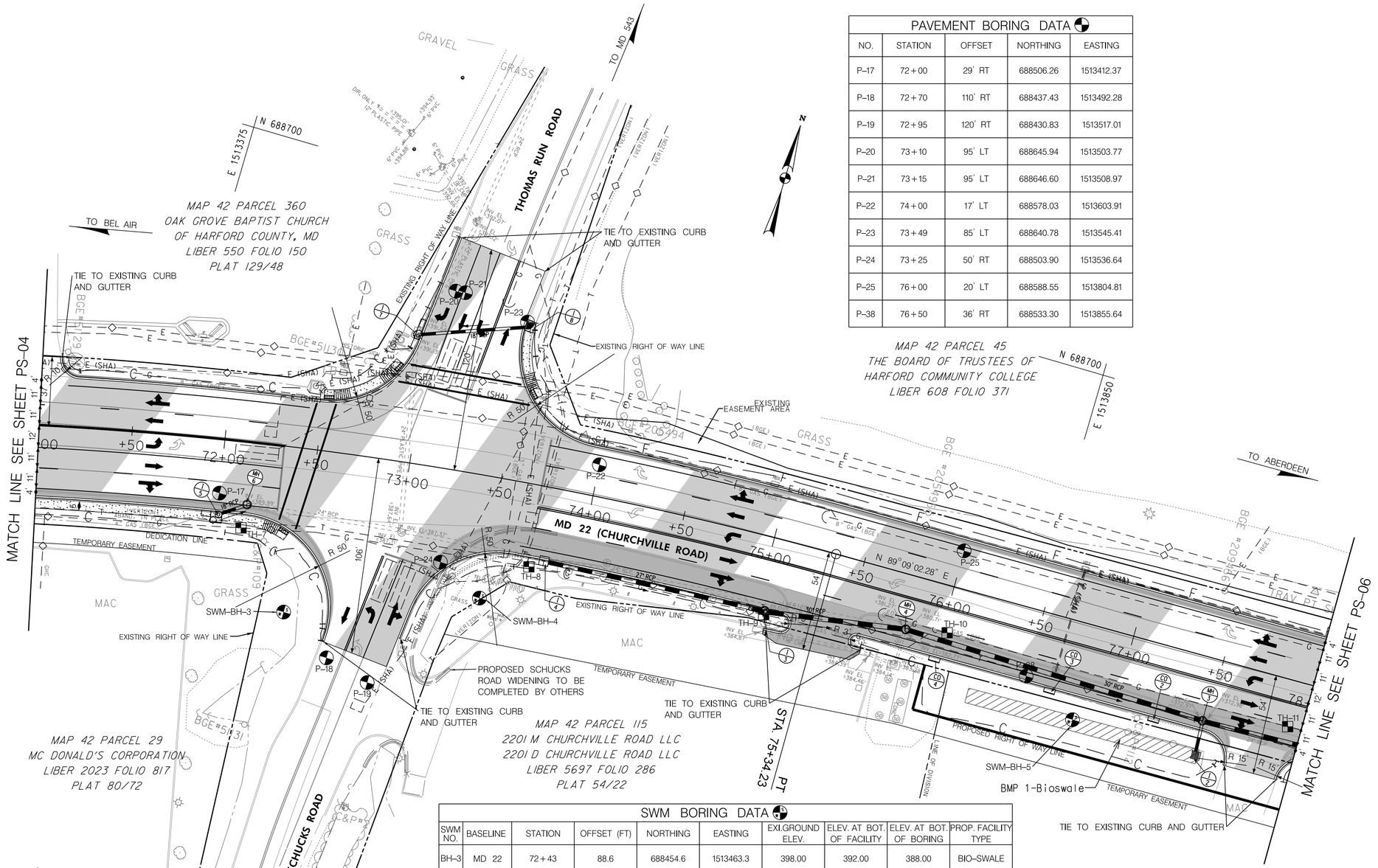
DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

COUNTY HARFORD
LOGMILE 3.04-3.95

DRAWING NO. PS-04 OF 07 | SHEET NO. 14 OF 36

PLOTTED: Tuesday, June 04, 2013 at 3:03:12 PM
FILE: pHD-P004_MD22.dgn

BY: CRaabe - Highway Design Division



PAVEMENT BORING DATA

NO.	STATION	OFFSET	NORTHING	EASTING
P–17	72+00	29' RT	688506.26	1513412.37
P–18	72+70	110' RT	688437.43	1513492.28
P–19	72+95	120' RT	688430.83	1513517.01
P–20	73+10	95' LT	688645.94	1513503.77
P–21	73+15	95' LT	688646.60	1513508.97
P–22	74+00	17' LT	688578.03	1513603.91
P–23	73+49	85' LT	688640.78	1513545.41
P–24	73+25	50' RT	688503.90	1513536.64
P–25	76+00	20' LT	688588.55	1513804.81
P–38	76+50	36' RT	688533.30	1513855.64

