



WATERSHED RESOURCES REGISTRY



Introductory Workshop, October 16th and 17th 2014

Screening for Stormwater Management Opportunities Using WRR





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Introductory Workshop, October 16th and 17th 2014



Dana Havlik, PE
MD SHA – OHD Highway Hydraulics Division
Baltimore, MD

Stormwater Management



Stormwater Sites Searches

- Meet highway project requirements for SWM
- Locate areas in need for water quality/quantity improvements
- Keep positive balance in SHA Water Quality Bank
- Identify potential restoration sites to meet TMDL reduction goals through SWM retrofit projects
- Implement watershed-based approach to SWM



WRR Stormwater Suitability Analyses

- Evaluation of land for preserving natural storm water hydrology and avoiding impacting healthy systems
- Evaluation for potential restoration of degraded systems through overlay analysis method and scoring system.



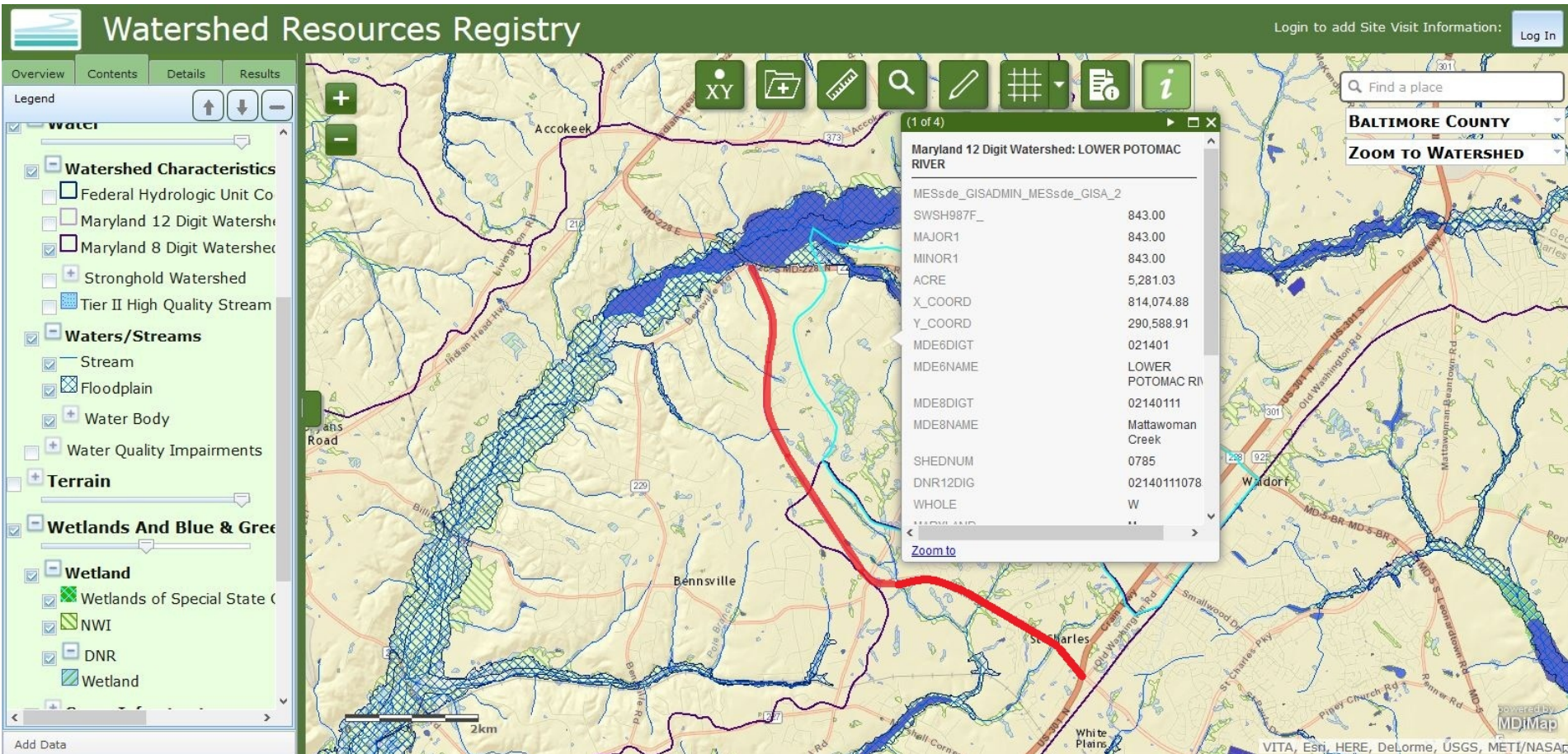
Watershed Characteristics

Identify areas to be preserved

- water resources that will be avoided

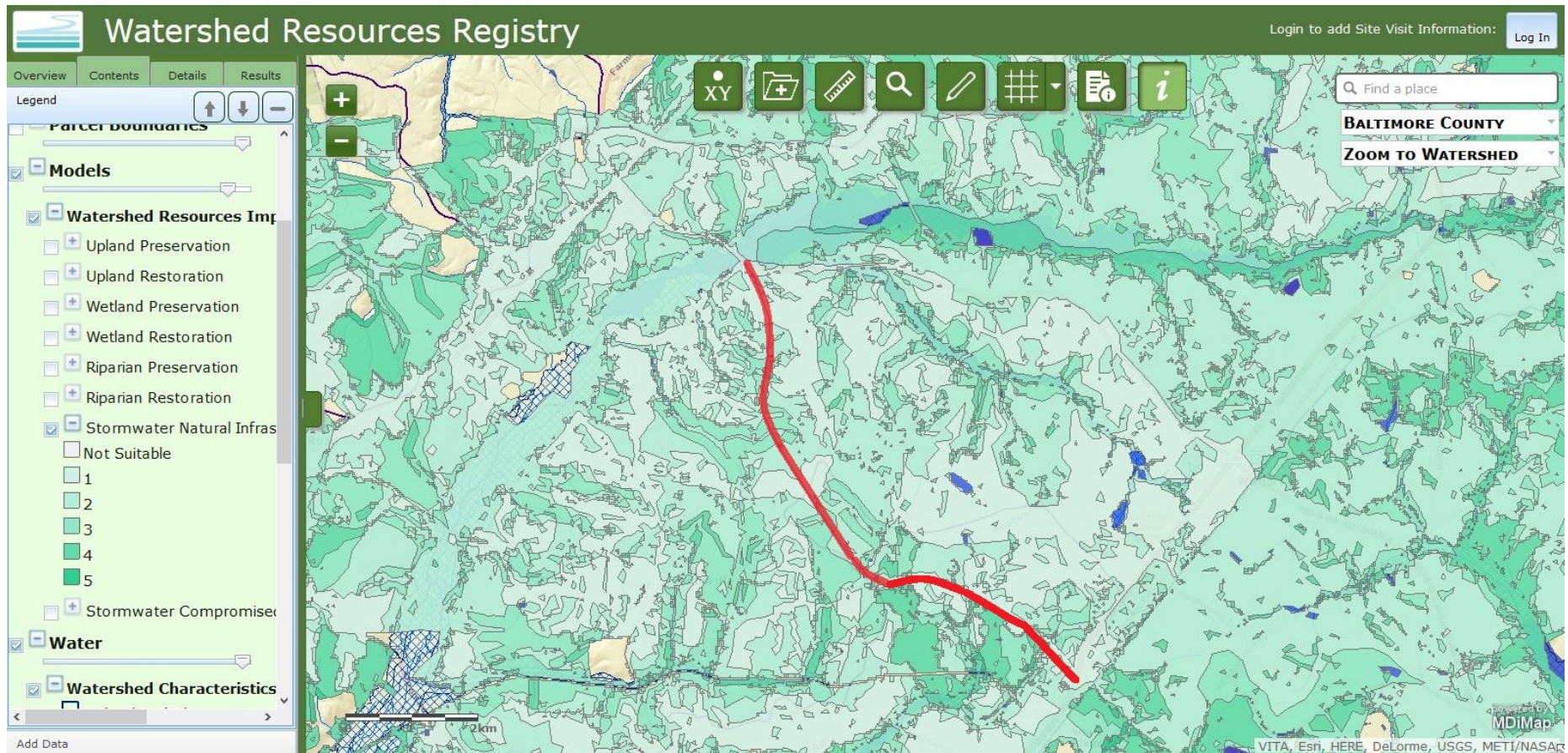
Lower Potomac Watershed (17.4 acres credit)

