Environmental Management at DoD Facilities in the Chesapeake Bay Region

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NCER

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Baltimore District Military Support

- Provides planning, environmental, design and construction assistance to military and DoD installations in the region to support the Army's commitment to sustainability and environmental stewardship

- Military Environmental Support includes:
  - Facility Planning
    - Site Screening and Selection Studies
    - **Environmental Constraints Analysis**
    - GIS mapping and analysis
  - **Water Resources Planning**
    - **Watershed Management Analysis and Planning**
    - **TMDL Analysis**
    - **LID Planning**
    - **Stormwater Management Plans**
    - **Wetland Delineations**
    - **Hydrologic Modeling**
  - Environmental Management and Regulatory Compliance
    - National Environmental Policy Act (NEPA)
    - **Integrated Natural Resources Management Plans**
    - Threatened and Endangered Species Surveys
  - Cultural Resources
    - Archeological Investigations and Data Recovery
    - Integrated Cultural Resource Management Plans

Executive Order 13508:
Strategy for Protecting and Restoring the Chesapeake Bay Watershed

"The Department of Defense shall lead on storm water management practices at Federal facilities and on Federal lands"

- Strengthen storm water management practices at Federal facilities and on Federal lands within the Chesapeake Bay watershed and develop storm water best practices guidance
- Reduce water pollution from Federal lands and facilities

DoD and the Chesapeake Bay Program

2009	2010	2011	2012
Executive Order 13508 Chesapeake Bay Protection and Restoration (May 2009)	Strategy for Protecting and Restoring the Chesapeake Bay Watershed (May 2010)	FY11 Annual Action Plan (Sep 2010)	FY11 Progress Report (Sep 2011)