SWM BORING DATA

SWM NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	EXI.GROUND ELEV.	ELEV. AT BOT. OF FACILITY	ELEV. AT BOT. OF BORING	PROP. FACILITY TYPE
BH–3	MD 22	72+43	88.6	688454.6	1513463.3	398.00	392.00	388.00	BIO–SWALE
BH–4	MD 22	73+50	65.5	688491.3	1513562.1	395.50	389.5	385.50	BIO–SWALE
BH–5	MD 22	76+80	51.9	688517.8	1513886.1	381.50	375.5	371.50	BIO–SWALE

UTILITY TEST HOLE DATA

TH NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	UTILITY IMPACTED
TH–7	MD 22	72+14	46 RT	688491.5684	1513428.7231	4" BGE GAS
TH–8	MD 22	73+73	44 RT	688514.7942	1513582.9221	4" BGE GAS
TH–9	MD 22	75+05	41 RT	688525.5060	1513711.1131	4" BGE GAS
TH–10	MD 22	76+03	25 RT	688543.7427	1513808.4033	4" BGE GAS
TH–11	MD 22	77+93	25 RT	688546.5974	1513998.0216	4" BGE GAS

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
89	CHURCHVILLE ROAD - 71+00 RT TO 71+91 RT	EASTBOUND
196	CHURCHVILLE ROAD - 71+19 LT TO 72+94 LT	WESTBOUND
48	CHURCHVILLE ROAD - 72+96 LT TO 73+96 LT	WESTBOUND
57	CHURCHVILLE ROAD - 73+22 RT TO 73+72 RT	EASTBOUND
482	CHURCHVILLE ROAD - 73+50 LT TO 78+00 LT	WESTBOUND
105	CHURCHVILLE ROAD - 73+89 RT TO 74+98 RT	EASTBOUND
40	CHURCHVILLE ROAD - 75+57 RT TO 75+97 RT	EASTBOUND
56	CHURCHVILLE ROAD - 76+05 RT TO 76+61 RT	EASTBOUND
51	CHURCHVILLE ROAD - 76+68 RT TO 77+19 RT	EASTBOUND
22	CHURCHVILLE ROAD - 77+28 RT TO 77+50 RT	EASTBOUND
11	CHURCHVILLE ROAD - 77+96 RT TO 78+00 RT	EASTBOUND
	TOTAL THIS SHEET	**1157**

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
14	CHURCHVILLE ROAD - 77+53 RT	EASTBOUND
	TOTAL THIS SHEET	**14**

STANDARD TYPE A - COMBINATION CURB AND GUTTER

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
205	CHURCHVILLE ROAD - 71+00 RT TO 72+66 RT	EASTBOUND
272	CHURCHVILLE ROAD - 71+10 LT TO 73+08 LT	WESTBOUND
255	CHURCHVILLE ROAD - 73+09 RT TO 75+07 RT	EASTBOUND
493	CHURCHVILLE ROAD - 73+49 LT TO 78+00 LT	WESTBOUND
230	CHURCHVILLE ROAD - 75+60 RT TO 77+65 RT	EASTBOUND
14	CHURCHVILLE ROAD - 77+94 RT TO 78+00 RT	EASTBOUND
	TOTAL THIS SHEET	**1469**

5 INCH CONCRETE SIDEWALK

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
685	CHURCHVILLE ROAD - 71+00 RT TO 72+40 RT	EASTBOUND
231	CHURCHVILLE ROAD - 72+50 LT TO 72+89 LT	WESTBOUND
208	CHURCHVILLE ROAD - 73+50 LT TO 73+64 LT	WESTBOUND
	TOTAL THIS SHEET	**1124**

DETECTABLE WARNING SURFACE

S.F.	ALIGNMENT-STATION - OFFSET	REMARKS
10	CHURCHVILLE ROAD - 72+37 RT	EASTBOUND
10	CHURCHVILLE ROAD - 72+53 LT	WESTBOUND
10	CHURCHVILLE ROAD - 72+87 LT	WESTBOUND
10	CHURCHVILLE ROAD - 73+58 LT	WESTBOUND
	TOTAL THIS SHEET	**40**