- Mattawoman Creek
- Port Tobacco River Watershed



Watershed Characteristics

Identify areas to be preserved –
SWM natural infrastructure

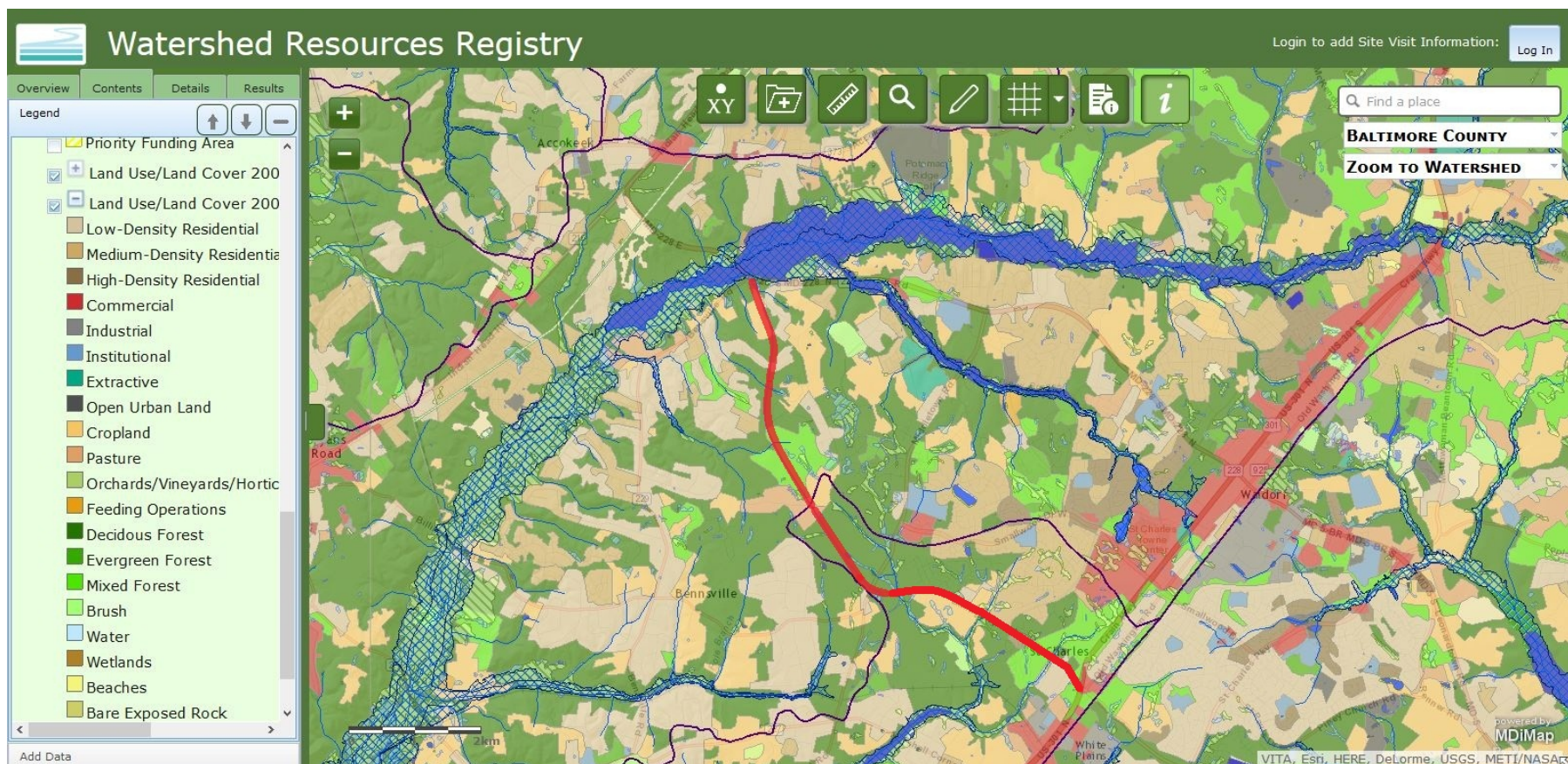




SWM Opportunities for Selected Alternative

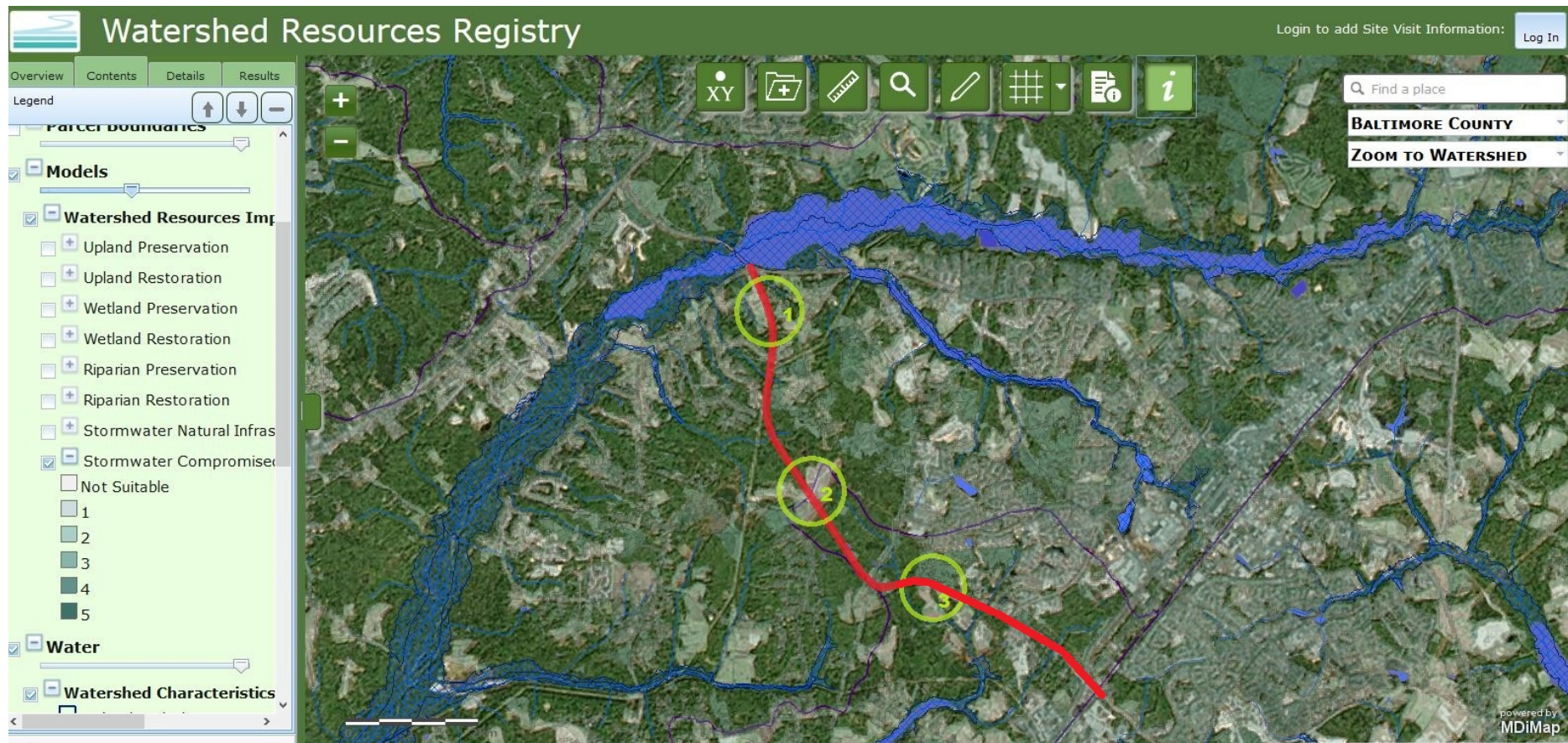
Evaluation of soils and geology

Land use characteristics



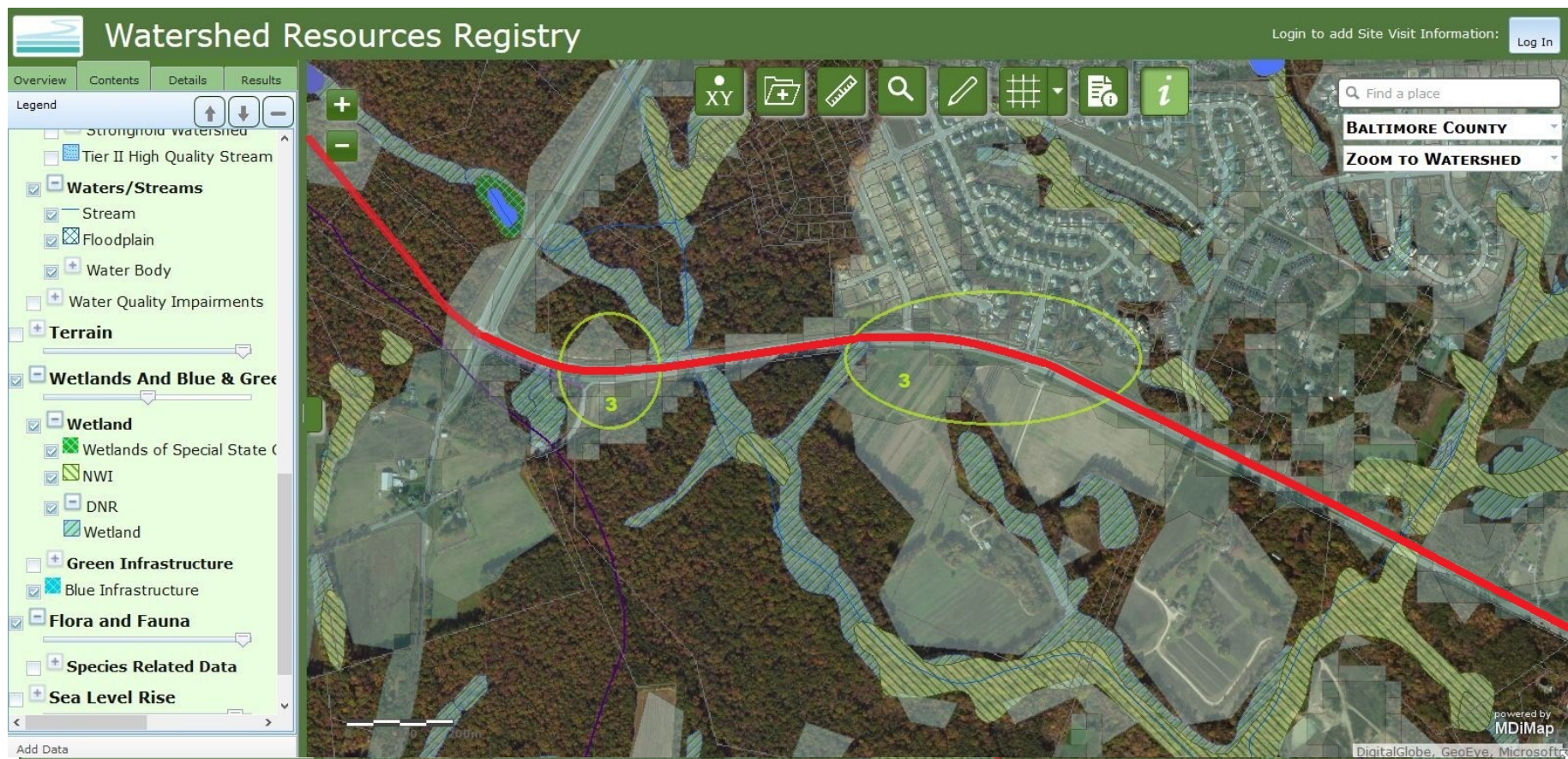


SWM Opportunities for Selected Alternative





Specific Suitable SWM Sites





Comparison of Processes

SWM Site Search w/o WRR

- Desk top analysis of various GIS Layers (soils, topo, R/W)
- Identification of potential sites
- Field verification of the whole corridor
