

Stormwater Utility Level of Service Discussion

Citizens' Stormwater
Task Force
Presentation of
Recommendations

City Council Regular Session
Thursday, October 14, 2004



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Public Works Committee

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Agenda

- ❖ Review Stormwater Utility Level of Service (LOS)
- ❖ Current examples and practices
- ❖ Vision for stormwater services
- ❖ Required LOS vs. Desired LOS (How much is sufficient? / How much is too much?)
- ❖ Next Steps and Discussion

Activities that Create Levels of Service

Stormwater Program Cost Centers	Key Activities
System Maintenance	Routine preventative inspections, cleaning & repairs and reactive maintenance/repairs of stormwater conveyance inlets, catch basins, sewers, channels, ditches, detention basins, and other structures
Water Quality/Compliance	Public Outreach & Participation, Stormwater Plan Review, Construction inspections, Post-Construction BMP inspections, IDDE Program, Good Housekeeping, Compliance Reporting
Engineering & Planning	FPM Program, Operations, CIP and Development support
Stormwater Program Administration	Public Works management & administration, indirect costs

What do we mean by Level of Service (LOS)? (1 of 2)

❖ How well does the stormwater system function?

- ❖ Convey stormwater runoff to: Property line? Nearest stream? City boundary? Watershed boundary?
- ❖ Design Criteria: how much in pipe network vs. overland flow? How much flood risk mitigation? How much water quality? Design beyond property boundaries to evaluate the entire watershed
- ❖ Construction criteria: Materials? Construction specifications? Levels of inspections?

❖ What do we want to protect or enhance with stormwater management?

- ❖ Critical facilities? Emergency access during storm events?
- ❖ Inhabited structures? All structures (fencing, sheds, ? or Yards, parks, and open areas ?
- ❖ Beautification enhancements: Natural stream buffers? Conservation Areas? Parks or trails?
- ❖ Mitigate potential impacts to local lakes and streams? Retroactively address concerns?
- ❖ Stormwater system expansions “do no harm”? (preserve water quality; mitigate flood risks)

What do we mean by Level of Service (LOS)? (2 of 2)

❖ How do we want maintain the systems ?

- ❖ Response time for sinkhole repairs and other emergency repairs?
- ❖ Preventive maintenance efforts ?
- ❖ Streambank erosion? Culvert cleaning? Litter collection? Lake dredging? Annual basin inspections?

❖ How do we want to approach regulatory requirements?

- ❖ Erosion control enforcement
- ❖ Public education
- ❖ Illicit discharge detection and prevention
- ❖ Land use planning (post-construction runoff control, such as low impact development)

Example: *Stormwater priorities include

- Assure the movement of emergency vehicles during storm runoff events.
- Protect the public from rapidly flowing stormwater runoff or flash floods.
- Minimize losses and property damage resulting from uncontrolled stormwater runoff.
- Establish requirements for construction of stormwater management facilities in newly developed areas.
- Coordinate with all City departments to comply with the requirements of the Municipal Separate Storm Sewer System (MS4) permit.

** Source: City Columbia, MO Stormwater Utility main web page*

Stormwater Utility in the Ignite! Strategic Plan

- ❖ “Stormwater Utility” a Critical Success Factor action item
 - ❖ City Services & Infrastructure
- ❖ Stormwater Utility supports all other Critical Success Factors
 - ❖ Cultural and Recreational Amenities (parks, recreation, water quality)
 - ❖ Community Health & Well-Being (hazard mitigation, safety)
 - ❖ Strategic Economic Development (fiscal sustainability, permit compliance)
 - ❖ Strong Neighborhoods (preserves property values, cleaner waterways)
 - ❖ Community Engagement (stormwater public education criteria)
 - ❖ Collaborative Relations with Education Partners (environmental curriculum)

Stormwater Utility in the Ignite! Comp Plan

- ❖ “Create Stormwater Utility” within 2 Essential Elements of Success
 - ❖ Facilities & Infrastructure to reduce flood risk & damage to property, improve infrastructure and resiliency
 - ❖ Sustainable Environment to protect water quality
- ❖ Stormwater Utility supports 4 other Essential Elements of Success
 - ❖ Quality of Life (parks, recreation, health, safety)
 - ❖ Resilient Economy (sustainable revenues for operations & maintenance)
 - ❖ Strong Neighborhoods (preserves property values)
 - ❖ Land Use & Community Design (opportunity for watershed-based BMPs)

Current Stormwater Level of Service

❖ Stormwater Projects through CIP

- ❖ Stormwater improvements only in association with road projects or failed infrastructure
- ❖ 2007: \$12M G.O. bond issue for stormwater capital projects
- ❖ Structural Flooding Mitigations

❖ Stormwater Projects through PW Operations

- ❖ Projects funded by General Fund to address immediate life-safety threats from failed infrastructure (e.g. pipe collapse, sink holes, etc.)
- ❖ Cannot keep pace with known and emerging needs due to funding and staffing challenges

❖ Stormwater Maintenance/Preventative Programs – NONE OR DECLINING

- ❖ Permit Compliance
- ❖ Public Education
- ❖ Proactive Inspections and Improvement

Are these acceptable levels of service for the local community?