SIDEWALK RAMPS (QTY INCLUDED IN 5" CONCRETE SIDEWALK)

	ALIGNMENT-STATION - OFFSET	REMARKS
1	CHURCHVILLE ROAD - 72+32 RT	EASTBOUND
1	CHURCHVILLE ROAD - 72+58 LT	WESTBOUND
1	CHURCHVILLE ROAD - 72+83 LT	WESTBOUND
1	CHURCHVILLE ROAD - 73+56 LT	WESTBOUND
	TOTAL =	**4**

R / W PLAT NUMBER	CROSS REFERENCE		REVISIONS
	ITEM	SHEET NOs.	
	TYPICAL SHEETS	04	
	SUPERELEVATION SHEETS	05	
	GEOMETRIC LAYOUT SHEETS	07	
	ROADWAY PLAN SHEETS	11–17	
	ROADWAY PROFILE SHEETS	18–21	
	PIPE & STORMWATER SHEETS	22–35	
	TRAFFIC CONTROL SHEETS	36–50	
	EROSION & SEDIMENT CONTROL	51–60	
	SIGNING & MARKING PLANS	-	
	LANDSCAPE PLAN SHEETS	61–67	
	UTILITIES	-	

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

COUNTY HARFORD
LOGMILE 3.04–3.95

DRAWING NO. PS–05 OF 07
SHEET NO. 15 OF 36

PLOTTED: Tuesday, June 04, 2013 at 3:03:20 PM
FILE: pHD–P005_MD22.dgn

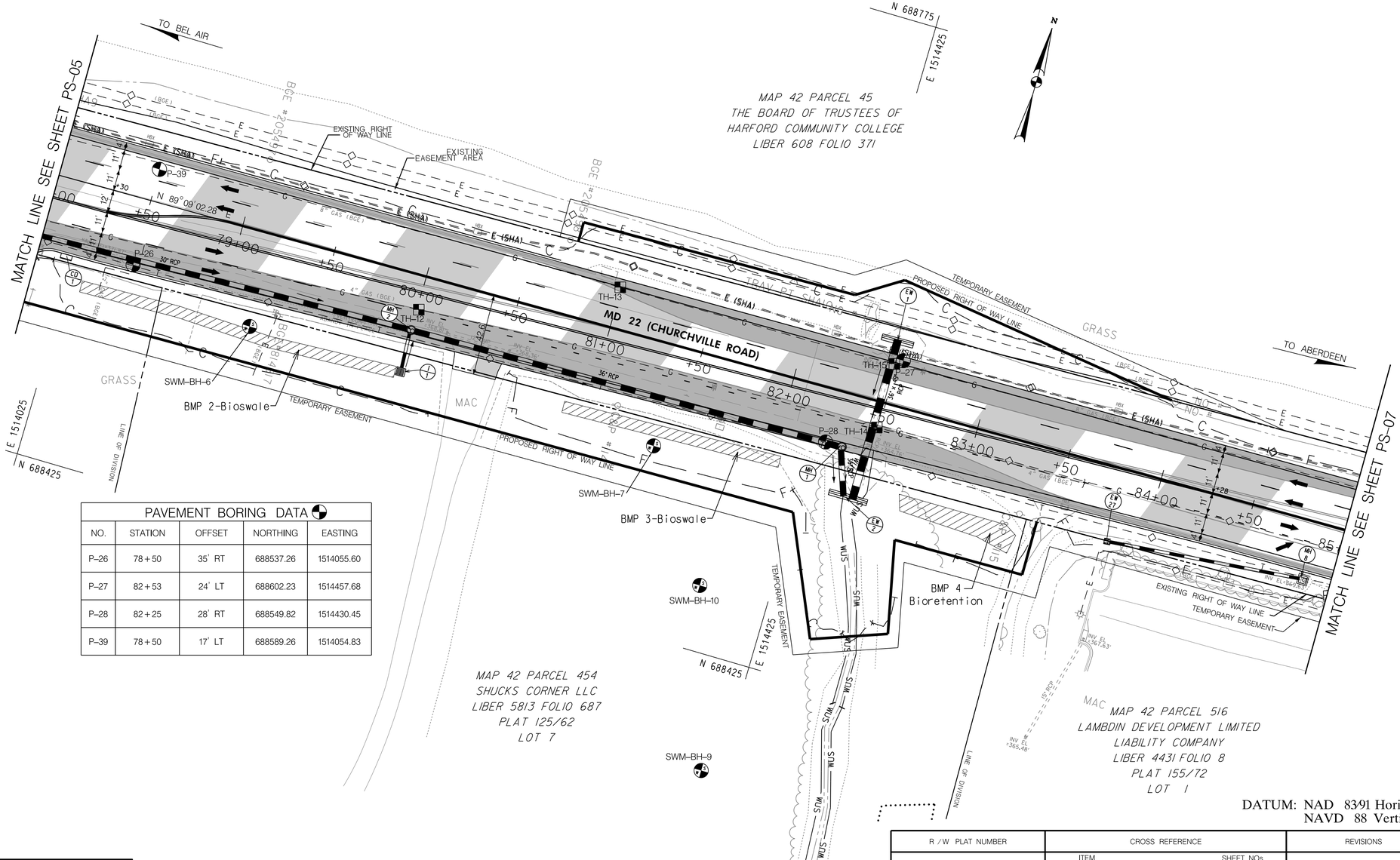
BY: CRaabe – Highway Design Division

SWM BORING DATA

SWM NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	EXI.GROUND ELEV.	ELEV. AT BOT. OF FACILITY	ELEV. AT BOT. OF BORING	PROP. FACILITY TYPE
BH–6	MD 22	79+18	50.0	688523.3	1514123.3	373.50	367.50	363.50	BIO–SWALE
BH–7	MD 22	81+39	54.0	688522.6	1514344.4	367.00	361.00	357.00	BIO–SWALE
BH–9	MD 22	82+08	211.6	688366.0	1514416.1	364.00	360.00	360.00	POND
BH–10	MD 22	81+81	118.1	688459.1	1514388.2	365.50	361.50	361.50	POND

UTILITY TEST HOLE DATA

TH NO.	BASELINE	STATION	OFFSET (FT)	NORTHING	EASTING	UTILITY IMPACTED