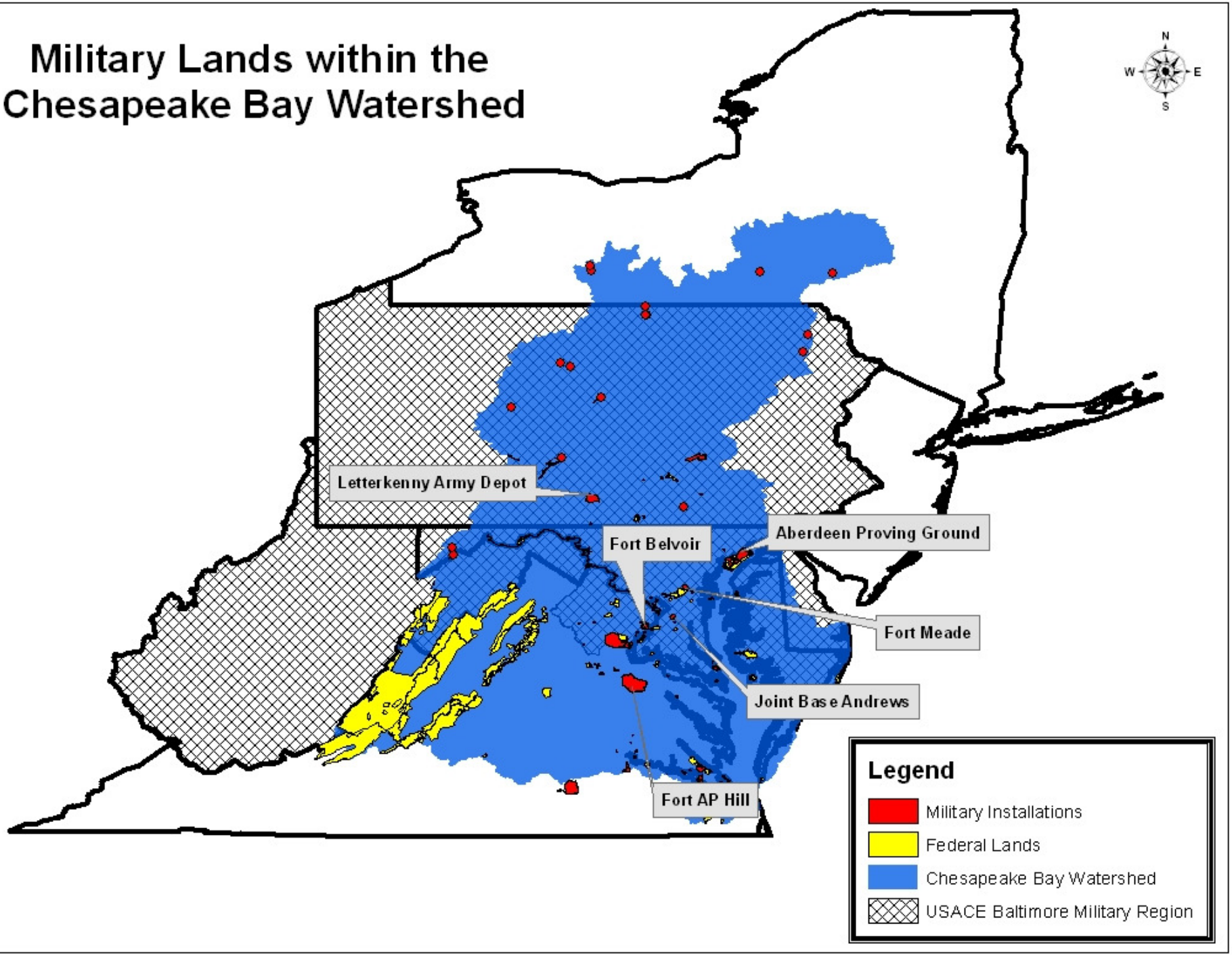
Showing Federal Leadership by Example

Executive Order 13058

- **Added Federal Leadership Committee Roles**

- Oversee development, coordination and implementation of new federal programs and activities for Chesapeake Bay restoration.
- Collaborate with state partners to create a new, coordinated strategy.
- Define environmental goals, indicators and milestones.
- Track and report restoration activities and spending.
- Publish Annual Action Plan describing how federal funding will be used.
- Publish an Annual Progress Report on environmental health and restoration efforts.
- Utilize independent evaluation to strengthen accountability.
- Establish a process for practicing adaptive management.