Flooding

Current City Level of Service:

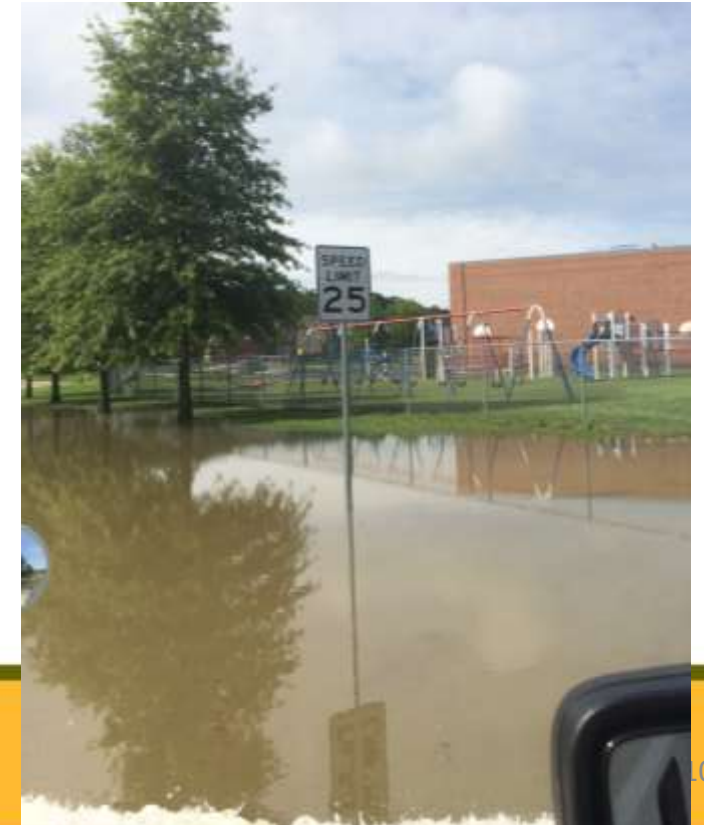
Enrolled in FEMA's National Flood Insurance Program (NFIP) - Enables property owners to purchase flood insurance

Close the road, and wait

Clean mud and debris within right of way

Inspect structures for Substantial Damage

Minimal Maintenance & Ensure Permit Compliance



Stormwater Erosion and Sinkholes

- 2019: \$635,675 Budget Amendment for unfunded Sinkhole Repairs
- Contracted work for repair 12 locations, ranging from \$9,000 to \$100,000 per location
- Average price of \$53,000 per location



Corrugated Metal Pipe

- Installed 2006 (17-year life)
- Continuous Galvanic oxidation
- Proactive maintenance: removing soil would have inhibited the oxidation process



Streams and Water Quality



Exposed Sewer Main

*Toe (bottom) of slope erode by
stormwater flows along outside
bend of a stream*



*Mud-flow into stream;
Siltation of lakes
Fish kills
Trash & Debris*

Desired Level of Service

REQUIRED

- NPDES Permit, 6 MCM's
- Flood plain management
- New construction “does no harm”
- Public safety
- Make repairs to the system

Desired

- Less time to make repairs?
- Proactive emergency response?
- Larger in-pipe capacity?
- Beautification elements?
- Take on private streams?
- Improved materials?
- Amenities (trails/parks)?
- Level of capital improvements?
- Other

