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City of Bloomington Sustainability Action Plan Environmental Quality and Natural Systems Meeting 4

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SPEA

Lead for the Greater Good

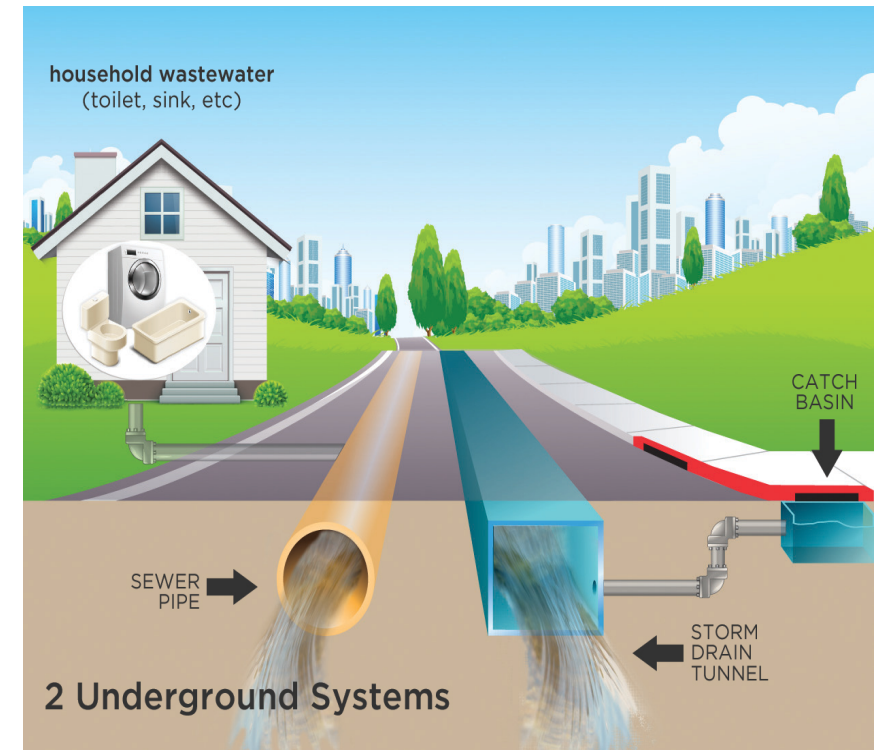




Storm water Management

Current Situation in Bloomington

- The city of Bloomington is equipped with a separate Stormwater sewer system (MS4), including 5700 storm drain inlets. *(Source: City of Bloomington website)*
- About 150 miles of underground storm sewers serve Bloomington urbanized region. *(Source: 2001 Bloomington Environmental Quality Indicators Report)*
- Other drainage ways, such as curb and gutter systems, also transport storm water from the city's land surface to local waterways. *(Source: 2001 Bloomington Environmental Quality Indicators Report)*
- Drained stormwater runoff is discharged into local streams without treatment. *(2012 GRI Sustainability Report for City Hall of Bloomington)*



Typical separate sewer system *(Source: be-solution.co)*



Storm water Management

Current Situation in Bloomington

- The city of Bloomington is included in the Phase II of the National Pollutant Discharge Elimination System (NPDES) program, administrates by IDEM under the general permit rule (Rule 13)
- Repeated flooding event recorded in the city, and residential drainage issues raised by some participants during the open house sessions
- Awareness/Education initiatives (City Stormwater Art Project)
- The city of Bloomington runs a FOG Management Program to prevent Fat Oil and Grease to reach the sewer system (Specifically the sanitary sewer)
- <https://www.youtube.com/watch?v=tSY48MLZdyw>





