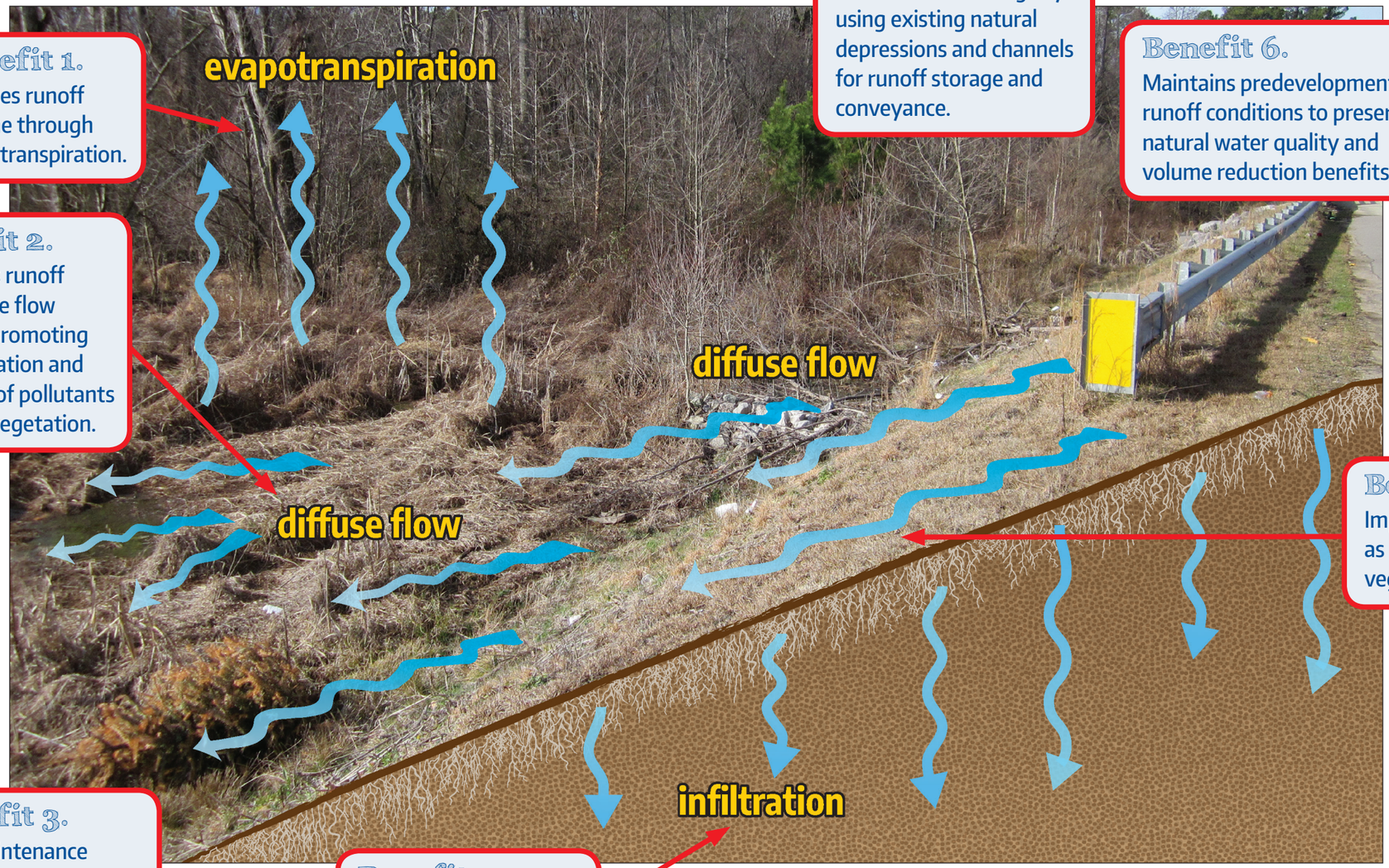
Utilizing Natural Features and Drainage Pathways Improves Water Quality



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.

Compliance!

