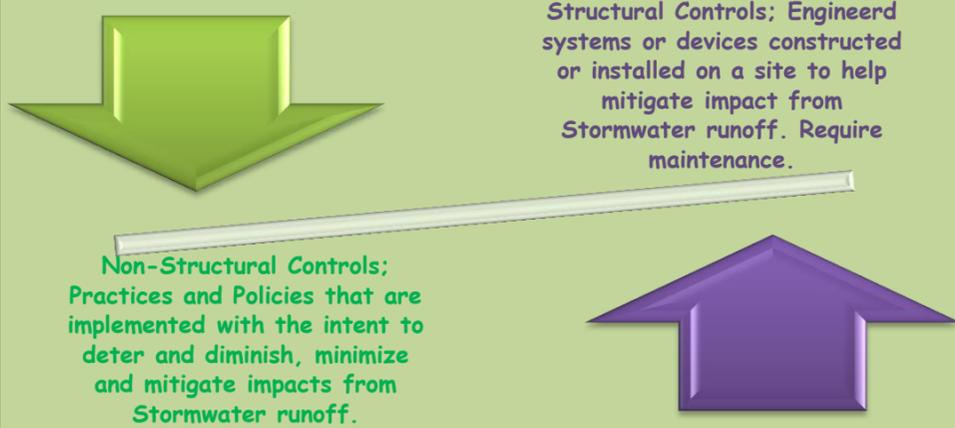


BEST MANAGEMENT PRACTICES: THE KEY TO AN EFFECTIVE PROGRAM

The Stormwater Management Plan (SWMP) is designed around *Best Management Practices* (BMPs). Entities that obtain a Municipal Jurisdictional Permit (such as the school systems) must follow six minimum control measures:

1. [Outreach and Education](#)
2. [Public Participation](#)
3. [Illicit Discharge Detection and elimination](#)
4. [Good Housekeeping](#)
5. [Construction site sediment and erosion control program](#)
6. [Post construction runoff controls](#)

Each control measure is managed with practices that are selected to be site and issue specific for the most efficient and effective control of stormwater impacts. Practices are required to be evaluated and assigned measurable goals, making them quantifiable. Practices that prove to be ineffective by not meeting their goals can be replaced by methods demonstrated to be more effective at alternative locations. Remember, these are MINIMUM control measures. This makes the SWMP a living breathing document with BMPs that evolve over time.



The most effective method of stormwater management utilizes a combination of structural and non-structural BMPs. Keep in mind, having well written policies means nothing if they are not implemented and enforced. Likewise, designing, installing and retrofitting Storm water structures will only be effective if properly maintained. Effective Stormwater management requires ongoing participation from all Members of the Stormwater Team

What kinds of practices and policies are most effective? By recognizing the natural hydrology of an area we can respect the natural processes and protect vulnerable areas. It is sheer folly when we ignore the effectiveness of riparian buffers for protection of water quality and natural attenuation of flooding; We spend billions of dollars every year recovering from flood damage because we build in flood plains. Policies that recognize the wisdom for setback zones to protect homeowners as well as the quality of our water saves money. So what do we do in areas that are already built out? We can implement policies that reward homeowners and business who invest in stormwater structures that increase infiltration of precipitation. Likewise, sediment in our waterways is a largely overlooked problem that can have devastating impacts to aquatic populations. Enforcement of appropriate erosion control measures on construction sites is an essential part of an effective non-structural BMP menu. By educating the public and providing easily obtained contact information for reporting concerns, combined with appropriate response, we create an avenue to assure protection of our resources.

And where does a school system fit into this? Providing information on our webpages is a great mechanism for increasing awareness. We also train all personnel who have any potential to unintentionally cause an illicit discharge. By expanding awareness to staff, good housekeeping can become a way of life that increases stewardship in our watershed.

What is a Storm Water Team?

There is so much included in effective stormwater management that it becomes extremely difficult for a single individual to address everything. And because so many activities have the potential to become part of the problem, the more folks that are involved the easier it will be for effective management.

A team includes maintenance and cafeteria workers, administrators and students, teachers and parents, vendors and the general public. Anyone and everyone can be part of the team.

Don't part of the problem, be part of the solution.

Create your own Stormwater Team or a Stormwater Club. Then you can be a BMP!!!

Good Housekeeping means picking up garbage, and doing proper maintenance on structural BMPs; It means inspecting construction sites and assuring controls are in good condition, working as intended; It means having spill kits handy and sweeping up spills promptly, It means proper storage and disposal of chemicals, paints and yard goods; It means protecting storm drains, and preventing pollution as close to the source as possible.

Structural BMP Systems

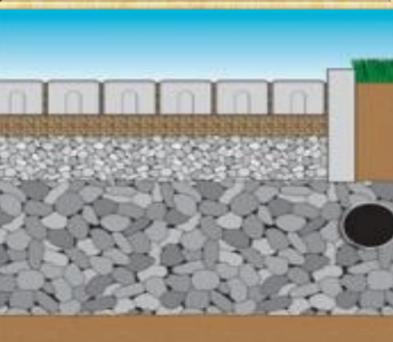
1. Ponds; Extended Detention Ponds
Wet, Multiple Pond Systems
2. Wetlands
3. Infiltration Trenches and Basins
4. Filtering Systems
5. Open Channel Dry or Wet Grassy Swales
6. Riparian Buffer, No Mow Zones, Rain Gardens
7. Pervious Pavements

Ten Non-structural BMPs

1. Managing stormwater as a resource;
2. Preserving and utilizing existing natural features and systems;
3. Managing stormwater as close to the source as possible;
4. Sustaining the hydrological balance of surface and groundwater;
5. Disconnecting, decentralizing and distributing sources and discharges;
6. Slowing runoff down, not speeding it up;
7. Preventing potential water quality and quantity problems;
8. Minimizing problems that cannot be avoided;
9. Integrating stormwater management into the initial site design process ;
10. Inspecting and maintaining all BMPs

Pervious Pavement Source; www.greengaragedet.com

Why public outreach and participation? We are all part of the problem because we all use the infrastructure and have potential to pollute. We can all be part of the solution, but we need to understand how. By teaching all the way down to the "lowest common denominator", everyone has opportunity to make a difference. Together we can do it!



Want to learn more about BMPs and green infrastructure?? Give these links a try

<http://water.epa.gov/scitech/wastetech/guide/stormwater/index.cfm>

<http://www.stormh2o.com/july-august-2006/green-stormwater-ecosystem.aspx>

<http://www.catchment.crc.org.au/pdfs/technical200211.pdf>

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5

[http://www.semco.org/uploadedfiles/Programs and Projects/Water/Stormwater/LID/LID_Manual_chapter7.pdf](http://www.semco.org/uploadedfiles/Programs%20and%20Projects/Water/Stormwater/LID/LID_Manual_chapter7.pdf)

http://www.michigan.gov/documents/deq/wb-stormwater-EPAMuniMaintenanceResource_248415_7.pdf

<http://www.miseagrant.umich.edu/focus/community-development/rein-in-the-runoff.html>

http://www.psparchives.com/publications/our_work/stormwater/lid/clearing_grading/EPA%20SmartGrowth%20BMP.pdf

<http://www.perviouspavement.org/>



Detention pond with natural buffer. Photo source; www.rwmwd.org



Retention/multiple wet ponds; Photo source; www.roomu.net



Infiltration Basin. Source; www.HRCW.org



Rain Garden, Grand Rapids, Mi. Source; <http://therapidian.org/>



No-Mow-Riparian Buffer Zone. Source; www.semco.org