TH–12	MD 22	80+01	18 RT	688556.6856	1514206.0866	4" BGE GAS
TH–13	MD 22	81+00	22 LT	688597.5885	1514304.3122	8" BGE GAS
TH–14	MD 22	82+49	13 RT	688564.6984	1514454.1159	4" BGE GAS
TH–15	MD 22	82+49	21 LT	688599.3091	1514453.6543	8" BGE GAS



PAVEMENT BORING DATA

NO.	STATION	OFFSET	NORTHING	EASTING
P–26	78+50	35' RT	688537.26	1514055.60
P–27	82+53	24' LT	688602.23	1514457.68
P–28	82+25	28' RT	688549.82	1514430.45
P–39	78+50	17' LT	688589.26	1514054.83

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

BY: CRaabe – Highway Design Division

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
700	CHURCHVILLE ROAD - 78+00 LT TO 85+00 LT	WESTBOUND
13	CHURCHVILLE ROAD - 78+00 RT TO 78+12 RT	EASTBOUND
179	CHURCHVILLE ROAD - 78+20 RT TO 79+99 RT	EASTBOUND
444	CHURCHVILLE ROAD - 80+56 RT TO 85+00 RT	EASTBOUND
	TOTAL THIS SHEET	**1336**

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
20	CHURCHVILLE ROAD - 80+05 RT	EASTBOUND
6	CHURCHVILLE ROAD - 80+89 LT	WESTBOUND
21	CHURCHVILLE ROAD - 82+18 RT	EASTBOUND
13	CHURCHVILLE ROAD - 82+60 LT	WESTBOUND
18	CHURCHVILLE ROAD - 83+18 RT	EASTBOUND
	TOTAL THIS SHEET	**78**

STANDARD TYPE A - COMBINATION CURB AND GUTTER

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
80	CHURCHVILLE ROAD - 78+00 RT TO 78+79 RT	EASTBOUND
266	CHURCHVILLE ROAD - 78+00 LT TO 80+66 LT	WESTBOUND
165	CHURCHVILLE ROAD - 83+35 RT TO 85+00 RT	EASTBOUND
	TOTAL THIS SHEET	**511**