Proposed Level of Service

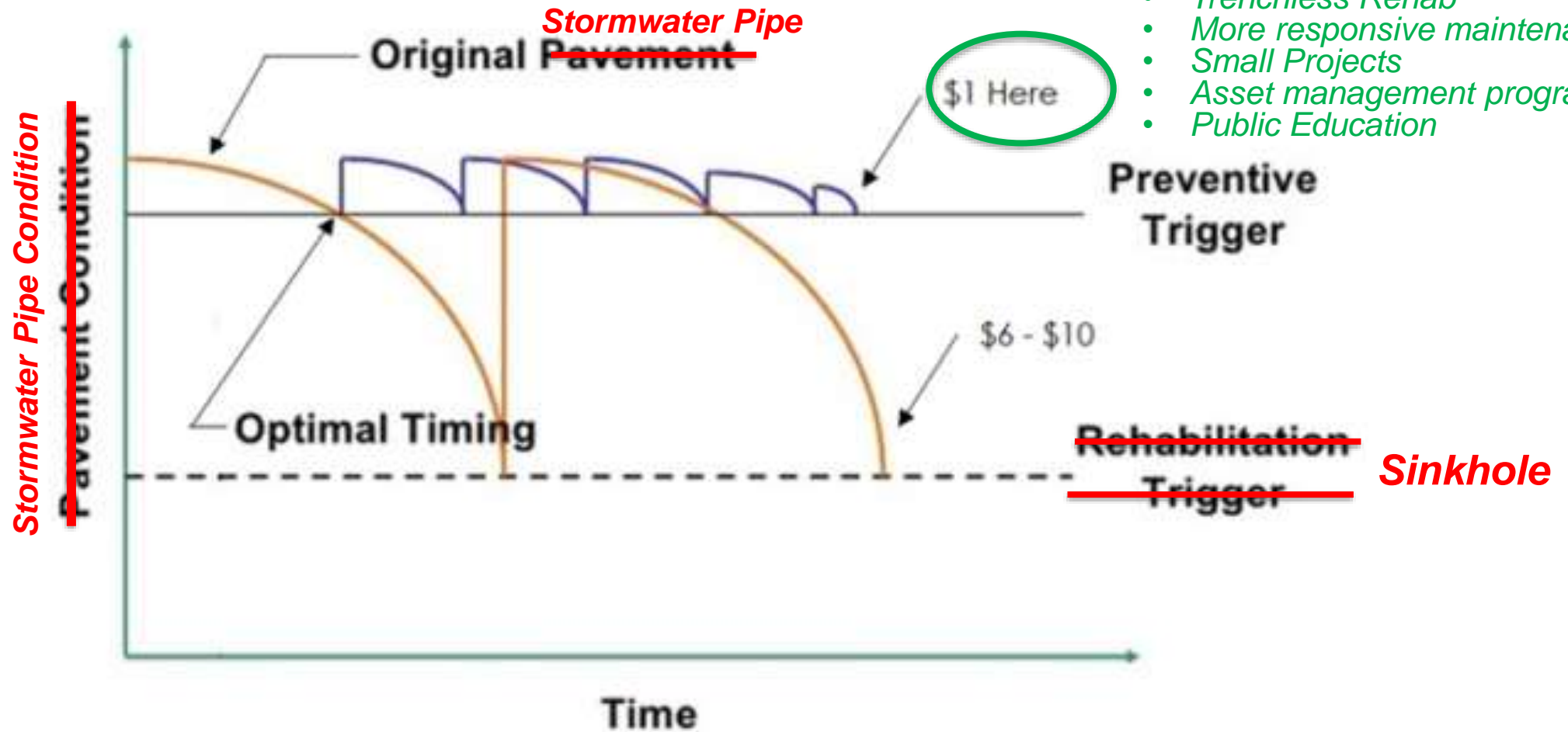
- Stormwater Advisory Committee recommended operations and maintenance based on 2 crews dedicated to stormwater full time (except Snow Ops) to deliver the following resources for a baseline LOS.
- Support staff: Stormwater manager, stormwater engineer, customer service, environmental specialist, and public educator
- Initial Cost \$4.7 Million per year in 2022
- \$5.0 million per year in 2025 adjusted for inflation

SWU Resources

- Dedicated operations and maintenance staff
- Dedicated engineering, technical, and supervisory staff
- Dedicated customer service staff
- Equipment:
 - Jet truck; CCTV truck; backhoe; dump truck
- Programs
 - Public education, support litter control, erosion control and permits
 - Preventive Maintenance

What do we get?

- CCTV Inspections
- Early Detection
- Pipe & Inlet cleaning
- More frequent culvert cleaning
- Trenchless Rehab
- More responsive maintenance
- Small Projects
- Asset management programs
- Public Education



Expanded Level of Service

- Retains 2 crews, equipment, and support staff
- Adds funding for small capital improvements
 - Contracted work for extensive system repairs/replacements
 - Master planning
- Initial Cost \$5.7 Million per year in 2022
- \$6.1 million per year in 2025 adjusted for inflation

Discussion

What Level of Service do you want from a stormwater utility?

Next steps

- Confirm LOS guidance with PWC
- Discuss staffing and cost to support LOS guidance
- Continue to address remaining stormwater utility funding and implementation questions
- PWC renders a recommendation for the City Council