Utilizing Natural Features and Drainage Pathways Improves Water Quality

Benefit 1. Reduces runoff volume through evapotranspiration.

Benefit 2. Maintains runoff in a diffuse flow pattern, promoting sedimentation and filtration of pollutants through vegetation.

Benefit 3. Low maintenance requirements minimize additional costs.

Benefit 4. Reduces runoff volume through infiltration.

Benefit 5. Improves water quality as runoff flows through vegetated areas.

Benefit 6. Maintains predevelopment runoff conditions to preserve natural water quality and volume reduction benefits.

Benefit 7. Provides cost savings by using existing natural depressions and channels for runoff storage and conveyance.

Stay compliant with the Department’s National Pollutant Discharge Elimination System (NPDES) Permit. Follow the Post Construction Stormwater Program (PCSP).

For more information, please visit the HSP website: https://connect.ncdot.gov/resources/hydro/Pages/Highway-Stormwater-Program.aspx
Incorporating Minimum Measures to Reduce Runoff Volume and Improve Water Quality as Part of the Post-Construction Stormwater Program

Implement Minimum Measures to the maximum extent practicable (MEP) on all projects.

**Minimum Measures – Planning Phase**
- Maximizing Shoulder Section
- Minimizing Roadway Side Slopes
- Assessing and Minimizing the Impacts of Stormwater Runoff to Environmentally Sensitive Areas
- Promoting Sensitive Crossing of Streams

**Minimum Measures – Drainage Design Phase**
- Providing Adequate Ground Cover
- Stabilizing Embankments and Drainage Ditches
- Providing Adequate Energy Dissipation

**Utilizing Natural Features and Drainage Pathways**
- Maximizing Vegetative Conveyance
- Encouraging Diffuse Flow
- Minimizing Direct Discharge from Bridges

Implement Toolbox BMPs as directed.
- Determine whether **structural BMPs** are required for a project.
- Approved **structural BMPs** are provided in the NCDOT Stormwater Best Management Practices Toolbox (“BMP Toolbox”).
- The BMP Toolbox presents guidance, criteria, and considerations for the design and application of structural BMPs.
- BMPs are to be implemented to the MEP.

Document your project with the Stormwater Management Plan (SMP)
- Preserves stormwater management decisions.
- Documents implementation of structural and non-structural BMPs to the MEP.

When a project creates new built-upon area (BUA), the Post-Construction Stormwater Program (PCSP) applies!
- Once project is identified as creating new BUA, identify project type as roadway or non-roadway.
- Next, implement planning and design minimum measures based on project type.

Minimum Measures have been utilized throughout the project corridor. To the maximum extent practicable, existing natural features and drainage pathways have been preserved to help maintain predevelopment runoff characteristics and to retain natural pollutant removal and volume reduction benefits.

For more information, please visit the HSP website: https://connect.ncdot.gov/resources/hydro/Pages/Highway-Stormwater-Program.aspx