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

R /W PLAT NUMBER	CROSS REFERENCE		REVISIONS
	ITEM	SHEET NOs.	
	TYPICAL SHEETS	04	
	SUPERELEVATION SHEETS	05	
	GEOMETRIC LAYOUT SHEETS	07	
	ROADWAY PLAN SHEETS	11–17	
	ROADWAY PROFILE SHEETS	18–21	
	PIPE & STORMWATER SHEETS	22–35	
	TRAFFIC CONTROL SHEETS	36–50	
	EROSION & SEDIMENT CONTROL	51–60	
	SIGNING & MARKING PLANS	-	
	LANDSCAPE PLAN SHEETS	61–67	
	UTILITIES	-	

ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

COUNTY HARFORD
LOGMILE 3.04–3.95

DRAWING NO. PS–06 OF 07 | SHEET NO. 16 OF 36

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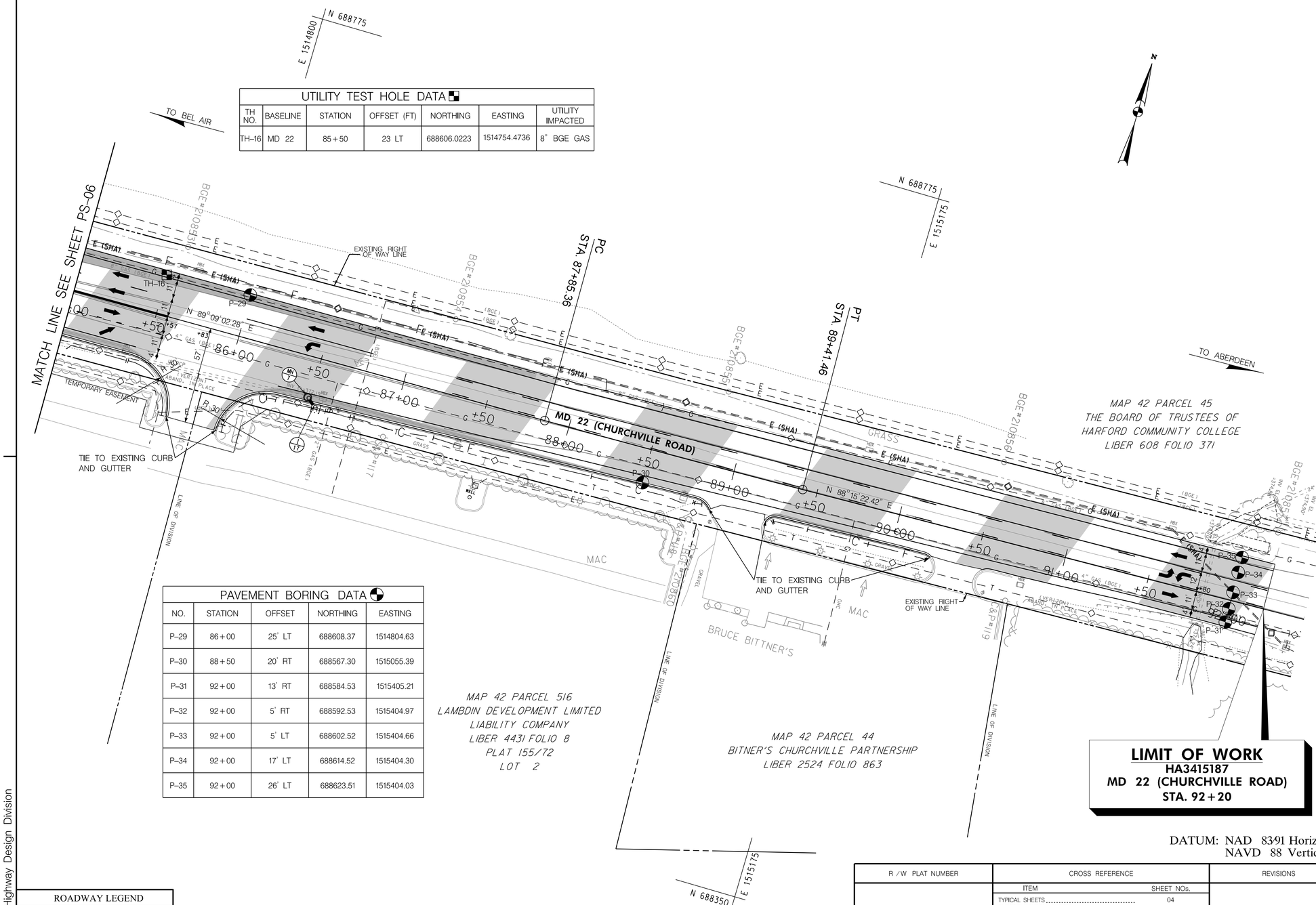