Military Lands within the Chesapeake Bay Watershed

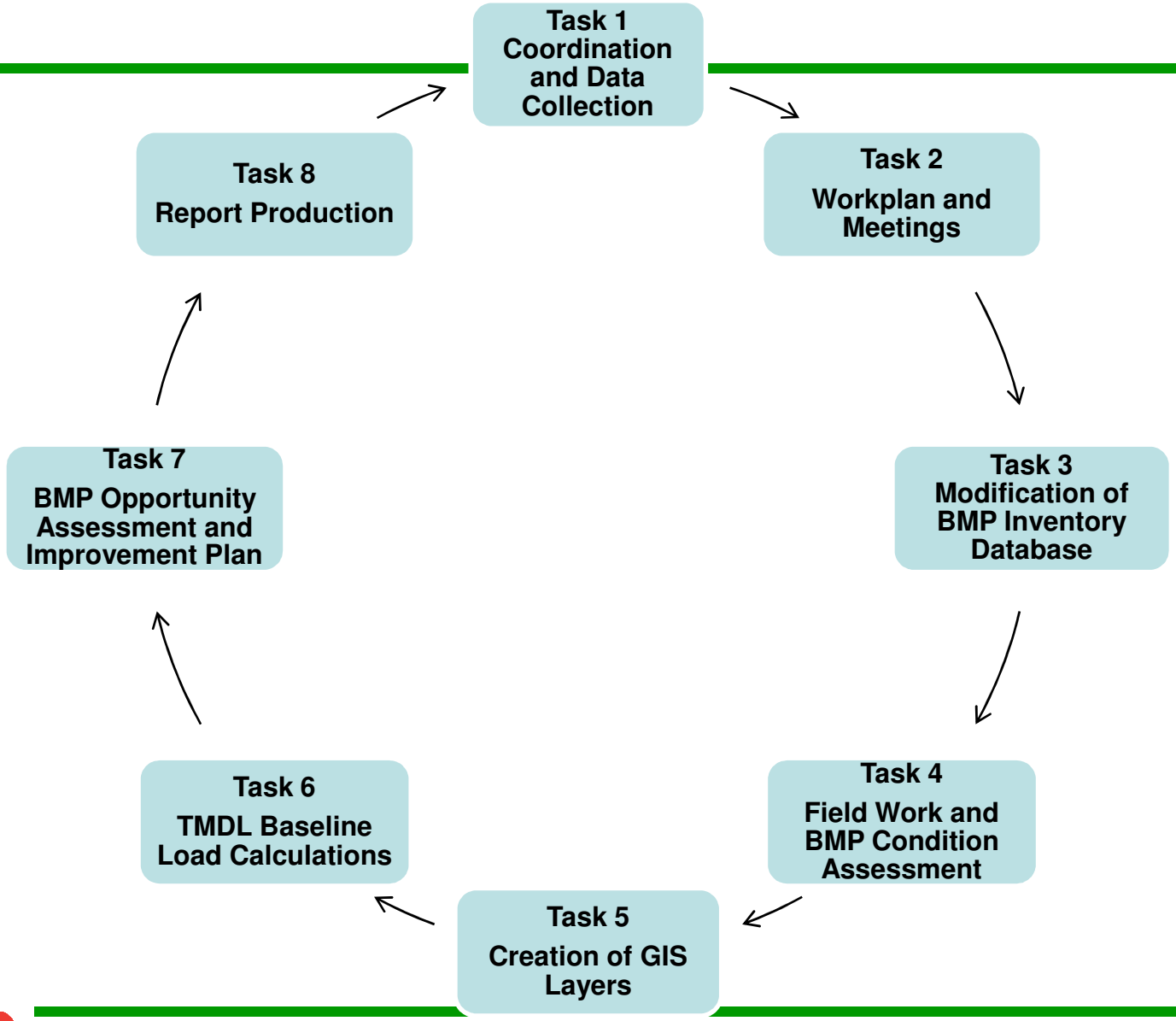


TMDL Analysis at Chesapeake Bay Military Installations

Federal agencies are expected to work with the Bay jurisdictions to:

- Identify federal lands and facilities
  - **Fort Meade, Aberdeen Proving Ground, Fort Belvoir, Army National Guard, 99th US Army Reserves**;
- Estimate nitrogen, phosphorus and sediment loads from those federal lands and facilities;
- Identify potential pollutant reductions from point and nonpoint sources associated with federal lands and facilities by providing information on property boundaries, land cover, land-use, and implementation of management practices;
- Commit to actions, programs, policies, and resources necessary through 2017 to reduce nitrogen, phosphorus, and sediment pollutant loads associated with federal lands and facilities by specific dates; and
- Provide information to the Bay jurisdictions on those actions, programs, policies, and resources that are or will be necessary to achieve federal-facility specific load reduction targets in jurisdictions' Phase II WIPs.