- Delineation of all natural resources to be avoided
- Selection of final SWM sites
- Topographic survey and resources delineation survey
- Concept development and approval
- Final design development

SWM Site Search w/ WRR

- Desk top analysis using WRR
- Identification of specific sites to preserve
- Site selection and field verification of targeted sites
- Topo / resources delineation survey
- Concept development and approval
- Final design development



Watershed Resource Registry of SWM

- Registration of potential suitable sites for future highway projects
- Registration of sites that have been implemented
- Coordination watershed based SWM efforts among various stakeholders
- Allows programmatic planning of TMDL strategies in conjunction with SWM retrofits for WQ and SWM to meet regulatory requirements for highway projects delivery



SWM Sites Search Process

- Target areas in specific watersheds that are in need for water quality/quantity improvements
- Keep positive balance in SHA Water Quality Bank – 6 digit watershed
- Watershed based approach to identify potential SWM retrofit opportunities to meet TMDL reduction goals





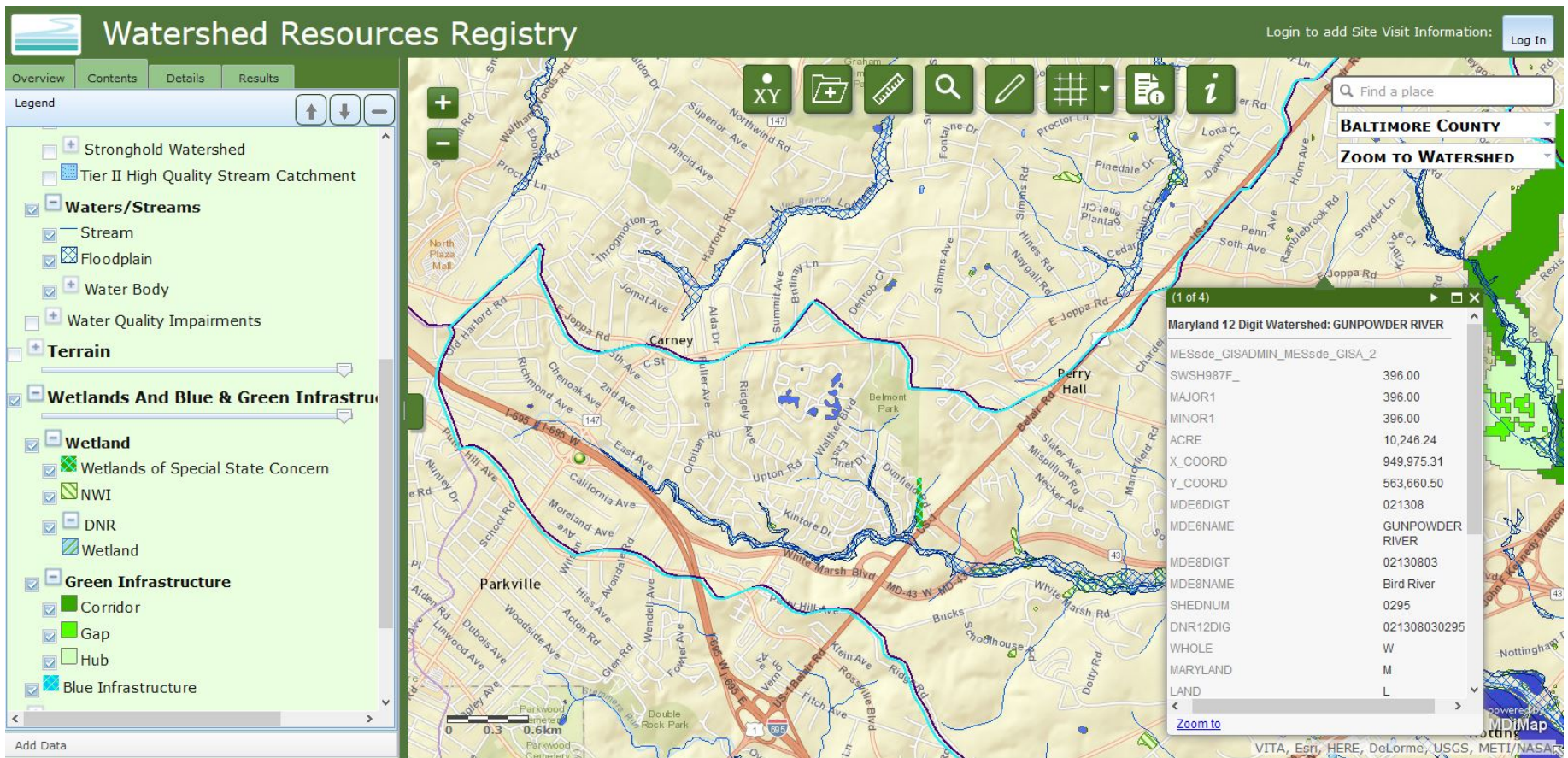
Watershed Characteristics

Identify areas to be preserved

- water resources that will be avoided:

Gunpowder River Watershed (1.1 acres credit)

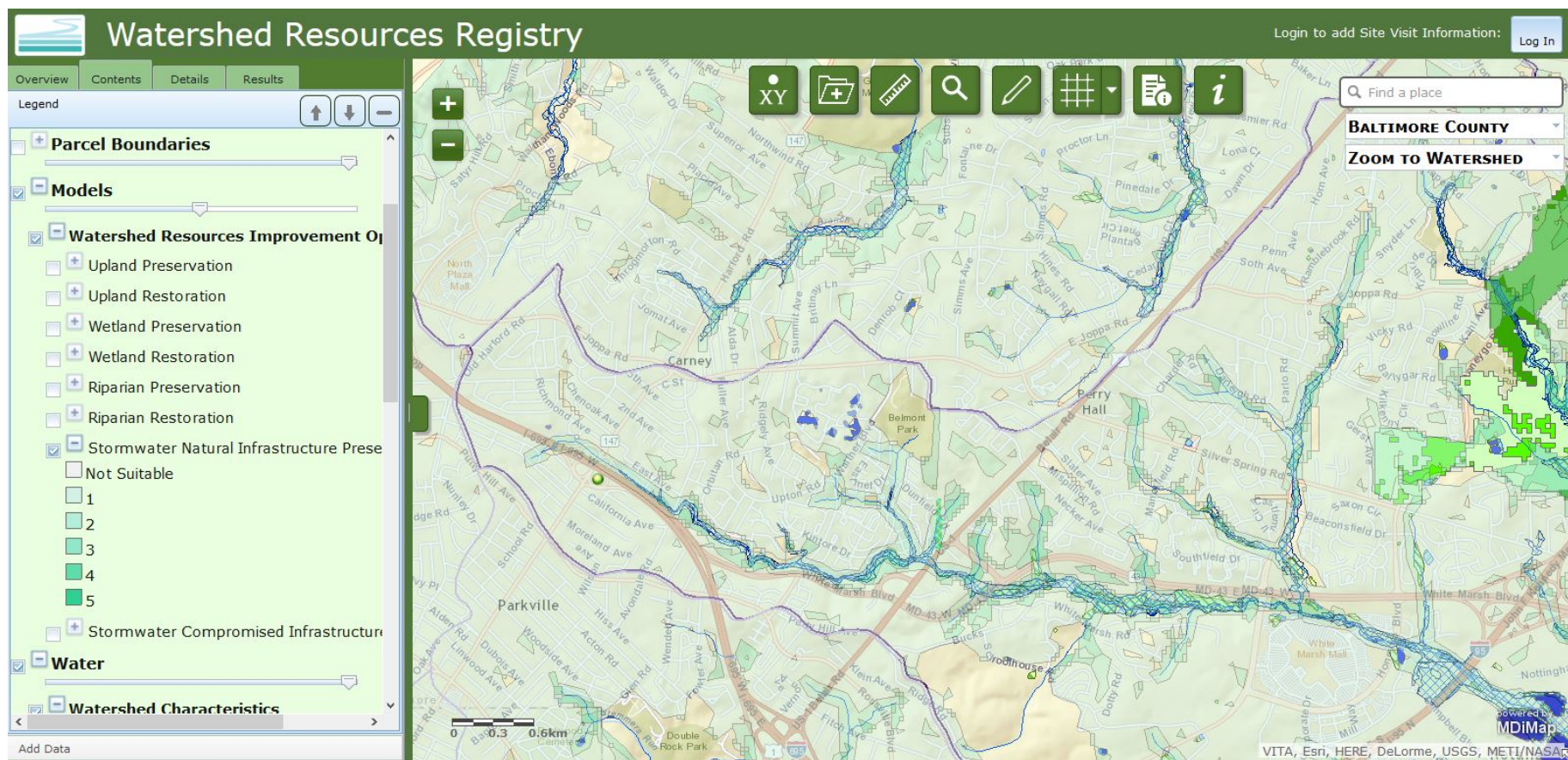
• Bird River/White Marsh Watershed



Watershed Characteristics

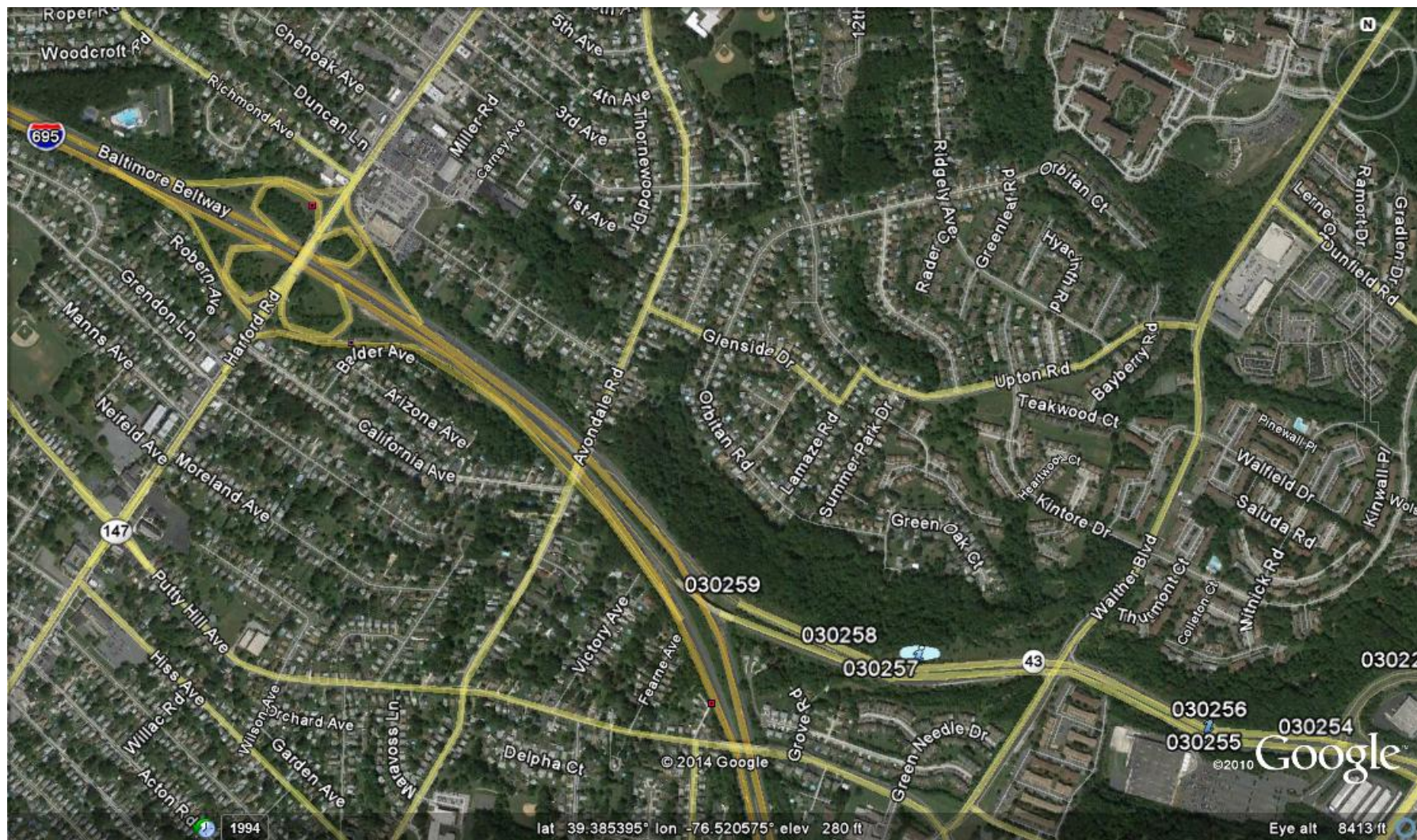
Identify areas to be preserved – SWM natural infrastructure

Evaluation of land for preserving natural storm water hydrology and avoiding impacting healthy systems





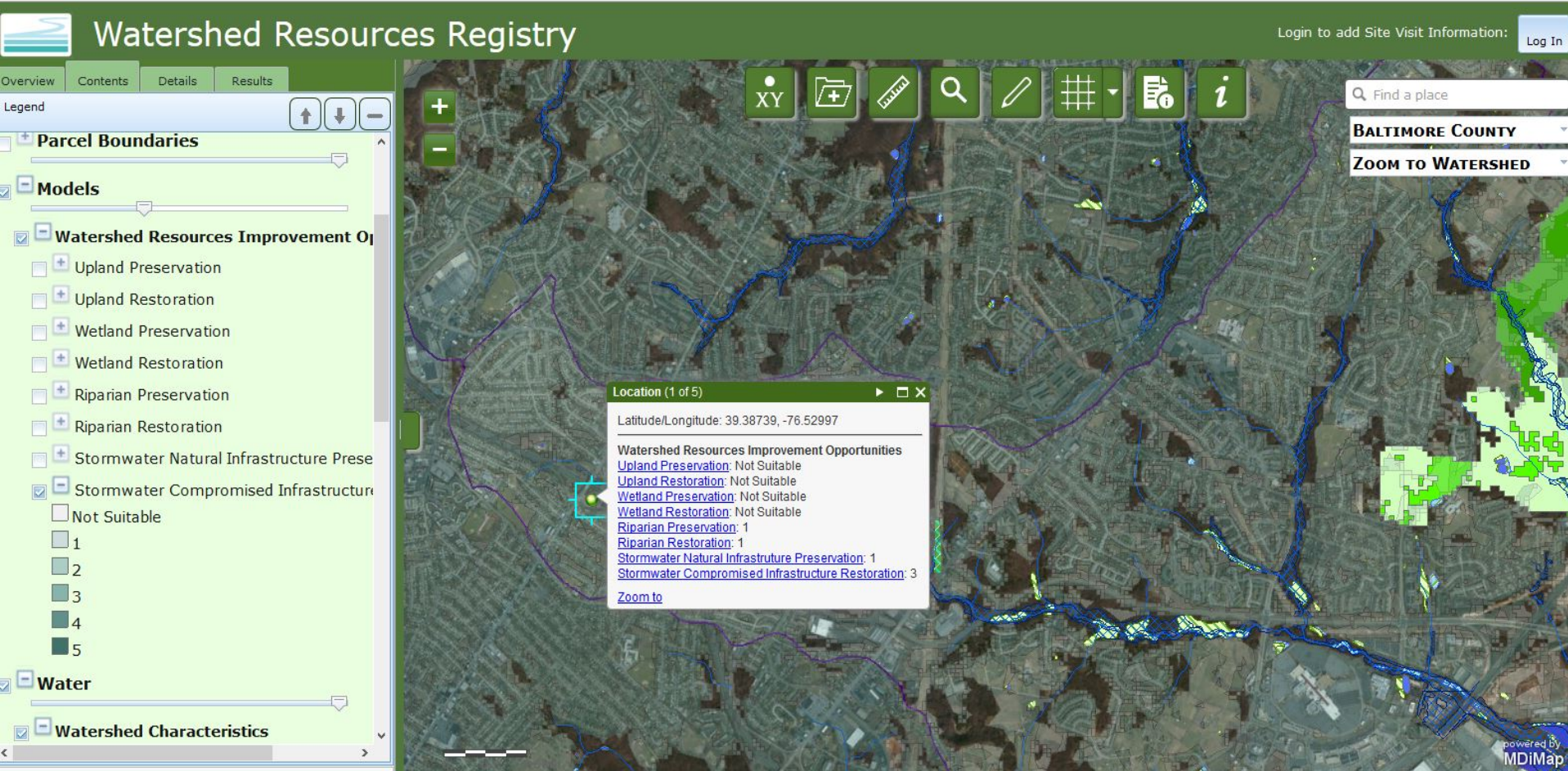
Existing SWM Infrastructure





SWM Opportunities within SHA R/W first


Evaluation for potential restoration of degraded systems through overlay analysis method and scoring system





Specific Suitable SWM Site

Site characteristics – detailed data returned by WRR



Watershed Resources Registry

Login to add Site Visit Information: [Log In](#)

Overview Contents Details Results

[Print Report](#)