Community Goals found in Bloomington Documents

Document	Goals
Bloomington Comprehensive Plan	<p>Stormwater management is included in the Water related Goal</p> <p>Goal 3.3 : Conserve water resources and protect water quality to support our natural environment, public health and safety, plant and animal life, and our urban activities.</p> <p>Policy 3.3.1: Reduce pollution in urban runoff from residential, commercial, industrial, municipal, and transportation land uses.</p> <p>Policy 3.3.2: Encourage conservation and protection of water sources in our region.</p>
IU Rain Initiative Vision: An IU campus with water infrastructure that effectively manages rainwater where it falls through the use of green infrastructure systems and practices.	<p>Goal I: Develop student - led research on the effectiveness of stormwater best management practices (BMPs).</p> <p>Goal II: Develop and implement student designs for green infrastructure.</p> <p>Goal III: Engage with the campus community to institutionalize steps for green infrastructure implementation.</p>



Metrics Found in Bloomington Documents

Bloomington Environmental Action Plan

- No metric found

Bloomington Comprehensive Plan

- No metric specific to stormwater found.
- Water Related outcome and indicators found

Outcome: Water consumption has been reduced.

- Collect water loss data from City of Bloomington Utilities Department
- Gallons of drinking water per household account



Metrics Used in Other Cities

Few metrics are found related to stormwater specifically. Most of them are linked with Sanitary sewer systems.

City	Metrics Used
Chicago, Illinois	Number of square feet of impermeable surface convert into pervious surface every year. <i>Target</i> : 1.5 million square feet per year.
Columbia, Missouri	Decrease in incidence of storm water complaints.
City of Lawrence, Kansas	Percent of City's land areas that has designated green Stormwater Infrastructure, measure annually.



Storm water Management

Metrics Recommended in ISO 37120 and STAR

ISO 37120	STAR
No ISO Standard found for Stormwater. However, they have a set of 5 standards for wastewater management	STAR stormwater management outcome is focused on <u>EPA's NPDES Stormwater permit program</u> BE-2 Outcome 4: National Pollutant Discharge Elimination System (NPDES) permit(s) have been obtained prior to discharging stormwater



Actions Plan found in Bloomington

Programs found in the Bloomington Comprehensive Plan

- Utilize Low Impact Development measures such as rainwater harvesting and storm runoff infiltration, when feasible, as mitigation strategies for stormwater discharge.
- Assess karst features and regulations to protect sinkholes and other karst features.
- Simplify floodplain regulations without making them less restrictive.
- Develop an assistance and education program for private property owners to install raingardens.



Storm water Management

Actions Used in Other Cities

- Apply stormwater control measures for reducing sediment and suspended solids. (*Salt Lake City, Utah*)
- Update stormwater ordinances and stormwater quality management plan. (*Salt Lake City, Utah*)
- Keep it Clean Partnership (KICP) program. (*Boulder County, Colorado*)
- Support the Clean Water Act Reauthorization and Efforts to Retain its Full Authority (*Boulder County*)
- Green Infrastructure practices into Stormwater management. (*Saint-Louis, Missouri; Chicago, Illinois*)
- Enhance storm water management to reduce sewer overflows and basement flooding (*Chicago, Illinois*)
- Maintain compliance with new stormwater permit (*Ann-Arbor, Michigan*)
- Implement Green Streets policy to reduce impervious surface (*Ann-Arbor, Michigan*)
- Combination of best practices including stormwater planters, porous pavements, and stormwater wetlands, to improved recreational areas, flood protection, and clean, swimmable rivers. (*Philadelphia*)



Storm water Management

Actions Recommended in STAR

Action 1 Plan Development	Adopt a jurisdiction-wide management plan for both water consumption and disposal that provides a clean and secure water supply for all local uses
Action 2 Policy and Code Adjustment	Adopt policies to ensure that the jurisdiction has authority to enact water conservation measures during periods of drought
Action 10 Facility and Infrastructure Improvements	Upgrade and improve stormwater and wastewater treatment facilities to meet current and foreseeable needs
Action 11 Facility and Infrastructure Improvements	Engage in restoration projects for critical water bodies that provide usable water for the jurisdiction or stormwater management assistance



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Thank You

Questions and Answers