TMDL Analysis

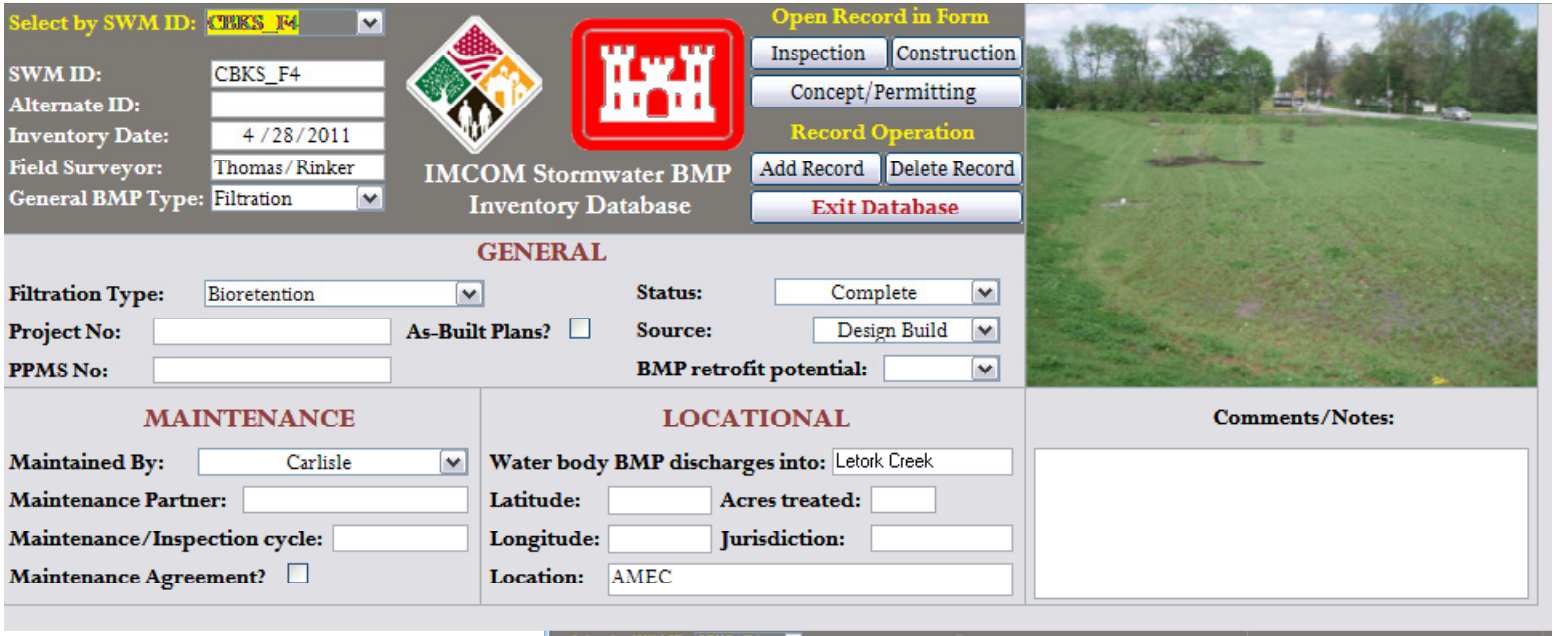


Stormwater BMP Database

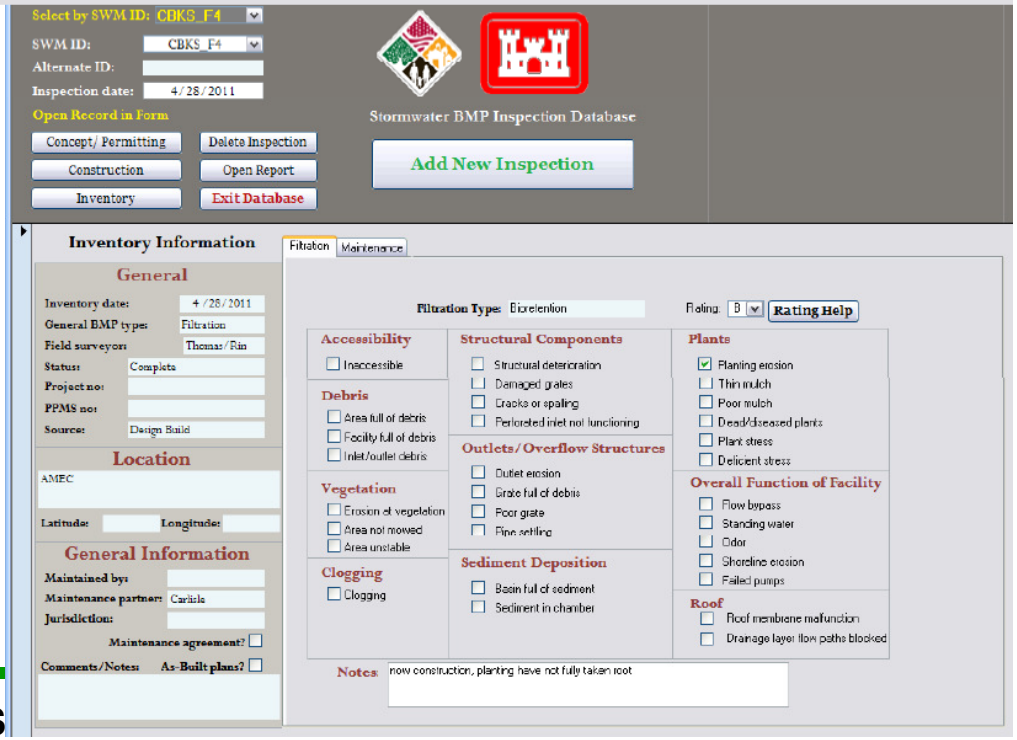
BMP Database

- Open Inventory Form
- Open Inspection Form
- Open Concept/Permitting Form
- Open Construction Form

BMP Database:



Inspection Form:



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Army LID Program Support

- In support of the Office of the Assistant Chief of Staff for Installation Management initiative to integrate LID into all Military Construction projects, the Baltimore District is leading a LID Program Support effort to develop a LID Technical User Guide and Training Materials for Military installations and Corps of Engineers planners, designers and engineers to meet the requirements of the Energy Independence Security Act Section 438.