Watershed Resources Improvement Opportunities
[Upland Preservation](#): Not Suitable
[Upland Restoration](#): Not Suitable
[Wetland Preservation](#): Not Suitable
[Wetland Restoration](#): Not Suitable
[Riparian Preservation](#): 1
[Riparian Restoration](#): 1
[Stormwater Natural Infrastructure Preservation](#): 1
[Stormwater Compromised Infrastructure Restoration](#): 3

Watershed Characteristics:
[View Watershed Profile](#)
 HUC: 020600030601
 HUC Name: Whitemarsh Run-Bird River
 Maryland 8 Digit Watershed: 02130803
 Maryland 12 Digit Watershed: 021308030295

Metadata: [HUC](#) | [MD Watershed](#) | [Stronghold](#)

Water Quality Impairments
[Metadata](#)
 Impairments: Biological, Sediments

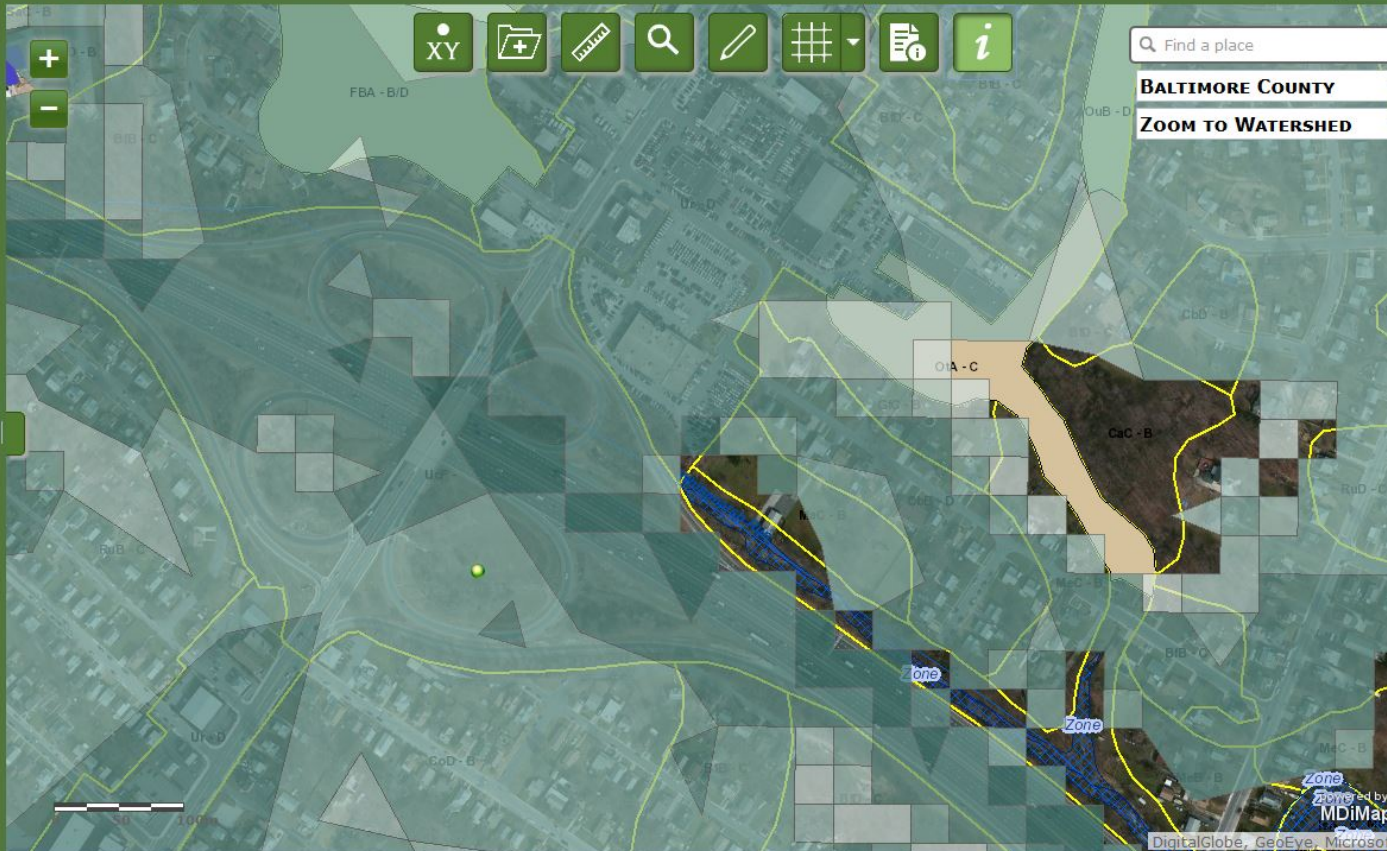
Physiographic Region
[Metadata](#)
 Province: Piedmont Plateau Province

Geology
[Metadata](#)
 Name: Potomac Group

Wetlands
 Wetlands of Special State Concern: None within 500 ft.
 DNR: None within 500 ft.
 NWI: None within 500 ft.

Metadata: [WSSC](#) | [DNR](#) | [NWI](#)

Soils



Map controls: XY, Add, Measure, Search, Edit, Grid, Layers, Info

Find a place:

BALTIMORE COUNTY

ZOOM TO WATERSHED

Scale: 0 500 1000

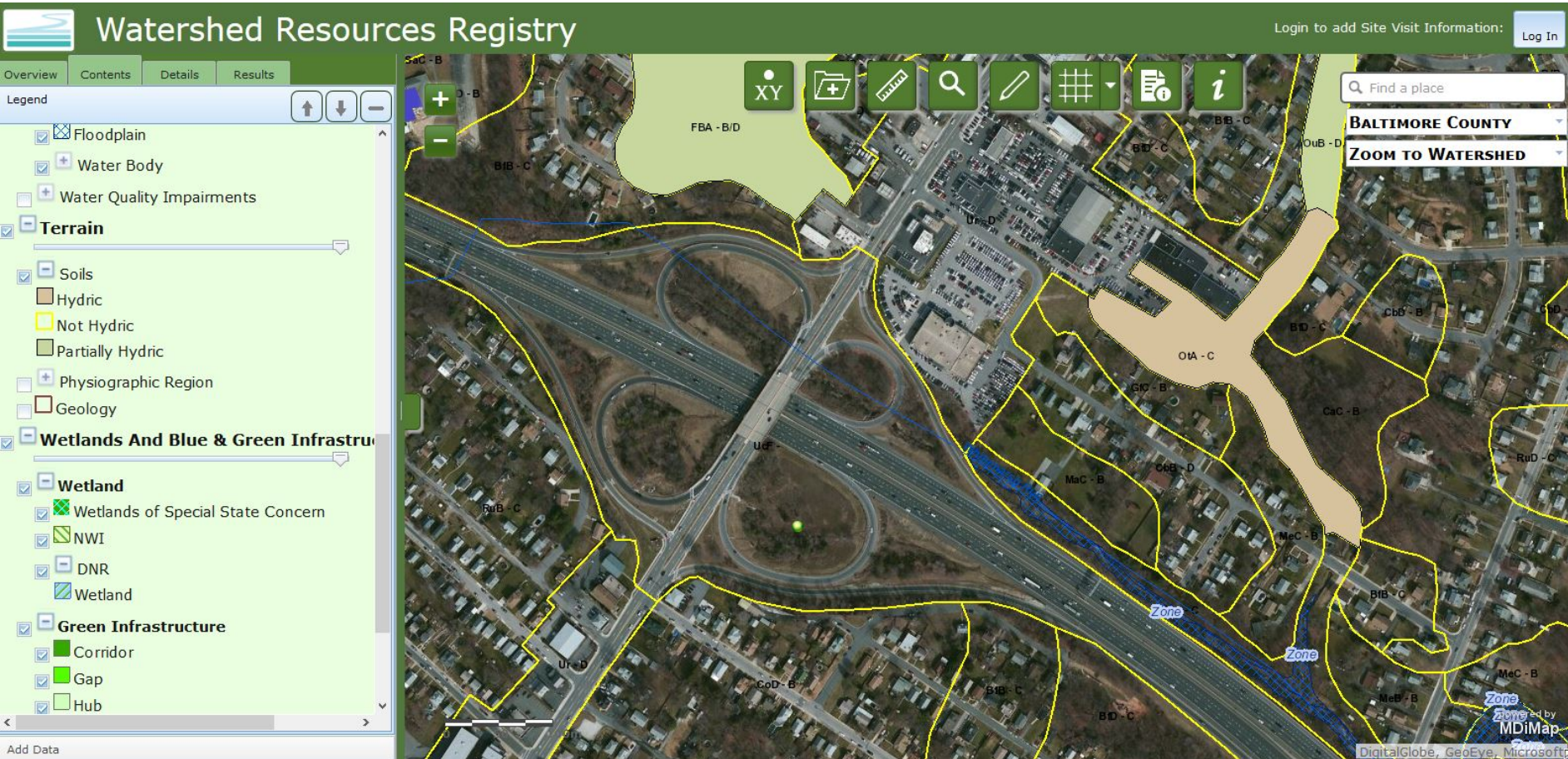
Zone 1, Zone 2, Zone 3, Zone 4, Zone 5, Zone 6, Zone 7, Zone 8, Zone 9, Zone 10, Zone 11, Zone 12, Zone 13, Zone 14, Zone 15, Zone 16, Zone 17, Zone 18, Zone 19, Zone 20, Zone 21, Zone 22, Zone 23, Zone 24, Zone 25, Zone 26, Zone 27, Zone 28, Zone 29, Zone 30, Zone 31, Zone 32, Zone 33, Zone 34, Zone 35, Zone 36, Zone 37, Zone 38, Zone 39, Zone 40, Zone 41, Zone 42, Zone 43, Zone 44, Zone 45, Zone 46, Zone 47, Zone 48, Zone 49, Zone 50, Zone 51, Zone 52, Zone 53, Zone 54, Zone 55, Zone 56, Zone 57, Zone 58, Zone 59, Zone 60, Zone 61, Zone 62, Zone 63, Zone 64, Zone 65, Zone 66, Zone 67, Zone 68, Zone 69, Zone 70, Zone 71, Zone 72, Zone 73, Zone 74, Zone 75, Zone 76, Zone 77, Zone 78, Zone 79, Zone 80, Zone 81, Zone 82, Zone 83, Zone 84, Zone 85, Zone 86, Zone 87, Zone 88, Zone 89, Zone 90, Zone 91, Zone 92, Zone 93, Zone 94, Zone 95, Zone 96, Zone 97, Zone 98, Zone 99, Zone 100



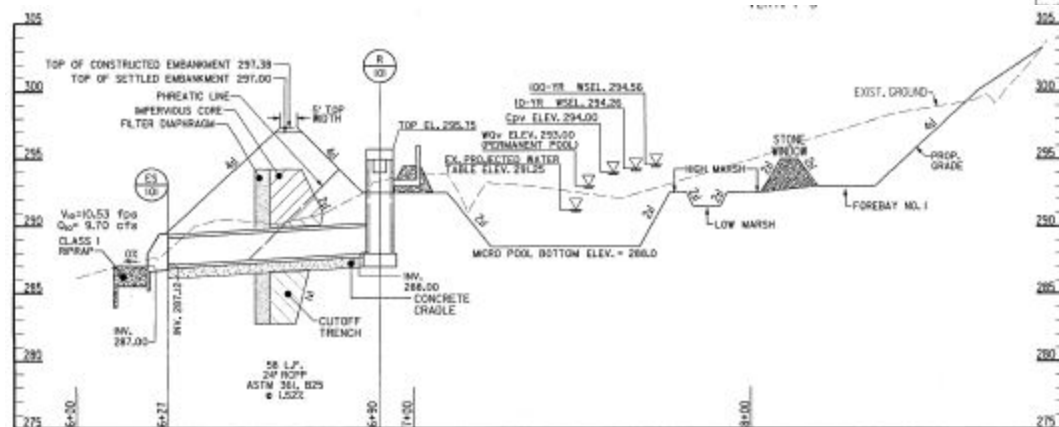
SWM site evaluation, data collection and analysis

Soils and geology

Land use characteristics



SWM Design for selected site



BMP 030389 -Pocket Pond

Drainage Area : 8.65 ac

Impervious Area : 2.43 ac

Pollutant reduction:

- N=17.7 lb/yr
- P=2.2 lb/yr
- TSS= 1.34 tons/yr



1 year after construction





2 years after construction