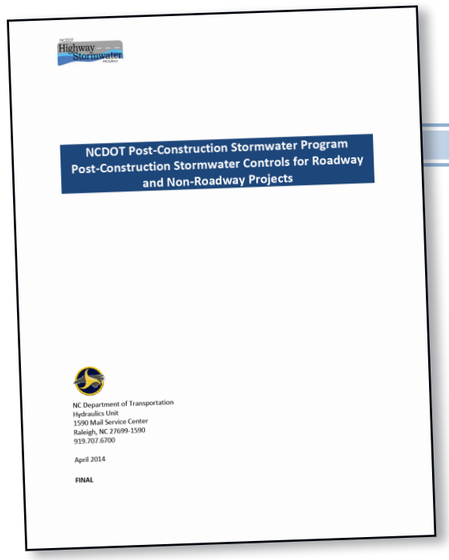
Stay compliant with the Department's National Pollutant Discharge Elimination System (NPDES) Permit. Follow the Post Construction Stormwater Program (PCSP).

NCDOT Highway Stormwater PROGRAM

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

Flip for more information

Incorporating Minimum Measures to Reduce Runoff Volume and Improve Water Quality as Part of the Post-Construction Stormwater Program


NCDOT Highway Stormwater

NCDOT Post-Construction Stormwater Program
Post-Construction Stormwater Controls for Roadway and Non-Roadway Projects

NC Department of Transportation
Hydraulics Unit
1590 Mail Service Center
Raleigh, NC 27699-1590
919.707.6700

April 2014

FINAL

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.

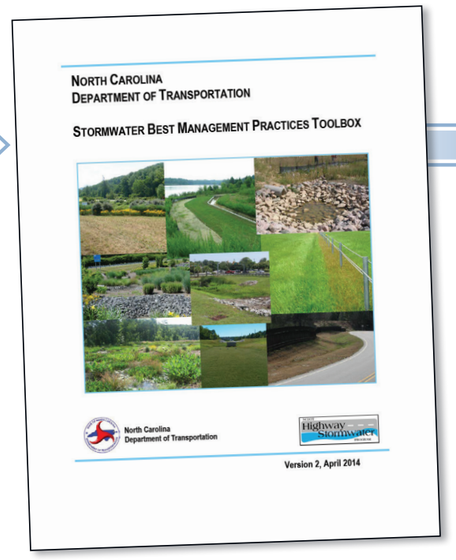
Implement Minimum Measures to the maximum extent practicable (MEP) on all projects.

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


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

STORMWATER BEST MANAGEMENT PRACTICES TOOLBOX

North Carolina Department of Transportation

NCDOT Highway Stormwater

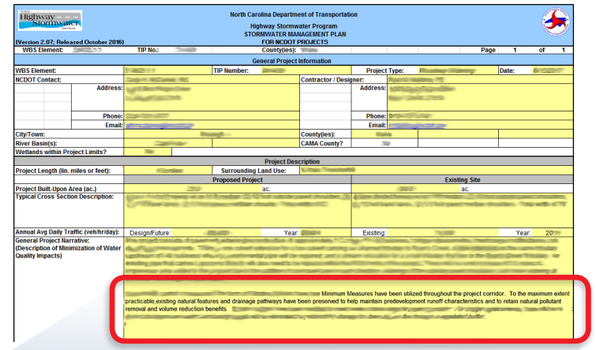
Version 2, April 2014

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.


North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS
(Version 2.07; Released October 2016)

WBS Element: | TIP No.: | County(ies): | Page 1 of 1

General Project Information

WBS Element: | TIP Number: | Project Type: | Date:
NCDOT Contact: | Contractor / Designer:
Address: | Address:
Phone: | Phone:
Email: | Email:
City/Town: | County(ies):
River Basin(s): | CAMA County?
Wetlands within Project Limits?

Project Description

Project Length (lin. miles or feet): | Surrounding Land Use:

	Proposed Project	Existing Site
Project Built-Upon Area (ac.)	ac	ac
Typical Cross Section Description:		
Annual Avg Daily Traffic (veh/hr/day):	Design/Future Year	Existing Year 20
General Project Narrative: (Description of Minimization of Water Quality Impacts)		

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.

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NCDOT Highway Stormwater PROGRAM

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