- Baltimore District is also overseeing LID demonstration projects at three installations within the Chesapeake Bay watershed.

- The goal of these efforts is to provide Military Installations with a guide, examples and training that will help them understand and integrate LID into the programming, planning and execution of their projects in order to meet the regulatory requirements.

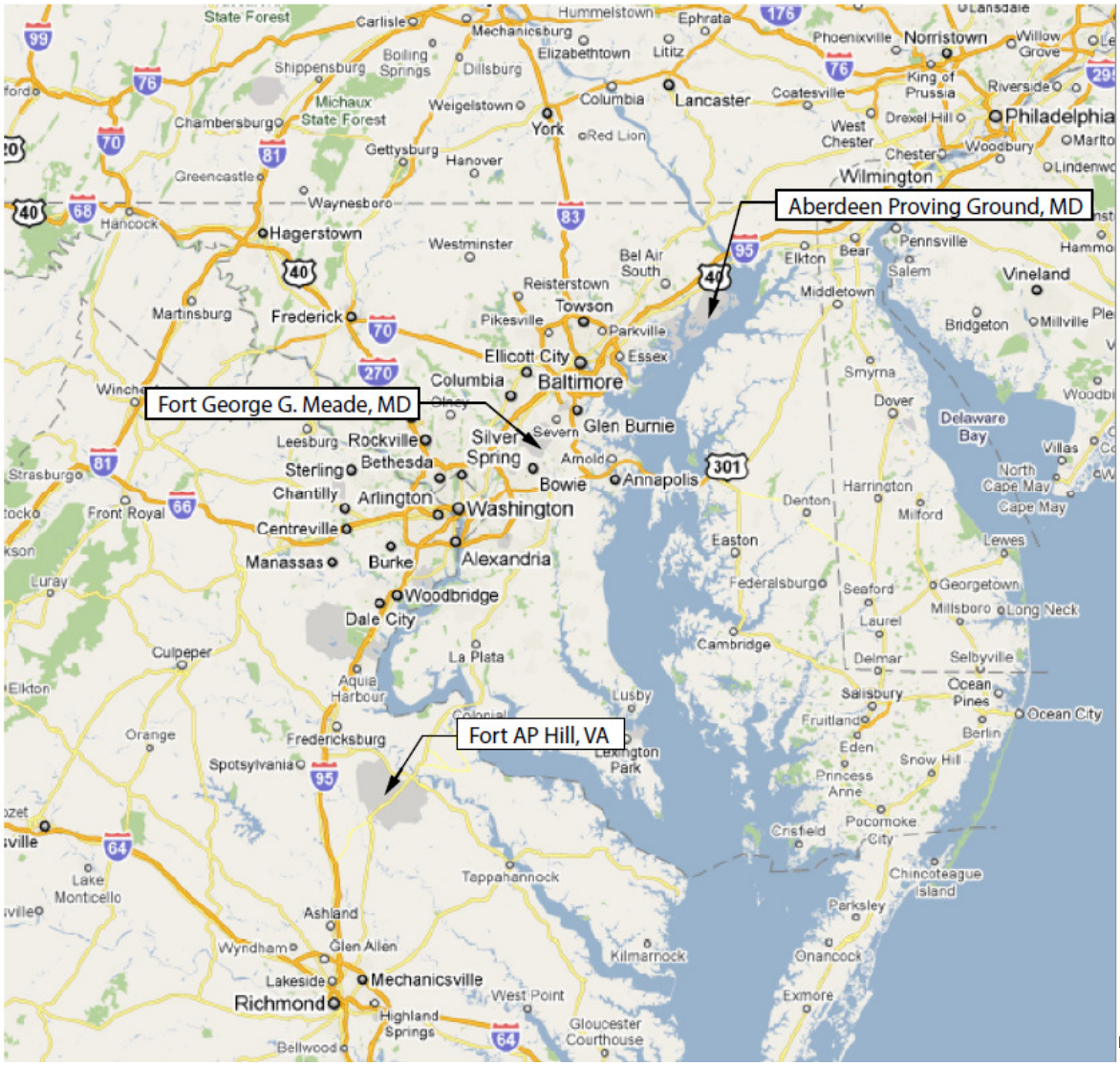
LID Definition

Low impact development (LID) is a term used to describe a land planning and engineering design approach to managing storm water runoff. LID emphasizes conservation and use of on-site natural features to protect water quality.

The primary goal of LID is to mimic a site's pre-development hydrology by managing runoff close to its source through:

- infiltration
- filtration
- storage
- evaporation
- detention

LID Demonstration Project Locations



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Fort George G. Meade, MD

- **Hospital Parking Area & Trapezoidal Channels**
  - Remove asphalt and install permeable parking strip parallel to channel
  - Replace concrete channel with a swale constructed with a 2-foot depth of bioretention soil with under drain
  - Install check dams in the swale to dissipate energy
  - Plant channel with native grass and shrubs
