Non-Structural Best Management Practices

Stormwater Management

This factsheet is part of our collection of documents about Stormwater Management and Best Practices. For more information on this and many other topics, please visit: ***spcwater.org****.*

Water Resource Center
Southwestern Pennsylvania Commission

Non-Structural Stormwater Best Management Practices (BMPs) focus on the prevention of stormwater generation, therefore effectively reducing runoff volume, and decreasing development costs while increasing property value and marketability.

Non-structural BMPs refer to the suite of options available to avoid and/or minimize damages associated with stormwater volumes and runoff from development. The most effective way to manage stormwater begins with the prevention of problems. It is much more efficient and cost-effective than attempting to correct problems after development has occurred. Utilizing non-structural BMPs is the most important step in managing runoff.

Protection of sensitive areas, such as forested wetlands (left) and steep slopes (right) are both examples of non-structural BMPs.

Protect Sensitive and Special Value Resources

- Protect Sensitive / Special Value Features
- Protect / Conserve / Enhance Riparian Areas
- Protect / Utilize Natural Flow Pathways in Overall Stormwater Planning and Design

Cluster and Concentrate

- Cluster Uses at Each Site; Build on Smallest Area Possible
- Concentrate Uses Area-wide through Smart Growth Practices

Minimize Disturbance and Minimize Maintenance

- Minimize Total Disturbed Area
- Minimize Soil Compaction in Disturbed Areas
- Re-Vegetate and Re-Forest Disturbed Areas Using Native Species

Source Control

- Streetsweeping

Reduce Impervious Cover

- Reduce Street Imperviousness
- Reduce Parking Imperviousness

Disconnect / Distribute / Decentralize

- Rooftop Disconnection
- Disconnection from StormSewers

For more information about the impacts of stormwater, visit:

- epa.gov
- dep.pa.gov
- dcnr.pa.gov
- pacd.org
- bmpdatabase.org
- spcwater.org

The Pennsylvania Best Management Practices Manual divides Non-Structural BMPs into the following groups:

- Protect Sensitive and Special Value Resources
- Cluster and Concentrate
- Minimize Disturbance and Minimize Maintenance
- Source Control
- Reduce Impervious Cover
- Disconnect / Distribute / Decentralize

Benefits of Non-Structural BMPs

There are environmental, economic, and social benefits associated with incorporating non-structural BMPs into site planning and development.

These benefits may include but are not limited to:

Environmental

- Maintains a more natural and functional landscape
- Promotes harmony between development and existing natural systems
- Mitigates flooding through reductions of peak flows
- Retains wildlife habitat and supports biodiversity
- Reduces soil erosion
- Protects drinking water supply through groundwater recharge
- Encourages decentralized treatment, infiltration, and evaporation of precipitation, helping to prevent negative consequences associated with stormwater
- Protects water quality and aquatic habitat
- Protects and improves air quality

Economic

- Reduction in stormwater infrastructure costs
- Disconnection of impervious surfaces to infiltration areas decreases pressure on existing stormwater or combined sewer system
- May help to increase community marketability and property values
- Reduces development cost
- Rooftop disconnection and use of rainbarrels can save money for landscape irrigation

Social

- Preserves open space
- Reduces heat island effect
- Provides recreational opportunities
- Improves neighborhood aesthetics
- Reduces noise pollution

Protecting, conserving, and enhancing riparian areas is an important non-structural BMP. Riparian areas are very effective at protecting and improving water quality. This non-structural BMP has many additional stormwater management benefits, including but not limited to: volume reduction, groundwater recharge, and peak rate control.

This information was adapted from the Pennsylvania Stormwater Best Practices Manual. Check out SPC's other fact sheets to learn more about specific BMPs, flooding, and more.

For more information please contact:

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