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDER DRAIN

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
274	CHURCHVILLE ROAD - 85+00 LT TO 87+74 LT	WESTBOUND
86	CHURCHVILLE ROAD - 85+00 RT TO 85+70 RT	EASTBOUND
220	CHURCHVILLE ROAD - 86+63 RT TO 88+82 RT	EASTBOUND
	TOTAL THIS SHEET	580

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
3	CHURCHVILLE ROAD - 85+14 LT	WESTBOUND
	TOTAL THIS SHEET	3

STANDARD TYPE A - COMBINATION CURB AND GUTTER

L.F.	ALIGNMENT-STATION - OFFSET	REMARKS
88	CHURCHVILLE ROAD - 85+00 RT TO 85+57 RT	EASTBOUND
309	CHURCHVILLE ROAD - 86+01 RT TO 88+92 RT	EASTBOUND
100	CHURCHVILLE ROAD - 89+25 RT TO 90+23 RT	EASTBOUND
	TOTAL THIS SHEET	497

ROADWAY LEGEND

- FULL DEPTH CONSTRUCTION
- ROADWAY RESURFACING
- CONCRETE SIDEWALK CONSTRUCTION

R / W PLAT NUMBER

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SHEETS	04
SUPERELEVATION SHEETS	05
GEOMETRIC LAYOUT SHEETS	07
ROADWAY PLAN SHEETS	11–17
ROADWAY PROFILE SHEETS	18–21
PIPE & STORMWATER SHEETS	22–35
TRAFFIC CONTROL SHEETS	36–50
EROSION & SEDIMENT CONTROL	51–60
SIGNING & MARKING PLANS	-
LANDSCAPE PLAN SHEETS	61–67
UTILITIES	-

REVISIONS

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

MD 22 (CHURCHVILLE ROAD)
FROM PROSPECT MILL ROAD TO THOMAS RUN ROAD

ROADWAY PLAN SHEET

SCALE 1" = 30' ADVERTISED DATE _____ CONTRACT NO. HA3415187

DESIGNED BY C.RAABE
DRAWN BY C.RAABE
CHECKED BY CDD
F.A.P. NO. SEE TITLE SHEET

COUNTY HARFORD
LOGMILE 3.04–3.95

DRAWING NO. PS-07 OF 07 SHEET NO. 17 OF 36

PLOTTED: Tuesday, June 04, 2013 at 3:03:35 PM
FILE: pHD-P007_MD22.dgn

BY: CRaabe – Highway Design Division

APPENDIX D: TRAFFIC MEMO

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

SHA
State Highway Administration
Maryland Department of Transportation

Beverley K. Swaim-Staley, *Secretary*
Darrell B. Mobley, *Acting Administrator*

MEMORANDUM

TO: Mr. Dennis German, Chief
Office of Highway Development
Community Design Division

ATTN: Mr. Brett Deane

FROM: Morteza Tadayon, Chief
Travel Forecasting & Analysis Division
Office of Planning and Preliminary Engineering

DATE: August 9, 2011

SUBJECT: Charge No.: HA341A21
Title Sheet/Loadometer Data
MD 22 – West of Prospect Road to East of Thomas Run Road
Harford County

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

MD 22 from Prospect Road to Thomas Run Rd	**2011**	**2031**
Average Daily Traffic (ADT)	25,000	30,500
Design Hour Volume (DHV)	8%	8%
Directional Distribution of DHV	51%	51%
Percent Trucks – ADT	6%	6%
Percent Trucks – DHV	5%	5%

Loadometer Data:

	ADT	**2A**	**3D**	**2S1**	**2S2**	**3S2**	**3S3**	**Total**
2011	25,000	1235	114	15	61	58	17	1,500
2031	30,500	1507	139	18	74	71	21	1,830

We suggest using Weigh-in-Motion Station 1607-87 for this location. An electronic copy of the loadometer output sheets will be forwarded with this memorandum to the Pavement and Geotechnical Division.

If you have any questions or concerns, please contact the writer at 410-545-5642 or Lisa Shemer, Assistant Division Chief, Travel Forecasting & Analysis Division at 410-545-5640.

By: FOR:
Tanya M. King, P.E.
Travel Forecasting & Analysis Division

cc: Mr. Paulo DeSousa
Ms. Erin Kuhn
Mr. Nathan Moore