  - Install two tree box filter

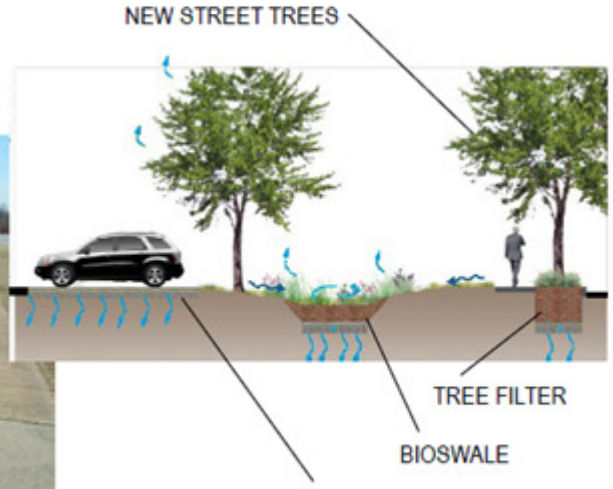
- **Golf Course Stream Daylighting**
  - Unearth and remove 480 linear feet of corrugated metal pipe
  - Remove two concrete headwalls
  - Create a natural stream channel/plant native plants and connect to existing stream channel

Fort George G. Meade, MD
Hospital Parking Area/Trapezoidal Channel

HOSPITAL PARKING AREA/TRAPEZOIDAL CHANNEL - DESIGN CONCEPT

NOT TO SCALE

EXISTING



PERMEABLE PAVING

PROPOSED

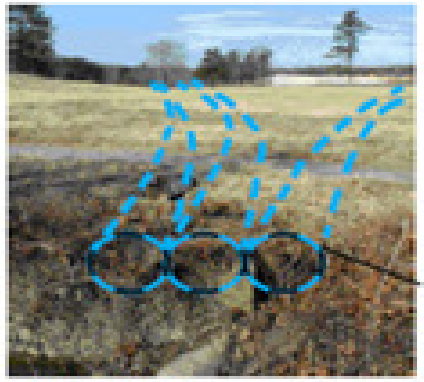
HOSPITAL PARKING AREA/TRAPEZOIDAL CHANNEL

Fort George G. Meade, MD
Golf Course Stream Daylighting

PERMEABLE PAVEMENT TRAIL

ESTABLISH RIPARIAN BUFFER

600 FT. OF EXISTING PIPED STREAM TO BE DAYLIGHTED AND RIPARIAN BUFFER TO BE RESTORED



EXISTING TRIPLE 42" CULVERT

PROPOSED

EXISTING

GOLF COURSE STREAM DAYLIGHTING

Natural Resource Management

- Integrated Natural Resource Management Plan
- Training Area Mapping
- Fort Meade Stream Assessment
- Wetland Delineations

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Military Program Benefits to the Chesapeake Bay

- Reducing stormwater discharge
- Reducing pollutant and nutrient discharge
- Reducing sedimentation
- Preserving natural resources and open areas
- Wetland preservation and management

Questions