University System of Maryland
MS4 Permit Workshop

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Minimum Control Measures

1. Personnel or Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management
6. Pollution Prevention and Good Housekeeping
Mapping Your Stormwater Network
Review of Existing Data

• Reviewing existing data and organizing to assist with a smooth and painless migration to database format

• Data that will get you started includes and not limited to:
  • CAD datasets,
  • Engineering Plans
  • Existing GIS data
  • Tabular data
  • Permits
  • Other Approved Records of Information (i.e. studies or paper forms).
Development of Stormwater Network and Urban BMP Database

- Developing the schema or framework for Stormwater Network
- Populating data into the Urban BMP Database (Excel sheet and or GIS)
  - Phase II MS4 Excel BMP Template (May 2018) (Link)
  - Phase II MS4 Database Guidance (May 2018) (Link)
Migration of Data Sources

- Transfer of existing data into the database
  - Can be in the form of digitization, data entry, or data migration from CAD to GIS
- Noting which BMPs have associated plans, computations, results, signatures is helpful for the baseline analysis.
Verifying and Assessing the Stormwater network

Field verifying existence of stormwater point features.

Assessing conditions of stormwater point features (Manholes, Outfalls, Inlets, etc.)

Verifying flow of stormwater network

Confirmed data available for developing drainage areas, IDDE, BMP inspections, design & construction, or emergency repairs
Development of Drainage Areas

Developing the drainage area is essential to determining the drainage to your outfalls, stormwater facilities, inspections, baseline, and overall stormwater plan.

Using previous documentation and existing data will assist in this process.
Development of MS4 Impervious Surface Coverage

**Initial Data**
- Property Boundary
- Total Impervious Area

**Next Step**
- Treated impervious areas
Determining the Baseline

- The Baseline Impervious Area Assessment will determine the total impervious surface area required for restoration within each campus property.
- Assessment is made on a chosen baseline year.
- Identify restoration projects already completed since 2006, and consider those in the analysis.

1. Determine the total impervious area within campus property.
2. Determine how much of that impervious area is treated by existing BMP’s, and the level treatment provided by Era.
3. Subtract the equivalent treated acres from the total impervious area.
4. Subtract areas regulated by an industrial permit or owned by others.
5. Multiply by 20% to arrive at Restoration Goal.
Water Quality for Existing BMP Credit

Era Definitions
Based on permitted date, not built date!

- Prior to 1985 – no WQ
- 1985-2002 – ½” WQ
- 2002-2010 – 1” WQ **
- Post 2010 – ESD implemented **

** WQ is considered fully treated
Restoration Project Planning

- Perform a watershed assessment to identify existing problems, and potential restoration opportunities
  - Identify potential sources of pollutants
  - Field recon to identify erosion issues
  - Known flooding issues/other
  - Potential educational opportunities

- Conduct a feasibility study of projects. Prepare initial costs estimates, and rank and prioritize restoration projects based on a cost per equivalent impervious acres of restoration.

- Budget improvements.

Photo credit: https://www.anacostiatrust.org/#intro
What's needed for crediting existing BMPs?
As-Builts

• A record of what was built.
• Confirm actual WQ treatment amount.
• What if as-builts cannot be found?
### Existing BMPs - Inspection

- Inflow
- Ponding
- Invasives
- Structural
Existing BMPs

Example Inspection
Existing BMPs

Maintenance
Favorite BMP

- Submerged Gravel Wetland
- High groundwater
- Large drainage area
Sources of Funding

• Capital Funding
• Pooled Resources - Partnerships
• Grant Opportunities
Grants!

- Design & Implementation funding available
- NFWF
  - Up to $1M
- Chesapeake Bay Trust
  - Up to $100,000
- DNR Trust Fund
  - Up to $1M
Questions?
Reach out!
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